SIEMENS

SINUMERIK 840D sl/ 840Di sl/ 840D/840Di/810D SIMODRIVE 611 digital SINAMICS

Diagnostics Manual

1 Overview of System Error Alarms

2 Overview of Alarms

3 List of Action Numbers

4 Error Codes of Alarm 300500

5 System Reactions on Alarms

A Appendix

Valid for

Control

SINUMERIK 840D sl	1.3
SINUMERIK 840DE sl (export version)	1.3
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SINUMERIK 840DiE sl (export version)	1.1
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SINUMERIK 840Di powerline	3.2
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SINUMERIK 810D powerline	7.4
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Drive

SIMODRIVE 611 digital
SINAMICS

03/2006 Edition

SINUMERIK® Documentation

Printing history

Brief details of this edition and previous editions are listed below.

The status of each edition is shown by the code in the "Remarks" column.

Status code in the "Remarks" column:

A .... New documentation

B .... Unrevised reprint with new order number

C .... Revised edition with new status

Edition	Order No.	Remarks
09.95	6FC5298-3AA01-0BP0	**Description of differences**
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08.99	6FC5298-5AA20-0BP2	**C**
04.00	6FC5298-5AA20-0BP2	**C**
10.00	6FC5298-6AA20-0BP0	**C**
09.01	6FC5298-6AA20-0BP1	**C**
02.02	6FC5298-6AA20-0BP2	**C**
11.02	6FC5298-6AA20-0BP3	**C**
03.04	6FC5298-7AA20-0BP0	**C**
10.04	6FC5298-7AA20-0BP1	**C**
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We have checked that the contents of this document correspond to the hardware and software described. Nonetheless, differences might exist and therefore we cannot guarantee that they are completely identical. The information contained in this document is, however, reviewed regularly and any necessary changes will be included in the next edition.

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Preface

SINUMERIK Documentation

The SINUMERIK documentation is organized in 3 parts:

- General documentation
- User documentation
- Manufacturer/service documentation

An overview of publications, which is updated monthly and also provides information about the language versions available, can be found on the Internet at:

http://www.siemens.com/motioncontrol

Follow the menu items "Support" -> "Technical Documentation" -> "Overview of Publications".

The Internet version of DOConCD (DOConWEB) is available at:

http://www.automation.siemens.com/doconweb

Information about training courses and FAQs (Frequently Asked Questions) can be found at the following website:

http://www.siemens.com/motioncontrol under menu item "Support"

Target audience

Project engineers, technologists (of machine manufacturers), start-up engineers (of systems/machines), programmers.

Benefits

The Diagnostics Manual enables the intended target group to evaluate error and fault indications and to respond accordingly.

With the help of the Diagnostics Manual, the target group has an overview of the various diagnostic options and diagnostic tools.

Standard version

This Diagnostics Manual only describes the functionality of the standard version. Extensions or changes made by the machine tool manufacturer are documented by the machine tool manufacturer.

Other functions not described in this documentation might be executable in the control. This does not, however, represent an obligation to supply such functions with a new control or when servicing.

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Further, for the sake of simplicity, this documentation does not contain all detailed information about all types of the product and cannot cover every conceivable case of installation, operation or maintenance.

Technical Support

If you have any questions, please get in touch with our Hotline:

Europe and Africa time zone:

A&D Technical Support

Phone: +49 (0) 180 / 5050 - 222

Fax: +49 (0) 180 / 5050 - 223

Internet:http://www.siemens.com/automation/support-request

E-mail: mailto:adsupport@siemens.com

Asia and Australia time zone:

A&D Technical Support

Phone: +86 1064 719 990

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Internet: http://www.siemens.de/automation/support-request

E-mail: mailto:adsupport@siemens.com

America time zone:

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Tel.: +1 423 262 2522

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Note

Country telephone numbers for technical support are provided under the following Internet address:

http://www.siemens.com/automation/service&support

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Questions about the Manual

If you have any queries (suggestions, corrections) in relation to this documentation, please fax or e-mail us:

Fax: +49 (0) 9131 / 98 - 63315

E-mail: mailto:motioncontrol.docu@siemens.com

Fax form: See the reply form at the end of the document.

SINUMERIK Internet address

http://www.siemens.com/motioncontrol

EC declaration of conformity

The EC Declaration of Conformity for the EMC Directive can be found/obtained

"on the Internet:

http://www.ad.siemens.de/csinfo

under product/order no. 15257461

"at the relevant regional office of the Siemens AG division A&D MC.

Subject matter of this manual

This manual is intended as a work of reference. It allows the operator at the machine tool:

- To correctly assess special situations when operating the machine.
- To ascertain the reaction of the system to the special situation.
- To utilize the possibilities for continued operation following the special situation.
- To follow references to other documentation containing further details.

Scope

This manual describes the alarms / messages from the NC kernel (NCK) area, the PLC and the SIMODRIVE 611D drive and SINAMICS.

Other alarms can occur from the HMI/MMC (Human-Machine/Man-Machine Communication) areas. These alarms are displayed on the operator panel in the form of self-explanatory text. They are documented in the section on MMC messages.

For special situations in conjunction with the integrated PLC, please refer to the SIMATIC S7-300 documentation.

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The alarms are sorted by ascending alarm number in each section. There are gaps in the sequence.

Structure of alarm description

Each alarm consists of an alarm number and alarm text. There are four description categories:

- Explanation
- Reaction
- Remedy
- Program continuation

For a more detailed explanation of the "Reaction" category, please refer to section: "System reactions on alarms"

For a more detailed explanation of the "Program continuation" category, please refer to the section: "Clear criteria for alarms"

Structure of the alarms for the number range 200 000 - 299 999

Each alarm (fault or warning), consisting of a number, location (optional) and alarm text, is indicated with further information for the following categories:

- Reaction
- Acknowledgment
- Cause
- Remedy

Note

Instead of <location>, the following is indicated in the alarm display:

- Axis name and drive number or
- Bus and slave number of the PROFIBUS DP component affected

For a more detailed explanation of the "Reaction" / "Acknowledgement" category, please refer to section: "System reactions on SINAMICS alarms".

"Cause":

For the cause of the alarm/warning, the fault / warning value is prepared as far as possible in text form.

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NCK alarms

Table -1 Number ranges of the alarm numbers

000 000 - 009 999	General alarms
010 000 - 019 999	Channel alarms
020 000 - 029 999	Axis/spindle alarms
030 000 - 099 999	Functional alarms
060 000 - 064 999	Cycle alarms SIEMENS
065 000 - 069 999	Cycle alarms user
070 000 - 079 999	Compile cycles, manufacturer and OEM

HMI alarms/messages

Table -2 Number ranges of the alarm numbers, continued

100000 - 100999	Basic system
101000 - 101999	Diagnosis
102000 - 102999	Services
103000 - 103999	Machine
104000 - 104999	Parameters
105000 - 105999	Programming
106000 - 106999	Reserve
107000 - 107999	OEM
109000 - 109999	Distributed systems (M to N)
110000 - 110999	HMI Embedded messages
111000 - 111999	ManualTurn, ShopMill, ShopTurn
120000 - 120999	HMI Advanced messages

SINAMICS alarms (faults/warnings)

Table -3 Number ranges of the message numbers, continued

200000 - 299999	Basic system

611D alarms (>SW 7.1)

Table -4 Number ranges of the alarm numbers, continued

300000 - 399999	Drive

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PLC alarms/messages

Table -5 Number ranges of the alarm numbers, continued

400000 - 499999	General alarms
500000 - 599999	Channel alarms 2)
600000 - 699999	Axis/spindle alarms 2)
700000 - 799999	User area 2)
800000 - 899999	Sequencers/graphs 2)
(810001 - 810009	System error messages from PLC 1))

1) More detailed information is available via the diagnostic function (diagnostic buffer) in SIMATIC STEP 7.

2) The PLC alarms in the range 500000 - 899999 are configured and described by the machine manufacturer.

Action list

The actions described in the alarm texts ("Action %---") are explained in detail in the table in the "Action list" section.

Safety Instructions

This Manual contains information which you should carefully observe to ensure your own personal safety and the prevention of material damage. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring to property damage only have no safety alert symbol The warnings appear in decreasing order of risk as given below.

Danger

Indicates an imminently hazardous situation which, if not avoided, **will** result in death or serious injury or in substantial property damage.

t

Warning

Indicates that death or severe personal injury will result if proper precautions are not taken.

Caution

with a warning triangle indicates that minor personal injury can result if proper precautions are not taken.

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Caution

without a warning triangle indicates that property damage **can** result if proper precautions are not taken.

Notice

indicates a potential situation which, if not avoided, **may** result in an undesirable event or state.

If several hazards of different degrees occur, the hazard with the highest degree must always be given priority. A warning notice accompanied by a safety alert symbol indicating a risk of bodily injury can also indicate a risk of property damage.

Qualified Personnel

The associated device/system may only be set up and operated using this documentation. Commissioning and operation of a device/system may only be performed by qualified personnel. Qualified persons are defined as persons who are authorized to commission, to ground, and to tag circuits, equipment, and systems in accordance with established safety practices and standards.

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A.1 Abbreviations A-1041

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Overview of System Error Alarms 1

System errors

The following alarms are system errors:

1000	1005	1013	1017
1001	1010	1014	1018
1002	1011	1015	1019
1003	1012	1016	1160

These system error alarms are not described in detail. If such a system error occurs, please contact the hotline and indicate the following details:

- Alarm number
- Alarm text and
- The internal system error number

SIEMENS AG, A&D MC, System Support

Hotline

Phone: 0180 / 5050 - 222 (Germany)

Fax: 0180 / 5050 - 223

Phone: +49 -180 / 5050 - 222 (International)

Fax: +49 -180 / 5050 - 223

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Overview of Alarms

2

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2.1 NCK alarms

0 **No (more) alarm(s) present**

Definitions: If the communication (variable service) requests more alarms than currently available in the alarm list, this alarm is communicated as end-of-program function.

Reactions: - No alarm reaction.

Remedy: --

Program Continuation: Internal

1000 **System error %1**

Parameters: %1 = System error number

Definitions: With this alarm, internal alarm states are displayed that, in conjunction with the transferred error number, provide information on the cause and location of the error.

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Make a note of the error text and contact Siemens A&D MC, Hotline
• Tel 0180 / 5050 - 222 (Germany)
• Fax 0180 / 5050 - 223
• Tel +49-180 / 5050 - 222 (International)
• Fax +49-180 / 5050 - 223
• email techsupport@ad.siemens.de

Program Continuation: Switch control OFF - ON.

1001 **System error %1**

Parameters: %1 = System error number

Definitions: With this alarm, internal alarm states are displayed that, in conjunction with the transferred error number, provide information on the cause and location of the error.

Reactions: - Mode group not ready.
- Channel not ready.
- Interface signals are set.
- Alarm display.

Remedy: Make a note of the error text and contact Siemens AG A&D MC, Hotline (tel./fax: see alarm 1000)

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

1002 **System error %1**

Parameters: %1 = System error number

Definitions: With this alarm, internal alarm states are displayed that, in conjunction with the transferred error number, provide information on the cause and location of the error.

Reactions: - Alarm display.

Remedy: Make a note of the error text and contact Siemens AG A&D MC, Hotline (tel./fax: see alarm 1000)

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Program Continuation: Clear alarm with the Delete key or NC START.

1003 Alarm pointer for this self-clearing alarm %1 is zero

Parameters: %1 = Incorrect alarm number

Definitions: The address (zero pointer) used by the compile cycle manufacturer or by the operating system for self-clearing alarms is not allowed in the system.

Reactions: - Alarm display.

Remedy: Make a note of the error text and contact Siemens AG A&D MC, Hotline (tel./fax: see alarm 1000)

Check setCCAlarm/setAlarm (...) call.

Program Continuation: Clear alarm with the Delete key or NC START.

1004 Alarm reaction to NCK alarm incorrectly configured

Parameters: %1 = Incorrect alarm number

Definitions: The alarm reaction configured by the operating system or the compile cycles manufacturer is incorrect.

Reactions: - NC not ready.
- Channel not ready.
- Interface signals are set.
- Alarm display.

Remedy: Make a note of the error text and contact Siemens AG A&D MC, Hotline (tel./fax: see alarm 1000)

Change alarm reaction

Program Continuation: Switch control OFF - ON.

1005 Operating system error %1 parameter %2 %3 %4

Parameters: %1 = Operating system error number
%2 = Operating system error parameter 1
%3 = Operating system error parameter 2
%4 = Operating system error parameter 3

Definitions: This alarm indicates that the operating system has detected a serious error.

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Make a note of the error text and contact Siemens AG A&D MC, Hotline (tel./fax: see alarm 1000)

Program Continuation: Switch control OFF - ON.

1010 Channel %1 system error %2 action %3<ALNX>

Parameters: %1 = Channel number
%2 = System error number
%3 = Action number/action name

Definitions: With this alarm, internal alarm states are displayed that, in conjunction with the transferred error number, provide information on the cause and location of the error.

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Reactions: - NC not ready.
- Interpreter stop
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Make a note of the error text and contact Siemens AG A&D MC, Hotline (tel./fax: see alarm 1000)

Program Continuation: Switch control OFF - ON.

1011 Channel %1 %3 %4 system error %2

Parameters: %1 = Channel number
%2 = System error number
%3 = Optional parameter: Block number, label
%4 = Optional parameter: Action number, ...

Definitions: With this alarm, internal alarm states are displayed that, in conjunction with the transferred error number, provide information on the cause and location of the error.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Make a note of the error text and contact Siemens AG A&D MC, Hotline (tel./fax: see alarm 1000)

Program Continuation: Clear alarm with the RESET key. Restart part program

1012 Channel %1 system error %2 %3 %4

Parameters: %1 = Channel number
%2 = System error number
%3 = Parameter1
%4 = Parameter2

Definitions: With this alarm, internal alarm states are displayed that, in conjunction with the transferred error number, provide information on the cause and location of the error.

Reactions: - Alarm display.

Remedy: Make a note of the error text and contact Siemens AG A&D MC, Hotline (tel./fax: see alarm 1000)

Program Continuation: Clear alarm with the Delete key or NC START.

1013 Channel %1 system error %2

Parameters: %1 = Channel number
%2 = System error number

Definitions: With this alarm, internal alarm states are displayed that, in conjunction with the transferred error number, provide information on the cause and location of the error.

Reactions: - Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

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Remedy: Make a note of the error text and contact Siemens AG A&D MC, Hotline (tel./fax: see alarm 1000)
Program Continuation: Clear alarm with the RESET key. Restart part program

1014 Channel %1 system error %2

Parameters: %1 = Channel number
%2 = System error number
Definitions: With this alarm, internal alarm states are displayed that, in conjunction with the transferred error number, provide information on the cause and location of the error.
Reactions: - Mode group not ready.
- Local alarm reaction.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Make a note of the error text and contact Siemens AG A&D MC, Hotline (tel./fax: see alarm 1000)
Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

1015 Channel %1 axis %2 system error %3

Parameters: %1 = Channel number
%2 = Axis number
%3 = System error number
Definitions: With this alarm, internal alarm states are displayed that, in conjunction with the transferred error number, provide information on the cause and location of the error. Especially with parameter %3 (system error number) = 840001 = Problem with tool management, the identification for the axis is not contained in parameter %2, but instead, further information for the diagnostics (= Status of the data management/magazine no./location no./T no.)
Reactions: - Local alarm reaction.
- Channel not ready.
- Interface signals are set.
- Alarm display.

Remedy: Make a note of the error text and contact Siemens AG A&D MC, Hotline (tel./fax: see alarm 1000)
Program Continuation: Clear alarm with the RESET key. Restart part program

1016 Channel %1 axis %2 system error %3

Parameters: %1 = Channel number
%2 = Axis number
%3 = System error number
Definitions: With this alarm, internal alarm states are displayed that, in conjunction with the transferred error number, provide information on the cause and location of the error.
Reactions: - Mode group not ready.
- Local alarm reaction.
- Channel not ready.
- Interface signals are set.

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- Alarm display.

Remedy: Make a note of the error text and contact Siemens AG A&D MC, Hotline (tel./fax: see alarm 1000)

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

1017 Channel %1 axis %2 system error %3

Parameters: %1 = Channel number
%2 = Axis number
%3 = System error number

Definitions: With this alarm, internal alarm states are displayed that, in conjunction with the transferred error number, provide information on the cause and location of the error.

Reactions: - Alarm display.

Remedy: Make a note of the error text and contact Siemens AG A&D MC, Hotline (tel./fax: see alarm 1000)

Program Continuation: Clear alarm with the Delete key or NC START.

1018 Floating point arithmetic error in channel %1 task %2 station %3 FPU state %4

Parameters: %1 = Channel number
%2 = Task ID
%3 = Station priority
%4 = FPU status

Definitions: The floating point unit of the processor has found a computational error.

Reactions: - NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Alarm reaction delay is canceled.

Remedy: Make a note of the error text and contact Siemens AG A&D MC, Hotline (tel./fax: see alarm 1000)

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

1019 Floating point arithmetic error at address %3 in channel %1 task %2 FPU state %4

Parameters: %1 = Channel number
%2 = Task ID
%3 = Code address of operation that triggered the error
%4 = FPU status

Definitions: The floating point unit of the processor has triggered an exception on account of a computational error.

Reactions: - NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Alarm reaction delay is canceled.

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Remedy: Make a note of the error text and contact Siemens AG A&D MC, Hotline (tel./fax: see alarm 1000)

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

1030 System error in link module error code %1 error type %2

Parameters: %1 = Hex-Zahl Link-Error
%2 = Hex-Zahl Link-Error-Type

Definitions: This alarm is not a user error. An internal error has occurred in the software of the link module. Two parameters are output with this error for debugging purposes. They provide information about the cause and location of the error.

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Make a note of the error text and contact Siemens AG A&D MC, Hotline (tel./fax: see alarm 1000)

Program Continuation: Switch control OFF - ON.

1031 Link module generated an unspecified error %1 NCU %2 %3 %4

Parameters: %1 = Hex-Zahl unspecified status in stateOfLinkModules
%2 = NCU number
%3 = Command from link module to NCK
%4 = Status of own link

Definitions: This alarm is not a user error.
- 1. If NCU== 0 -> A parameter not equal to zero was not found
- 2. If NCU not equal to zero -> An error which the NC was not able to interpret in the connection to this NCU. The error is output as a number. It is possible that the NCU link module is running a newer software version than the NC.

The other parameters are used for error localization in the NC/LINK-MODUL software.

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Make a note of the error text and contact Siemens AG A&D MC, Hotline (tel./fax: see alarm 1000)

Program Continuation: Switch control OFF - ON.

1100 No valid firmware

Definitions: No memory card or memory card without valid firmware (license) inserted.

Reactions: - Alarm display.

Remedy: Make a note of the error text and contact Siemens AG A&D MC, Hotline (tel./fax: see alarm 1000)

Program Continuation: Switch control OFF - ON.

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1160 **Assertion failed in %1: %2**

Parameters: %1 = String (path with program name)
%2 = String (line number)

Definitions: This alarm is purely a development alarm and will not appear in a delivered software version. For an OEM customer, this alarm could indicate that an alarm has occurred in the system softwaren. Handling of the 'assertion' allows error conditions leading to this alarm to be defined in the system software during the development phase. After the development phase, this alarm output is no longer active.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Alarm reaction delay is canceled.

Remedy: Check the cause of the error in the specified software component at the specified line number.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

2000 **PLC sign-of-life monitoring**

Definitions: The PLC must give a sign of life within a defined period of time (machine data 10100 PLC_CYCLIC_TIMEOUT). If this does not occur, the alarm is triggered.
The sign of life is a counter reading on the internal NC/PLC interface which the PLC causes to count up with the 10 ms time alarm. The NCK also tests cyclically whether the counter reading has changed.

Reactions:
- NC not ready.
- Local alarm reaction.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check monitoring time frame in NCK-MD 10100 PLC_CYCLIC_TIMEOUT (reference value: 100ms).
Establish the cause of the error in the PLC and eliminate it (analysis of the ISTACK. If monitoring has responded with a loop in the user program rather than with a PLC Stop, there is no ISTACK entry).

Program Continuation: Switch control OFF - ON.

2001 **PLC has not started up**

Definitions: The PLC must give at least 1 sign of life within a period of time defined in MD 10120 PLC_RUNNINGUP_TIMEOUT (Default setting: 1 sec.).

Reactions:
- NC not ready.
- Local alarm reaction.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

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- NC Stop on alarm.

Remedy:
- Please inform the authorized personnel/service department. The monitoring time in in MD 10120 PLC_RUNNINGUP_TIMEOUT must be checked and adapted to the first OB1 cycle.
- Establish the cause of error in the PLC (loop or stop in the user program) and eliminate.

Program Continuation: Switch control OFF - ON.

2100 NCK battery warning threshold reached

Definitions: The undervoltage monitor of the NCK battery has reached the prewarning threshold. This is at 2.7-2.9 V (nominal voltage of the battery is 3.0-3.1 V at 950 mAh).

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. The battery must be replaced within the next 6 weeks. After this period, the voltage can drop below the alarm limit of 2.4-2.6 V if the RAMs to be buffered take up a lot of current.

Program Continuation: Clear alarm with the Delete key or NC START.

2101 NCK battery alarm

Definitions: The undervoltage monitoring (2.4 - 2.6 V) of the NCK battery has responded during cyclic operation.

Reactions: - Alarm display.

Remedy: If the NCK battery is replaced without interrupting the power supply, no data will be lost. This means that production can continue without taking any further steps. (A buffer capacitor on the NCK holds the supply voltage for at least 30 minutes and the battery can be replaced within this time even when the control is switched off).

Program Continuation: Clear alarm with the Delete key or NC START.

2102 NCK battery alarm

Definitions: The undervoltage monitoring (2.4 - 2.6 V) of the NCK battery was detected during system power-up.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Pull out the battery/fan unit from the NC module and replace the battery (type: lithium battery with lead, size 1/2 AA, 850 mAh, min. 3.2 V).

The system must then be reinitialized because it must be assumed that data has been lost in the buffered RAM during the last power-off phase as a result of insufficient supply voltage (refer to Section 2.2 in the Installation and Start-up Guide for the procedure).

The following data might have been corrupted or entirely lost:
- NC machine data
- Drive machine data
- Option data
- Setting data
- User variable
- Global subroutines

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- Cycles and macros, as well as
- PLC machine data
- PLC basic program
- PLC user program, and all
- PLC user data

User data in the NCK and PLC (e.g. tool and workpiece data) that have been altered by the manufacturing process since the last data backup must be updated manually to match the present machine status!

Program Continuation: Switch control OFF - ON.

2110 NCK temperature alarm

Definitions: The temperature sensor has reached the response threshold of 60 degrees C +/- 2.5 degrees C.

Reactions: - Alarm display.

Remedy: In order to reset the sensor, the temperature must be reduced by 7 degrees C.

Program Continuation: Clear alarm with the Delete key or NC START.

2120 NCK fan alarm

Definitions: The fan consists of a 26 V DC motor with electronic commutator (rated speed: approx. 8700 rpm). The commutator signal is used for speed monitoring, response speed: < 7500 rpm.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. The unit with the fan and NCK battery must be replaced.

Program Continuation: Clear alarm with the Delete key or NC START.

2130 5V/24V encoder or 15V D/A converter undervoltage

Definitions: A failure has occurred in the power supply (FM357-2) to the encoder (5V/24V) or D/A converter (+/-15V).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Axes of this channel must be re-referenced.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check the encoder and cable for short-circuits (the fault should not occur when you remove the cable). Check the power feeder line.

Program Continuation: Switch control OFF - ON.

2140 The actual service switch position forces the SRAM to be cleared at the next Power On (general reset active)

Definitions: The initialization switch is currently set to overall reset. This means that the module's SRAM is deleted with the next module reset. The NC data memory is cleared during this operation.

Reactions: - NC not ready.

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- Interface signals are set.
- Alarm display.

Remedy: Reset initialization switch to zero.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

2190 Hardware plug-in module for communication with the digitizer missing

Definitions: MD $MN_ASSIGN_DIGITIZE_TO_CHAN was used to activate the digitizing function by assigning it to a channel. The function requires a hardware module (RS422 board plugged into the NCU) for communication with the digitizing unit. This module was not found when booting.

Reactions:
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Plug in communications module or cancel channel assignment.

Program Continuation: Switch control OFF - ON.

2192 No NCU link module exists, MD %1 reset

Parameters: %1 = String: MD identifier

Definitions: An attempt was made to activate the NCU link functionality but the hardware is not available. The MD was reset. Only occurs with the NCU link system

Reactions:
- NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Install the hardware module and activate the function again (MD).

Program Continuation: Switch control OFF - ON.

2193 'Safety Integrated' is not available for link axis %1.

Parameters: %1 = Machine axis index

Definitions: The "Safety Integrated" function is not available for a link axis. Only occurs with the NCU link system

Reactions:
- NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Use "Safety Integrated" function for local axes only.

Program Continuation: Switch control OFF - ON.

2194 Link axis active and $MN_MM_SERVO_FIFO_SIZE != 3

Definitions: At least one axis is to be distributed via NCU link, then the machine data $MN_MM_SERVO_FIFO_SIZE must be 3. Occurs only with an NCU link system.

Reactions:
- NC not ready.
- Channel not ready.

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- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Set $MN_SERVO_FIFO_SIZE to 3.
Program Continuation: Switch control OFF - ON.

2195 Channel %1 axis %2 high-speed punching/nibbling not possible via link

Parameters: %1 = Channel number
%2 = Axis name, spindle number
Definitions: An attempt was made to activate high-speed nibbling or punching for an axis programmed on a different NCU than the drive.
Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: High-speed nibbling and punching is only supported on one NCU.
Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

2196 Link axis active and $MN_MM_SERVO_FIFO_SIZE != %1

Parameters: %1 = required value in MD $MN_MM_SERVO_FIFO_SIZE
Definitions: Occurs only with an NCU link system.
- Possible causes of the fault:
- At least one axis is to be distributed via NCU link, then the machine data $MN_MM_SERVO_FIFO_SIZE must be 3 or 4.
- The IPO cycle of this NCU is faster than the link communication cycle, then the machine data $MN_MM_SERVO_FIFO_SIZE must be set to the value proposed in the alarm.

Reactions:
- NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: The machine data $MN_MM_SERVO_FIFO_SIZE must be set to the value proposed in the alarm.
Program Continuation: Switch control OFF - ON.

2200 Channel %1 fast punching/nibbling not possible in several channels

Parameters: %1 = Channel number
Definitions: An attempt was made to activate fast nibbling or punching in a channel while it has already been active in another channel. Fast punching and nibbling is only possible simultaneously in the same channel.
Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

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- NC Stop on alarm.

Remedy: Fast nibbling and punching simultaneously in 1 channel only.

Program Continuation: Clear alarm with the RESET key. Restart part program

2900 Reboot is delayed

Definitions: This alarm indicates a delayed reboot.
This alarm only occurs when reboot was carried out by the MMC via PI - "_N_IBN_SS"and MD 11410 $MN_REBOOT_DELAY_TIME was set greater than zero.
The alarm can be suppressed with $MN_SUPPRESS_ALARM_MASK BIT 20.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Alarm reaction delay is canceled.

Remedy: See $MN_REBOOT_DELAY_TIME and $MN_SUPPRESS_ALARM_MASK.

Program Continuation: Switch control OFF - ON.

3000 Emergency stop

Definitions: The EMERGENCY STOP request is applied to the NCK/PLC interface (DB 10, DBX 56.1).

Reactions:
- NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Alarm reaction delay is canceled.

Remedy: Please inform the authorized personnel/service department. Rectify the cause of EMERGENCY STOP and acknowledge EMERGENCY STOP via the PLC/NCK interface (DB 10, DBX 56, Bit 2).

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

3001 Internal emergency stop

Definitions: This alarm is not displayed.

Reactions:
- NC not ready.
- Local alarm reaction.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- NC Stop on alarm.

Remedy: No remedy required

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

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4000 **Channel %1 machine data %2[%3] has gap in axis assignment**

Parameters: %1 = Channel number
%2 = String: MD identifier

Definitions: The assignment of a machine axis to a channel by the machine data 20070 AXCONF_MACHAX_USED must be contiguous. At system power-up (Power On) gaps are detected and displayed as an alarm.

Reactions: - NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. The entries for the indices for the machine axes used in the channels must be contiguous in table $MC_AXCONF_MACHAX_USED. Channel axis gaps must be enabled via $MN_ENABLE_CHAN_AX_GAP.

Program Continuation: Switch control OFF - ON.

4001 **Channel %1 axis %2 defined for more than one channel via machine data %3**

Parameters: %1 = Channel number
%2 = Index: Machine axis number
%3 = String: MD identifier

Definitions: In the channel-specific MD: 20070 AXCONF_MACHAX_USED [CHn, AXm]=x (n ... channel number, m ... channel axis number, x ... machine axis number), several channels were assigned to a machine axis without having a master channel defined for this axis.
There is usually not much point in assigning a machine axis to several channels. In exceptional cases, multiple assignment can be performed if a master channel is defined for this axis. The channel assignment can be performed in accordance with the machining requirements in the NC part program by means of a keyword (yet to be defined in later product versions).

Reactions: - NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. In the axis-specific MD 30550 AXCONF_ASSIGN_MASTER_CHAN [AXm]=n (m ... machine axis number, n ... channel number), a master axis was set for the axes that are supposed to be alternately assigned by the NC program to one or the other channel.

Program Continuation: Switch control OFF - ON.

4002 **Channel %1 machine data %2[%3] assigns an axis not defined in channel**

Parameters: %1 = Channel number
%2 = String: MD identifier
%3 = Index: MD array

Definitions: Only axes that have been activated in the channel by means of the channel-specific machine data 20070 AXCONF_MACHAX_USED [kx]=m may be declared as geometry axes or transformation axes by means of the MD 20050 AXCONF_GEOAX_ASSIGN_TAB [gx]=k. This also applies to

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$MC_FGROUP_DEFAULT_AXES (gx: Geometry axis index, kx: Channel axis index, k: Channel axis no., m: Machine axis no.).

Assignment of geometry axes to channel axes

AXCONF_GEOAX_ASSIGN_TAB (includes channel axis no. k):

- Geometry axis index: 0, 1. 0, 2nd channel: 1, 2. 0, 2nd channel: 1
- Geometry axis index: 1, 1. 0, 2nd channel: 2, 2. 0, 2nd channel: 0
- Geometry axis index: 2, 1. 0, 2nd channel: 3, 2. 0, 2nd channel: 3

AXCONF_MACHAX_USED (includes machine axis no. m):

- Channel axis index: 0, 1. 0, 2nd channel: 1, 2. 0, 2nd channel: 4
- Channel axis index: 1, 1. 0, 2nd channel: 2, 2. 0, 2nd channel: 5
- Channel axis index: 2, 1. 0, 2nd channel: 3, 2. 0, 2nd channel: 6
- Channel axis index: 3, 1. 0, 2nd channel: 7, 2. 0, 2nd channel: 0
- Channel axis index: 4, 1. 0, 2nd channel: 8, 2. 0, 2nd channel: 0
- Channel axis index: 5, 1. 0, 2nd channel: 0, 2. 0, 2nd channel: 0
- Channel axis index: 6, 1. 0, 2nd channel: 0, 2. 0, 2nd channel: 0
- Channel axis index: 7, 1. 0, 2nd channel: 0, 2. 0, 2nd channel: 0

Reactions: - NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.

Check and correct either

- $MC_GEOAX_ASSIGN_TAB
- $MC_TRAFO_AXES_IN_X
- $MC_TRAFO_GEOAX_ASSIGN_TAB_X
- $MC_FGROUP_DEFAULT_AXES
- and/or $MC_AXCONF_MACHAX_USED.

Program Continuation: Switch control OFF - ON.

4003 Axis %1 incorrect assignment of master channel in machine data %2

Parameters: %1 = Axis

%2 = String: MD identifier

Definitions: For some applications, it is useful to operate an axis in several channels (C axis or spindle on single spindle or double carriage machines).

The machine axes which are defined in several channels by means of the MD 20070 AXCONF_MACHAX_USED, must be assigned to a master channel with the axis-specific machine data 30550 AXCONF_ASSIGN_MASTER_CHAN.

For axes that are activated in only one channel, the number of this channel or zero must be entered as master channel.

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Modify MD 20070: AXCONF_MACHAX_USED and/or MD 30550: AXCONF_ASSIGN_MASTER_CHAN.

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Program Continuation: Switch control OFF - ON.

4004 **Channel %1 machine data %2 axis %3 defined repeatedly as geometry axis**

Parameters: %1 = Channel number
%2 = String: MD identifier
%3 = Axis index

Definitions: An axis may only be defined once as a geometry axis.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct $MC_GEOAX_ASSIGN_TAB.

Program Continuation: Switch control OFF - ON.

4005 **Maximum number of axes in channel %1 exceeded. Limit %2**

Parameters: %1 = Channel number
%2 = Upper limit for the number of axes in the channel

Definitions: Machine data $MC_AXCONF_MACHAX_USED defines which machine axes can be used in this channel. This simultaneously defines the number of active axes in the channel. This upper limit has been exceeded. Note: The channel axis gaps may cause certain indices of AXCONF_MACHAX_USED to remain unused and therefore do n_o_t count as active channel axes.
Example:
• CHANDATA(2)
• $MC_AXCONF_MACHAX_USED[0] = 7
• $MC_AXCONF_MACHAX_USED[1] = 8
• $MC_AXCONF_MACHAX_USED[2] = 0
• $MC_AXCONF_MACHAX_USED[3] = 3
• $MC_AXCONF_MACHAX_USED[4] = 2
• $MC_AXCONF_MACHAX_USED[5] = 0
• $MC_AXCONF_MACHAX_USED[6] = 1
• $MC_AXCONF_MACHAX_USED[7] = 0
This channel uses the five machine axes 1, 2, 3, 8, 7, i.e. it has 5 active channel axes.

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Modify $MC_AXCONF_MACHAX_USED.

Program Continuation: Switch control OFF - ON.

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4007 **Axis %1 incorrect assignment of master NCU in machine data %2**

Parameters: %1 = Axis
%2 = String: MD identifier

Definitions: Machine axes which can be activated on several NCKs through $MN_AXCONF_LOGIC_MACHAX_TAB must be assigned to a master NCU in $MA_AXCONF_ASSIGN_MASTER_NCU. For axes that are activated on only one NCU, the number of this NCU or 0 must be entered as master NCU. An assignment can only be made with $MA_AXCONF_ASSIGN_MASTER_NCU if the machine axis is also addressed via a channel ($MC_AXCONF_MACHAX_USED+$MN_AXCONF_LOGIC_MACHAX_TAB).

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct $MA_AXCONF_ASSIGN_MASTER_NCU and/or $MN_AXCONF_LOGIC_MACHAX_TAB.

Program Continuation: Switch control OFF - ON.

4010 **Invalid identifier used in machine data %1[%2]**

Parameters: %1 = String: MD identifier
%2 = Index: MD array

Definitions: When determining a name in the NCK tables (arrays) for: machine axes, Euler angles, Richtungsvektoren, direction vectors, interpolation parameters and intermediate point coordinates, one of the following syntax rules for the identifier to be entered has been violated:
- The identifier must be an NC address letter (A, B, C, I, J, K, U, V, W, X, Y, Z), possibly with a numerical extension (840D: 1-99, FM-NC: 1-9)
- The identifier must begin with 2 arbitrary capital letters but not with $ (reserved for system variable).
- The identifier must not be a keyword of the NC language (e.g. POSA).

Reactions: - NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Enter the identifier for user-defined names with correct syntax in the displayed MD.
- Machine axes: AXCONF_MACHAX_NAME_TAB
- Euler angles: EULER_ANGLE_NAME_TAB
- Normal vectors: NORMAL_VECTOR_NAME_TAB
- Direction vectors: 10640 DIR_VECTOR_NAME_TAB
- Interpolation parameters: 10650 IPO_PARAM_NAME_TAB
- Intermediate point coordinates: 10660 INTERMEDIATE_POINT_NAME_TAB

Program Continuation: Switch control OFF - ON.

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4011 **Channel %1 invalid identifier used in machine data %2[%3]**

Parameters: %1 = Channel number
%2 = String: MD identifier
%3 = Index: MD array

Definitions: When defining names in the channel-specific tables for geometry axes and channel axes, one of the following syntax rules for the identifier to be entered has been violated:
- The identifier must be an NC address letter (A, B, C, I, J, K, U, V, W, X, Y, Z), possibly with a numerical extension (840D: 1-99, FM-NC: 1-9).
- The identifier must begin with 2 arbitrary capital letters but not with $ (reserved for system variable).
- The identifier must not be a keyword of the NC language (e.g. POSA).

Reactions: - NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Enter the identifier for user-defined names with correct syntax in the displayed MD
- Geometry axes: 20060 AXCONF_GEOAX_NAME_TAB
- Channel axes: 10000 AXCONF_MACHAX_NAME_TAB

Program Continuation: Switch control OFF - ON.

4012 **Invalid identifier used in machine data %1[%2]**

Parameters: %1 = String: MD identifier
%2 = Index: MD array

Definitions: The selected identifier is invalid. Valid identifiers are:
- AX1 - AXn: Machine axis identifiers
- N1AX1 - NnAXm: Link axis identifiers (NCU + machine axis), only occurs with 'NCU link' expansion level!
- C1S1 - CnSm: Container axis identifiers (container + container location). Only occurs with 'axis container' expansion level!

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Use the correct identifier.

Program Continuation: Switch control OFF - ON.

4013 **Invalid NCU link configuration by machine data %1 = %2 , on NCU_1 = %3**

Parameters: %1 = String: MD identifier
%2 = Index: MD array
%3 = MD value of master NCU

Definitions: The link module configuration detected on the local NCU is different from the master NCU of the NCU cluster. The link module configuration defines the system clock time, the communication baudrate and the maximum number of message transfer retries.
The following machine data are used for this purpose:

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• SYSCLOCK_SAMPL_TIME_RATIO,
• IPO_SYSCLOCK_TIME_RATIO,
• LINK_RETRY_CTR,
• LINK_BAUDRATE_SWITCH,
• SYSCLOCK_CYCLE_TIME
The values of these machine data must be the same on all NCUs.

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: The machine data required for the link module configuration must be the same on all NCUs in the cluster.

Program Continuation: Switch control OFF - ON.

4014 Axis %1 defined several times in %2

Parameters: %1 = String: MD identifier
%2 = String: Check and, if necessary, correct the following machine data with reference to the data sheet:

Definitions: An axis was assigned several times.
The axis can be a:
• Machine axis
• Link axis
• Axis in a container location

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Define a correct, unique axis assignment.

Program Continuation: Switch control OFF - ON.

4016 Axis %1 already used by NCU %2

Parameters: %1 = Machine axis index
%2 = NCU number

Definitions: An attempt was made to apply setpoints to one axis from several NCUs. Only occurs with the NCU link system

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Define a correct, unique axis assignment.

Program Continuation: Switch control OFF - ON.

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4017 **Axis container %1, location %2 already used by NCU %3**

Parameters: %1 = Axis container number
%2 = Axis container location
%3 = NCU number

Definitions: A multiple reference to the axis container location has been made via the logical axis table (machine data: MN_AXCONF_LOGIC_MACHAX_TAB). With the NCU link, the multiple reference may also have been made by another NCU in the NCU group.
Example: Container1 location1 was referenced twice incorrectly
• MN_AXCONF_LOGIC_MACHAX_TAB[0] = CT1_SL1
• MN_AXCONF_LOGIC_MACHAX_TAB[6] = CT1_SL1

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct and complete the container location assignments. Check the machine data for the logical axis assignment table (MN_AXCONF_LOGIC_MACHAX_TAB)

Program Continuation: Switch control OFF - ON.

4018 **Axis container %1, location %2 not used by any channel**

Parameters: %1 = Axis container number
%2 = Axis container location

Definitions: The container location is not referenced by any channel.

Reactions: - NC not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct and complete the container location assignments. Check machine data MC_AXCONF_MACHAX_USED and MN_AXCONF_LOGIC_MACHAX_TAB.

Program Continuation: Switch control OFF - ON.

4019 **Axis container %1 advance not allowed with current status of NCU %2**

Parameters: %1 = NCU number
%2 = Axis container number

Definitions: This error only occurs with direct advancing of the container. With direct container advancing, only one channel is allowed to activate the NC language command for advancing the container. In order to ensure this, the other channels must have the reset status and the axes must be stationary.
With NCU link, the above condition applies to all channels of the NCU group.
Error parameters:
• 1 : NC Ready missing
• 16: At least one other channel is active
• 35: AXCT axis is active following axis/spindle
• 36: AXCT axis is active leading axis
• 39: Axis/spindle disable active
• 40: Overlaid motion active for AXCT axis
• 41: Axis replacement active for AXCT axis

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• 42: Interpolator active for one axis container axis
• 46: Rotating spindle with different Ipo cycle of NCUs
• 47: New-Config active

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: The program must be canceled with Reset and the zero offset deselected before activating the axis container switch.

Program Continuation: Clear alarm with the RESET key. Restart part program

4020 Identifier %1 used several times in machine data %2

Parameters: %1 = String: Name of identifier
%2 = String: MD identifier

Definitions: When determining a name in the NCK tables (arrays) for: machine axes, Euler angles, Richtungsvektoren, direction vectors, interpolation parameters and intermediate point coordinates, an identifier has been used that is already in the control.

Reactions: - NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Select for the identifier to be entered a character string that is not yet used in the system (max. 32 characters).

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

4021 Channel %1 identifier %2 used several times in machine data %3

Parameters: %1 = Channel number
%2 = String: Name of identifier
%3 = String: MD identifier

Definitions: To determine the name in the channel-specific tables for geometry axes and channel axes an identifier already existing in the control has been used.

Reactions: - NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Select for the identifier to be entered a character string that is not yet used in the system (max. 32 characters).

Program Continuation: Switch control OFF - ON.

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4022 **Axis container %3 switch not allowed: ext. zero offset active channel %1 axis %2**

Parameters: %1 = Channel
%2 = Axis/spindle
%3 = Axis container number

Definitions: The axis container switch enable cannot be given because an external zero offset is active.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: The program must be aborted with the RESET key and the external zero point offset deselected before the container is advanced.

Program Continuation: Clear alarm with the RESET key. Restart part program

4023 **Axis container %1 switch not allowed, axis container %2 switch active**

Parameters: %1 = Axis container
%2 = Axis container

Definitions: Only one axis container can be rotated at a time.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Program must be canceled with Reset and the program sequences (NCUs, channels) must be synchronized such that only one axis container switch is active at a time.

Program Continuation: Clear alarm with the RESET key. Restart part program

4024 **Invalid axis configuration due to missing axis container machine data**

Parameters: %1 = NCU number
%2 = Axis container number

Definitions: The axis configuration could not be generated due to missing axis container machine data. This error can only occur as a result of a communication error. The communication failure will be indicated separately by further alarms.

Reactions: - NC not ready.
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct the link communication problems (refer to the other alarm messages).

Program Continuation: Switch control OFF - ON.

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4025 **Axis container %3 switch not allowed: master/slave active channel %1 axis %2**

Parameters: %1 = Channel
%2 = Axis/spindle
%3 = Axis container number

Definitions: It is not possible to enable axis container switch as a master/slave link is active.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Abort program with the RESET key. If required, disconnect the master - slave coupling.

Program Continuation: Clear alarm with the RESET key. Restart part program

4026 **Machine data %1[%2], link axis NC%3_AX%4 not used by any channel**

Parameters: %1 = String: MD identifier
%2 = Index: MD array
%3 = NCU number
%4 = Machine axis number

Definitions: The link axis is not referenced by any channel.

Reactions: - NC not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct and complete the logical axis assignments. Check machine data MC_AXCONF_MACHAX_USED and MN_AXCONF_LOGIC_MACHAX_TAB.

Program Continuation: Switch control OFF - ON.

4027 **NOTICE! MD %1 was also changed for the other axes of axis container %2**

Parameters: %1 = String: MD identifier
%2 = Axis container number

Definitions: Message to the user indicating that the machine data change for the axis was also performed for all other axes in the same container.

Reactions: - Alarm display.

Remedy: None

Program Continuation: Clear alarm with the Delete key or NC START.

4028 **Attention! The axial MDs of the axes of the axis containers were matched.**

Definitions: Note for the user, that the machine data of the axis were matched in the axis containers.

Reactions: - Alarm display.

Remedy: None

Program Continuation: Clear alarm with the RESET key. Restart part program

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4029 **NOTICE! The axial MDs in axis container %1 will be matched on the next power-up**

Parameters: %1 = Axis container number

Definitions: Message to the user indicating that the machine data of the axes in the axis container will be matched on the next power-up. An axis container allows axes to be exchanged between channels and NCUs. To ensure that no conflicts arise, the axes within the same axis container must have a similar behavior. The first axis in the axis container determines which machine data have to be the same for the other axis in the axis container.

Reactions: - Alarm display.

Remedy: None

Program Continuation: Clear alarm with the Delete key or NC START.

4030 **Channel %1 axis identifier missing in machine data %2[%3]**

Parameters: %1 = Channel number
%2 = String: MD identifier
%3 = Index: MD array

Definitions: An axis identifier is expected for the displayed MD in accordance with the axis configuration in the MD 20070 AXCONF_MACHAX_USED and 20050 AXCONF_GEOAX_ASSIGN_TAB.

Reactions: - NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check axis configuration and enter the missing identifier into the MD or, should the axis not exist, specify for this channel axis the machine axis 0 in the channel-specific MD 20070 AXCONF_MACHAX_USED. If this concerns a geometry axis that is not to be used (this applies only for 2-axis machining, e.g. on lathes), then channel axis 0 must be entered additionally in the channel-specific MD 20050 AXCONF_GEOAX_ASSIGN_TAB.

Program Continuation: Switch control OFF - ON.

4031 **Channel %1 link axis %2 defined for more than one channel in machine data %3**

Parameters: %1 = Channel number
%2 = Index: Axis number for logical axis assignment
%3 = String: MD identifier

Definitions: Occurs only with an NCU link system. The specified axis was defined several times or in several channels in machine data $MC_AXCONF_MACHAX_USED. If an axis is to be defined in several channels, a master channel must be assigned to the axis with the axial machine data $MA_AXCONF_ASSIGN_MASTER_CHAN. This error can only occur with an NCU link axis. The cause of a definition error can also be an NCU link communication failure. The link communication failure must be indicated separately by further alarms.

Reactions: - NC not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct the machine data $MC_AXCONF_MACHAX_USED or assign a master channel. In the event of a link communication failure, these error causes have to be remedied first.

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Program Continuation: Switch control OFF - ON.

4032 Channel %1 wrong identifier for facing axis in %2

Parameters: %1 = Channel number
%2 = String: MD identifier

Definitions: According to the axis configuration in $MC_GCODE_RESET_VALUES or $MC_DIAMETER_AX_DEF, a facing axis identifier is expected at the specified location.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Add the correct identifier.

Program Continuation: Switch control OFF - ON.

4033 NOTICE! NCU link communication still not connected

Definitions: The NCU link communication could not be established due to other active alarms. This is the case, for example, if during boot-up the system detects and modifies incorrect cycle times (see alarm 4110).

Reactions:
- NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Analyze and fix the other alarms and start the control again.

Program Continuation: Switch control OFF - ON.

4034 Local link axis %1 is not allowed for different interpolation cycle time = %2/%3

Parameters: %1 = Axis name
%2 = Local interpolation cycle
%3 = Max. interpolation cycle

Definitions: Local link axes are only permissible on an NCU if the interpolation cycle set corresponds to the slowest interpolation cycle of the interconnected NCU systems.

Reactions:
- NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Remove local link axis (see MN_AXCONF_MACHAX_NAME_TAB and MN_AXCT_AXCONF_ASSIGN_TAB1) or adapt the interpolation cycle (MN_IPO_SYSCLOCK_TIME_RATIO).

Program Continuation: Switch control OFF - ON.

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4035 **Interpolation cycle from NCU%1 = %2 does not match NCU%3 = %4**

Parameters: %1 = NCU_number1
%2 = MD value of NCU_number1
%3 = NCU_number2 (with slowest IPO cycle)
%4 = MD value of NCU_number2

Definitions: Occurs only with an NCU link system. The interpolation cycles of the NCUs specified in the alarm do not match one another. The slowest IPO cycle in interconnected NCU systems must be an integral multiple of all configured IPO cycles.

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Set a suitable value in MN_IPO_SYSCLOCK_TIME_RATIO for all interconnected NCUs.

Program Continuation: Switch control OFF - ON.

4036 **Wrong NCU link configuration by MD %1**

Parameters: %1 = String: MD identifier

Definitions: Occurs only with an NCU link system. Different interpolation and position control cycles have been set in the NCUs of the LINK group. This is only allowed if the function FAST-IPO-LINK in MD $MN_MM_NCU_LINK_MASK has been activated.
Caution: For diagnostic purposes, two additional alarm parameters are output together with this alarm.
• 1. 2nd parameter: Position control or IPO cycle time of this NCU
• 2. 2nd parameter: Position control or IPO cycle time of another NCU.

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: • Activate FAST-IPO-LINK function in MN_MM_NCU_LINK_MASK
• Or do not set different position control or IPO cycles on the NCUs (see MN_IPO_SYSCLOCK_TIME_RATIO and MN_POSCTRL_SYSCLOCK_TIME_RATIO).

Program Continuation: Switch control OFF - ON.

4040 **Channel %1 axis identifier %2 not consistent with machine data %3**

Parameters: %1 = Channel number
%2 = String: Axis identifier
%3 = String: MD identifier
%4 = There are not enough channel axes entered in the MD displayed.

Definitions: The use of the specified axis identifier in the displayed MD is not consistent the channel's axis configuration stated in the MD 20070 AXCONF_MACHAX_USED and MD 20050 AXCONF_GEOAX_ASSIGN_TAB.
Only with active "OEM transformation" compile cycle: There are not enough channel axes entered in the MD displayed.

Reactions: - NC not ready.
- Mode group not ready, also effective for single axes

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- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check and correct the identifier used in the MDs 10000 AXCONF_MACHAX_NAME_TAB, 20080 AXCONF_CHANAX_NAME_TAB and/or 20050 AXCONF_GEOAX_NAME_TAB.

Only with active "OEM transformation" compile cycle: In addition to the specified MD, check and correct MD 24110 TRAFO_AXES_IN_1[n] of the activated OEM transformation according to the function description.

Program Continuation: Switch control OFF - ON.

4045 Channel %1 conflict between machine data %2 and machine data %3

Parameters: %1 = Channel number
%2 = String: MD identifier
%3 = String: MD identifier

Definitions: Using the specified machine data %1 leads to a conflict with machine data %2.

Reactions:
- NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct the specified machine data.

Program Continuation: Switch control OFF - ON.

4050 NC code identifier %1 cannot be reconfigured to %2

Parameters: %1 = String: Old identifier
%2 = String: New identifier

Definitions: Renaming of an NC code was not possible for one of the following reasons:
• The old identifier does not exist
• The new identifier is within another type range.
NC codes/keywords can be reconfigured as long as you stay within the type range.
Type 1: "true" G codes: G02, G17, G33, G64, ...
Type 2: named G codes: ASPLINE, BRISK, TRANS, ...
Type 3: addresses which can be set: X, Y, A1, A2, I, J, K, ALF, MEAS, ...

Reactions:
- NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Correct machine data 10712: NC_USER_CODE_CONF_NAME_TAB (protection level 1).
The list must be built up as follows:
Even address: Identifier to be modified Following odd address: New identifier
e.g.: NC_USER_CODE_CONF_NAME_TAB [10] = "ROT",
NC_USER_CODE_CONF_NAME_TAB [11] = " " clears the ROT function from the control

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Program Continuation: Switch control OFF - ON.

4060 **Standard machine data loaded (%1, %2)**

Parameters: %1 = Identifier 1
%2 = Identifier 2

Definitions: The standard MD were loaded because
- a cold start was requested or
- the MD buffer voltage failed or
- an initialization was requested for loading the standard machine data (MD 11200 INIT_MD).

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. After automatically loading the standard MDs, the individual MDs must be entered or loaded in the relevant system.

Program Continuation: Clear alarm with the RESET key. Restart part program

4062 **Backup data loaded**

Definitions: The user data saved in the flash memory are loaded to the SRAM.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. Load specific machine data again.

Program Continuation: Clear alarm with the RESET key. Restart part program

4065 **Buffered memory was restored from backup medium (potential loss of data!)**

Definitions: Only occurs with PC-NC. A possible data integrity error was detected in the buffered memory during power-up. The buffered memory was initialized with the last backup copy. Changes in the buffered memory, which have been made since the last backup copy update, have been lost. Backup copies of the buffered memory are updated (on the hard disk) every time the control is shut down normally.

!! Only for 802D: The reason for this procedure is that the backup time is exceeded. Make sure that the required operating time of the control corresponds to the specifications in your Installation & Start-up Guide. The current backup copy of the buffered memory has been created by the last internal data backup via the "Save data" softkey on the HMI.

Reactions: - NC not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Start the control again.

Program Continuation: Switch control OFF - ON.

4066 **Buffered memory of FFS restored from backup medium (potential loss of data!)**

Definitions: For PC-NC: A possible data integrity error was detected in the FFS memory during power-up. The FFS memory was initialized with the last backup copy. Changes in the FFS memory, which have been made since the last backup copy update, have been lost.

!! Only for PC-NC: Backup copies of the buffered memory are updated (on the hard disk) every time the control is shut down normally.

Reactions: - NC not ready.
- NC Start disable in this channel.

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- Interface signals are set.
- Alarm display.

Remedy: Start the control again.

Program Continuation: Switch control OFF - ON.

4070 Normalizing machine data has been changed

Definitions: The control uses internal physical units (mm, degrees, s, for paths, velocities, acceleration, etc.). During programming or data storage, some of these values are input and output using different units (rev./min, m/s2, etc.).

The conversion is carried out with the scaling factors that can be entered (system-spefic MD array 10230 SCALING_FACTORS USER_DEF[n] (n ... index number 0 - 10), when the corresponding masking bit is set to "1".

If the masking bit is set to "0" then scaling takes place with the internal standard factors.

The following machine data influence the scaling of other MDs:

- 10220: SCALING_USER_DEF_MASK
- 10230: SCALING_FACTORS_USER_DEF
- 10240: SCALING_SYSTEM_IS_METRIC
- 10250: SCALING_VALUE_INCH
- 30300: IS_ROT_AX

If these data are modified, the NCK must be powered up again. Only then will the input of dependent data be performed correctly.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. If the alarm has been displayed after downloading an MD file which is consistent within itself, then the download operation must be repeated with a new NCK power-up. (The file contains scaling-dependent machine data in front of the scaling factors).

Program Continuation: Clear alarm with the Delete key or NC START.

4071 Check absolute encoder position

Definitions: A machine date has been changed influencing the value of an absolute encoder position. Please check the postion values.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department.

Program Continuation: Clear alarm with the Delete key or NC START.

4073 Compile cycle functions define machine data number %1 several times

Parameters: %1 = Machine data number

Definitions: Can only occur when installing compile cycle functions. Two different compile cycle applications use the same machine data number. The machine data which was defined twice is shifted into the free number range above 64000.

Reactions: - Alarm display.

Remedy: The error has no effect on the usability of the machine data and the function of the compile cycle application. To ensure that the compile cycle machine data documentation is correct, you must contact the supplier of the compile cycle. Only the supplier can remedy the error by changing the software.

Program Continuation: Switch control OFF - ON.

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4075 **Machine data %1 (and maybe others) not changed due to missing permission level %2**

Parameters: %1 = String: MD identifier

%2 = Write protection level of the MD

Definitions: On executing a TOA file or when writing data from the part program, an attempt has been made to write an item of data with a higher protection level than the access authorization currently set in the control. The item of data in question has not been written and program execution is continued. This alarm is set only when access violation is detected for the first time.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. Set the required access level by means of keyswitch or password entry or delete the machine data concerned from the MD file/part program.

Program Continuation: Clear alarm with the Delete key or NC START.

4076 **%1 Machine data could not be changed with permission level %2**

Parameters: %1 = Number of MDs

%2 = Preset access authorization

Definitions: On executing a TOA file or when writing data from the part program an attempt has been made to write data with a higher protection level than the access authorization currently set in the control. The data in question have not been written and program execution is continued without hindrance. This alarm is issued on acknowledging the alarm EXBSAL_MD_PERMISSION_DENIED. It can be cleared only with Power On.

Reactions: - NC Start disable in this channel.

- Alarm display.

Remedy: Please inform the authorized personnel/service department. Set the required access level by means of keyswitch or password entry or delete the machine data concerned from the MD file/part program.

Program Continuation: Switch control OFF - ON.

4077 **New value %1 of MD %2 not set. Requested %3 bytes too much %4 memory.**

Parameters: %1 = New value of machine data

%2 = Machine data number

%3 = Number of bytes requested that exceeded availability

%4 = Type of memory

Definitions: An attempt was made to enter a new value in the specified memory configuration machine data. It was not possible to modify the value, since this would clear the contents of the user memory. This is because the memory requested exceeded the available capacity.

The third parameter specifies the number of bytes by which the maximum user memory was exceeded.

The fourth parameter specifies the type of memory whose limit was exceeded.

- "D" stands for dynamic or non-buffered user memory (this is where the LUD variables are stored and the interpolation buffer size is entered, for example). The capacity of this memory type is defined by the current memory expansion and the value in MD MM_USER_MEM_DYNAMIC (18210).
- "S" stands for static or buffered user memory (this is where part programs, offset data, R parameters, tool data, etc. are stored). This memory type is defined by the current memory expansion and the value in MD MM_USER_MEM_BUFFERED (18230).

Reactions: - Alarm display.

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Remedy: If the modification was unintentional, ignore the error message and continue. The alarm has no negative effects. The remedy depends on the access rights and the current memory expansion of the NCK.
- The intended change is not possible -> try again with a smaller value. Observe the change in the number of bytes.
- Buy more memory? This option depends on the model in use.
- The NCK user memory setting may be smaller than possible. The MDs can be changed with appropriate access rights.

Program Continuation: Clear alarm with the Delete key or NC START.

4080 Incorrect configuration of indexing axis in MD %1

Parameters: %1 = String: MD identifier

Definitions: The assignment of a position table to an indexing axis or the contents of a position table contains an error, or the length of a position table has been parameterized with 0.

Reactions:
- NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. 3 MD identifiers are output, depending on the type of error.

1. $MA_INDEX_AX_ASSIGN_TAB (axis-specific MD 30500: The error is due to multiple assignment of a position table (NCK MD 10910/10930 INDEX_AX_POS_TAB_n) to axes with different types (linear/rotary axis).

2. $MN_INDEX_AX_POS_TAB_n (NCK MD 10910/10930): The contents of the displayed table n contain an error.
- The entered positions must be arranged in increasing size.
- A particular position must not be set more than once.
- If the table is assigned to one or several modulo axes, then the contents must be within the 0 to < 360 degree range.

3. $MN_INDEX_AX_LENGTH_POS_TAB_n (NCK MD 10900/10920): The length of the displayed position table n was specified with 0.

Program Continuation: Clear alarm with the RESET key. Restart part program

4090 Too many errors during power-up

Definitions: More than <n> errors occurred during control power-up.

Reactions:
- NC Start disable in this channel.
- Alarm display.

Remedy: Set the machine data correctly.

Program Continuation: Switch control OFF - ON.

4100 System cycle time/scan time divider corrected for digital drive

Definitions: The machine data 10050 SYSCLOCK_CYCLE_TIME (system clock cycle) and/or MD 10080 SYSCLOCK_SAMPL_TIME_RATIO (dividing factor of the position control cycle for actual value acquisition) have been corrected. The sampling cycle to which the digital drive is synchronized (drive clock cycle) must be a multiple of 4, 8, 16 or 32 of 31.25µs.

The modifications were so made that, due to the selection of the system clock cycle time in MD 10050 SYSCLOCK_CYCLE_TIME, the programmable hardware divider 1 was

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readjusted in such a way that the selected time and the basic drive cycle result in a 31.25µs grid. If this requirement is unfeasible (e.g. because the system clock cycle is not a multiple of 31.25µs), the system clock cycle is automatically increased until the basic drive cycle is in a 31.25µs grid.

The new value of the SYSCLOCK_CYCLE_TIME can be obtained from the MD 10050.

The position control cycle can be set with the following gradations:

• up to 4ms: 125µs step

• up to 8ms: 250µs step

• up to 16ms: 0.5ms step

• up to 32ms: 1ms step

Reactions: - Alarm display.

Remedy: No remedial measures are required. The alarm display can be canceled with Reset.

Program Continuation: Clear alarm with the Delete key or NC START.

4101 **Position control cycle for digital drive reduced to %1 ms**

Parameters: %1 = String (time in ms)

Definitions: The position control clock divisor in the NCK MD 10060 POSCTRL_SYSCLOCK_TIME_RATIO was set such that a position control cycle time of more than 16 ms resulted. The boundary value for the drive actuator 611D is however 16 ms.

Reactions: - Alarm display.

Remedy: No remedial measures are required. The alarm display is canceled with Reset.

Program Continuation: Switch control OFF - ON.

4102 **Default values for drive cycle times differ**

Definitions: External control modules of the 611D bus and the controls within the CCU3 module have different default values for the current and speed control cycle times.

Reactions: - Interpreter stop

- NC Start disable in this channel.

- Interface signals are set.

- Alarm display.

Remedy: External control modules of the 611D bus and the controls within the CCU3 module have different default values for the current and speed control cycle times.

Check the specified values and modify accordingly (see MD_CURRCTRL_CYCLE_TIME and MD_SPEEDCTRL_CYCLE_TIME).

Program Continuation: Switch control OFF - ON.

4110 **IPO factor increased to %1**

Parameters: %1 = String (new IPO cycle time)

Definitions: The IPO cycle divisor was set to a value which was not an integral multiple of the position control cycle divisor. The divisor (MD 10070 IPO_SYSCLOCK_TIME_RATIO) was increased. IPO_SYSCLOCK_TIME_RATIO has been modified on systems with PROFIBUS DP because of the modified DP cycle in SDB-Type-2000 (MD 10050 SYSCLOCK_CYCLE_TIME).

Reactions: - Alarm display.

Remedy: Machine data 10070 IPO_SYSCLOCK_TIME_RATIO has been modified.

Program Continuation: Clear alarm with the RESET key. Restart part program

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4111 **PLC cycle increased to %1 ms**

Parameters: %1 = String (new PLC cycle time)

Definitions: The PLC cycle divisor was set to a value which was not an integral multiple of the IPO cycle divisor. The divisor (MD 10074 PLC_IPO_TIME_RATIO) has been increased. MD 10074 PLC_IPO_TIME_RATIO has been modified on systems with PROFIBUS DP because of the modified DP cycle in SDB-Type-2000 (MD 10050 SYSCLOCK_CYCLE_TIME).

Reactions: - Alarm display.

Remedy: Machine data 10074 PLC_IPO_TIME_RATIO has been modified.

Program Continuation: Clear alarm with the RESET key. Restart part program

4112 **Servo cycle changed to %1 ms**

Parameters: %1 = String (new servo cycle time)

Definitions: MD 10060 POSCTRL_SYSCLOCK_TIME_RATIO has been modified on systems with PROFIBUS DP because of the modified DP cycle in SDB-Type-2000 (10050 SYSCLOCK_CYCLE_TIME).

Reactions: - Alarm display.

Remedy: Machine data 10060 POSCTRL_SYSCLOCK_TIME_RATIO RATIO has been modified.

Program Continuation: Clear alarm with the RESET key. Restart part program

4113 **Sysclock cycle changed to %1 ms**

Parameters: %1 = String (new PLC cycle time)

Definitions: MD 10050 SYSCLOCK_CYCLE_TIME has been modified on systems with PROFIBUS DP because of the modified DP cycle in SDB-Type-2000.

Reactions: - Alarm display.

Remedy: Machine data 10050 SYSCLOCK_CYCLE_TIME has been modified.

Program Continuation: Clear alarm with the RESET key. Restart part program

4114 **Error in DP cycle of SDB-Type-2000**

Parameters: %1 = String (new PLC cycle time)

Definitions: The DP cycle in SDB-Type-2000 contains an error and cannot be set. The default value of $MN_SYSCLOCK_CYCLE_TIME is set.

Reactions: - Alarm display.

Remedy: Correct SDB-Type-2000

Program Continuation: Switch control OFF - ON.

4115 **Time ratio communication to Ipo changed to %1**

Parameters: %1 = String (new PLC cycle time)

Definitions: The value of the machine data 10072 has been adapted. This can only occur, if the value of the machine data is smaller than one and the time thus calculated is no multiple of the position control cycle.

Reactions: - Alarm display.

Remedy: The machine data $MN_COM_IPO_TIME_RATIO has been adapted. Please check to ensure that the calculated value is correct.

Program Continuation: Clear alarm with the RESET key. Restart part program

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4150 **Channel %1 invalid M function subprogram call configured**

Parameters: %1 = Channel number

Definitions: The machine data $MN_M_NO_FCT_CYCLE[n] or $MN_M_NO_FCT_CYCLE_PAR contains invalid configration data: An M function, which is used by the system and can not be replaced by a subprogram call has been specified in the machine data $MN_M_NO_FCT_CYCLE[n] for the configuration of the subprogram call via M function:

- M0 to M5,
- M17, M30,
- M19, M40 to M45,
- M function for selecting spindle/axis mode according to $MC_SPIND_RIGID_TAPPING_M_NR (default: M70),
- M functions for nibbling/punching as configured in $MC_NIBBLE_PUNCH_CODE if activated by $MC_PUNCHNIB_ACTIVATION.
- Also M96 to M99 for applied external language ($MN_MM_EXTERN_LANGUAGE).

The machine data $MN_M_NO_FCT_CYCLE_PAR contains an invalid array index of $MN_M_NO_FCT_CYCLE[n]. Currently, the values 0 to 9 are permissible. The affected machine data is reset to the default value -1. This deactivates the function.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Configure an M function in the machine data $MN_M_NO_FCT_CYCLE[n] that is not assigned by the system, or configure a permissible array index in the machine data $MN_M_NO_FCT_CYCLE_PAR.

Program Continuation: Switch control OFF - ON.

4152 **Illegal configuration of the 'Block display with absolute values' function**

Definitions: The "Block display with absolute values" function has been illegally parameterized:

- An illegal block length has been set with $MC_MM_ABSBLOCK:

While ramping up, the machine data will be checked for the following value range: 0, 1, 128 to 512

- An invalid display range has been set with $MC_MM_ABSBLOCK_BUFFER_CONF[].

While ramping up, the machine data will be checked for the following upper and lower limits:

- 0 <= $MC_MM_ABSBLOCK_BUFFER_CONF[0] <= 8
- 0 <= $MC_MM_ABSBLOCK_BUFFER_CONF[1] <= ($MC_MM_IPO_BUFFER_SIZE + $MC_MM_NUM_BLOCKS_IN_PREP). Alarm 4152 is issued if the limits are violated.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Configure block length/display range within the permissible limits.

Program Continuation: Switch control OFF - ON.

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4160 **Channel %1 invalid M function number configured for spindle switchover**

Parameters: %1 = Channel number

Definitions: An M function was specified in machine data $MC_SPIND_RIGID_TAPPING_M_NR in order to configure the M function number for spindle switchover. The M function number is assigned by the system and cannot be used for the switchover (M1 to M5, M17, M30, M40 to M45).

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: (M1 to M5, M17, M30, M40 to M45). Configure an M function which is not used by the system (M1 to M5, M17, M30, M40 to M45) in machine data $MC_SPIND_RIGID_TAPPING_M_NR.

Program Continuation: Switch control OFF - ON.

4170 **Invalid M function number for channel synchronisation assigned**

Definitions: An M number between 0 and 99 has been specified In machine data $MN_EXTERN_CHAN_SYNC_M_NR_MIN or $MN_EXTERN_CHAN_SYNC_M_NR_MAX for the configuration of the M number range for channel synchronization in ISO2/3 mode or the machine data $MN_EXTERN_CHAN_SYNC_M_NR_MAX is smaller than $MN_EXTERN_CHAN_SYNC_M_NR_MIN.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check machine data $MN_EXTERN_CHAN_SYNC_M_NR_MIN and $MN_EXTERN_CHAN_SYNC_M_NR_MAX.

Program Continuation: Switch control OFF - ON.

4180 **Invalid M function number assigned to enable ASUP**

Definitions: An invalid M function number has been assigned for activation of ASUP. An illegal M number has been assigned in machine data $MN_EXTERN_M_NO_SET_INT or $MN_EXTERN_M_NO_DISABLE_INT for the configuration of the M number range for activation/deactivation of the interrupt program.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check machine data $MN_EXTERN_M_NO_SET_INT and $MN_EXTERN_M_NO_DISABLE_INT.

Program Continuation: Switch control OFF - ON.

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4181 **Channel %1 invalid assignment of an M auxiliary function number**

Parameters: %1 = Channel number

Definitions: In machine data $MC_AUXFU_ASSOC_M0_VALUE or $MC_AUXFU_ASSOC_M1_VALUE, a number has been specified for the configuration of a new predefined M function which is occupied by the system, and cannot be used for an assignment. (M0 to M5, M17, M30, M40 to M45).

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Configure an M function in machine data $MC_AUXFU_ASSOC_M0_VALUE or $MC_AUXFU_ASSOC_M1_VALUE which is not occupied by the system (M1 to M5, M17, M30, M40 to M45).

Program Continuation: Switch control OFF - ON.

4182 **Channel %1 invalid M auxiliary function number in %2%3, MD reset**

Parameters: %1 = Channel number
%2 = MD identifier
%3 = If required, MD index

Definitions: In the specified machine data, a number has been specified for the configuration of an M function which is occupied by the system, and cannot be used for an assignment. (M0 to M5, M17, M30, M40 to M45 and also M98, M99 with applied ISO dialect). The value set by the user has been reset to the default value by the system.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Configure an M function in the specified machine data which is not occupied by the system (M0 to M5, M17, M30, M40 to M45 and also M98, M99 with applied ISO dialect).

Program Continuation: Clear alarm with the RESET key. Restart part program

4183 **Channel %1 M auxiliary function number %2 used several times (%3 and %4)**

Parameters: %1 = Channel number
%2 = M auxiliary function number
%3 = MD identifier
%4 = MD identifier

Definitions: In the specified machine data, a number has been used several times for the configuration of an M function.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

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Remedy: Check the specified machine data and create a unique assignment of M auxiliary function numbers.
Program Continuation: Switch control OFF - ON.

4184 Channel %1 illegally predefined auxiliary function in %2%3, MD reset

Parameters: %1 = Channel number
%2 = MD identifier
%3 = If required, MD index
Definitions: In the specified machine data, a predefined auxiliary function has been illegally configured.
The value set by the user has been reset to the default value by the system.
Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
Remedy: Configure a valid value in the specified machine data.
Program Continuation: Clear alarm with the RESET key. Restart part program

4185 Channel %1 illegal auxiliary function configured %2 %3 %4

Parameters: %1 = Channel number
%2 = Type of auxiliary function
%3 = Extension
%4 = Auxiliary function value
Definitions: An auxiliary function has been illegally configured.
Predefined auxiliary functions cannot be reconfigured by user-defined auxiliary functions.
Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
Remedy: Reconfigure the auxiliary function.
Program Continuation: Clear alarm with the RESET key. Restart part program

4200 Channel %1 geometry axis %2 must not be declared a rotary axis

Parameters: %1 = Channel number
%2 = Axis name
Definitions: The geometry axes represent a Cartesian coordinate system and therefore the declaration of a geometry axis as rotary axis leads to a definition conflict.
Reactions: - NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

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Remedy: Please inform the authorized personnel/service department. Remove rotary axis declaration for this machine axis.
For this purpose, the geometry axis index for the displayed geometry axis must be determined by means of the channel-specific MD array 20060 AXCONF_GEOAX_NAME_TAB. The channel axis number is stored with the same index in the channel-specific MD array 20050 AXCONF_GEOAX_ASSIGN_TAB. The channel axis number minus 1 provides the channel axis index under which the machine axis number is found in the channel-specific MD array 20070 AXCONF_MACHAX_USED.
Program Continuation: Switch control OFF - ON.

4210 Channel %1 spindle %2 declaration as rotary axis missing

Parameters: %1 = Channel number
%2 = Axis name, spindle number
Definitions: If a machine axis is to be operated as a spindle, this machine axis must be declared as a rotary axis.
Reactions: - NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Set rotary axis declaration for this machine axis in the axis-specific MD 30300 IS_ROT_AX.
Program Continuation: Switch control OFF - ON.

4215 Channel %1 spindle %2 declaration as modulo axis missing

Parameters: %1 = Channel number
%2 = Axis name, spindle number
Definitions: The spindle functionality requires a modulo axis (positions in [deg],.).
Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Set MD "ROT_IS_MODULO".
Program Continuation: Switch control OFF - ON.

4220 Channel %1 spindle %2 declared repeatedly

Parameters: %1 = Channel number
%2 = Axis name, spindle number
Definitions: The spindle number exists more than once in the channel.
Reactions: - NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

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- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. The spindle number is stored in the axis-specific MD array 35000 SPIND_ASSIGN_TO_MACHAX. The channel to which this machine axis/spindle is assigned is listed in the machine axis index. (The machine axis number is given in the channel-specific MD array 20070 AXCONF_MACHAX_USED).

Program Continuation: Switch control OFF - ON.

4225 Channel %1 axis %2 declaration as rotary axis missing

Parameters: %1 = Channel number
%2 = Axis name, axis number

Definitions: The modulo functionality requires a rotary axis (positions in [deg],.).

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Set MD "IS_ROT_AX".

Program Continuation: Switch control OFF - ON.

4230 Channel %1 data alteration from external not possible in current channel state

Parameters: %1 = Channel number

Definitions: It is not allowed to enter this data while the part program is being executed (e.g. setting data for working area limitation or for dry run feedrate).

Reactions: - Alarm display.

Remedy: The data to be entered must be altered before starting the part program.

Program Continuation: Clear alarm with the Delete key or NC START.

4240 Runtime overflow for IPO cycle or position controller cycle, IP %1

Parameters: %1 = Program location

Definitions: The settings for the interpolation and position control cycle were modified before the last power-up such that too little computing time is now available for the requisite cyclic task.
The alarm occurs immediately after power-up if too little runtime is available even when the axes are stationary and the NC program has not started. However, task overflow can occur only when computation-intensive NC functions are called during program execution.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Alarm reaction delay is canceled.

Remedy: Please inform the authorized personnel/service department. Take greater care when optimizing the clock times NCK MD 10050 SYSCLOCK_CYCLE_TIME, MD 10060 POSCTRL_SYSCLOCK_TIME_RATIO and/or MD 10070 IPO_SYSCLOCK_TIME_RATIO.

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The test should be performed with an NC program that represents the worst case. For safety, a margin of 15 to 25% should be added to the times determined in this way.

Program Continuation: Switch control OFF - ON.

4250 FastPlcCom functionality not available

Definitions: This alarm indicates that the PLC provides the None FastPlcCom functionality during start-up although this functionality is requested by the NCK.

Reactions: - Alarm display.

Remedy: Retrofit the PLC with the FastPlcCom functionality or deactivate the FastPlcCom functionality by means of NCK machine data.

Program Continuation: Clear alarm with the RESET key. Restart part program

4252 PLCIO read error: %1

Parameters: %1 = PLCIO error code

Definitions: This alarm indicates that errors occured when reading the PLCIO with the FastPlcCom functionality.

Reactions: - Alarm display.

Remedy: Check machine data MD 10394/10395 or check the PLC hardware configuration.

Program Continuation: Clear alarm with the RESET key. Restart part program

4254 PLCIO write error: %1

Parameters: %1 = PLCIO error code

Definitions: This alarm indicates that errors occured when writing on the PLCIO with the FastPlcCom functionality.

Reactions: - Alarm display.

Remedy: Check machine data MD 10396/103947 or check the PLC hardware configuration.

Program Continuation: Clear alarm with the RESET key. Restart part program

4260 Machine data %1 illegal

Parameters: %1 = String: MD identifier

Definitions: Selected cam pair not activated by MD $MN_SW_ASSIGN_TAB or several cam pairs selected.

Reactions: - Mode group not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Activate the cam pair or select only one cam pair.

Program Continuation: Switch control OFF - ON.

4270 Machine data %1 assigns not activated NCK input/output byte %2

Parameters: %1 = String: MD identifier
%2 = Index

Definitions: The specified machine data assigns a digital input/output byte or an analog input/output signal the processing of which has not been activated to an NC function.

Reactions: - NC not ready.
- Channel not ready.

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- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Correct machine data. Activate required inputs/outputs via MDs:
• $MN_FASTIO_DIG_NUM_INPUTS
• $MN_FASTIO_DIG_NUM_OUTPUTS
• $MN_FASTIO_ANA_NUM_INPUTS
• $MN_FASTIO_ANA_NUM_OUTPUTS
Activation of fast inputs/outputs does not require the corresponding hardware configuration to be available at the control. All functions using fast inputs/outputs can also be made use of by the PLC specification/modification defined in the VDI interface, if the response time requirements are reduced accordingly.
Activated inputs/outputs increase the computation time requirement of the interpolation cycle because the PLC manipulation signals are handled cyclically. Note: Deactivate any inputs/outputs not in use.

Program Continuation: Switch control OFF - ON.

4275 Machine data %1 and %2 both assign the same NCK output byte no. %3 several times

Parameters: %1 = String: MD identifier
%2 = String: MD identifier
%3 = No. of output

Definitions: The specified machine data assign two NC functions to the same digital/analog output.

Reactions:
- NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Correct machine data.

Program Continuation: Switch control OFF - ON.

4280 Assignment of NCK input/output byte via MD %1[%2] does not match hardware configuration

Parameters: %1 = String: MD identifier
%2 = Index: MD array

Definitions: When booting, the required input/output module was not found at the slot specified in the MD.

Reactions:
- NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check hardware and correct the MD if necessary. Note: Monitoring of the hardware configuration is performed

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independently of the number of activated inputs/outputs (MD 10300 - 10360 FASTIO_ANA(DIG)_NUM_INPUTS(OUTPUTS))

Program Continuation: Switch control OFF - ON.

4282 Hardware of external NCK outputs assigned repeatedly

Definitions: Several outputs have been configured on the same hardware byte.

Reactions:
- NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Alter MD 10364 HW_ASSIGN_DIG_FASTOUT or MD 10364 HW_ASSIGN_ANA_FASTOUT.

Program Continuation: Switch control OFF - ON.

4285 Error on terminal block %1, error code %2

Parameters: %1 = Number of terminal block (1 ... 4)

%2 = Error code

Definitions: An error occurred on terminal block no. %1 (sign-of-life failure, I/O module removed in current operation, etc.). All possible errors which can lead to this alarm are not yet known (and will be completed later). Further information together with a description of the error code and its meaning will be provided at a later date.

Error code 1: Sign-of-life failure from terminal block

Error code 10: Sign-of-life failure NC

Reactions:
- NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check hardware.

Program Continuation: Switch control OFF - ON.

4290 Sign of life monitoring: local P-bus not alive

Definitions: The COM computer must alter the sign-of-life on the local P-bus in each SERVO cycle. Monitoring for alteration takes place in the IPO cycle. If the sign of life has not altered, this alarm is triggered.

Reactions:
- NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check hardware.

Program Continuation: Switch control OFF - ON.

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4291 **Failure of module in local P-bus slot %1, error codes %2 %3 %4**

Parameters: %1 = Slot number
%2 = Error code
%3 = Error code
%4 = Error code

Definitions: The module on the specified slot has signaled a diagnostics alarm. The error code reported corresponds to the AS300 documentation.

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check hardware.

Program Continuation: Switch control OFF - ON.

4300 **Declaration in MD %1 is not allowed for axis %2.**

Parameters: %1 = String: MD identifier
%2 = Axis name, spindle number

Definitions: The axis cannot be operated as competing positioning axes,
for example because the axis is the slave axis within a closed gantry group or a gantry group to be closed.

Reactions: - Alarm display.

Remedy: Reset MD 30450 IS_CONCURRENT_POS_AX for the axis concerned.

Program Continuation: Clear alarm with the RESET key. Restart part program

4310 **Declaration in MD %1 index %2 is not allowed.**

Parameters: %1 = String: MD identifier
%2 = Index: MD array

Definitions: The machine data values must be written in the array in ascending order.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Correct the MD.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

4320 **Axis %1 function %2 %3 and %4 not allowed**

Parameters: %1 = String: Axis identifier
%2 = String: MD identifier
%3 = String: Bit
%4 = String: MD identifier

Definitions: The functions declared by the specified machine data cannot simultaneously be active for one axis.

Reactions: - Mode group not ready.

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- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Deactivate one of the functions.

Program Continuation: Switch control OFF - ON.

4334 **Channel %1 The amount of fine correction in parameter %2 of the orientable toolholder %3 is too large**

Parameters: %1 = Channel number
%2 = Invalid parameter of the orientable toolholder
%3 = Number of the orientable toolholder

Definitions: The maximum permissible value of the fine correction in an orientable toolholder is limited by the machine data $MC_TOCARR_FINE_LIM_LIN for linear variables, and by the machine data $MC_TOCARR_FINE_LIM_ROT for rotary variables. The alarm can only occur if the setting data $SC_TOCARR_FINE_CORRECTION is not equal to zero.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Enter a valid fine correction value.

Program Continuation: Clear alarm with the RESET key. Restart part program

4336 **Channel %1 orientable toolholder no. %2 for orientation transformation %3 does not exist**

Parameters: %1 = Channel number
%2 = Number of the orientable toolholder
%3 = Number of the orientation transformation that is to be parameterized with the orientable toolholder

Definitions: The orientable toolholder, with whose data the orientation transformation is to be parameterized (see machine data $MC_TRAFO5_TCARR_NO_1/2), does not exist.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Enter a valid tool-carrier number.

Program Continuation: Clear alarm with the RESET key. Restart part program

4338 **Channel %1 invalid transformation type '%2' in toolholder %3 for orientation transformer %4**

Parameters: %1 = Channel number
%2 = Transformer type
%3 = Number of the orientable toolholder
%4 = Number of the orientation transformation that is to be parameterized with the orientable toolholder

Definitions: The parameters of the orientation transformation are taken over from the data of an orientable toolholder. This orientable toolholder contains an invalid transformation type. (Types T, P and M are permissible).

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Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Enter a valid transformation type.

Program Continuation: Clear alarm with the RESET key. Restart part program

4340 Channel %1 block %2 invalid transformation type in transformation no. %3

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Transformation number

Definitions: An invalid, i.e. undefined, number was entered in one of the machine data TRAFO_TYPE_1 ... TRAFO_TYPE_8. This alarm also occurs if a certain type of transformation is only impossible on the type of control used (e.g. 5-axis transformation on a SINUMERIK 802D).

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Enter a valid transformation type.

Program Continuation: Clear alarm with the RESET key. Restart part program

4341 Channel %1 block %2 no data set available for transformation no. %3

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Transformation number

Definitions: Only a limited number of machine data sets (usually 2) is available for each related group of transformations (e.g. orientation transformations, Transmit, Tracyl, etc.). This alarm is output if an attempt is made to set more transformations from a group.
Example:
Two orientation transformations are allowed. The machine data contains e.g.:
TRAFO_TYPE_1 = 16 ; 1st orientation transformation
TRAFO_TYPE_2 = 33 ; 2nd orientation transformation
TRAFO_TYPE_3 = 256 ; 1st transmit transformation
TRAFO_TYPE_4 = 20 ; 3rd orientation transformation ==> This entry triggers alarm

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Enter valid machine data.

Program Continuation: Clear alarm with the RESET key. Restart part program

4342 Channel %1 invalid machine data for general 5-axis transformation error no. %2

Parameters: %1 = Channel number
%2 = Error type

Definitions: The machine data which describe the axis directions and the base orientation or the input axes for the general 5-axis transformation are invalid. The error parameter displayed specifies the cause of the alarm:

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- 1: The first axis (TRAFO5_AXIS1_*) is not defined (all three entries of the vector are 0)
- 2: The second axis (TRAFO5_AXIS2_*) is not defined (all three entries of the vector are 0)
- 3: The basic orientation (TRAFO5_BASE_ORIENT_*) is not defined (all three entries of the vector are 0)
- 4: The first and second axis are (virtually) parallel
- 5: On TRAFO_TYPE = 56 (rotatable tool and workpiece) there is no 4-axis transformation, i.e. 2 rotary axes must always be available. (See MD TRAFO_AXES_IN_X)
- 6: The third axis (TRAFO5_AXIS3_*) is not defined (all three entries of the vector are 0) (6-axis transformation)
- 7: The normal tool vector (TRAFO6_BASE_ORIENT_NORMAL_*) is not defined (all three entries of the vector are 0) (6-axis transformation)
- 8: The basic tool orientation (TRAFO5_BASE_ORIENT_*) and the normal tool vector (TRAFO6_BASE_ORIENT_NORMAL_*) are (virtually) parallel (6-axis transformation)

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Set valid machine data.

Program Continuation: Clear alarm with the RESET key. Restart part program

4343 **Channel %1 attempt made to change the machine data of an active transformation.**

Parameters: %1 = Channel number

Definitions: An attempt was made to change the machine data of an active transformation and to activate the machine data with RESET or NEWCONFIG.

Reactions: - Interpreter stop
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Set valid machine data.

Program Continuation: Clear alarm with the RESET key. Restart part program

4345 **Channel %1 invalid configuration in chained transformation no. %2**

Parameters: %1 = Channel number

%2 = Transformation number

Definitions: A chained transformation is incorrectly configured (machine data $MC_TRACON_CHAIN_1 or $MC_TRACON_CHAIN_2). The following causes for the error are possible:

- The list of transformations to be chained starts with a 0 (at least one entry not equal to zero is required).
- The list of transformations to be chained contains the number of a transformation which does not exist.
- The number of a transformation in the list is greater than or equal to the number of the chained transformation. Example: The cascaded transformation is the fourth transformation in the system, i.e. $MC_TRAFO_TYPE_4 = 8192. In this case, only values 1, 2 or 3 may be entered in the associated list (e.g. $MC_TRACON_CHAIN_1[...]).
- The chaining setting is invalid. The following restrictions currently apply. A maximum of two transformations can be chained. The first transformation must be an orientation

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transformation, transmit, peripheral curve transformation or inclined axis. The second transformation must be the inclined axis transformation.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Set a valid transformation chain.

Program Continuation: Clear alarm with the RESET key. Restart part program

4346 Channel %1 invalid geoaxis assignment in machine data %2[%3]

Parameters: %1 = Channel number
%2 = Name of machine data
%3 = Transformation number

Definitions: Machine data TRAFO_GEOAX_ASSIGN_TAB_X contains an invalid entry. The following causes for the error are possible:
• The entry references a channel axis which does not exist.
• The entry is zero (no axis) but the transformation needs the relevant axis as a geometry axis.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Correct the entry in TRAFO_GEOAX_ASSIGN_TAB_X or TRAFO_AXES_IN_X.

Program Continuation: Clear alarm with the RESET key. Restart part program

4347 Channel %1 invalid channel axis assignment in machine data %2[%3]

Parameters: %1 = Channel number
%2 = Name of machine data
%3 = Transformation number

Definitions: Machine data TRAFO_AXIS_IN_X contains an invalid entry. The following causes for the error are possible:
• The entry references a channel axis which does not exist.
• The entry is zero (no axis) but the transformation needs the relevant axis as a channel axis.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Correct the entry in TRAFO_AXES_IN_X.

Program Continuation: Clear alarm with the RESET key. Restart part program

4350 Channel %1 axis identifier %2 machine data %3 not consistent with machine data %4

Parameters: %1 = Channel number
%2 = String: Axis identifier
%3 = String: MD identifier
%4 = String: MD identifier

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Definitions: MD 32410 JOG_AND_POS_JERK_ENABLE (jerk limitation) and MD 35240 ACCEL_TYPE_DRIVE (acceleration reduction) have been defined as the initial setting for an axis. However, the two functions cannot be activated at the same time for one axis.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Resetting of 32410 JOG_AND_POS_JERK_ENABLE or 35240 ACCEL_TYPE_DRIVE.

Program Continuation: Switch control OFF - ON.

4400 MD alteration will cause reorganisation of buffered memory (loss of data!)

Definitions: A machine data has been altered that configures the buffered memory. If the NCK powers up with the altered data, this will lead to reorganization of the buffered memory and thus to the loss of all buffered user data (part programs, tool data, GUD, leadscrew error compensation, ...)

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. If the control includes user data that has not yet been saved, then a data backup must be performed before the next NCK power-up. By manually resetting the altered MD to the value it had before the last power-up, reorganization of the memory can be avoided.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

4402 %1 causes a machine data reset

Parameters: %1 = Machine data

Definitions: If this machine data is set, the current machine data values are overwritten by the default values at the next ramp-up. Under certain circumstances, this may cause data loss (even in the buffered memory).

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. If the control includes user data that has not yet been saved, then a data backup must be performed before the next NCK power-up. By manually resetting the altered MD to the value it had before the last power-up, reorganization of the memory can be avoided.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

4502 Channel %1 anachronism %2(%3) -> %4

Parameters:
%1 = Channel number
%2 = String: MD identifier
%3 = String: MD identifier
%4 = String: MD identifier

Definitions: Previously, in $MC_RESET_MODE_MASK Bit4 and Bit5, the reset behavior of the 6th or 8th G groupe was determined. This setting is now made in $MC_GCODE_RESET_MODE.

In order to ensure compatible handling of "old" data backups, the "old" values are taken from $MC_RESET_MODE_MASK and entered in $MC_GCODE_RESET_MODE.

Reactions: - Alarm display.

Remedy: --

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Program Continuation: Clear alarm with the Delete key or NC START.

4503 In TO unit, %1 H number %2 assigned more than once. H number linked again.

Parameters: %1 = TO unit
%2 = H number

Definitions: This error can only occur when MD $MN_MM_EXTERN_CNC_SYSTEM= 1 or 2. The Power ON effective machine data bit 10890, $MN_EXTERN_TOOLPROG_MODE, bit 3 has been reset. On reconstructing data handling after Power ON, it has been found that different edges of the same TO unit have the same H number. They had been linked previously. They are linked again and MD bit $MN_EXTERN_TOOLPROG_MODE, bit 3 is set again.

Reactions: - Alarm display.

Remedy: H numbers must be assigned only once in a TO unit. Then, machine data bit 10890, $MN_EXTERN_TOOLPROG_MODE, bit 3 can be set = 0 and a restart can be performed.

Program Continuation: Clear alarm with the Delete key or NC START.

4600 Invalid handwheel type for handwheel %1

Parameters: %1 = Handwheel number

Definitions: The handwheel type for handwheel %1 requested through machine date $MN_HANDWHEEL_SEGMENT is invalid.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Configure a valid type for the corresponding handwheel through machine date $MN_HANDWHEEL_SEGMENT.

Program Continuation: Switch control OFF - ON.

4610 Invalid handwheel module for handwheel %1

Parameters: %1 = Handwheel module

Definitions: The handwheel module for handwheel %1 requested through machine date $MN_HANDWHEEL_MODULE is not available for 840D systems. An 840D system is always regarded as a module. For this reason, handwheels directly linked with 840D systems $MN_HANDWHEEL_MODULE = 1 must always be set.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Set machine date $MN_HANDWHEEL_MODULE = 1 for the corresponding handwheel.

Program Continuation: Switch control OFF - ON.

4611 Invalid handwheel input for handwheel %1

Parameters: %1 = Handwheel input

Definitions: The handwheel input for handwheel %1 requested through machine date $MN_HANDWHEEL_INPUT is not available for 840D systems. With 840D systems, a maximum of 3 handwheels can be linked directly (1st and 2nd directly to 840D HW, 3rd handwheel through free encoder input).

Reactions: - Interface signals are set.
- Alarm display.

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Remedy: Configure machine date $MN_HANDWHEEL_INPUT for a valid input for the corresponding handwheel

Program Continuation: Switch control OFF - ON.

4620 Invalid handwheel module for handwheel %1

Parameters: %1 = Handwheel module

Definitions: The handwheel module for handwheel %1 requested through machine date $MN_HANDWHEEL_MODULE is not available for 802D systems. An 802D system is always regarded as a module. For this reason, $MN_HANDWHEEL_MODULE = 1 must always be set for handwheels directly linked with 802D systems.

Reactions: - Interface signals are set.

- Alarm display.

Remedy: Set machine date $MN_HANDWHEEL_MODULE = 1 for the corresponding handwheel.

Program Continuation: Switch control OFF - ON.

4621 Invalid handwheel input for handwheel %1

Parameters: %1 = Handwheel input

Definitions: The handwheel input for handwheel %1 requested through machine date $MN_HANDWHEEL_INPUT is not available for 802D systems. With 802D systems, a maximum of 2 handwheels can directly be linked.

Reactions: - Interface signals are set.

- Alarm display.

Remedy: Configure machine date $MN_HANDWHEEL_INPUT for a valid input for the corresponding handwheel

Program Continuation: Switch control OFF - ON.

4630 Invalid handwheel module for handwheel %1

Parameters: %1 = Handwheel module

Definitions: The reference in $MN_HANDWHEEL_MODULE for a corresponding entry in machine date array $MN_HNADWHEEL_LOGIC_ADDRESS[] necessary for the configuration of PROFIBUS handwheels is not available.

Reactions: - Interface signals are set.

- Alarm display.

Remedy: Configure the machine date $MN_HANDWHEEL_MODULE for the corresponding PROFIBUS handwheel in such a way that a valid reference exists to an input in the machine date array $MN_HANDWHEEL_LOGIC_ADDRESS[]. A valid logical base address on a configured handwheel slot must exist in the corresponding machine date array $MN_HANDWHEEL_LOGIC_ADDRESS.

Program Continuation: Switch control OFF - ON.

4631 Invalid handwheel slot for handwheel %1

Parameters: %1 = Handwheel slot

Definitions: The handwheel slot for handwheel %1 requested through the machine date $MN_HANDWHEEL_INPUT is not available for PROFIBUS handwheels.

Reactions: - Interface signals are set.

- Alarm display.

Remedy: Configure machine date $MN_HANDWHEEL_INPUT to a valid handwheel slot for the corresponding PROFIBUS handwheel.

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Program Continuation: Switch control OFF - ON.

4632 Logical PROFIBUS handwheel slot base address for handwheel %1 not found

Parameters: %1 = Handwheel number

Definitions: The logical base address of the PROFIBUS handwheel slot in machine date array $MN_HANDWHEEL_LOGIC_ADDRESS[] indexed in machine date $MN_HANDWHEEL_MODULE was not found.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Check if $MN_HANDWHEEL_MODULE of the corresponding handwheel is correct. Check if indexed logical base address of PROFIBUS handwheel slot in machine date array $MN_HANDWHEEL_LOGIC_ADDRESS[] is correct.

Program Continuation: Switch control OFF - ON.

5000 Communication job not executable %1

Parameters: %1 = Reference to which resources are no longer available.

Definitions: The communication job (data exchange between NCK and MMC, e.g.: loading an NC part program) cannot be executed because there is insufficient memory space. Cause: Too many communication jobs in parallel.

Reactions: - Alarm display.

Remedy: • Reduce the number of communication jobs taking place at the same time or increase $MN_MM_NUM_MMC_UNITS
• Restart communication job.
Please inform the authorized personnel/service department. No remedial measures are possible - the operation triggering the alarm message has to be repeated. Clear the alarm display with Cancel.

Program Continuation: Clear alarm with the Delete key or NC START.

6000 Memory reorganized using standard machine data

Definitions: The memory management was not able to allocate the NC user memory with the values in the machine data. Because the total memory available is provided as dynamic and static memory for the NC user (e.g. for macro definitions, user variables, number of tool offsets, number of directories and files etc.) and therefore its size is not adequate.

Reactions: - NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Redefine the NC memory structure!
A specific machine data for NC user memory allocation cannot be given as the cause of the alarm. Therefore, the MD initiating the alarm must be determined on the basis of the default values in the machine data by changing the user-specific memory structure step by step.
Usually, not just one machine data has been chosen too large and therefore it is advisable to reduce the memory area by a certain proportion in several MDs.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

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6010 **Channel %1 data block %2 not or not completely created, error code %3**

Parameters: %1 = Channel number

%2 = String (block name)

%3 = Internal error code

Definitions: Data management has detected an error in power-up. The specified data block may not have been created. The error number specifies the type of error. If the error number >100000, then there is a fatal system error. Otherwise, the user memory area was made too small. In this case the (user) error codes have the following meaning:

- Error number 1: No memory space available
- Error number 2: Maximum possible number of symbols exceeded
- Error number 3: Index 1 outside of valid value range
- Error number 4: Name in channel already exists
- Error number 5: Name in NCK already exists

If the alarm occurs after cycle programs, macro definitions or definitions for global user data (GUD) have been introduced, the machine data for the NC user memory configuration have been incorrectly configured. In all other cases, changes to machine data that are already correct lead to errors in the user memory configuration.

The following block names (2nd parameter) are known in the NCK (all system and user data blocks; in general, only problems in the user data blocks can be remedied by user intervention:

- _N_NC_OPT - System internal: option data, NCK global
- _N_NC_SEA - System internal: setting data, NCK global
- _N_NC_TEA - System internal: machine data, NCK global
- _N_NC_CEC - System internal: 'cross error compensation'
- _N_NC_PRO - System internal: protection zones, NCK global
- _N_NC_GD1 - User: 1st GUD block defined by _N_SGUD_DEF, NCK global
- _N_NC_GD2 - User: 2nd GUD block defined by _N_MGUD_DEF, NCK global
- _N_NC_GD3 - User: 3rd GUD block defined by _N_UGUD_DEF, NCK global
- _N_NC_GD4 - User: 4th GUD block defined by _N_GUD4_DEF, NCK global
- _N_NC_GD5 - User: 5th GUD block defined by _N_GUD5_DEF, NCK global
- _N_NC_GD6 - User: 6th GUD block defined by _N_GUD6_DEF, NCK global
- _N_NC_GD7 - User: 7th GUD block defined by _N_GUD7_DEF, NCK global
- _N_NC_GD8 - User: 8th GUD block defined by _N_GUD8_DEF, NCK global
- _N_NC_GD9 - User: 9th GUD block defined by _N_GUD9_DEF, NCK global
- _N_NC_MAC - User: Macro definitions
- _N_NC_FUN - User: Cycle programs
- _N_CHc_OPT - System internal: option data, channel-specific
- _N_CHc_SEA - System internal: setting data, channel-specific
- _N_CHc_TEA - System internal: machine data, channel-specific
- _N_CHc_PRO - System internal: protection zones, channel-specific
- _N_CHc_UFR - System internal: frames, channel-specific
- _N_CHc_RPA - System internal: arithmetic parameter, channel-specific
- _N_CHc_GD1 - User: 1st GUD block defined by _N_SGUD_DEF, channel-specific
- _N_CHc_GD2 - User: 2nd GUD block defined by _N_MGUD_DEF, channel-specific
- _N_CHc_GD3 - User: 3rd GUD block defined by _N_UGUD_DEF, channel-specific
- _N_CHc_GD4 - User: 4th GUD block defined by _N_GUD4_DEF, channel-specific
- _N_CHc_GD5 - User: 5th GUD block defined by _N_GUD5_DEF, channel-specific
- _N_CHc_GD6 - User: 6th GUD block defined by _N_GUD6_DEF, channel-specific
- _N_CHc_GD7 - User: 7th GUD block defined by _N_GUD7_DEF, channel-specific
- _N_CHc_GD8 - User: 8th GUD block defined by _N_GUD8_DEF, channel-specific

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- _N_CHc_GD9 - User: 9th GUD block defined by _N_GUD9_DEF, channel-specific
- _N_AXa_OPT - System internal: option data, axial
- _N_AXa_SEA - System internal: setting data, axial
- _N_AXa_TEA - System internal: machine data, axial
- _N_AXa_EEC - System internal: leadscrew error compensation data, axial
- _N_AXa_QEC - System internal: quadrant error compensation data, axial
- _N_TOt_TOC - System internal: toolholder data, TOA-specific
- _N_TOt_TOA - System internal: tool data, TOA-specific
- _N_TOt_TMA - System internal: magazine data, TOA-specific
- _N_NC_KIN - System internal: data to describe kinematic chains, NCK-specific
- _N_NC_NPA - System internal: data to describe 3D protection zones, NCK-specific

c = Channel number

a = Machine axis number

t = TOA unit number

There are further internal system data blocks with identifier.

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct the machine data or undo the changes made.

Please inform the authorized personnel/service department. There are two determining machine data for cycle programs:

- $MN_MM_NUM_MAX_FUNC_NAMES = max. number of all cycle programs, error number = 2 shows that this value is too small.
- $MN_MM_NUM_MAX_FUNC_PARAM = max. number of all parameters defined in the cycle programs, error number = 2 shows that this value is too small

(If these MDs are modified, the memory backup is retained)

The following applies to macro definitions:

$MN_MM_NUM_USER_MACROS = max. number of all macro definitions, error number = 2 shows that this value is too small.

(If these MDs are modified, the memory backup is retained)

The following applies to GUD variables:

- $MN_MM_NUM_GUD_MODULES = max. number of GUD data blocks per area (NCK/channel) (if GD1, GD2, GD3, GD9 are to be defined, then the value must be = 9 and not e.g. = 4).
- $MN_MM_NUM_GUD_NAMES_NCK = max. number of all NCK global GUD variables, error number = 2 shows that this value is too small.
- $MN_MM_NUM_GUD_NAMES_CHAN = max. number of all channel-specific GUD variables in the channel, error number = 2 shows that this value is too small.
- $MN_MM_GUD_VALUES_MEM = total value memory of all GUD variables together, error number = 1 shows that this value is too small.

Program Continuation: Switch control OFF - ON.

6020 Machine data have been changed - now memory is reorganized

Definitions: Machine data have been changed that define the NC user memory allocation. Data management has restructured the memory in accordance with the altered machine data.

Reactions: - Alarm display.

Remedy: No remedial measures are required. Any user data that are required must be input again.

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Program Continuation: Clear alarm with the RESET key. Restart part program

6030 **Limit of user memory has been adapted**

Definitions: Data management checks during power-up the actually available physical user memory (DRAM, DPRAM and SRAM) with the values in the system-specific machine data 18210 MM_USER_MEM_DYNAMIC, MD 18220 MM_USER_MEM_DPR und MD 18230 MM_-USERMEM_BUFFERED.

Reactions: - Alarm display.

Remedy: No remedial measures are required. The new maximum permissible value can be read from the reduced machine data.

Program Continuation: Clear alarm with the RESET key. Restart part program

6035 **Instead of %1 KB the system has only %2 KB of free user memory of type '%3'**

Parameters: %1 = Free memory capacity in KB defined for the control model

%2 = Actual maximum capacity of free memory in KB

%3 = Type of memory, "D" =non-battery-backed, "S" =battery-backed

Definitions: The alarm can only occur after a 'cold start' (=NCK start-up with standard machine data). The alarm is only a notice. There is no interference with any NCK functions. It shows that the NCK has less free user memory available than specified by Siemens for this control variant. The value of the actually available free user memory can also be taken from the machine data $MN_INFO_FREE_MEM_DYNAMIC, $MN_INFO_FREE_MEM_STATIC. Siemens supplies NCK with default settings that, depending on the model, have certain (free) memory space available for the specific settings of the actual applications. The original factory setting of NCK systems is thus that the alarm does not occur with a cold start.

Reactions: - Alarm display.

Remedy: Reasons for the message:

- The NCK contains compile cycle software, that uses so much memory space that the hardware cannot provide the required memory.
- The NCK runs on hardware that is not intended for this NCK release (i.e. that has not enough memory capacity).
- If the application runs properly with the remaining free user memory (i.e. can be started up without any errors), the message can simply be ignored.
- If the actual application cannot be configured because there is not enough memory capacity available, either the existing compile cycle must be reduced or, if possible, the system must be upgraded with additional memory space.

Program Continuation: Clear alarm with the RESET key. Restart part program

6100 **Error while creating %1, error number %2 %3**

Parameters: %1 = Symbolname

%2 = Error code

%3 = If required, internal error identifier

Definitions: An error was detected while creating a compile cycle machine data. The error number specifies the type of error.

- Error number 1: Insufficient memory available
- Error number 2: Symbol in the NCK already exists
- Error number 3: Maximum possible number of symbols exceeded
- Error number 4: Invalid name prefix
- Error number 5: Illegal array size

Note: Other errors of this type could have occurred, but have not been displayed.

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Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy:
- Error number 1: The memory reserved by machine data 12328 $MN_MM_CC_MD_MEM_SIZE has to be increased. If the error occurs while loading an archive, then the machine data must be increased "manually". To do this, either Edit the archive with 'arcedit' or Overwrite the MD in the MD picture and prevent the deletion of the machine data when writing the archive (MMC: Set Ask_for_CFG_RESET.INI = 1 in 'dino.ini'). Also refer to: Upgrade instructions P6.x.
- Error number 2: Error in the combination or while reloading compile cycles: Do not activate compile cycle.
- Error number 3: Error in the combination or while reloading compile cycles: Do not activate compile cycle.
- Error number 4: Error in the compile cycle: Do not activate compile cycle.
- Error number 5: Error in the compile cycle: Do not activate compile cycle.

Program Continuation: Switch control OFF - ON.

6200 Memory for CC MD full.

Definitions: The memory reserved for storage of compile cycle machine data is full.
Some of these machine data could not be created correctly.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department.
If the alarm is displayed on start-up of compile cycles, this may be remedied by increasing $MN_MM_CC_MD_MEM_SIZE.

Program Continuation: Switch control OFF - ON.

6401 Channel %1 tool change not possible: Empty location for tool %2 Duplo no. %3 on magazine %4 not available.

Parameters: %1 = Channel ID
%2 = String (identifier)
%3 = Duplonummer
%4 = Magazine number

Definitions: The tool cannot be moved into the selected tool magazine. There is no appropriate location for this tool. A suitable location is mainly determined by the status. The status must indicate that this location is free, not disabled, not reserved and not co-occupied by a tool that is too large. Furthermore, it is important that the type of tool matches the type of any magazine location that may be free. (If, for example, all magazine locations are of the 'B' type and these are all free and the tool is of type 'A', then this tool cannot be put into this magazine).

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy:
- Check whether the magazine data have been defined correctly.
- Check whether there is still room in the magazine to add another tool; there may not be due to operating procedures.

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• Check whether a location type hierarchy is defined and whether it, for example, does not allow insertion of a type 'A' tool in a free location with type 'B'.

Program Continuation: Clear alarm with the RESET key. Restart part program

6402 **Channel %1 tool change not possible. Magazine no. %2 not available**

Parameters: %1 = Channel ID
%2 = Magazine number

Definitions: The desired tool change is not possible. The magazine with the specified number is not available.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: • Check whether the magazine data have been defined correctly.
• Check whether the magazine is connected to the desired tool holder/spindle via a distance relation.
• The user PLC program may have sent wrong data to the NCK.

Program Continuation: Clear alarm with the RESET key. Restart part program

6403 **Channel %1 tool change not possible. Magazine location number %2 on magazine %3 not available.**

Parameters: %1 = Channel ID
%2 = Magazine number
%3 = Magazine location number

Definitions: The desired tool change is not possible. The specified magazine location is not contained in the specified magazine.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check whether the magazine data have been defined correctly.
The user PLC program may have delivered incorrect data to the NCK.

Program Continuation: Clear alarm with the RESET key. Restart part program

6404 **Channel %1 tool change not possible. Tool %2 not available or not usable**

Parameters: %1 = Channel ID
%2 = String (identifier)

Definitions: The desired tool change is not possible. The specified tool does not exist or cannot be inserted.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: • Check whether the part program is written correctly.
• Check whether the tool data are correctly defined.
• Check whether there is a replacement tool which can be used for the specified tool.

Program Continuation: Clear alarm with the RESET key. Restart part program

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6405 **Channel %1 command %2 has invalid PLC acknowledge parameter %3 - identifier %4**

Parameters: %1 = Channel ID
%2 = Command no.
%3 = PLC acknowledge parameter
%4 = Error code

Definitions: The specified command has been answered by PLC with an invalid acknowledgement in the current combination. The following assignments are defined for "command no.":
1 Move tool, load or unload magazine
2 Prepare tool change
3 Execute tool change
4 Prepare tool change and execute with T command
5 Prepare tool change and execute with M command
7 Terminate canceled tool command
8 Check tool movement with reservation
9 Check tool movement
0 Transport acknowledgement
Parameters 2 and 3 designate the PLC command and the status number of the acknowledgement.
Example: Parameter 4 of the alarm message is 10. It is not defined whether a buffer location for asynchronous tool motion must be reserved. In the example, the parameter is ignored by the NCK. Further possible causes for the alarm: The tool change defined by the command is not possible. The magazine location specified in the invalid parameter does not exist in the magazine.
The 3rd parameter - error identification - gives a more detailed description of the alarm. Meanings:
- 0 = not defined
- 1 = status not allowed or undefined status received by PLC
- 2 = source and/or target magazine no./location no. unknown
- 3 = not defined
- 4 = target magazine no. and/or location no. in tool motion command not end target
- 5 = not defined
- 6 = source and/or target magazine no./location no. unknown during tool change
- 7 = PLC comm. with inconsistent data: either inconsistent magazine addresses in VDI or NCK command unequal to PLC acknowledgement or both
- 8 = PLC comm. with inconsistent data: while rejecting a tool, the tool to be rejected was unloaded asynchronously. NCK cannot perform a new selection.
- 9 = PLC comm. with inconsistent data: the command acknowledgement data wants to move a tool to a location that is occupied by another tool.
- 10 = it is not defined whether a buffer location for asynchronous tool motion must be reserved.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Erroneous PLC communication: Correct the PLC program.

Program Continuation: Clear alarm with the RESET key. Restart part program

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6406 **Channel %1 PLC acknowledge for command %2 is missing**

Parameters: %1 = Channel ID
%2 = Command no.

Definitions: There is still no acknowledgement from the PLC for the tool change. The NCK cannot continue processing until it receives this acknowledgement for the specified command number. Possible command number values are described for alarm 6405.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department.
• Erroneous PLC communication: Correct the PLC program.
• It is possible to release NCK with the PLC command 7 from the wait condition.
This aborts the waiting command.

Program Continuation: Clear alarm with the RESET key. Restart part program

6407 **Channel %1 tool %2 cannot be placed in magazine %3 on location %4. Invalid definition of magazine!**

Parameters: %1 = Channel ID
%2 = String (identifier)
%3 = Magazine number
%4 = Magazine location number

Definitions: A tool change request or a verification request was issued to put the tool in a location which does not satisfy the prerequisites for filling.
The following causes for the error are possible:
• Location is blocked or not free!
• Tool type does not match the location type!
• Tool possibly too large, adjacent locations are not free!

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: • Check whether the magazine data are correctly defined (especially the location type).
• Check whether the tool data are correctly defined (especially the location type).

Program Continuation: Clear alarm with the RESET key. Restart part program

6410 **TO unit %1 tool %2 / Duplo no. %3 has reached its prewarning limit with D = %4**

Parameters: %1 = TO unit
%2 = Tool identifier (name)
%3 = Duplonummer
%4 = D number

Definitions: Tool monitoring: This message informs that the specified D offset has reached its prewarning limit for a time-, quantity- or wear-monitored tool. If possible, the D number is displayed; if not, value 0 is assigned to the 4th parameter.
If the function additive offset is being used, additive offset monitoring may be active instead of tool wear monitoring. The actual type of tool monitoring is a tool property (see $TC_TP9). If replacement tools are not being used, the duplo number specified has no meaning. The alarm is triggered through the MMC or PLC (=OPI interface). The channel context is not defined. The TO unit was specified for this reason (see $MC_MM_LINK_TOA_UNIT).

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Reactions: - Interface signals are set.
- Alarm display.

Remedy: For information only. The user must decide what to do.

Program Continuation: Clear alarm with the Delete key or NC START.

6411 Channel %1 tool %2 / Duplo no. %3 has reached its prewarning limit with D = %4

Parameters: %1 = Channel number
%2 = Tool identifier (name)
%3 = Duplonummer
%4 = D number

Definitions: Tool monitoring: This message informs that the specified D offset has reached its prewarning limit for a time-, quantity- or wear-monitored tool. If possible, the D number is displayed; if not, value 0 is assigned to the 4th parameter.
If the function additive offset is being used, additive offset monitoring may be active instead of tool wear monitoring. The actual type of tool monitoring is a tool property (see $TC_TP9).
If replacement tools are not being used, the duplo number specified has no meaning.
The alarm originates during NC program execution.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: For information only. The user must decide what to do.

Program Continuation: Clear alarm with the Delete key or NC START.

6412 TO unit %1 tool %2 / Duplo no. %3 has reached its monitoring limit with D = %4

Parameters: %1 = TO unit
%2 = Tool identifier (name)
%3 = Duplonummer
%4 = D number

Definitions: Tool monitoring: This message informs that the specified D offset has reached its prewarning limit for a time-, quantity- or wear-monitored tool. If possible, the D number is displayed; if not, value 0 is assigned to the 4th parameter.
If the function additive offset is being used, additive offset monitoring may be active instead of tool wear monitoring.
The actual type of tool monitoring is a tool property (see $TC_TP9).
If replacement tools are not being used, the duplo number specified has no meaning.
The alarm is triggered through the MMC or PLC (=OPI interface). The channel context is not defined. The TO unit was specified for this reason (see $MC_MM_LINK_TOA_UNIT).

Reactions: - Interface signals are set.
- Alarm display.

Remedy: For information only. The user must decide what to do.

Program Continuation: Clear alarm with the Delete key or NC START.

6413 Channel %1 tool %2 / Duplo no. %3 has reached its monitoring limit with D = %4

Parameters: %1 = TO unit
%2 = Tool identifier (name)
%3 = Duplonummer
%4 = D number

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Definitions: Tool monitoring: This message informs that the specified D offset has reached its prewarning limit for a time-, quantity- or wear-monitored tool. If possible, the D number is displayed; if not, value 0 is assigned to the 4th parameter.
If the function additive offset is being used, additive offset monitoring may be active instead of tool wear monitoring.
The actual type of tool monitoring is a tool property (see $TC_TP9).
If replacement tools are not being used, the duplo number specified has no meaning.
The alarm originates during NC program execution.
Reactions: - Interface signals are set.
- Alarm display.
Remedy: For information only. The user must decide what to do.
Program Continuation: Clear alarm with the Delete key or NC START.

6415 **TO unit %1 tool %2 with tool edge no. %3 has reached tool monitor warning limit**
Parameters: %1 = TO unit
%2 = Tool identifier
%3 = Cutting edge number
Definitions: This message informs that at least one cutting edge of the time or quantity monitored tool has reached its monitoring limit. The alarm was triggered through the OPI interface (MMC, PLC). The channel context is not defined. The TO unit was specified for this reason.
Reactions: - Interface signals are set.
- Alarm display.
Remedy: For information only. The user must decide what to do.
Program Continuation: Clear alarm with the Delete key or NC START.

6416 **Channel %1 tool %2 with tool edge no. %3 has reached tool monitor warning limit**
Parameters: %1 = Channel number
%2 = Tool identifier
%3 = Cutting edge number
Definitions: This message informs that at least one cutting edge of the time or quantity monitored tool has reached its monitoring limit. The limit was detected in the channel context. The alarm originated during NC program execution.
Reactions: - Interface signals are set.
- Alarm display.
Remedy: For information only. The user must decide what to do.
Program Continuation: Clear alarm with the Delete key or NC START.

6417 **TO unit %1 tool %2 with tool edge no. %3 has reached tool monitoring limit**
Parameters: %1 = TO unit
%2 = Tool identifier
%3 = Cutting edge number
Definitions: This message informs that at least one cutting edge of the time or quantity monitored tool has reached its monitoring limit. The alarm was triggered through the OPI interface (MMC, PLC). The channel context is not defined. The TO unit was specified for this reason.
Reactions: - Interface signals are set.
- Alarm display.
Remedy: For information only. The user must decide what to do.

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Program Continuation: Clear alarm with the Delete key or NC START.

6418 Channel %1 tool %2 with tool edge no. %3 has reached tool monitoring limit

Parameters: %1 = Channel number
%2 = Tool identifier
%3 = Tool number

Definitions: This message informs that at least one cutting edge of the time or quantity monitored tool has reached its monitoring limit. The limit was detected in the channel context. The alarm originated during NC-program execution.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: For information only. The user must decide what to do.

Program Continuation: Clear alarm with the Delete key or NC START.

6421 Channel %1 tool move not possible. Empty location for tool %2 Duplo no. %3 on magazine %4 not available.

Parameters: %1 = Channel ID
%2 = String (identifier)
%3 = Duplonummer
%4 = Magazine number

Definitions: The desired tool motion command - triggered from the MMC or PLC - is not possible. The tool cannot be moved into the specified tool magazine. There is no appropriate location for this tool.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy:
- Check whether the magazine data have been defined correctly (e.g. the magazine must not be disabled).
- Check whether the tool data are correctly defined (for example, the tool location type must match the location types allowed in the magazine).
- Check whether there is still room in the magazine to add another tool; there may not be due to operating procedures.
- Check whether a location type hierarchy is defined and whether it, for example, does not allow insertion of a type 'A' tool in a free location with type 'B'.

Program Continuation: Clear alarm with the Delete key or NC START.

6422 Channel %1 tool move not possible. Magazine no. %2 not available.

Parameters: %1 = Channel ID
%2 = Magazine number

Definitions: The desired tool motion command - triggered from the MMC or PLC - is not possible. The magazine with the specified number is not available.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy:
- Check whether the magazine data have been defined correctly.
- If the PLC issued the command for motion: check whether the PLC program is correct.
- If the MMC issued the command for motion: check whether the MMC command was assigned correct parameters.

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Program Continuation: Clear alarm with the Delete key or NC START.

6423 **Channel %1 tool move not possible. Location %2 on magazine %3 not available.**

Parameters: %1 = Channel ID
%2 = Magazine location number
%3 = Magazine number

Definitions: The desired tool motion command - triggered from the MMC or PLC - is not possible. The specified magazine location is not contained in the specified magazine.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check whether the magazine data have been defined correctly.

Program Continuation: Clear alarm with the Delete key or NC START.

6424 **Channel %1 tool move not possible. Tool %2 not available/not usable.**

Parameters: %1 = Channel ID
%2 = String (identifier)

Definitions: The desired tool motion command - triggered from the MMC or PLC - is not possible. The status of the named tool does not allow movement of the tool. The named tool is not defined or not permitted for the command.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy:
- Check whether the tool status 'is being changed' ('H20') is set. If yes, then the appropriate tool change command must first be completed by the PLC. Then the tool should be able to be moved.
- Check whether the tool data are correctly defined. Has the correct T number been specified?
- Check whether the move command has been correctly parameterized. Is the desired tool at the source location? Is the target location suitable for taking the tool?
- Check whether the tool has already been loaded (if the alarm occurs while loading the tool).

Program Continuation: Clear alarm with the Delete key or NC START.

6425 **Channel %1 tool %2 cannot be placed in magazine %3 on location %4. Invalid definition of magazine!**

Parameters: %1 = Channel ID
%2 = String (identifier)
%3 = Magazine number
%4 = Magazine location number

Definitions: The desired tool motion command - triggered from the MMC or PLC - is not possible. A movement request was issued to put the tool in a location which does not satisfy the prerequisites for filling.

The following causes for the error are possible:
- Location is blocked or not free!
- Tool type does not match the location type!
- Tool possibly too large, adjacent locations are not free!
- If a tool is to be loaded or unloaded, the load/unload position must be of 'load location' type.

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• If a tool is to be loaded or unloaded, is the magazine in question linked to the load/unload location?

See $TC_MDP1, $TC_MDP2.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: • Check whether the magazine data have been defined correctly.
• Check whether there is still room in the magazine to add another tool; there may not be due to operating procedures.
• Check whether a location type hierarchy is defined and whether it, for example, does not allow insertion of a type 'A' tool in a free location with type 'B'.
• Check whether the magazine in question is linked to the load/unload location or whether a distance has been defined.
• Check whether the load/unload position is of 'load location' type.

See also $TC_MPP1.

Program Continuation: Clear alarm with the Delete key or NC START.

6430 Workpiece counter: overflow in table of monitored cutting edges.

Definitions: No more cutting edges can be entered in the piece counter table. As many cutting edges can be noted for the workpiece counter as are possible in total in the NCK. This means that if for each tool each cutting edge in each TO unit is used precisely once for a workpiece then the limit is reached.

If several workpieces are made on several toolholders/spindles simultaneously, it is possible to note 18100 MM_NUM_CUTTING_EDGES_IN_TOA cutting edges for the workpiece counter for all of the workpieces.

If this alarm occurs, it means that cutting edges used subsequently are no longer quantity monitored until the table has been emptied again, e.g. by means of the NC language command SETPIECE or by the relevant job from MMC, PLC (PI service).

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: • Was decrementing of the piece counter forgotten? Then program SETPIECE in the part program, or add the correct command in the PLC program.
• If the part program/PLC program is correct, then more memory should be set for tool cutting edges via the machine data $MN_MM_NUM_CUTTING_EDGES_IN_TOA (can only be performed with the necessary access rights!).

Program Continuation: Clear alarm with the Delete key or NC START.

6431 Channel %1 block %2 Function not allowed. Tool management/monitoring is not active.

Parameters: %1 = Channel ID

%2 = Block number, label

Definitions: Occurs when a data management function is called which is not available because ToolMan is deactivated. For example, the language commands GETT, SETPIECE, GETSELT, NEWT, DELT.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: • Please inform the authorized personnel/service department.

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- Make sure of how the NC is supposed to be configured! Is tool management or tool monitoring needed but not activated?
- Are you using a part program that is meant for a numerical control with tool management/tool monitoring? It is not possible to start this program on the numerical control without tool management/tool monitoring. Either run the part program on the appropriate NC control or edit the part program.
- Activate tool management/tool monitoring by setting the appropriate machine data. See $MN_MM_TOOL_MANAGEMENT_MASK, $MC_TOOL_MANAGEMENT_MASK
- Check whether the required option is set accordingly.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

6432 **Function not executable. No tool assigned to tool holder/spindle**

Parameters: %1 = Channel ID

Definitions: When an attempt is made to perform an operation that requires a tool to be located on the spindle. This can be the quantity monitoring function, for example.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Select another function, another toolholder/spindle, position tool on toolholder/spindle.

Program Continuation: Clear alarm with the Delete key or NC START.

6433 **Channel %1 block %2 %3 not available with tool management**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source symbol

Definitions: The symbol variable specified in %3 is not available with active tool management. The function GELSELT should be used with $P_TOOLP.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Modify program. If $P_TOOLP has been programmed, the GETSELT function should be used instead.

Program Continuation: Clear alarm with the RESET key. Restart part program

6434 **Channel %1 block %2 NC command SETMTH not allowed because tool holder function not active**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No master toolholder has been defined for the initial state ($MC_TOOL_MANAGEMENT_TOOLHOLDER = 0), therefore no toolholder is available. The NC command SETMTH has neither been defined. In this setting, the tool change is carried out referring to the master spindle. The master spindle is set with SETMS.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Correct the NC program (delete or replace SETMHT) or enable toolholder function via machine data.

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Program Continuation: Clear alarm with NC START or RESET key and continue the program.

6441 Writing of $P_USEKT not allowed.

Definitions: An attempt was made to write the value of $P_USEKT. This is not possible since programming T= 'location number' with automatic setting of $P_USEKT is active.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy:
- Make sure of how the NC is supposed to be configured! (see bit16 and bit22 in $MC_TOOL_MANAGEMENT_MASK)
- Tool change with "Reject tool" is configured. If you now try to start this program on NC control with T='location number' with automatic setting of $P_USEKT this will not be possible.
- Either run the part program on the appropriate NC control or edit the part program.

Program Continuation: Clear alarm with the Delete key or NC START.

6442 Channel %1 function not executable. No tool assigned to desired magazine/magazine location %2.

Parameters:
%1 = Channel ID
%2 = Magazine/magazine location no.

Definitions: PLC logic is presumably incorrect. Tool change with reject tool is configured. Preparatory command is pending. Selected tool is (e.g. from PLC) unloaded from its location. PLC acknowledges preparatory command with 'Repeat tool selection' (e.g. status =7). NCK cannot find the tool at the magazine location specified in the PLC command.

Or: Illegal operator intervention in an active tool selection (unloading of the tool to be selected) has occurred. Therefore the PLC acknowledgement fails.

Reactions:
- Interface signals are set.
- Alarm display.

Remedy: PLC programmer must note the following:
- Ensure that the tool is not removed from the specified magazine location (e.g. incorrect PLC program).
- Do not remove the tool from the programmed tool change before the final acknowledgement of the command (= unload).

!! It is however permissible to change the location of the tool to be loaded. The NCK can deal with this situation.

This alarm supplements Alarm 6405, if it contains the identifier 8. Therefore, the diagnostics should be easier.

Program Continuation: Clear alarm with the Delete key or NC START.

6450 Channel %1 block %2 tool change not possible. Invalid magazine location no. %3 in buffer magazine

Parameters:
%1 = Channel ID
%2 = Block number, label
%3 = Magazine location number

Definitions: The desired tool change is not possible. The specified magazine location is either toolholder/spindle or empty.

Only the numbers of the buffer that are not toolholder/spindle may be programmed with the NC command TCI, i.e. the location number of a gripper is allowed.

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Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: • Check whether the magazine data ($TC_MPP1) have been defined correctly.
• Check whether the alarm-causing program command _ e.g. TCI _ has been programmed correctly.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

6451 **Channel %1 block %2 tool change not possible. No buffer magazine defined.**

Parameters: %1 = Channel ID
%2 = Block number, label

Definitions: The desired tool change is not possible. No buffer magazine defined.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Check whether the magazine data have been defined correctly.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

6452 **Channel %1 block %2 tool change not possible. Tool holder/spindle number = %3 not defined.**

Parameters: %1 = Channel ID
%2 = Block number, label
%3 = Tool holder/spindle number

Definitions: The desired tool change is not possible. The toolholder/spindle number has not been defined.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Check whether the toolholder number/spindle number and the magazine data have been defined correctly. (See system variables $TC_MPP1, $TC_MPP5 of the buffer magazine)

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

6453 **Channel %1 block %2 tool change not possible. No assignment between toolholder/spindle no. = %3 and buffer magazine location %4**

Parameters: %1 = Channel ID
%2 = Block number, label
%3 = Spindle no.
%4 = Location no.

Definitions: The desired tool change is not possible. No relation has been defined between the toolholder/spindle number and the buffer magazine location (Location No.)

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: • Check whether the magazine data ($TC_MLSR) have been defined correctly.
• Check whether the alarm-causing program command _ e.g. TCI _ has been programmed correctly.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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6454 **Channel %1 block %2 tool change not possible. No distance relation available.**

Parameters: %1 = Channel ID
%2 = Block number, label

Definitions: The desired tool change is not possible. Neither the spindle nor the buffer magazine location have a distance relation.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: • Check whether the magazine data ($TC_MDP2) have been defined correctly.
• Check whether the alarm-causing program command _ e.g. TCI _ has been programmed correctly.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

6455 **Channel %1 block %2 tool change not possible. Magazine location no. %3 not available in magazine %4**

Parameters: %1 = Channel ID
%2 = Block number, label
%3 = Magazine location number
%4 = Magazine number

Definitions: The desired tool change is not possible. The indicated magazine location is not available in the indicated magazine.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: • Check whether the causing program command - e.g. TCI - has been parameterized correctly.
• Check whether magazine data have been defined correctly. ($TC_MAP6 and $TC_MAP7 of the intermediate location magazine)

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

6500 **NC memory full**

Definitions: The NCK file system is full.
The available buffered memory does not suffice. Note: At initial start-up, files of the NC file system may be affected such as drive data, MMC files, FIFO files, NC programs...

Reactions: - Alarm display.

Remedy: Adjust the size of the buffered memory ($MN_MM_USER_MEM_BUFFERED) or increase the space available in the buffered memory, e.g. by unloading part programs that are no longer being used. Or decrease the size of the ring buffer (see $MC_RESU_RING_BUFFER_SIZE).

Program Continuation: Clear alarm with the Delete key or NC START.

6510 **Too many part programs in the NC memory**

Definitions: The number of files in the file system (part of the NC memory) of the NC has reached the maximum number possible. Note: During initial start-up, this can concern files from the NC file system, e.g. drive data, MMC files, FIFO files, NC programs, ...

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department.
• Delete or unload files (e.g. part programs), or
• Increase $MM_NUM_FILES_IN_FILESYSTEM.

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Program Continuation: Clear alarm with the Delete key or NC START.

6520 The value of the machine data %1%2 is too low

Parameters: %1 = String: MD identifier
%2 = If required, index: MD array

Definitions: The machine data $MN_MM_PROTOC_NUM_FILES specifies the number of protocol files for the protocol users. However, more types are used than configured.

Reactions: - Alarm display.

Remedy: Increase machine data $MN_MM_PROTOC_NUM_FILES.

Program Continuation: Clear alarm with the Delete key or NC START.

6530 Too many files in directory

Definitions: The number of files in one directory of the NCK has reached the maximum limit.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department.
• Delete or unload files (e.g. part programs) in the respective directory, or
• Increase $MM_NUM_FILES_PER_DIR.

Program Continuation: Clear alarm with the Delete key or NC START.

6540 Too many directories in the NC memory

Definitions: The number of directories in the file system of the NCK has reached the maximum limit.

Reactions: - Alarm display.

Remedy: • Delete or unload directory (e.g. workpiece), or
• Increase $MM_NUM_DIR_IN_FILESYSTEM.

Program Continuation: Clear alarm with the Delete key or NC START.

6550 Too many subdirectories

Definitions: The number of subdirectories in a directory of the NCK has reached the maximum limit.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department.
• Delete or empty subdirectories in the respective directory, or
• Increase $MM_NUM_SUBDIR_PER_DIR.

Program Continuation: Clear alarm with the Delete key or NC START.

6560 Data format not allowed

Definitions: An attempt was made to write impermissible data in an NCK file. This error can occur in particular when the attempt was made to load binary data in the NCK as ASCII file.
The error can also occur during preprocessing of cycles (see $MN_PREPROCESSING_LEVEL) if the NC block is very long. In this case, subdivide the NC block.

Reactions: - Alarm display.

Remedy: Specify that the file concerned is a binary file (e.g. extension: .BIN).

Program Continuation: Clear alarm with the Delete key or NC START.

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6570 **NC memory full**

Definitions: The NC card file system of the NCK is full. The task cannot be executed. Too many system files were created in the DRAM.

Reactions: - Alarm display.

Remedy: Start fewer "execute from external" processes.

Program Continuation: Clear alarm with the Delete key or NC START.

6580 **NC memory full**

Definitions: The NC card file system of the NCK is full. The task cannot be executed. To many files have been loaded

Reactions: - Alarm display.

Remedy: Delete or empty files (e.g. part programs).

Program Continuation: Clear alarm with the Delete key or NC START.

6581 **NC user memory full**

Definitions: The DRAM file system of the user area is full. The order cannot be executed.

Reactions: - Alarm display.

Remedy: Delete or unload files (e.g. parts programs)

Program Continuation: Clear alarm with the Delete key or NC START.

6582 **NC machine OEM memory full**

Definitions: The DRAM file system of the machine OEM area is full. The order cannot be executed.

Reactions: - Alarm display.

Remedy: Delete or unload files (e.g. parts programs)

Program Continuation: Clear alarm with the Delete key or NC START.

6583 **NC system memory full**

Definitions: The DRAM file system of the system area (Siemens) is full. The order cannot be executed.

Reactions: - Alarm display.

Remedy: Delete or unload files (e.g. parts programs)

Program Continuation: Clear alarm with the Delete key or NC START.

6584 **NC memory limit TMP reached**

Definitions: The DRAM file system of the TMP (temporary) area is full. The job cannot be executed.

Reactions: - Alarm display.

Remedy: Increase machine date $MD_MM_DRAM_FILE_MEM_SIZE or switch off the precompilation of individual or all cycles or, if need be,

delete the files in the TMP area.

Program Continuation: Clear alarm with the Delete key or NC START.

6600 **NC card memory is full**

Definitions: The NC card file system of the NCK is full. No more data can be stored on the NC card.

Reactions: - Alarm display.

Remedy: Delete the data on the PCMCIA card.

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Program Continuation: Clear alarm with the Delete key or NC START.

6610 Too many files open on NC card

Definitions: Too many files are being accessed simultaneously on the NC card.
Reactions: - Alarm display.
Remedy: Repeat the action later.
Program Continuation: Clear alarm with the Delete key or NC START.

6620 NC card has incorrect format

Definitions: The NC card cannot be accessed because the format is incorrect.
Reactions: - Alarm display.
Remedy: Replace the NC card.
Program Continuation: Clear alarm with the Delete key or NC START.

6630 NC card hardware is defective

Definitions: The NC card cannot be accessed because the card is defective.
Reactions: - Alarm display.
Remedy: Replace the PCMCIA card.
Program Continuation: Clear alarm with the Delete key or NC START.

6640 NC card is not inserted

Definitions: The NC card cannot be accessed because the card is not plugged in.
Reactions: - Alarm display.
Remedy: Plug in the NC card.
Program Continuation: Clear alarm with the Delete key or NC START.

6650 Write protection of NC card is active

Definitions: The NC card cannot be accessed because the write protection is active.
Reactions: - Alarm display.
Remedy: Deactivate the write protection.
Program Continuation: Clear alarm with the Delete key or NC START.

6660 'Flash File System' option is not set

Definitions: The NC card cannot be accessed because the option is not enabled.
Reactions: - Alarm display.
Remedy: Buy option.
Program Continuation: Clear alarm with the Delete key or NC START.

6670 NC card read active

Definitions: The alarm is active while the contents of the NC card are being read out. The FFS cannot be accessed during this period.
Reactions: - Alarm display.
Remedy: Wait until the read-out procedure is terminated.

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Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

6671 NC card write active

Definitions: The alarm is active while the contents of the NC card are being written. The FFS cannot be accessed during this period. If the power is switched off while the alarm is active, the contents of the PCMCIA card are destroyed!

Reactions: - Alarm display.

Remedy: Wait until the write procedure is terminated.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

6690 Cycles from NC card cannot be copied to the passive file system.

Definitions: There is not enough space in the file system that the directories specified in the $PCMCIA_FUNCTION_MASK can be copied from the NC card to the passive file system.

Reactions: - Alarm display.

Remedy: Delete data in the file system.

Program Continuation: Clear alarm with the Delete key or NC START.

6691 Cycles from the passive file system cannot be saved on the NC card

Definitions: There is not enough space on the NC card that the directories specified in the $PCMCIA_FUNCTION_MASK can be saved. It is possible that cycles are lost during the next booting.

Reactions: - Alarm display.

Remedy: Delete data on the NC card or delete cycles not required.

Program Continuation: Clear alarm with the Delete key or NC START.

6692 Cycle %1 lost

Parameters: %1 = Name of cycle

Definitions: A cycle has been changed and due to a power failure, the backup on the PC card could not be terminated properly. The cycle is lost.

Reactions: - NC not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Import the cycle again.

Program Continuation: Switch control OFF - ON.

6693 File %1 lost

Parameters: %1 = Name of file

Definitions: Due to a power failure, a file change could not be terminated properly. The file is lost.

Reactions: - NC not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Import the file again.

Program Continuation: Switch control OFF - ON.

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6698 **Unknown NC card (%1/%2). Writing not possible.**

Parameters: %1 = actManufactorCode (manufacturer code read by the card)
%2 = actDeviceCode (memory code read by the card)

Definitions: The NC card cannot be accessed because a valid write algorithm is not available for the flash memory.

Reactions: - Alarm display.

Remedy: Use a compatible NC card or enter the new manufacturer code/device code in MD $MN_PERMISSIVE_FLASH_TAB after consultation with SIEMENS.

Program Continuation: Clear alarm with the Delete key or NC START.

6700 **Channel %1 value of the machine data %2%3 is too low**

Parameters: %1 = Channel number
%2 = MD identifier
%3 = If required, field index

Definitions: The machine data $MC_MM_PROTOC_NUM_ETP_STD_TYP specifies the number of default event types for the protocol users. However, more types are used than configured.

Reactions: - Alarm display.

Remedy: Increase machine data $MC_MM_PROTOC_NUM_ETP_STD_TYP.

Program Continuation: Clear alarm with the Delete key or NC START.

7000 **Too many compile cycle alarms defined**

Definitions: Too many alarms are defined for the compile cycles. On powering up, the quantity was exceeded when defining a new CC alarm.

Reactions: - Alarm display.

Remedy: Apart from reducing the number of CC alarms, no remedial measures are possible at the present time. (contact SIEMENS AG, System Support for A&D MC products, Hotline (Tel.: see alarm 1000)

Program Continuation: Clear alarm with the Delete key or NC START.

7010 **Range of MMC alarm numbers for compile cycles exceeded**

Definitions: A fixed quantity of alarm numbers (100) is reserved for the compile cycles. This has been exceeded when defining a new CC alarm. (The valid range is between 0 and 4999).

Reactions: - Alarm display.

Remedy: Define the CC alarm numbers in the valid range from 0 to 4999.

Program Continuation: Clear alarm with the Delete key or NC START.

7020 **Compile cycle alarm number has not been defined**

Definitions: The alarm ID used by the manufacturer is not known to the system. This was not allocated when the alarms were generated.

Reactions: - Alarm display.

Remedy: The alarm can have 2 possible causes:
• The alarm number has not been defined. A definition must still be made.
• The call parameter used is not the same as the one transferred by the NCK.

Program Continuation: Clear alarm with the Delete key or NC START.

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7100 **Compile cycles VDI area: %1 byte for inputs and %2 byte for outputs. Maximum %3 bytes available.**

Parameters: %1 = String (machine data)
%2 = String (machine data)
%3 = Max. length for interface

Definitions: The sum of the input and output bytes at the VDI user interface for the compile cycles exceeds the maximum quantity of 400 bytes.

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Set the machine data for dividing up the VDI user interface of the compile cycles (DB 9) into input and output bytes in accordance with the functions in the compile cycles. The maximum quantity of 400 bytes must not be exceeded. There are no restrictions concerning the division into input and output bytes.

Program Continuation: Switch control OFF - ON.

7200 **Problem with externally linked compile cycle %1 %2**

Parameters: %1 = Description string
%2 = Additional information

Definitions: Problem with loadable compile cycles
Example:
"Version_conflict_with_CCNCKInterface_Version"
Meaning: The interface version of the compile cycle is incompatible with the NCK version.
"Loader_problem_from_dFixup"
Meaning: Unresolved references are left over after loading of all compile cycles, for example as an ELD file is missing.

Reactions: - Alarm display.

Remedy: See function description of the compile cycle!

Program Continuation: Clear alarm with the Delete key or NC START.

7201 **Assertion error in %1 line %2**

Parameters: %1 = String (path with program name)
%2 = String (line number)

Definitions: This alarm is purely a development alarm. It only occurs with externally linked compile cycles.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Alarm reaction delay is canceled.

Remedy: Consultation with CC developer

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Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

7202 **Missing option bit for %1: %2 <hex>**

Parameters: %1 = (string) name of the specific .elf file
%2 = (int) required option bit (hex)

Definitions: Alarm for SIEMENS compile cycles. This alarm appears when the option bit required for a SIEMENS compile cycle is not set.

Reactions: - NC not ready.
- Channel not ready.
- Interface signals are set.
- Alarm display.
- Alarm reaction delay is canceled.

Remedy: Set the required option bit or delete the .elf file from the Flash File System.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

7205 **Incompatible OEM transformation channel %1 version NCK %2 CC %3**

Parameters: %1 = (int) channel number
%2 = Transformer interface version NCK
%3 = Transformer interface version OEM

Definitions: The interface for OEM transformations has changed incompatibly in the system.

Reactions: - NC not ready.
- Channel not ready.
- Interface signals are set.
- Alarm display.
- Alarm reaction delay is canceled.

Remedy: Load the new compile cycle version

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

7500 **Block %1 invalid protection level for command %2 (protection level act.: %3 prog.: %4)**

Parameters: %1 = Block number
%2 = Programmed command
%3 = Current protection level of the command
%4 = Programmed protection level of the command

Definitions: On assigning a protection level for a parts program command via REDEF command
- an impermissible parts program command has been programmed
- a protection level has been programmed that is logically smaller (larger in value) than the protection level currently applicable for this command.
- the relevant definition file has not been protected sufficently against write access. The write protection of the file must be at least as high as the highest protection level that has been assigned to a parts program command in this definition file.

Reactions: - Alarm display.

Remedy: Modify definition files /_N_DEF_DIR/_N_MACCESS_DEF or /_N_DEF_DIR/_N_UAC-CESS_ DEF. Please see the Siemens Programming Guide or the OEM documentation for the language commands permissible for the relevant system configurations.

Program Continuation: Clear alarm with the RESET key. Restart part program

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8000 **Channel %1 option 'user interrupt programs' not set**

Parameters: %1 = Channel number

Definitions: The input signals of NCK inputs are required in order to activate the interrupt routines and rapid lift from contour. This function is not included in the basic version and must be retrofitted when needed.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Do not use rapid interrupt inputs or contact the machine manufacturer with a view to retrofitting this option!

Program Continuation: Clear alarm with the RESET key. Restart part program

8010 **Option 'activation of more than %1 axes' not set**

Parameters: %1 = Number of axes

Definitions: More machine axes have been defined through the channel-specific MD 20070 AXCONF_MACHAX_USED than are allowed in the system.

Reactions:
- NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. The sum of all axes that have been configured through the channel-specific MD 20070 AXCONF_MACHAX_USED, must not exceed the maximum number of axes (dependent on configuration -> option, basic version: 4 axes).

Program Continuation: Switch control OFF - ON.

8020 **Option 'activation of more than %1 channels' not set**

Parameters: %1 = Number of channels

Definitions: A 2nd channel has been indicated but the corresponding option does not exist.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: In the system-specific MD 10010 ASSIGN_CHAN_TO_MODE_GROUP, reduce the number of channels to 1 or retrofit the option for a 2nd channel.

Program Continuation: Switch control OFF - ON.

8021 **Option 'activation of more than %1 mode groups' not set**

Parameters: %1 = Number of mode groups

Definitions: The option for the number of mode groups is not compatible with the activated mode group.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Add option for more mode groups. Activate fewer mode groups.

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Program Continuation: Switch control OFF - ON.

8022 **Option 'activation of more than %1KB SRAM' not set**

Parameters: %1 = Memory size

Definitions: The option for memory extension does not correspond to the active SRAM.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department.
• Buy option
• Activate less SRAM

Program Continuation: Switch control OFF - ON.

8023 **Option 'Activation of more than %1 KB PLC user memory' not set**

Parameters: %1 = Memory size

Definitions: The option for the memory configuration does not correspond to the PLC user memory used.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department.
• Purchase option
• Use less PLC user memory

Program Continuation: Switch control OFF - ON.

8030 **Channel %1 block %2 option 'interpolation of more than 4 axes' not set**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The option for the number of interpolating axes does not correspond to the number of axes programmed in the interpolation group.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Option: "Interpolation of more than 4 axes" (the number of axes that is then allowed can be set in this option) or specify in the part program as many (or fewer, as required) axes corresponding to the configuration of the control.

Program Continuation: Clear alarm with the RESET key. Restart part program

8032 **Option 'activation of more than %1 link axes' not set**

Parameters: %1 = Number of axes

Definitions: The option for the number of link axes does not match the number of axes programmed in MD $MN_AXCONF_LOGIC_MACHAX_TAB.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

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Remedy: • Buy option
• Configure fewer link axes
Program Continuation: Clear alarm with the RESET key. Restart part program

8034 Option 'activation of axis containers' not set

Definitions: The option for activating the axis container function in MD $MN_AXCONF_LOGIC_MACHAX_TAB is not enabled.
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: • Buy option
• Do not configure any containers
Program Continuation: Clear alarm with the RESET key. Restart part program

8036 Option: it is not allowed to set different IPO cycles or position control cycles with NCU link.

Definitions: The option for activating the FAST_IPO_LINK has not been set. For NCU link, all Ipo or position control cycles must then be equal (see FAST-IPO-LINK description).
Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
Remedy: • Buy option
• Do not activate different Ipo or position control cycles (see MN_IPO_SYSCLOCK_TIME_RATIO and MN_POSCTRL_SYSCLOCK_TIME_RATIO).
Program Continuation: Switch control OFF - ON.

8037 Option 'APC activation' not set

Definitions: Function 'Advanced Positioning Control' (APC) has been activated in the drive, although the corresponding option was not set.
Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
Remedy: • Buy option
• Deactivate function 'Advanced Positioning Control' (APC) in the drive
Program Continuation: Switch control OFF - ON.

8038 Option 'activation of more than %1 lead link axes' not set

Parameters: %1 = Number of axes
Definitions: The option for the number of lead link axes does not match the number of configured axes in the MD $MA_AXCONF_ASSIGN_MASTER_NCU.

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Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: • Buy option
• Configure fewer lead link axes

Program Continuation: Clear alarm with the RESET key. Restart part program

8040 **Machine data %1 reset, corresponding option is not set**

Parameters: %1 = String: MD identifier

Definitions: A machine data has been set that is locked by an option.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. For retrofitting the option, please refer to your machine manufacturer or to a sales representative of SIEMENS AG, A&D MC.

Program Continuation: Clear alarm with the Delete key or NC START.

8041 **Axis %1: MD %2 reset, corresponding option not sufficient**

Parameters: %1 = Axis number
%2 = String: MD identifier

Definitions: All of the axes selected in the machine data of the assigned option are used. Safety functions have been selected for too many axes in the axial machine data.
The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: --

Program Continuation: Switch control OFF - ON.

8044 **Option for IPO cycle time %1 ms not set**

Parameters: %1 = Impermissible IPO cycle time

Definitions: The option for activation of an IPO cycle time of %1 ms has not been set.
Option - Permiss. IPO cycle time:
• Option-free >= 8ms
• 1. 1st step >= 6ms
• 2. 2nd step >= 4ms
• 3. 3rd step >= 2ms
• 4. 4th step <2ms

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

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Remedy: • Buy option
• Increase IPO cycle time (e.g. via MD IPO_SYSCLOCK_TIME_RATIO)
Program Continuation: Switch control OFF - ON.

8045 Option for selected cycle settings not set

Definitions: The option for the 810D Powerline for activation of the same current/speed/position controller/IPO cycle time grid as with the 840D is not set. Without the option, only the set values of the 810D Standard are permitted.
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: • Buy option
• Set (current/speed controller) cycle times to 810D default values.
Program Continuation: Switch control OFF - ON.

8050 Option 'SPL inputs/outputs' not set.

Definitions: The number of PLC I/Os has not been set in the option date for Solution Line.
Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: Select area SI Basic or SI Comfort in the option date.
Program Continuation: Switch control OFF - ON.

8051 Option 'Handwheel on PROFIBUS' not set

Definitions: The option to operate handwheels on PROFIBUS is not set.
Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: Activate option 'Handwheel on PROFIBUS'
Program Continuation: Switch control OFF - ON.

8080 %1 option(s) is/are activated without setting the license key

Parameters: %1 = Number of non-licensed options
Definitions: One or more options were activated but no license key was set to prove the purchase of the option(s).
Reactions: - Alarm display.
Remedy: Generate license key through the internet under http://www.siemens.com/automation/licence and enter it in the operating area "Start-up", function (HSK) "Licences".
Program Continuation: Clear alarm with the Delete key or NC START.

8081 %1 option(s) is/are activated that are not licensed by the license key

Parameters: %1 = Number of non-licensed options
Definitions: One ore more options were activated, that are not licensed by the license key entered.
Reactions: - Alarm display.

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Remedy: Generate new license key through the internet under http://www.siemens.com/automation/licence and enter it in the operating area "Start-up", function (HSK) "Licences".
Program Continuation: Clear alarm with the Delete key or NC START.

8082 **A wrong license key was entered three times, Power On required before next try.**
Definitions: The license key was entered wrongly at least three times. Before the next input, a new power ON is required.
Reactions: - Alarm display.
Remedy: Execute NCK Power On and enter the license key (correctly).
Program Continuation: Clear alarm with the Delete key or NC START.

8088 **'Selection of non-grinding-specific tools' option not possible**
Definitions: The system version of the software only allows selection of grinding specific tools (i.e. tools of type 4xx).
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: Select a tool of type 4xx (grinding tool)
or install a standard version of the system software
Program Continuation: Clear alarm with the RESET key. Restart part program

8098 **Invalid combination of options (%1)**
Parameters: %1 = Bit mask of options
Definitions: The following restrictions apply to this module for the combination of options:
The option "Two-channel" and the options "External language", "Nibbling", "Neural quadrant error compensation" and "Measurement level 2" exclude one another!

Bit0 (LSB): Nibbling
Bit1 : External language
Bit2 : Neural quadrant error compensation
Bit3 : Measurement level 2

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
Remedy: Set the options accordingly.
Program Continuation: Switch control OFF - ON.

8100 **Channel %1 block %2: function not possible**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: • Impossible due to embargo regulations:

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- 1. Synchronous actions: Writing of feed, override and axial offsets ($AA_VC, $AC_VC, $AA_OVR, $AA_VC and $AA_OFF) from synchronous actions as well as Continuous Dressing can be programmed only once in a block.
- 2. Extended measurement: 'Cyclic measurement' (MEAC) and 'Measurement from synchronous action' is not possible.
- 3. Axis interpolation: The number of axes interpolating with one another must not exceed 4 (this also includes synchronous coupling of axes via synchronous actions "DO POS[X]=$A..." "DO FA[X]=$A...").

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

9000 **Handwheel %1 failed**

Parameters: %1 = Handwheel number

Definitions: PROFIBUS handwheel failed

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Restore connection to PROFIBUS handwheel

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

10200 **[up to SW 3.x] Channel %1 NC start with active alarm not allowed**

Parameters: %1 = Channel number

Definitions: An alarm is currently active, the internal reaction to which is to inhibit an NC start.

Reactions: - Alarm display.

Remedy: Find and eliminate the cause of the alarm.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10202 **[up to SW 3.x] Channel %1 NC start not possible**

Parameters: %1 = Channel number

Definitions: NC start is not accepted because, e.g.
- REORG is still active
- Delete distance-to-go is still active
- The system is waiting for another channel.

Reactions: - Alarm display.

Remedy: Press NC Start again.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10203 **Channel %1 NC start without reference point (action=%2<ALNX>)**

Parameters: %1 = Channel number
%2 = Action number/action name

Definitions: NC start has been activated in the MDI or AUTOMATIC mode and at least one axis that needs to be referenced has not reached its reference point.

Reactions: - Interface signals are set.

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- Alarm display.

Remedy: Please inform the authorized personnel/service department. Via the channel-specific MD 20700: REFP_NC_START_LOCK (NC Start without reference point) you can decide whether the axis must be referenced before NC Start or not. The start of referencing can be enabled channel-specific or axis-specific.

Channel-specific reference point approach: The rising edge of the interface signal "activate referencing" (DB 21 - 28, DBX 1.0) starts an automatic sequence which starts the axes of the channel in the same sequence as specified in the axis-specific MD 34110 REFP_CYCLE_NR (axis sequence channel-specific referencing). 0: The axis does not participate in channel-specific referencing, but it must be referenced for NC Start, -1: The axis does not participate in channel-specific referencing, but it need not be referenced for NC Start, 1- 8: Starting sequence for the channel-specific referencing (simultaneous start at the same no.), 1 - 31: CPU type

Axis-specific referencing: Press the direction key that corresponds to the approach direction in the axis-specific MD 34010 REFP_CAM_MDIR_IS_MINUS (reference point approach in minus direction).

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10204 [up to SW 3.x only] Channel %1 general error

Parameters: %1 = Channel number

Definitions: A general error has occurred in the channel.

Reactions: - Alarm display.

Remedy: This message indicates an internal conflict with no further consequences.

Program Continuation: Clear alarm with the Delete key or NC START.

10205 [up to SW 3.x only] Channel %1 internal error in %2

Parameters: %1 = Channel number
%2 = String

Definitions: An internal error has occurred in the channel.

Reactions: - Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Press RESET.

Program Continuation: Clear alarm with the RESET key. Restart part program

10206 [up to SW 3.x only] Channel %1 general error in function generator

Parameters: %1 = Channel number

Definitions: An error has occurred during activation/deactivation of the function generator.

Reactions: - Alarm display.

Remedy: Press RESET.

Program Continuation: Clear alarm with the Delete key or NC START.

10207 Channel %1 error when selecting or deselecting the digitize function

Parameters: %1 = Channel number

Definitions: An error has occurred on activating/deactivating the digitizing module; e.g. not in channel ready state, already activated, etc.

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Reactions: - Alarm display.
Remedy: Press RESET.
Program Continuation: Clear alarm with the Delete key or NC START.

10208 Channel %1 continue program with NC start

Parameters: %1 = Channel number
Definitions: After block search with calculation, the control is in the desired state. The program can now be started with NC Start or the state can be changed for the time being with overstore/jog.
Reactions: - Interpreter stop
- Alarm display.
- NC Stop on alarm.
Remedy: Press NC Start.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10209 Channel %1 internal NC stop after block search

Parameters: %1 = Channel number
Definitions: Internal alarm which initiates an NC Stop. The alarm is output if $MN_SEARCH_RUN_MODE ==1 and the last action block is activated after block search in the main run. Alarm 10208 is activated depending on the VDI signal PLC -> NCK channel DBB1.6.
Reactions: - Interpreter stop
- NC Stop on alarm.
Remedy: NC-Start
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10220 [up to SW 3.x only] Channel %1 active

Parameters: %1 = Channel number
Definitions: The internal command "delete NC blocks prepared by preprocessor and reorganize (REORG)" has been requested for this channel. It is initiated, e.g. as a result of an overstore, but cannot be executed in a running channel.
Reactions: - Alarm display.
Remedy: Stop the channel (NC Stop) and repeat the action.
Program Continuation: Clear alarm with the Delete key or NC START.

10221 [up to SW 3.x only] Channel %1 not stopped at end of block

Parameters: %1 = Channel number
Definitions: The reorganization of NC blocks starting at the current block (REORG) is only possible at the end of the block.
Reactions: - Alarm display.
Remedy: Stop the channel (NC Stop) and repeat the action.
Program Continuation: Clear alarm with the Delete key or NC START.

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10222 **Channel %1 inter-channel communication not possible**

Parameters: %1 = Channel number

Definitions: This channel has received a negative acknowledgment from the inter-channel communication because the destination channel number is not known, e.g.: START(x) or WAITE(x) but channel x has not been initialized

Reactions: - Alarm display.

Remedy: This is an indication of possible discrepancies. The program continues if no acknowledgment is called for.

Program Continuation: Clear alarm with the Delete key or NC START.

10223 **Channel %1: Command %2 is already occupied**

Parameters: %1 = Channel number

%2 = Event name

Definitions: This channel has received a negative acknowledgment from the inter-channel communication because this command is already active or has not yet been terminated, e.g.: INIT(x,"ncprog") but a program select request is already active for channel x.

Reactions: - Alarm display.

Remedy: This is an indication of possible discrepancies. The program continues if no acknowledgment is called for.

Program Continuation: Clear alarm with the Delete key or NC START.

10224 **[up to SW 3.x only] Channel %1: command denied**

Parameters: %1 = Channel number

Definitions: The channel has received a command that cannot be executed, e.g.: activation of a program test in automatic mode is only possible in the reset state.

Reactions: - Alarm display.

Remedy: Press RESET and activate the command again.

Program Continuation: Clear alarm with the Delete key or NC START.

10225 **Channel %1: command denied**

Parameters: %1 = Channel number

Definitions: The channel has received a command. The command cannot be executed.

Reactions: - Alarm display.

Remedy: Press RESET.

Program Continuation: Clear alarm with the Delete key or NC START.

10226 **[up to SW 3.x only] Channel %1: reset aborted**

Parameters: %1 = Channel number

Definitions: An error occurred during the reset, with the result that the sequence could not be continued.

Reactions: - Mode group not ready.

- Channel not ready.
- NC Start disable in this channel.
- Alarm display.

Remedy: Press RESET again.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

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10227 **[up to SW 3.x only] Channel %1: command aborted**

Parameters: %1 = Channel number

Definitions: An error occurred while a command was active, with the result that the sequence could not be continued.

Reactions: - Alarm display.

Remedy: Activate the command again.

Program Continuation: Clear alarm with the Delete key or NC START.

10230 **[up to SW 3.x only] Mode group %2 channel %1 program interruption does not permit mode change**

Parameters: %1 = Channel number
%2 = Mode group number

Definitions: While in the "program interrupted" status (interface signal DB 21 - 28, DBX 35.3) - triggered by an NC Stop followed by a mode change to JOG - it is only possible to change back to the previous mode (AUTOMATIC or MDI).

Reactions: - Alarm display.

Remedy: You can change the mode via the "program aborted" status (interface signal DB 21 - 28, DBX 35.4) - triggered by a "reset".

Program Continuation: Clear alarm with the Delete key or NC START.

10231 **[up to SW 3.x only] Mode group %2 channel %1 program stop does not permit mode change**

Parameters: %1 = Channel number
%2 = Mode group number

Definitions: While in the "program stopped" status (interface signal DB 21 - 28, DBX 35.2, triggered by an NC Stop), it is only possible to change back to continuous program operation (by means of an NC Start).

Reactions: - Alarm display.

Remedy: You can change the mode via the "program aborted" status (interface signal DB 21 - 28, DBX 35.4) - triggered by a "reset".

Program Continuation: Clear alarm with the Delete key or NC START.

10232 **[up to SW 3.x only] Mode group %2 channel %1 does not permit mode change**

Parameters: %1 = Channel number
%2 = Mode group number

Definitions: The change to the desired mode is not permitted. You can only perform the mode change in the "reset" state.

Reactions: - Alarm display.

Remedy: You can change the mode by pressing the Reset key and repeating the mode change.

Program Continuation: Clear alarm with the Delete key or NC START.

10240 **[up to SW 3.x only] Mode group %2 channel %1 mode change not possible**

Parameters: %1 = Channel number
%2 = Mode group number

Definitions: The mode change would cause the "reorganization" of the preprocessor buffer. This is not possible at present, because a complex geometry section is being processed.

Reactions: - Alarm display.

Remedy: You can change the mode by pressing the Reset key and repeating the mode change.

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Program Continuation: Clear alarm with the Delete key or NC START.

10241 **[up to SW 3.x only] Mode group %2 mode change in active channel %1 not possible**

Parameters: %1 = Channel number
%2 = Mode group number

Definitions: The channel is not in the stopped state. Reorganization is therefore impossible.

Reactions: - Alarm display.

Remedy: Press NC Stop and perform the action again.

Program Continuation: Clear alarm with the Delete key or NC START.

10242 **[up to SW 3.x only] Mode group %2 mode change in channel %1 not possible at this time**

Parameters: %1 = Channel number
%2 = Mode group number

Definitions: The internal state of the indicated channel is not uniquely defined (e.g. in initialization mode or waiting for an acknowledgement from the sequence control system).

Reactions: - Alarm display.

Remedy: You can change the mode by pressing the Reset key and repeating the mode selection.

Program Continuation: Clear alarm with the Delete key or NC START.

10243 **[up to SW 3.x only] Channel %1: mode group %2 cannot change mode**

Parameters: %1 = Channel number
%2 = Mode group number

Definitions: The requested mode change cannot be executed because NC functions are still running in the other channel, e.g. part program execution.

Reactions: - Alarm display.

Remedy: You can change the mode by pressing the Reset key and repeating the mode selection.

Program Continuation: Clear alarm with the Delete key or NC START.

10249 **[up to SW 3.x only] Mode group %2 channel %1: mode change command canceled**

Parameters: %1 = Channel number
%2 = Mode group number

Definitions: An error occurred while a mode change command was active, with the result that the sequence could not be continued.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Press RESET and select the mode again.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

10250 **[up to SW 3.x only] Channel %1 reorganization of block processing not possible at this time**

Parameters: %1 = Channel number

Definitions: REORG is not possible at present.

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Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

10251 **[up to SW 3.x only] Channel %1**

Parameters: %1 = Channel number

Definitions: REORG is not possible at present.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Press RESET.

Program Continuation: Clear alarm with the RESET key. Restart part program

10252 **[up to SW 3.x only] Channel %1 reorg sequence canceled**

Parameters: %1 = Channel number

Definitions: Internal sequence error. REORG is not possible at present.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Press RESET.

Program Continuation: Clear alarm with the RESET key. Restart part program

10253 **[up to SW 3.x only] Channel %1 reorg sequence canceled**

Parameters: %1 = Channel number

Definitions: Internal sequence error. REORG is not possible at present.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Press RESET.

Program Continuation: Clear alarm with the RESET key. Restart part program

10254 **[up to SW 3.x only] Channel %1 reorg sequence canceled**

Parameters: %1 = Channel number

Definitions: Interpreter output negative acknowledgement for REORG.

Reactions: - Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Press RESET.

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Program Continuation: Clear alarm with the RESET key. Restart part program

10255 **[up to SW 3.x only] Channel %1 reorg sequence canceled**

Parameters: %1 = Channel number

Definitions: Internal sequence error. REORG is not possible at present.

Reactions:
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Press RESET.

Program Continuation: Clear alarm with the RESET key. Restart part program

10256 **[up to SW 3.x only] Channel %1 reorg sequence canceled**

Parameters: %1 = Channel number

Definitions: Internal sequence error. REORG is not possible at present - program abort.

Reactions:
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Press RESET.

Program Continuation: Clear alarm with the RESET key. Restart part program

10257 **[up to SW 3.x only] Channel %1 reorg sequence canceled**

Parameters: %1 = Channel number

Definitions: Internal sequence error. REORG is not possible at present - program abort.

Reactions:
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Press RESET.

Program Continuation: Clear alarm with the RESET key. Restart part program

10258 **[up to SW 3.x only] Mode group %2 channel %1: ID invalid or duplicated**

Parameters: %1 = Channel number
%2 = Mode group number

Definitions: An invalid channel/mode group assignment was detected on power-up.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check machine data ASSIGN_CHAN_TO_MODE_GROUP.

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Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

10259 **[up to SW 3.x only] Channel %1**

Parameters: %1 = Channel number

Definitions: REORG is not possible at present.

Reactions:
- NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: --

Program Continuation: Switch control OFF - ON.

10260 **[up to SW 3.x only] Channel %1**

Parameters: %1 = Channel number

Definitions: REORG is not possible at present.

Reactions:
- NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: --

Program Continuation: Switch control OFF - ON.

10261 **Channel %1 communication overload for block preparation**

Parameters: %1 = Channel number

Definitions: The internal communication between the NCK modules that evaluate the channel-specific VDI signals (START/STOP/RESET/DDTG/ASUBS/...) and the block preparation are overloaded. The block preparation modules are not being allocated enough computing time.

Reactions:
- NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: More processor time must be allocated to the block preparation modules. Machine data $MN_IPO_SYSCLOCK_TIME_RATIO or $MN_SYSCLOCK_CYCLE_TIME can be increased for this purpose.

Program Continuation: Switch control OFF - ON.

10299 **Channel %1 Auto-Repos function is not enabled**

Parameters: %1 = Channel number

Definitions: The Auto-Repos function (operating mode) was selected in the channel but is not implemented.

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Reactions: - Alarm display.
Remedy: This message is purely informational.
Program Continuation: Clear alarm with the Delete key or NC START.

10600 **Channel %1 block %2 auxiliary function during thread cutting active**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: An auxiliary function output is programmed in a thread cutting block.
Reactions: - Alarm display.
Remedy: Consequential errors can occur if the machining path of the thread block is too short and further blocks (thread blocks) follow in which no machining stop may occur.
Possible remedial measures:
• Program a longer path and/or a lower traversing rate.
• Output auxiliary function in another block (program section).
Program Continuation: Clear alarm with the Delete key or NC START.

10601 **Channel %1 block %2 zero velocity at block end point during thread cutting**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: This alarm occurs only when several blocks with G33 follow in succession. The block end velocity in the specified block is zero although a further velocity block follows. The reasons for this can be, for instance:
• G9
• Auxiliary function after motion
• Auxiliary function output before the motion of the following block
• Positioning axis in the block
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: Please inform the authorized personnel/service department. Modify the NC part program by removing any programmed "Stop at end of block" G09.
Modify general machine data 11110 AUXFU_GROUP_SPEC [n] for selecting the output time of an auxiliary function group by changing "Auxiliary function output before/after the movement" to "Auxiliary function output during the movement".
Bit 5 = 1: Auxiliary function output before movement
Bit 6 = 1: Auxiliary function output during movement
Bit 7 = 1: Auxiliary function output after movement
Program Continuation: Clear alarm with the RESET key. Restart part program

10602 **Channel %1 block %2 velocity limitation during thread cutting**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: In the displayed thread block, the axis would exceed its maximum velocity when the spindle override is in the maximum position.
Reactions: - Local alarm reaction.
- Alarm display.

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Remedy: If the axis velocity is not limited (faultless thread) no remedial measures are necessary. Otherwise, a lower spindle speed must be programmed for the thread block.
Program Continuation: Clear alarm with the Delete key or NC START.

10604 Channel %1 block %2 thread lead increase too high
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The thread lead increase is causing an axis overload. A spindle override of 100% is assumed during verification.
Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
Remedy: Reduce the spindle speed, thread lead increase or path length in the NC program.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10605 Channel %1 block %2 thread lead decrease too high
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The thread lead decrease is causing an axis standstill in the thread block.
Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
Remedy: Reduce the thread lead decrease or path length in the NC program.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10607 Channel %1 block %2 thread with frame not executable
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The current frame is corrupting the reference between the thread length and the thread lead.
Reactions: - Local alarm reaction.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.
Remedy: • Perform thread cutting with G33, G34, G35 without a frame.
• Use G63 or G331/G332.
Program Continuation: Clear alarm with the RESET key. Restart part program

10610 Channel %1 axis %2 not stopped
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: An axis/spindle has been positioned over several NC blocks using the POSA/SPOSA instruction. The programmed target position had not yet been reached ("exact stop fine" window) when the axis/spindle was reprogrammed.

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Example:
N100 POSA[U]=100
:
N125 X... Y... U... ; e.g.: U axis still travels from N100!

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check and correct the part program (analyze whether motion beyond block boundaries is appropriate here). Prevent block change by means of the keyword WAITP for axes or WAITS for spindles until the positioning axes or positioning spindles have also reached their target position.
Example for axes:
N100 POSA[U]=100
:
N125 WAITP[U]
N130 X... Y... U...

Example for spindles:
N100 SPOSA[2]=77
:
N125 WAITS(2)
N130 M6

Program Continuation: Clear alarm with the RESET key. Restart part program

10620 Channel %1 block %3 axis %2 at software limit switch %4

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Block number, label
%4 = String

Definitions: During the traversing motion, the system detected that the software limit switch would be crossed in the direction indicated. During block preparation, it was not yet possible to detect that the traversing range would be exceeded: Either there has been a motion overlay by the handwheel or a coordinate transformation is active.

Reactions: - Local alarm reaction.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Depending on the reason for this alarm being triggered, the following remedial measures should be undertaken:
- Handwheel override: Cancel the motion overlay and avoid this or keep it smaller when the program is repeated.
- Transformation: Check the preset/programmed zero offsets (current frame). If the values are correct, the tool holder (fixture) must be moved in order to avoid triggering the same alarm when the program is repeated, which would again cause the program to be aborted.

Program Continuation: Clear alarm with the RESET key. Restart part program

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10621 **Channel %1 axis %2 rests on software limit switch %3**

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = String

Definitions: The specified axis is already stationary at the displayed software limit.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. Machine data 36110 POS_LIMIT_PLUS/36130 POS_LIMIT_PLUS2 and 36100 POS_LIMIT_MINUS/36120 POS_LIMIT_MINUS2 must be checked for the software limit switches.
Shut down in JOG mode from the software limit switch.
Please inform the authorized personnel/service department.
Machine data:
Check the axis-specific interface signals: "2. "2nd software limit switch plus" (DB 31 - 61, DBX 12.3) or "2nd software limit switch minus" (DB 31 - 61, DBX 12.2) check whether the 2nd software limit switch is selected.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

10630 **Channel %1 block %2 axis %3 at working area limit %4**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis, spindle number
%4 = String (+ or -)

Definitions: The specified axis violates the working area limitation. This is recognized only in the main run either because the minimum axis values could not be measured before the transformation or because there is a motion overlay.

Reactions: - Local alarm reaction.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Program other motion or do not perform overlaid motion.

Program Continuation: Clear alarm with the RESET key. Restart part program

10631 **Channel %1 axis %2 rests at working area limit %3**

Parameters: %1 = Channel number
%2 = Axis, spindle
%3 = String (+ or -)

Definitions: The specified axis reaches the working area limitation in JOG mode.

Reactions: - Alarm display.

Remedy: Setting data: Check 43420 WORKAREA_LIMIT_PLUS and 43430 WORKAREA_LIMIT_MINUS for the working area limitation.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

10640 **[up to SW 3.x only] Channel %1 block %3 spindle %2 cannot stop during gear change**

Parameters: %1 = Channel number
%2 = Spindle number
%3 = Block number, label

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Definitions: The spindle is in the oscillating mode for a gear change and is waiting for the PLC acknowledgement stating that the gear change has taken place (interface signal: Gear has changed DB 31 - 48, DBX 16.3). During this phase spindle stop is not possible, initiated by Reset (DB 21 - 28, DBX 7.7) or NC Stop axes plus spindle (DB 21 - 28, DBX 7.4).

Reactions: - Alarm display.

Remedy: No remedial measures are necessary. The spindle-specific interface signal Spindle reset (DB 31 - 48, DBX 2.2) cancels the oscillation mode.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

10650 Channel %1 axis %2 incorrect gantry machine data, error code %3

Parameters: %1 = Channel number

%2 = Axis

%3 = Error no.

Definitions: An incorrect value was entered in the gantry-specific axial machine data. Further information can be derived from the error number.

- Error no. = 1 => either an incorrect gantry unit has been entered or the designation of the following axis is incorrect.
- Error no. = 2 => master axis has been specified more than once.

Reactions: - NC not ready.

- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Correct the machine data:

MD 37100 GANTRY_AXIS_TYPE

0: No gantry axis 1: Master axis grouping 1 11: Slave axis grouping 1 2: Master axis grouping 2 12: Slave axis grouping 2 3: Master axis grouping 3 13: Slave axis grouping 3

Program Continuation: Switch control OFF - ON.

10651 Channel %1 gantry configuration error. Error code %2

Parameters: %1 = Channel number

%2 = Reason

Definitions: The gantry configuration set in the machine data is erroneous. Gantry unit and reason for objection can be found in the transfer parameter.

The transfer parameter is made up as follows.

- %2 = error designation + gantry unit (XX).
- %2 = 10XX => no master axis declared
- %2 = 20XX => no slave axis declared
- %2 = 30XX => different contents in MD 30550 slave axis and master axis
- %2 = 40XX => different channel or NCU assignment of the gantry axes
- %2 = 50XX => no slave axis declared in this channel
- 2% = 60XX => different channel assignment of the master axis
- %2 = 10000 => error: slave axis is geometry axis
- %2 = 11000 => error: competing positioning axis as slave axis
- %2 = 12000 => error: compile cycle axis as slave axis
- %2 = 13000 => error: gantry axis is spindle
- %2 = 14000 => error: gantry axis is Hirth geared

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e.g. error code 1001 = no master axis declared, gantry unit 1.

Reactions: - NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Correct the machine data:
MD 37100 GANTRY_AXIS_TYPE
0: No gantry axis
1: Master axis grouping 1
11: Slave axis grouping 1
2: Master axis grouping 2
12: Slave axis grouping 2
3: Master axis grouping 3
13: Slave axis grouping 3

Program Continuation: Switch control OFF - ON.

10652 Channel %1 axis %2 gantry warning threshold exceeded

Parameters: %1 = Channel number
%2 = Axis

Definitions: The gantry following axis has exceeded the warning limit specified in MD 37110 GANTRY_POS_TOL_WARNING.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department.
1. Check axis (uneven mechanical movement?)
2. MD not set correctly (MD 37110 GANTRY_POS_TOL_WARNING). Changes to this MD take effect after a RESET.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

10653 Channel %1 axis %2 gantry error threshold exceeded

Parameters: %1 = Channel number
%2 = Axis

Definitions: The gantry following axis has exceeded the error limit (actual value tolerance) specified in MD 37120 GANTRY_POS_TOL_ERROR.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
1. Check axis (uneven mechanical movement?)
2. MD not set correctly (MD 37120 GANTRY_POS_TOL_ERROR). A POWER ON is necessary after modifying the MD.
If the axes are not yet referenced, MD GANTRY_POS_TOL_REF is the trigger condition for the error message.

Program Continuation: Clear alarm with the RESET key. Restart part program

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10654 **Channel %1 waiting for synchronization start of gantry group %2**

Parameters: %1 = Channel number
%2 = Gantry unit

Definitions: Alarm message appears when the axes are ready for synchronization. The gantry unit can now be synchronized. The actual value difference between master and slave axis is greater than the gantry warning threshold MD 37110 GANTRY_POS_TOL_WARNING. The synchronization must be started again explicitly with the start gantry synchronization interface signal (DB31-48, DBX 29.4).

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. See Description of Functions (Special Functions), G1 Gantry Axis

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

10655 **Channel %1 synchronization of gantry group %2 in progress**

Parameters: %1 = Channel number
%2 = Gantry unit

Definitions: No further explanation.

Reactions: - Alarm display.

Remedy: --

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

10656 **Channel %1 axis %2 gantry slave axis dynamically overloaded**

Parameters: %1 = Channel number
%2 = Axis

Definitions: The indicated gantry slave axis is dynamically overloaded, i.e. the slave axis cannot follow the master axis dynamically

Reactions: - Mode group not ready.
- Local alarm reaction.
- Channel not ready.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Compare the axial machine data of the gantry slave axis with the data of the gantry master axis

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

10657 **Channel %1 axis %2 power OFF in the gantry error limit exceeded status**

Parameters: %1 = Channel number
%2 = Axis

Definitions: Gantry error limit exceeded status (alarm 10653) has been switched off.
The error can only be removed by deleting MD GANTRY_ACT_POS_TOL_ERROR or by deactivating the extended monitoring (MD GANTRY_FUNCTION_MASK Bit0).

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform authorized personnel / the service department.
1. Remove a mechanical misalignment
2. Check axis (uneven mechanical movement?)

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3. Delete MD GANTRY_ACT_POS_TOL_ERROR or deactivate the extended monitoring
4. MD 37120 GANTRY_POS_TOL_ERROR is set incorrectly
   If the MD is changed, a power ON will be required.

Program Continuation: Clear alarm with the RESET key. Restart part program

10658 Channel %1 axis %2 impermissible axis status.

Parameters: %1 = Channel number
%2 = Error ID and gantry unit.

Definitions: %2 error ID and gantry unit
- %2 = 30XX => gantry group cannot be closed, as not all gantry axes are available in one channel.
- %2 = 40XX => gantry group cannot be closed, as the gantry axes have different axis states; the axis is assigned to the PLC, for example.
- %2 = 50XX => gantry group is to change the channel due to a PLC request; not all gantry axes are known in the new channel.
- %2 = 60XX => gantry group is to be transferred to channel due to an NC program request, but the channel does not know all the gantry axes.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Error ID:
- %2 = 30XX => assign all gantry axes to the current channel, for example via axis change.
- %2 = 40XX => set all axes of the gantry group to the same axis state, for example assign all axes to the NC program, or assign all axes to the PLC.
- %2 = 50XX => make all gantry axes known to the required channel.
- %2 = 60XX => make all gantry axes known to the required channel.

:end

Program Continuation: Clear alarm with the RESET key. Restart part program

10700 Channel %1 block %2 NCK protection zone %3 violated during automatic or MDI mode

Parameters: %1 = Channel number
%2 = Block number
%3 = Protection zone number

Definitions: The workpiece-related NCK protection zone has been violated. Note that another tool-related protection zone is still active. The workpiece-related protected area can be traversed after a new NC Start.

Reactions:
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Protection zone can be traversed after a new NC Start.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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10701 **Channel %1 block %2 channel-specific protection zone %3 violated during automatic or MDI mode**

Parameters: %1 = Channel number
%2 = Block number
%3 = Protection zone number

Definitions: The workpiece-related channel-specific protection zone has been violated. Note that another tool-related protection zone is still active. The workpiece-related protected area can be traversed after a new NC Start.

Reactions: - Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Protection zone can be traversed after a new NC Start.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10702 **Channel %1 NCK protection zone %2 violated during manual mode**

Parameters: %1 = Channel number
%2 = Protection zone number

Definitions: The workpiece-related NCK protection zone has been violated. Note that another tool-related protection zone is still active. The workpiece-related protected area can be traversed after a new NC Start.

Reactions: - Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Protection zone can be traversed after a new NC Start.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

10703 **Channel %1 channel-specific protection zone %2 violated during manual mode**

Parameters: %1 = Channel number
%2 = Protection zone number

Definitions: The workpiece-related channel-specific protection zone has been violated. Note that another tool-related protection zone is still active. The workpiece-related protected area can be traversed after a new NC Start.

Reactions: - Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Protection zone can be traversed after a new NC Start.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

10704 **Channel %1 block %2 protection zone monitoring is not guaranteed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: New movements of a geometry axis which have been added could not be allowed for at the time of block preparation. It is therefore not certain that the protection zones will not be violated. This is just a warning message without further reactions.

Reactions: - Interface signals are set.
- Alarm display.

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Remedy: Take other measures to ensure that the geomotry axes motion, including the additional motion, does not violate the protection zones. (The warning comes nevertheless) or exclude additional motions.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

10706 Channel %1 NCK protection zone %2 reached with axis %3 during manual mode

Parameters: %1 = Channel number
%2 = Protection zone number
%3 = Axis name

Definitions: The workpiece-related NCK protection zone has been reached with the specified axis. Note that another tool-related protection zone is still active. The workpiece-related protection zone can be traversed when the PLC has issued an enable signal.

Reactions: - Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Protection zone can be traversed after enable signal from PLC.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

10707 Channel %1 channel-specific protection zone %2 reached with axis %3 during manual mode

Parameters: %1 = Channel number
%2 = Protection zone number
%3 = Axis name

Definitions: The workpiece-related channel-specific protection zone has been reached with the specified axis. Note that another tool-related protection zone is still active. The workpiece-related protection zone can be traversed when the PLC has issued an enable signal.

Reactions: - Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Protection zone can be traversed after enable signal from PLC.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

10710 Channel %1 block %2 conflict with centerless grinding

Parameters: %1 = Channel number
%2 = Spindle number

Definitions: Centerless grinding is active and a block has been processed that satisfies at least one of the following conditions:
• G96 active and regulating spindle is master spindle.
• Regulating spindle is in interdependent grouping.
• Axes of centerless transformation overlap with an active transformation and a tool is active.
• Constant wheel peripheral speed for the regulating spindle is active.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Modify program.

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Program Continuation: Clear alarm with the RESET key. Restart part program

10720 **Channel %1 block %3 axis %2 software limit switch %4**

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Block number, label
%4 = String (+ or -)

Definitions: For the axis, the programmed path violates the currently valid software limit switch. The alarm is activated when preparing the part program block.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Correct the NC program.
Please inform the authorized personnel/service department. Check the position of the axis as specified in the part program.
Machine data: 36100 POS_LIMIT_MINUS/36120 POS_LIMIT_MINUS2 and 36110 POS_LIMIT_PLUS/36130 POS_LIMIT_PLUS2 must be checked for the software limit switches.
Check the axis-specific interface signals: "2. "2nd software limit switch plus/minus" (DB 31 -61, DBX 12.2 and 12.3) to see whether the 2nd software limit switch is selected.
Check currently active zero offsets via the current frame.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10721 **Channel %1 block %3 axis %2 software limit switch %4**

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Block number, label
%4 = String (+ or -)

Definitions: For the axis, the planned motion violates the software limit switch. The alarm is activated during the preparation of approach or rest blocks at REPOS.

Reactions: - Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Check in the NC program and current positions.
Check the axis-specific interface signals "2nd software limit switch plus/minus" (DB31-61, DBX 12.2 or 12.3) to see whether the 2nd software limit switch is selected.
Check currently active zero offset via the current frame.
Check the machine data for the software limit switch (36100 POS_LIMIT_MINUS / 36120 POS_LIMIT_MINUS2 or 36110 POS_LIMIT_PLUS / 36130 POS_LIMIT_PLUS2).
Interrupt the NC program via NC reset.

Program Continuation: Clear alarm with the RESET key. Restart part program

10730 **Channel %1 block %3 axis %2 working area limitation %4**

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Block number, label
%4 = String (+ or -)

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Definitions: This alarm is generated if it is determined during block preparation that the programmed path of the axis will result in exceeding the working area limitation.
Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
Remedy: a) Check NC program for correct positional data and, if necessary, make corrections.
b) Check zero offsets (current frame)
c) Correct working area limitation via G25, or
d) Correct working area limitation via setting data, or
e) Deactivate working area limitation via setting data 43410 WORKAREA_MINUS_ENABLE=FALSE
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10731 Channel %1 block %3 axis %2 working area limitation %4

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Block number, label
%4 = String (+ or -)
Definitions: For the axis, the planned motion violates the working area limit. The alarm is activated during the preparation of approach or rest blocks at REPOS.
Reactions: - Local alarm reaction.
- Interface signals are set.
- Alarm display.
Remedy: Abort part program with reset.
Program Continuation: Clear alarm with the RESET key. Restart part program

10740 Channel %1 block %2 too many empty blocks in WAB programming

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: It is not allowed to program more blocks than specified by machine data MC_WAB_MAXNUM_DUMMY_BLOCKS between the WAB block and the block determining the approach and retraction tangent.
Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.
Remedy: Modify part program.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10741 Channel %1 block %2 direction reversal with WAB infeed motion

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: A safety distance which has been programmed is located perpendicular to the machining plane and not between the start and end point of the WAB contour.
Reactions: - Correction block is reorganized.
- Local alarm reaction.

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- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10742 **Channel %1 block %2 WAB distance invalid or not programmed**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: Possible causes:

- In a WAB block, the parameter DISR has not been specified or its value is less than or equal to 0.
- During approach or retraction with circle and active tool radius, the radius of the internally generated - WAB contour is negative. The internally generated WAB contour is a circle with a radius which, when offset with the current offset radius (sum of tool radius and offset value OFFN), yields the tool center point path with the programmed radius DISR.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10743 **Channel %1 block %2 WAB programmed several times**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: An attempt has been made to activate a WAB motion before a previously activated WAB motion was terminated.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10744 **Channel %1 block %2 no valid WAB direction defined**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The tangent direction for smooth approach or retraction is not defined.

Possible causes:

- In the program, no block with travel information follows the approach block.
- Before a retraction block, no block with travel information has been programmed in a program.
- The tangent to be used for WAB motion is vertical to the current machining plane.

Reactions:
- Correction block is reorganized.

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- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10745 Channel %1 block %2 WAB end position not clear

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In the WAB block and in the following block, the position has been programmed perpendicular to the machining direction. In the WAB block, no position has been indicated in the machining plane.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program. Either remove the position data for the infeed axis from the WAB block or the following block, or program a position in the machining plane in the WAB block as well.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10746 Channel %1 block %2 block search stop for WAB

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A block search stop has been inserted between a WAB approach block and the following block defining the tangent direction or between a WAB approach block and the following block defining the end position.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10747 Channel %1 block %2 retraction direction not defined for WAB

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In a WAB retraction block with quarter circle or semi-circle (G248 or G348), the end point in the machining plane was not programmed, and either G143 or G140 without tool radius compensation is active.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

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Remedy: Modify part program. The following changes are possible:
- Indicate end point in the machining plane in the WAB block.
- Activate tool radius compensation (effective for G140 only, not for G143).
- State retraction side explicitly with G141 or G142.
- Perform retraction with a straight line instead of a circle.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10748 Channel %1 block %2 illegal retract plane with WAB

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: By means of DISRP a position of the retraction plane has been programmed which is not situated between the safety distance (DISCL) and the starting point (during approach) and/or end point (during retraction) of the WAB movement.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10750 Channel %1 block %2 tool radius compensation activated without tool number

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A tool T... must be selected so that the control can make allowance for the associated compensation values.
A correction data block (D1) containing the correction values (parameter P1 - P25) is automatically assigned to each tool (T number). Up to 9 correction data blocks can be assigned to a tool by specifying the required data block with the D number (D1 - D9).
The cutter radius compensation (CRC) is allowed for if function G41 or G42 is programmed. The correction values are contained in parameter P6 (geometry value) and P15 (wear value) of the active correction data block Dx.

Reactions:
- Correction block is reorganized.
- Interpreter stop
- Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Before calling the CRC with G41/G42, program a tool number under the address T...

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10751 Channel %1 block %2 danger of collision due to tool radius compensation

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The "Bottleneck detection" (calculation of intersection for the following compensated traversing blocks) has not been able to calculate a point of intersection for the reviewed number of traversing blocks. It is therefore possible that one of the equidistant paths violates the workpiece contour.

Reactions:
- Correction block is reorganized.

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- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Please inform the authorized personnel/service department. Check the part program and modify the programming if possible such that inside corners with smaller paths than the correction value are avoided. (Outside corners are not critical because the equidistants are lengthened or intermediate blocks are inserted so that there is always a point of intersection).

Increase the number of reviewed traversing blocks via machine data 20240 CUTCOM_MAXNUM_CHECK_BLOCKS (default: 3), resulting in an increase in the extent of calculation and therefore also the block cycle time.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10752 Channel %1 block %2 overflow of local block buffer with tool radius compensation

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The cutter radius compensation must buffer a variable number of intermediate blocks in order to enable calculation of the equidistant tool path for each NC block. The size of the buffer cannot be determined by simple means. It depends on the number of blocks without traversing information in the compensation plane, the number of contour elements to be inserted and the shape of the curvature in spline and polynomial interpolation.

The size of the buffer is fixed by the system and cannot be changed via the MDs.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Please inform the authorized personnel/service department. Reduce the size of the buffer that has been assigned by modifying the NC program. By avoiding:

- Blocks without traversing information in the compensation plane
- Blocks with contour elements having a variable curvature (e.g. ellipses) and with curvature radii that are smaller than the compensation radius. (Such blocks are divided up into several subblocks).

Reduce the number of reviewed blocks for collision monitoring (MD 20240 CUTCOM_MAXNUM_CHECK_BLOCKS).

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10753 Channel %1 block %2 selection of the tool radius compensation only possible in linear block

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: Selection of cutter radius compensation with G41/G42 may only be performed in blocks where the G function G00 (rapid traverse) or G01 (feed) is active.

In the block with G41/G42, at least one axis in the plane G17 to G19 must be written. It is always advisable to write both axes because, as a rule, both axes are traversed when selecting the compensation.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.

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- Alarm display.
- NC Stop on alarm at block end.

Remedy: Correct the NC program and put the compensation selection in a block with linear interpolation.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10754 **Channel %1 block %2 deselection of the tool radius compensation only possible in linear block**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: Deselection of cutter radius compensation with G40 can only be performed in blocks where the G function G00 (rapid traverse) or G01 (feed) is active.

In the block with G40, at least one axis in the plane G17 to G19 must be written. It is always advisable to write both axes because, as a rule, both axes are traversed when deselecting the compensation.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Correct the NC program and put the compensation selection in a block with linear interpolation.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10755 **Channel %1 block %2 selection of the tool radius compensation via KONT not possible at the current starting point**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: When activating the cutter radius compensation with KONT the starting point of the approach block is within the compensation circle and therefore already violates the contour.

If the cutter radius compensation is selected with G41/G42, the approach behavior (NORM or KONT) determines the compensation movement if the present actual position is behind the contour. With KONT, a circle is drawn with the cutter radius around the programmed initial point (= end point of the approach block). The tangent that passes through the current actual position and does not violate the contour is the approach movement.

If the start point is within the compensation circle around the target point, no tangent passes through this point.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Place selection of the CRC such that the starting point of the approach movements comes to rest outside of the correction circle around the target point (programmed traversing movements > compensation radius). The following possibilities are available:
- Selection in the previous block
- Insert intermediate block
- Select approach behavior NORM

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Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10756 **Channel %1 block %2 deselection of the tool radius compensation via KONT not possible at the programmed end point**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: On deselection of the cutter radius compensation, the programmed end point is within the compensation circle. If this point were in fact to be approached without compensation, there would be a contour violation.

If the cutter radius compensation is deselected via G40, the approach behavior (NORM or KONT) determines the compensation movement if the programmed end point is behind the contour. With KONT, a circle is drawn with the cutter radius about the last point at which the compensation is still active. The tangent passing through the programmed end position and not violating the contour is the retraction movement.

If the start point is within the compensation circle around the target point, no tangent passes through this point.

Reactions: - Correction block is reorganized.

- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Place deselection of the CRC such that the programmed end point comes to rest outside the compensation circle around the last active compensation point. The following possibilities are available:

• Deselection in the next block

• Insert intermediate block

• Select retract behavior NORM

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10757 **Channel %1 block %2 changing the compensation plane while tool radius compensation is active not possible**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: In order to change the compensation plane (G17, G18 or G19) it is first necessary to deselect the cutter radius compensation with G40.

Reactions: - Correction block is reorganized.

- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Insert an intermediate block in the part program using the correction deselection. After the plane change, the cutter radius compensation is to be selected in an approach block with linear interpolation.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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10758 **Channel %1 block %2 curvature radius with variable compensation value too small**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The current cutter radius compensation (the cutter used) is too large for the programmed path radius.

In a block with variable tool radius compensation, a compensation must be possible either anywhere or nowhere on the contour with the smallest and the largest compensation value from the programmed range. There must be no point on the contour in which the curvature radius is within the variable compensation range.

If the compensation value varies its sign within a block, both sides of the contour are checked, otherwise only the compensation side.

Reactions: - Correction block is reorganized.

- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Use smaller cutters or allow for a part of the cutter radius at the time of contour programming.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10759 **Channel %1 block %2 path is parallel to tool orientation**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: In a block with spline or polynomial interpolation, the corrected path runs in at least one point parallel to the tool orientation, i.e. the path has a tangent perpendicular to the compensation plane.

Straight lines running parallel to the tool orientation are permissible, as well as circles, with a circle plane that is perpendicular to the compensation plane (application in smooth retraction from a groove).

Reactions: - Correction block is reorganized.

- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Do not use splines or polynomials when writing the contour section, but straight lines and circles instead. Divide up the tool piece geometry and deselect the cutter radius compensation between the various sections.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10760 **Channel %1 block %2 helical axis is not parallel to tool orientation**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: With active tool radius compensation a helix is only permissible if the helix axis is parallel to the tool, i.e. the circle plane and the compensation plane must be identical.

Reactions: - Correction block is reorganized.

- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

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Remedy: Orient helix axis perpendicular to the machining plane.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10761 Channel %1 block %2 tool radius compensation for ellipse with more than one revolution not possible

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: When machining the inside of an ellipse, in parts of the ellipse the curvature radii are greater than or smaller than the cutter radius compensation.
In ellipses, in this case the block would be split up into 4 subblocks with curvature radii that are greater than and less than the compensation radius. Over several revolutions, there would be a tremendous increase in the amount of calculation required by the unlimited number of resulting subblocks, and therefore this situation is rejected by the error message.
If compensation is possible everywhere or nowhere on the ellipse, then ellipses are also permissible that cover more than one full revolution.
Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.
Remedy: Use cutter with smaller radius or program motion block on blocks with no more than one revolution.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10762 Channel %1 block %2 too many empty blocks between two traversing blocks with active tool radius compensation

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The maximum permissible number of empty blocks is limited by a machine data.
Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.
Remedy: • Modify part program
• Modify machine data
• Check whether SBL2 is activated. With SBL2, a block is generated from each part program line which can lead to exceeding the maximum permissible number of empty blocks between two traversing blocks.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10763 Channel %1 block %2 path component of the block in the compensation plane becomes zero

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Due to the collision monitoring with active tool radius compensation, the path component of the block in the compensation plane becomes zero. If the original block contains no

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motion information perpendicular to the compensation plane, it means that this block is excluded.

The alarm can be suppressed with machine date 11410 SUPPRESS_ALARM_MASK Bit1 = 1.

Reactions: - Alarm display.

Remedy:
- The behavior is correct at narrow locations that cannot be machined with the active tool.
- Modify the part program if necessary.
- Use tool with smaller radius if necessary.
- Program CDOF/CDOF2.

Program Continuation: Clear alarm with the Delete key or NC START.

10764 Channel %1 block %2 discontinuous path with active tool radius compensation

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: This alarm occurs when, with active tool radius compensation, the starting point used for calculating the compensation is not identical to the end point of the preceding block. This situation can occur, for example, when a geometry axis is traversed between two positions as a positioning axis or when, with an active kinematic transformation (e.g. 5-axis transformation) the tool length compensation is altered.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10765 Channel %1 block %2 3D tool radius compensation not possible

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: This alarm occurs when an attempt is made to activate the 3D tool radius compensation even though the option required for this is not fitted in the control.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Use another software version. The option cannot be activated by altering machine data because the necessary code is not physically available.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10766 Channel %1 illegal change of surface orientation between block %2 and block %3

Parameters: %1 = Channel number

%2 = Block number, label

%3 = Block number, label

Definitions: This alarm occurs with 3D face milling when, at the time of block transition, the surface defined in the first block is continued in the second block with the rear side of the surface defined there. The block number in the alarm designates the second block.

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Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10767 Channel %1 block %2 processing with tilt angle unequal 0 not possible

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: When face milling with a torus milling cutter, the tilt angle must be 0 if the surface normal vector and the tool orientation include an angle that is less than the limiting angle given by the machine data 21082 CUTCOM_PLANE_ORI_LIMIT, i.e. in this case only the lead angle may be unequal to 0.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program. If necessary, use another tool (ball end mill).

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10768 Channel %1 block %2 illegal tool orientation with 3D tool radius compensation

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: This alarm can occur with 3D face milling: The angle between the surface normal vector of the surface to be machined and the extremal surface normal vector of the tool surface is smaller than the limit value given by the machine data 21080 CUTCOM_PARALLEL_ORI_LIMIT, or the tool is oriented such that machining would have to be performed from the rear side of the surface. In this case, the extremal surface normal vector is the vector whose direction deviates most from the direction in the tool point (i.e. parallel to the tool longitudinal axis).
With cylindrical tools or tools which end in a cylindrical part (e.g. the standard torus milling cutter), this vector is positioned perpendicular to the tool vector. For this type of tool, the alarm indicates that the angle between the tool longitudinal axis of, for example a side line of the cylinder, and the surface to be machined is smaller than the minimum permissible value. With tools whose (valid) surface ends in a conical part instead of a cylindrical part (e.g. a beveled cutter or a torus milling cutter where the torus is defined to be smaller than 90 degrees), this alarm indicates that the angle between a side line of the taper and the surface to be machined is smaller than the minimum permissible value.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program. If necessary, use another tool.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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10769 **Channel %1 block %2 Illegal surface normal vector with 3D tool radius compensation**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In 3D face milling, surface normal vector and path tangent vector must theoretically be perpendicular to one another, i.e. they must be at 90° to one another. Since both vectors can be programmed independently of each other, deviations from this angle are possible and allowed. This alarm is generated when the angle between surface normal vector and path tangent vector becomes less than the limit angle given by the machine data 21084 CUTCOM_PLANE_PATH_LIMIT.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10770 **Channel %1 block %2 change of corner type due to change of orientation with active tool radius compensation**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The type of a corner (inside or outside corner) depends not only on the programmed path but also on the tool orientation. For this purpose, the programmed path is projected in the plane perpendicularly to the actual tool orientation and the corner type is determined there. If a change in orientation is programmed (in one or several blocks) between two traversing blocks, resulting in the type of corner at the end of the first traversing block being different from that at the start point of the second block, the above error message is issued.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10771 **Channel %1 block %2 overflow of local block buffer due to orientation smoothing**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: This error occurs when more blocks must be buffered than memory space is available.
This error can only occur when the software has been incorrectly configured.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Increase size of local buffer area.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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10772 **Channel %1 block %2 illegal orientation change when activating or deactivating 3D face cutting**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In face milling, no intermediate blocks with pure orientation change are allowed between the activation block and the first correction block or between the last correction block and the deactivation block (3D tool radius compensation).

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10773 **Channel %1 illegal tool orientation in block %2 at inside corner with block %3**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Block number, label

Definitions: On inside corners, the path of the traversing blocks concerned is reduced but the orientation change originally programmed in the block is retained and is now carried out in synchronism with the shortened path. Because of the ensuing changed relationship between path tangent, surface normal and tool orientation, singular points or points with impermissible side angle can occur in 3D face milling. This is not allowed.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10774 **Channel %1 illegal tool dimensions with face cutting in block %2**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: This alarm occurs when illegal tool dimensions are programmed for face milling, e.g. negative tool radius, rounding radius zero or negative for tool types that require a rounding radius, taper angle zero or negative for tapered tools.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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10775 **Channel %1 illegal tool change with face cutting in block %2**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: This alarm occurs when a tool change has been programmed while 3D tool radius compensation is active with the result that the tool type changes or, if the tool type remains unchanged, at least one relevant tool dimension has changed as compared with the deselected tool. Depending on the tool type, relevant tool dimensions can be the tool diameter, the rounding radius or the taper angle. Changes to the tool length are allowed.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10776 **Channel %1 block%2 axis %3 must be geometry axis if tool radius compensation is active**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name

Definitions: This alarm occurs when an axis that is required for tool radius compensation is not a geometry axis. With CUT2DF, the axis can be a positioning axis perpendicular to the machining plane; with all other types of compensation (CUT2DF, CUT3DC, CUT3DF, CUT3DFF), all geometry axes must be operated as such.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.
On selection of G41/42, the axes involved must be known as GEOAX in the channel. It is possible by programming GEOAX() or G91 G0 X0 Y0 in the block prior to G41/42.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10777 **Channel %1 block %2 tool radius compensation: too many blocks with suppression of compensation**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The maximum permissible number of blocks with active compensation suppression with tool radius compensation is limited by the machine data CUTCOM_MAXNUM_SUPPR_BLOCKS.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: • Modify part program.
• Modify machine data.

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• Check whether SBL2 is activated. With SBL2, a block is generated from each part program line which can lead to exceeding the maximum permissible number of empty blocks between two traversing blocks.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10778 Channel %1 block %2 preprocessing stop with active tool radius compensation

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: If a preprocessing stop is detected with active tool radius compensation (either programmed by the user or generated internally) and the setting data $SC_STOP_CUTCOM_STOPRE is set, then this warning is issued because in this situation machine movements which were not intended by the user can occur (termination of radius compensation and new approach).

Reactions: - Alarm display.
- NC Stop on alarm at block end.

Remedy: • Continue machining with CANCEL and Start.
• Modify part program.
• Set setting data $SC_STOP_CUTCOM_STOPRE to FALSE.

Program Continuation: Clear alarm with the Delete key or NC START.

10779 Channel %1 block %2 preprocessing stop with active tool radius compensation

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: If a preprocessing stop is detected with active tool radius compensation (either programmed by the user or generated internally) and the setting data $SC_STOP_CUTCOM_STOPRE is set, then this warning is issued because in this situation machine movements which were not intended by the user can occur (termination of radius compensation and new approach).
To continue machining, activate the CANCEL key and perform a restart.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: • Continue machining with CANCEL and Start.
• Modify part program.
• Set setting data $SC_STOP_CUTCOM_STOPRE to FALSE.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10780 Channel %1 block %2 impermissible change of a turning or grinding tool with active tool radius compensation

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A tool change on which the edge offset (difference between edge center and edge reference point) changes, is only permissible in straight and polynomial blocks.
It is impermissible in circular blocks, involute blocks and in blocks including rational polynomials with maximum permissible numerator and denominator degrees.

Reactions: - Correction block is reorganized.
- Local alarm reaction.

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- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy:
- Continue machining with CANCEL and Start.
- Modify part program.
- Set setting data $SC_STOP_CUTCOM_STOPRE to FALSE.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10781 Channel %1 block %2 illegal orientation of involute with tool radius compensation

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Tool radius compensation is possible for involutes only if the compensation plane matches the involute plane.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10782 Channel %1 block %2 illegal curve type with tool radius compensation

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: This alarm occurs, if an attempt is made to apply the tool radius compensation to a curve type for which this function is not implemented. The only cause at present: Involute with 3D tool radius compensation.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10783 Channel %1 block %2 tool radius compensation type requires orientation transformation

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: This alarm occurs, if an attempt is made to activate a tool radius compensation which must enable a tool orientation change and the _Orientation transformation_ option is not available. This alarm can only occur if one of the following G code is active in the G code group 22:
- CUT3DC
- CUT3DCC
- CUT3DCCD

Reactions:
- Correction block is reorganized.
- Local alarm reaction.

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- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: • Modify part program
• Install "Orientation transformation" option

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10784 Channel %1 block %2 illegal tool for tool radius compensation with constraint surface

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: When activating the tool radius compensation with constraint surface, an illegal tool type is active.
Only cutting tools of the tool types 1 to 399 are admitted with the following exceptions:
• 111 ball end milling cutter
• 155 torus milling cutter
• 156 torus milling cutter
• 157 torus milling cutter

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Use another tool.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10790 Channel %1 block %2 plane change during linear programming with angles

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The active plane was changed between the first and second subblock when programming two straight lines with angle parameters.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10791 Channel %1 block %2 invalid angle during linear programming

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No intermediate point was found when programming a contour consisting of two straight lines and an angle specification.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.

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- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10792 **Channel %1 block %2 illegal interpolation type during linear programming with angles**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Only spline or linear interpolation is permitted for programming two straight lines with angle specification. Circular or polynomial interpolation is not allowed.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10793 **Channel %1 block %2 second block missing during linear programming with angles**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The second block is missing during programming of two straight lines with angle specification. This situation only occurs if the first subblock is also the last block of a program, or if the first subblock is followed by a block with a preprocessor stop.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10794 **Channel %1 block %2 angle specification missing in 2nd block during linear interpolation with angles**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The angle is missing from the second block during programming of two straight lines with angle specification. This error can only occur if an angle was programmed in the preceding block, but no axis of the active plane was programmed in that block. The cause of the error may therefore also have been the intention to program a single straight line with an angle in the previous block. In this case, exactly one axis of the active plane must be programmed.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

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Remedy: Modify part program.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10795 Channel %1 block %2 end point specification during angle programming contradictory

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: During programming of a straight line, both positions of the active plane and an angle were specified (the position of the end point is over-specified), or the position of the programmed coordinate cannot be reached with the specified angle. If a contour consisting of two straight lines is to be programmed with angles, it is possible to specify the two axis positions of the plane and an angle in the second block. The error can also occur if, due to a programming error, the preceding block cannot be interpreted as the first subblock of such a contour. A block is interpreted as the first block of a two-block contour if an angle, but not an axis of the active plane, was programmed, and if the block is not already the second block of a contour.
Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.
Remedy: Modify part program.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10800 Channel %1 block %3 axis %2 is not a geometry axis

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Block number, label
Definitions: With an active transformation or a frame with a rotation component the geometry axes are needed for block preparation. If a geometry axis has previously been traversed as positioning axis, it retains its status of "positioning axis" until it is again programmed as a geometry axis.
Because of the POSA motion beyond block boundaries, it is not possible to identify in the preprocessing run whether the axis has already reached its target position when the block is executed. This is, however, an unconditional requirement for calculating the ROT component of the frame or of the transformation.
If geometry axes are used as positioning axes, then:
1. No rotation may be specified in the current overall frame.
2. No transformation may be selected.
Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
Remedy: After selecting transformation or frame, reprogram the geometry axis now operating as positioning axis (e.g. with WAITP) in order to revert the status to "geometry axis.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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10805 **Channel %1 block %2 repositioning after switch of geometry axes or transformation**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In the asynchronous subroutine the assignment of geometry axes to channel axes was changed or the active transformation modified.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

10810 **Channel %1 block %2 master spindle not defined**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The function "Revolutional feedrate" (with G95 or G96), or "Rigid tapping" (with G331/G332) has been programmed, although no master spindle is defined from which the speed could be derived. For the definition the MD 20090 SPIND_DEF_MASTER_SPIND is available for the default or the keyword SETMS in the part program, thus allowing each spindle of the channel to be redefined as master spindle.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Preset the master spindle with MD 20090 SPIND_DEF_MASTER_SPIND[n]=m (n ... channel index, m ... spindel no.) or define it with an identifier in an NC part program before a G function that requires a master spindle is programmed.
The machine axis that is to be operated as a spindle must be equipped in MD 35000 SPIND_ASSIGN_TO_MACHAX[n]=m (n ... machine axis index, m ... spindle no.) with a spindle number. Additionally, the MD 20070 AXCONF_MACHAX_USED[n]=m (n ... channel axis index, m ... machine axis index) must be used to assign it to a channel (channel axis index 1 or 2).

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10820 **Channel %1 rotary axis/spindle %2 not defined**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: Revolutional feed has been programmed for contouring and synchronous axes or for an axis/spindle. However, the rotary axis/spindle from which the feed is to be deduced is not available.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Correct part program or set the setting data 43330 ASSIGN_FEED_PER_REV_SOURCE correctly.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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10860 **Channel %1 block %2 feedrate not programmed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Reason:
In the displayed block, an interpolation type other than G00 (rapid traverse) is active. The F value has not been programmed.
Path feed F is active, on change between linear and revolutional feedrate, F has not been programmed again.
The modal feed for corner/chamfer (FRCM) is active, on change between linear and revolutional feedrate FRCM has not been programmed again.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Program feedrate in accordance with the interpolation type.
• G93: The feedrate is specified as a time-reciprocal value under address F in [1/min].
• G94 and G97: The feedrate is programmed under address F in [mm/min] or [m/min].
• G95: The feedrate is programmed as revolutional feedrate under address F in [mm/revolution].
• G96: The feedrate is programmed as cutting rate under address S in [m/min]. It is derived from the current spindle speed.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10861 **Channel %1 block %3 velocity of positioning axis %2 is zero**

Parameters: %1 = Channel number
%2 = Axis
%3 = Block number, label

Definitions: No axis velocity has been programmed and the positioning velocity set in the machine data is zero.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Enter a different velocity in machine data 32060 MA_POS_AX_VELO.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10862 **Channel %1 block %2 master spindle also used as path axis**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A contour has been programmed that also includes the master spindle as contouring axis. However, the velocity of the contour is derived from the rotational speed of the master spindle (e.g. G95).

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Modify the program so that no reference is possible to the program itself.

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Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10870 **Channel %1 block %2 facing axis for constant velocity not defined**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: Constant cutting speed was selected although no transverse axis was applied as reference axis for constant cutting speed or assigned through SCC[AX].

Constant cutting speed can be activated as follows:

• Basic position G96, G961 or G962 of G group 29 during booting

• Programming of G96, G961 or G962

A reference axis for G96, G961 or G962 can be applied as a transverse axis in MD 20100 appliziert or defined through the instruction SCC[AX].

Reactions: - Correction block is reorganized.

- Local alarm reaction.

- Interface signals are set.

- Alarm display.

Remedy: Please inform the authorized personnel/service department. Check machine date 20100. Before programming G96, G961 or G962 a transverse axis must be defined as a reference axis for constant cutting speed via machine date 20100 MC_DIAMETER_AX_DEF or SCC[AX].

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10880 **Channel %1 block %2 too many empty blocks between two traversing blocks when inserting chamfers or radii**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: Between 2 blocks containing contour elements and which are to be joined with a chamfer or a radius (CHF, RND), more blocks without contour information have been programmed than provided for in the machine data 20200 CHFRND_MAXNUM_DUMMY_BLOCKS.

Reactions: - Correction block is reorganized.

- Local alarm reaction.

- Interface signals are set.

- Alarm display.

Remedy: Please inform the authorized personnel/service department. Modify the part program in order that the permissible number of dummy blocks is not exceeded or adapt the channel-specific machine data 20200 CHFRND_MAXNUM_DUMMY_BLOCKS (dummy blocks with chamfers/radii) to the maximum number of dummy blocks.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10881 **Channel %1 block %2 overflow of local block buffer when inserting chamfers or radii**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: Between 2 blocks containing the contour elements and to be joined with a chamfer or a radius (CHF, RND), so many dummy blocks have been programmed without contour information that the internal buffer is too small.

Reactions: - Correction block is reorganized.

- Local alarm reaction.

- Interface signals are set.

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- Alarm display.

Remedy: Modify part program such that the number of dummy blocks is reduced.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10882 Channel %1 block %2 activation of chamfers or radii (non-modal) without traversing movement in the block

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No chamfer or radius has been inserted between 2 linear or circle contours (edge breaking) because:
- There is no straight line or circle contour in the plane
- There is a movement outside of the plane
- A plane change has taken place
- The permissible number of dummy blocks without traversing information has been exceeded.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Correct the part program according to the above error description or change the number of dummy blocks in the channel-specific MD CHFRND_MAXNUM_DUMMY_BLOCKS to comply with the maximum number allowed for in the program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10883 Channel %1 block %2 chamfer or fillet has to be reduced

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: This alarm is output, if at least one of the relevant blocks when inserting chamfers or radii is so short, that the contour element to be inserted must be reduced against its originally programmed value. The alarm occurs only if bit 4 is set in the machine data $MN_ENABLE_ALARM_MASK. Otherwise, the chamfer or radius is adapted without an alarm being output.

Reactions:
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify NC program of continue program without modifications after CANCEL and Start or with Start alone.

Program Continuation: Clear alarm with the Delete key or NC START.

10890 Channel %1 block %2 overflow of local block buffer when calculating splines

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The maximum permissible number of empty blocks is limited by a machine data.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.

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Remedy:
- Modify part program
- Modify machine data
- Check whether SBL2 is activated. With SBL2, a block is generated from each part program line which can lead to exceeding the maximum permissible number of empty blocks between two traversing blocks.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10891 Channel %1 block %2 multiplicity of node is greater than its order

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In the B spline the distance between nodes PL (node = point on spline at which 2 polynomials meet) has been programmed with zero too often in succession (i.e. the "multiplicity" of a node is too great).
In the quadratic B spline the node distance may not be specified more than twice with 0 in succession, and in the cubic B spline not more than 3 times.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Program the node distance PL = 0 in succession no more than the degree of the B spline used.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10900 Channel %1 block %2 no S value programmed for constant cutting speed

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: If G96 is active, the constant cutting speed under address S is missing.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Program constant cutting speed under S in [m/min] or deselect the function G96. For example, with G97 the previous feed is retained but the spindle continues to rotate at the current speed.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10910 Channel %1 block %2 irregular velocity waveform of one path axis

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: On analyzing the path waveforms during preparation, a large local deviation in the velocity waveform of one or more path axes has been detected relatively to the path velocity. A situation like that typically occurs near singular positions of the machine kinematics. It can, however, also be caused by a failed contour or by an FGROUP definition unfavorable relatively to the contour. Another reason may be an unfavorable programmed OEM transformation.
In order to safely avoid axis overloads, path velocity is normally decelerated considerably. A seemingly machine standstill might occur. As soon as the singular position has been reached, strong axis movements suddenly occur.

Reactions: - Local alarm reaction.

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- Alarm display.

Remedy: Division of a block in several smaller ones often provides an improvement.

Program Continuation: Clear alarm with the Delete key or NC START.

10911 Channel %1 block %2 transformation prohibits to traverse the pole

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The given curve passes through the pole of the transformation.

Reactions:
- Interpreter stop
- Local alarm reaction.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

10912 Channel %1 block %2 preprocessing and main run might not be synchronized

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The preset positioning axis run cannot be accurately calculated beforehand. The reason for this is either that the axes involved in the transformation are traversed as positioning axes or that a transformation pole is circumnavigated too frequently by the curve. The velocity check is performed starting from this block in the main run. It is more conservative than with anticipated calculation. The LookAhead function is deactivated. If it is not possible to take over the velocity check into the main run, part program processing is aborted.

Reactions: - Alarm display.

Remedy: No action is usually necessary. The velocity control operates more effectively, however, if the part program is modified.
- If a transformation pole is circumnavigated several times by the curve, it helps to split up the block into smaller parts.
- If a positioning axis is the cause, you should check whether the axis can be traversed as a path axis. The Look Ahead function remains deactivated until preprocessing can be based on defined conditions again (e.g. as a result of change from JOG->AUTO, tool or tool edge change).

Program Continuation: Clear alarm with the Delete key or NC START.

10913 Channel %1 block %2 negative feed profile is ignored

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The given feed profile is in part negative. However, negative path feed is not allowed. The feed profile is ignored. The specified feed block end value is taken when traversing over the entire block.

Reactions:
- Local alarm reaction.
- Alarm display.

Remedy: No action is usually necessary. The alarm message indicates an error in the programming, however, and this should be corrected.

Program Continuation: Clear alarm with the Delete key or NC START.

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10914 **Movement not possible while transformation active - in channel %1, block %2**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The machine kinematics does not allow the specified motion. Transformation-dependent error causes can be in: TRANSMIT: A (circular) area exists around the pole, where positioning is not possible. The area is caused by the fact that the tool reference point cannot be traversed as far as into the pole.

The area is defined by:

- the machine data ($MC_TRANSMIT_BASE_TOOL..)
- the active tool length compensation (see $TC_DP..). Whether the tool length compensation is included in the calculation depends on the working plane selected (see G17,..).
- The machine stops before the faulty block.

Reactions: - Interpreter stop

- Local alarm reaction.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program. Change the incorrectly specified tool length compensation.

Program Continuation: Clear alarm with the RESET key. Restart part program

10930 **Channel %1 block %2 interpolation type not allowed in stock removal contour**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The following types of interpolation are allowed in the contour program for stock removal: G00, G01, G02, G03, CIP, CT

Reactions: - Local alarm reaction.

- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: In the contour subroutine, program only path elements that consist of straight lines and arcs.

Program Continuation: Clear alarm with the RESET key. Restart part program

10931 **Channel %1 block %2 incorrect stock removal contour**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The following errors occurred in the subroutine for the contour during stock removal:

- Full circle
- Overlapping contour elements
- Wrong start position

Reactions: - Local alarm reaction.

- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: The errors listed above must be corrected in the subroutine for the stock removal contour.

Program Continuation: Clear alarm with the RESET key. Restart part program

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10932 **Channel %1 block %2 preparation of contour has been restarted**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The first contour preparation/contour decoding run must be terminated with EXECUTE.

Reactions: - Local alarm reaction.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Program the keyword EXECUTE to terminate the contour preparation in the part program before again calling up contour segmentation (keyword CONTPRON).

Program Continuation: Clear alarm with the RESET key. Restart part program

10933 **Channel %1 block %2 contour programm does not contain enough contour blocks**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The contour program contains:
• Less than 3 contour blocks with CONTPRON
• No contour blocks with CONTDCON

Reactions: - Local alarm reaction.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Increase the size of the subroutine with the stock removal contour to include at least 3 NC blocks with movements in both axes of the current machining plane.

Program Continuation: Clear alarm with the RESET key. Restart part program

10934 **Channel %1 block %2 array for contour segmentation is set too small**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: During contour segmentation (activated with the keyword CONTPRON), the field for the contour table has been detected as too small. For every permissible contour element (circle or straight line) there must be a row in the contour table.

Reactions: - Local alarm reaction.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Base the definition of the field variables of the contour table on the contour elements to be expected. The contour segmentation function divides up some NC blocks into as many as 3 machining cuts. Example: N100 DEF TABNAME_1 [30, 11] Field variables for the contour table provide for 30 machining cuts. The number of columns (11) is a fixed quantity.

Program Continuation: Clear alarm with the RESET key. Restart part program

10940 **Channel %1 block %2 curve table %3: delete/overwrite not possible**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of curve table

Definitions: The curve table can only be deleted if it is not active in a link.

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Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: It is necessary to deactivate all links that are being used by the curve table to be deleted.

Program Continuation: Clear alarm with the RESET key. Restart part program

10941 Channel %1 block %2: Curve table %3: NC SRAM memory full, type %4

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of curve table
%4 = Object type

Definitions: Insufficient free dynamic memory during curve table definition.
The object type parameter specifies for which curve table object
the memory will not suffice:
1: Number of curve tables too small (MD $MN_MM_NUM_CURVE_TABS)
2: Number of linear curve table segments too small (MD $MN_MM_NUM_CURVE_SEG_LIN)
3: Number of polynomial curve table segments too small (MD $MN_MM_NUM_CURVE_SEGMENTS)
4: Number of curve table polynomials too small (MD $MN_MM_NUM_CURVE_POLYNOMS)

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Delete curve tables that are no longer required, or reconfigure the disk space for the curve tables. The curve table definition process now has to be repeated; see machine data:
MN_MM_NUM_CURVE_TABS, MD MN_MM_NUM_CURVE_SEGMENTS, MN_MM_NUM_CURVE_SEG_LIN,
MN_MM_NUM_CURVE_POLYNOMS.

Program Continuation: Clear alarm with the RESET key. Restart part program

10942 Channel %1 block %2 curve table %3: illegal instruction during definition

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of curve table

Definitions: Various illegal command sequences cause the output of this alarm during the definition of the curve table. For example, it is impermissible to terminate definition of a curve table with M30 before programming the CTABEND command.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Correct the part program and start it again.

Program Continuation: Clear alarm with the RESET key. Restart part program

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10943 **Channel %1 block %2 curve table %3: direction reversal of lead value in the block not allowed**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of curve table

Definitions: The conditions for converting a programmed contour to a curve table were not fulfilled in this block.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Correct the part program and start it again.

Program Continuation: Clear alarm with the RESET key. Restart part program

10944 **Channel %1 block %2 curve table %3: illegal transformation**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of curve table

Definitions: It is impermissible to use a transformation in a curve table if the leading axis or following axis programmed in CTABDEF is involved in the transformation. Exception: TRAANG.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Correct NC part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

10945 **Channel %1 block %2 curve table %3: illegal coupling of axes**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of curve table

Definitions: It is not possible to program axis links for the leading axes and following axis programmed in CTABDEF.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Correct NC part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

10946 **Channel %1 block %2 curve table %3: no contour defined**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of curve table

Definitions: No movement for the leading axis was programmed between CTABDEF and CTABEND. A curve table is not permitted without a contour.

Reactions: - Interpreter stop
- NC Start disable in this channel.

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- Interface signals are set.
- Alarm display.

Remedy: Correct the part program and start it again.

Program Continuation: Clear alarm with the RESET key. Restart part program

10947 **Channel %1 block %2 curve table %3: contour not continuous**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of curve table

Definitions: The contour in a curve table must be continuous. Incontinuity can occur, for example, as a result of activating a transformation.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Correct the part program and start it again.

Program Continuation: Clear alarm with the RESET key. Restart part program

10948 **Channel %1 block %2 curve table %3: position jump at end of period**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of curve table

Definitions: A periodic curve table was defined in which the position of the following axis at the end of the table was different to the position at the start of the table.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Correct the part program and start it again.

Program Continuation: Clear alarm with the RESET key. Restart part program

10949 **Channel %1 block %2 curve table %3: missing master axis motion**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of curve table

Definitions: A slave axis motion has been programmed without a master axis motion.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Correct the part program and start it again.

Program Continuation: Clear alarm with the RESET key. Restart part program

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10950 **Channel %1 calculation of arc length function too inaccurate**

Parameters: %1 = Channel number

Definitions: The calculation of the arc length function could not be performed to the required accuracy.

Reactions: - Alarm display.
- Warning display.

Remedy: The calculation of the arc length function could not be performed to the required accuracy during active polynomial interpolation. Either increase MD SPLINE_FEED_PRECISION or reserve more memory for the representation of the arc length polynomials. MD MM_ARCLENGTH_SEGMENTS defines how many polynomial segments can be used per block in order to approximate the arc length function.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10951 **Channel %1 block %2 curve table %3: following value period is zero**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of curve table

Definitions: --

Reactions: - Alarm display.

Remedy: Ensure that the table specification is correct.

Program Continuation: Clear alarm with the Delete key or NC START.

10955 **Channel %1 block %2 curve table %3: missing master axis motion**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of curve table

Definitions: A slave axis motion has been programmed without a master axis motion. This can also occur if, with active radius compensation, a block is created in which the slave axis moves but not the master axis. The alarm is for information only and can be suppressed by setting MD $MC_CTAB_ENABLE_NO_LEADMOTION = 2.

Reactions: - Alarm display.

Remedy: Alarm can be switched off via MD $MC_CTAB_ENABLE_NO_LEADMOTION = 2.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10956 **Channel %1 block %2 curve table %3: NC memory limit DRAM reached type %4.**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of curve table
%4 = Object type

Definitions: Insufficient memory in the DRAM while defining the curve table.
The object type parameter specifies for which curve table object
the memory will not suffice:
1: Number of curve tables too small (MD $MN_MM_NUM_CURVE_TABS_DRAM)
2: Number of linear curve table segments too small (MD $MN_MM_NUM_CURVE_SEG_LIN_DRAM)
3: Number of polynomial curve table segments too small (MD $MN_MM_NUM_CURVE_SEGMENTS_DRAM)
4: Number of curve table polynomials too small (MD $MN_MM_NUM_CURVE_POLYNOMS_DRAM)

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Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Delete the curve tables that are no longer required in DRAM or reconfigure the memory space for the curve tables. The curve table must then be redefined. Machine data for memory configuration of the curve tables in DRAM:
MN_MM_NUM_CURVE_TABS_DRAM, MN_MM_NUM_CURVE_SEGMENTS_DRAM, MN_MM_NUM_CURVE_SEG_LIN_DRAM, MN_MM_NUM_CURVE_POLYNOMS_DRAM.

Program Continuation: Clear alarm with the RESET key. Restart part program

10958 **Channel %1 lin. curve table %2, memory type %3 includes %4 polynomial segments.**

Parameters: %1 = Channel number
%2 = Number of curve table
%3 = Memory type
%4 = Number of polynomial segments

Definitions: On generating the curve table with the specified ID in the specified memory type (1 = SRAM, 2 = DRAM), polynomial segments were used instead of possible linear segments.
By increasing the number of linear curve table segments by the indicated number, the curve table can be saved in a better way.
The following machine data are involved depending on the memory type:

1 (SRAM): $MN_MM_NUM_CURVE_SEG_LIN
2 (DRAM): $MN_MM_NUM_CURVE_SEG_LIN_DRAM

Reactions: - Alarm display.

Remedy: The indicated curve table can be created and optimized for the memory by increasing MD $MN_MM_NUM_CURVE_SEG_LIN or $MN_MM_NUM_CURVE_SEG_LIN_DRAM and repeating table generation.

Program Continuation: Clear alarm with the Delete key or NC START.

10960 **Channel %1 block %2 COMPCURV/COMPCAD and radius compensation can-notbe used simultaneously**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Compressor types COMPCURV and COMPCAD cannot be used in combination with tool radius compensation. Only compressor type COMPON can be activated while tool radius compensation is active.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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10961 **Channel %1 block %2 maximum cubic polynomials are allowed on active radius compensation.**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: With active radius compensation, only up to cubic polynomials are permissible for the geometry axes. In this case no 4th or 5th degree polynomials can be programmed.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10962 **Channel %1 block %2 function %3 not possible with path correction**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Funktionsname

Definitions: With this software release, the specified function can not yet be used together with tool radius compensation. Please modifiy the part program or obtain a higher software version.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

10980 **Channel %1 block %2 orientation smoothing not possible**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In the case of active path-relative orientation interpolation with ORIPATH, orientation smoothing cannot be activated. This means that in the 34th modal G code group G code OSOF must be active.

Reactions: - Correction block is reorganized.
- Interpreter stop
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12000 **Channel %1 block %2 address %3 programmed repeatedly**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string of the address

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Definitions: Most addresses (address types) may only be programmed once in an NC block, so that the block information remains unambiguous (e.g. X... T... F... etc. - exception: G and M functions).

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
- Remove from the NC program addresses that occur more than once (except for those where multiple value assignments are allowed).
- Check whether the address (e.g. the axis name) is specified via a user-defined variable (this may not be easy to see if allocation of the axis name to the variable is performed in the program through computational operations only).

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12010 Channel %1 block %2 address %3 address type programmed too often

Parameters:
%1 = Channel number
%2 = Block number, label
%3 = Source string of the address

Definitions: For each address type, it is defined internally how often it may occur in a DIN block (for instance, all axes together form one address type for which a block limit also applies).

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

The program information must be split up over several blocks (but make sure that the functions are of the non-modal type!).

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12020 Channel %1 block %2 illegal address modification

Parameters:
%1 = Channel number
%2 = Block number, label

Definitions: Valid address types are 'IC', 'AC', 'DC', 'CIC', 'CAC', 'ACN', 'ACP', 'CACN', 'CACP'. Not each of these address modifications can be used for each address type. The Programming Guide specifies which of these can be used for the various address types. If this address modification is applied to address types that are not allowed, then the alarm is generated, e.g.:

N10 G02 X50 Y60 I=DC(20) J30 F100

interpolation parameters with DC.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT.The correction pointer positions on the incorrect block.

Apply non-modal address modifications only for permissible addresses, in accordance with the Programming Guide.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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12030 **Channel %1 block %2 invalid parameter or data type in %3**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: In polynomial interpolation, polynomials must not be greater than the 3rd degree (refer to Programming Guide).
f(p) = a0 + a1 p + a2 p2 + a3 p3
The coefficients a0 (the starting points) are identical to the end points of the preceding block and need not be programmed. In the polynomial block, a maximum of 3 coefficients per axis is therefore allowed (a1, a2, a3).

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12040 **Channel %1 block %2 expression %3 is not of data type 'AXIS'**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string in the block

Definitions: Some keywords require that the data in their parameters be written in variables of the type "AXIS". For example, in the keyword PO the axis identifier must be specified in the parenthesized expression, and it must be defined as a variable of the AXIS type. With the following keywords only parameters of the AXIS type are possible:
AX[..], FA[..], FD[..], FL[..], IP[..], OVRA[..], PO[..], POS[..], POSA[..]
Example:
N5 DEF INT ZUSTELL=Z1 incorrect, this does not specify an axis identifier but the number 26 161
N5 DEF AXIS ZUSTELL=Z1 correct
:
N10 POLY PO[X]=(0.1,0.2,0.3) PO[Y]=(22,33,44) &PO[INFEED]=(1,2,3)

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
Correct the part program in accordance with the instructions given in the Programming Guide.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12050 **Channel %1 block %2 DIN address %3 not configured**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = DIN address in the source text block

Definitions: The name of the DIN address (e.g. X, U, X1) is not defined in the control. In addition to the fixed DIN addresses, the control also has variable addresses. Refer to "Variable addresses" in the Programming Guide. The names of these addresses can be altered by machine data.

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e.g.: DIN identifier -> Configured identifier

G01 -> LINE, G04 -> WAIT ...

Reactions: - Correction block is reorganized.

- Interface signals are set.
- Alarm display.

Remedy: Study the Programming Guide and the machine data with respect to the addresses actually configured and their significance and correct the DIN block accordingly.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12060 Channel %1 block %2 same G group programmed repeatedly

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The G functions that can be used in the part program are divided into groups that are syntax defining or non-syntax defining. Only one G function may be programmed from each G group. The functions within a group are mutually preclusive.

The alarm refers only to the non-syntax defining G functions. If several G functions from these groups are called in one NC block, the last of these in a group is active in each case (the previous ones are ignored).

Syntax defining G functions: 1. to 4th G group

Non-syntax defining G functions: 5. to nth G group

Reactions: - Correction block is reorganized.

- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

No remedy is required. You should, however, check whether the G function last programmed really is the one required.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12070 Channel %1 block %2 too many syntax-defining G functions

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: Syntax defining G functions determine the structure of the part program block and the addresses contained in it. Only one syntax defining G function may be programmed in each NC block. The G functions in the 1st to 4th G group are syntax defining.

Reactions: - Correction block is reorganized.

- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Analyze NC block and distribute the G functions over several NC blocks.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12080 Channel %1 block %2 syntax error in text %3

Parameters: %1 = Channel number

%2 = Block number, label

%3 = Source text area

Definitions: At the text position shown, the grammar in the block is incorrect. The precise reason for this error cannot be specified in more detail because there are too many possibilities.

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Example 1:
N10 IF GOTOF ... ; the condition for the jump is missing!
Example 2:
N10 DEF INT VARI=5
N11 X VARI ; the operation is missing for the X and VARI variables

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
Analyze the block and correct it in accordance with the syntax rules given in the Programming Guide.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12090 Channel %1 block %2 unexpected parameter %3

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Disallowed parameters in the text

Definitions: The programmed function has been predefined; no parameters are allowed in its call. The first unexpected parameter is displayed.
Example: On calling the predefined subroutine TRAFOF (switching off a transformation) parameters have been transferred (one or more).

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
Program function without parameter transfer.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12100 Channel %1 block %2 number of passes %3 not permissible

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of passes

Definitions: The subroutines called with MCALL are modal, i.e. after each block with positional information a routine run is automatically performed once. For this reason, programming of the number of passes under address P is not allowed.
The modal call is effective until another MCALL is programmed, either with a new subroutine name or without (delete function).

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
Program the subroutine call MCALL without number of passes.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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12110 **Channel %1 block %2 block syntax cannot be interpreted**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The addresses programmed in the block are not permissible together with the valid syntax defining G function, e.g. G1 I10 X20 Y30 F1000.

An interpolation parameter must not be programmed in the linear block.

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Check the block structure and correct in accordance with the programming requirements.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12120 **Channel %1 block %2 G function not separately programmed**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The G function programmed in this block must be alone in the block. No general addresses or synchronous actions may occur in the same block. These G functions are:

G25, G26: Working area and spindle speed limitation

G110, G111, G112: Pole programming with polar coordinates

G92: Spindle speed limitation with v constant

STARTFIFO, STOPFIFO: Control of preprocessing buffer

E.g. G4 F1000 M100: no M function allowed in the G4 block.

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Program G function by itself in the block.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12130 **Channel %1 block %2 illegal tool orientation**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The tool orientation may only be contained in a modal motion block or in a WAB block (repositioning).

It can be programmed via Euler angles (A1, B1, C1), normal vector components (A2, B2, C2), direction vectors (A3, B3, C3) or the axis end values. If the tool orientation is programmed in conjunction with the functions:

G04 (dwell time), G33 (thread cutting with constant lead), G74 (approach reference points) or REPOSL, REPOSQ, REPOSH (repositioning)

then an alarm is issued with Euler angles, direction vectors and normal vector components.

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Program tool orientation with the axis end values or use a separate block for this.

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Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12140 Channel %1 block %2 functionality %3 not implemented

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Software construct in the source text

Definitions: In the full configuration of the control functions are possible that are not yet implemented in the current version.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
The displayed function must be removed from the program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12150 Channel %1 block %2 operation %3 not compatible with data type

Parameters: %1 = Channel number
%2 = Block number, label
%3 = String (violating operator)

Definitions: The data types are not compatible with the required operation (within an arithmetic expression or in a value assignment).
Example 1:
Arithmetic operation
N10 DEF INT OTTO
N11 DEF STRING[17] ANNA
N12 DEF INT MAX
:
N50 MAX = OTTO + ANNA
Example 2:
Value assignment
N10 DEF AXIS DRILL N11 DEF INT OTTO : N50 OTTO = DRILL

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
Alter the definition of the variables used such that the required operations can be executed.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12160 Channel %1 block %2 range of values exceeded

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The programmed constant or the variable exceeds the value range that has previously been established by the definition of data type.

Reactions: - Correction block is reorganized.
- Interface signals are set.

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- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Correct value of the constant or adapt data type. If the value for an integer constant is too great, it can be specified as real constant by adding a decimal point.

Example:

R1 = 9 876 543 210 Correct: R1 = 9 876 543 210.

Value range INTEGER: 231 - 1 Value range REAL: 2-1022 to 2+1023

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12170 Channel %1 block %2 identifier %3 defined repeatedly

Parameters: %1 = Channel number

%2 = Block number, label

%3 = Symbol in block

Definitions: The symbol shown in the error message has already been defined in the active part program. Note that user-defined identifiers may occur more than once if the multiple definition occurs in other (sub)programs, i.e. local variables may be redefined with the same name if the program has been exited (subprograms) or has already been concluded. This applies both to user-defined symbols (labels, variables) and to machine data (axes, DIN addresses and G functions).

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: The symbol already known to data management is displayed. This symbol must be looked for in the definition part of the current program using the program editor. The 1st or 2nd symbol must be given a different name.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12180 Channel %1 block %2 illegal chaining of operators %3

Parameters: %1 = Channel number

%2 = Block number, label

%3 = Chained operators

Definitions: Operator chaining means the writing in sequence of binary and unary operators without using any form of parentheses.

Example:

N10 ERG = VARA - (- VARB) ; correct notation

N10 ERG = VARA - - VARB ; error!

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Formulate the expression correctly and unambiguously making use of parentheses. This improves clarity and readability of the program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12190 Channel %1 block %2 variable of type ARRAY has too many dimensions

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: Array with variables of type STRING may be no more than 1-dimensional, and with all other variables no more than 2-dimensional.

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Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
Correct the array definition, with multi-dimensional arrays define a second 2-dimensional array if necessary and operate it with the same field index.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12200 Channel %1 block %2 symbol %3 cannot be created

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Symbol in the source block

Definitions: The symbol to be created with the DEF instruction cannot be created because:
• it has already been defined (e.g. as variable or function)
• the internal memory location is no longer sufficient (e.g. with large arrays)

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Make the following checks:
• Check with the text editor whether the name to be allocated in the active program cycle (main program and called subprograms) has already been used.
• Estimate the memory requirements for the symbols already defined and reduce these if necessary by using fewer global and more local variables.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12210 Channel %1 block %2 string %3 too long

Parameters: %1 = Channel number
%2 = Block number, label
%3 = String in the source block

Definitions: • In the definition of a variable of type STRING, it has been attempted to initialize more than 100 characters.
• In an allocation, it has been found that the string does not fit in the given variable.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
• Select shorter string or divide up the character string into 2 strings
• Define larger string variable

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12220 Channel %1 block %2 binary constant %3 in string too long

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Binary constant

Definitions: When initializing or allocating the value of a variable of type STRING more than 8 bits have been found as binary constant.

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DEF STRING[8] OTTO = "ABC'H55"B000011111'DEF"

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
In the window for the alarm message, the first characters of the binary constant are always displayed although the surplus bit might not be located until further on. Therefore, the complete binary constant must always be checked for an incorrect value.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12230 Channel %1 block %2 hexadecimal constant %3 in string too long

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Hexadecimal constant

Definitions: A string can also contain bytes that do not correspond to a character that can be entered or one that is available on a keyboard with a minimized number of keys. These characters can be input as binary or hexadecimal constants. They may occupy up to 1 byte each only - therefore be < 256, e.g.
N10 DEF STRING[2] OTTO=" 'HCA' 'HFE' "

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
In the window for the alarm message, the first characters of the binary constant are always displayed although the surplus bit might not be located until further on. Therefore, the complete hexadecimal constant must always be checked for an incorrect value.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12240 Channel %1 block %2 tool orientation %3 defined repeatedly

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Text

Definitions: Only 1 tool orientation can be programmed per DIN block. This can either be defined via the 3 Euler angles, or the end points of the axes, or through direction vectors.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
Since the tool orientation can be set in 3 different ways, the most advantageous should be selected. For this type of specification, the addresses and value assignments must be programmed and all other orientation parameters must be removed.
Axis end points (additional axes): A, B, C axis identifiers Euler angles: A2, B2, C2 Direction vectors: A3, B3, C3

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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12250 **Channel %1 block %2 nested macro %3 not possible**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: The macro technique supplies a 1-line instruction or series of instructions with a new identifier by means of the keyword DEFINE. No further macro may be contained in the string of instructions (nesting). Example: N10 DEFINE MACRO1 AS G01 G91 X123 MACRO2 F100

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
Nested macros must be replaced by the full program information.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12260 **Channel %1 block %2 too many initialization values specified %3**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: In the initialization of an array (array definition and value assignments to individual array elements) there are more initialization values than array elements. Example: N10 DEF INT OTTO[2,3]=(..., ..., {more than 6 values})

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
Check the NC program to establish whether:
1. During array definition the number of array elements (n,m) was indicated correctly (DEF INT FIELDNAME[n,m] e.g. an array with 2 lines and 3 columns: n=2, m=3). 2. During initialization the value assignments have been made correctly (values of the individual field elements separated by comma, decimal point for variables of the type REAL).

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12261 **Channel %1 block %2 initialization of %3 not allowed**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: Frame type variables cannot be initialized in the definition. Example: DEF FRAME LOCFRAME = CTRANS(X,200)
Equally, no default values can be programmed for axes in the program run during field initialization via SET.
A REDEF instruction with PRLOC is only permitted for setting data,
but not for machine data or variables.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

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Remedy: IPerform initialization in separate block in the execution part of the program: DEF FRAME LOCFRAME LOCFRAME = CTRANS(X,200)

When using for axis variables:

Replace DEF AXIS AXIS_VAR [10] AXIS_VAR [5] = SET (X, , Y) by: DEF AXIS AXIS_VAR [10] AXIS_VAR [5] = X AXIS_VAR [7] = Y

If REDEF ... INIRE, INIPO, INICF, PRLOC changes the behavior of a GUD, LUD etc., then the machine data $MN_DEFAULT_VALUES_MEM_MASK must equal 1.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12270 Channel %1 block %2 macro identifier %3 already defined

Parameters: %1 = Channel number

%2 = Block number, label

%3 = Source string macro name

Definitions: The name of the macro to be selected by the instruction DEFINE is already defined in the control as:

Macro name

Keyword

Variable

Configured identifier.

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Select DEFINE instruction with another macro name.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12280 Channel %1 block %2 maximum macro length %3 exceeded

Parameters: %1 = Channel number

%2 = Block number, label

%3 = Source string

Definitions: The string of instructions on the right side of the macro is limited to 256 characters. If an attempt is made to define a longer character string under one macro (possible only through V.24 input of NC blocks, because communication between operator panel and NCK is limited to a block length of 242 characters), an alarm is displayed.

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Divide the functions defined under the macro into 2 macros.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12290 Channel %1 block %2 arithmetic variable %3 not defined

Parameters: %1 = Channel number

%2 = Block number, label

%3 = Source string arithmetic variable

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Definitions: Only the R parameters are predefined as arithmetic variables. All other arithmetic variables must be defined with the DEF instruction before being used. The number of arithmetic parameters is defined via machine data. The names must be unambiguous and may not be repeated in the control (exception: local variables).

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Define the required variable in the definition part of the program (possibly in the calling program if it is to be a global variable).

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12300 Channel %1 block %2 call-by-reference parameter missing on subroutine call %3

Parameters:
%1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: In the subroutine definition, a formal REF parameter (call-by-reference parameter) has been specified with no actual parameter assigned to it.

The assignment takes place in the subroutine call on the basis of the position of the variable name and not on the basis of the name!

Example:

Subroutine:

(2 call-by-value parameters X and Y, 1 call-by-reference parameter Z)

```
PROC XYZ (INT X, INT Y, VAR INT Z)
 :
M17
ENDPROC
```

Main program:

```
N10 DEF INT X
N11 DEF INT Y
N11 DEF INT Z
 :
N50 XYZ (X, Y) ; REF parameter Z missing
```

or

```
N50 XYZ (X, Z) ; REF parameter Z missing!
```

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Assign a variable to all REF parameters (call-by-reference parameters) of the subroutine when calling. No variable must be assigned to "normal" formal parameters (call-by-value parameters), as these are defaulted with 0.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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12310 **Channel %1 block %2 axis parameter missing on procedure call %3**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: When calling the subroutine, an AXIS parameter is missing which, according to the EXTERN declaration, should be present.
With the EXTERN instruction, user-defined subroutines (procedures) are made "known" that have a parameter transfer.
Procedures without parameter transfer require no EXTERN declaration.
Example:
Subroutine XYZ (with the formal parameters):
PROC XYZ (INT X, VAR INT Y, AXIS A, AXIS B)
EXTERN instruction (with variable types):
EXTERN XYZ (INT, VAR INT, AXIS, AXIS) Subroutine call (with actual parameters):
N10 XYZ (, Y1, R_TABLE)
Variable X is defaulted with value 0
Variable Y is supplied with the value of the variable Y1 and returns the results to the calling program after the subroutine run
Variable A is supplied with the axis in R_TABLE
Variable B missing!

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
Program the missing AXIS parameter in the call.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12320 **Channel %1 block %2 parameter %3 is no variable**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: A constant or the result of a mathematical expression has been assigned to a REF parameter instead of a variable at the time of the subroutine call, even though only variable identifiers are allowed.
Examples:
N10 XYZ (NAME_1, 10, OTTO) or
N10 XYZ (NAME_1, 5 + ANNA, OTTO)

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
Remove the constant or the mathematical expression from the NC block.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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12330 **Channel %1 block %2 type of parameter %3 incorrect**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: When calling a procedure (a subroutine) it is found that the type of the actual parameter cannot be converted into the type of the formal parameter. There are two possible cases:
- Call-by-reference parameter: Actual parameter and formal parameter must be of precisely the same type, e.g. STRING, STRING.
- Call-by-value parameter: Actual parameter and formal parameter can in principle be different providing conversion is basically possible. In the present case, however, the types are generally not compatible, e.g. STRING -> REAL.

Overview of type conversions:
- from REAL to: REAL: yes, INT: yes*, BOOL: yes1), CHAR: yes*, STRING: -, AXIS: -, FRAME: -
- from INT to: REAL: yes, INT: yes, BOOL: yes1), CHAR: if value 0 ...255, STRING: -, AXIS: -, FRAME: -
- from BOOL to: REAL: yes, INT: yes, BOOL: yes, CHAR: yes, STRING: -, AXIS: -, FRAME: -
- from CHAR to: REAL: yes, INT: yes, BOOL: yes1), CHAR: yes, STRING: yes, AXIS: -, FRAME: -
- from STRING to: REAL: -, INT: -, BOOL: yes2), CHAR: only if 1 character, STRING: yes, AXIS: -, FRAME: -
- from AXIS to: REAL: -, INT: -, BOOL: -, CHAR: -, STRING: -, AXIS: yes, FRAME: -
- from FRAME to: REAL: -, INT: -, BOOL: -, CHAR: -, STRING: -, AXIS: -, FRAME: yes

1) Value <> 0 corresponds to TRUE, value ==0 corresponds to FALSE.

2) String length 0 => FALSE, otherwise TRUE.

*) At type conversion from REAL to INT fractional values that are >=0.5 are rounded up, others are rounded down.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. Check transfer parameters of the subroutine call and define the application accordingly as call-by-value or call-by-reference parameter.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12340 **Channel %1 block %2 number of parameters too high %3**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: When calling a function or a procedure (predefined or user-defined) more parameters were transferred than defined.

Predefined functions and procedures: The number of parameters has been set permanently in the NCK.

User-defined functions and procedures: The number of parameters is established by type and name in the definition.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

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Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. Check whether the correct procedure/function has been called. Program the number of parameters in accordance with the procedure/function.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12350 Channel %1 block %2 parameter %3 no longer possible

Parameters: %1 = Channel number

%2 = Block number, label

%3 = Source string

Definitions: An attempt has been made to transfer actual parameters although axis parameters located before them have not been assigned. For procedure or function calls, assignment of parameters that are no longer required can be omitted, if subsequently no further parameters are to be transferred. Example: N10 FGROUP(X, Y, Z, A, B) ; max. 8 axes possible The following call-by-value parameters would then be initialized with zero because the space-dependent assignment has been lost on account of the omitted axis parameters.

Axes that can be omitted and following parameters do not occur in the predefined procedures and functions.

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. In predefined procedures and functions either remove the following parameters or transfer any preceding axis parameters. In user-defined procedures and functions, parameter transfer must be programmed in accordance with the instructions given in the machine manufacturer's programming guide.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12360 Channel %1 block %2 dimension of parameter %3 incorrect

Parameters: %1 = Channel number

%2 = Block number, label

%3 = Source string

Definitions: The following possibilities of error must be checked:

- The current parameter is an array, but the formal parameter is a variable
- The current parameter is a variable, but the formal parameter is an array
- The current and formal parameters are arrays, but not with the dimensions to be defined.

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. Correct the NC part program in accordance with the cause of error as listed above.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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12370 **Channel %1 block %2 range of values %3 not permissible**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: A variable has been initialized with a value range outside an initialization block. The definition of program-global variables is allowed only in special initialization blocks. These variables can be initialized with a value range.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
Remove the value range specification (begins with the keyword OF) or define the variable as a global variable in the initialization block and initialize it with a value range.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12380 **Channel %1 block %2 maximum memory capacity reached**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The data definitions in this block cannot be processed because the maximum available memory for creating the data has been filled, or because the data block cannot accommodate any further data.
The alarm can also occur if several subroutine calls are executed in sequence and no block with an effect on the machine is generated (motion, dwell, M function).

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Reduce the number of variables, reduce the size of arrays, or increase the capacity of the data management system.
- If new macro definitions are to be introduced -> increase machine data 18160 MM_NUM_USER_MACROS
- If new GUD definitions are to be introduced -> check machine data 18150 MM_GUD_VALUES_MEM, 18130 MM_NUM_GUD_NAMES_CHAN, 18120 MM_NUM_GUD_NAMES_NCK
- If the error occurs while executing an NC part program with LUD definitions or when using cycle programs (the parameters count as LUD variable of the cycle program), the following machine data must be checked:

28040 MM_LUD_VALUES_MEM,
18242 MM_MAX_SIZE_OF_LUD_VALUE,
18260 MM_LUD_HASH_TABLE_SIZE,
28020 MM_NUM_LUD_NAMES_TOTAL,
28010 MM_NUM_REORG_LUD_MODULES

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12390 **Channel %1 block %2 initialization value %3 cannot be converted**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

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Definitions: During initialization, a value has been assigned to a variable that does not correspond to the type of the variable, nor can it be converted to the data type of the variable.

Overview of type conversions:

- from REAL to REAL: no, INT: yes1), BOOL: yes, CHAR: yes2), STRING: -
- from INT to REAL: yes, INT: no, BOOL: yes, CHAR: yes2), STRING: -
- from BOOL to REAL: yes, INT: yes, BOOL: no, CHAR: yes, STRING: -
- from CHAR to REAL: yes, INT: yes, BOOL: yes, CHAR: no, STRING: yes
- from STRING to REAL: -, INT: -, BOOL: yes, CHAR: yes3), STRING: no

1) Value <> 0 corresponds to TRUE, value ==0 corresponds to FALSE.

2) String length 0 => FALSE, otherwise TRUE.

3) If only one character.

It is not possible to convert from type AXIS and FRAME nor into type AXIS and FRAME.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

- Define variable type such that the initialization value can be assigned, or
- Select initialization value in accordance with the variable definition.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12400 Channel %1 block %2 field %3 element does not exist

Parameters: %1 = Channel number

%2 = Block number, label

%3 = Source string

Definitions: The following causes are possible:

- Impermissible index list; an axis index is missing
- Array index does not match the definition of the variables
- An attempt was made to access a variable at array initialization via SET or REP; this attempt did not correspond to the standard access. Single character access, partial frame access, omitted indices not possible.

A non-existent element was addressed on initializing this array.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Array initialization: Check the array index of the addressed element. The 1st array element is given the index [0,0], the 2nd array element [0,1] etc. The right array index (column index) is incremented first.

In the 2nd row, the 4th element is also addressed with the index [1,3] (the indices start at zero).

Array definition: Check the size of the array. The1st number indicates the number of elements in the 1st dimension (number of rows), the 2nd number indicates the number of elements in the 2nd dimension (number of columns).

An array with 2 rows and 3 columns must be defined by specifying [2,3].

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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12410 **Channel %1 block %2 incorrect index type for %3**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: In assigning a value to an element of an array variable, the array index was specified in a way that is not allowed.
Only the following are allowed as array index (in square brackets):
• Axis identifier, provided the array variable was defined as data type FRAME.
• Integer values for all other data types.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. Correct indices of the array element with respect to variable definition or define the array variable differently.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12420 **Channel %1 block %2 identifier %3 too long**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The symbol to be defined or the specified jump target has a name which is longer than the 32 characters allowed.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. The symbol to be created or the target of program jumps (label) must conform to the system specifications, that means the name must begin with 2 letters (but the 1st sign must not be "§") and may be up to a maximum of 32 characters.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12430 **Channel %1 block %2 specified index is invalid**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In specifying an array index (in the array definition) an index was used that is outside the permissible range.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. Specify array index within the permissible range. Value range per array dimension: 1 - 32 767.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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12440 **Channel %1 block %2 maximum number of formal arguments exceeded**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: In the definition of a procedure (a subroutine) or in an EXTERN instruction, more than 127 formal parameters have been specified.

Example: PROC ABC (FORMPARA1, FORMPARA2, ... FORMPARA127, FORMPARA128, ...) EXTERN ABC (FORMPARA1, FORMPARA2, ... FORMPARA127, FORMPARA128, ...)

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. A check must be made to determine whether all parameters really have to be transferred. If so, the formal parameters can be reduced by using global variables or R parameters, or by grouping together parameters of the same type to form an array and transfer them in this form.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12450 **Channel %1 block %2 label defined twice**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The label of this block already exists.

If the NC program is compiled off-line, the entire program is compiled block for block. During this procedure all multiple labels are recognized; this is not always the case with on-line compilation. (Only the actual program run is compiled here, i.e. program branches that are not passed through in this run are disregarded and could therefore contain programming errors).

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer is positioned on the block where the displayed label occurs for the 2nd time. Use the editor to search the part program where this label occurs for the 1st time, and change one of the names.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12460 **Channel %1 block %2 maximum number of symbols exceeded with %3**

Parameters: %1 = Channel number

%2 = Block number, label

%3 = Source string

Definitions: The max. number of variable definitions (GUD, LUD), macro definitions, cycle programs and/or cycle parameters (PROC instruction) that the controller's data management system is able to handle has been exceeded.

If this alarm occurs in conjunction with alarm 15175, not enough memory for the preprocessing of the cycle program definitions is available (PROC instruction).

If this alarm occurs in conjunction with alarm 15180, then this alarm shows the name of the file (INI or DEF file) causing the error.

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(For a list of names of INI files and their meaning -> please refer to alarm 6010)

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Generally reduce the number of symbols in the affected block (possibly by using the array technique or by using R parameters), or adapt the corresponding machine data (see below).

$MC_MM_NUM_LUD_NAMES_TOTAL with error in LUD blocks (i.e. if more variable definitions were made in the active part program than allowed by the MD).

GUD data blocks can cause errors as part of the 'initial.ini download' process (e.g. in the case of a series start-up) or by selective activation via PI service _N_F_COPY (activate GUD via HMI dialog). If alarm 15180 refers to a GUD definition file, then machine dates $MN_MM_NUM_GUD_NAMES_NCK and/or $MN_MM_NUM_GUD_NAMES_CHAN are set to a too small value.

Macros are loaded during POWER ON/NCK-RESET or selectively via PI servicc _N_F_COPY (activate Makro via HMI dialog). If alarm 15180 refers to a macro definition file, then machine date $MN_MM_NUM_USER_MACROS is set to a too small value.

Cycle program definitions (PROC instruction) are reloaded at each POWER ON/NCK-RESET. In case of failure check parameter %3 to find out whether the name of the cycle program has caused the error - in this case the value of machine data $MN_MM_NUM_MAX_FUNC_NAMES should be increased, or whether the name of a cycle call parameter has caused the error - in this case the value of machine data $MN_MM_NUM_MAX_FUNC_PARAM should be increased.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12470 Channel %1 block %2 G function %3 is unknown

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: With indirectly programmed G functions, an invalid or non-allowed group number has been programmed. Allowed group number = 1. and 5 max. number of G groups. In the displayed block, a non-defined G function has been programmed. Only "real" G functions are checked, which begin with the address G, e.g. G555. "Named" G functions such as CSPLINE, BRISK etc. are interpreted as subroutine names.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. You should decide on the basis of the machine manufacturer's programming guide whether or not the displayed G function exists or is available, or whether a standard G function has been reconfigured (or introduced by an OEM). Remove G function from the part program or program function call in accordance with the machine manufacturer's programming guide.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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12475 **Channel %1 block %2 invalid G function number %3 programmed**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = G code number

Definitions: A non-allowed G function number (parameter 3) has been programmed for a G group with indirect G code programming. Only the G function numbers indicated in the Programming Guide "Fundamentals", Section 12.3 "List of G functions/Path conditions" are allowed.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12480 **Channel %1 block %2 subroutine %3 already defined**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: The name used in the PROC or EXTERN instruction has already been defined in another call description (e.g. for cycles).
Example:
EXTERN CYCLE85 (VAR TYP1, VAR TYP2, ...)

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. A program name must be selected that has not yet been used as identifier. (Theoretically, the parameter declaration of the EXTERN instruction could also be adapted to the existing subroutine in order to avoid the alarm output. However, it would have been defined identically twice).

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12481 **Channel %1 block %2 program attribute %3 not allowed**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: The attribute used in the PROC instruction is not permitted in the current operating mode.
The attribute SAVE, for example, is not allowed in a technology cycle.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press button NC STOP and select the function "Compensation block" using softkey PROGAM CORRECT. The cursor jumps to the incorrect block. Then delete the invalid program attribute.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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12490 **Channel %1 block %2 access permission level %3 is not valid**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: The desired access authorization, programmed with the keyword REDEF, has not been set. The desired protection level is either beyond the permitted value range or the protection level change is not allowed.
(The REDEF instruction is only executable in INITIAL_INI blocks on SINUMERIK 840D, P1 (6/94)).
The protection level may be changed only if:
1. The current protection level is equal to or higher than the level originally defined, and
2. The new protection level is to be below the level originally defined.
The higher numerical values represent the lower protection levels. The lower 4 levels (from 7 to 4) correspond to the keyswitch positions, and the upper 4 levels are associated with 4 passwords.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
• Use the REDEF instruction only in the INITIAL_INI block
• Using the operator panel, set the current protection level to at least the same level as that of the variable with the highest level
• Program protection level within the permissible value range
• Only program new protection levels that are lower than the old values

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12500 **Channel %1 block %2 in this module %3 is not possible**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: The displayed keyword may not be used in this type of block and at this location (all files in the NCK are designated as blocks).
Block types:
Program block
Contains a main program or subroutine
Data block
Contains macro or variable definitions and possibly an M, H or E function
Initialization block
Contains only selected language elements for data initialization

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
Remove the displayed language elements (keyword) with its parameters from this block and insert in the block provided for this purpose.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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12510 **Channel %1 block %2 too many machine data %3**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source symbol

Definitions: In the part program, in the machine data file (..._TEA) and in the initialization file (..._INI), no more than 2 machine data may be used per block.
Example:

```
N ...
N 100 $MN_OVR_FACTOR_FEEDRATE [10] = 15,
      $MN_OVR_FACTOR_FEEDRATE [11] = 20
N ...
```

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
• Divide up the part program block into several blocks.
• If necessary, use the local variable for storing intermediate results.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12520 **Channel %1 block %2 too many tool parameters %3**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source symbol

Definitions: In the part program, in the tool offset file (..._TOA) and in the initialization file (..._INI), no more than 5 tool offset parameters may be used per block.
Example:

```
N ...
N 100 $TC_DP1 [5,1] = 130, $TC_DP3 [5,1] = 150.123,
      $TC_DP4 [5,1] = 223.4, $TC_DP5 [5,1] = 200.12,
      $TC_DP6 [5,1] = 55.02
N ...
```

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
• Divide up the part program block into several blocks.
• If necessary, use the local variable for storing intermediate results.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12530 **Channel %1 block %2 invalid index for %3**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: In macro definitions, an attempt was made to define a G function with more than 3 decades or an M function with more than 2 decades as identifier of the macro.
Example:

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```
_N_UMAC_DEF  DEFINE G4444 AS G01 G91 G1234
             DEFINE M333 AS M03 M50 M99
             :
             M17
```

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
Modify the macro definition in accordance with the Programming Guide.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12540 Channel %1 block %2 Block is too long or too complex

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The maximum internal block length after translator processing must not exceed 256 characters. After editing, for example, several macros in the block or a multiple nesting, this limit can be exceeded.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
Divide up the program block into several subblocks.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12550 Channel %1 block %2 name %3 not defined or option not installed

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source symbol

Definitions: The identifier displayed has not been defined before being used.
Macro: The keyword, to be defined with the DEFINE ... AS ... statement, is missing in one file:
_N_SMAC_DEF
_N_MMAC_DEF
_N_UMAC_DEF
_N_SGUD_DEF
_N_MGUD_DEF
_N_UGUD_DEF
Variable: DEF statement is missing
Program: PROC declaration is missing

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
• Correct the name used (writing error)
• Check definitions of variables, subroutines and macros

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	• Declare subroutine with EXTERN, load subroutine to SPF-Dir • Check interface definition of subroutine • Check options
Program Continuation:	Clear alarm with NC START or RESET key and continue the program.

12552 **Channel %1 block %2 tool/magazine OEM parameter not defined. Option not set. Option not set.**

Parameters:	%1 = Channel number %2 = Block number, label
Definitions:	The programmed $TC_... Cx system variable is not known in the control.
Reactions:	- Correction block is reorganized. - Interface signals are set. - Alarm display.
Remedy:	• Correct the name used (writing error) • $TC_DPCx, $TC_TPCx, $TC_MOPCx, $TC_MAPCx, $TC_MPPCx, $TC_DPCSx, $TC_TPCSx, $TC_MOPCSx, $TC_MAPCSx, $TC_MPPCSx; with x=1,...10 • These are the OEM parameters of the tools magazines, The corresponding machine data value is set to < 10, or the option 'TM OEM parameters' has not been set. • Use correct parameter number, or - if the name cannot be changed - set machine data correction (see $MN_MM_NUM_CC_TOA_PARAM, ... $MN_MM_NUM_CCS_TOA_PARAM, ...).) • Check the option (machine data are only effective when the option is enabled).
Program Continuation:	Clear alarm with NC START or RESET key and continue the program.

12553 **Channel %1 block %2 name %3 Function is not active**

Parameters:	%1 = Channel number %2 = Block number, label %3 = Source symbol
Definitions:	The NC function belonging to this language command is not active. But the name of the language command is known. Each programming of this language command is rejected with this alarm.
Reactions:	- Correction block is reorganized. - Interface signals are set. - Alarm display.
Remedy:	Press key NC Stop and select "Correction set" function by pressing softkey PROGRAM CORRECT. The correction indicator is set to the incorrect block. • Correct the name used (typing error) • Activate the NC function.
Program Continuation:	Clear alarm with NC START or RESET key and continue the program.

12555 **Channel %1 block %2 function not available (identification %3)**

Parameters:	%1 = Channel number %2 = Block number, label %3 = Fine ID
Definitions:	The identifier has not been defined for this system
Reactions:	- Correction block is reorganized. - Interface signals are set. - Alarm display.

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Remedy: Press the NC stop key and select the "Compensation block" function by pressing the "Program correct" softkey. The correction indicator will position in the incorrect block.
- Correct the name used (write error)
- Use a better software system in case of malfunction
- Check the definition of variables, subroutines and macros
- Declare a subroutine with EXTERNAL; load the subroutine to SPF-Dir
- Check the interface definition of the subroutine

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12556 Channel %1 block %2 name %3 Name is already known

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source symbol

Definitions: The name of the symbol created is part of the NC language scope and therefore already known. Although the NC function is not active, this name can no longer be used for GUDs, macros and PROC definitions.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press key NC Stop and select "Correction block" function by pressing softkey "Program correct". The correction indicator is set to the incorrect block.
- Correct the name used (typing error)
- With machine data $MN_NC_LANGUAGE_CONFIGURATION = 2 or 4, only those language commands are created, the option of which has been set

or the function of which is active.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12560 Channel %1 block %2 programmed value %3 exceeds allowed limits

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: In a value assignment, the permissible value range of the data type has been exceeded.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Assign value within the value range of the various data types, or if necessary use another type in order to increase the size of the value range, e.g. INT ->REAL.

Value ranges of the various variable types:
- REAL: Property: Fractional number with dec. pt., value range: +/-(2-1022-2+1023)
- INT: Property: Integers with signs, value range: +/-(231-1)
- BOOL: Property: Truth value TRUE, FALSE, value range: 0,1
- CHAR: Property: 1 ASCII character, value range: 0-255
- STRING: Property: Character string (max. 100 values), value range: 0-255
- AXIS: Property: Axis addresses, value range: Axis names only

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• FRAME: Property: Geometric information, value range: As for axis paths

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12570 Channel %1 block %2 too many motion synchronous actions in %3

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source symbol

Definitions: No more than 16 actions are allowed in a block with motion synchronous action.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Reduce the number of programmed actions.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12571 Channel %1 block %2 %3 not permissible for motion synchronous action

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source symbol

Definitions: The predefined subprogram %3 specified here is not allowed in a block with motion synchronous action. It may only be contained in a "normal" block.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12572 Channel %1 block %2 %3 only permissible for motion synchronous action

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source symbol

Definitions: The predefined subprogram %3 specified here is only allowed in a block with motion synchronous action. It must not be contained alone in a "normal" block.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12573 Channel %1 block %2 motion-synchronous action: Call by reference parameters not allowed %3

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source text area

Definitions: Call by reference parameters (keyword VAR) are not possible with technology cycles.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

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Remedy: Correct PROC instruction of technology cycle.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12580 Channel %1 block %2 %3 not permissible for assignment in motion synchronous action

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source symbol
Definitions: The variable displayed must not be written in a motion synchronous action. Only selected variables are permitted here, e.g. DO $AA_IW[X]=10 is not allowed.
Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
Remedy: Please inform the authorized personnel/service department.
Modify part program.
In a motion synchronous action, only certain variables are allowed.
E.g. $AA_IM, $AC_DTGPB
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12581 Channel %1 block %2 invalid read access to %3 while in motion synchronous action

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source symbol
Definitions: In a motion synchronous action, the displayed variable must not be entered as a variable that is to be read on-line, i.e.
1. The displayed variable must not be written to the left of the comparison in a motion synchronous action. Only selected variables are permissible, e.g. WHEN $AA_OVR == 100 DO ....
2. In a motion synchronous action, the displayed variable must not be used as a $$ variable, e.g. WHEN $AA_IM[X] >= $$P_AD[1] DO ... DO $AC_VC = $$P_F
3. The displayed variable must not be programmed as an online evaluated parameter of a synchronous procedure, e.g. DO SYNFCT(1, $AC_PARAM[0], $SA_OSCILL_REVERSE_POS2[Z])
Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
Remedy: Modify program.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12582 Channel %1 block %2 field index %3 incorrect

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source symbol
Definitions: $A or $V variables are assessed in real-time in motion synchronous actions, i.e. in the interpolation cycle. All other variables (e.g. user-defined variables) are still computed at block preparation. It is not permissible to index the index of a variable for block preparation with a real-time variable.
Example:

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DEF INT INPUT[3]

WHEN $A_IN[1] == INPUT[$A_INA[1]] DO ...

The locally defined variable INPUT must not be indexed with a real-time variable.

Program editing:

WHEN $A_IN[1] == $AC_MARKER[$A_INA[1]] DO ...

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify program: Use real-time variables.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12583 Channel %1 block %2 variable %3 no system variable

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source symbol

Definitions: In motion synchronous actions, only special system variables are allowed on the left side of the compare operation for the assigned variable as input and result variable of SYNFCT and as input variable for PUTFTOCF. Real-time synchronous access is allowed here. The programmed variable is not a system variable.

Example:

DEF REAL OTTO, BERTA[2] DO SYNFCT(2,OTTO, $MN_...) ; Local variables or machine data are not allowed as parameter for SYNFCT.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program. Local variables or machine data are not allowed as parameters for SYNFCT.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12584 Channel %1 block %2 variable %3 cannot be read synchronously with motion

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source symbol

Definitions: In motion synchronous actions on the left side of the compare operation, only special variables are allowed as input variables of SYNFCT and as input variables for PUTFTOCF. Motion synchronous access is possible here.

Example:

PUTFTOCF(1, $AA_OVR, 2, 1, 2)

The variable $AA_OVR is not allowed here.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program. For the functions SYNFCT and PUTFTOCF only certain variables are allowed, for example $AC_DTGPW.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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12585 **Channel %1 block %2 variable %3 cannot be changed synchronously with motion**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source symbol

Definitions: When assigning SYNFCT in motion synchronous actions and result variables, only special variables are allowed. Real-time synchronous access is allowed here.
Example:
WHEN $AA_IM[AX1]>= 100 DO $AC_TIME=1000. The variable $AC_TIME (time from beginning of block) cannot be written

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program. Only certain variables are allowed for the function SYNFCT where real-time synchronous access is possible.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12586 **Channel %1 block %2 motion synchronous action: type conflict in variable %3**

Parameters: %1 = Channel number
%2 = Block number
%3 = Source symbol

Definitions: Type conversion is not possible for on-line variables $A.. or $V.., which are evaluated or written in the interpolation cycle. Only variables of the same type can be used together in logic operations or assigned to one another.
Example 1:
WHENEVER $AA_IM[X] > $A_IN[1] DO ...
An on-line variable of the REAL type (actual value) cannot be compared with a variable of the BOOL type (digital input)
The operation is possible if the following change is made:
WHENEVER $AA_IM[X] > $A_INA[1] DO ...
Example 2:
WHENEVER ... DO $AC_MARKER[1]=$AA_IM[X]-$AA_MM[X]
Improvement:
WHENEVER ... DO $AC_PARAM[1]=$AA_IM[X]-$AA_MM[X]

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program: Use variables of the same type.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12587 **Channel %1 block %2 motion synchronous action: operation/function %3 not allowed**

Parameters: %1 = Channel number
%2 = Block number
%3 = Operator/function

Definitions: The specified function / operator is not permissible for logic operations of real-time variables in motion synchronous actions. The following operators/functions are permissible:
• == >= <= > < <> + - * /
• DIV MOD

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• AND OR XOR NOT
• B_AND B_OR B_XOR B_NOT
• SIN COS TAN ATAN2 SQRT POT TRUNC ROUND ABS EXP LNX SPI

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12588 Channel %1 block %2 motion synchronous action: address %3 not allowed

Parameters: %1 = Channel number
%2 = Block number
%3 = Address

Definitions: • The specified address cannot be programmed in motion synchronous action. Example: ID = 1 WHENEVER $A_IN[1]==1 DO D3
• The cutting edge from motion synchronous actions cannot be changed.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12589 Channel %1 block %2 motion synchronous action: variable %3 not allowed with modal ID

Parameters: %1 = Channel number
%2 = Block number
%3 = Variable name

Definitions: The modal ID in motion synchronous action must not be formed by means of an on-line variable.
Examples:
ID=$AC_MARKER[1] WHEN $a_in[1] == 1 DO $AC_MARKER[1] = $AC_MARKER[1]+1
This can be corrected in the following way:
R10 = $AC_MARKER[1]
ID=R10 WHEN $a_in[1] == 1 DO $AC_MARKER[1] = $AC_MARKER[1]+1
The ID in a synchronous action is always permanent, and cannot be changed in the interpolation cycle.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program: Replace the on-line variable by an arithmetic variable.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12590 Channel %1 block %2 global user data cannot be created

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The number of global user data blocks is defined in machine data $MC_NUM_GUD_MODULES.

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Here, _N_SGUD_DEF corresponds to block 1, _N_MGUD_DEF corresponds to block 2, _N_UGUD_DEF corresponds to block 3, _N_GUD4_DEF corresponds to block 4 etc.

In the directory _N_DEF_DIR there is a file with definitions for global user data, the block number of which is greater than the number of blocks given in the MD.

The alarm may, however, also be caused by value zero in one of MD $MN_MM_NUM_GUD_NAMES_NCK, $MN_MM_NUM_GUD_NAMES_CHAN and by the definition of a variable with NCK or CHAN in one of the GUD definition files.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Increase machine data 18118 MM_NUM_GUD_MODULES.

Or, if it already has the correct value, check whether 18120 $MN_MM_NUM_GUD_NAMES_NCK (if a variable has been defined with attribute NCK) or 18130 $MN_MM_NUM_GUD_NAMES_CHAN (if a variable has been defined with attribute CHAN) is not zero.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12600 Channel %1 block %2 invalid line checksum

Parameters: %1 = Channel number
%2 = Block number

Definitions: On processing an INI file or when executing a TEA file, an invalid line checksum has been detected.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Correct INI file or correct MD and create new INI file (via "upload").

Program Continuation: Switch control OFF - ON.

12610 Channel %1 block %2 accessing single character with call-by-reference parameter not possible %3

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: An attempt has been made to use a single character access for a call-by-reference parameter.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Temporarily store single characters in user-defined CHAR variable and transfer this.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12620 Channel %1 block %2 accessing this variable as single character not possible %3

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: The variable is not a user-defined variable. The single character access is only allowed for user-defined variables (LUD/GUD).

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Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Temporarily store variable in user-defined STRING, process this and put back into storage.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12630 Channel %1 block %2 skip ID/label in control structure not allowed

Parameters: %1 = Channel number
%2 = Block number

Definitions: Blocks with control structures (FOR, ENDIF, etc.) cannot be concealed and must not contain any labels.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program: Reproduce skip ID via an IF query. Write the label alone in the block before the control structure block.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12640 Channel %1 block %2 invalid nesting of control structures

Parameters: %1 = Channel number
%2 = Block number

Definitions: Error in program run: Opened control structures (IF-ELSE-ENDIF, LOOP-ENDLOOP etc.) are not terminated or there is no beginning of loop for the programmed end of loop.
Example:
LOOP ENDIF ENDLOOP

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Correct part program in such a way that all opened control structures are also terminated.

Program Continuation: Clear alarm with the RESET key. Restart part program

12641 Channel %1 block %2 maximum nesting depth of control structures exceeded

Parameters: %1 = Channel number
%2 = Block number

Definitions: Max. nesting depth control structures (IF-ELSE-ENDIF, LOOP-ENDLOOP etc.) exceeded. At the present time, the max. nesting depth is 8.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Correct part program. If necessary, move parts to a subroutine.

Program Continuation: Clear alarm with the RESET key. Restart part program

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12650 **Channel %1 block %2 axis identifier %3 different in channel %4**

Parameters: %1 = Channel number
%2 = Block number
%3 = Source symbol
%4 = Channel number with different axis definition

Definitions: In cycles that are preprocessed at Power On, only those geometry and channel axis identifiers may be used that exist in all channels with the same meaning. In different channels, different axis indices are assigned to the axis identifier.
The axis identifiers are defined via machine data 20060 AXCONF_GEOAX_NAME_TAB and 20080 AXCONF_CHANAX_NAME_TAB. Example: C is the 4th channel axis in channel 1 and the 5th channel axis in channel 2.
If the axis identifier C is used in a cycle that is preprocessed at Power On, then this alarm is issued.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department.
1. Modify machine data: Select the same identifiers for geometry and channel axes in all channels. Example: The geometry axes are called X, Y, Z in all channels. They can then also be programmed directly in preprocessed channels.
2. Do not program the axis directly in the cycle but define it as a parameter of the axis type. Example: Cycle definition:
PROC DRILL(AXIS DRILLAXIS) G1 AX[DRILLAXIS]=10 F1000 M17
Call from the main program:
DRILL(Z)

Program Continuation: Clear alarm with the RESET key. Restart part program

12660 **Channel %1 block %2 motion synchronous action: variable %3 reserved formotion synchronous actions and technology cycles**

Parameters: %1 = Channel number
%2 = Block number
%3 = Variable name

Definitions: The displayed variable may only be used in motion synchronous actions or in technology cycles. For example, '$R1' may only be used in motion synchronous actions. In standard part programs R parameters are programmed with R1.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12661 **Channel %1 block %2 technology cycle %3: no further subprogram call possible**

Parameters: %1 = Channel number
%2 = Block number
%3 = Name of the technology cycle call

Definitions: In a technology cycle it is not possible to call a subroutine or another technology cycle.

Reactions: - Correction block is reorganized.
- Interface signals are set.

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- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12700 Channel %1 block %2 contour definition programming not allowed as modal sub-programis active

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: In the external language mode, a block is programmed with contour definition and a modal cycle is active at the same time. Because of unclear address assignment (e.g. R = radius for contour definition or return plane for drilling cycle) contour definition programming must not be used when a modal cycle is active.

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12701 Channel %1 block %2 illegal interpolation type for contour definition active

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: In one contour definition block, G01 is not active as interpolation function. In one contour definition block, the linear interpolation always has to be selected with G01. G00, G02, G03, G33 etc. are not permitted.

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Modify part program. Program linear interpolation G01.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12710 Channel %1 block %2 illegal language element in external language mode

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The programmed language element is not allowed or unknown in external language mode. Only the language elements from Siemens mode which are used for subprogram calls (except for Lxx) and the language constructs for program repetition with REPEAT (UNTIL) are allowed.

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Modify part program.

Check that the language command is available in Siemens mode. Switch to Siemens mode with G290. Program the command in the next block and switch back to the external language mode in the following block.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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12720 **Channel %1 block %2 program number for macro call (G65/G66) missing**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: During macro call with G65/G66 no program number was defined. The program number must be programmed with address "P".

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12722 **Channel %1 block %2 multiple ISO_2/3 macro or cycle calls in the block**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A mixture of cycle and macro calls are programmed in a block, e.g. cycle calls with G81 - G89 together with an M macro in the block or a G65/G66 macro call together with M macros in the block.
G05, G08, G22, G23, G27, G28, G29, G30, G50.1, G51.1, G72.1, G72.2 functions (ISO mode) also execute subroutine calls. Only one macro or cycle call can appear in an NC block.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Deactivate modal cycles or modal macro calls if one of the above mentioned G functions has been programmed.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12724 **Channel %1 block %2 no radius programmed for cylinder interpolation activation/deactivation**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: When programming G07.1 (cylinder interpolation TRACYL), no cylinder radius has been programmed. Selection of the cylinder interpolation (TRACYL) with G07.1 C <cylinder radius> deselect with G07.1 C0. For "C" the name of the rotary axis defined in the TRACYL machine data has to be programmed.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: G07.1 block, program the cylinder radius under the name of the rotary axis for the cylinder interpolation.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12726 **Channel %1 block %2 illegal plane selection with parallel axes**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In a block with plane selection (G17 _ G19), a basic axis of the coordinate system must not be programmed together with the parallel axis assigned to it.

Reactions: - Correction block is reorganized.
- Interface signals are set.

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- Alarm display.

Remedy: For plane selection with G17, G18, G19 either program the basic axis of the coordinate system or the assigned parallel axis.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12728 Channel %1 block %2 distance for double turret not set

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The tool clearance for the double turret head in the setting data $SC_EXTERN_DOUBLE_TURRET_DIST is 0.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Enter tool clearance for the double turret head in the setting data $SC_EXTERN_DOUBLE_TURRET_DIST.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12730 Channel %1 block %2 no valid transformation machine data parameterized

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The machine data $MC__TRAFO_TYPE_1, $MC_TRAFO_AXES_IN_1[1], $MC_TRAFO_AXES_IN_2[1] are incorrectly set for G07.1, G12.1.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Enter valid transformation identifier for TRACYL in $MC__TRAFO_TYPE_1 and the rotary axis number in $MC_TRAFO_AXES_IN_1[1] or $MC_TRAFO_AXES_IN_2[1].

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

12740 Channel %1 block %2 modal macro call %3 not possible

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source string

Definitions: When calling a modal macro no other modal macro, modal cycle or modal subroutine may be active.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14000 Channel %1 block %2 illegal end of file

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm 14000 is output in the following situations:
- Parts program was not terminated with M30, M02 or M17.
- Executing from external: Download was aborted (e.g. because HMI wasswitched off).

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Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: • End parts program with M30, M02 or M17 and start parts program.
• Executing from external: If the download for the selected program was aborted, the default program _N_MPF0 is automatically selected with RESET The selection of the user program must be repeated after that.

Program Continuation: Clear alarm with the RESET key. Restart part program

14001 Channel %1 block %2 illegal end of block

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: After system-internal data manipulation (e.g. when transferring blocks from an external source) a subfile can end without having LF as the last character.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Read out the part program, modify it with a text editor (e.g., insert blanks or comments before the displayed block), so that after reading it in again the part program has a different structure in the memory.

Program Continuation: Clear alarm with the RESET key. Restart part program

14005 Channel %1 block %2 program %3 program-specific start disable has been set

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Program name

Definitions: Program %3 cannot be executed, as the program-specific start disable has been set for this file.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Reset the program-specific start disable for file %3.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14009 Channel %1 block %2 illegal program path %3

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Program path

Definitions: The part program command CALLPATH was called with a parameter (program path) referring to a directory which does not exist in the file system of the NCK.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

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Remedy: • Modify the CALLPATH instruction such that the parameter contains the complete path name of the loaded directory.
• Load the programmed directory in the file system of the NCK.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14010 Channel %1 block %2 invalid default parameter in subroutine call

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In a subroutine call with parameter transfer, parameters have been omitted that cannot be replaced by default parameters (call-by-reference parameters or parameters of type AXIS. The other missing parameters are defaulted with the value 0 or with the unit frame in the case of frames).

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: The missing parameters must be provided with values in the subroutine call.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14011 Channel %1 block %2 program %3 not existing or will be edited

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Program name

Definitions: A subroutine call was aborted because the called subroutine could not be opened.
The subroutine call can be executed via
• subroutine designator
• CALL / PCALL / MCALL command
• SETINT command
• M/T function replacement
• event-driven program calls (PROG_EVENT)
• selection of a PLC ASUB via PI "_N_ASUP__" and/or FB-4
• calling a PLC ASUB via interrupt interface (FC-9)

There are various reasons for the alarm:
• the subroutine is not in the parts program memory the subroutine
• the subroutine is not in the search path (selected directory, _N_SPF_DIR or cycle directories _N_CUS_DIR, _N_CMA_DIR, _N_CST_DIR
• the subroutine has not been released or is being edited
• faulty absolute path name in subroutine call:
Examples of complete path names: /_N_directoryName_DIR/_N_programmName_SPF or /_N_WKS_DIR/_N_wpdName_WPD/_N_programmName_SPF. directoryName: MPF, SPF, CUS, CMA, CST (predefined directories). wpdName: application-specific designator for workpieace directories (max. of 24 signs). programmName: Name of subroutine (max. of 24 signs)
• A reload buffer for executing from external was called as subroutine.

Note: Unknown designators (string) found in the parts program line by themselves, are interpreted as subroutine calls.

Reactions: - Correction block is reorganized.

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- Interface signals are set.
- Alarm display.

Remedy: Ensure that the subroutine (alarm parameter %3)
• is available in the parts program memory
• has been released and is not being edited
• is available in the search path if not being called via an absolute path name.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14012 Channel %1 block %2 maximum subroutine level exceeded

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The maximum nesting depth of 8 program levels has been exceeded.
Subroutines can be called from the main program, and these in turn may have a nesting depth of 7.
In interrupt routines the maximum number of levels is 4!

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Modify the machining program so that the nesting depth is reduced, e.g. using the editor copy a subroutine of the next nesting level into the calling program and remove the call for this subroutine. This reduces the nesting depth by one program level.

Program Continuation: Clear alarm with the RESET key. Restart part program

14013 Channel %1 block %2 number of subroutine passes invalid

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In a subroutine call the programmed number of passes P is zero or negative.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Program number of passes between 1 and 9 999.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14014 Channel %1 selected program %3 not available or will be edited

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Program name

Definitions: The selected parts program is not in the NCK memory or the access authorization for the program selection is from a higher level than the current control status.
During creation, this program received the protection level of the NC control which was active at the time.
In SW 5 or higher a program edited on HMI can no longer be started with NC Start.
The alarm will also be issued, if a file other than the specified definition file has been selected for the GUD or macro definition.

Reactions:
- Alarm display.

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Remedy: Reload the program in the NCK memory or check and correct the name of the directory (workpiece overview) and the program (program overview) and reselect.

Program Continuation: Clear alarm with the Delete key or NC START.

14015 Channel %1 block %2 program %3 is not enabled

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Program name

Definitions: The user has no execution authorization for the file, the file is not released.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Change user authorization, release file.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14016 Channel %1 block %2 error when calling the subroutine via M/T function

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The following conflict was detected in a subprogram call per M or T function:
In the block referenced by parameter %2:
• An M or T function replacement has already been activated
• A modal subprogram call is active
• A subprogram return jump is programmed
• An end of program is programmed
• An M98 subprogram call is active (only in external language mode)
• T function replacement by D function programming in the same part program line is not possible with active TLC (G43/G44) in ISO2 system.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: An M or T function replacement is only possible if a subprogram call or return jump has not already been performed as a result of other program constructs. The part program must be corrected accordingly.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14017 Channel %1 block %2 syntax error when calling the subroutine via M function

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: When calling M code subroutine with parameter transfer, an illegal syntax was detected:
• Address extension not programmed as a constant.
• M function value not programmed as a constant.
Note: If a parameter transfer has been programmed via MD $MN_M_NO_FCT_CYCLE_PAR for an M function replacement, the following restriction applies to this M function: both the address extension and the M function value must be programmed for replacement as constants.

Reactions: - Correction block is reorganized.
- Interface signals are set.

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- Alarm display.

Remedy: Change the programming of the M function.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14018 Channel %1 block %2 parts program command %3 not executable (protection level setpoint value / actual value: %4)

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Programmed command
%4 = Protection level of the command / current protection level

Definitions: To parts program command %3, a protection level has been assigned that is logically higher (smaller in value) than the current access right, or the command does not exist in the current control configuration.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify parts program. Please see the Siemens Progamming Guide or OEM documentation for the language commands permissible for the relevant system configuration.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14020 Channel %1 block %2 wrong value or wrong number of parameters on function or procedure call

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: • An illegal parameter value was specified in a function or procedure call.
• An illegal number of actual parameters was programmed in a function or procedure call.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14021 Channel %1 block %2 wrong value or wrong number of parameters on function or procedure call

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: • An illegal parameter value was specified in a function or procedure call.
• An illegal number of actual parameters was programmed in a function or procedure call.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.

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- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

14025 **Channel %1 block %2 motion synchronous action: illegal modal ID**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In modal motion synchronous actions an illegal ID number has been assigned.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

14026 **Channel %1 block %2 motion synchronous action: invalid polynomial number in the FCTDEF command**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: An FCTDEF command was programmed with a polynomial number that exceeds the maximum value set in $MC_MM_NUM_FCTDEF_ELEMENTS.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

14027 **Channel %1 block %2 motion-synchronous action: Too many technology cycles programmed.**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: You can call a maximum of eight technology cycles with one motion-synchronous action. You exceeded the upper limit.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14028 **Channel %1 block %2 motion-synchronous action: Technology cycle programmed with too many parameters**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Maximum number of transfer parameters for one technology cycle exceeded.

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Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Change technology cycle

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14030 Channel %1 block %2 combine OSCILL and POSP during oscillation with infeedmotion

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: When oscillating controlled by synchronized actions, the assignment of oscillating and infeed axis (OSCILL) as well as the definition of the infeed (POSP) must be carried out in one NC block.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14033 Channel %1 block %2 involute: no end point programmed

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No end point was programmed for the involute. This is either possible via direct programming with the geometry axis identifiers or by specifying the angle between start and end vector.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14034 Channel %1 block %2 involute: angle of rotation too large

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: With programming of the angle of rotation (with AR) for involute interpolation, the maximum programmable angle of rotation is limited if the involute is moving towards the basic circle. The maximum value is reached if the involute touches the basic circle. With MD_INVOLUTE_AUTO_ANGLE_RESTRICTION = TRUE, each angle is accepted without an alarm; if necessary, the angle is automatically limited during interpolation.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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14035 **Channel %1 block %2 involute: start point invalid**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: With involute interpolation, the start point of the involute must be outside the basic circle. The programmed center point or radius must be adapted accordingly.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14036 **Channel %1 block %2 involute: end point invalid**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: With involute interpolation, the end point of the involute must be outside the basic circle. The programmed center point / radius or end point must be adapted accordingly.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14037 **Channel %1 block %2 involute: radius invalid**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: With involute interpolation, the programmed radius of the basic circle must be greater than zero.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14038 **Channel %1 block %2 involute not definable: end point error**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The programmed end point does not lie on the involute defined by the start point, radius and center point of the basic circle. The deviation of the effective end radius from the programmed value is greater than the permissible value specified in MD INVOLUTE_RADIUS_DELTA.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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14039 **Channel %1 block %2 involute: end point programmed several times**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: With involute interpolation, either the end point with the geometry axis identifiers or the angle of rotation with AR=value can be programmed. Simultaneous programming of end point and angle of rotation in one block is not allowed, since the end point can thus not be defined exactly.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14040 **Channel %1 block %2 error in end point of circle**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In circular interpolation, either the circle radii for the initial point and the end point are further apart, or the circle center points are further apart, than specified in the machine data.

1. In circle radius programming the starting and end points are identical, thus the circle position is not determined by starting and end points.

2. Radii: The NCK calculates from the present start point and the other programmed circle parameters the radii for the start and the end point.

An alarm message is issued if the difference between the circle radii is either

- greater than the value in the MD 21000 CIRCLE_ERROR_CONST (for small radii, if the programmed radius is smaller than the quotient of the machine data CIRCLE_ERROR_CONST divided by 21010 CIRCLE_ERROR_FACTOR), or
- greater than the programmed radius multiplied by the MD CIRCLE_ERROR_FACTOR (for large radii, if the programmed radius is greater than the quotient of the machine data CIRCLE_ERROR_CONST divided by CIRCLE_ERROR_FACTOR).

3. Center points: A new circle center is calculated using the circle radius at the starting position. It lies on the mid-perpendicular positioned on the connecting straight line from the starting point to the end point of the circle. The angle in the radian measure between both straight lines from the starting point to the center calculated/programmed as such must be lower than the root of 0.001 (corresponding to approx. 1.8 degrees).

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Check MD 21000 CIRCLE_ERROR_CONST and 21010 CIRCLE_ERROR_FACTOR. If the values are within reasonable limits, the circle end point or the circle mid-point of the part program block must be programmed with greater accuracy.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14045 **Channel %1 block %2 error in tangential circle programming**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The alarm may have the following causes:

The tangent direction is not defined for tangent circle, e.g. because no other travel block has been programmed before the current block. No circle can be formed from start and

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end point as well as tangent direction because - seen from the start point - the end point is located in the opposite direction to that indicated by the tangent.

It is not possible to form a tangent circle since the tangent is located perpendicular to the active plane.

In the special case in which the tangent circle changes to a straight line, several complete circular revolutions were programmed with TURN.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14048 Channel %1 block %2 wrong number of revolutions in circle programming

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In the circle programming, a negative number of full revolutions has been specified.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

14050 Channel %1 block %2 nesting depth for arithmetic operations exceeded

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: For calculating arithmetic expressions in NC blocks, an operand stack with a fixed set size is used. With very complex expressions, this stack can overflow. This may also occur with extensive expressions in synchronized actions.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Divide up complex arithmetic expressions into several simpler arithmetic blocks.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14051 Channel %1 block %2 arithmetic error in part program

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: • In calculating an arithmetic expression, an overflow has occurred (e.g. division by zero)
• In a data type, the representable value range has been exceeded

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Analyze the program and correct the defective point in the program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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14055 **Channel %1 block %2 impermissible NC language substitution**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In part program line %2, an NC language substitution shall be activated due to the configuration of
$MA_AXIS_LANG_SUB_MASK. This is not possible for the following reasons:
- Several events have been programmed causing the replacement cycle to be called. Only
one substitution per part program line is allowed.
- For the part program line with the NC language substitution, a non-modal synchronized action has been programmed as well.

Reactions: - Correction block is reorganized.
- Interpreter stop
- Interface signals are set.
- Alarm display.

Remedy: Modify the NC program

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14060 **Channel %1 block %2 invalid skip level with differential block skip**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: With "Differential block skip", a skip level greater than 7 has been specified. (In packet 1 specification of a value for the skip level is rejected by the converter as a syntax error, i.e. the only possibility is a "Suppress block" ON/OFF on one level).

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Enter a skip level (number behind the slash) less than 8.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14070 **Channel %1 block %2 memory for variables not sufficient for subroutine call**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A called subroutine cannot be processed (opened), either because the internal data memory to be created for general purposes is not large enough, or because the available memory for the local program variables is too small. The alarm can only occur in MDI mode.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Analyze the part program section:
1. Has the most useful data type always been selected in the variable definitions? (For example REAL for data bits is poor; BOOL would be better)
2. Can local variables be replaced by global variables?

Program Continuation: Clear alarm with the RESET key. Restart part program

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14080 **Channel %1 block %2 jump destination %3 not found**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Jump destination

Definitions: In conditional and unconditional jumps, the jump destination within the program must be a block with a label (symbolic name instead of block number). If no jump destination has been found with the given label when searching in the programmed direction, an alarm is output.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Check NC part program for the following possible errors:
1. Check whether the target designation is identical with the label.
2. Is the jump direction correct?
3. Has the label been terminated with a colon?

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14082 **Channel %1 block %2 label %3 program section not found**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Start or end label

Definitions: The start point for repetition of the program part with CALL <program name> BLOCK <start label> TO <end label> has not been found or the same program part repetition has been called recursively.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Check the start and end labels for programming repetition in the user program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14085 **Channel %1 block %2 instruction not allowed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The instruction 'TML()' may only be used in the subprogram, which replaces the T command.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14088 **Channel %1 block %2 axis %3 doubtful position**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

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Definitions: An axis postion larger than 3.40e+38 increments has been programmed. This alarm can be suppressed with bit 11 in $MN_SUPPRESS_ALARM_MASK.
Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
Remedy: Modify part program.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14090 Channel %1 block %2 invalid D number

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: A value less than zero has been programmed under address D.
A set of parameters with 25 correction values has been automatically assigned to each active tool. Each tool can have 9 sets of parameters (D1 - D9, initial setting is D1). When the D number changes, the new parameter set is active (D0 is used for deselecting the correction values).
N10 G.. X... Y... T15 ; Parameter set D1 of T15 active
N50 G.. X... D3 M.. ; Parameter set D3 of T15 active
N60 G.. X.. T20 ; Parameter set D1 of T20 active
Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
Remedy: Program D numbers in the permissible value range (D0, D1 to D9).
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14091 Channel %1 block %2 illegal function, index %3

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Index
Definitions: A function was programmed or triggered which is not allowed in the current program context. The code of the function in question is entered in the "index" parameter:
Index == 1: "RET" command was programmed in the main program level
Index == 2: Conflict between "Cancel level"/"Clear number of passes" and "Implicit GET"
Index == 3: Conflict ASUB start immediately after selection of overstore (up to P3)
Index == 4: MD MN_G53_TOOLCORR = 1 : SUPA/G153/G53 programmed in G75
Index == 5: POSRANGE command not programmed in synchronized action
Index == 6: SIRELAY command not programmed in synchronized action
Index == 7: GOTOF/GOTOB/GOTO command programmed with string variable in synchronized action.
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: Index == 1: Substitute "RET" command with M17/M30
Index == 2: Insert an auxiliary block (e.g. M99) after the subroutine call to which the "Cancel level"/"Clear number of passes" refers
Index == 3: Overstore an auxiliary block (e.g. M99), then start ASUB (up to P3)
Index == 4: With MD MN_G53_TOOLCORR = 1: Do not activate SUPA/G53/G153 in the G75 block

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Index == 5: Program POSRANGE command in synchronized action
Index == 6: Program SIRELAY command in synchronized action
Index == 7: Program GOTOF/GOTOB/GOTO command with block number or label

Program Continuation: Clear alarm with the RESET key. Restart part program

14092 **Channel %1 block %2 axis %3 is wrong axis type**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: One of the following programming errors has occurred:
1. The keyword WAITP(x) "Wait with block change until the specified positioning axis has reached its end point" has been used for an axis that is not a positioning axis.
2. G74 "Reference point approach from the program" has been programmed for a spindle. (Only axis addresses are permitted).
3. The keyword POS/POSA has been used for a spindle. (The keywords SPOS and SPOSA must be programmed for the spindle positions).
4. The alarm occurs with the rigid tapping function, so the following cause is conceivable: The master spindle is not in position control.
5. An axis name was programmed which does not exist any more (e.g. when using axial variables as an index). Or it was programmed as index NO_AXIS.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: • Correct the part program depending on which of the above errors is involved.
• Program SPOS.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14093 **Channel %1 block %2 path interval <= 0 with polynominal interpolation**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In the polynomial interpolation POLY, a negative value or 0 has been programmed under the keyword for the polynomial length PL=...

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
Correct the value given in PL = ...

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14094 **Channel %1 block %2 polynominal degree greater than 3 programmed for polynominal interpolation**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The polynomial degree in the polynomial interpolation is based on the number of programmed coefficients for an axis. The maximum possible polynomial degree is 3, i.e. the axes are according to the function:

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f(p) = a0 + a1 p + a2 p2 + a3 p3

The coefficient a0 is the actual position at the start of interpolation and is not programmed!

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Reduce the number of coefficients. The polynomial block may have a form no greater than the following:

N1 POLY PO[X]=(1.11, 2.22, 3.33) PO[Y]=(1.11, 2.22, 3.33)

N1 PO[n]=... PL=44

n ... n ... axis identifier, max. 8 path axes per block

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14095 Channel %1 block %2 radius for circle programming too small

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The radius entered for radius programming is too small, i.e. the programmed radius is smaller than half of the distance between start and end point.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14096 Channel %1 block %2 illegal type conversion

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: During the program run, a variable value assignment or an arithmetic operation has caused data to be processed in such a way that they have to be converted to another type. This would lead to the value range being exceeded.

Value ranges of the various variable types:

- REAL: Property: Fractional number with dec. pt., value range: +/-(2-1022-2+1023)
- INT: Property: Integers with signs, value range: +/-(231-1)
- BOOL: Property: Truth value TRUE, FALSE, value range: 0,1
- CHAR: Property: 1 ASCII character, value range: 0-255
- STRING: Property: Character string (max. 100 values), value range: 0-255
- AXIS: Property: Axis addresses, value range: Axis names only
- FRAME: Property: Geometric information, value range: As for axis paths

Overview of type conversions:

- from REAL to: REAL: yes, INT: yes*, BOOL: yes1), CHAR: yes*, STRING: -, AXIS: -, FRAME: -
- from INT to: REAL: yes, INT: yes, BOOL: yes1), CHAR: if value 0 ...255, STRING: -, AXIS: -, FRAME: -
- from BOOL to: REAL: yes, INT: yes, BOOL: yes, CHAR: yes, STRING: -, AXIS: -, FRAME: -
- from CHAR to: REAL: yes, INT: yes, BOOL: yes1), CHAR: yes, STRING: yes, AXIS: -, FRAME: -
- from STRING to: REAL: -, INT: -, BOOL: yes2), CHAR: only if 1 character, STRING: yes, AXIS: -, FRAME: -

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• from AXIS to: REAL: -, INT: -, BOOL: -, CHAR: -, STRING: -, AXIS: yes, FRAME: -
• from FRAME to: REAL: -, INT: -, BOOL: -, CHAR: -, STRING: -, AXIS: -, FRAME: yes
1) Value <> 0 corresponds to TRUE, value ==0 corresponds to FALSE.
2) String length 0 => FALSE, otherwise TRUE.
3) If only 1 character.
It is not possible to convert from type AXIS and FRAME nor into type AXIS and FRAME.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify the program section such that the value range is not exceeded, e.g. by a modified variable definition.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14097 Channel %1 block %2 string cannot be converted to AXIS type

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The called function AXNAME - conversion of the transferred parameters of the STRING type to an axis name (return value) of the AXIS type - has not found this axis identifier in the machine data.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Check the transferred parameters (axis name) of the function AXNAME to determine whether a geometry, channel or machine axis of this name has been configured by means of the machine data:
10 000: AXCONF_MACHAX_NAME_TAB
20 070: AXCONF_GEOAX_NAME_TAB
20 080: AXCONF_CHANAX_NAME_TAB

Select the transfer string in accordance with the axis name and change the axis name in the machine data if necessary. (If a change of name is to take place via the NC part program, this change must first be validated by means of a "Power On").

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14098 Channel %1 block %2 conversion error: no valid number found

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The string is not a valid INT or REAL number.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program. If it is an entry, then you can check whether the string is a number via the preset function ISNUMBER (with the same parameter).

Program Continuation: Clear alarm with the RESET key. Restart part program

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14099 **Channel %1 block %2 result in string concatenation too long**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The result of string chaining returns a string which is greater than the maximum string length laid down by the system.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Adapt part program. With the function STRLEN, it is also possible to test the size of the sum string before performing the chaining operation.

Program Continuation: Clear alarm with the RESET key. Restart part program

14100 **Channel %1 block %2 orientation transformation not available**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Up to 4 transformation groupings (transformation types) can be set for each channel via machine data. If the keyword TRAORI(n) (n ... number of the transformation grouping) is used to address a transformation grouping for which the machine data is not defaulted, the alarm message will be triggered.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.
- Check the number of the transformation grouping when calling the part program with the keyword TRAORI(n) (n ... number of the transformation grouping).
- Enter the machine data for this transformation grouping and then activate by "Power On".

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14101 **Channel %1 block %2 orientation transformation not active**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Euler angles or a vector have been used in programming an orientation and no orientation transformation is active, i.e. the keyword TRAORI(n) (n ... number of transformation grouping) is missing.
Example of correct transformation programming:
N100 ... TRAORI(1)
N110 G01 X... Y... ORIWKS
N120 A3... B3... C3...
N130 A3... B3... C3...
:
N200 TAFOOF

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Before the transformation is applied, the number of the transformation grouping must be specified with the keyword TRAORI(n) (n is between 1 and 4).

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Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14102 **Channel %1 block %2 polynominal degree greater than 5 programmed for orientation vector angle**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: During polynomial interpolation for the orientation vector, a polynomial degree larger than 5 has been programmed.

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14110 **Channel %1 block %2 Euler angles and orientation vector components programmed**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: An orientation has been programmed with Euler angles and the component of an orientation vector at the same time.

Example:

N50 TRAORI (1)

N55 A2=10 B2=20 C3=50 ; alarm, because Euler angle and orientation vector

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Program only one type, in other words when transformation is switched on program either Euler angles only or orientation vectors (direction vectors) only.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14111 **Channel %1 block %2 Euler angles, orientation vector and transformation axes programmed**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: An orientation has been programmed at the same time as Euler angles or components of an orientation vector and the machine axis influenced by the orientation.

Example:

N50 TRAORI (1)

N55 A2=70 B2=10 C2=0 X50 ; alarm, because Euler angle and axes were programmed

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Program only one type, in other words with transformation switched on program either Euler angles only or orientation vectors (direction vectors) only or deselect transformation (TRAFOOF) and set tool orientation by programming the auxiliary axes.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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14112 **Channel %1 block %2 programmed orientation path not possible**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In 5-axis transformation, the two orientation axes place a coordinate system comprising lengths and circles of latitude on a spherical surface.
If the interpolation traverses the pole point, only the 5th axis will move and the 4th axis will retain its starting position. If a motion is programmed that does not traverse the pole point directly, but passes it very closely, the preset interpolation will be deviated from if the path forms a circle that is defined by the machine data: 24530 TRAFO5_NON_POLE_LIMIT_1 (changeover angle that refers to the 5th axis). The interpolated contour is then placed through the pole (in the immediate vicinity of the pole, the 4th axis would otherwise have to accelerate most rapidly and then decelerate again).
For the 4th axis, the result is a position deviation as compared to the programmed value. The maximum permissible angle which the programmed and the interpolated path may include is stored in the MD 24540 TRAFO5_POLE_LIMIT.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: In the vicinity of the pole, always make use of axis programming. Programming of tool orientations close to the pole should generally be avoided because this always leads to problems concerning dynamic response.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14113 **Channel %1 block %2 programmed lead angle too large**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No further explanation.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14114 **Channel %1 block %2 programmed tilt angle too large**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No further explanation.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14115 **Channel %1 block %2 illegal definition of workpiece surface**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The surface normal vectors programmed at the beginning of block and at the end of block point in opposite directions.

Reactions: - Correction block is reorganized.

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- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14116 Channel %1 block %2 absolute orientation programmed while ORIPATH/ORIPATHS is active

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The orientation has been entered as an absolute value (e.g. by a direction vector or a rotation vector), although ORIPATH or ORIPATHS are active. When ORIPATH/ORIPATHS is active, the orientation is determined from the lead angle, tilt angle and angle of rotation relative to the path tangent and surface normal vector.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14117 Channel %1 block %2 no angle or direction of the cone programmmed

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: With taper circumference interpolation of orientation (ORICONCW and ORICONCC), either the opening angle or the direction vector of the taper must be programmed. Otherwise, the change of orientation is not clearly defined.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14118 Channel %1 block %2 no end orientation programmed

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: With taper circumference interpolation of orientation, no end orientation has been programmed. The change of orientation is therefore not clearly defined.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14119 Channel %1 block %2 no intermediate orientation programmed

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: With taper circumference interpolation of orientation with ORICONIO, an intermediate orientation must also be programmed in addition to the end orientation.

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Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14120 Channel %1 block %2 plane determination for programmed orientation not possible

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The programmed orientation vectors (direction vectors) in the beginning of block and end of block point include an angle of 180 degrees. Therefore the interpolation plane cannot be determined.
Example:
N50 TRAORI (1)
N55 A3=0 B3=0 C3=1
N60 A3=0 B3=0 C3=-1 ; the vector of this block is precisely opposite to that in the preceding block.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify the part program so that the orientation vectors of a block are not directly opposed to each other, for instance by dividing the block up into 2 subblocks.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14121 Channel %1 block %2 no orientation defined (distance equals zero).

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The programmed coordinates for the 2nd space curve with XH, YH, ZH
do not define any tool orientation, as the distance of the curve to the TCP is becoming zero.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Change the part program so that the distance between the two curves is not becoming zero and
that a tool orientation is defined.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14122 Channel %1 block %2 angle and direction of the cone programmed

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: With taper circumference interpolation of orientation with ORICONCW and ORICC, only the opening angle or the direction of the taper may be programmed. Programming of both in one single block is not allowed.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

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Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14123 **Channel %1 block %2 nutation angle of the cone too small**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: With taper circumference interpolation, the programmed opening angle of the taper must be greater than the half of the angle between the start and end orientation. Otherwise, a taper cannot be defined.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14124 **Channel %1 block %2 start tangent for orientation is zero**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: With taper circumference interpolation with tangential continuation (ORICONTO), the start tangent of orientation must not be zero.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14125 **Channel %1 block %2 programmed rotation is not possible**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The programmed rotation of tool orientation cannot be traversed.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14126 **Channel %1 block %2 ORIPATH lift factor impermissible.**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The value programmed with ORIPLF = r is not within the permissible range. The relative retraction factor must lie within interval 0 <= r < 1.

Reactions: - Correction block is reorganized.
- Interpreter stop
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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14127 **Channel %1 block %2 rotation programmed several times**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The rotation (3rd degree of freedom of orientation at 6-axis transformations) has been programmed several times.
The rotation is clearly defined by one of the following specifications:
• Specification of the rotary axis positions included in the transformation
• Specification of Euler or RPY angles (A2, B2, C2)
• Specification of the normal orientation vector (AN3, BN3, CN3)
• Specification of the THETA angle of rotation

Reactions: - Correction block is reorganized.
- Interpreter stop
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14128 **Channel %1 block %2 absolute programming of the orienting rotation with active ORIROTC.**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The rotation of orientation (3rd degree of freedom of orientation for 6-axis transformations) has been programmed with G code ORIROTC active. This is not possible, as the rotation of orientation is oriented relatively to the path tangent when ORIROTC is active.
With ORIROTC, it is only possible to program the angle of rotation THETA that indicates the angle
of the rotation vector to the path tangent.

Reactions: - Correction block is reorganized.
- Interpreter stop
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14129 **Channel %1 block %2 orientation angles and orientation vector components programmed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: An orientation angle and components of an orientation vector were programmed at the same time.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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14130 **Channel %1 block %2 too many initialization values given**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: On assigning an array by means of SET, more initialization values than existing array elements have been specified in the program run.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Reduce the number of initialization values.

Program Continuation: Clear alarm with the RESET key. Restart part program

14131 **Channel %1 block %2 orientation axes and lead/tilt angles programmed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: An orientation angle and a leading or sideways angle were programmed at the same time.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14132 **Channel %1 block %2 orientation axes incorrectly configured**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The configuration of the orientation axes does not match the machine kinematics. Also, for example, when the position measuring system has not been set for the rotary axes.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Adapt machine data.

Program Continuation: Clear alarm with the RESET key. Restart part program

14133 **Channel %1 block %2 G code for orientation definition not allowed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: It is only possible to program a G code of the 50th G code group if machine data ORI_DEF_WITH_G_CODE is set to TRUE.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Adapt machine data.

Program Continuation: Clear alarm with the RESET key. Restart part program

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14134 **Channel %1 block %2 G code for orientation interpolation not allowed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: It will only be possible to program a G code of the 51st G code group, if machine data ORI_IPO_WITH_G_CODE has been set to TRUE.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Adapt machine data.

Program Continuation: Clear alarm with the RESET key. Restart part program

14136 **Channel %1 block %2 Orientation polynomial is not permitted**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Programming of orientation polynomials both for the angles (PO[PHI], PO[PHI]) and for the coordinates of a reference point on the tool (PO[XH], PO[YH], PO[ZH]) is not permitted. Orientation polynomials can only be programmed, if an orientation transformation is active and the orientation is changed by interpolating the vector (ORIVECT, ORICONxxx, ORICURVE), i.e. the orientation must not be changed by interpolating the axis (ORIAXES).

Reactions: - Correction block is reorganized.
- Interpreter stop
- Interface signals are set.
- Alarm display.

Remedy: Modify the NC program

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14137 **Channel %1 block %2 Polynomials PO[PHI] and PO[PSI] are not permitted**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A polynomial for the angles PHI and PSI can only be programmed, if the orientation is interpolated in the plane between start and end orientation (ORIVECT, ORIPLANE) or on a taper (ORICONxxx). If interpolation type ORICURVE is active, no polynomials can be programmed for angles PHI and PSI.

Reactions: - Correction block is reorganized.
- Interpreter stop
- Interface signals are set.
- Alarm display.

Remedy: Modify the NC program

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14138 **Channel %1 block %2 Polynomials PO[XH], PO[YH] and PO[ZH] are not permitted**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Polynomials for the coordinates of a reference point on the tool (PO[XH], PO[YH], PO[ZH]) can only be programmed, if interpolation type ORICURVE is active. If ORIVECT, ORIPLANE, ORICONxxx is active, no polynomials can be programmed for coordinates XH, YH and ZH.

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Reactions: - Correction block is reorganized.
- Interpreter stop
- Interface signals are set.
- Alarm display.

Remedy: Modify the NC program

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14139 **Channel %1 block %2 Polynomial for angle of rotation PO[THT] is not permitted**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A polynomial for the angle of rotation of orientation (PO[THT]) can only be programmed, if the active transformation supports it.

Reactions: - Correction block is reorganized.
- Interpreter stop
- Interface signals are set.
- Alarm display.

Remedy: Modify the NC program

Program Continuation: Clear alarm with NC START or RESET key and continue the program.
•

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14140 **Channel %1 block %2 position programming without transformation not allowed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Position information was programmed for an axis position but no transformation was active.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Modify the program.

Program Continuation: Clear alarm with the RESET key. Restart part program

14144 **Channel %1 block %2 PTP movement not allowed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The PTP G code was programmed for a movement other than G0 or G1.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Modify the program.

Program Continuation: Clear alarm with the RESET key. Restart part program

14146 **Channel %1 block %2 CP or PTP movement without transformation not allowed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The CP or PTP G code was programmed for a movement but no transformation was active.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Modify the program.

Program Continuation: Clear alarm with the RESET key. Restart part program

14147 **Channel %1 block %2 spline for orientation not possible.**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: If an orientation has been programmed while BSPLINE is active, the interpolation of tool orientation must be interpolated via a 2nd space curve. This means that G code ORICURVE
must be active for the interpolation of the orientation.

Reactions: - Correction block is reorganized.

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- Interpreter stop
- Interface signals are set.
- Alarm display.

Remedy: Change the NC program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14148 Channel %1 illegal reference system for Cartesian manual traverse

Parameters: %1 = Channel number

Definitions: In the setting data SC_CART_JOG_MODE, an illegal value has been entered for the reference system with Cartesian manual travel.

Reactions: - Alarm display.

Remedy: Enter a permitted value in the setting data SC_CART_JOG_MODE.

Program Continuation: Clear alarm with the RESET key. Restart part program

14150 Channel %1 block %2 illegal tool carrier number programmed or declared (MD)

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: A toolholder number was programmed which is negative or greater than the machine data MC_MM_NUM_TOOL_CARRIER.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Program valid toolholder number or adapt machine data MC_MM_NUM_TOOL_CARRIER.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14151 Channel %1 block %2 illegal tool carrier rotation

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: A toolholder was activated with an angle of rotation unequal to zero, although the associated axis is not defined. A rotary axis is not defined when all three direction components are zero.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Set angle of rotation to zero, or define the associated rotary axis.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14152 Channel %1 block %2 tool carrier: invalid orientation. Error code: %3

Parameters: %1 = Channel number

%2 = Block number, label

%3 = Error code

Definitions: An attempt was made to define a tool orientation by means of the active frame which cannot be reached with the current toolholder kinematics. This case can always occur when both rotary axes of the toolholder are not perpendicular to one another or when the toolholder has fewer than two rotary axes;

or when rotary axis positions must be set that violate the corresponding axis limitations. Together with the alarm, an error code is displayed that specifies the cause in detail:

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The error code has the following meaning:

1: 1st rotary axis of the first solution violates the lower limit
2: 1st rotary axis of the first solution violates the upper limit
10: 2nd rotary axis of the first solution violates the lower limit
20: 2nd rotary axis of the first solution violates the upper limit
100: 1st rotary axis of the second solution violates the lower limit
200: 1st rotary axis of the second solution violates the upper limit
1000: 2nd rotary axis of the second solution violates the lower limit
2000: 2nd rotary axis of the second solution violates the upper limit
3: The required orientation cannot be set with the given axis configuration

Several of the error codes that indicate a violation of the axis limits can occur simultaneously

As, when an axis limit is violated, an attempt is made to reach a valid position within the permissible axis limits by adding or substracting multiples of 360 degrees, it is - if this is not possible - not unequivocally defined whether the lower or upper axis limit has been violated.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify the part program (TOABS instead of TCOFR, activate another Frame. Change toolholder data. Change processing level G17-G19)

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14153 Channel %1 block %2 unknown tool carrier type: %3

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Tool carrier type

Definitions: An invalid tool carrier type was specified in $TC_CARR23[]. Only the following are allowed: t, T, p, P, m, M.

Reactions: - Correction block is reorganized.
- Interpreter stop
- Interface signals are set.
- Alarm display.

Remedy: Change the tool carrier data.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14154 Channel %1 block %2 The amount of fine correction in parameter %3of the orientable toolholder %4 is too large

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Invalid parameter of the orientable toolholder
%4 = Number of the orientable toolholder

Definitions: The maximum permissible value of the fine correction in an orientable toolholder is limited by the machine data $MC_TOCARR_FINE_LIM_LIN for linear variables, and by the machine data $MC_TOCARR_FINE_LIM_ROT for rotary variables. The alarm can only occur if the setting data $SC_TOCARR_FINE_CORRECTION is not equal to zero.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

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- NC Stop on alarm at block end.

Remedy: Enter a valid fine correction value.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14155 Channel %1 block %2 invalid base frame definition for tool carrier offset

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: If a tool carrier selection causes a change in the table offset, a valid base frame must be defined in order to store this offset; for more information see machine data 20184 (TOCARR_BASE_FRAME_NUMBER).

Reactions:
- Correction block is reorganized.
- Interpreter stop
- Interface signals are set.
- Alarm display.

Remedy: Change the NC program or machine data 20184 (TOCARR_BASE_FRAME_NUMBER).

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14156 Channel %1 toolholder selection error at reset

Parameters: %1 = Channel number

Definitions: The settings in RESET_MODE_MASK require that an active orientable toolholder is maintained after the reset. This is done by deselecting the old orientable toolholder and then reselecting it with data that may have been modified. If an error occurs during the reselection, this alarm is issued (as a warning) and then an attempt is made to select the orientable toolholder in the initial setting. If this second attempt is successful, the reset cycle is continued without any further alarms.

Typically, the alarm only occurs when the old orientable toolholder has been selected with TCOFR, and its axis directions have been changed in such a way before the reset that a setting suitable for the associated frame is no longer possible. If there is another cause for the alarm, this results in an alarm also being issued when attempting to select in the initial setting. This is then also displayed in plain text.

Reactions:
- Alarm display.

Remedy: Check the program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14157 Channel %1 block %2 illegal interpolation type with MOVT

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: Linear or spline interpolation must be active with MOVT (G0, G1, ASPLINE, BSPLINE, CSPLINE).

Reactions:
- Correction block is reorganized.
- Interpreter stop
- Interface signals are set.
- Alarm display.

Remedy: Modify program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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14159 **Channel %1 block %2 more than two angles programmed with ROTS or AROTS**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Frame rotations are described using space angles with the language commands ROTS or AROTS. A maximum of two angles can be programmed.

Reactions:
- Correction block is reorganized.
- Interpreter stop
- Interface signals are set.
- Alarm display.

Remedy: Modify program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14160 **Channel %1 block %2 tool length selection without geometry axis specification**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: If variant C (tool length acts on the programmed axis) is activated by machine data $MC_TOOL_CORR_MODE for tool length compensation with H word and G43/G44 in ISO_2 mode, at least one geometry axis must be specified.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Change machine data $MC_TOOL_CORR_MODE or the part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14165 **Channel %1 block %2 selected H number %3 does not match tool %4**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = H/D number of ISO mode
%4 = Tool number

Definitions: When an H or D number is programmed in ISO_2 mode, it must be available in the active tool. The active tool may also be the last loaded tool on the master spindle or master toolholder. If there is no H or D number on this tool, this alarm will be output.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Set H number correctly.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14170 **Channel %1 block %2 illegal interpolation type with tool length compensation**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: If tool compensation (G43/G44) is activated in language mode ISO_2, the linear type of interpolation must be active.

Reactions:
- Correction block is reorganized.

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- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14180 Channel %1 block %2 H number %3 is not defined

Parameters: %1 = Channel number
%2 = Block number, label
%3 = H number of ISO mode

Definitions: The specified H number is not assigned to a tool (ISO_2).

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14185 Channel %1 block %2 D number %3 is not defined

Parameters: %1 = Channel number
%2 = Block number, label
%3 = D number of ISO mode

Definitions: The specified D number is not assigned to a tool (language mode ISO_2).

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14190 Channel %1 block %2 H number with G49

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: G49 (select tool length compensation) and an H word not equal to H0 have been programmed simultaneously.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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14195 **Channel %1 block %2 D number with G49**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: G49 (select tool length compensation) and an D word not equal to D0 have been programmed simultaneously.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14196 **Channel %1 block %2 error %3 on interpreting the contents of $SC_CUTDIRMOD**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Error code

Definitions: An error has occured on interpreting the string contained in setting data $SC_CUTDIRMOD. This setting data is always read when a new edge is selected. The error code indicates the error cause:
1: The string only consists of blanks or a sign
2: Unknown frame name after $P_
3: No colon after the first valid frame name
4: Insufficient memory space on internal creation of a frame
5: Invalid frame index
6: Further characters found after complete string
7: Second frame name after colon is missing
8: Impermissible frame rotation (surface normals are rotated against each other by 90 degrees or more)
9: Invalid frame chain (the first frame must be in front of the second frame in the frame chain)
10: Invalid axis name
11: Axis is no rotary axis
20: Invalid angle indicated (numerical value)
30: Invalid angle of rotation (no integer multiple of 90 degrees)

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Enter valid string in setting data $SC_CUTDIRMOD.

Program Continuation: Clear alarm with the RESET key. Restart part program

14197 **Channel %1 block %2 D number and H number programmed simultaneously**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A D word and H word have been programmed simultaneously.

Reactions: - Correction block is reorganized.
- Local alarm reaction.

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- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14198 Channel %1 block %2 illegal change of tool direction with tool offset

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: If an offset is active in the tool direction, block change is not possible if this would change the assignment of the offset axes to the channel axes (plane change, tool change, cutter <=> turning tool, geometry axis replacement).

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy:
• Modify part program.
• Reduce the offset in tool direction to zero.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14199 Channel %1 block %2 illegal plane change for tool with diameter component

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: If a tool has a wear or length component which is evaluated as a diameter for the facing axis (bit 0 and/or bit 1 in MD $MC_TOOL_PARAMETER_DEF_MASK is set) and bit 2 of this MD is also set, this tool may only be used in the plane active on tool selection. A plane change results in an alarm.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy:
• Modify part program.
• Reset bit 2 in MD $MC_TOOL_PARAMETER_DEF_MASK.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14200 Channel %1 block %2 negative polar radius

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: In the endpoint specification of a traversing block with G00, G01, G02 or G03 in polar coordinates, the polar radius entered for the keyword RP=... is negative.

Definition of terms:

• Specification of end of block point with polar angle and polar radius, referring to the current pole (preparatory functions: G00/G01/G02/G03).
• New definition of the pole with polar angle and pole radius, referring to the reference point selected with the G function. G110 ... last programmed point in the plane, G111 ... zero point of the current work, G112 ... last pole

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Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Correct NC part program - permissible inputs for the pole radius are only positive absolute values that specify the distance between the current pole and the block end point. (The direction is defined by the polar angle AP=...).

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14210 Channel %1 block %2 polar angle too large

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In specifying the endpoints in a traversing block with G00, G01, G02 or G03 in polar coordinates, the value range of the polar angle programmed under the keyword AP=... has been exceeded. It covers the range from -360 to +360 degrees with a resolution of 0.001 degrees.
Definition of terms:
- Specification of end of block point with polar angle and polar radius, referring to the current pole (preparatory functions: G00/G01/G02/G03).
- New definition of the pole with polar angle and pole radius, referring to the reference point selected with the G function. G110 ... referred to the last programmed point in the plane, G111 ... referred to the zero point of the current workpiece coordinate system (WCS), G112 ... referred to the last pole.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Correct NC part program. The permissible input range for the polar angle is between the values -360 degrees and +360 degrees with a resolution of 0.001 degrees.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14250 Channel %1 block %2 negative pole radius

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In redefining the pole with G110, G111 or G112 in polar coordinates, the pole radius specified under keyword RP=... is negative. Only positive absolute values are permitted.
Definition of terms:
- Specification of end of block point with polar angle and polar radius, referring to the current pole (preparatory functions: G00/G01/G02/G03).
- New definition of the pole with polar angle and pole radius, referring to the reference point selected with the G function. G110 ... last programmed point in the plane, G111 ... zero point of the current work, G112 ... last pole

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Correct the NC part program. Permissible inputs for the pole radius are only positive, absolute values that specify the distance between the reference point and the new pole. (The direction is defined with the pole angle AP=...).

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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14260 **Channel %1 block %2 pole angle too large**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: In redefining the pole with G110, G111 or G112 in polar coordinates, the value range of the pole angle specified under keyword AP=... has been exceeded. It covers the range from -360 to +360 degrees with a resolution of 0.001 degrees.

Definition of terms:

- Specification of end of block point with polar angle and polar radius, referring to the current pole (preparatory functions: G00/G01/G02/G03).
- New definition of the pole with polar angle and pole radius, referring to the reference point selected with the G function. G110 ... last programmed point in the plane, G111 ... zero point of the current work, G112 ... last pole

Reactions: - Correction block is reorganized.

- Interface signals are set.
- Alarm display.

Remedy: Correct NC part program. The permissible input range for the polar angle is between the values -360 degrees and +360 degrees with a resolution of 0.001 degrees.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14270 **Channel %1 block %2 pole programmed incorrectly**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: When defining the pole, an axis was programmed that does not belong to the selected processing level. Programming in polar coordinates always refers to the plane activated with G17 to G19. This also applies to the definition of a new pole with G110, G111 or G112.

Reactions: - Correction block is reorganized.

- Interface signals are set.
- Alarm display.

Remedy: Correct the NC part program. Only the two geometry axes may be programmed that establish the current machining plane.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14280 **Channel %1 block %2 polar coordinates programmed incorrectly**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The end point of the displayed block has been programmed both in the polar coordinate system (with AP=..., RP=...) and in the Cartesian coordinate system (axis addresses X, Y,...).

Reactions: - Correction block is reorganized.

- Interface signals are set.
- Alarm display.

Remedy: Correct the NC part program - the axis motion may be specified in one coordinate system only.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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14290 **Channel %1 block %2 polynominal degree greater than 5 programmed for polynominal interpolation**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A polynominal degree greater than five was programmed for the polynominal interpolation. You can only program polynomials up to the 5th degree.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14300 **Channel %1 block %2 overlaid handwheel motion activated incorrectly**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Handwheel override has been called up incorrectly:
• 1. For positioning axes:
• Handwheel override programmed for indexing axes,
• No position programmed,
• FA and FDA programmed for the same axis in the block.
• 2. For contouring axes:
• No position programmed,
• G60 not active,
• 1. 1st G group incorrect (only G01 to CIP).

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14310 **Handwheel %1 configuration incorrect or inactive**

Parameters: %1 = Handwheel number

Definitions: • The inputs are using a drive with a drive number that does not exist or
• an inactive drive for assignment of the handwheel (ENC_HANDWHEEL_MODULE_NR) or
• an axis is using a measuring circuit which does not exist for the drive hardware.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Check input configuration (machine data) and/or drive hardware. Power-up is interrupted.

Program Continuation: Switch control OFF - ON.

14320 **Handwheel %1 used twice (%2) in channel %3 axis %4**

Parameters: %1 = Handwheel number
%2 = Use
%3 = Channel

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%4 = Axis

Definitions: Informational alarm indicating that the mentioned handwheel is used twice:
The second parameter provides the explanation:
1: Block with axial handwheel override for this axis cannot be executed as the handwheel for this axis performs a DRF movement
2: Block with velocity override of the path cannot be executed as the handwheel performs a DRF movement for this axis of the path
3: Block with contour handwheel cannot be executed as the handwheel performs a DRF movement for this axis of the path
4: PLC axis with axial handwheel override cannot be started immediately as the handwheel performs a DRF movement for this axis
5: The axis is a reciprocating axis with axial handwheel override; the reciprocating movement cannot be started immediately as the handwheel performs a DRF movement for this axis
6: The DRF movement for this axis cannot be executed as an axial handwheel override is active for this axis with the handwheel
7: The DRF movement for this axis cannot be executed as a velocity override of the path with the handwheel is active and the axis belongs to the path
8: The DRF movement for this axis cannot be executed as the contour handwheel is active with this handwheel and the axis belongs to the path
9: The DRF movement for this axis cannot be executed as the axis is a PLC axis with handwheel override that is active with this handwheel
10: The DRF movement for this axis cannot be executed as the axis is active as reciprocating axis with handwheel override with this handwheel

Reactions: - Alarm display.

Remedy: Use the handwheel for one purpose at a time only.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

14400 Channel %1 block %2 tool radius compensation active at transformation switchover

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A change of transformation is not allowed when tool radius compensation is active.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Perform tool radius compensation in the NC part program with G40 (in a block with G00 or G01) before performing a transformation change.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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14401 **Channel %1 block %2 transformation not available**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The required transformation is not available.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department.
• Modify part program; program defined transformations only.
• Check MD 24100 TRAFO_TYPE_n (assigns the transformation to part program instructions).

Program Continuation: Clear alarm with the RESET key. Restart part program

14402 **Channel %1 block %2 spline active at transformation change**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A change of transformation is not allowed in a spline curve section. A series of spline blocks must be concluded.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14403 **Channel %1 block %2 preprocessing and main run might not be synchronized**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Positioning axis runs cannot be accurately calculated beforehand. Consequently, the position in the MCS is not known exactly. It might therefore be possible that a change in the multiple significance of the transformation has been performed in the main run although no provision was made for this in the preprocessing run.

Reactions: - Alarm display.

Remedy: Modify part program. Synchronize preprocessing run and main run.

Program Continuation: Clear alarm with the Delete key or NC START.

14404 **Channel %1 block %2 illegal parameterization of transformation**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Error has occurred when selecting transformation.
Possible causes of error:
• An axis traversed by the transformation has not been enabled:
• is being used by another channel (-> enable)
• is in spindle mode (-> enable with SPOS)
• is in POSA mode (-> enable with WAITP)
• is concurrent Pos axis (-> enable with WAITP)
• Parameterization via machine data has an error
• Axis or geometry axis assignment to the transformation has an error,

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• Machine data has an error (-> modify machine data, restart)

Please note: Any axes not enabled might be signaled via EXINAL_ILLEGAL_AXIS = 14092 or BSAL_SYSERRCHAN_RESET = 1011 instead of EXINAL_TRANSFORM_PARAMETER = 14404.

Transformation-dependent error causes can be in: TRAORI: -

TRANSMIT:

• The current machine axis position is unsuitable for selection (e.g. selection in the pole) (-> change position slightly).
• Parameterization via machine data has an error.
• Special requirement with respect to the machine axis has not been fulfilled (e.g. rotary axis is not a modulo axis) (-> modify machine data, restart).

TRACYL:

The programmed parameter is not allowed when transformation is selected.

TRAANG:

• The programmed parameter is not allowed when transformation is selected.
• Parameterization via machine data has an error.
• Parameter is faulty (e.g. TRAANG: unfavorable angle value (-> modify machine data, restart)

Persistent transformation:

• Machine data for persistent transformation are wrong (-> consider dependencies, change machine data, restart)

Only with active "OEM transformation" compile cycle:

The axes included in the transformation must be referenced!

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Please inform the authorized personnel/service department. Modify part program or machine data.

Only with active "OEM transformation" compile cycle:

Reference the axes included in the transformation before selecting transformation.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14410 Channel %1 block %2 spline active at geometry axis changeover

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: It is not allowed to change the assignment of geometry axes to channel axes in a spline curve definition.

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14411 Channel %1 block %2 tool radius compensation active at geometry axis changeover

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: It is not permissible to change the assignment of geometry axes to channel axes when tool radius compensation is active.

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Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14412 Channel %1 block %2 transformation active at geometry axis changeover

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: It is not permissible to change the assignment of geometry axes to channel axes when transformation is active.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14413 Channel %1 block %2 fine tool correction: changeover geometry/channel axis not allowed

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: It is not permissible to change the assignment of geometry axes to channel axes during active tool fine compensation.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14414 Channel %1 block %2 GEOAX function: incorrect call

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The parameters for the GEOAX(...) call are incorrect. Possible causes:
- Uneven number of parameters.
- More than 6 parameters were specified.
- A geometry axis number was programmed which was smaller than 0 or greater than 3.
- A geometry number was programmed more than once.
- An axis identifier was programmed more than once.
- An attempt was made to assign a channel axis to a geometry axis which has the same name as one of the channel axes.
- An attempt was made to remove a geometry axis from the geometry axis grouping and the geometry axis has the same name as one of the channel axes.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program or correction block.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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14415 **Channel %1 block %2 tangent control: changeover geometry/channel axis not allowed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: An assignment change of the geometry axes to channel axes is not permitted with active tangential control.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Change part program and delete active tangential control with TANGDEL.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14420 **Channel %1 block %2 index axis %3 frame not allowed**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis

Definitions: The axis is to be traversed as an indexing axis, but a frame is active. This is not allowed by machine data FRAME_FOR_CORRPOS_NOTALLOWED.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Modify part program. Change machine data CORR_OR_AXIS_NOT_ALLOWED.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14430 **Channel %1 block %2 tangential axis %3 must not be traversed as POS axis**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name

Definitions: A tangentially followed-up axis cannot be traversed as positioning axis.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Change part program and delete active tangential control with TANGDEL.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14432 **Channel %1 block %2 rounding length for tangential axis %3 is zero.**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name

Definitions: For a tangential axis that is coupled during preparation, a rounding length must be indicated with TANGON() on activating the tangential control, or possibly occuring discontinuities of the tangential axis cannot be smoothed.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program

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Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14434 Channel %1 block %2 rel. lift-off path for tangential axis %3 is invalid

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name

Definitions: Factor r as programmed on TLIFT for the relative lift-off path must be within range 0 =< r < 1.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14500 Channel %1 block %2 illegal DEF or PROC instruction in the part program

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: NC part programs with high-level language elements are divided into a preceding definition part followed by a program part. The transition is not marked specifically; a definition statement is not allowed to follow the 1st program command.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Put definition and PROFC statements at the beginning of the program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14510 Channel %1 block %2 PROC instruction missing on subroutine call

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In subroutine calls with parameter transfer ("call-by-value" or "call-by-reference") the called subroutine must begin with a PROC statement.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Define the subroutine in accordance with the type used.
1. Conventional subroutine structure (without parameter transfer):
% SPF 123456
:
M17
2. Subroutine structure with keyword and subroutine name (without parameter transfer):
PROC UPNAME
:
M17
ENDPROC
3. Subroutine structure with keyword and subroutine name (with parameter transfer "call-by-value"):
PROC UPNAME (VARNAME1, VARNAME2, ...)
:

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M17
ENDPROC
4. Subroutine structure with keyword and subroutine name (with parameter transfer "call-by-reference"):
PROC UPNAME (Typ1 VARNAME1, Typ2 VARNAME2, ...)
:
M17
ENDPROC

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14520 Channel %1 block %2 illegal PROC instruction in data definition section

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The PROC statement may only be programmed at the beginning of the subroutine.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify NC part program appropriately.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14530 Channel %1 block %2 EXTERN and PROC instruction do not correspond

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Subroutines with parameter transfer must be known before they are called in the program. If the subroutines are always available (fixed cycles) the control establishes the call interfaces at the time of system power-up. Otherwise an EXTERN statement must be programmed in the calling program.
Example:
N123 EXTERN UPNAME (TYP1, TYP2, TYP3, ...)
The type of the variable must match the type given in the definition (PROC statements) or it must be compatible with it. The name can be different.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check the variable types in the EXTERN and the PROC statements for correspondence and correctness.

Program Continuation: Clear alarm with the RESET key. Restart part program

14540 Channel %1 block %2 contour tool: the min. limit angle has been programmed more than once (edge D%3)

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Edge number, label

Definitions: The limit angle of a contour tool must be equal zero in an involved edge only.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.

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- Alarm display.
- NC Stop on alarm at block end.

Remedy: Change tool definition.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14541 **Channel %1 block %2 contour tool: the max. limit angle has been programmed more than once (edge D%3)**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Edge number, label

Definitions: The limit angle of a contour tool must be equal zero in an involved edge only.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Change tool definition.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14542 **Channel %1 block %2 contour tool: the min. limit angle has not been programmed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: On defining a contour tool, either no limit angle must be indicated, or both the minimum and the maximum limit angle must be programmed once for each.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Change tool definition.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14543 **Channel %1 block %2 contour tool: the max. limit angle has not been programmed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: On defining a contour tool, either no limit angle must be indicated, or both the minimum and the maximum limit angle must be programmed once for each.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Change tool definition.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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14544 **Channel %1 block %2 contour tool: edge D%3 is not positioned between the two border edges**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Edge number, label

Definitions: On defining a form tool with limit, all edges must be positioned between the edge with the minimum limit angle and the edge with the maximum limit angle when rotating counter-clockwise.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Change tool definition.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14545 **Channel %1 block %2 contour tool: edge D%3 completely encircles edge D%4**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Edge number, label
%4 = Edge number, label

Definitions: On defining a contour tool, tangents are placed on the adjacent circular edges. It will not be possible, if one edge is completely encircled by another one.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Change tool definition.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14546 **Channel %1 block %2 contour tool: edge D%3 defines a concave corner**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Edge number, label

Definitions: The contour of a contour tool must be convex throughout, i.e. there must not be any concave corners.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Change tool definition.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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14547 **Channel %1 block %2 contour tool: checksum erroneous or not available**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: When machine date $MC_SHAPED_TOOL_CHECKSUM was set, no edge was found for which the tool length components and the tool radius equal the negative sum of the previous edges.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Check tool definition. An edge must exist, the tool length components and tool radius of which equal the negative sum of the previous edges. This will not take the tool length components of the first edge into consideration. On comparing the components, the relevant sums of basic value and wear value are compared with each other, not the part components themselves.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14548 **Channel %1 block %2 contour tool: negative radius in edge D%3 is not allowed**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Edge number, label

Definitions: No negative radii are permitted for contour tools, i.e. the sum of basic radius and wear value must be at least 0.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Check tool definition. Change edge radius.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14549 **Channel %1 block %2 contour tool: impermissible programming. Code no. %3**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Error code

Definitions: Impermissible programming has been found for contour tools on active tool radius compensation. The error cause is explained in detail by the error code.

1: In G code group 17, KONT is active during activation

2: In G code group 17, KONT is active during deactivation

9: In G code group 40, CUTCONOF is not active

10: Reprogramming of G41 / G42 in already active tool radius compensation not permissible

20: Circle with more than one rotation not permissible

21: Ellipse (circle not in compensation level)

23: Involute not permissible

24: Several polynomials not permitted in one block only. These blocks could be created by e.g. COMPCAD or G643.

30: Preprocessing stop not permitted

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41: Starting point of first compensation block cannot be reached by anyone of the defined cutting edges

42: End point of last compensation block cannot be reached by anyone of the defined cutting edges

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Change NC program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14550 Channel %1 block %2 contour tool: impermissible tool contour change. Code no. %3

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Error code

Definitions: A new tool with deviating tool contour was activated for contour tools on active tool radius compensation

The error cause is explained further by an error code.

If the error code is an integer, the lower-value three decimal places specify the number of the edge, in which the error was detected, while the thousandth digit explains the reason in more detail.

-1: The tool was deleted.

-2: The number of contour elements (edges) explaining the tool, has changed.

1000: The edge center has changed

2000: The edge radius has changed.

3000: The initial angle has changed.

4000: The final angle has changed.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Change NC program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14551 Channel %1 block %2 contour tool: angle area of edge D%3 larger than 359 degrees

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Edge number, label

Definitions: A single edge must cover a max. angle area of 359 degrees.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Check tool definition.

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Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14600 Channel %1 block %2 reload buffer %3 cannot be established

Parameters: %1 = Channel number
%2 = Block number, label
%3 = File name

Definitions: The download buffer for "execute from external" could not be created. Possible causes:
- Not enough memory available (for minimum see MD $MN_MM_EXT_PROG_BUFFER_SIZE)
- No resources available for MMC NCK communication (see MD $MN_MM_EXT_PROG_NUM)
- The file already exists

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy:
- Release memory, e.g. by deleting part programs
- Modify MD $MN_MM_EXT_PROG_BUFFER_SIZE and/or $MN_MM_EXT_PROG_NUM.

Program Continuation: Clear alarm with the RESET key. Restart part program

14601 Channel %1 block %2 reload buffer could not be deleted

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The reload buffer for "execute from external" could not be deleted. Possible cause: MMC/PLC communication was not terminated.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: All reload buffers are cleared on POWER ON.

Program Continuation: Clear alarm with the RESET key. Restart part program

14602 Channel %1 block %2 timeout during EXTCALL

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No connection could be established to the MMC for reloading of external subprograms (EXTCALL) within the time set in $MN_MMC_CMD_TIMEOUT.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Requirement: MMC102/103 with software version >= P4
- Check the connection to the MMC102/103
- Increase $MN_MMC_CMD_TIMEOUT.

Program Continuation: Clear alarm with the RESET key. Restart part program

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14603 **Channel %1 block %2 timeout during execution from external source.**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: If a program is selected for execution from external source, it will be expected that the first part program line can be read from the reload buffer within 60s after part program start.
Otherwise, part program processing will be aborted with alarm 14603 due to the assumption that the connection to the HMI or the external device is faulted.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check the connection to the HMI and repeat selection of the program that is to be executed from external source.

Program Continuation: Clear alarm with the RESET key. Restart part program
• Acknowledge the alarm by pressing the RESET key
• Repeat program selection
• Start the part program

14610 **Channel %1 block %2 compensation block not possible**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: An alarm was output which could be eliminated basically via program correction. Since the error occurred in a program which is processed from external, a compensation block/program correction is not possible.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy:
• Abort program with reset.
• Correct program on MMC or PC.
• Restart reloading (possibly with block search and interrupt location).

Program Continuation: Clear alarm with the RESET key. Restart part program

14650 **Channel %1 block %2 SETINT instruction with invalid ASUP input**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Asynchronous subroutines are subroutines that are executed following a hardware input (interrupt routine started by a rapid NCK input).
The NCK input number must lie between 1 and 8. It is assigned a priority from 1 to 128 (1 is the highest priority) in the SETINT instruction with the keyword PRIO = ...
Example:
If NCK input 5 changes to "1" the subroutine LIFT_Z should be started with the highest priority.
N100 SETINT (5) PRIO = 1 LIFT_Z

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Program the NCK input of the SETINT statement with a value of not less than 1 or greater than 8.

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Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14660 Channel %1 block %2 SETINT instruction with invalid priority

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The NCK input number must lie between 1 and 8. It is assigned a priority from 0 to 128 (1 is the highest priority) in the SETINT instruction with the keyword PRIO = ...

Example:

If NCK input 5 changes to "1" the subroutine LIFT_Z should be started with the highest priority.

N100 SETINT (5) PRIO = 1 LIFT_Z

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Program the priority of the NCK input with a value of not less than 1 or greater than 128.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14700 Channel %1 block %2 timeout during command to interpreter

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: A timeout has occurred in control-internal commands such as ANWAHL (part program selection), RESET (channel reset), REORG (reorganization of the preprocessing buffer) and NEWCONFIG (change in the configuration-specific machine data = warm restart).

Reactions: - Interpreter stop

- NC Start disable in this channel.

- Interface signals are set.

- Alarm display.

Remedy: Please inform the authorized personnel/service department. If the runtime error occurred as the result of a temporary excessive load on the system (e.g. in the MMC area or in OEM application) error-free execution is possible on repeating the program or operator action. Otherwise, the A&D MC system support should be contacted with a precise description of the error situation:

(contact SIEMENS AG, System Support for A&D MC products, Hotline (Tel.:see alarm 1000)

Program Continuation: Switch control OFF - ON.

14701 Channel %1 block %2 number of available NC blocks reduced by %3

Parameters: %1 = Channel number

%2 = Block number, label

%3 = Number of non-available blocks

Definitions: After reset, it has been found that the number of available blocks has decreased compared with the last reset. This is due to a system error. Part program execution can be resumed after the alarm has been acknowledged. If the number of blocks no longer available is less than 28060 MM_IPO_BUFFER_SIZE, then the POWERON alarm 14700 is output.

Reactions: - Interpreter stop

- NC Start disable in this channel.

- Interface signals are set.

- Alarm display.

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Remedy: Proceed as in the case of a system error.

Program Continuation: Clear alarm with the RESET key. Restart part program

14710 Channel %1 block %2 error in initialization sequence in function %3

Parameters: %1 = Channel number

%2 = Block number, label

%3 = Identifier of the function which caused the error

Definitions: Initialization blocks are generated (or not) after control power-up, program reset and program start, depending on the settings in machine data $MC_RESET_MODE_MASK and $MC_START_MODE_MASK.

Errors can occur because of incorrect machine data settings. The errors are output with the same error messages as appear if the function was incorrectly programmed in the part program.

This alarm is generated in addition, in order to indicate that an error refers to the initialization sequence.

Parameter %3 specifies which function triggers the alarm:

Control power-up and (program) RESET:

Value:

0: Error during synchronization preprocessing/main run

1: Error on selection of tool length compensation

2: Error on selection of transformation

3: Error on selection of zero offset

The macro definitions and cycle interfaces are also read in during the power-up procedure. If an error occurs here, this is indicated by value = 4, or value = 5

(Program) START:

Value

100: Error during synchronization preprocessing/main run

101: Error on selection of tool length compensation

102: Error on selection of transformation

103: Error on selection of synchronized spindle

104: Error on selection of zero offset

Particularly when tool management is active, it is possible that a tool on the spindle or the toolholder is disabled but still needs to be activated.

These tools are automatically activated on RESET. On START, machine data $MC_TOOL_CHANGE_ERROR_MODE can be used to specify whether an alarm is generated or an automatic bypass strategy is applied.

If the parameter contains 3 values from 200 to 203, this means that an insufficient number of NC blocks is available for NC block preparation on certain commands (ASUP start, overstore selection, teach-in).

Remedy: Increase machine data $MC_MM_NUM_BLOCKS_IN_PREP.

Reactions: - Interpreter stop

- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department.

On parameter %3= 0 -3:

If the alarm or alarms occur on RESET:

Check the settings of machine data $MC_RESET_MODE_MASK,

$MC_TOOL_RESET_VALUE, $MC_TOOL_PRESEL_RESET_VALUE,

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$MC_TOOL_RESET_NAME (only if tool management is active),
$MC_CUTTING_EDGE_RESET_VALUE, $MC_SUMCORR_RESET_VALUE,
$MC_TOOL_CARRIER_RESET_VALUE,
$MC_GCODE_RESET_VALUES, $MC_EXTERN_GCODE_RESET_VALUES,
$MC_TRAFO_RESET_VALUE,
$MC_COUPLE_RESET_MODE_1,
$MC_CHBFRAME_RESET_MASK

On parameter %3= 100 - 104:
Check the setting of machine data $MC_START_MODE_MASK and the machine data specified under '..._RESET_...'. Check machine data. If tool management is active, remove the specified tool from the toolholder/spindle and, if necessary, cancel the 'disabled' status.
On parameter %3= 4 or 5:
Check macro definitions in _N_DEF_DIR
Check cycle directories _N_CST_DIR and _N_CUS_DIR
On parameter %3= 200 to 203:
Increase machine data $MC_MM_NUM_BLOCKS_IN_PREP.

Program Continuation: Clear alarm with the RESET key. Restart part program

14711 Channel %1 transformation selection not possible as axis %2 not available

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: Based on the configuration of machine data $MC_RESET_MODE_MASK and $MC_TRAFO_RESET_VALUE, a transformation shall be selected by performing a reset or control ramp-up. However, this is not possible as axis %2 required for this is not available. Possible reason: The axis was occupied by another channel or the PLC.

Reactions:
- Interface signals are set.
- Alarm display.

Remedy:
• Use the GET command to get axis %2 in the channel in which the transformation is to be selected.
• Select the transformation by means of the part program command.

Program Continuation: Clear alarm with the RESET key. Restart part program

14720 Channel %1 block %2 axes for centerless transformation not available

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In the channel not all of the axes/spindles are available that have been defined in machine data for centerless grinding.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department.
1. Modify part program.
2. Modify machine data:
24110 TRAFO_AXES_IN_n
21522 TRACLG_GRINDSPI_NR
21524 TRACLG_CTRLSPI_NR.

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Program Continuation: Clear alarm with the RESET key. Restart part program

14730 **Channel %1 block %2 conflict at activation of centerless transformation**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions:
- Centerless transformation may not be activated when:
- G96 is active and regulating spindle is also master spindle.
- Regulating spindle is in interdependent grouping.
- Axes of centerless transformation overlap with an active transformation and a tool is active.
- For grinding or for regulating wheel spindle, tools are active that are not centerless tools (T1, T2).
- Constant wheel peripheral speed for the regulating spindle is active.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy:
- Modify part program.
- Check tool data.
- Check machine data.

Program Continuation: Clear alarm with the RESET key. Restart part program

14740 **Channel %1 block %2 no tool data available for centerless grinding**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: For centerless grinding, the tool data must be contained in T1, D1 (grinding wheel) or T2,D1 (regulating wheel). An error has been found here.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy:
- Modify part program.
- Check tool data.
- Check machine data.

Program Continuation: Clear alarm with the RESET key. Restart part program

14745 **Channel %1 block %2 centerless grinding not active**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: An attempt has been made to switch off the centerless grinding function even though it was not active.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

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14750 **Channel %1 block %2 too many auxiliary functions programmed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: More than 10 auxiliary functions have been programmed in an NC block.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Check whether all auxiliary functions are necessary in one block - modal functions need not be repeated. Create separate auxiliary function block or divide the auxiliary functions over several blocks.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14751 **Channel %1 block %2 resources for motion synchronous actions not sufficient (code: %3)**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Identifier

Definitions: To process motion synchronous actions resources are required. They are configured via the machine data $MC_MM_IPO_BUFFER_SIZE, $MC_MM_NUM_BLOCKS_IN_PREP and $MC_MM_NUM_SYNC_ELEMENTS. If these resources are insufficient for executing the part program, then this alarm is issued. The parameter %3 shows which resource has run out:
Increase identifier <= 2: $MC_MM_IPO_BUFFER_SIZE or
$MC_MM_NUM_BLOCKS_IN_PREP.
Increase identifier > 2: $MC_MM_NUM_SYNC_ELEMENTS.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Correct part program or increase resources.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14752 **Channel %1 block %2 DELDTG | STOPREOF conflict**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In a block of motion synchronous actions referring to a motion block, both DELDTG (delete distance-to-go) and STOPREOF (preprocessing stop) have been programmed.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: The functions DELDTG and STOPREOF exclude each other in a block.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14753 **Channel %1 block %2 motion synchronous actions with illegal interpolation type**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The active interpolation type (e.g. 5-axis interpolation) is not allowed for the motion synchronous action or for the function "Several feeds".

Reactions: - Correction block is reorganized.

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- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14754 Channel %1 block %2 motion synchronous actions and wrong feed type

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The active feed type is not allowed for the motion synchronous action or for the function "Several feeds".

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14755 Channel %1 block %2 motion synchronous actions without traverse motion

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The programmed motion synchronous action and the function "Several feeds" require a traversing motion or the value of the traversing motion is 0.
This alarm is no longer used after P3.2.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14756 Channel %1 block %2 motion synchronous action and wrong value

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Value of the synchronous action or the function "Several feeds" is not allowed.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program. Check whether a negative value was entered for a synchronous action.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14757 Channel %1 block %2 motion synchronous action and wrong type

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Programmed combination between action and type of motion synchronous action is not allowed.
- RET allowed in technology cycle only
- Function "Several feeds" not allowed in technology cycle
- H and M function outputs not allowed with WHENEVER, FROM and DO

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- MEASA / MEAWA / MEAC with WHENEVER, FROM and DO not allowed
- DELDTG and STOPREOF allowed only in blockwise synchronous action with WHEN and EVERY

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14758 Channel %1 block %2 programmed value not available

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The synchronous variables $AA_LOAD, $AA_TORQUE, $AA_POWER and $AA_CURR are available only for the 611D drive. They are activated by the machine data MDC 36730 DRIVE_SIGNAL_TRACKING. The system variable $VA_IS: Safe Actual Position is available only if the machine data $MA_SAFE_FUNCTION_ENABLE has been set and the option $ON_NUM_SAFE_AXES has been set to a sufficient size.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify program or machine data.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14759 Channel %1 block %2 motion synchronous action and wrong axis type

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: When there are several feeds, a spark-out time, or a retraction stroke for path motions, at least one GEO axis must be programmed. If the block also contains synchronous axes and there are several feeds, the feedrate for the synchronous axes is matched implicitly. No retraction stroke takes place for synchronous axes. However, after retraction stroke or spark-out time, the distance-to-go is also deleted in the block for the synchronous axes.
The alarm is no longer used on P3.2.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Program the axis as positioning axis with axial feed, return stroke or spark-out time.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14760 Channel %1 block %2 auxiliary function of a group programmed repeatedly

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The M and H functions can be divided up as required over machine data in groups in any variation. Auxiliary functions are thus put into groups that mutually preclude several individual functions of one group. Within one group only one auxiliary function is advisable and permissible.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

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Remedy: Please inform the authorized personnel/service department. Only program one help function per help function group. (For the group division, see the machine manufacturer's programming guide).

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14761 Channel %1 block %2 motion synchronous action: DELDTG function not allowed with active tool radius compensation

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Rapid delete distance-to-go for synchronous actions is not allowed with DELDTG when tool radius compensation is active.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Deactivate tool radius compensation before performing rapid delete distance-to-go and then reselect
or
as of SW 4.3: "Delete distance-to-go without preparation".

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14762 Channel %1 block %2 too many PLC variables programmed

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The number of programmed PLC variables auxiliary functions has exceeded the maximum permissible number. The number is set in MD 28150 $MC_MM_NUM_VDIVAR_ELEMENTS.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Modify part program or machine data.

Program Continuation: Clear alarm with the RESET key. Restart part program

14763 Channel %1 block %2 too many link variables programmed

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The number of NCU link variables programmed exceeds the maximum limit. The number is defined in MD $MC_MM_NUM_LINKVAR_ELEMENTS.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Modify part program or machine data.

Program Continuation: Clear alarm with the RESET key. Restart part program

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14764 **NCU link cannot transfer all link variables immediately**

Definitions: Informational alarm for NC program developer.

A value assignment to a link variable (e.g. $a_dld[16]=19) is performed in the main run and transferred via NCU link to all NCUs in the link network. The bandwidth of this connection restricts the number of value assignments which can be transferred in one interpolation cycle.

All value assignments are combined in the next main run block and performed immediately this block is executed. A main run block is the block at which you would stop in single block mode SLB1.

Examples:

Blocks with a real traversing movement (G0 X100), Stopre, G4, WAITM, WAITE,...

The alarm occurs if the number of link variables set in any interpolation cycle exceeds the number that can be transferred. The link variables are not transferred until one of the next interpolation cycles. The assignment is not lost!

Reactions: - Alarm display.

- Warning display.

Remedy: Insert main run blocks between the assignments if the program sequence allows. See also $A_LINK_TRANS_RATE.

Program Continuation: Clear alarm with the Delete key or NC START.

14765 **NCU link cannot transfer all link variables**

Definitions: A value assignment to a link variable (e.g. $a_dld[16]=19) is performed in the main run and transferred via NCU link to all NCUs in the link network. The bandwidth of this connection restricts the number of value assignments which can be transferred in one interpolation cycle. Assignment operations which are not transferred are stored in a buffer memory. This buffer is full!

All value assignments are combined in the next main run block and performed immediately this block is executed.

A main run block is the block at which you would stop in single block mode SLB1.

Examples: Blocks with a real traversing movement (G0 X100), Stopre, G4, WAITM, WAITE,...

Link variable scanning operations are not affected (e.g.: R100= $a_dld[16])

Reactions: - NC Start disable in this channel.

- Interface signals are set.

- Alarm display.

- NC Stop on alarm.

Remedy: Insert main run blocks which require a sufficient number of interpolation cycles for execution (e.g. G4 F10) between the assignments. A block with an additional preprocessor stop does not improve the situation! See also $A_LINK_TRANS_RATE, for a variable which you can test before an assignment.

Program Continuation: Clear alarm with the RESET key. Restart part program

14766 **NCU link is heavily loaded, impending memory shortage**

Definitions: Informational alarm for NC program developer.

The capacity of the NCU link is not large enough to transfer all the data. This non-cyclic data includes link variable assignments, machine data write operations, values for container switches and setting data write operations.

This type of data is buffered and is not lost. The buffer memory is now 70% full.

Reactions: - Alarm display.

- Warning display.

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Remedy: The timing of cyclic data should not be distorted in the NC program.
Program Continuation: Clear alarm with the Delete key or NC START.

14767 Machine data matching via NCU link not complete

Definitions: A non-released option has been used in the block.
Reactions: - NC not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Change less setting or machine data at the same time.
Program Continuation: Switch control OFF - ON.

14768 Axial auxiliary function for the NCU link cannot be output

Definitions: Informational alarm for the part program developer.
An axial auxiliary function transmitted via an NCU link cannot be output as the transmission buffer for the
PLC is filled up to 100%.
Reactions: - Alarm display.
- Warning display.

Remedy: In the part program, cyclic data - in this case the output of auxiliary functions for link axes on the
interpolating NCU - should be separated with regard to the time.
Program Continuation: Clear alarm with the Delete key or NC START.

14770 Channel %1 block %2 auxiliary function programmed incorrectly

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The permissible number of programmed auxiliary functions per NC block has been exceeded or more than one auxiliary function of the same auxiliary function group has been programmed (M and S function).
In the user-defined auxiliary functions, the maximum number of auxiliary functions per group in the NCK system settings has been defined for all auxiliary functions by means of the machine data 11100 AUXFU_MAXNUM_GROUP_ASSIGN (default: 1)
For each user-defined auxiliary function to be assigned to a group, the assignment is effected through 4 channel-specific machine data.
Return jump from asynchronous subprogram with M02/M17/M30, whereby the M code is not alone in the block. This is impermissible if the asynchronous subprogram interrupts a block with WAITE, WAITM or WAITMC. Remedy: Program M02/M17/M30 alone in the block or replace via RET.
22010 AUXFU_ASSIGN_TYPE: type of auxiliary function, e.g. M
22000 AUXFU_ASSIGN_GROUP: required group
22020 AUXFU_ASSIGN_EXTENSION: any required extension
22030 AUXFU_ASSIGN_VALUE: function value
Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Correct the part program - max. 16 auxiliary functions, max. 5 M functions per NC block, max. 1 auxiliary function per group.

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Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14780 **Channel %1 block %2 unreleased option used (identification %3)**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Fine ID

Definitions: A non-released option has been used in the block.
Brief identification description

1	LaserCtrl option
2	ClearCtrl option
3	FeedAdapt option
4	AaTOff option
5	Tang option
6	LeadCtab option
7	ELG option
8	Trafo5 option
9	Traoem option
10	Transmit option
11	Tracon option
12	Tracyl option
13	Traang option
14	Oscill option
15	SynSpi option
16	Repos option
17	Spline option
18	Involute option
19	Poly option
20	Compress option
23	Masl option
24	ExtLang or ExtLanguage option not activated
25	TechCycle option
26	Liftfast option
27	ProgAccel option
33	AllAsupSynact option
34	CmdAxSpind option
35	Mea2 option
36	ProgAnaOut option
37	OptAaTOff option
41	MachineMaintenance option
42	PathFeedSAInput option
45	ElecTransfer option
46	Cut3D option
47	CDA option
48	Reserved: generic coupling option
49	Measuring cycles option

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

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Remedy: Modify part program, retrofit option.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14782 Channel %1 block %2 non-active function used (identification %3)

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Fine ID

Definitions: A non-active function is used in the block
Brief description of the identification
1 Transformation
2 H number of the tool

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: • Modify part program.
• Activate function.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14790 Channel %1 block %2 axis %3 programmed by PLC

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis

Definitions: In the NC block, an axis has been programmed that is already being traversed by the PLC.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: • Modify part program, do not use this axis.
• Stop traversing motion of the axis by the PLC, modify part program (insert WAITP).

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14800 Channel %1 block %2 programmed path speed less or equal to zero

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A negative F value has been programmed in conjunction with the G functions G93, G94, G95 or G96. The path velocity may be programmed in the range 0.001 to 999 999.999 [mm/min, mm/rev, deg/min, deg/rev] for the metric input system and 0.000 1 to 39 999.999 9 [inch/min, inch/rev] for the inch input system.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Program the path velocity (geometric sum of the velocity components of the geometry axes involved) within the limits given above.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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14810 **Channel %1 block %2 negative axis speed programmed for positioning axis %3**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis

Definitions: A negative feed (FA value) has been programmed for the displayed axis presently operating as a positioning axis. The positioning velocity may be programmed in the range 0.001 to 999 999.999 [mm/min, deg/min] for the metric input system and 0.000 1 to 39 999.999 9 [inch/min, inch/rev] for the inch input system.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Program the positioning velocity within the limits given above.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14811 **Channel %1 block %2 incorrect value range for acceleration of axis/spindle %3**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis, spindle

Definitions: A value outside of the permissible input range of the programmed acceleration has been used. Values of between 1 and 200 % are possible.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Adjust the value range in accordance with the Programming Guide. Values of 1 ... 200% are allowed.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14812 **Channel %1 block %2 SOFTA not available for axis %3**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis

Definitions: SOFT is to be set as type of motion control for an axis. This is not possible because a bent acceleration characteristic has been selected for this axis via machine data.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program or machine data.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14815 **Channel %1 block %2 negative thread lead change programmed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A negative thread lead change has been programmed.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Correct the value assignment. The programmed F value should be greater than zero. Zero is allowed but has no effect.

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Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14820 **Channel %1 block %2 negative value for maximum spindle speed programmed with constant cutting speed**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: For the function "Constant cutting speed G96" a maximum spindle speed can be programmed with the keyword LIMS=.... The values are in the range 0.1 - 999 999.9 [rev/min].

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Program the maximum spindle speed for the constant cutting speed within the limits given above. The keyword LIMS is modal and can either be placed in front of or within the block that selects the constant cutting speed.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14821 **Channel %1 block %2 error in selection or deselection of GWPS**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: On selecting GWPS programming (constant grinding wheel surface speed) with GWPSON, one of the following errors occurred:

- An attempt has been made to select the GWPS programming for a spindle that has already been assigned to another tool by TMON, GWPSON, CLGON or activation of the tool length compensation.
- An attempt has been made to select a tool which has not been defined.
- An attempt has been made to select an edge (implicitely) which has not been defined (implicit selection: D1 of a tool, if no tool has been specified.)
- Selection does not refer to a grinding-specific tool (400-499).
- An attempt has been made to select GWPS for the active tool, although the TLC is not switched on.
- Selection refers to an invalid spindle number.
- A grinding wheel radius equal to zero has been specified.

On deselecting GWPS programming with GWPSOFF, one of the following errors occurred:

- Deselection does not refer to a grinding-specific tool (400-499).
- An attempt has been made to deselect GWPS for the active tool, although the tool length compensation has not been activated.
- Deselection refers to an invalid spindle number.

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: • Check GWPSON and GWPSOF command.

• Check tool compensation data:

$TC_DP1 : 400 - 499;

$TC_TGP1: Spindle number.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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14822 **Channel %1 block %2 incorrect programming of GWPS**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: When selecting GWPS (constant grinding wheel peripheral speed) with GWPSON or programming the GWPS with "S[spindle number] = value" one of the following errors has occurred:
Invalid spindle number.
Invalid parameter number for radius calculation in $TC_TPG9.
The following values are valid:
3 for $TC_DP3 (length 1)
4 for $TC_DP4 (length 2)
5 for $TC_DP5 (length 3)
6 for $TC_DP6 (radius)
Invalid angle in $TC_TPG8.
The following values are valid: -90 <= $TC_TPG8 < +90.
A grinding wheel radius equal to zero was specified.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Check tool compensation data.
• $TC_DP1 : 400 - 499.
• $TC_TPG1: Spindle number.
• $TC_TPG8: Inclination angle for slope grinding wheel.
• $TC_TPG9: Compensation parameters for radius computation, e.g. 3 for $TC_GP3.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14823 **Channel %1 block %2 error on selection or deselection of tool monitoring**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: On selecting tool monitoring with TMON, one of the following errors occurred:
• Selection does not refer to a grinding-specific tool (400-499).
• Selection refers to an invalid spindle number.
• An attempt has been made to select tool monitoring for a spindle that is already assigned to another tool by TMON, GWPSON, CLGON or activation of tool length compensation.
• An attempt has been made to select a tool that has not been defined.
• An attempt has been made to select an edge (implicitely) that has not been defined. (Implicit selection: D1 of a tool, if no edge has been specified.)
• An attempt has been made to select tool monitoring for the active tool, although no tool length compensation has been activated.
• Invalid parameter number for radius calculation in $TC_TPG9.
The following values are valid:
3 for $TC_DP3 (length 1)
4 for $TC_DP4 (length 2)
5 for $TC_DP5 (length 3)
6 for $TC_DP6 (radius)
A grinding wheel radius equal to zero has been specified.
On deselecting tool monitoring with TMOF, one of the following errors occurred:
• Deselection does not refer to a grinding-specific tool (400-499).

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• An attempt has been made to deselect tool monitoring for the active tool, although tool length compensation is not active.
• Deselection refers to an invalid spindle number.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Check TMON and TMOF command.
Check tool compensation data.
• $TC_DP1 : 400 - 499.
• $TC_TPG1: Spindle number.
• $TC_TPG8: Inclination angle for slope grinding wheel.
• $TC_TPG9: Parameter number for radius computation, e.g. 3 for $TC_GP3.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14824 Channel %1 block %2 conflict with GWPS

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The functions of constant grinding wheel surface speed GWPS and constant cutting speed G96 S... have been activated at the same time for a spindle.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14830 Channel %1 block %2 wrong feed type selected

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: G97 has been programmed in the displayed block although G96 was not (or G97 already) active previously.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Remove G97 from the displayed block and program the correct feed type (G93, G94, G95 or G96) for the machining section which follows.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14840 Channel %1 block %2 incorrect value range for constant cutting speed

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The programmed cutting speed is not within the input range
Input range metric: 0.01 to 9 999.99 [m/min]
Input range inch: 0.1 to 99 999.99 [inch/min].

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Program cutting speed under address S within the permissible range of values.

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Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14850 Channel %1 block %2 changing the reference axis for a constant cutting speed not allowed

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The attempt was made via the SCC[AX] instruction to change the reference axis for a constant cutting speed.
This is not allowed if the indicated axis is no geometry axis.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Please inform authorized personnel/service.
When programming SCC[AX] indicate a geometry axis known in the channel.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14900 Channel %1 block %2 center point and end point programmed simultaneously

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: When programming a circle by means of the opening angle, the circle center point was programmed together with the circle end point. This is too much information for the circle. Only one of the two points is allowed.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Select the programming variant guaranteeing that the dimensions are definitely taken over from the workpiece drawing (avoidance of calculation errors).

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14910 Channel %1 block %2 invalid angle of aperture for programmed circle

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: When programming a circle by means of the opening angle, a negative opening angle or an opening angle greater than or equal to 360 degrees has been programmed.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Program opening angle within the allowed range of values between 0.0001 and 359.9999 [degrees].

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

14920 Channel %1 block %2 intermediate point of circle incorrect

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: When programming a circle by means of an intermediate point (CIP) all 3 points (initial, end and intermediate points) are on a straight line and the intermediate point

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(programmed by means of interpolation parameters I, J, K) is not located between the initial and end points.

If the circle is the component of a helix, the specified number of turns (keyword TURN=...) determines further block processing:

- TURN>0: alarm display because the circle radius is infinitely great.
- TURN=0 and CIP specified between initial and end points. A straight line is generated between the initial and end points (without alarm message).

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Locate the position of the intermediate point with the parameters I, J and K in such a way that it actually is located between the initial and end points of the circle or do not make use of this type of circle programming and instead program the circle with radius or opening angle or center point parameters.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

15000 Channel %1 block %2 channel-sync instruction using illegal mark

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A WAITM/WAITMC/SETM/CLEARM instruction was programmed with a marker number that was less than 1 or greater (MAXNUM_MARKER * MAXNUM_CHANNELS).
Exception: CLEARM(0) is allowed and clears all markers in channel!

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Correct the instruction accordingly.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

15010 Channel %1 block %2 program coordination instruction with invalid channel number

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A WAITM, WAITMC,INIT or START instruction was programmed with an invalid channel number.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Correct the instruction accordingly.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

15020 Channel %1 block %2 CHANDATA instruction cannot be executed. Channel %3 is not active

Parameters: %1 = Channel number
%2 = Block number, label
%3 = String (CHANDATA parameter)

Definitions: With a CHANDATA instruction, the data input for a channel is selected that has not been activated. For structural reasons, the input of multi-channel data must take place twice.

Reactions: - Interpreter stop
- NC Start disable in this channel.

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- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department.

- Activate the channel concerned by means of machine data or option data or
- Cancel the CHANDATA instruction and all following assignments to channel data. This error message occurs regularly when first reading in an INITIAL Init block with which a multi-channel system is to be installed. In this case:

1. NCK Restart must be executed in order to activate the global machine data already input for the installation of the other channels.
2. Input of the INITIAL Init block must be repeated.

Program Continuation: Switch control OFF - ON.

15021 Channel %1 block %2 CHANDATA instruction with invalid channel number

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: A CHANDATA instruction is used to enter data for an illegal channel, e. g. <1,> maximum number of channels, not the active channel.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Program CHANDATA instruction in accordance with the actual configuration.

Program Continuation: Clear alarm with the RESET key. Restart part program

15025 CHANDATA(%2): channel is not active. Channel data will be ignored.

Parameters: %1 = Channel number

%2 = CHANDATA parameter

Definitions: With a CHANDATA instruction, the data input for a channel is selected that has not been activated.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: This is an informational alarm referring to the fact that the file loaded into the NCK contains data of an inactive channel. The number of the inactive channel is specified. Subsequently, the data of this channel are not available in the NCK.

The alarm may have two causes:

(1) The channel is supposed to be activated by a following NCK RESET/POWER ON, i.e. the file must subsequently be reloaded.If the alarm occurs again, the reason is: (2) the specified channel is actually not supposed to be activated, however, the file contains the relevant data.

For the 2nd reason, please check whether the system has correctly not activated the channel mentioned.

If the channel has been activated, operation may be continued after another NCK RESET/POWER ON without further measures, i.e. reloading the file is not required. If the channel has not been activated, make sure that the channel inactivated by mistake is re-activated.

If the settings of the channel activation are part of the file to be loaded (e.g. archive file), the file must either be modified with the relevant program or the file has to be created once more in the same system with the correct channel number.

Similar alarms: 15020, 15021.

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Program Continuation: Switch control OFF - ON.

15030 Channel %1 block %2 different measurement system settings

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The INCH or METRIC instruction describes the system of measurement in which the data blocks have been read from the control. In order to prevent the incorrect interpretation of data intended for a particular system of measurement, a data block is only accepted if the above instruction matches the active system of measurement.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Change the system of measurement or load a data block which matches the system of measurement.

Program Continuation: Clear alarm with the RESET key. Restart part program

15100 Channel %1 block %2 REORG abort caused by log file overflow

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In order to synchronize the preprocessing run and the main run with REORG, the control accesses modification data which are maintained in a logfile. The alarm indicates that no more capacity is available in the logfile for the specified block in the channel.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. No remedial measures are available for the further execution of the current part program, however:
1. Reduce log file size requirement by:
Reducing the distance between the preprocessing and the main run via appropriate preprocessing stops STOPRE.
2. Increase the size of the logfile by means of the channel-specific machine data:
Modify MD 28000: MM_REORG_LOG_FILE_MEM and
Modify MD 28010: MM_NUM_REORG_LUD_MODULES

Program Continuation: Clear alarm with the RESET key. Restart part program

15110 Channel %1 block %2 REORG not possible

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In order to synchronize the preprocessing run and the main run with REORG, the control accesses modification data which are maintained in a logfile. The alarm indicates that no more capacity is available in the logfile for the specified block in the channel.
The alarm message means that the logfile has been deleted in order to obtain additional memory for program reorganization. Consequently, it is no longer possible to REORG the preprocessing memory up to the next coincidence point.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. No remedial measures are available for the further execution of the current part program, however:

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1. Reduce log file size requirement by:
Reducing the distance between the preprocessing and the main run via appropriate preprocessing
stops STOPRE.
2. Increase the size of the logfile by means of the channel-specific machine data:
Modify MD 28000: MM_REORG_LOG_FILE_MEM and
Modify MD 28010: MM_NUM_REORG_LUD_MODULES

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

15120 **If a power failure occurs now, data changed before will be lost; buffer size = %1**

Parameters: %1 = Buffer size

Definitions: Notification alarm. The alarm has no negative impact on the current machining.
The system-internal data buffer in which the last buffered data are stored that were changed,
has overflown (as the data change rate is currently too high).
The alarm warns of a spontaneous power failure in this situation
(mains fault, disconnect the system from the power supply) that would cause a loss of
buffered data changed beforehand (tool data, parts programs,
R parameters, GUDs,...
If the system is operated in an environment in which a power failure cannot occur, output of
this alarm can be avoided via machine date $MN_MM_ACTFILESYS_LOG_FILE_MEM = 0.
Parameter %1 informs about the buffer size set.

Reactions: - Alarm display.

Remedy: If the alarm is only present sporadically, it can be regarded as a notification only.
The regular control behavior is not influenced.
If the alarm is permanently present, please inform the authorized personnel/service.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

15122 **Power ON after power failure: %1 data were restored, of which %2 machine data, %3 errors.**

Parameters: %1 = Number of data
%2 = Number of machine data
%3 = Number of errors occurred

Definitions: Notification alarm. The alarm has no negative effect as long as %3 the number of errors occurred is zero.
%1 indicates the number of elementary and complex data restoring steps which were taken after a power OFF during power ON orduring a power failure to restore the persistent NCK data.
%2 indicates the number of restored machine data. If the value is larger than zero, another warm restart (NCK reset) may be necessary to make the - possibly configuring - machine data changes prior to the power failure effective.
%3 indicates the number of errors occurred during data restoring.

Reactions: - Alarm display.

Remedy: As long as %3 number of errors occurred is zero, the alarm is only informative.
As long as %3 number of errors is larger than zero, the alarm indicates a software error.
Continuing with the data is not recommended.
Please install a suitable archive file before continuing to avoid follow-up problems.

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Please inform authorized personnel/service.

Program Continuation: Clear alarm with the RESET key. Restart part program

15150 Channel %1 block %2 reload from external aborted

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Execution from external was aborted because the reload buffer does not have enough machine function blocks (traversing blocks, auxiliary function, dwell time etc.).
Background: When already executed machine function blocks are released, memory becomes available in the reload buffer. If machine function blocks are no longer released, nothing can be reloaded - this results in a deadlock situation.
Example: Definition of extremely long curve tables via execution from external.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Insert machine function blocks in the part progam.
- Increase the size of the reload buffer ($MN_MM_EXT_PROG_BUFFER_SIZE).
- Decrease the size of the curve table (Note: Blocks within CTADDEF/CTABEND are not machine function blocks).

Program Continuation: Clear alarm with the RESET key. Restart part program

15160 Channel %1 block %2 wrong preprocessing configuration

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A block element is required, but the block element memory is empty.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Modify the block search configuration in machine data 28060 MM_IPO_BUFFER_SIZE (decrease size of IPO buffer if necessary) or 28070 MM_NUM_BLOCKS_IN_PREP.

Program Continuation: Clear alarm with the RESET key. Restart part program

15165 Channel %1 block %2 error when translating or interpreting Asup %3

Parameters: %1 = Channel number
%2 = Block number, label
%3 = String

Definitions: At part program start and at start of an ASUB under Reset condition, the relevant data of all the ASUBs that can be activated at that time are preprocessed:
- PLC ASUBs
- With $MC_PROG_EVENT_MASK configured event-controlled program calls
- ASUB after block search ($MN_SEARCH_RUN_MODE bit 1=1)
- Editable system ASUB ($MN_ASUP_EDITABLE)

If an error occurs (converter or interpreter), alarm 15165 will be output first and then a converter or interpreter alarm that describes more details of the error. Alarm 15165 will cause an interpreter stop. A compensation block will not be possible.

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Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

15166 Channel %1 user system asup _N_ASUP_SPF not available

Parameters: %1 = Channel number

Definitions: By means of the machine data 11610 $MN_ASUP_EDITABLE the function "User-defined system asup" has been activated. However, the relevant user program could not be found in the specified search path:
• 1. /_N_CUS_DIR/_N_ASUP_SPF
• 2. /_N_CMA_DIR/_N_ASUP_SPF
The default system asups are used.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Load the user-defined system asup in /_N_CUS_DIR/_N_ASUP_SPF or /_N_CMA_DIR/_N_ASUP_SPF laden.

Program Continuation: Clear alarm with the RESET key. Restart part program

15170 Channel %1 block %2 program %3 could not be compiled

Parameters: %1 = Channel number
%2 = Block number, label
%3 = String

Definitions: An error has occurred in compile mode. The (compiler) error message refers to the program specified here.

Reactions: - Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with the Delete key or NC START.

15171 Channel %1 block %2 compiled program %3 older than the relevant subroutine

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Compiled program file name

Definitions: When calling a precompiled subroutine, it was noticed that the compiled program is older than the relevant SPF file. The compiled program was deleted and during start the subroutine is executed instead of the compiled program.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Perform another precompilation.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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15172 **Channel %1 block %2 subroutine %3. No interface available at time of preprocessing.**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Subroutine name

Definitions: In compilation mode no program interface of the subroutine to be called was available at the time of pre-compilation.

Reactions: - Interpreter stop
- Interface signals are set.
- Alarm display.

Remedy: Modify parts program or recreate program interfaces and pre-compile programs again.

Program Continuation: Clear alarm with the RESET key. Restart part program

15173 **Channel %1 block %2 variable %3 was unknown at the time of preprocessing.**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Variable

Definitions: At the time of program precompilation, variable %3 was not known to the control.

Reactions: - Interpreter stop
- Interface signals are set.
- Alarm display.

Remedy: Correct the part program or introduce the variable at the time of precompilation, i.e. activate the new GUD variable prior to precompilation. Then restart precompilation.

Program Continuation: Clear alarm with the RESET key. Restart part program

15175 **Channel %1 block %2 program %3. Interfaces could not be built**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = String

Definitions: An error has occurred in interface generation mode. The (compiler) error message refers to the program specified here. In particular when loading new cycle program on the NCK, problems can occur if the value settings in machine data $MN_MM_NUM_MAX_FUNC_NAMES and $MN_MM_NUM_MAX_FUNC_PARAM are too small.

Reactions: - Alarm display.

Remedy: • Modify part program.
• If new cycle programs have been loaded on the NCK, you will normally need to increase the values of $MN_MM_NUM_MAX_FUNC_NAMES and $MN_MM_NUM_MAX_FUNC_PARAM. See also the explanations for alarm 6010.

Program Continuation: Clear alarm with the Delete key or NC START.

15180 **Channel %1 block %2: Error on editing program %3 as INI/DEF file.**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = String

Definitions: Errors were found when processing an initialization program (INI file), or a GUD or macro definition file (DEF file).
The error message which is then displayed refers to the program specified here.

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Reactions: - Alarm display.
Remedy: Correct the initialization program (INI file), or the GUD or macro definition file (DEF file).
In connection with Alarm 12380 or 12460, also change the memory configuration.
Program Continuation: Clear alarm with the Delete key or NC START.

15185 Channel %1 %2 errors in INI file

Parameters: %1 = Channel number
%2 = Number of detected errors
Definitions: Errors were found when processing initialization program _N_INITIAL_INI.
This alarm will also be output, if errors are found during editing of _N_INITIAL_INI in the GUD definition files or if errors are found on ramp-up in the macro definition files.
Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: Please inform the authorized personnel/service department. Correct the INI or DEF file or correct the MD and create a new INI file (via "Upload").
Program Continuation: Switch control OFF - ON.

15186 Channel %1 %2 errors in GUD, macro or INI file

Parameters: %1 = Channel number
%2 = Number of detected errors
Definitions: %2 errors were found when processing GUD/macro definition files (DEF files) or initialization files (INI files)
Alarm 15180 has already informed about the corresponding file.
Prior to that the errors shown were reported by error-specific alarms, e.g. 12080 "syntax error".
Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: Modify definition file or initialization file
Program Continuation: Clear alarm with the RESET key. Restart part program

15187 Channel %1 error during execution of PROGEVENT file %2.

Parameters: %1 = Channel number
%2 = PROGEVENT file name
Definitions: An error has occurred on executing PROGEVENT.
With alarm 15187, the name of the program that was started as PROGEVENT is displayed. Alarm 15187 is displayed together with the alarm that describes the error cause. Alarm 15187 is also output when the alarm occurs in a subroutine started from PROGEVENT.

Reactions: - Interface signals are set.
- Alarm display.
Remedy: Correct the PROGEVENT file (subroutine).
Program Continuation: Clear alarm with the Delete key or NC START.

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15188 **Channel %1 error during execution of ASUB file %2.**

Parameters: %1 = Channel number
%2 = ASUB file name

Definitions: An error has occurred on executing an ASUB.
Alarm 15188 displays the name of the program that was started as ASUB. Alarm 15188 is output together with the alarm that describes the error cause. Alarm 15188 is also output when the alarm occurs in a subroutine started from the ASUB.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Correct the ASUB file (subroutine).

Program Continuation: Clear alarm with the Delete key or NC START.

15190 **Channel %1 block %2 not enough free memory for subroutine call**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The following deadlock has been found in the interpreter: Memory is needed for calling a subroutine. The module memory is, however, empty and there is no prospect of module memory becoming free again by executing the preprocessing/main run queue, because this queue is empty.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Increase machine data 28010 MM_NUM_REORG_LUD_MODULES/28040 MM_LUD_VALUES_MEM / 18210 MM_USER_MEM_DYNAMIC or program a preprocessing stop STOPRE before calling the subroutine.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

15300 **Channel %1 block %2 invalid number-of-passed-blocks during block search**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In the function "Block search with calculation" a negative number of passes has been entered in column P (number of passes). The permissible range of values is P 1 - P 9 999.

Reactions: - Alarm display.

Remedy: Enter only positive number of passes within the range of values.

Program Continuation: Clear alarm with the Delete key or NC START.

15310 **Channel %1 block %2 file requested during block search is not available**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: During block search, a target has been specified with a program that has not been loaded.

Reactions: - Alarm display.

Remedy: Correct the specified search target accordingly or reload the file.

Program Continuation: Clear alarm with the Delete key or NC START.

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15320 **Channel %1 block %2 invalid block search command**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The block search command (type of search target) is smaller than 1 or greater than 5. It is entered in column type of the block search window. The following block search orders are allowed.

Type Meaning
1 Search for block number
2 Search for label
3 Search for string
4 Search for program name
5 Search for line number in a file

Reactions: - Alarm display.

Remedy: Modify the block search command.

Program Continuation: Clear alarm with the Delete key or NC START.

15330 **Channel %1 block %2 invalid block number as search target**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Syntax error! Positive integers are allowed as block numbers. Block numbers must be preceded by ":" and subblocks by an "N".

Reactions: - Alarm display.

Remedy: Repeat the input with corrected block number.

Program Continuation: Clear alarm with the Delete key or NC START.

15340 **Channel %1 block %2 invalid label as search target**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Syntax error! A label must have at least 2 but no more than 32 characters, and the first two characters must be alphabetic or underscore characters. Labels must be concluded with a colon.

Reactions: - Alarm display.

Remedy: Repeat the input with corrected label.

Program Continuation: Clear alarm with the Delete key or NC START.

15350 **Channel %1 block %2 search target not found**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The specified program has been searched to the end of the program without the selected search target having been found.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check the part program, change the block search (typing error in the part program) and restart the search.

Program Continuation: Clear alarm with the RESET key. Restart part program

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15360 **Channel %1 illegal target of block search (syntax error)**

Parameters: %1 = Channel number

Definitions: The specified search target (block number, label or string) is not allowed in block search.

Reactions: - Alarm display.

Remedy: Correct target of block search.

Program Continuation: Clear alarm with the Delete key or NC START.

15370 **Channel %1 target of block search not found**

Parameters: %1 = Channel number

Definitions: In a block search, an impermissible search target has been specified (e.g. negative block number).

Reactions: - Alarm display.

Remedy: Check the specified block number, label or character string. Repeat entry with correct search target.

Program Continuation: Clear alarm with the Delete key or NC START.

15380 **Channel %1 block %2 illegal incremental programming in axis %3**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis

Definitions: The first axis programming after "search to block end point" is performed incrementally. This is not allowed in the following situations:
• After searching the target a transformation change has taken place.
• A frame with rotation component is active. The programmed axis is involved in the rotation.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: • Find search destination in which the axes are programmed using an absolute reference.
• Deactivate adding of the accumulated search position with $SC_TARGET_BLOCK_INCR_PROG = FALSE.
• Use search run with calculation "at contour".

Program Continuation: Clear alarm with the RESET key. Restart part program

15390 **Channel %1 block %2 %3 not executed during block search**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Source symbol

Definitions: During block search, commands for switching, deleting and defining of the electronic gear are not executed and not gathered but simply skipped.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Set the desired gear status via asynchronous subprogram.

Program Continuation: Clear alarm with the Delete key or NC START.

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15395 **Channel %1 master-slave not executable during block search**

Parameters: %1 = Channel number

Definitions: A master-slave coupling is to be closed in the part program via the instruction MASLON. The position offset $P_SEARCH_MASLD, however, cannot be correctly calculated during block search, as the axes to be coupled are located in different channels.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Make sure that all relevant axes are in the same channel.

Program Continuation: Clear alarm with the RESET key. Restart part program

15400 **Channel %1 block %2 selected initial init file does not exist**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The operator has selected an INI block for a read, write or execution function which:

1. Does not exist in the NCK range or

2. Does not have the necessary protection level required for performing the function.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. Check whether the selected INI block is contained in the file system of the NCK. The present protection level must be selected to be at least equal to (or greater than) the protection level that has been defined for the read, write or execution function at the time of creating the file.

Program Continuation: Clear alarm with the RESET key. Restart part program

15410 **Channel %1 block %2 initialization file contains invalid M function**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The only M function allowed in an Init block is the M02, M17 or M30 end-of-program function.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Remove all M functions from the Init block except for the end identifier.

An Init block may contain value assignments only (and global data definitions if they are not defined again in a program that can be executed later) but no motion or synchronous actions.

Program Continuation: Clear alarm with the RESET key. Restart part program

15420 **Channel %1 block %2 instruction in current mode not allowed**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The alarm is output in the following situation:

The interpreter has detected an illegal instruction (e.g. a motion command) while processing an INI file or a definition file (macro or GUD).

In a GUD file, the access security for a machine data is to be changed with REDEF, although

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an ACCESS file (_N_SACCESS_DEF, _N_MACCESS_DEF, _N_UACCESS_DEF) is available.

Access rights for machine data can only be changed then via one of the ACCESS files with REDEF.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: • Correct the INI, GUD or macro file.
• Correct part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

15450 Channel %1 block %2 compiled program cannot be stored

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In the compile mode, a compiled program could not be stored. One of the following reasons applies:
• Not enough memory
• Intermediate code line (compilate) too large

Reactions: - Alarm display.

Remedy: Create space in work memory or modify part program (make it less complex).

Program Continuation: Clear alarm with the Delete key or NC START.

15460 Channel %1 block %2 syntax error with modal function

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The addresses programmed in the block are not compatible with the modal syntax-determining G function.

Example:

N100 G01 ... I .. J.. K.. LF

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Correct the displayed block and ensure that the G functions and addresses in the block are in agreement.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

15500 Channel %1 block %2 illegal angle of shear

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The function CSHEAR has been called with an illegal (impossible) angle of shear, e.g. when the sum of angles between the axis vectors is greater than 360 degrees.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Program the angle of shear in accordance with the geometrical conditions of the machine and workpiece system.

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Program Continuation: Clear alarm with the RESET key. Restart part program

15700 Channel %1 block %2 illegal cycle alarm number %3

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Cycle alarm number

Definitions: A SETAL command has been programmed with a cycle alarm number less than 60 000 or greater than 67 999.
Alarm reactions of Siemens standard cycles:
Nos. 61,000 -61,999: Interpreter stop; delete with Reset
Nos. 62 000 - 62 999: Compensation block; delete with NC Start

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Program alarm number in the SETAL instruction in the correct range.

Program Continuation: Clear alarm with the RESET key. Restart part program

15800 Channel %1 block %2 wrong starting conditions for CONTPRON/CONTDCON

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: There is an error in the start conditions for CONTPRON/CONDCON:
• G40 not active
• SPLINE or POLY active

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

15810 Channel %1 block %2 wrong array dimension for CONTPRON/CONTDCON

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The number of columns for the array created for CONTPRON/CONTDCON does not conform to the current programming guide.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

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15900 **Channel %1 block %2 touch probe not allowed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Measure with deletion of distance-to-go
In the part program, an illegal probe has been programmed with the command MEAS (measure with deletion of distance-to-go). The probe numbers
0 ... no probe
1 ... probe 1
2 ... probe 2
are allowed, whether the probe is actually connected or not.
Example:
N10 MEAS=2 G01 X100 Y200 Z300 F1000
Probe 2 with deletion of distance-to-go

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Include a probe number within the limits given above in the keyword MEAS=... This must correspond to the hardware connection of the probe.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

15910 **Channel %1 block %2 touch probe not allowed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Measure without deletion of distance-to-go
In the part program, an illegal probe has been programmed with the command MEAW (measure without distance-to-go). The probe numbers
0 ... no probe
1 ... probe 1
2 ... probe 2
are allowed, whether the probe is actually connected or not.
Example:
N10 MEAW=2 G01 X100 Y200 Z300 F1000
Probe 2 without deletion of distance-to-go

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Include a probe number within the limits given above in the keyword MEAW=... This must correspond to the hardware connection of the probe.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

15950 **Channel %1 block %2 no traverse motion programmed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Measure with deletion of distance-to-go
In the part program, no axis or a traversing path of zero has been programmed with the command MEAS (measure with deletion of distance-to-go).

Reactions: - Correction block is reorganized.
- Interface signals are set.

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- Alarm display.

Remedy: Correct the part program and add the axis address or the traversing path to the measurements block.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

15960 Channel %1 block %2 no traverse motion programmed

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Measure without deletion of distance-to-go
In the part program, no axis or a traversing path of zero has been programmed with the command MEAW (measure without deletion of distance-to-go).

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Correct the part program and add the axis address or the traversing path to the measurements block.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16000 Channel %1 block %2 invalid value for lifting direction

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: During the "rapid lift from contour" (keyword: LIFTFAST), a code value for the lifting direction (keyword: ALF=...) which lies outside the permissible range (permissible value range: 0 to 8) was programmed .
With active cutter radius compensation:
Code numbers 2, 3 and 4 cannot be used in G41
Code numbers 6, 7 and 8 cannot be used in G42 because they code the direction to the contour.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Program the lifting direction under ALF=... within the permissible limits.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16005 Channel %1 block %2 invalid value for lifting distance

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Mistake in programming: the value for the lifting path must not be negative.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16010 Channel %1 block %2 machining stop after lift fast

Parameters: %1 = Channel number
%2 = Block number, label

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Definitions: LIFTFAST without interrupt routine (Asup) has been programmed. The channel is stopped after the lift motion has been carried out.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: After the channel stop, the axes must be retracted manually in JOG and the program aborted with Reset.

Program Continuation: Clear alarm with the RESET key. Restart part program

16015 Channel %1 block %2 wrong axis identifier %3

Parameters:
%1 = Channel number
%2 = Block number, label
%3 = Axis name

Definitions: Axis names from different coordinate systems were used to program axes for LIFTFAST. The retraction movement is no longer clear.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Use axis names from one coordinate system.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16016 Channel %1 block %2 no retraction position programmed for axis %3

Parameters:
%1 = Channel number
%2 = Block number, label
%3 = Axis name

Definitions: The retraction enable was programmed for LIFTFAST without defining a retraction position for the axis. The retraction movement is no longer clear.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Program a retraction position for the relevant axis.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16020 Channel %1 repositioning in block %2 is not possible

Parameters:
%1 = Channel number
%2 = Block number, label

Definitions: Programming or operator action incorrect:

Repositioning via REPOS command is only possible in an asynchronous subprogram (interrupt routine).

If the REPOS command was programmed, e.g. in the main program or in a cycle, part program execution is aborted with alarm 16020.

In addition, the alarm is output in the following situations:
- Access to $AC_RETPOINT (repositioning point) outside an ASUP (e.g. in the main program)
- An axis to be repositioned was a oscillating axis with sychronous infeed (OSCILL) in the interrupted block and is now in a state that does not allow it to be traversed as a

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oscillating axis. Remedy: Change the axis to "neutral axis" state before repositioning with WAITP.

• An axis to be repositioned was an infeed axis for a oscillating axis in the interrupted block; now it can no longer be traversed as one. Remedy: Change the axis back to "POS axis" state before repositioning.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Modify the part program if necessary.

Program Continuation: Clear alarm with the RESET key. Restart part program

16025 Channel %1 block %2 impermissible axis change in REPOS command by axis %3.

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis identifier

Definitions: With the REPOS command, an axis or spindle was programmed that was in the NEUTRAL state at that time. As the REPOS command cannot execute any implicit GET, these axes/spindles cannot be
repositioned. Part program editing is therefore aborted.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Assign the axes/spindles that are to be repositioned to the channel via GET command prior to the REPOS command.

Example:
GET(A); assign the A axis to the channel
REPOSL A; reposition the geometry axes and A axis

Program Continuation: Clear alarm with the RESET key. Restart part program

16100 Channel %1 block %2 spindle %3 not available in the channel

Parameters: %1 = Channel number
%2 = Block number, label
%3 = String

Definitions: Mistake in programming: This channel does not recognize the spindle number. The alarm can occur together with a dwell or SPI function.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Check the part program to determine whether the programmed spindle number is correct and whether the program is run in the correct channel.
Check MD 35000 SPIND_ASSIGN_TO MACHAX for all machine axes to see whether one of them contains the programmed spindle number. This machine axis number must

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be entered in a channel axis of the channel-specific machine data 20070 AXCONF_MACHAX_USED.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16105 Channel %1 block %2 spindle %3 cannot be assigned

Parameters: %1 = Channel number
%2 = Block number, label
%3 = String

Definitions: Mistake in programming: The programmed spindle is not assigned a real axis by the spindle number converter. The alarm can be issued after improper use of $SC_SPIND_ASSIGN_TAB[].

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Correct setting data or modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

16110 Channel %1 block %2 spindle %3 for dwell time not in control mode

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis, spindle

Definitions: The spindle can be in the positioning mode, oscillating mode and control mode. With the M command M70 it can be changed from a spindle to an axis. The control mode is divided into the speed-controlled and position-controlled mode, and it is possible to alternate between these with the keywords SPCON and SPCOF.
Positioning mode:
Position control (spindle position under SPOS/SPOSA)
Oscillating mode:
Speed control (M41 - M45 or M40 and S...)
Control mode:
Speed control (spindle speed under S..., M3/M4/M5)
Position control (SPCON/SPCOF, spindle speed under S..., M3/M4/M5)
Axis mode:
Position control (M70/M3, M4, M5, axis position under user-selectable axis name)

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Check part program for correct spindle number.
With M3, M4 or M5 put the required spindle into control mode before calling the dwell time.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16111 Channel %1 block %2 spindle %3 No speed programmed

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Spindle

Definitions: Programming of a speed is expected.

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Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Program speed with S[spindle number]=..

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16112 Channel %1 block %2 following spindle %3 Impermissible programming

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Spindle

Definitions: With synchronous spindle-VV-coupling an additional motion for the following spindle can only be programmed with M3, M4, M5 and S... The paths created by specified positions cannot be maintained safely for a velocity coupling, especially if a position control is missing. If dimensional accuracy or reproducibility are not important, the alarm can be suppressed with machine data 11410 SUPPRESS_ALARM_MASK Bit27 = 1.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Use synchronous spindle-DV-coupling or program direction of rotation and speed.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16120 Channel %1 block %2 invalid index for tool fine compensation

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Mistake in programming: The 2nd parameter in the PUTFTOC command indicates for which tool parameter the value is to be corrected (1 - 3 tool lengths, 4 tool radius). The programmed value is beyond the permitted range.
Permissible values are 1 - 4 if on-line tool radius compensation is allowed (see machine data ONLINE_CUTCOM_ENABLE), otherwise values 1 - 3.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program: Length 1 - 3 or 4 permissible for radius.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16130 Channel %1 block %2 instruction not allowed with FTOCON

Parameters: %1 = Channel number
%2 = Block number, label

Definitions:
- Case 1: A plane change is not allowed if the modal G function FTOCON: "fine tool compensation" is active.
- Case 2: Transformation selection is allowed only for zero transformation or transformation inclined axis, Transmit or Tracyl if FTOCON is active.
- Case 3: Tool change is not allowed with M06 if FTOCON has been active since the last tool change.
- Case 4: Orientable tool holder is active.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

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Remedy: Modify part program: Deselect fine tool compensation with FTOCOF.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16140 Channel %1 block %2 FTOCON not allowed

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The tool fine compensation (FTOC) is not compatible with the currently active transformation.
Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
Remedy: Modify part program: Deselect fine tool compensation with FTOCOF.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16150 Channel %1 block %2 invalid spindle number with PUTFTOCF

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The spindle number programmed for PUTFTOC or PUTFTOCF is beyond the permitted range for the spindle numbers.
Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
Remedy: Modify part program. Is the programmed spindle number available?
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16200 Channel %1 block %2 spline and polynominal interpolation not available

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The spline and polynomial interpolation are options that are not contained in the basic version of the control.
Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
Remedy: Do not program spline and polynomial interpolation, or retrofit the necessary option.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16300 Channel %1 block %2 denominator polynominal with zero places within parameter range not allowed

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The programmed denominator polynomial (with PL [ ] = ... , i.e. without specification of geometry axis) has a zero place within the defined parameter range (PL = ...). This means that the quotient of the numerator polynomial and the denominator polynomial is infinite or indeterminate.
Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

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Remedy: Modify the polynomial block so that there is no zero place within the polynomial length in the denominator polynomial.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16400 Channel %1 block %2 positioning axis %3 cannot participate in spline

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: An axis assigned to a spline grouping (n) with SPLINEPATH (n, AX1, AX2, ...) has been programmed as positioning axis with POS or POSA.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Do not assign the positioning axis to the spline grouping.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16410 Channel %1 block %2 axis %3 is not a geometry axis

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: A geometry axis has been programmed that cannot be imaged on any machine axis in the current transformation (possibly there is no transformation active at the moment).
Example:
Without transformation: Polar coordinate system with X, Z, and C axis
With transformation: Cartesian coordinate system with X, Y, and Z, e.g. with TRANSMIT.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Activate transformation type with TRAORI (n) or do not program geometry axes that do not participate in the transformation grouping.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16420 Channel %1 block %2 axis %3 programmed repeatedly

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: It is not allowed to program an axis more than once.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Delete the axis addresses that have been programmed more than once.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16421 Channel %1 block %2 angle %3 programmed repeatedly in the block

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Angle

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Definitions: It is not allowed to program more than one PHI or PSI angle for an orientation vector in the same block.
Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
Remedy: Modify part program.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16422 Channel %1 block %2 angle %3 programmed repeatedly in the block
Parameters: %1 = Channel number
%2 = Block number, label
%3 = Angle
Definitions: It is not allowed to program more than one rotation angle THETA for the orientation in one block. The angle of rotation can either be programmed explicitly with THETA or by programing with Euler angles or RPY angles.
Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
Remedy: Modify part program.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16423 Channel %1 block %2 angle %3 programmed repeatedly in the block
Parameters: %1 = Channel number
%2 = Block number, label
%3 = Angle
Definitions: It is not allowed to program more than one polynomial for the orientation rotation angle with PO[THT] in one block.
Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
Remedy: Modify part program.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16424 Channel %1 block %2 coordinate %3 programmed repeatedly in the block
Parameters: %1 = Channel number
%2 = Block number, label
%3 = Coordinate
Definitions: It is not allowed to program a coordinate of the 2nd contact point of the tool for description of the tool orientation several times in one block.
Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
Remedy: Modify part program.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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16430 **Channel %1 block %2 geometry axis %3 cannot traverse as positioning axis in rotated coordinate system**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: In the rotated coordinate system, traversing of a geometry axis as positioning axis (i.e. along its axis vector in the rotated coordinate system) would mean traversing of several machine axes. This is in conflict with the positioning axis concept, however, in which one axis interpolator runs in addition to the path interpolator!

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Traverse geometry axes as positioning axes only with rotation deactivated.
Deactivate rotation:
Keyword ROT without further specification of axis and angle.
Example: N100 ROT

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16440 **Channel %1 block %2 rotation programmed for non-existent geometry axis**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A rotation of a geometry axis which does not exist was programmed.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16500 **Channel %1 block %2 chamfer or rounding negative**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A negative chamfer or rounding has been programmed under the keywords CHF= ..., RND=... or RNDM=...

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Values for chamfers, roundings and modal roundings must be programmed with positive values only.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16510 **Channel %1 block %2 no facing axis for diameter programming available**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Diameter programming has been activated although no transverse axis with diameter programming has been applied.
Transverse axes can be applied with MD20100 or MD30460 bit2 for diameter programming.
Diameter programming can be applied through:

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• basic position DIAMON or DIAM90 of the G 29 group during booting
• programming of DIAMON or DIAM90
• programming of DIAMONA[AX], DIAM90A[AX] or DAC, DIC, RAC, RIC

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department.
When programming DIAMON/DIAM90, a traverse axis must be configured via MD20100.
When programming DIAMONA[AX], DIAM90A[AX] or DAC, DIC, RAC, RIC, the AX axis must be a transverse axis for diameter programming configured via MD30460 bit2.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16600 Channel %1 block %2 spindle %3 gear stage change not possible

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Spindle number

Definitions: The programmed speed is outside the speed range of the set gear stage. In order to execute the programmed speed, the gear stage must be changed. In order to be able to execute the automatic gear stage change (M40 is active), the spindle must be in speed control operation.
>The alarm will no longer be output after having set bit 30 (0x40000000) in MD 11410 SUPPRESS_ALARM_MASK. However, the function will not be affected by this.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: The changeover to speed control operation is performed by programming M3, M4 or M5. The M functions can be written together with the S word in the same block.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16700 Channel %1 block %2 axis %3 invalid feed type

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: In a thread cutting function, the feed has been programmed in a unit that is impermissible.
1. G33 (thread with constant lead) and the feed have not been programmed with G94 or G95.
2. G33 (thread with constant lead) is active (modal) and G63 is programmed additionally in a following block .conflict situation! (G63 is in the 2nd G group, G33, G331 and G332 are in the 1st G group).
3. G331 or G332 (rigid tapping) and the feed have not been programmed with G94.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Use only the feed type G94 or G95 in the thread cutting functions.
After G33 and before G63, deselect the thread cutting function with G01.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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16710 **Channel %1 block %2 axis %3 master spindle not programmed**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: A master spindle function has been programmed (G33, G331, G95, G96) but the speed or the direction of rotation of the master spindle is missing.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Add S value or direction of rotation for the master spindle in the displayed block.

Program Continuation: Clear alarm with the RESET key. Restart part program

16715 **Channel %1 block %2 axis %3 spindle not in standstill**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Spindle number

Definitions: In the applied function (G74, reference point approach), the spindle must be stationary.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Program M5 or SPOS/SPOSA in front of the defective block in the part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16720 **Channel %1 block %2 axis %3 thread lead is zero**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: No lead was programmed in a thread block with G33 (thread with constant lead) or G331 (rigid tapping).

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: The thread lead must be programmed for the specified geometry axis under the associated interpolation parameters.
X -> I
Y -> J
Z -> K

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16730 **Channel %1 block %2 axis %3 wrong parameter**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: In G33 (tapping with constant lead) the lead parameter was not assigned to the axis that determines the velocity.
For longitudinal and face threads, the thread lead for the specified geometry axis must be programmed under the associated interpolation parameter.

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X -> I

Y -> J

Z -> K

For taper threads, the address I, J, K depends on the axis with the longer path (thread length). A 2nd lead for the other axis is, however, not specified.

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Assign lead parameters to the axis that determines the velocity.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16740 Channel %1 block %2 no geometry axis programmed

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: No geometry axis was programmed for tapping (G33) or for rigid tapping (G331, G332). The geometry axis is, however, essential if an interpolation parameter has been specified.

Example:

N100 G33 Z400 K2 ; thread lead 2mm, thread end Z=400 mm

N200 SPOS=0 ; position spindle in axis mode

N201 G90 G331 Z-50 K-2 ; tapping to Z=-50, counterclockwise

N202 G332 Z5 ; retraction, direction reversal automatic

N203 S500 M03 ; spindle again in spindle mode

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Specify geometry axis and corresponding interpolation parameters.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16745 Channel %1 block %2 spindle %3 gear stage %4 expected

Parameters: %1 = Channel number

%2 = Block number, label

%3 = Spindle number

%4 = Gear stage

Definitions: G331 activates the second gear stage data block for tapping.

The programmed speed (S) of the master spindle is outside the speed range of the active gear stage of the second gear stage data block

The causes for the incurrence of the alarm may be:

* The spindle speed (S) was not programmed in one block with G331.

* The programmed spindle speed (S) is not within the speed range of configured gear stages of the second gear stage data block.

* In the G331 block, in addition to the spindle speed (S) axis motion(s) were programmed (infeed axis).

In this case, a gear stage change cannot be executed.

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: • Insert suitable gear stage prior to thread cutting.

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• Program spindle speed in one G331 block of its own without axis motion(s) and prior to thread cutting, e.g. G331 S1000. This installs the gear stage suitable for thread cutting with G331.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16746 Channel %1 block %2 spindle %3 selected gear stage %4 not installed

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Spindle number
%4 = Gear stage

Definitions: The first gear stage data block is active. The required gear stage is not installed in the 1st gear stage data block. The number of installed gear stages is archived in machine date 35090 $MA_NUM_GEAR_STEPS.
The causes for the incurrence of the alarm may be:
Maybe 3 gear stages are installed but...
*...one gear stage larger than 3 was directly programmed, e.g. M45.
*...M70 was programmed and machine date 35014 $MA_GEAR_STEP_USED_IN_AXISMODE is larger than 3.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: • Install valid gear stage which is also installed according to machine date MA_NUM_GEAR_STEPS.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16747 Channel %1 block %2 spindle %3 inserted gear stage %4 for tapping not installed

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Spindle number
%4 = Gear stage

Definitions: The second gear stage data block is activated with G331 for tapping. However, the current gear stage is not installed in this gear stage data block, i.e. it is too high. The number of installed gear stages is archived in machine date 35092 NUM_GEAR_STEPS2.
The causes for the incurrence of the alarm may be:
* The spindle speed (S) for tapping was not programmed in one block with G331.
* The automatic gear stage change could not be executed as axis motion(s) were programmed in the G331 block in addition to the spindle speed (S).
* The spindle speed (S) for tapping was programmed in a G331 block without axis motions. However, a gear stage change could not be executed because...
a) ...M40 was not active.
b ...the spindle speed is not within the speed range of the configured gear stages of the second gear stage data block.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

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Remedy:
- Insert suitable gear stage prior to thread cutting.
- Program spindle speed in one G331 block of its own without axis motion(s) and prior to thread cutting, e.g. G331 S1000. This installs the gear stage suitable for thread cutting with G331.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16750 Channel %1 block %2 axis %3 SPCON not programmed

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: For the programmed function (rotary axis, positioning axis), the spindle must be in position control mode.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Program position control of the spindle with SPCON in the previous block.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16751 Channel %1 block %2 spindle/axis %3 SPCOF not executable

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: For the programmed function, the spindle must be in the open-loop control mode. In the positioning or axis mode, the position control must not be deselected.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Put the spindle into open-loop control mode in the preceding block. This can be done with M3, M4 or M5 for the relevant spindle.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16755 Channel %1 block %2 no stop required

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No Stop is needed for the programmed function. A Stop is necessary after SPOSA or after M5 if the next block is to be applied only after the spindle has come to a stop.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Do not write instruction.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16757 Channel %1 block %2 for following spindle %3 coupling as leading spindle/axis already existing

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Following spindle number

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Definitions: A coupling has been switched on in which the following spindle/axis has already been active as leading spindle/axis in another coupling. Chained couplings cannot be processed.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Check in the parts program whether the following spindle/axis is already active as leading spindle/axis in another coupling.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16758 Channel %1 block %2 for leading spindle %3 coupling as following spindle/axis already existing

Parameters:
%1 = Channel number
%2 = Block number, label
%3 = Leading spindle number

Definitions: A coupling has been switched on in which the leading spindle/axis has already been active as following spindle/axis in another coupling. Chained couplings cannot be processed.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Check in the parts program whether the leading spindle/axis is already active as following spindle/axis in another coupling.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16760 Channel %1 block %2 axis %3 S value missing

Parameters:
%1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: No spindle speed has been given for rigid tapping (G331 or G332).

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Program the spindle speed under address S in [rpm] (in spite of axis mode); the direction of rotation is given by the sign of the spindle lead.
Positive thread lead: Rotational direction as M03.
Negative thread lead: Rotational direction as M04 N2.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16761 Channel %1 block %2 axis/spindle %3 not programmable in the channel

Parameters:
%1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: Mistake in programming: The axis/spindle cannot be programmed in the channel at this time. This alarm can occur when the axis/spindle is being used by another channel or by the PLC.

Reactions:
- Correction block is reorganized.
- Interface signals are set.

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- Alarm display.

Remedy: Modify part program, use "GET()".

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16762 Channel %1 block %2 spindle %3 thread function is active

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Spindle number

Definitions: Mistake in programming: The spindle function cannot be executed at the present time. This alarm occurs when the spindle (master spindle) is linked with the axes by an interpolation function.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program. Deselect thread cutting or tapping.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16763 Channel %1 block %2 axis %3 programmed speed is illegal (zero or negative)

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: A spindle speed (S value) was programmed with the value zero or with a negative value.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: The programmed spindle speed (S value) must be positive. Depending on the application case, the value zero can be accepted (e.g. G25 S0).

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16770 Channel %1 block %2 axis %3 no measuring system available

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: SPCON, SPOS or SPOSA has been programmed. These functions require at least one measuring system. According to MD: NUM_ENCS the machine axis/spindle has no measuring system.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Retrofit a measuring system.

Program Continuation: Clear alarm with the RESET key. Restart part program

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16771 **Channel %1 following axis %2 overlaid movement not enabled**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: No gear synchronization and no overlay movement can be executed because this is not enabled at the VDI interface.

Reactions: - Alarm display.

Remedy: Set the "enable following axis overlay" VDI signal.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

16772 **Channel %1 block %2 axis %3 is the slave axis, the coupling is being opened**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis, spindle

Definitions: >The axis is active as a slave axis in a coupling. In the REF operation mode, the coupling is opened. The alarm can be suppressed by means of machine data 11410 SUPPRESS_ALARM_MASK Bit29 = 1.

Reactions: - Alarm display.

Remedy: The coupling will be closed again after having exited the REF operation mode.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

16773 **Channel %1 axis %2 is the following axis. The axis/spindle disables of leading axes %3 and %4 differ from one another.**

Parameters: %1 = Channel number
%2 = Axis, spindle
%3 = Axis, spindle
%4 = Axis, spindle

Definitions: The axis is active in a coupling as a following axis. The master axes
have different states regarding axis/spindle disable.
The alarm can be suppressed with machine data 11415 SUPPRESS_ALARM_MASK_2 Bit0 =1.

Reactions: - Alarm display.

Remedy: Set the same axis/spindle disable for all master axes.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

16774 **Channel %1 Synchronization aborted for slave axis/spindle %2**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: For the indicated axis, the synchronization procedure (EGONSYN or EGONSYNE) was aborted.

There are several reasons for aborting the synchronization process:
- RESET
- End of program
- Axis goes to follow-up mode
- Rapid stop caused by an alarm

Reactions: - NC Start disable in this channel.

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- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: If the abort of the synchronization procedure can be tolerated or is intended, the alarm can be suppressed with machine data 11410 SUPPRESS_ALARM_MASK Bit31 = 1.
Only applicable for electronic gear (EG):
If it is not possible to abort the synchronization procedure, you can achieve it by specifying the block change criterion FINE in EGONSYN or EGONSYNE.

Program Continuation: Clear alarm with the RESET key. Restart part program

16776 Channel %1 block %2 curve table %3 does not exist for axis %4

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of curve table
%4 = Axis name, spindle number

Definitions: An attempt was made to couple axis %4 with curve table number %3, but no curve table of this number exists.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Modify the NC part program so that the required curve table exists when axis link is to be activated.

Program Continuation: Clear alarm with the RESET key. Restart part program

16777 Channel %1 block %2 coupling: following axis %3 for lead axis %4 not available

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number
%4 = Axis name, spindle number

Definitions: A coupling has been switched on in which the slave spindle/axis is currently not available.
Possible causes:
• The spindle/axis is active in the other channel.
• The spindle/axis has been accessed by the PLC and has not yet been released.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Put the master spindle/axis with spindle/axis exchange into the necessary channel or release from the PLC.

Program Continuation: Clear alarm with the RESET key. Restart part program

16778 Channel %1 block %2 coupling: Ring coupling at following axis %3 and leading axis %4 impermissible

Parameters: %1 = Channel number
%2 = Block number, label

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%3 = Axis name, spindle number
%4 = Axis name, spindle number

Definitions: A coupling has been switched on which results in a cyclic coupling, allowance being made for further couplings. This cyclic coupling cannot be uniquely computed.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Configure link in accordance with the MD or correct NC part program (channel MD: COUPLE_AXIS_n).

Program Continuation: Clear alarm with the RESET key. Restart part program

16779 Channel %1 block %2 coupling: too many couplings for axis %3, see active leading axis %4

Parameters:
%1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number
%4 = Axis name, spindle number

Definitions: More leading axes and spindles were defined for the specified axis/spindle than are allowed. The last parameter to be specified is a leading value object/leading axis to which the specified axis/spindle is already linked.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

16780 Channel %1 block %2 following spindle/axis missing

Parameters:
%1 = Channel number
%2 = Block number, label

Definitions: The following spindle/axis has not been written in the part program.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16781 Channel %1 block %2 master spindle/axis missing

Parameters:
%1 = Channel number
%2 = Block number, label

Definitions: The master spindle/axis has not been programmed in the part program.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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16782 **Channel %1 block %2 following spindle/axis %3 not available**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: A coupling has been switched on in which the slave spindle/axis is currently not available. Possible causes:
• The spindle/axis is active in the other channel.
• The spindle/axis has been accessed by the PLC and has not yet been released.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Put the master spindle/axis with spindle/axis exchange into the necessary channel or release from the PLC.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16783 **Channel %1 block %2 master spindle/axis %3 not available**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: A coupling has been switched on in which the master spindle/axis is currently not available. Possible causes:
• Setpoint linkage has been selected and spindle/axis is active in the other channel.
• The spindle/axis has been accessed by the PLC and has not yet been released.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Put the master spindle/axis with spindle/axis exchange into the necessary channel or release from the PLC.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16785 **Channel %1 block %2 identical spindles/axes %3**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: A coupling has been switched on in which the following spindle/axis is identical to the master spindle/axis.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department.
• Configure link accordingly in MD (channel MD: COUPLE_AXIS_n)
• or modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16786 **Channel %1 block %2 coupling to master spindle %3 already exists**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Leading spindle number

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Definitions: A coupling is to be switched on, in which the slave axis is already actively coupled with the other master axis. Only one master spindle is allowed for the synchronous spindle function. The already active master spindle is displayed as last alarm parameter.
Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
Remedy: Prior to switching on the new coupling, separate the existing coupling. If several master spindels/axes are required, the ELG function will have to be used.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16787 Channel %1 block %2 coupling parameter not changeable

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The specified coupling is write-protected. Therefore, the coupling parameters cannot be modified.
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: Please inform the authorized personnel/service department.
• Remove write protection. Channel MD: COUPLE_AXIS_IS_WRITE_PROT
• or modify part program.
Program Continuation: Clear alarm with the RESET key. Restart part program

16788 Channel %1 block %2 cyclic coupling

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: A coupling has been switched on which results in a cyclic coupling, allowance being made for further couplings. This cyclic coupling cannot be uniquely computed.
Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
Remedy: Please inform the authorized personnel/service department.
• Configure link accordingly in MD (channel MD: 21300 COUPLE_AXIS_n)
• or modify part program.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16789 Channel %1 block %2 multiple link

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: A coupling has been switched on in which the axes/spindles have already been assigned by another coupling. Parallel couplings cannot be processed.
Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
Remedy: Check in the part program whether another link already exists for the axes.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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16790 **Channel %1 block %2 Parameter is zero or missing**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A coupling has been switched on in which a relevant parameter has been specified with zero or has not been written (e.g. denominator in the transmission ratio, no slave axis).

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department.
• Configure link accordingly in MD (channel MD: 42300 COUPLE_RATIO_n)
• or modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16791 **Channel %1 block %2 parameter is not relevant**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A coupling has been switched on in which a non-relevant parameter has been written (e.g. parameter for ELG).

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16792 **Channel %1 block %2 too many couplings for axis/spindle %3**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: For the specified axis/spindle, more master axes/spindles have been defined than are allowed.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16793 **Channel %1 block %2 coupling of axis %3 prohibits transformation change**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: The specified axis is a slave axis in a transformation grouping. When the coupling is switched on, the transformation cannot be changed to another one.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program. Switch off coupling(s) of this axis before changing transformation or do not change the transformation.

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Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16794 **Channel %1 block %2 coupling of axis/spindle %3 prohibits reference point approach**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: The specified axis is a (gantry) slave axis and cannot therefore approach the reference point.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program. Switch off coupling(s) of this axis before reference point approach or do not reference. A gantry slave axis cannot reference for itself.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16795 **Channel %1 block %2 string cannot be interpreted**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A coupling has been switched on in which a non-interpretable string has been written (e.g. block change behavior).

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16796 **Channel %1 block %2 coupling not defined**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A coupling is to be switched the parameters of which have neither been programmed nor configured.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Correct NC part program or MD, program the coupling with COUPDEF or configure by means of MD.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16797 **Channel %1 block %2 coupling is active**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: An operation is to be performed in which no coupling may be active, e.g. COUPDEL or TANGDEL must not be used on active couplings.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

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Remedy: Correct NC part program, deselect the link with COUPOF or TANGOF.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16798 Channel %1 block %2 axis %3 is following axis and prohibits axis container rotation

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: The programmed axis/spindle is active as a slave axis/spindle in a coupling. When the coupling is active, the axis container cannot be rotated.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program. Deactivate the coupling(s) for this axis/spindle before rotating the axis container or execute the axis container rotation at a later time.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16799 Channel %1 block %2 axis %3 is master axis and prohibits axis container rotation

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: The programmed axis/spindle is active as a master axis/spindle in a coupling. When the coupling is active, the axis container cannot be rotated.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program. Deactivate the coupling(s) for this axis/spindle before rotating the axis container or execute the axis container rotation at a later time.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16800 Channel %1 block %2 traverse instruction DC/CDC for axis %3 not allowed

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: The keyword DC (Direct Coordinate) can only be used for rotary axes. This causes approach of the programmed absolute position along the shortest path.
Example:
N100 C=DC(315)

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Replace the keyword DC in the displayed NC block by specifying AC (Absolute Coordinate).
If the alarm display is the result of an error in the axis definition, the axis can be declared as a rotary axis by means of the axis-specific MD 30300 IS_ROT_AX.
Corresponding machine data:
Modify MD 30310: ROT_IS_MODULO
Modify MD 30320: DISPLAY_IS_MODULO

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Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16810 Channel %1 block %2 traverse instruction ACP for axis %3 not allowed

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: The keyword ACP (Absolute Coordinate Positive) is only allowed for "modulo axes". It causes approach of the programmed absolute position in the specified direction.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. In the displayed NC block, replace the keyword ACP by specifying AC (Absolute Coordinate).
If the alarm display is based on an incorrect axis definition, the axis with the axis-specific MD 30300: IS_ROT_AX and MD 30310: ROT_IS_MODULO can be declared a rotary axis with modulo change.
Corresponding machine data:
Modify MD 30,320: DISPLAY_IS_MODULO

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16820 Channel %1 block %2 traverse instruction ACN for axis %3 not allowed

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: The keyword ACN (Absolute Coordinate Negative) is only allowed for "modulo axes". It causes approach of the programmed absolute position in the specified direction.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. In the displayed NC block, replace the keyword ACN by specifying AC (Absolute Coordinate).
If the alarm display is based on an incorrect axis definition, the axis with the axis-specific MD 30300: IS_ROT_AX and MD 30310: ROT_IS_MODULO can be declared a rotary axis with modulo change.
Corresponding machine data:
Modify MD 30320: DISPLAY_IS_MODULO

Program Continuation: Clear alarm with the RESET key. Restart part program

16830 Channel %1 block %2 incorrect position programmed for axis/spindle %3

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: A position beyond the range of 0 - 359.999 has been programmed for a modulo axis.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Program position in the range 0 - 359.999.

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Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16903 **Channel %1 program control: action %2<ALNX> not allowed in the current state**

Parameters: %1 = Channel number
%2 = Action number/action name

Definitions: The relevant action cannot be processed now. This can occur, for instance, during read-in of machine data.

Reactions: - Alarm display.

Remedy: Wait until the procedure is terminated or abort with Reset and repeat the operation.

Program Continuation: Clear alarm with the Delete key or NC START.

16904 **Channel %1 program control: action %2<ALNX> not allowed in the current state**

Parameters: %1 = Channel number
%2 = Action number/action name

Definitions: The operation (program, JOG, block search, reference point, etc.) cannot be started or continued in the current status.

Reactions: - Alarm display.

Remedy: Check the program status and channel status.

Program Continuation: Clear alarm with the Delete key or NC START.

16905 **Channel %1 program control: action %2<ALNX> not allowed**

Parameters: %1 = Channel number
%2 = Action number/action name

Definitions: Operation cannot be started or continued. A start is only accepted when an NCK function can be started.
Example: A start is accepted in JOG mode when, for example, the function generator is active or a JOG movement has first been stopped with the Stop key.

Reactions: - Alarm reaction in Automatic mode.

Remedy: Check the program status and channel status.

Program Continuation: Clear alarm with the Delete key or NC START.

16906 **Channel %1 program control: action %2<ALNX> is aborted due to an alarm**

Parameters: %1 = Channel number
%2 = Action number/action name

Definitions: The action was aborted due to an alarm.

Reactions: - Alarm display.

Remedy: Eliminate the error and acknowledge the alarm. Then repeat the operation.

Program Continuation: Clear alarm with the Delete key or NC START.

16907 **Channel %1 action %2<ALNX> only possible in stop state**

Parameters: %1 = Channel number
%2 = Action number/action name

Definitions: This action may only be performed in Stop state.

Reactions: - Alarm display.

Remedy: Check the program status and channel status.

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Program Continuation: Clear alarm with the Delete key or NC START.

16908 Channel %1 action %2<ALNX> only possible in reset state or at the block end

Parameters: %1 = Channel number
%2 = Action number/action name

Definitions: This action may only be performed in Reset state or at end of block.
In JOG mode, no axis that is traversed as geometry axis in the switched coordinate system, must be active as PLC or command axis (started through static synchronized action) on mode change. This means that axes like that must be in the state 'neutral axis' again.

Reactions: - Alarm display.

Remedy: Check the program status and channel status.
Check in JOG mode whether the axes are PLC or command axes.

Program Continuation: Clear alarm with the Delete key or NC START.

16909 Channel %1 action %2<ALNX> not allowed in current mode

Parameters: %1 = Channel number
%2 = Action number/action name

Definitions: You have to activate a different operating mode for the function to be activated.

Reactions: - Alarm display.

Remedy: Check operation and operating state.

Program Continuation: Clear alarm with the Delete key or NC START.

16911 Channel %1 mode change is not allowed

Parameters: %1 = Channel number

Definitions: The change from overstoring into another operating mode is not allowed.

Reactions: - Alarm display.

Remedy: After overstoring is terminated, it is possible to change to another operating state again.

Program Continuation: Clear alarm with the Delete key or NC START.

16912 Channel %1 program control: action %2<ALNX> only possible in reset state

Parameters: %1 = Channel number
%2 = Action number/action name

Definitions: This action can only be performed in Reset state.
Example: Program selection through MMC or channel communication (INIT) can only be performed in Reset state.

Reactions: - Alarm display.

Remedy: Reset or wait until processing is terminated.

Program Continuation: Clear alarm with the Delete key or NC START.

16913 Mode group %1 channel %2 mode change: action %3<ALNX> not allowed

Parameters: %1 = Channel number
%2 = Mode group number
%3 = Action number/action name

Definitions: The change to the desired mode is not permitted. The change can only take place in the Reset state.

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Example: Program processing is halted in AUTO mode by NC Stop. Then there is a mode change to JOG mode (program status interrupted). From this operating mode it is only possible to change to AUTO mode and not to MDI mode!

Reactions: - Alarm display.

Remedy: Either activate the Reset key to reset program processing, or activate the mode in which the program was being processed previously.

Program Continuation: Clear alarm with the Delete key or NC START.

16914 Mode group %1 channel %2 mode change: action %3<ALNX> not allowed

Parameters: %1 = Channel number
%2 = Mode group number
%3 = Action number/action name

Definitions: Incorrect mode change, e.g.: Auto -> MDIREF.

Reactions: - Alarm display.

Remedy: Check operation or selected mode.

Program Continuation: Clear alarm with the Delete key or NC START.

16915 Channel %1 action %2<ALNX> not allowed in the current block

Parameters: %1 = Channel number
%2 = Action number/action name

Definitions: If traversing blocks are interrupted by asynchronous subroutines, then it must be possible for the interrupted program to continue (reorganization of block processing) after termination of the asynchronous subroutine.
The 2nd parameter describes which action wanted to interrupt block processing.

Reactions: - Alarm display.

Remedy: Let the program continue to a reorganized NC block or modify part program.

Program Continuation: Clear alarm with the Delete key or NC START.

16916 Channel %1 repositioning: action %2<ALNX> not allowed in the current state

Parameters: %1 = Channel number
%2 = Action number/action name

Definitions: Repositioning of block processing presently not possible. In certain cases this can prevent a mode change from taking place.
The 2nd parameter describes which action should be used to perform repositioning.

Reactions: - Alarm display.

Remedy: Let the program continue to a repositioned NC block or modify part program.

Program Continuation: Clear alarm with the Delete key or NC START.

16918 Channel %1 for action %2<ALNX> all channels must be in reset state

Parameters: %1 = Channel number
%2 = Action number/action name

Definitions: All channels must be in the initial setting in order to carry out the action! (For example, for machine data loading)

Reactions: - Alarm display.

Remedy: Either wait until the channel status is aborted or press the Reset key.

Program Continuation: Clear alarm with the Delete key or NC START.

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16919 **Channel %1 action %2<ALNX> is not allowed due to a pending alarm**

Parameters: %1 = Channel number
%2 = Action number/action name

Definitions: This action cannot be performed due to an alarm, or the channel is in fail.

Reactions: - Alarm display.

Remedy: Press RESET key.

Program Continuation: Clear alarm with the Delete key or NC START.

16920 **Channel %1 action %2<ALNX> is already active**

Parameters: %1 = Channel number
%2 = Action number/action name

Definitions: An identical action is still active.

Reactions: - Alarm display.

Remedy: Wait until the first procedure is terminated or abort with Reset and repeat the operation.

Program Continuation: Clear alarm with the Delete key or NC START.

16921 **Channel %1 mode group %2 machine data: channel/mode group assignment not allowed or assigned twice**

Parameters: %1 = Channel number
%2 = Mode group number

Definitions: On powering up, an illegal channel/mode group assignment was detected.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check machine data ASSIGN_CHAN_TO_MODE_GROUP.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

16922 **Channel %1 subprograms: action %2<ALNX> maximum nesting depth exceeded**

Parameters: %1 = Channel number
%2 = Action number/action name

Definitions: Various actions can cause the current procedure to be interrupted. Depending on the action, asynchronous subroutines are activated. These asynchronous subroutines can be interrupted in the same manner as user programs. Unlimited nesting depth is not possible for asynchronous subroutines due to memory limitations.

Example: An interrupt interrupts the current program processing. Other interrupts with higher priorities interrupt processing of the previously activated asynchronous subroutines.

Possible actions are: DryRunOn/Off, DecodeSingleBlockOn, delete distance-to-go, interrupts .....

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Do not trigger the event on this block.

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Program Continuation: Clear alarm with the RESET key. Restart part program

16923 **Channel %1 program control: action %2<ALNX> not allowed in the current state**

Parameters: %1 = Channel number
%2 = Action number/action name

Definitions: The current processing cannot be stopped, due to an active preprocessing process. This applies to, for example, loading machine data and block searches until the search object is found.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Abort by pressing Reset!

Program Continuation: Clear alarm with the Delete key or NC START.

16924 **Channel %1 caution: program test modifies tool management data**

Parameters: %1 = Channel number

Definitions: Tool management data is changed during program testing. It is not possible to automatically rectify the data after termination of the program testing.
This error message prompts the user to make a backup copy of the data or to reimport the data after the operation is terminated.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. Save tool data on MMC and reimport data after "ProgtestOff".

Program Continuation: Clear alarm with the Delete key or NC START.

16925 **Channel %1 program control: action %2<ALNX> not allowed in the current state, action %3<ALNX> active**

Parameters: %1 = Channel number
%2 = Action number/action name
%3 = Action number/action name

Definitions: The action has been refused since a mode or sub-mode change (change to automatic mode, MDI, JOG, overstoring, digitizing, etc.) is taking place.
Example: This alarm message is output if the Start key is pressed during a mode or sub-mode change from, for example, automatic to MDI, before the NCK has confirmed selection of the mode.

Reactions: - Alarm display.

Remedy: Repeat action.

Program Continuation: Clear alarm with the Delete key or NC START.

16926 **Channel %1 channel coordination: action %2 not allowed in block %3, marker %4 is already set**

Parameters: %1 = Channel number
%2 = Aktion
%3 = Block number
%4 = Marker number

Definitions: The action was denied, the marker was already set. Check the program.
Example:
SETM(1) ; CLEARM(1) ; Marker must be reset first.
SETM(1)

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Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Repeat action.

Program Continuation: Clear alarm with the RESET key. Restart part program

16927 Channel %1 action %2<ALNX> at active interrupt treatment not allowed

Parameters: %1 = Channel number
%2 = Action number/action name

Definitions: This action may not be activated during interrupt processing (e.g. mode change).

Reactions: - Alarm display.

Remedy: Reset or wait until interrupt processing is terminated.

Program Continuation: Clear alarm with the Delete key or NC START.

16928 Channel %1 interrupt treatment: action %2<ALNX> not possible

Parameters: %1 = Channel number
%2 = Action number/action name

Definitions: A program interrupt has been activated in a non REORG capable block.
Examples of possible program interrupt in this case:
• Traversing to fixed stop
• VDI channel delete distance-to-go
• VDI axial delete distance-to-go
• Measuring
• Software limit
• Axis replacement
• Axis from correction
• Servo disable
• Gear stage change at actual gear stage unequal to setpoint gear stage.
The relevant block concerns a:
• Pick-up block during block search (excluding last pick-up block)
• Block in overstore interrupt.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Do not trigger the event on this block.

Program Continuation: Clear alarm with the RESET key. Restart part program

16930 Channel %1: preceding block and current block %2 must be separated through an executable block

Parameters: %1 = Channel number
%2 = Block number

Definitions: The language functions WAITMC, SETM, CLEARM and MSG must be packed in separate NC blocks due to the language definition. To avoid velocity drops, these blocks are attached to the next NC block internally in the NCK (for MSG only in path control mode, for WAITMC to the previous NC block). For this reason, there must always be an

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executable block (not a calculation block) between the NC blocks. An executable NC block always includes e.g. travel movements, a help function, Stopre, dwell time etc.

Reactions: - Correction block is reorganized.
- Interpreter stop
- Interface signals are set.
- Alarm display.

Remedy: Program an executable NC block between the previous and the current NC block.
Example:
N10 SETM.
N15 STOPRE ; insert executable NC block.
N20 CLEARM.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

16931 Channel %1 subprograms: action %2<ALNX> maximum nesting depth exceeded

Parameters: %1 = Channel number
%2 = Action number/action name

Definitions: Various actions can cause the current procedure to be interrupted. Depending on the action, asynchronous subroutines are activated. These asynchronous subroutines can be interrupted in the same manner as the user program. Unlimited nesting depth is not possible for asynchronous subroutines due to memory limitations.
Example: In the case of an approach block in a repositioning procedure do not interrupt repeatedly, instead wait until processing is completed.
Possible actions are: mode change, SlashOn/Off, overstoring.

Reactions: - Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Initiate a block change and repeat the action.

Program Continuation: Clear alarm with the Delete key or NC START.

16932 Channel %1 conflict when activating user data type %2

Parameters: %1 = Channel number
%2 = Data type

Definitions: The "activate user data" function (PI service _N_SETUDT) modifies a data block (tool offset, settable zero offset or base frame) which is also written by the NC blocks in preparation.
In the event of a conflict, the value entered by the MMC is reset.
Parameter %2 specifies which data block is affected:
1: Active tool offset
2: Base frame
3: Active zero offset

Reactions: - Alarm display.

Remedy: Check the inputs on the MMC and repeat if necessary.

Program Continuation: Clear alarm with the Delete key or NC START.

16933 Channel %1 interrupt treatment: action %2<ALNX> not allowed in the current state

Parameters: %1 = Channel ID
%2 = Action number/action name

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Definitions: If a temporary standstill has occurred because of a Reorg event across block boundaries, it is possible that a block without Reorg capability has been loaded. In this situation, it is unfortunately necessary to abort the Reorg event handling! Reorg events are, e.g. abort subprogram, delete distance-to-go and interrupts.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Abort program with the RESET key.

Program Continuation: Clear alarm with the RESET key. Restart part program

16934 Channel %1 interrupt treatment: action %2<ALNX> not possible due to stop

Parameters:
%1 = Channel ID
%2 = Action number/action name

Definitions: Reorg events are, e.g. abort subprogram, delete distance to go and interrupts, axis replacement, termination of follow-up mode. Two Reorg events overlap in this situation. The 2nd Reorg event coincides with the 1st block generated by the previous event. (e.g. an axis replacement is induced twice in rapid succession). Axis replacement leads to Reorg in the channels in which an axis is removed without preparation. This block must be stopped in the above sequence in order to prevent the interpolator buffer from overflowing. This can be achieved by pressing the Stop or StopAll key, configuring an alarm with INTERPRETERSTOP or by decode single block.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: The program must be aborted with Reset.

Program Continuation: Clear alarm with the RESET key. Restart part program

16935 Channel %1 action %2<ALNX> not possible due to search run

Parameters:
%1 = Channel ID
%2 = Action number/action name

Definitions: The action is not allowed as block search is currently running via program test. Block search via program test: "PI Service _N_FINDBL with mode parameter 5_.
With this block search type, it is not permissible to activate program test or dry run feedrate.

Reactions:
- Alarm display.

Remedy: Activate the action after block search is terminated.

Program Continuation: Clear alarm with the Delete key or NC START.

16936 Channel %1 action %2<ALNX> not possible due to active dry run

Parameters:
%1 = Channel ID
%2 = Action number/action name

Definitions: This action is not allowed as dry run feedrate is currently active.
Example: It is not permissible to activate block search via program test (PI service _N_FINDBL with mode parameter 5) when dry run feedrate is active.

Reactions:
- Alarm display.

Remedy: Abort program with the RESET key.

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Program Continuation: Clear alarm with the Delete key or NC START.

16937 Channel %1 action %2<ALNX> not possible due to program test

Parameters: %1 = Channel ID
%2 = Action number/action name

Definitions: This action is not allowed as program test is currently active.
Example: It is not permissible to activate block search via program test (PI service _N_FINDBL with mode parameter 5) when program test is active.

Reactions: - Alarm display.

Remedy: Deactivate program test.

Program Continuation: Clear alarm with the Delete key or NC START.

16938 Channel %1 action %2<ALNX> aborted due to active gear change

Parameters: %1 = Channel ID
%2 = Action number/action name

Definitions: Reorganization events are, among others, subprogram abort, delete distance-to- go and interrupts, axis replacement, exiting the correction state. These events wait for the end of a gear change. However, the maximum waiting period has elapsed.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Program must be aborted with Reset and, if necessary, GEAR_CHANGE_WAIT_TIME must be increased.

Program Continuation: Clear alarm with the RESET key. Restart part program

16939 Channel %1 action %2<ALNX> rejected due to active gear change

Parameters: %1 = Channel ID
%2 = Action number/action name

Definitions: Reorganization events that are possible in Stop state, e.g mode change, are waiting for the end of the gear change. However, the maximum waiting period has elapsed.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Repeat action or increase MD GEAR_CHANGE_WAIT_TIME.

Program Continuation: Clear alarm with the Delete key or NC START.

16940 Channel %1 action %2<ALNX> wait for gear change

Parameters: %1 = Channel ID
%2 = Action number/action name

Definitions: Reorganization events are waiting for the end of a gear change. The alarm is displayed during the waiting period.

Reactions: - Alarm display.
- Warning display.

Remedy: Alarm is suppressed by means of ENABLE_ALARM_MASK bit 1 == 0.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

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16941 **Channel %1 action %2<ALNX> rejected because no program event has been executed yet**

Parameters: %1 = Channel ID

%2 = Action number/action name

Definitions: The setting of the machine data $MC_PROG_EVENT_MASK forces an asynchronous subprogram to be triggered automatically on RESET or PowerOn. The implicitly triggered asynchronous subprograms are normally called "Event-triggered program call" or "Program event".

In the alarm situation, this asynchronous subprogram could not yet be activated; that is why the action (normally start of part program) must be rejected.

Reasons for the fact that the asynchronous subprogram could not be triggered:

1. The asynchronous subprogram does not exist (/_N_CMA_DIR/_N_PROG_EVENT_SPF)

2. The asynchronous subprogram is allowed to start in the referenced state only (see $MN_ASUP_START_MASK)

3. READY is missing (because of alarm)

Reactions: - Alarm display.

Remedy: • Load program

• Check $MN_ASUP_START_MASK

• Acknowledge alarm

Program Continuation: Clear alarm with the Delete key or NC START.

16942 **Channel %1 start program command action %2<ALNX> not possible**

Parameters: %1 = Channel ID

%2 = Action number/action name

Definitions: Currently, the alarm occurs only in combination with the SERUPRO action. SERUPRO stands for search via program test.

SERUPRO is currently searching the search target and has therefore switched this channel to the program test mode. With the START program command in channel 1, another channel 2 would actually be started, which means that axes would really be started during the search action.

If this alarm is switched off (see help), the user can make use of the above behavior by initially selecting via PLC the program test mode in channel 2, leaving channel 2 executing until its natural end, stopping channel 2 in order to deselect program test again.

Reactions: - NC Start disable in this channel.

- Interface signals are set.

- Alarm display.

- NC Stop on alarm.

Remedy: Alarm can be switched off with $MN_SERUPRO_MASK bit 1.

Program Continuation: Clear alarm with the RESET key. Restart part program

16943 **Channel %1 action %2<ALNX> not possible due to ASUP**

Parameters: %1 = Channel ID

%2 = Action number/action name

Definitions: The action in the 2nd parameter was rejected, since an asynchronous subprogram is currently active.

Currently, only the integrated search run is rejected with this alarm. The integrated search run is activated, if search run is triggered in the Stop program state. In other words: Parts of a program have already been executed and a following program part is "skipped" with search run in order to continue the program afterwards.

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The event is not possible if the program is stopped within an asynchronous subprogram or if an asynchronous subprogram had been selected before the event. An asynchronous subprogram is selected, when the triggering asynchronous subprogram event arrives, but the asynchronous subprogram cannot be started (e.g. the asynchronous start program is not started because of a read-in disable or because the Stop key is active).

In this case, it is irrelevant whether a user ASUP or a system ASUP has been triggered. User ASUPs are activated via FC-9 or via the fast inputs.

The following events lead to system ASUPS:

- Mode change
- Overstore on
- Aborting subprogram level
- Switching on of single block, type 2
- Setting machine data effective
- Setting user data effective
- Change skip levels
- Dry run on/off
- Program test off
- Correction block alarms
- Editing modi in Teach
- External zero offset
- Axis replacement
- Delete distance-to-go
- Measuring

Reactions: - Alarm display.

Remedy: Repeat the action after the end of the asynchronous subprogram.

Program Continuation: Clear alarm with the Delete key or NC START.

16944 Channel %1 action %2<ALNX> not possible due to active search blocks

Parameters: %1 = Channel ID

%2 = Action number/action name

Definitions: The NCK is currently processing either the action blocks of the search run or the approach motion after the search run.

In this situation, the action (2nd parameter of the alarm) must be rejected.

Currently, only the integrated search run is rejected with this alarm. The integrated search run is activated, if search run is triggered in the Stop program state. In other words: Parts of a program have already been executed and a following program part is "skipped" with search run in order to continue the program afterwards.

Reactions: - Alarm display.

Remedy: Repeat the action after the approach motion of the search run.

Program Continuation: Clear alarm with the Delete key or NC START.

16945 Channel %1 action %2<ALNX> delayed up to the block end

Parameters: %1 = Channel ID

%2 = Action number/action name

Definitions: The currently executing action (e.g. dry run on/off, change skip levels, etc.) should be active immediately, but it can become active not earlier than at the end of the block, since a thread is currently being machined. The action is activated with a slight delay.

Example: Dry run is started in the middle of the thread, then traversing at high speed does not start before the next block.

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Reactions: - Alarm display.
Remedy: Alarm can be switched off via $MN_SUPPRESS_ALARM_MASK bit 17==1.
Program Continuation: Clear alarm with the Delete key or NC START.

16946 Channel %1 start via START is not allowed

Parameters: %1 = Channel ID
Definitions: This alarm is active with "Group Serupro" only. _Group Serupro" is activated by means of "$MC_SERUPRO_MODE BIT2" and enables the retrace support of entire channel groups during block search.
The machine data $MC_DISABLE_PLC_START specifies which channel is generally started from the PLC and which channel is only allowed to be started from another channel via the START part program command.
This alarm occurs if the channel was started via the START part programm command and $MC_DISABLE_PLC_START==FALSE was set.
Reactions: - Alarm display.
Remedy: Modify $MC_DISABLE_PLC_START of switch off "Group Serupro" (see $MC_SERUPRO_MODE).
Program Continuation: Clear alarm with the Delete key or NC START.

16947 Channel %1 start via PLC is not allowed

Parameters: %1 = Channel ID
Definitions: This alarm is active with "Group Serupro" only. _Group Serupro" is activated by means of "$MC_SERUPRO_MODE BIT2" and enables the retrace support of entire channel groups during block search.
The machine data $MC_DISABLE_PLC_START specifies which channel is generally started from the PLC and which channel is only allowed to be started from another channel via the START part program command.
This alarm occurs if the channel was started via the PLC and $MC_DISABLE_PLC_START==TRUE was set.
Reactions: - Alarm display.
Remedy: Modify $MC_DISABLE_PLC_START of switch off "Group Serupro" (see $MC_SERUPRO_MODE).
Program Continuation: Clear alarm with the Delete key or NC START.

16948 Channel %1 dependent channel %2 still active

Parameters: %1 = Channel ID
%2 = Channel ID
Definitions: This alarm is active with "Group Serupro" only. _Group Serupro" is activated by means of "$MC_SERUPRO_MODE BIT2" and enables the retrace support of entire channel groups during block search.
A _dependent channel_ is a channel that had indirectly been started by the currently active channel. The currently active channel was started via PLC.
This channel m_u_s_t be terminated (i.e. reached M30) before the current channel is terminated.
This alarm occurs if the currently active channel is terminated before the dependent channel.
Reactions: - Alarm display.
Remedy: Switch off "Group Serupro" (see $MC_SERUPRO_MODE) or install WAITE.
Program Continuation: Clear alarm with the Delete key or NC START.

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16949 **Correspondence between marker of channel %1 and channel %2 is invalid.**

Parameters: %1 = Channel ID
%2 = Channel ID

Definitions: This channel defines a WAIT marker with other channels, which on their part have no correspondence with this wait marker.
This channel's WAIT marker has no explicit counterpart in the other channel; i.e. the channels do not mutually wait.
==========
Example
Ch 3Ch 5Ch 7
WAITM(99,3,5) WAITM(99,3,5) WAITM(99,5,7)
The wait markers in channels 3 and 5 mutually wait for each other and channel 7 only waits for channel 5. Therefore, channel 7 may continue when 5 and 7 have reached the wait marker, but channel 3 is still far in front of the wait marker.
When it continues, channel 7 deletes its wait marker. When wait marker 99 is reached again, you can no longer determine the behavior precisely.
==========

Reactions: - Alarm display.

Remedy: In each wait marker, list all channels with which you want to synchronize, or suppress the alarm with $MN_SUPPRESS_ALARM_MASK, bit 23.
==========
Sample solution A:
Ch 3Ch 5Ch 7
WAITM(99,3,5,7) WAITM(99,3,5,7) WAITM(99,3,5,7)
==========
Sample solution B:
Ch 3Ch 5Ch 7
WAITM(99,3,5) WAITM(99,3,5)
WAITM(88,5,7) WAITM(88,5,7)
==========
Sample solution C:
Ch 3Ch 5Ch 7
WAITM(88,5,7) WAITM(88,5,7)
WAITM(99,3,5) WAITM(99,3,5)

Program Continuation: Clear alarm with the Delete key or NC START.

16950 **Channel %1 search run with hold block**

Parameters: %1 = Channel ID

Definitions: Informational alarm.
The search run was not performed on the interruption block,
instead, it touches down shortly before that. This so-called "hold block"
is generated by the part program command IPTRLOCK, or implicitly defined by
$MC_AUTO_IPTR_LOCK. This is to prevent
you from performing a search run in critical program areas
(e.g. gear hobbing).
The alarm also displays that, instead of searching for the
block that actually was interrupted before, another block is being searched for.
This behavior is desired and the alarm serves only informational purposes.

Reactions: - Alarm display.

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Remedy: $MN_SUPPRESS_ALARM_MASK $MC_AUTO_IPTR_LOCK and language command IPTRLOCK

Program Continuation: Clear alarm with the Delete key or NC START.

16951 Channel %1 search run in a program section that cannot be searched

Parameters: %1 = Channel ID

Definitions: With the language commands IPTRLOCK and IPTRUNLOCK, the part programmer can identify part program sections that cannot be searched. Every search run in these program sections will be acknowledged with alarm 16951.
In other words:
When the alarm appears, the user has started a search run (Serupro type) and the search target lies in an area that cannot be searched!
An area that cannot be searched can also be defined implicitly with the machine data $MC_AUTO_IPTR_LOCK.
Note:
The alarm can only be generated when the simulation is completed during the search run. The alarm cannot be output immediately at the start of the search run.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: $MN_SUPPRESS_ALARM_MASK $MC_AUTO_IPTR_LOCK and language command IPTRLOCK

Program Continuation: Clear alarm with the RESET key. Restart part program

16952 Channel %1 start program command not possible due to MDI

Parameters: %1 = Channel ID

Definitions: NCK is currently executing an ASUB in MDI mode. In this constellation, parts program command "Start" is not allowed for another channel.

Attention: If an asup is started from JOG, the NCK can internally change to MDI, if the NCK was previously in MDI and not in RESET.
Note: Without this alarm, the MDI buffer of the other channel would always be started.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Start ASUB in AUTO or ->JOG in AUTO

Program Continuation: Clear alarm with the RESET key. Restart part program

16953 Channel %1 For slave axis %2 SERUPRO not allowed, as master axis %3 not subject to axis/spindle disable

Parameters: %1 = Channel number
%2 = Slave axis name, following spindle number
%3 = Master axis name, master spindle number

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Definitions: Currently, the alarm occurs only in combination with the SERUPRO action. SERUPRO stands for search via program test.
SERUPRO is possible only with an active coupling, if the axis/spindle disable is active for all master axes/spindles of the slave axis/spindle
Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
Remedy: Set axis/spindle disable of the master axis
Program Continuation: Clear alarm with the RESET key. Restart part program

16954 Channel %1 block %2 programmed stop prohibited in stop delay area

Parameters: %1 = Channel ID
%2 = Block number, label
Definitions: In a program area (stop delay area) that is bracketed with DELAYFSTON and DELAYFSTOF,
a program command was used that causes a stop.
No commands other than G4 are permissible that might cause a stop even though only shortly.
A stop delay area can also be defined by $MN_STOP_MODE_MASK.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
Remedy: $MN_STOP_MODE_MASK and language command DELAYFSTON DELAYFSTOF
Program Continuation: Clear alarm with the RESET key. Restart part program

16955 Channel %1 stop in stop delay area is delayed

Parameters: %1 = Channel ID
Definitions: In a program area (stop delay area) that is bracketed by DELAYFSTON and DELAYFSTOF,
an event has been detected that causes a stop. The stop is delayed
and executed after DELAYFSTOF. A stop delay area can also be defined by $MN_STOP_MODE_MASK.

Reactions: - Interface signals are set.
- Alarm display.
Remedy: $MN_STOP_MODE_MASK and language command DELAYFSTON DELAYFSTOF
Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

16956 Channel %1 program %2 cannot be started due to global start disable.

Parameters: %1 = Channel ID
%2 = String (path with program name)
Definitions: The program selected in this channel cannot be started as "Global start disable" had been set.

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Note:
PI "_N_STRTLK" sets the "Global start disable" and PI "_N_STRTUL" deletes the "Global start disable".

The alarm is switched on with $MN_ENABLE_ALARM_MASK bit 6.

Reactions: - Alarm display.
Remedy: Delete the "Global start disable" and restart.
Program Continuation: Clear alarm with the Delete key or NC START.

16957 Channel %1 Stop-Delay area is suppressed

Parameters: %1 = Channel ID
Definitions: The program area (Stop-Delay area), which is put into brackets through DELAYFSTON and
DELAYFSTOF, could not be activated. Every stop therefore becomes effective immediately
and is not delayed!

This occurs every time, when braking into a stop Stop-Delay area, i.e. a braking process starts before the Stop-Delay area and ends not earlier than in the Stop-Delay area.
If the Stop-Delay area is entered with override 0, the Stop-Delay area
can also not be activated (example: a G4 before the Stop-Delay area allows the user to reduce the override to 0 and the next block in the Stop-Delay area
then starts with override 0 and the alarm situation described occurs.)

$MN_ENABLE_ALARM_MASK Bit-7 switches on this alarm.

Reactions: - Interface signals are set.
- Alarm display.
Remedy: $MN_STOP_MODE_MASK and language command DELAYFSTON DELAYFSTOF
Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

16959 Channel %1 action %2<ALNX> prohibited during simulation block search.

Parameters: %1 = Channel number
%2 = Action number/action name
Definitions: The function (2nd parameter) must not be activated during simulation search.
Reactions: - Alarm display.
Remedy: Wait for search end.
Program Continuation: Clear alarm with the Delete key or NC START.

16960 Channel %1 action %2<ALNX> prohibited during EXECUTE PROGRAM AREA.

Parameters: %1 = Channel number
%2 = Action number/action name
Definitions: The function (2nd parameter) must not be activated during EXECUTE PROGRAM AREA.
Reactions: - Alarm display.
Remedy: Wait for end of program area EXECUTE.

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Program Continuation: Clear alarm with the Delete key or NC START.

17000 Channel %1 block %2 maximum number of symbols exceeded

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The maximum number of symbols defined by machine data 28020 $MC_MM_NUM_LUD_NAMES_TOTAL has been exceeded.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department.
- Modify machine data
- Reduce the number of symbols (variables, subroutines, parameters)

Program Continuation: Clear alarm with the RESET key. Restart part program

17001 Channel %1 block %2 no memory left for tool/magazine data

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The number of the following tool/magazine data sizes in the NC is given by machine data:
- Number of tools + number of grinding data blocks: 18082 MM_NUM_TOOL
- Number of cutting edges: 18100 MM_NUM_CUTTING_EDGES_IN_TOA

Tools, grinding data blocks, cutting edges can be used independently of the tool management function.

The memory for the following data is available only if the corresponding bit in 18080 MM_TOOL_MANAGEMENT_MASK has been set.
- Number of monitoring data sets: 18100 MM_NUM_CUTTING_EDGES_IN_TOA
- Number of magazines: 18084 MM_NUM_MAGAZINE
- Number of magazine locations: 18086 MM_NUM_MAGAZINE_LOCATION

The following size is determined by software configuration: Number of magazine spacing data blocks: P2 permits 32 such spacing data blocks.

Definition:
- 'Grinding data blocks': Grinding data can be defined for a tool from type 400 to 499. Such a data block occupies additional memory, as it is planned for a cutting edge.
- 'Monitoring data blocks': Each cutting edge of a tool can be supplemented by monitoring data.
- 'Magazine spacing data block': Spacings to other magazines can be defined for magazine locations in internal magazines.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department.
- Modify machine data
- Modify the NC program, i.e. reduce the number of items related to the variable which caused the error condition.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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17010 **Channel %1 block %2 no memory left**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: When executing/reading files from the active working memory, it was found that there is not enough memory space (e.g. for large multidimensional arrays or when creating tool offset memory).

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Make arrays smaller or make more memory space available for memory management of subroutine calls, tool offsets and user variables (machine data MM_...).
See /FB/, S7 Memory Configuration

Program Continuation: Clear alarm with the RESET key. Restart part program

17020 **Channel %1 block %2 illegal array index 1**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A read or write access has been programmed to an array variable with invalid 1st array index. The valid array indices must be contained within the defined array size and the absolute limits (0 - 32 766).

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Correct the specification of array elements in the access instruction to match the defined size. If an SPL is used in Safety Integrated, the field index via optional data may be subject to additional restrictions.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17030 **Channel %1 block %2 illegal array index 2**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A read or write access has been programmed to an array variable with invalid 2nd array index. The valid array indices must be contained within the defined array size and the absolute limits (0 - 32 766).

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Correct the specification of array elements in the access instruction to match the defined size.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17040 **Channel %1 block %2 illegal axis index**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A read or write access has been programmed to an axial variable in which the axis name cannot be unambiguously imaged on a machine axis.
Example:

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Writing of an axial machine data
$MA_... [X]= ... ; but geometry axis X cannot be imaged on a machine axis because of a transformation!

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Deselect transformation before writing the axial data (keyword: TRAFOOF) or use the machine axis names as axis.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17050 Channel %1 block %2 illegal value

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: On accessing an individual frame element, a frame component other than TRANS, ROT, SCALE or MIRROR was addressed or the function CSCALE has been given a negative scale factor.
Example:
$P_UIFR[5] = CSCALE (X, -2.123)
The frame components are either selected by means of the keywords
TR for translation (TRANS, internal 0)
RT for rotation (ROT, internal 1)
SC for scaling and (SCALE, internal 3)
MI for mirroring (MIRROR, internal 4)
or they are specified directly as an integral value 0, 1, 3, 4.
Example: Access to the rotation around the X axis of the current settable frame.
R10=$P_UIFR[$AC_IFRNUM, X, RT] can also be programmed as:
R10=$P_UIFR[$AC_IFRNUM, X, 1]

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Address frame components only with the keywords provided; program the scale factor between the limits of 0.000 01 to 999.999 99.

Program Continuation: Clear alarm with the RESET key. Restart part program

17055 Channel %1 block %2 GUD variable not existing

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The required GUD variable was not found for a MEACALC procedure during read or write access.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check whether all the GUDs were created for MEACALC.
DEF CHAN INT _MVAR, _OVI[11]
DEF CHAN REAL _OVR[32], _EV[20], _MV[20], _SPEED[4], _SM_R[10], _ISP[3]
DEF NCK REAL _TP[3,10], _WP[3,11], _KB[3,7], _CM[8], _MFS[6]

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DEF NCK BOOL _CBIT[16]
DEF NCK INT _CVAL[4].

Program Continuation: Clear alarm with the RESET key. Restart part program

17060 Channel %1 block %2 requested data area too large

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The maximum memory space of 8 KB available for a symbol has been exceeded.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Reduce array dimensions.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17070 Channel %1 block %2 data is write-protected

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: An attempt was made to write to a write-protected variable (e.g. a system variable). Safety Integrated: Safety system variables can only be modified from the safety SPL program.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17080 Channel %1 block %2 %3 value below lower limit

Parameters: %1 = Channel number
%2 = Block number, label
%3 = MD

Definitions: An attempt was made to write a machine data with a value that is smaller than the defined lower limit.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Determine the input limits of the machine data and assign a value within these limits.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17090 Channel %1 block %2 %3 value exceeds upper limit

Parameters: %1 = Channel number
%2 = Block number, label
%3 = MD

Definitions: An attempt was made to write a machine data with a value that is greater than the defined upper limit.

Reactions: - Correction block is reorganized.
- Interface signals are set.

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- Alarm display.

Remedy: Please inform the authorized personnel/service department. Determine the input limits of the machine data and assign a value within these limits.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17095 Channel %1 block %2 invalid value

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: An attempt was made to write an invalid value, e.g. zero, into a machine data.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Correct the value assignment, e.g. a value within the value range not equal to zero.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17100 Channel %1 block %2 digital input/comparator no. %3 not activated

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Input number

Definitions: Either an attempt was made to read a digital input n via the system variable $A_IN[n] and this input has not been activated via NCK machine data 10350 FASTIO_DIG_NUM_INPUTS; or to read a comparator input via system variable $A_INCO[n] and this input belongs to a comparator which has not been activated.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Modify part program or machine data accordingly.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17110 Channel %1 block %2 digital output no. %3 not activated

Parameters: %1 = Channel number
%2 = Block number, label
%3 = No. of output

Definitions: An attempt was made to read or set a digital NCK output (connector X 121) via the system variable $A_OUT [n] with the index [n] greater than the specified upper limit in the NCK machine data 10360 FASTIO_DIG_NUM_OUTPUTS.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Program index [n] of the system variable $A_OUT [n] only between 0 and the value in the NCK machine data 10350 FASTIO_DIG_NUM_OUTPUTS.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17120 Channel %1 block %2 analog input no. %3 not activated

Parameters: %1 = Channel number
%2 = Block number, label

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%3 = Input number

Definitions: An attempt has been made by means of the system variable $A_INA[n] to read an analog input n that has not been activated by the MD 10300 FASTIO_ANA_NUM_INPUTS.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Modify part program or machine data accordingly.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17130 Channel %1 block %2 analog output no. %3 not activated

Parameters:
%1 = Channel number
%2 = Block number, label
%3 = No. of output

Definitions: An attempt has been made by means of the system variable $A_OUTA[n] to write or read an analog output n that has not been activated by the MD 10310 FASTIO_ANA_NUM_OUTPUTS.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Modify part program or machine data accordingly.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17140 Channel %1 block %2 NCK output %3 is assigned to a function via machine data

Parameters:
%1 = Channel number
%2 = Block number, label
%3 = No. of output

Definitions: The programmed digital/analog output is assigned to an NC function (e.g. software cams).

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Use another output or deactivate concurrent NC function via MD.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17150 Channel %1 block %2 maximum of %3 NCK outputs programmable in the block

Parameters:
%1 = Channel number
%2 = Block number, label
%3 = Quantity

Definitions: No more than the specified number of outputs may be programmed in an NC block.
The quantity of hardware outputs is defined in the MDs:
10360 FASTIO_DIG_NUM_OUTPUTS and
10310 FASTIO_ANA_NUM_OUTPUTS

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

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Remedy: Program fewer digital/analog outputs in a block. The specified maximum number applies in each case separately for analog or digital outputs. If necessary, program two NC blocks.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17160 Channel %1 block %2 no tool selected

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: An attempt has been made to access the current tool offset data via the system variables:
$P_AD [n]: Contents of the parameter (n: 1 - 25)
$P_TOOL: Active D number (tool edge number)
$P_TOOLL [n]: Active tool length (n: 1- 3)
$P_TOOLR: Active tool radius
although no tool had been selected previously.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Program or activate a tool offset in the NC program before using the system variables.
Example:
N100 G.. ... T5 D1 ... LF
With the channel-specific machine data:
Modify MD 22550: TOOL_CHANGE_MODE
New tool offset for M function
Modify MD 22560: TOOL_CHANGE_M_CODE
M function with tool change
It is established whether a tool offset is activated in the block with the T word or whether the new offset values are allowed for only when the M word for tool change occurs.

Program Continuation: Clear alarm with the RESET key. Restart part program

17170 Channel %1 block %2 number of symbols too large

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The predefined symbols could not be read in during power-up.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

17180 Channel %1 block %2 illegal D number

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In the displayed block, access is made to a D number that is not defined and therefore is not available.

Reactions: - Correction block is reorganized.

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- Interface signals are set.
- Alarm display.

Remedy: Check tool call in the NC parts program:

- Correct tool correction number D programmed? If no D number is specified with the tool change command, then the D number set by machine data $MC_CUTTING_EDGE_DEFAULT will be active automatically. It is D1 by default.
- Tool parameters (tool type, length,...) defined? The dimensions of the tool edge must have been entered previously either through the operator panel or through a tool data file in NCK.

Description of the system variables $TC_DPx[t, d] as included in a tool data file.

x ... Correction parameter number P

t ... Associated tool number T

d ... Tool correction number D

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17181 Channel %1 block %2 T no.= %3, D no.= %4 not existing

Parameters: %1 = Channel number

%2 = Block number, label

%3 = T number

%4 = D number

Definitions: A programmed D number was not recognized by the NC. By default, the D number refers to the specified T number. If the flat D number function is active, T= 1 is output.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: If the program is incorrect, remedy the error with a correction block and continue the program. If the data block is missing, download a data block for the specified T/D values onto the NCK (via MMC with overstore) and continue the program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17182 Channel %1 block %2 illegal sum correction number

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: An attempt was made to access a non-defined total offset of the current tool edge.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Access the total offset memory with $TC_SCP*, $TC_ECP*, check the total offset selection DLx or tool selection Ty or offset selection Dz.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17183 Channel %1 block %2 H number already available in T no.= %3, D no.= %4

Parameters: %1 = Channel number

%2 = Block number, label

%3 = T number

%4 = D number

Definitions: Each H number (except for H=0) must be assigned in a TO unit only once.

The indicated edge already has the H number.

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If the H number shall be assigned more than once, machine date 10890, bit 3 must be set = 1.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: • Change program:
• Select different H number

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17188 Channel %1 D number %2 defined in tool T no. %3 and %4

Parameters: %1 = Channel number
%2 = Offset number D
%3 = T number of first tool
%4 = T number of second tool

Definitions: The specified D number %2 in the TO unit of channel %1 is not unique. The specified T numbers %3 and %4 each have an offset with number %2. If tool management is active: The specified T numbers belong to tool groups with different names.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: 1. Ensure that the D numbers within the TO unit are unique.
2. If unique numbering is not necessary for subsequent operations, do not use the command.

Program Continuation: Clear alarm with the Delete key or NC START.

17189 Channel %1 D number %2 of tools defined on magazine/location %3 and %4

Parameters: %1 = Channel number
%2 = Offset number D
%3 = Magazine/location number of first tool, '/' as separator
%4 = Magazine/location number of second tool, '/' as separator

Definitions: The specified D number %2 in the TO unit of channel %1 is not unique. The specified T numbers %3 and %4 each have an offset with number %2.
If tool management is active:
The specified T numbers belong to tool groups with different names.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: 1. Ensure that the D numbers within the TO unit are unique, e.g. by renaming the D numbers.
2. If unique numbering is not necessary for subsequent operations, do not use the command.

Program Continuation: Clear alarm with the Delete key or NC START.

17190 Channel %1 block %2 illegal T number

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In the displayed block, access is made to a tool that is not defined and therefore not available. The tool has been named by its T number, its name or its name and duplo number.

Reactions: - Correction block is reorganized.

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- Interface signals are set.
- Alarm display.

Remedy: Check tool call in the NC part program:
- Correct tool number T.. programmed?
- Tool parameters P1 - P25 defined? The dimensions of the tool edge must have been entered previously either through the operator panel or through the V.24 interface.

Description of the system variables $P_DP x [n, m]

n ... Associated tool number T

m ... Tool edge number D

x ... Parameter number P

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17191 Channel %1 block %2 T= %3 not existing, program %4

Parameters: %1 = Channel number

%2 = Block number, label

%3 = T number or T identifier

%4 = Program name

Definitions: A tool identifier which the NCK does not recognize was programmed.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: If the program pointer is at an NC block which contains the specified T identifier: If the program is incorrect, remedy the error with a correction block and continue the program. If the data block is missing, create one. You can do this by downloading a data block with all the defined D numbers onto the NCK (via MMC with overstore) and continue the program.

If the program pointer is at an NC block which does not contain the specified T identifier: The error occurred at an earlier point in the program where the T command appeared, but the alarm was not output until the change command was detected.

If the program is incorrect - T5 programmed instead of T55 - the current block can be corrected with a correction block; i.e. if only M06 is entered, you can correct the block with T55 M06. The incorrect T5 line remains in the program until it is terminated by a RESET or end of program.

In complex program structures with indirect programming, it may not be possible to correct the program. In this case, you can only intervene locally with an overstore block - with T55 in the example. If the data block is missing, create one. You can do this by downloading the data block of the tool with all the defined D numbers onto the NCK (via MMC with overstore), program the T command with overstore, and continue the program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17192 TO unit %1 invalid tool designation of '%2', duplo no. %3. No more replacement tools possible in '%4'.

Parameters: %1 = TO unit

%2 = Tool identifier

%3 = Duplonummer

%4 = Group identifier

Definitions: The tool with the specified tool identifier, duplo number cannot accept the group identifier. Reason: The maximum number of replacement tools allowed has already been defined. The name allocation causes the tool to be reallocated to a tool group which already contains the maximum number of replacement tools allowed on this machine.

Reactions:
- Interface signals are set.

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- Alarm display.

Remedy: Use fewer replacement tools or request a different maximum setting from the machine manufacturer.

Program Continuation: Clear alarm with the Delete key or NC START.

17193 Channel %1 block %2 the active tool is no longer on toolholder no./spindle no. %3, program %4

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Toolholder no., spindle no.
%4 = Program name

Definitions: The tool at the specified toolholder/spindle at which the last tool change was carried out as master toolholder or master spindle, has been replaced.
Example:
N10 SETHTH(1)
N20 T="Wz1" ; Tool change at master toolholder 1
N30 SETMTH(2)
N40 T1="Wz2" ; Toolholder 1 is only a secondary toolholder.
Changing the tool does not result in correction deselection.
N50 D5; New correction selection. At present, there is no active tool which D can refer to, i.e. D5 refers to T no. = 0, which results in zero correction.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: • Modify program:
• Set desired spindle as master spindle or toolholder as master toolholder.
• Then, if required, reset master spindle or master toolholder.

Program Continuation: Clear alarm with the Delete key or NC START.

17194 Channel %1 block %2 no suitable tool found

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: • An attempt was made to access a tool which has not been defined.
• The specified tool does not permit access.
• A tool with the desired properties is not available.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Check access to tool:
• Are the parameters of the command correctly programmed?
• Does the status of the tool prevent access?

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17200 Channel %1 block %2 deleting tool data not possible

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: An attempt has been made to delete from the part program the tool data for a tool currently being processed. Tool data for tools involved in the current machining operation may not be deleted. This applies both for the tool preselected with T or that has been

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changed in place of another, and also for tools for which the constant grinding wheel peripheral speed or tool monitoring is active.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Check access to tool offset memory by means of $TC_DP1[t,d] = 0 or deselect tool.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17202 Channel %1 block %2 deleting magazine data not possible

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: An attempt was made to delete magazine data which cannot currently be deleted. A magazine with the 'tool in motion' status active cannot be deleted. A tool adapter which is currently allocated to a magazine location cannot be deleted. A tool adapter cannot be deleted if machine data $MN_MM_NUM_TOOL_ADAPTER has the value -1.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: If an attempt to delete a magazine fails
$TC_MAP1[m] = 0 ; Delete magazine with m=magazine no.
$TC_MAP1[0] = 0 ; Delete all magazines
$TC_MAP6[m] = 0 ; Delete magazines and all their tools you must ensure that the magazine does not have the 'tool in motion' status at the time of the call.
If an attempt to delete a tool adapter fails
$TC_ADPTT[a] = -1 ; Delete adapter with number a
$TC_ADPTT[0] = -1 ; Delete all adapters
then the data association with the magazine location or locations must first be canceled with $TC_MPP7[m,p] = 0 ; m = magazine no., p = no. of the location to which the adapter is assigned.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17210 Channel %1 block %2 access to variable not possible

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The variable cannot be written/read directly from the part program. It is allowed only in motion synchronous actions.
Example for variable:
$P_ACTID (which planes are active)
$AA_DTEPB (axial distance-to-go for reciprocating infeed)
$A_IN (test input)
Safety Integrated: Safety PLC system variables can only be read during the safety SPL startup phase.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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17212 **Channel %1 tool management: Load manual tool %3, duplo no. %2 onto spindle/toolholder %4**

Parameters: %1 = Channel number
%2 = Duplo no.
%3 = Tool identifier
%4 = Toolholder number (spindle number)

Definitions: Indicates that the specified manual tool must be loaded in the specified toolholder or spindle before the program is continued. A manual tool is a tool whose data are known to the NCK but which is not assigned to a magazine location and is thus not fully accessible to the NCK, and usually also to the machine, for an automatic tool change.

Reactions: - Alarm display.

Remedy: Make sure that the specified tool is loaded in the toolholder. The alarm is cleared automatically after PLC acknowledgement of the tool change on command.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

17214 **Channel %1 tool management: remove manual tool %3 from spindle/toolholder %2**

Parameters: %1 = Channel number
%2 = Toolholder number (spindle number)
%3 = Tool identifier

Definitions: Indicates that the specified manual tool must be removed from the specified toolholder or spindle before the program is continued. A manual tool is a tool whose data are known to the NCK but which is not assigned to a magazine location and is thus not fully accessible to the NCK, and usually also to the machine, for an automatic tool change.

Reactions: - Alarm display.

Remedy: Make sure that the specified tool is removed from the toolholder. The alarm is cleared automatically after PLC acknowledgement of the tool change on command. Manual tools can only be used efficiently if this is supported by the PLC program.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

17216 **Channel %1 tool management: remove manual tool from spindle/toolholder %4 and load manual tool %3, duplo no. %2**

Parameters: %1 = Channel number
%2 = Duplo no.
%3 = Tool identifier
%4 = Toolholder number (spindle number)

Definitions: Indicates that the specified manual tool must be loaded in the specified toolholder or spindle before the program is continued and that the manual tool located there must be removed. A manual tool is a tool whose data are known to the NCK but which is not assigned to a magazine location and is thus not fully accessible to the NCK, and usually also to the machine, for an automatic tool change.

Reactions: - Alarm display.

Remedy: Make sure that the manual tools are exchanged. The alarm is cleared automatically after PLC acknowledgement of the tool change on command. Manual tools can only be used efficiently if this is supported by the PLC program.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

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17220 **Channel %1 block %2 tool not existing**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: If an attempt is made to access a tool that has not or not yet been defined, via T no., tool name, or tool name and duplo number, e.g. if tools shall be positioned in magazine locations via programming of $TC_MPP6 = 'toolNo'. It will only be possible, if both the magazine location and the tool determined by 'toolNo' have been defined.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Correct the NC program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17224 **Channel %1 block %2 tool T/D= %3 - tool type %4 is not permitted**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Incorrect T no. / D no.
%4 = Incorrect tool type

Definitions: On this system, it is not possible to select tool offsets of the
indicated tool types.
The variety of tool types can both be limited by the machine OEM
and be reduced on individual control models.
Only use tools of the tool types permitted for this system.
Check whether an error has occurred on defining the tool.

Reactions: - Correction block is reorganized.
- Interpreter stop
- Interface signals are set.
- Alarm display.

Remedy: Correct the NC program or correct the tool data

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17230 **Channel %1 block %2 Duplo no. already assigned**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: If an attempt is made to write a tool Duplo number to the name of which another tool (another T number) already exists with the same Duplo number.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Correct the NC program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17240 **Channel %1 block %2 illegal tool definition**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: If an attempt is made to modify a tool data that would subsequently damage the data consistency or lead to a conflicting definition, this alarm will appear.

Reactions: - Correction block is reorganized.

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- Interface signals are set.
- Alarm display.

Remedy: Correct the NC program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17250 Channel %1 block %2 illegal magazine definition

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: If an attempt is made to modify a magazine data that would subsequently damage the data consistency or lead to a conflicting definition, this alarm will appear.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Correct the NC program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17260 Channel %1 block %2 illegal magazine location definition

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: If an attempt is made to modify a magazine location data that would subsequently damage the data consistency or lead to a conflicting definition, this alarm will appear.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Correct the NC program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17262 Channel %1 block %2 illegal tool adapter operation

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: If an attempt is made to define or cancel a tool adapter assignment with reference to a magazine location and this magazine location already has another tool adapter and/or a tool is located in the adapter or - when canceling an assignment - a tool is still at the location, this alarm will appear. If machine data $MC_MM_NUM_SUMCORR has the value -1, adapters cannot be generated by a write operation to an adapter which is not already defined. While the machine data has this value, you can only write adapter data to adapters which have already been (automatically) assigned to magazine locations.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy:
- Assign max. one adapter to a magazine location.
- The magazine location must not contain a tool.
- Machine data $MC_MM_NUM_SUMCORR has value -1: If an alarm occurs when writing one of the system variables $TC_ADPTx (x=1,2,3,T), the write operation must be modified such that only adapter data which are already associated with the magazine locations are written.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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17270 **Channel %1 block %2 call-by-reference: illegal variable**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Machine data and system variables must not be transferred as call-by-reference parameters.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify NC program: Assign the value of the machine data or of the system variable to a program-local variable and transfer this as parameter.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17500 **Channel %1 block %2 axis %3 is not an indexing axis**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: An indexing axis position has been programmed for an axis with the keywords CIC, CAC or CDC that has not been defined as indexing axis in the machine data.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Remove programming instruction for indexing axis positions (CIC, CAC, CDC) from the NC part program or declare the relevant axis to be an indexing axis.
Indexing axis declaration:
Modify MD 30500: INDEX_AX_ASSIGN_POS_TAB
(indexing axis assignment)
The axis will become an indexing axis when an assignment to an indexing position table was made in the stated MD. 2 tables are possible (input value 1 or 2).
Modify MD 10900: INDEX_AX_LENGTH_POS_TAB_1
Modify MD 10920: INDEX_AX_LENGTH_POS_TAB_2
(Number of positions for 1st/2nd indexing axis)
Standard value: 0 Maximum value: 60
Modify MD 10910: INDEX_AX_POS_TAB_1 [n]
Modify MD 10930: INDEX_AX_POS_TAB_2 [n]
(Positions of the 1st indexing axis) The absolute axis positions are entered. (The list length is defined via MD 10900).

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17501 **Channel %1 block %2 indexing axis %3 with Hirth tool system is active**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name

Definitions: The 'Hirth tooth system' function is activated for the indexing axis. This axis can therefore approach only indexing positions, another travel movement of the axis is not possible.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

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- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
Correct part program.
Correct FC16 or FC18 call.
Deselect machine data $MA_HIRTH_IS_ACTIVE.

Program Continuation: Clear alarm with the RESET key. Restart part program

17502 Channel %1 block %2 indexing axis %3 with Hirth tooth system stop is delayed

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name

Definitions: For the indexing axis, the 'Hirth tooth system' function is activated and the override has been set to 0 or another stop condition (e.g. VDI interface signal) is active. Since it is possible to stop only on indexing axes, the next possible indexing position is approached. The alarm is displayed until this position is reached or the stop condition is deactivated.

Reactions: - Alarm display.

Remedy: Wait until the next possible indexing position is reached or set override > 0 or deactivate another stop condition.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

17503 Channel %1 block %2 indexing axis %3 with Hirth tooth system and axis not referenced

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name

Definitions: The 'Hirth tooth system' function is activated for the indexing axis and the axis is to be traversed although it is not referenced.

Reactions: - Alarm display.

Remedy: Reference axis.

Program Continuation: Clear alarm with the Delete key or NC START.

17510 Channel %1 block %2 invalid index for indexing axis %3

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: The programmed index for the indexing axis is beyond the position table range.
Example:
Perform an absolute approach of the 56th position in the list allocated via the axis-specific machine date 30500 INDEX_AX_ASSIGN_POS_TAB with the 1st positioning axis, the number of positions is e.g. only 40 (MD 10900 INDEX_AX_LENGTH_POS_TAB_1 = 40).
N100 G.. U=CAC (56)
Or, with equidistant distances, the programmed index is smaller or equal 0.
Or, an attempt is made with a MOV movement to travel to a position outside the permitted area.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

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Remedy: Program the indexing axis position in the NC part program in accordance with the length of the current position table, or add the required value to the position table and adjust the length of the list.

Program Continuation: Clear alarm with the RESET key. Restart part program

17600 Channel %1 block %2 preset on transformed axis %3 not possible

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: The displayed axis is involved in the current transformation. This means that is it not possible to set the actual value memory (preset) for this axis.
Example:
Machine axis A should be set to the new actual value A 100 at the absolute position A 300.
:
N100 G90 G00 A=300
N101 PRESETON A=100

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Avoid preset actual value memory for axes which are participating in a transformation or deselect the transformation with the keyword TRAFOOF.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17605 Channel %1 block %2 axis %3 transformation active: inhibits rotation of axis container

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: The programmed axis/spindle is active in a transformation and the axis container cannot be rotated for this reason.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program. Deactivate the transformation for this axis/spindle before rotating the axis container or perform the axis container rotation later.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17610 Channel %1 block %2 axis %3 involved in the transformation, action cannot be carried out

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: The axis is involved in the active transformation. It can therefore not execute the demanded action, traversing as positioning axis, enable for axis replacement.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

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Remedy: Deselect the transformation with TRAFOOF ahead of time or remove the action from the part program block

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17620 Channel %1 block %2 approaching fixed point for transformed axis %3 not possible

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: In the displayed block, an axis is programmed for the fixed point approach (G75) that is involved in the active transformation. Fixed point approach is not performed with this axis!

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Remove G75 instruction from the part program block or previously deselect transformation with TRAFOOF.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17630 Channel %1 block %2 referencing for transformed axis %3 not possible

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: In the displayed block, an axis is programmed for reference point approach (G74) that is involved in the active transformation. Reference point approach is not performed with this axis!

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Remove G74 instruction, or the machine axes involved in transformation, from the part program block or previously deselect the transformation with TRAFOOF.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17640 Channel %1 block %2 spindle operation for transformed axis %3 not possible

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: The axis programmed for the spindle operation is involved in the current transformation as geometry axis. This is not allowed.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: First switch off the transformation function.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17650 Channel %1 block %2 machine axis %3 not programmable

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

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Definitions: The machine axis cannot be used in an active transformation. You may be able to program the function in a different coordinate system. For example, it may be possible to specify the retraction position in the basic coordinate system or the workpiece coordinate system. The axis identifier is used to select the coordinate system.

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Deactivate the transformation or use another coordinate system.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17800 Channel %1 block %2 illegally coded position programmed

Parameters:
%1 = Channel number
%2 = Block number, label

Definitions: The position number n specified with the keyword FP=n is not permissible. 2 absolute axis positions can be defined as fixed points via the axis-specific MD30 600 FIX_POINT_POS [n].

Reactions:
- Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Program keyword FP with machine fixed points 1 or 2.

Example:

Approach fixed point 2 with machine axes X1 and Z2.

N100 G75 FP=2 X1=0 Z2=0

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

17900 Channel %1 block %2 axis %3 is no machine axis

Parameters:
%1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: At this point, the block context calls for a machine axis. This is the case with:
• G74 (reference point approach)
• G75 (fixed point approach)

If a geometry or additional axis identifier is used, then it must also be allowed as machine axis identifier (MD 10000 AXCONF_MACHAX_NAME_TAB).

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Use machine axis identifier when programming.

Program Continuation: Clear alarm with the RESET key. Restart part program

18000 Channel %1 block %2 NCK-specific protection zone %3 wrong. Error code %4

Parameters:
%1 = Channel number
%2 = Block number, label
%3 = Number of NCK protection zone
%4 = Error specification

Definitions: There is an error in the definition of the protection zone. The error number gives the specific reason for the alarm. The following meanings apply:

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1: Incomplete or conflicting contour definition.

2: Contour encompasses more than one surface area.

3: Tool-related protection zone is not convex.

4: If both boundaries are active in the 3rd dimension of the protection zone and both limits have the same value.

5: The number of the protection zone does not exist (negative number, zero or greater than the maximum number of protection zones).

6: Protection zone definition consists of more than 10 contour elements.

7: Tool-related protection zone is defined as inside protection zone.

8: Incorrect parameter used.

9: Protection zone to be activated is not defined.

10: Incorrect modal G code used for protection zone definition.

11: Contour definition incorrect or frame activated.

12: Other errors not specified further.

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Please inform the authorized personnel/service department. Modify definition of the protection zone and check MD.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

18001 **Channel %1 block %2 channel-specific protection zone %3 incorrect. Error code %4**

Parameters: %1 = Channel number

%2 = Block number, label

%3 = Number of the channel-specific protection zone

%4 = Error specification

Definitions: There is an error in the definition of the protection zone. The error number gives the specific reason for the alarm. The following meanings apply:

1: Incomplete or conflicting contour definition.

2: Contour encompasses more than one surface area.

3: Tool-related protection zone is not convex.

4: If both boundaries are active in the 3rd dimension of the protection zone and both limits have the same value.

5: The number of the protection zone does not exist (negative number, zero or greater than the maximum number of protection zones).

6: Protection zone definition consists of more than 10 contour elements.

7: Tool-related protection zone is defined as inside protection zone.

8: Incorrect parameter used.

9: Protection zone to be activated is not defined.

10: Incorrect modal G code used for protection zone definition.

11: Contour definition incorrect or frame activated.

12: Other errors not specified further.

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

Remedy: Please inform the authorized personnel/service department. Modify definition of the protection zone and check MD.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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18002 **Channel %1 block %2 NCK protection zone %3 cannot be activated. Error code %4**

Parameters: %1 = Channel number

%2 = Block number, label

%3 = Number of NCK protection zone

%4 = Error specification

Definitions: An error has occurred on activating the protection zone. The error number gives the specific reason for the alarm.

The following applies:

1: Incomplete or conflicting contour definition.

2: Contour encompasses more than one surface area.

3: Tool-related protection zone is not convex.

4: If both boundaries are active in the 3rd dimension of the protection zone and both limits have the same value.

5: The number of the protection zone does not exist (negative number, zero or greater than the maximum number of protection zones).

6: Protection zone definition consists of more than 10 contour elements.

7: Tool-related protection zone is defined as inside protection zone.

8: Incorrect parameter used.

9: Protection zone to be activated is not defined or number of contour element <2 or >MAXNUM_CONTOURNO_PROTECTAREA.

10: Error in internal structure of the protection zones.

11: Other errors not specified further.

12: The number of protection zones simultaneously active exceeds the maximum number (channel-specific machine data).

13,14: Contour element for protection zones cannot be created.

15,16: No more memory space for the protection zones.

17: No more memory space for the contour elements.

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

If the alarm is output on ramp-up (2nd parameter: "INIT" instead of block number), "Channel not ready to operate" will be set.

Remedy: Please inform the authorized personnel/service department.

1. Reduce the number of simultaneously active protection zones (MD).

2. Modify part program:

• Delete other protection zones.

• Preprocessing stop.

If the alarm occurs during the control ramp up, the system variables $SN_PA_... for the stated protection zone must be corrected. Then make a restart. If the incorrect date is not identifiable, the immediate activation of the protection zone can be removed and the system variables of the protection zone can be rewritten with the aid of NPROTDEF.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

If the alarm occurs during NC program execution, the current block can be changed. This way, the NPROT parameters can also be adjusted. However, if there is an error in the definition of the protection zone, the NC program must be aborted and the definition must be corrected under NPROTDEF.

If the alarm occurs on control ramp-up, system variables $SN_PA_... must be corrected for the specified protection zone. This can be done by downloading an Initial.ini file that includes the relevant corrected date. If afterwards a restart is performed again, the alarm will have been removed provided that the data are consistent.

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18003 **Channel %1 block %2 NCK protection zone %3 cannot be activated.Error code %4**

Parameters: %1 = Channel number

%2 = Block number, label

%3 = Number of channel-specific protection zone

%4 = Error specification

Definitions: An error has occurred on activating the protection zone. The error number gives the specific reason for the alarm.

The following meanings apply:

1: Incomplete or conflicting contour definition.

2: Contour encompasses more than one surface area.

3: Tool-related protection zone is not convex.

4: If both boundaries are active in the 3rd dimension of the protection zone and both limits have the same value.

5: The number of the protection zone does not exist (negative number, zero or greater than the maximum number of protection zones).

6: Protection zone definition consists of more than 10 contour elements.

7: Tool-related protection zone is defined as inside protection zone.

8: Incorrect parameter used.

9: Protection zone to be activated is not defined or number of the contour element <2 or >MAXNUM_CONTOURNO_PROTECTAREA.

10: Error in internal structure of the protection zones.

11: Other errors not specified further.

12: The number of protection zones simultaneously active exceeds the maximum number (channel-specific machine data).

13,14: Contour element for protection zones cannot be created.

15,16: No more memory space for the protection zones.

17: No more memory space for the contour elements.

Reactions: - Correction block is reorganized.

- Interface signals are set.

- Alarm display.

If the alarm is output on ramp-up (2nd parameter: "INIT" instead of block number), "Channel not ready to operate" will be set.

Remedy: Please inform authorized personnel / the service department.

1. Reduce the number of simultaneously active protection zones (MD).

2. Modify part program:

• Delete other protection zones.

• Preprocessing stop.

When the alarm occurs on control ramp-up, system variables $SC_PA_... must be corrected for the specified protection zone. Afterwards perform a restart. If the erroneous data cannot be recognized, the protection zone's immediate activation can be removed and the system variables of the protection zone can be written again by means of CPROTDEF.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

If the alarm occurs during NC program execution, the current block can be changed. This way, also the CPROT parameters can be adjusted. However, if there is an error in the definition of the protection zone, the NC program must be aborted and the definition must be corrected under CPROTDEF.

If the alarm occurs on control ramp-up, system variables $SC_PA_... must be corrected for the specified protection zone. This can be done by downloading an Initial.ini file that

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includes the relevant corrected data. If afterwards a restart is performed again, the alarm will have been removed provided that the data are consistent.

18004 **Channel %1 block %2 orientation of workpiece-related protection zone %3 does not correspond to the orientation of tool-related protection zone %4**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of workpiece-related protection zone

Definitions: The orientation of the workpiece-related protection zone and the orientation of the tool-related protection zone differ. If the protection zone number is negative, then this is a global protection zone.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: • Modify the protection zone definition or do not simultaneously activate protection zones that have different orientations.
• Check machine data and modify the protection zone definition if necessary.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

18005 **Channel %1 block %2 serious error in definition of NCK-specific protection zone %3**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Protection zone number

Definitions: The protection zone definition must be terminated with EXECUTE before a preprocessing stop is performed. This also applies to any that are initiated implicitly such as with G74, M30, M17.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

18006 **Channel %1 block %2 serious error in definition of channel-specific protection zone %3**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Protection zone number

Definitions: The protection zone definition must be terminated with EXECUTE before a preprocessing stop is performed. This also applies to any that are initiated implicitly such as with G74, M30, M17.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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18100 **Channel %1 block %2 invalid value assigned to FXS[]**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The following values are valid at the present time:
0: "Deselect traverse against fixed stop"
1: "Select traverse against fixed stop" valid.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

18101 **Channel %1 block %2 invalid value assigned to FXST[]**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Only the range 0.0 - 100.0 is valid at the present time.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

18102 **Channel %1 block %2 invalid value assigned to FXSW[]**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Only positive values including zero are valid at the present time.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

18200 **Channel %1 block %2 curve table: block search stop not allowed with definition CTABDEF**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Program instructions that lead to a preprocessing stop are not allowed within a curve table definition. The system variable $P_CTABDEF can be queried to check whether a table definition is currently active.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Put the block in parenthesis using "IF NOT($P_CTABDEF) ... ENDIF" or remove the instruction that causes the preprocessing stop. Then start the part program again.

Program Continuation: Clear alarm with the RESET key. Restart part program

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18201 **Channel %1 block %2 curve table: table %3 does not exist**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of curve table

Definitions: An attempt was made to use a curve table whose table number is not known in the system \par.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Change the table number in the program instruction or define the curve table with the desired table number.

Program Continuation: Clear alarm with the RESET key. Restart part program

18202 **Channel %1 block %2 curve table: instruction CTABEND without CTABDEF not allowed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The CTABEND instruction, which is used to terminate the definition, has been programmed in the program without starting a curve table definition with CTABDEF, or the CTABDEF and CTABEND instructions were not programmed in the same program level.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Remove the CTABEND command or add the CTABDEF(..) command at the appropriate program location. The CTABDEF and CTABEND instructions must be programmed in the same program level (main or subprogram). Start the program again.

Program Continuation: Clear alarm with the RESET key. Restart part program

18203 **Channel %1 block %2 curve table: instruction CTABDEF not within CTABDEF**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In the program, the instruction CTABDEF that starts the definition of curve tables, is programmed within the definition part of a curve table. This is not allowed, as the current curve table must be completed with CTABEND first.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Remove command CTABEND from program or insert instruction CTABDEF (..) in the relevant program position. Instructions CTABDEF and CTABEND must be programmed in the same program level (main program or subroutine). Restart the program.

Program Continuation: Clear alarm with the RESET key. Restart part program

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18204 **Channel %1 block %2 curve table: instruction SUPA not within CTABDEF**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: G code SUPA is not allowed for the definition of a curve table, as it triggers a preprocessing stop.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Remove G code SUPA from the curve table definition. If possible, use G codes G53 or G153 instead of SUPA.

Program Continuation: Clear alarm with the RESET key. Restart part program

18300 **Channel %1 block %2 frame: fine shift not possible**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Allocation of a fine shift to settable frames or the basic frame is not possible since MD $MN_FRAME_FINE_TRANS is not equal to 1.

Reactions: - Interpreter stop
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Modify program or set MD $MN_FRAME_FINE_TRANS to 1.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

18310 **Channel %1 block %2 frame: illegal rotation**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Rotations are not possible with NCU global frames.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

18311 **Channel %1 block %2 frame: illegal instruction**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: An attempt was made to read or write a frame which does not exist.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Modify part program.

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Program Continuation: Clear alarm with the RESET key. Restart part program

18312 Channel %1 block %2 frame: fine shift not configured

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Fine shift must be configurd with G58 and G59.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Modify machine data.

Program Continuation: Clear alarm with the RESET key. Restart part program

18313 Channel %1 block %2 frame: illegal switchover of geometry axes

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: It is not allowed to change the geometry axis assignment because the current frame contains rotations.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Change NC program or set other mode with $MN_FRAME_GEOAX_CHANGE_MODE.

Program Continuation: Clear alarm with the RESET key. Restart part program

18314 Channel %1 block %2 frame: type conflict

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: It is not possible to chain global frames and channel-specific frames. The alarm occurs if a global frame is programmed with a channel axis name and no machine axis on this NCU is assigned to the channel axis. Channel-specific frames cannot be programmed with machine axis names if there is no corresponding channel axis on this NCU.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

18400 Channel %1 block %2 language change not possible:%3

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Cause

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Definitions: The selection of an external NC language is not possible due to the reason specified. The following reasons are possible (see parameter 3):
1. Invalid machine data settings
2. Active transformation

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Remedy the specified cause of the error before selecting the language.

Program Continuation: Clear alarm with the RESET key. Restart part program

20000 Channel %1 axis %2 reference cam not reached

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: After starting the reference point approach, the rising edge of the reduction cam must be reached within the section defined in the MD 34030 REFP_MAX_CAM_DIST (phase 1 of referencing). (This error occurs only with incremental encoders).

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. There are 3 possible causes of error:
1. The value entered in MD 34030 REFP_MAX_CAM_DIST is too small. Determine the maximum possible distance from the beginning of reference motion up to the reduction cam and compare with the value in the MD: REFP_MAX_CAM_DIST, increase the value in the MD if necessary.
2. The cam signal is not received by the PLC input module. Operate the reference point switch by hand and check the input signal on the NC/PLC interface (route: switch!connector!cable! PLC input!user program).
3. The reference point switch is not operated by the cam. Check the vertical distance between reduction cam and activating switch.

Program Continuation: Clear alarm with the RESET key. Restart part program

20001 Channel %1 axis %2 no cam signal present

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: At the beginning of phase 2 of reference point approach, the signal from the reduction cam is no longer available.
Phase 2 of reference point approach begins when the axis remains stationary after deceleration to the reduction cam. The axis then starts in the opposite direction in order to select the next zero marker of the measuring system on leaving the reduction cam or approaching it again (negative/positive edge).

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check whether the deceleration path after the approach velocity is greater than the distance to reference

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point cam - in which case the axis cannot stop until it is beyond the cam. Use longer cam or reduce the approach velocity in machine data 34020 REFP_VELO_SEARCH_CAM.

When the axis has stopped at the cam, it must be checked whether the signal "DECELERATION REFERENCE POINT APPROACH" is still available at the interface to the NCK (DB 31 - 48, DBX 12.7).

• Hardware: Wire break? Short circuit?

• Software: User program?

Program Continuation: Clear alarm with the RESET key. Restart part program

20002 **Channel %1 axis %2 zero mark not found**

Parameters: %1 = Channel number

%2 = Axis name, spindle number

Definitions: The zero marker of the incremental encoder is not within a defined section.

Phase 2 of reference point approach ends when the zero marker of the encoder has been detected after the rising/falling edge of the PLC interface signal "DECELERATION REFERENCE POINT APPROACH" (DB 31 - 48, DBX 12.7) has given the trigger start. The maximum distance between the trigger start and the zero marker that follows is defined in the machine data 34060 REFP_MAX_MARKER_DIST.

The monitor prevents a zero marker signal from being overtraveled and the next being evaluated as reference point signal. (Faulty cam adjustment or excessive delay by the PLC user program).

Reactions: - NC Start disable in this channel.

- Interface signals are set.

- Alarm display.

- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check the cam adjustment and make sure that the distance is sufficient between the end of the cam and the zero marker signal that follows. The path must be greater than the axis can cover in the PLC cycle time.

Increase the machine data 34060 REFP_MAX_MARKER_DIST, but do not select a value greater than the distance between the 2 zero markers. This might result in the monitor being switched off.

Program Continuation: Clear alarm with the RESET key. Restart part program

20003 **Channel %1 axis %2 measuring system error**

Parameters: %1 = Channel number

%2 = Axis name, spindle number

Definitions: In a measuring system with distance-coded reference marks, the distance between two adjacent markers has been found to be more than twice the distance entered in the machine data 34300 ENC_REFP_MARKER_DIST.

The control issues the alarm after having made a 2nd attempt in reverse direction with half the traversing velocity and detecting that the distance is too large again.

Reactions: - NC Start disable in this channel.

- Interface signals are set.

- Alarm display.

- NC Stop on alarm.

Remedy: Determine the distance between 2 odd reference point markers (reference point marker interval). This value (which is 20.00 mm on Heidenhain scales) must be entered in the machine data 34300 ENC_REFP_MARKER_DIST.

Check the reference point track of the scale including the electronics for the evaluation.

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Program Continuation: Clear alarm with the RESET key. Restart part program

20004 **Channel %1 axis %2 reference mark missing**

Parameters: %1 = Channel number

%2 = Axis name, spindle number

Definitions: In the distance-coded length measurement system 2 reference marks were not found within the defined searching distance (axis-specific MD: 34060 REFP_MAX_MARKER_DIST).

No reduction cam is required for distance-coded scales (but an existing cam will be evaluated). The conventional direction key determines the direction of search. The searching distance 34060 REFP_MAX_MARKER_DIST, within which the two reference point markers are expected is counted commencing at the start point.

Reactions: - NC Start disable in this channel.

- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Determine the distance between 2 odd reference point markers (reference point marker interval). This value (which is 20.00 mm on Heidenhain scales) must be entered in the machine data 34060 REFP_MAX_MARKER_DIST.

Check the reference point track of the scale including the electronics for the evaluation.

Program Continuation: Clear alarm with the RESET key. Restart part program

20005 **Channel %1 axis %2 reference point approach aborted**

Parameters: %1 = Channel number

%2 = Axis name, spindle number

Definitions: Referencing could not be completed for all stated axes (e.g., abort caused by missing servo enable, measuring system switchover, release of direction key, etc.).

In distance-coded measuring systems, the alarm will also be displayed, if value 1 has been set in MD 34000 REFP_CAM_IS_ACTIV (reference cams) and one of the conditions indicated under remedy has been fulfilled.

Reactions: - NC Start disable in this channel.

- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check the possible reasons for termination:

- Servo enable missing (DB 31 - 48, DBX 2.1)
- Measuring system switchover (DB 31 - 48, DBX 1.5 and DBX 1.6)
- Traversing key + or - missing (DB 31 - 48, DBX 4.6 and DBX 4.7)
- Feed override = 0
- The feed disable is active

The axis-specific MD 34110 REFP_CYCLE_NR determines which axes are involved in the channel-specific referencing.

-1: No channel-specific referencing, NC Start without referencing.

0: No channel-specific referencing, NC Start with referencing.

1-8: Channel-specific referencing. The number entered here corresponds to the referencing sequence. (When all axes with contents 1 have reached the reference point, then the axes with contents 2 start, etc.).

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Program Continuation: Clear alarm with the RESET key. Restart part program

20006 **Channel %1 axis %2 reference point creep velocity not reached**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: In phase 2 of reference point approach (wait for zero mark), the cam end was reached but the reference point approach velocity was not within the tolerance window. (This can occur when the axis is already at the end of the cam at the beginning of reference point approach. This means that phase 1 has already been concluded and will not be started.)
Phase 2 has been interrupted (this time before the cam) and the reference point traversing will be started once again automatically with phase 1. If the approach velocity is not attained at the 2nd attempt either, the referencing will be aborted with the alarm display.
Approach velocity: 34040 REFP_VELO_SEARCH_MARKER
Velocity tolerance: 35150 SPIND_DES_VELO_TOL.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Reduce the MD for the approach velocity 34040 REFP_VELO_SEARCH_MARKER and/or increase the MD for the velocity tolerance 35150 SPIND_DES_VELO_TOL.

Program Continuation: Clear alarm with the RESET key. Restart part program

20007 **Channel %1 axis %2 reference point approach requires 2 measuring systems**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: 2 encoders are needed for setting 34200 ENC_REFP_MODE = 6!

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Modify reference mode 34200 ENC_REFP_MODE or install and configure a second encoder.

Program Continuation: Clear alarm with the RESET key. Restart part program

20008 **Channel %1 axis %2 reference point approach requires second referenced measuring system**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: When setting 34200 ENC_REFP_MODE = 6 the 2nd encoder must first be referenced.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Modify referencing mode ENC_REFP_MODE or reference 2nd encoder.

Program Continuation: Clear alarm with the RESET key. Restart part program

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20050 **Channel %1 axis %2 handwheel mode active**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: The axes cannot be traversed in JOG mode using the traversing keys because traversing is still taking place via the handwheel.

Reactions: - Alarm display.

Remedy: Decide whether the axis is to be traversed by means of the jog keys or via the handwheel. End handwheel travel and delete the axial distance-to-go if necessary (interface signal DB 31 - 48, DBX 2.2).

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

20051 **Channel %1 axis %2 handwheel mode not possible**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: The axis is already traveling via the traversing keys, so handwheel mode is no longer possible.

Reactions: - Alarm display.

Remedy: Decide whether the axis is to be traversed by means of the jog keys or via the handwheel.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

20052 **Channel %1 axis %2 already active**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: The axis is to traverse as machine axis in JOG mode via the jog keys on the machine control panel. However, this is not possible because:

1. It is already traversing as geometry axis (through the channel-specific interface DB 21 - 28, DBX 12.6, DBX 12.7, DBX 16.6, DBX 16.7 or DBX 20.6 and DBX 20.7) or

2. it is already traversing as machine axis (through the axis-specific interface DB 31 - 48, DBX 4.6 and DBX 4.7) or

3. a frame is valid for a rotated coordinate system and another geometry axis involved in this is already traversing in JOG mode by means of the direction keys.

Reactions: - Alarm display.

Remedy: Stop traversing through the channel or axis interface or stop the other geometry axis.

Program Continuation: Clear alarm with the Delete key or NC START.

20053 **Channel %1 axis %2 DRF, FTOCON, external zero point offset not possible**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: The axis is traversed in a mode (e.g. referencing) that allows no additional overlaid interpolation.

Reactions: - Alarm display.

Remedy: Wait until the axis has reached its reference position or terminate reference point approach with "Reset" and start DRF once again.

Program Continuation: Clear alarm with the Delete key or NC START.

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20054 **Channel %1 axis %2 wrong index for indexing axis in JOG mode**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: 1. The displayed indexing axis is to be traversed incrementally in JOG mode (by 1 indexing position). However, no further indexing position is available in the selected direction.
2. The axis is stationary at the last indexing position. In incremental traversing the working area limitation or the software limit switch is reached without an indexing position being located in front of it at which a stop could be made.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department.
Correct (add to) the list of indexing positions by means of the machine data
Modify MD 10900: INDEX_AX_LENGTH_POS_TAB_1
Modify MD 10910: INDEX_AX_POS_TAB_1
Modify MD 10920: INDEX_AX_LENGTH_POS_TAB_2
Modify MD 10930: INDEX_AX_POS_TAB_2
or set the working area limits or the software limit switches to other values.

Program Continuation: Clear alarm with the Delete key or NC START.

20055 **Channel %1 master spindle not present in JOG mode**

Parameters: %1 = Channel number

Definitions: The displayed axis is to be traversed as machine axis in JOG mode with revolutional feed, but no master spindle has been defined from which the actual speed could have been derived.

Reactions: - Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. If the revolutional feed is also to be active in JOG mode, then a master spindle must be declared via the channel-specific machine data 20090 SPIND_DEF_MASTER_SPIND. In this case you have to open a screen in the PARAMETER operating area with the softkeys "SETTINGDATA" and "JOG DATA" and preselect the G function G95 there. The JOG feedrate can then be entered in [mm/rev]. (If 0 mm/rev is set as JOG feed, the control takes the value assigned in the axis-specific MD 32050 JOG_REV_VELO or in the case of rapid traverse overlay 32040 JOG_REV_VELO_RAPID).
The revolutional feed in JOG mode is deactivated by changing the G function from G95 to G94.

Program Continuation: Clear alarm with the Delete key or NC START.

20056 **Channel %1 axis %2 no revolutional feedrate possible. Axis/spindle %3 stationary**

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Axis name, spindle number

Definitions: An axis is to travel in JOG with revolutional feed, but the spindle/axis the feed is to be derived from is 0.

Reactions: - Alarm display.

Remedy: Traverse the spindle/axis from which the feed is to be derived.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

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20057 **Channel %1 block %2 revolutional feedrate for axis/spindle %3 is <= zero**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: Revolutional feed has been programmed for an axis/spindle, but the velocity was not programmed or the programmed value is smaller than or equal to zero.

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
• Correct the part program or
• Specify the correct feed for PLC axes at the VDI interface,
• Specify feed for oscillating axes in the setting data $SA_OSCILL_VELO.

Program Continuation: Clear alarm with the RESET key. Restart part program

20058 **Channel %1 axis %2 revolutional feedrate: illegal feed source**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: An axis/spindle is to be traversed at revolutional feedrate. The reference axis/spindle defined in SD 43300 ASSIGN_FEED_PER_REV_SOURCE refers to itself. The coupling caused cannot be executed.

Reactions: - Alarm display.

Remedy: The reference axis/spindle must be modified accordingly in SD 43300.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

20059 **Channel %1 axis %2 already active due to %3**

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Cause

Definitions: The axis (machine axis, geometry axis or orientation axis) is to be traversed in operation mode "Automatic&Jog" (see $MN_JOG_MODE_MASK) by using the direction keys or a handwheel. This is not possible, as (see parameter 3):

1. the axis is active as a rotating spindle

2. the axis is a PLC axis

3. the axis is active as an asynchronous reciprocating axis

4. the axis is active as a command axis

5. the axis is active as a slave axis

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6. a frame applies for a rotated coordinate system and an axis involved in the required JOG movement of the geometry axis is not available for this

7. an axis container rotation is activated via NCU link

Note: This alarm identifies an axis not capable of JOG which received a JOG order. In this case, the NCK will not proceed according to "Internal JOG".

Reactions: - Alarm display.

Remedy: Wait for the axis to traverse or abort with distance-to-go delete or RESET.

Program Continuation: Clear alarm with the Delete key or NC START.

20060 Channel %1 axis %2 cannot be traversed as geometry axis

Parameters: %1 = Channel number

%2 = Axis name

Definitions: The axis is currently not in "Geometry axis" state. Therefore, it cannot be traversed in JOG mode as geometry axis.

If the abbreviation WCS (workpiece coordinate system) is displayed in the "Position" screen, then only the geometry axes can be traversed by means of the direction keys! (MCS ... Machine coordinate system; all machine axes can now be traversed by using the direction keys on the machine control panel).

Reactions: - Alarm display.

Remedy: Check the operating steps to establish whether geometry axes really must be traversed, otherwise switch over to the machine axes by activating the "WCS/MCS" key on the machine control panel.

Program Continuation: Clear alarm with the Delete key or NC START.

20061 Channel %1 axis %2 cannot be traversed as orientation axis

Parameters: %1 = Channel number

%2 = Axis name

Definitions: The axis is not an orientation axis and can therefore not be traversed as an orientation axis in JOG mode.

Reactions: - Alarm display.

Remedy: Register the axis as an orientation axis.

Program Continuation: Clear alarm with the Delete key or NC START.

20062 Channel %1 axis %2 already active

Parameters: %1 = Channel number

%2 = Axis name, spindle number

Definitions: The displayed axis is already traversing as a machine axis. Therefore, it cannot be operated as a geometry axis.

Traversing of an axis can take place in JOG mode through 2 different interfaces.

1. as a geometry axis: via the channel-specific interface DB 21 - DB 28, DBX12.6 or DBX12.7

2. as a machine axis: via the axis-specific interface DB 31 - DB 48 DBX8.6 or DBX8.7

With the standard machine control panel, it is not possible to operate an axis as machine axis and geometry axis at the same time.

Reactions: - Alarm display.

Remedy: Do not start the geometry axis until the traversing motion as machine axis has been concluded.

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Program Continuation: Clear alarm with the Delete key or NC START.

20063 **Channel %1 axis %2 orientation axes cannot be traversed without transformation**

Parameters: %1 = Channel number
%2 = Axis name

Definitions: An attempt was made to move an orientation axis in JOG mode without an active orientation transformation.

Reactions: - Alarm display.

Remedy: Activate an orientation transformation.

Program Continuation: Clear alarm with the Delete key or NC START.

20064 **Channel %1 axis %2 selection of several axes with an active taper angle is not permitted.**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: With an active taper angle, only one geometry axis at the time can be traversed in JOG mode by pressing traversing keys. Simultaneous traversing of a geometry axis as a machine axis is not permitted either.

Reactions: - Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Starting the geometry axis only if traversing of the other geometry axis or machine axis completed.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

20065 **Channel %1 master spindle not defined for geometry axes in JOG mode**

Parameters: %1 = Channel number

Definitions: The displayed axis is to be traversed as geometry axis in JOG mode with rotary feed, but no master spindle has been defined from which the actual speed could be derived.

Reactions: - Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: If the revolutional feed is also to be active in JOG mode, then a master spindle must be declared via the channel-specific machine data 20090 SPIND_DEF_MASTER_SPIND. In this case you have to open a screen in the PARAMETER operating area with the softkeys "SETTINGDATA" and "JOG DATA" and preselect the G function G95 there. The JOG feedrate can then be entered in [mm/rev]. (If 0 mm/rev is set as JOG feed, the control takes the value assigned in the axis-specific MD 32050 JOG_REV_VELO or in the case of rapid traverse overlay 32040 JOG_REV_VELO_RAPID).
The revolutional feed in JOG mode is deactivated by changing the G function from G95 to G94.

Program Continuation: Clear alarm with the Delete key or NC START.

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20070 **Channel %1 axis %2 software limit switch %3**

Parameters: %1 = Channel number
%2 = Axis number
%3 = "+" or "-"

Definitions: The axis is traversed by the PLC as a concurrent positioning axis and the corresponding software limit switch is violated for the axis. No traversing.
With an additional message to alarm 20140, the axis is traversed as a command axis.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. Specify smaller target position. Modify MD for SW limit switch. Possibly activate another SW limit switch. Retract axis via JOG.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

20071 **Channel %1 axis %2 working area limit %3**

Parameters: %1 = Channel number
%2 = Axis number
%3 = "+" or "-"

Definitions: The displayed axis is operated as a "concurrent positioning axis" and the corresponding working area limitation active for the axis is violated. No traversing movement.
With an additional message to alarm 20140, the axis is traversed as a command axis.

Reactions: - Alarm display.

Remedy:
• Specify smaller target position.
• Deactivate working area limitation.
• Set working area limitation differently.
• Retract axis with JOG.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

20072 **Channel %1 axis %2 is not an indexing axis**

Parameters: %1 = Channel number
%2 = Axis number

Definitions: The displayed axis is operated as a concurrent positioning axis. Its target position is parameterized in the FC INDEX-AXIS as indexing position number, but the axis is not an indexing axis.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. The FC POS-AXIS for linear and rotary axes should be used or the axis should be declared as an indexing axis. Corresponding machine data for indexing axis declaration:
Modify MD 30500: INDEX_AX_ASSIGN_POS_TAB
Modify MD 10900: INDEX_AX_LENGTH_POS_TAB_1
Modify MD 10910: INDEX_AX_POS_TAB_1
Modify MD 10920: INDEX_AX_LENGTH_POS_TAB_2
Modify MD 10930: INDEX_AX_POS_TAB_2

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

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20073 **Channel %1 axis %2 cannot be repositioned**

Parameters: %1 = Channel number
%2 = Axis number

Definitions: The concurrent positioning axis cannot be positioned because it has already been restarted via the VDI interface and is still active. No repositioning motion takes place and the motion initiated by the VDI interface is not affected.

Reactions: - Alarm display.

Remedy: None.

Program Continuation: Clear alarm with the Delete key or NC START.

20074 **Channel %1 axis %2 wrong index position**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: For a concurrent positioning axis declared as indexing axis, the PLC has given an index number that is not available in the table.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. Check the indexing axis number given by the PLC and correct this if necessary. If the indexing axis number is correct and the alarm results from an indexing position table that has been set too short, check the machine data for indexing axis declaration.
Modify MD 30500: INDEX_AX_ASSIGN_POS_TAB
Modify MD 10900: INDEX_AX_LENGTH_POS_TAB_1
Modify MD 10910: INDEX_AX_POS_TAB_1
Modify MD 10920: INDEX_AX_LENGTH_POS_TAB_2
Modify MD 10930: INDEX_AX_POS_TAB_2

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

20075 **Channel %1 axis %2 can currently not oscillate**

Parameters: %1 = Channel number
%2 = Axis number

Definitions: The axis cannot perform an oscillating movement now because it is already being traversed, e.g. in JOG mode.

Reactions: - Alarm display.

Remedy: End the other traversing motion.

Program Continuation: Clear alarm with the Delete key or NC START.

20076 **Channel %1 axis %2 oscillating - mode change not possible**

Parameters: %1 = Channel number
%2 = Axis number

Definitions: The axis is performing an oscillating movement. Mode change is not possible because oscillation is not allowed in the selected mode.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Do not initiate mode change. Cause the PLC to check the axis and make sure in the PLC program that the axis ends oscillation if such mode changes take place.

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Program Continuation: Clear alarm with the RESET key. Restart part program

20077 **Channel %1 axis %2 programmed position is behind software limit switch %3**

Parameters: %1 = Channel number
%2 = Axis number
%3 = "+" or "-"

Definitions: The axis is traversed as an oscillating axis and the target position (reversal position or end position) is located behind the corresponding software limit switch. The axis is not traversed.

Reactions:
- Local alarm reaction.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy:
Specify smaller target position.
Modify MD for SW limit switch.
Possibly activate another SW limit switch.

Program Continuation: Clear alarm with the RESET key. Restart part program

20078 **Channel %1 axis %2 programmed position is behind working area limit %3**

Parameters: %1 = Channel number
%2 = Axis number
%3 = "+" or "-"

Definitions: The axis is traversed as an oscillating axis and the target position (reversal position or end position) is located behind the corresponding valid working area limitation. The axis is not traversed.

Reactions:
- Local alarm reaction.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy:
Specify smaller target position.
Deactivate working area limitation.
Set working area limitation differentially.

Program Continuation: Clear alarm with the RESET key. Restart part program

20079 **Channel %1 axis %2 oscillation path length %3 <= 0**

Parameters: %1 = Channel number
%2 = Axis number
%3 = Length

Definitions: The axis is traversed as an oscillating axis and the distance to be traversed is smaller than or equal to zero. For example, both reversal points are situated on an identical position, one reversal point was shifted against the oscillating direction beyond the other reversal point. The axis is not traversed.

Reactions:
- Local alarm reaction.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

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- NC Stop on alarm.

Remedy: Specify correct target position (reversal position, end position).

Program Continuation: Clear alarm with the RESET key. Restart part program

20080 **Channel %1 axis %2 no handwheel assigned for overlaid motion**

Parameters: %1 = Channel number

%2 = Axis number

Definitions: No handwheel has been assigned for this specified axis after handwheel overlay has been started in automatic mode. If the axis identifier is missing in the alarm with active velocity overlay FD > 0, then the 1st geometry axis has not been defined in the NC channel. In this case the block is executed without handwheel control.

Reactions: - Alarm display.

Remedy: If handwheel control is required, a handwheel must be activated.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

20081 **Channel %1 axis %2 braking position cannot be accepted as a new reversing position**

Parameters: %1 = Channel number

%2 = Axis number

Definitions: On changing the reciprocation reversal from external sources, the braking position cannot be accepted as a new reversing position, since changing the reversal point via handwheel or JOG key is active.

Reactions: - Alarm display.

Remedy: Deselect VDI signal "Change reversal point" and reselect it either

• with "Reciprocation reversal from external sources" or

• by changing the reversal point by means of handwheel or

• by changing the reversal point via JOG key.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

20085 **Channel %1 contour handwheel: traverse direction or overtravel of beginning of block not allowed**

Parameters: %1 = Channel number

Definitions: Travel takes place on the path with the contour handwheel in the opposite direction to the programmed travel direction and the starting point of the path has been reached at the start of the block.

Reactions: - Alarm display.

Remedy: Turn the contour handwheel in the opposite direction.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

20090 **Axis %1 travel to fixed stop not possible. Check programming and axis data.**

Parameters: %1 = Axis name, spindle number

Definitions: 1. The "Traverse against fixed stop" function has been programmed with FXS[AX]=1 but the axis does not (yet) support this. Check MD 37000. This function is not available for gantry axes and simulated axes.

2. On selection, no movement was programmed for axis AX. AX is a machine axis identifier.

3. It is always necessary to program a traversing movement in the selection block for the axis/spindle for which the "Traverse against fixed stop" function is activated.

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The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
- Check the axis type.
- Check MD 37000.
- Is a machine axis movement missing in the approach block?

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

20091 Axis %1 has not reached fixed stop

Parameters: %1 = Axis name, spindle number

Definitions: On attempting to traverse against a fixed stop, the programmed end position has been reached or the traversing movement has been aborted. The alarm can be concealed by means of the machine data $MA_FIXED_STOP_ALARM_MASK.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Correct the part program and the settings:
- Has the traversing block been aborted?
- If the axis position does not correspond to the programmed end position, then correct the end position.
- If the programmed end position is in the part, the triggering criterion must be checked.
- Has the contour deviation leading to triggering been dimensioned too large? Has the torque limit been set too high?

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

20092 Axis %1 travel to fixed stop still active

Parameters: %1 = Axis name, spindle number

Definitions: An attempt has been made to move an axis while it is in fixed stop or while the deselection function has not yet been completed.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

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- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.

Check the following:

- Has the axis at the fixed stop also been moved by a traversing movement of geometry axes?
- Is a selection carried out even though the axis is stationary at the stop?
- Has the deselection process been interrupted by a RESET?
- Has the PLC switched the acknowledgement signals?

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

20093 Axis %1 standstill monitoring at fixed-stop end point has been triggered

Parameters: %1 = Axis name, spindle number

Definitions: The position of the axis has been beyond the zero speed window ever since selection has been completed.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.

- Check the mechanical components, e.g. has the stop broken away? Has the part to be clamped given way?
- Position window for zero speed control too small (37020 MD: $MA_FIXED_STOP_WINDOW_DEF) (43520 setting data: $SA_FIXED_STOP_WINDOW). Default is 1 mm in each case.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

20094 Axis %1 function has been aborted

Parameters: %1 = Axis name, spindle number

Definitions: The function has been aborted. The possible reasons for this are:

- Because a pulse disable has occurred, the torque can no longer be provided.
- The PLC has removed the acknowledgments.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Check whether

- there is a pulse disable from the infeed/regenerative-feedback unit or from the PLC?

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- the acknowledgement bits have been deleted by the PLC even though NCK has not requested deselection?

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

20095 **Axis %1 illegal torque, current torque %2**

Parameters: %1 = Axis name, spindle number

%2 = Current holding torque when brake test selected

Definitions: The current holding torque, when brake test selected, cannot be attained with the present parameterization of the brake test.

Reactions: - Alarm display.

Remedy: Check the parameterization for the brake test function check:

- The torque for the counterweight in the drive machine data 1192 should be nearly the same as the current holding torque. The current holding torque is displayed in the alarm text.
- The torque set for the $MA_SAFE_BRAKETEST_TORQUE must be greater than the current holding torque.

Program Continuation: Clear alarm with the Delete key or NC START.

20096 **Axis %1 brake test aborted, additional information %2**

Parameters: %1 = Axis name, spindle number

%2 = Error information based on $VA_FXS_INFO

Definitions: The brake test has detected a problem. The additional info provides more detailed information on the cause of the alarm. The explanation can be found in the $VA_FXS_INFO system variable documentation.

Additional information:

0: No additional information available.

1: Axis type is not a PLC or command axis.

2: End position reached, motion completed.

3: Abort by NC RESET (key reset).

4: Moved out of monitoring window.

5: Torque reduction rejected by drive.

6: PLC has cancelled enables.

Reactions: - Interface signals are set.

- Alarm display.

Remedy: Note the supplementary conditions of the brake test, see additional info.

Program Continuation: Clear alarm with the Delete key or NC START.

20097 **Axis %1 incorrect travel direction brake test**

Parameters: %1 = Axis name, spindle number

Definitions: Due to the selected travel direction, the brake test for the current load torque is performed with an incorrect torque.

Reactions: - Alarm display.

Remedy:

- Perform the brake test for the other travel direction
- Adjust drive MD 1192 better to the current weight ratio. The alarm will occur only if the current torque deviates from MD 1192 by more than 5% when the brake is released.
- Activate the automatic determination of the load torque at the beginning of the brake test via MD $MA_SAFE_BRAKETEST_CONTROL, Bit 0 = 1.

Program Continuation: Clear alarm with the Delete key or NC START.

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20100 **Channel %1: invalid configuration for digitizing**

Parameters: %1 = Channel number

Definitions:
- The digitizing function expects the definition of 3 geometry axes in the channel.
- At the available baud rate for a transmission of the actual positions and setpoint velocities between the NC and the digitizing device, the interpolation cycle must be set to a minimum of 5ms.

Reactions:
- Interface signals are set.
- Alarm display.

Remedy: Please inform authorized personnel / the service department.
- Define 3 geometry axes for the digitizing channel by means of machine data.
- Use an interpolation cycle greater than 5ms.

Program Continuation: Switch control OFF - ON.

20101 **Timeout during initialization of communication with the digitizer**

Definitions: The attempt to synchronize the communications link to the digitizing unit and to transfer the machine parameters was aborted after the preset timeout limit of 15 seconds was exceeded.

Reactions:
- Interface signals are set.
- Alarm display.

Remedy: Check the connection to the digitizing unit (RS422 cable, supply voltage) and whether the digitizing unit is switched on.

Program Continuation: Clear alarm with the Delete key or NC START.

20102 **Channel %1: No or invalid trafo at digitizing active**

Parameters: %1 = Channel number

Definitions: Prerequisite for the 3+2 axis digitizing is an active kinematic transformation. Permitted transformations are the general 5-axis transformation and the universal inclinable head.

Reactions:
- Interface signals are set.
- Alarm display.

Remedy:
- Before digitizing, activate a permitted transformation.
- Select 3-axis mode for digitizing via machine data.

Program Continuation: Clear alarm with the Delete key or NC START.

20103 **Channel %1: Digitizing module does not support 3+2 axes digitizing**

Parameters: %1 = Channel number

Definitions: Prerequisite for 3+2 axis digitizing is that the NCU and the digitizing module both have the 3+2 axis mode.

Reactions:
- Interface signals are set.
- Alarm display.

Remedy:
- SW update for the digitizing module.
- Select 3-axis mode for the digitizing via machine data.

Program Continuation: Clear alarm with the Delete key or NC START.

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20105 **Channel %1: axes stopped by digitizer. Error code: %2**

Parameters: %1 = Channel number
%2 = Error code of digitizing unit

Definitions: The digitizing unit has recognized an error in the communication and signaled this to the NC.

Reactions:
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Error code 1: Check cable connection leading to the digitizing unit. Other error codes: See manual for digitizing unit.

Program Continuation: Clear alarm with the RESET key. Restart part program

20106 **Emergency stop set by the digitizer**

Definitions: The digitizing unit has recognized a serious error and triggered an emergency stop. Cause: See display on the digitizing unit.

Reactions:
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: -

Program Continuation: Clear alarm with the RESET key. Restart part program

20108 **Invalid data package received from the digitizer. Error codes %1, %2**

Parameters: %1 = Error code of cyclic packet
%2 = Error code of out-of-band packet

Definitions: A data packet received by the digitizing unit could not be evaluated.

Reactions:
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Error code: 0, 0: Check cable connection leading to the NC. Other error codes: e.g. wrong header, incorrect checksum (development documentation).

Program Continuation: Clear alarm with the RESET key. Restart part program

20109 **Error in communication with the digitizer: status code of com-circuit: %1**

Parameters: %1 = Status byte

Definitions: The circuit for serial communication with the digitizing unit signals a transmission error via its status byte (framing error, parity etc.).

Reactions:
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

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Remedy: Please inform the authorized personnel/service department. Check connection cable leading to the digitizing unit: In particular screening.

Program Continuation: Clear alarm with the RESET key. Restart part program

20120 Axis %1: too many compensation relations

Parameters: %1 = Axis name, spindle number

Definitions: Interpolatory compensation with tables. For each axis, the maximum number of compensation relationships defined may be no more than the number of axes in the system. In this alarm, the interpolatory compensation in the axis is switched off automatically.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Check table parameters $AN_CEC_OUTPUT_AXIS and correct and/or switch off one or more tables ($SN_CEC_TABLE_ENABLE).

Program Continuation: Clear alarm with the RESET key. Restart part program

20121 Axis %1: Configuration error in compensation table %2

Parameters: %1 = Axis name, spindle number
%2 = Compensation table

Definitions: Interpolatory compensation with tables. The settings for the specified table are not allowed. $AN_CEC_MAX >= $AN_CEC_MIN and $AN_CEC_STEP != 0 apply to system variables. This table is switched off automatically.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Check and correct the characteristic data in the compensation table. If the error cannot be found, the alarm can be suppressed by switching off the table ($SN_CEC_TABLE_ENABLE) or switching off compensation in the axis ($MA_CEC_ENABLE).

Program Continuation: Clear alarm with the RESET key. Restart part program

20122 Compensation table %1: invalid axis assignment

Parameters: %1 = Compensation table

Definitions: Interpolatory compensation with tables. The input or output axes assignment in the given table is not allowed. $AN_CEC_INPUT_AXIS and $AN_CEC_OUTPUT_AXIS != 0 apply to system variables. This table is automatically switched off.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Check and correct the axis assignment in the compensation table. If the error cannot be found, the alarm can be suppressed by switching off the table ($SN_CEC_TABLE_ENABLE) or switching off compensation in the axis ($MA_CEC_ENABLE).

Program Continuation: Clear alarm with the RESET key. Restart part program

20123 Axis %1: different output assignment of multiplied tables

Parameters: %1 = Axis name, spindle number

Definitions: Interpolatory compensation with tables. The two tables whose outputs are to be multiplied together have different output axes assigned to them. The compensation in this axis is automatically switched off.

Reactions: - Interface signals are set.

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- Alarm display.

Remedy: Please inform the authorized personnel/service department. Check and correct the characteristic data in the compensation table ($AN_CEC_OUTPUT_AXIS and $AN_CEC_MULT_BY_TABLE).

If the error cannot be found, the alarm can be suppressed by switching off the compensation in the axis ($MA_CEC_ENABLE) or the tables, ($SN_CEC_TABLE_ENABLE).

Program Continuation: Clear alarm with the RESET key. Restart part program

20124 Axis %1: sum of compensation values too large

Parameters: %1 = Axis name, spindle number

Definitions: The sum of the compensation values from all tables assigned to the axis had exceeded the limit value $MA_CEC_MAX_SUM and had to be limited. Contour errors could have occurred as a result.

Reactions: - Interface signals are set.

- Alarm display.

Remedy: Check characteristic data of the compensation tables assigned to the axis.

Check characteristic curves in the tables ($AN_CEC).

Program Continuation: Clear alarm with the RESET key. Restart part program

20125 Axis %1: change of compensation value is too rapid

Parameters: %1 = Axis name, spindle number

Definitions: The compensation value has changed more rapidly than has been allowed for in 32730 CEC_MAX_VELO. It had to be limited temporarily. The missing section is repeated later but contour errors might have occurred.

Reactions: - Interface signals are set.

- Alarm display.

Remedy: Check characteristic data of the compensation tables assigned to the axis.

Check characteristic curves in the tables ($AN_CEC). Possibly one of the input axes has moved more rapidly than provided for.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

20130 Channel %1 contour tunnel monitoring

Parameters: %1 = Channel number

Definitions: The tool tip has exited the tunnel placed around the desired contour, i.e. the distance between tool tip and desired contour was greater than specified in the MD 21050 CONTOUR_TUNNEL_TOL.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - Mode group not ready.

- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Check the following points in turn:

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1. Is the machine in working order? That is, has the alarm been tripped by a sluggish axis, tool breakage or collision?
2. If the machine is in working order, reduce the velocity or improve the controller setting.
3. Possibly increase the size of the tunnel and monitor errors via analog output in order to ascertain the cause.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

20139 Channel %1 block %2 motion-synchronous action: invalid marker

Parameters: %1 = Channel number
%2 = Block number

Definitions: Setting or deleting of a marker in the motion-synchronous action is not possible.
Possible causes:
SETM(): Maximum number of markers exceeded; marker has already been set.
CLEARM(): Specified marker is not within permissible value range.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: SETM(): use marker in valid value range; do not set the marker again.
CLEARM(): use marker in valid value range.

Program Continuation: Clear alarm with the RESET key. Restart part program

20140 Channel %1 motion synchronous action: traversing of command axis %2 see NC alarm %3

Parameters: %1 = Channel number
%2 = Axis
%3 = NC alarm

Definitions: An NC alarm was detected for a command axis which is to be traversed from a synchronous action. The NC alarm is indicated by an MMC alarm number in the 3rd parameter.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: See help information for the additional alarms.

Program Continuation: Clear alarm with the RESET key. Restart part program

20141 Channel %1 motion synchronous action: illegal axis type

Parameters: %1 = Channel number

Definitions: The requested command is not permissible in the current axis status for the command axis or spindle. This alarm occurs with command axes (POS, MOV), spindle commands from motion synchronous actions (M3/M4/M5, SPOS), coupled motion (TRAILON, TRAILOF) and lead value coupling (LEADON, LEADOF).

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: First stop the axis or deactivate the coupling, then select a new status.

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Program Continuation: Clear alarm with the RESET key. Restart part program

20142 **Channel %1 command axis %2: rotation of axis container already enabled**

Parameters: %1 = Channel number
%2 = Axis

Definitions: The synchronized action instruction is not allowed on a spindle enabled for the axis container rotation. The alarm only occurs if the spindle is handed to another NCU.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Initiate the synchronized action instruction before the axis container rotation enable or after the end of the rotation (depending on the application).

Program Continuation: Clear alarm with the RESET key. Restart part program

20143 **Channel %1 axis %2 command axis cannot be started as it is controlled by the PLC**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: An attempt has been made to start a command axis by means of a block-related or modal synchronous action. This start is not possible as the axis is controlled by the PLC.

Reactions: - Alarm display.

Remedy: End control of the axis by the PLC and therefore return it to the channel or start the command axis with a static synchronous action.

Program Continuation: Clear alarm with the Delete key or NC START.

20144 **Channel %1 block %2 motion synchronous action: system variable access not possible**

Parameters: %1 = Channel number
%2 = Block number

Definitions: When using system variables, it is assumed that a read/write operation can access the required data successfully. In accesses to encoder actual values or digital I/Os, the result depends on the availability of the corresponding hardware components. If an access within synchronized actions does not return a valid value, alarm 20144 is output. Outside synchronized actions, such a read/write access causes block execution to be interrupted until the result is available. Block execution is subsequently continued.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Before reading/writing system variables, ensure that it is possible to access the required hardware components.

Program Continuation: Clear alarm with the RESET key. Restart part program

20145 **Channel %1 block %2 motion synchronous action: arithmetic error**

Parameters: %1 = Channel number
%2 = Block number

Definitions: In calculating an arithmetic expression for a motion synchronous action, an overflow has occurred (e.g. division by zero).

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Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct error in expression.

Program Continuation: Clear alarm with the RESET key. Restart part program

20146 **Channel %1 block %2 motion synchronous action: nesting depth exceeded**

Parameters: %1 = Channel number
%2 = Block number

Definitions: For calculating arithmetic expressions in motion synchronous blocks, an operand stack with a fixed set size is used. With very complex expressions, this stack can overflow.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct error in expression.

Program Continuation: Clear alarm with the RESET key. Restart part program

20147 **Channel %1 block %2 motion synchronous action: command not executable**

Parameters: %1 = Channel number
%2 = Block number

Definitions: One of the commands for the synchronous action block cannot be executed, e.g. it is not possible to perform a Reset to the synchronous action.
Measurement level 2
• Embargo version does not allow measurement from a synchronized action
• MEASA was programmed in a synchronized action
• Measurement is already active
• Programming error (see alarm 21701)

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Change synchronous action.
Measurement level 2
Execute the measurement task from an NC program first, in order to improve the error diagnostics. Only include it in the synchronized action when the first error-free run has been performed.

Program Continuation: Clear alarm with the RESET key. Restart part program

20148 **Channel %1 block %2 motion synchronous action: internal error %3**

Parameters: %1 = Channel number
%2 = Block number
%3 = Error code

Definitions: An internal error has occurred during processing of a synchronous action. The error code is for diagnostics purposes. Please make a note and contact the manufacturer.

Reactions: - NC Start disable in this channel.
- Interface signals are set.

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- Alarm display.
- NC Stop on alarm.

Remedy: Change synchronous action.

Program Continuation: Clear alarm with the RESET key. Restart part program

20149 Channel %1 block %2 motion synchronous action: illegal index

Parameters: %1 = Channel number
%2 = Block number

Definitions: An invalid index was used for access to a variable in motion synchronous action.
Example: ... DO $R[$AC_MARKER[1]] = 100
This error occurs if the value of marker 1 is greater than the maximum permissible R parameter number.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Use a valid index.

Program Continuation: Clear alarm with the RESET key. Restart part program

20150 Channel %1 tool management: PLC terminates interrupted command

Parameters: %1 = Channel number

Definitions: Indication that the PLC has terminated an interrupted command (with alarm output) from the tool management - tool change.

Reactions:
- Interface signals are set.
- Alarm display.

Remedy: For information only.

Program Continuation: Clear alarm with the Delete key or NC START.

20160 Channel %1 tool management: PLC can terminate only incorrectly aborted commands

Parameters: %1 = Channel number

Definitions: Indication that the PLC wanted to interrupt an active command from the tool management (tool change); or that there is no command active for abort. NCK refuses because the channel status is either 'active' (abort is then not allowed), or 'reset' (then there is nothing to abort).

Reactions:
- Interface signals are set.
- Alarm display.

Remedy: For information only.

Program Continuation: Clear alarm with the Delete key or NC START.

20170 Channel %1 machine data $AC_FIFO invalid

Parameters: %1 = Channel number

Definitions: The structure of the FIFO variable $AC_FIFO1 - $AC_FIFO10 determined by the machine data $MC_NUM_AC_FIFO, $MC_START_AC_FIFO, $MC_LEN_AC_FIFO and $MC_MODE_AC_FIFO cannot be stored in the R parameter field defined in $MC_MM_NUM_R_PARAM.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.

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- Alarm display.

Remedy: Please inform the authorized personnel/service department. Increase the number of the R parameters or reduce the FIFO elements.
$MC_MM_NUM_R_PARAM = $MC_START_AC_FIFO + $MC_NUM_AC_FIFO x ($MC_LEN_AC_FIFO + 6)

Program Continuation: Switch control OFF - ON.

20200 Channel %1 invalid spindle number %2 with tool fine compensation

Parameters: %1 = Channel number target channel
%2 = Spindle number

Definitions: There is no spindle/axis assignment in the target channel for the spindle specified in the PUTFTOC command.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Modify program in channel that writes the tool fine compensation.

Program Continuation: Clear alarm with the RESET key. Restart part program

20201 Channel %1 spindle %2 no tool assigned

Parameters: %1 = Channel number
%2 = Spindle number

Definitions: In order to make allowance for the fine tool compensation for the tool currently in the spindle, a spindle/tool assignment must be active. This is not presently the case for the programmed spindle in the target channel of fine tool compensation.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy:
1. Modify the part program (write the tool fine compensation).
2. Establish spindle/tool assignment by programming:
• TMON (tool monitoring)
• GWPSON (tool selection)

Program Continuation: Clear alarm with the RESET key. Restart part program

20203 Channel %1 no active tool

Parameters: %1 = Channel number

Definitions: A tool fine compensation has been written for the active tool of channel %1 with PUTFTOC. No tool is active in this channel. Therefore, the compensation cannot be assigned.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct the program.

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Program Continuation: Clear alarm with the RESET key. Restart part program

20204 Channel %1 PUTFTOC command not allowed with FTOCOF

Parameters: %1 = Channel number

Definitions: A tool fine compensation has been written for channel %1 with PUTFTOC. The tool fine compensation is not active in this channel. FTOCON must be active in the target channel of the PUTFTOC command.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct the program in the machining channel: Select FTOCON so that the channel is ready to receive the PUTFTOC command.

Program Continuation: Clear alarm with the RESET key. Restart part program

20210 Channel %1 block %3 spindle %2 wrong values for centerless grinding

Parameters:
%1 = Channel number
%2 = Spindle number
%3 = Block number, label

Definitions: It was not possible to calculate a tool diameter (no speed specified for the spindle) for centerless grinding because it was not allowed by the input positions. The old S value still applies.

Reactions: - Alarm display.

Remedy:
• Modify program
• Select new traversing positions for centerless axes
• or suppress computation by G00.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

20211 Channel %1 block %3 spindle %2 support point beyond range limits

Parameters:
%1 = Channel number
%2 = Spindle number
%3 = Block number, label

Definitions: The support point calculated for centerless grinding is beyond the range limits.
Machine data:
Modify MD 21518: TRACLG_CONTACT_UPPER_LIMIT
Modify MD 21520: TRACLG_CONTACT_LOWER_LIMIT

Reactions: - Alarm display.

Remedy:
• Check centerless axis positions and machine data.
• Modify program.
• Select new traversing positions for centerless axes
• or suppress computation by G00.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

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20300 **Channel %1 axis %2 orientation not possible**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: On traversing the displayed (virtual) orientation axis, a tool orientation is to be set for which the kinematics of this machine are not possible.

Reactions: - Alarm display.

Remedy: Abort the JOG movement and specify another (possible) change of orientation.

Program Continuation: Clear alarm with the Delete key or NC START.

21550 **Channel %1 axis %2 Travel from hardware limit switch not possible. Reason: %3**

Parameters: %1 = Channel number
%2 = Axis name
%3 = Cause

Definitions: It has been tried to retract a following axis of an axis coupling or an output axis of a transformation through the master axis or input axis of a transformation. This is not permitted in the current situation.
Possible reasons:
1 No permissible direction of retraction
2 Coupling not synchronous
3 Retraction not permitted for the active coupling
4 Reserved
5 Retraction not permitted for the active transformation

Reactions: - NC Start disable in this channel.
- Alarm display.

Remedy: Remedy for error cause:
1 Define another travel direction
2 Deactivate the coupling and travel the axis/axes separately
3 Deactivate the coupling and travel the axis/axes separately
4 Reserved
5 Deactivate the transformation and travel the axis/axes separately

Program Continuation: Clear alarm with the RESET key. Restart part program

21600 **Monitoring for ESR active**

Definitions: -

Reactions: - NC not ready.
- Alarm display.
- All alarm reactions are delayed by one IPO cycle with this alarm.

Remedy: The display can be suppressed with the machine data MD 11410: SUPPRESS_ALARM_MASK Bit 16 = 1

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

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21610 **Channel %1 axis %2 encoder %3 frequency limit exceeded**

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = String (encoder number)

Definitions: The maximum permissible frequency of the currently active encoder (axis-specific interface signal DB 31 - 48, DBX 1.5 and DBX 1.6) in the axis-specific machine data 36 300 ENC_FREQ_LIMIT [n] (n ... encoder number, 1 or 2) has been exceeded. The reference of the actual value to the mechanical carriage position may be lost.
The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Modify MD 36300: ENC_FREQ_LIMIT [n] and interface signal position measuring system 1/2 (DB 31 - 48, DBX 1.5 and DBX 1.6).

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

21611 **Channel %1 NC-controlled Extended Stop/Retract triggered**

Parameters: %1 = Channel number

Definitions: "NC-controlled Extended Stop/Retract" triggered.

Reactions: - The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- All channel-specific alarm reactions are delayed with this alarm, alarm display.

Remedy: Reset

Program Continuation: Clear alarm with the RESET key. Restart part program

21612 **Channel %1 axis %2: 'Servo enable' reset during motion.**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: The interface signal "Servo enable" (DB31 - 48, DBX 2.1),
the interface signal "Pulse enable" (DB31 - 48, DBX 21.7)
or other signals enabling the motion such as
parking/encoder selection (only for axes) or drive-specific
enables such as terminal 663 etc. (for example in SIMODRIVE 611D)
have been set to 0 for the displayed axis even though one of the axes in the geometry grouping was in motion.
The axes entered in the channel-specific MD array 20050 AXCONF_GEOAX_ASSIGN_TAB count as axes belonging to the geometry grouping. Servo enable must exist for all available geometry axes, regardless of whether they are currently in motion or not.

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Occurs in connection with SAFETY function: If a test stop is performed with linked axes, the alarm is issued if a motion command from the ELT grouping is pending during the test stop of the slave axis.

Reactions: - The NC switches to follow-up mode.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
Check the interface signals "Servo enable" (DB31 - 48, DBX 2.1) and "Pulse enable" (DB31 - 48, DBX 21.7), for example with the PLC status display in the DIAGNOSTICS operating area. Check the encoder selection (for axes) as well as other signals enabling motion such as terminal 663 depending on the drive type used, and so on.
When the terminal enables of the drive have failed, trace back the wiring or hardware function (for example relay function) or proceed as per the relevant drive documentation.
With SAFETY: With active actual-value linkage, output of the error message on the slave axis can be prevented by increasing MD 36060 $MA_STANDSTILL_VELO_TOL (default value is 5 mm).

Program Continuation: Clear alarm with the Delete key or NC START.

21613 Axis %1 measuring system changing

Parameters: %1 = Axis name, spindle number

Definitions: The measuring system for this axis is changing.

Reactions: - Alarm display.

Remedy: -

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

21614 Channel %1 axis %2 hardware limit switch %3

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = String (+, - or +/-)

Definitions: The VDI signal "Hardware limit switch" (DB 31 - 48, DBX 12.0 or DBX 12.1) has been set at the NC/PLC interface.

Reactions: - NC Start disable in this channel.
- Alarm display.

Remedy: Please inform the authorized personnel/service department.
1. With axes that have already been referenced, the software limit switch 1 or 2 should respond before the hardware limit switch is reached. Check MD 36110 POS_LIMIT_PLUS, 36100 POS_LIMIT_MINUS, 36130 POS_LIMIT_PLUS2 and 36120 POS_LIMIT_MINUS2 and the interface signal for selection of 1st/2nd software limit switch (DB 31 - 48, DBX 12.2 and 12.3) and correct if necessary (PLC user program).
2. If the axis has not yet been moved to the reference point, it is possible to depart from the hardware limit switch in the opposite direction in JOG mode.
3. Check PLC user program and the connection from the switch to the PLC input module, provided the axis has not yet reached the hardware limit switch at all.

Program Continuation: Clear alarm with the RESET key. Restart part program

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21615 **Channel %1 axis %2 taken from traverse mode to follow-up mode**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: This axis has been taken from traverse mode and put into "Follow-up" mode, for instance because the pulse enable for the drive has been reset.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: -

Program Continuation: Clear alarm with the RESET key. Restart part program

21616 **Channel %1 block %2 overlaid motion active at transformation switchover**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The overlaid motion in the BCS changes its significance because of the transformation change and can therefore lead to undesired axis movements.

Reactions: - Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Take out the overlaid movement.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

21617 **Channel %1 block %2 transformation does not allow to traverse the pole**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The preset curve passes through the pole or a forbidden area of the transformation.

Reactions: - Local alarm reaction.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Modify part program (if alarm has occurred in AUTO mode).
To escape from the alarm position, transformation must be deselected (it is not enough to try a RESET if the transformer remains active when RESET is applied).

Program Continuation: Clear alarm with the RESET key. Restart part program

21618 **Channel %1 as from block %2 transformation active: overlaid motion too great**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The share of overlaid motion on the transformation-related axes is so high that the path movement planned by the preparation no longer sufficiently corresponds to the actual ratio for the interpolation. Strategy of singularities, monitoring of working range limitation and dynamic Look Ahead are possibly no longer correct.

Reactions: - Alarm display.

Remedy: With overlaid motion it is necessary to keep a sufficiently large path safety distance with regard to poles and working range limitations.

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Program Continuation: Clear alarm with the Delete key or NC START.

21619 Channel %1 block %2 transformation active: motion not possible

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The machine kinematics does not allow the specified motion. Transformation-dependent error causes can be in:

TRANSMIT: A (circular) area exists around the pole, where positioning is not possible. The area is caused by the fact that the tool reference point cannot be traversed as far as into the pole. The area is defined by:

• the machine data ($MC_TRANSMIT_BASE_TOOL..)

• the active tool length compensation (see $TC_DP..).

Whether the tool length compensation is included in the calculation depends on the working plane selected (see G17,..). The machine stops at the edge of the area where positioning is not possible.

Reactions: - Local alarm reaction.

- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Modify part program. Change the incorrectly specified tool length compensation.

Note: RESET alone is not enough if transformation also remains active during RESET.

Program Continuation: Clear alarm with the RESET key. Restart part program

21650 Channel %1 axis %2 overlaid motion not allowed

Parameters: %1 = Channel number

%2 = Axis name, spindle number

Definitions: An overlaid motion was requested for the axis, however, this is not allowed due to the machine data FRAME_OR_CORRPOS_NOTALLOWED.

Reactions: - Local alarm reaction.

- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Deselect the overlaid motion or change machine data FRAME_OR_CORRPOS_NOTALLOWED.

Program Continuation: Clear alarm with the RESET key. Restart part program

21660 Channel %1 block %2 axis %3 conflict between SYNACT: $AA_OFF and CORROF

Parameters: %1 = Channel number

%2 = Block number, label

%3 = Axis name

Definitions: When deselecting the position offset ($AA_OFF) via the part program command CORROF (<axis>, "AA_OFF") an active synchronized action is detected that immediately sets $AA_OFF for the axis (DO_$AA_OFF [<axis>] =<value>). Deselection is executed and $AA_OFF not set again.

Reactions: - Correction block is reorganized.

- Local alarm reaction.

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- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify part program.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

21665 Channel %1 $AA_TOFF cleared

Parameters: %1 = Channel number

Definitions: If the tool position is changed with RESET and $AA_TOFF is active during RESET, the position offset ($AA_TOFF) is cleared.

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Modify the RESET setting in $AA_TOFF_MODE.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

21670 Channel %1 block %2 illegal change of tool direction with $AA_TOFF active

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: If an offset has been activated in tool direction by means of $AA_TOFF[i], no block is allowed to be activated in which the offset axis assignment i is modified (plane change, tool change cutting tool <=> turning tool, transformation change, TRAFOOF, TCARR=0, geometry axis change)

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy:
- Modify part program
- Program TOFFOF()

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

21700 Channel %1 block %3 axis %2 touch probe already deflected, edge polarity not possible

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Block number

Definitions: The probe programmed under the keyword MEAS or MEAW is already deflected and has switched. For a further measuring operation, the probe signal must first be canceled (quiescent state of the probe).
The axis display is of no significance at the present time but an axis-specific evaluation has been planned for later stages of development.

Reactions:
- Local alarm reaction.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

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- NC Stop on alarm.

Remedy: Verify the start position of the measuring operation or check the probe signals in the PLC interface (DB10.DBB107). Are the cables and connectors in good order?

Program Continuation: Clear alarm with the RESET key. Restart part program

21701 Channel %1 block %3 axis %2 measurement not possible

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Block number

Definitions: Measurement level 2 (MEASA, MEAWA, MEAC).
There is an error in the programmed measurement task.
Possible causes:
- Invalid measurement mode
- Invalid probe
- Invalid encoder
- Invalid number of measurement signal edges
- Identical measurement signal edges are only programmable in mode 2
- Invalid FIFO number
- Mismatch between the number of FIFOs programmed and the number of probes used in the measurement task.

Further causes:
A measurement task is already active (e.g. from a synchronized action).

Reactions:
- Local alarm reaction.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct the measurement tasks.

Program Continuation: Clear alarm with the RESET key. Restart part program

21702 Channel %1 block %3 axis %2 measurement aborted

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Block number

Definitions: The measurement block has ended (the programmed end position of the axis has been reached) but the activated touch probe has not yet responded.
Measurement level 2 (MEAWA, MEASA, MEAC)
Measured values cannot be converted to the workpiece coordinate system. The measured values of the GEO axes programmed in the measurement task are only available in the machine coordinate system.
Causes:
Not all GEO axes were programmed in the measurement task. At least one measured value is therefore missing for conversion back into the workpiece coordinate system.
Further causes:
The measurement tasks programmed for all GEO axis are not identical.

Reactions:
- Alarm display.

Remedy: Verify the traversing movement in the measurements block.
- Is it necessary in all cases for the activated probe to have switched up to the specified axis position?

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• Are the probe, cable, cable distributor, terminal connections in good order?

Either program all GEO axes explicitly or program the traversing movement with the POS[axis] command.

Program Continuation: Clear alarm with the Delete key or NC START.

21703 Channel %1 block %3 axis %2 touch probe not deflected, illegal edge polarity

Parameters: %1 = Channel number

%2 = Axis name, spindle number

%3 = Block number

Definitions: The selected probe is not (!) deflected and therefore cannot record any measured value from the deflected to the non-deflected state.

Measurement level 2 (MEAWA, MEASA, MEAC)

The degree of deflection of the probe at the start of the measurement task is identical to the first programmed measurement signal edge. The test is only performed in mode 2.

Reactions: - Local alarm reaction.

- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: • Check probe

• Check start positioning for measuring

• Check program

Program Continuation: Clear alarm with the RESET key. Restart part program

21740 Output value at analog output no. %1 has been limited

Parameters: %1 = No. of output

Definitions: The value range of the analog output n is limited by machine data 10330 FASTIO_ANA_OUTPUT_WEIGHT[n].

Reactions: - Alarm display.

Remedy: With $A_OUTA[..] = x no greater values can be programmed than permitted in the respective machine data.

Program Continuation: Clear alarm with the Delete key or NC START.

21750 Error during output of cam signals via timer

Definitions: The signal output activated by the MD 10480 SW_CAM_TIMER_FASTOUT_MASK via the hardware timer (independent of the clock grid) did not work. Cause: interpolation cycle is greater than 15 ms.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - Mode group not ready.

- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Shorten interpolation cycle (if at all possible).

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Program Continuation: Switch control OFF - ON.

21760 Channel %1 block %2 too many auxiliary functions programmed

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The number of programmed auxiliary functions has exceeded the maximum permissible amount. This alarm can occur in conjunction with motion synchronous actions: The maximum number of auxiliary functions must not be exceeded in motion block and motion synchronous actions.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

21800 Channel %1 workpiece setpoint %2 reached

Parameters: %1 = Channel number

%2 = Workpiece setpoint

Definitions: This alarm is activated via MD 27880 PART_COUNTER, bit 1:

The number of counted workpieces ($AC_ACTUAL_PARTS or $AC_SPECIAL_PARTS) is equal or already larger than the programmed value for the number of required workpieces ($AC_REQUIRED_PARTS).

At the same time, the channel VDI signal "Workpiece setpoint reached" is output.

The value for the number of the counted workpieces ($AC_ACTUAL_PARTS) is reset while the value of $AC_SPECIAL_PARTS remains.

Reactions:
- NC not ready.
- Interface signals are set.
- Alarm display.

Remedy: No program interrupt. Delete alarm display.

Program Continuation: Clear alarm with the Delete key or NC START.

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22000 **Channel %1 block %3 spindle %2 gear stage change not possible**

Parameters: %1 = Channel number
%2 = Spindle number
%3 = Block number, label

Definitions: A gear stage change for the spindle will not be possible, if:
- thread cutting (G33, G34, G35) is active
- the spindle is active as master or slave spindle in a coupling
- the spindle is being positioned

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: The gear stage is to be set prior to the corresponding machining step.
If it is necessary, however, to change the gear stage within one of the above mentioned functions, this function must be switched off for the time of the gear stage change. Thread cutting is deselected with G1; synchronous spindle coupling is switched off with COUPOF; the spindle positioning operation is exited with M3, M4 or M5.

Program Continuation: Clear alarm with the RESET key. Restart part program

22005 **Channel %1 spindle %2 selected gear stage %3 not installed**

Parameters: %1 = Channel number
%2 = Spindle number
%3 = Gear stage

Definitions: The first gear stage data block is active. The required gear stage is not installed in the 1st gear stage data block. The number of installed gear stages is archived in machine date 35090 $MA_NUM_GEAR_STEPS.
The causes for the incurrence of the alarm may be:
For example, 3 gear stages are installed, but...
* ...one gear stage larger than 3 was programmed via synchronized action, e.g. DO M44.
* ...DO M70 was programmed and machine date 35014 $MA_GEAR_STEP_USED_IN_AXISMODE is larger than 3.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy:
• Install valid gear stage which is also installed according to machine date MA_NUM_GEAR_STEPS.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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22010 **Channel %1 block %3 spindle %2 actual gear stage differs from requested gear stage**

Parameters: %1 = Channel number
%2 = Spindle number
%3 = Block number, label

Definitions: The requested gear stage change has been concluded. The actual gear stage reported by the PLC as being engaged is not the same as the required gear stage called for by the NC. Note: Wherever possible, the requested gear stage should always be engaged.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. Correct the PLC program.

Program Continuation: Clear alarm with the Delete key or NC START.

22011 **Channel %1 block %3 spindle %2 change to programmed gear stage not possible**

Parameters: %1 = Channel number
%2 = Spindle number
%3 = Block number, label

Definitions: With the 'DryRun', 'ProgramTest' and 'SearchRunByProgTest' functions deselected, it is not possible in the Repos module to carry out a gear stage change to a previously programmed gear stage. This is the case, if the spindle is in the deselection block not active in speed control mode, as a slave axis or in a transformation. Execution of a gear stage change is avoided if the above mentioned functions are deselected by resetting bit 2 of machine data 35035 SPIND_FUNCTION_MASK.

Reactions: - Alarm display.

Remedy: Change deselection block or block search target block to speed control mode (M3, M4, M5, SBCOF). Set bit 2 of machine data 35035 SPIND_FUNCTION_MASK to 0.

Program Continuation: Clear alarm with the Delete key or NC START.

22012 **Channel %1 block %2 leading spindle %3 is in simulation.**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Leading spindle number

Definitions: When coupling, no synchronism can be achieved if the lead spindle/axis is in simulation mode and the following spindle/axis is not.

Reactions: - Alarm display.

Remedy: Set the following spindle/axis to simulation mode, or do not simulate the lead spindle/axis ($MA_CTRLOUT_TYPE). If the differing settings have been selected on purpose, the alarm can be suppressed with the machine data 11410 SUPPRESS_ALARM_MASK Bit21 = 1.

Program Continuation: Clear alarm with the Delete key or NC START.

22013 **Channel %1 block %2 dependent spindle %3 is in simulation.**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of following spindle

Definitions: When coupling, no synchronism can be achieved if the following spindle/axis is in simulation mode and the lead spindle/axis is not.

Reactions: - Alarm display.

Remedy: Set the lead spindle/axis to simulation mode, or do not simulate the following spindle/axis ($MA_CTRLOUT_TYPE). If the differing settings have been selected on purpose, the

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alarm can be suppressed with the machine data 11410 SUPPRESS_ALARM_MASK Bit21 = 1.

Program Continuation: Clear alarm with the Delete key or NC START.

22014 Channel %1 block %2. The dynamics of leading spindle %3 and dependent spindle %4 is too variably

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Leading spindle number
%4 = Number of following spindle

Definitions: If the spindles / axes differ strongly in their dynamic behavior during coupling, synchronism cannot be achieved. The dynamics are dependent on many settings: default feedforward control, parameter block data, first of all the servo gain factor, symmetrizing time, etc., feedforward control mode and feedforward setting parameter, FIPO mode, jerk filter and dynamic filter settings, DSC on/off. Among these are the following machine data: MA_FFW_MODE, MA_VELO_FFW_WEIGHT, MA_FIPO_TYPE, VEL_FFW_TIME, MA_EQUIV_SPEEDCTRL_TIME, MA_POSCTRL_GAIN, AX_JERK_TIME, STIFFNESS_DELAY_TIME, PROFIBUS_ACTVAL_LEAD_TIME, PROFIBUS_OUTVAL_DELAY_TIME, CTRLOUT_LEAD_TIME

Reactions: - Alarm display.

Remedy: Use spindles/axes with the same dynamics. If the differing settings have been selected on purpose, the alarm can be suppressed with the machine data 11410 SUPPRESS_ALARM_MASK Bit21 = 1.

Program Continuation: Clear alarm with the Delete key or NC START.

22015 Channel %1 block %2 following spindle %3 No dynamic response for supplementary motion

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of following spindle

Definitions: The difference motion of the slave spindle cannot be executed due to a lack of available velocity. The coupling consumes the entire available dynamic response. The slave spindle is already rotating at maximum speed. In the part program a deadlock might occur. The alarm can be suppressed with machine data 11410 SUPPRESS_ALARM_MASK bit26 = 1.

Reactions: - Alarm display.

Remedy: Reduce the speed of the master spindle

Program Continuation: Clear alarm with the Delete key or NC START.

22016 Channel %1 block %2 following spindle %3 in the range of reduced acceleration capability

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of following spindle

Definitions: The following spindle is driven with position control. Additional motion components of the following spindle shall not leave the linear range of the motor used. Otherwise deviations in the contour or servo alarms may occur. Monitoring refers to the configuration in machine data 35220 ACCEL_REDUCTION_SPEED_POINT. If the situation is mastered by the user, the alarm can be suppressed with machine data 11410 SUPPRESS_ALARM_MASK Bit25 = 1.

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Reactions: - Alarm display.
Remedy: Use coupling type VV and safeguard SPCOF for master and following spindle.
Program Continuation: Clear alarm with the Delete key or NC START.

22020 Channel %1 block %3 spindle %2 gear step change position not reached

Parameters: %1 = Channel number
%2 = Spindle number
%3 = Block number, label
Definitions: Through the configuration of MA_GEAR_STEP_CHANGE_ENABLE[AXn] = 2, the spindle is traversed to the position stored in MA_GEAR_STEP_CHANGE_POSITION[AXn] before the actual gear step change. The required gear step change position has not been reached.
Reactions: - Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
Remedy: Correct sequence in the PLC.
Program Continuation: Clear alarm with the RESET key. Restart part program

22022 Channel %1 block %2 spindle %3 incorrect gear stage during axis operation

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Spindle
Definitions: In machine date 35014 $MA_GEAR_STEP_USED_IN_AXISMODE, a gear stage has been configured in which the spindle is to be positioned during axis operation. The NC will check for this gear stage whenever the spindle is switched over into axis operation. The gear stage configured in MD 35014 is compared with the gear stage output by the PLC (VDI interface "Actual gear stage A through C", DB31, ... DBX 16.0..16.2). If the gear stages are not the same, this alarm will be output. On changeover into axis operation with programming of M70, the NC automatically sets or requests the gear stage configured in MD 35014. If the gear stage configured in MD 35014 is already active, a gear stage change will not be requested. M40 will remain active in both cases.
Reactions: - Interface signals are set.
- Alarm display.
Remedy: Program M70 prior to axis operation. Consider MD 20094.
Program Continuation: Clear alarm with the Delete key or NC START.

22030 Channel %1 block %2 following spindle %3 Impermissible programming

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Spindle
Definitions: With synchronous spindle-VV-coupling an additional motion for the following spindle can only be programmed with M3, M4, M5 and S... The paths created by specified positions cannot be maintained safely for a velocity coupling, especially if a position control is missing. If dimensional accuracy or reproducibility are not important, the alarm can be suppressed with machine data 11410 SUPPRESS_ALARM_MASK Bit27 = 1.
Reactions: - NC Start disable in this channel.
- Interface signals are set.

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- Alarm display.
- NC Stop on alarm.

Remedy: Use synchronous spindle-DV-coupling or program direction of rotation and speed.

Program Continuation: Clear alarm with the RESET key. Restart part program

22033 **Channel %1 block %2 following spindle %3 'Synchronism follow-up' diagnostics %4.**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of following spindle
%4 = Diagnostics

Definitions: The following situation has occurred during 'Correct synchronims':
- Diagnosis 1: An existing override motion is terminated on key reset.
- Diagnosis 2: An existing override motion was cleared (e.g. key reset)
- Diagnosis 3: Write override value impermissible. Override motion is stopped.
- Diagnosis 4: Override motion is stopped intermittently (e.g. G74 reference point approach)
- Diagnosis 5: Currently no dynamic response available for an override motion.
- Diagnosis 6: Currently no speed available for an override motion.

Machine data 11411 ENABLE_ALARM_MASK Bit9 = 1 activates this alarm.

Reactions: - Alarm display.

Remedy: Deactivation of the alarm with machine data 11411 ENABLE_ALARM_MASK Bit9 = 0.

Program Continuation: Clear alarm with the Delete key or NC START.

22034 **Channel %1 block %2 following spindle %3 PLC signal 'Enable override' has been set.**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of following spindle

Definitions: PLC signals DB31..,DBX31.6 'Correct synchronism' and DB31.., DBX26.4 'Override enable' must not be set at the same time. If an override motion exists for the following spindle, override value $AA_COUP_CORR[Sn] cannot be calculated properly.

Reactions: - Alarm display.

Remedy: Set PLC signal DB31.., DBX26.4 'Override enable' to 0.

Program Continuation: Clear alarm with the Delete key or NC START.

22035 **Channel %1 block %2 following spindle %3 unable to determine the offset value (cause %4).**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of following spindle
%4 = Reason

Definitions: Determination of override value ($AA_COUP_CORR[Sn]) intended by VDI signal DB31..,DBX31.6 'Correct synchronism' cannot be executed. The reasons may be:
- Reason 1: An additional following spindle motion exists. The override value can therefore not be calculated properly.

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- Reason 2: No following spindle synchronism exists on setpoint side. The override value can therefore not be calculated properly.
- Reason 3: The override value has already been set or determined.

Reactions: - Alarm display.

Remedy: The following remedies are available for the indicated reasons:

- Reason 1: Wait for termination of the override motion before you set PLC signals DB31..,DBX31.6 'Correct synchronism'.
- Reason 2: Wait until synchronism is achieved on setpoint side before you set PLC signal DB31..,DBX31.6 'Correct synchronism'.
- Reason 3: Set override value $AA_COUP_CORR[Sn] to 0 prior to setting PLC signal DB31..,DBX31.6 'Correct synchronism'.

Program Continuation: Clear alarm with the Delete key or NC START.

22036 Channel %1 block %2 following spindle %3 synchronism offset not possible.

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of following spindle

Definitions: Synchronism override intended by setting VDI signal DB31..,DBX31.6 'Correct synchronism' or writing variable $AA_COUP_CORR[Sn] can currently not be considered.
The reasons may be:

- Reference point approach or zero mark synchronization is active
- NC reset is running

Reactions: - Alarm display.

Remedy: Wait until the conditions for override value processing are available again prior to setting PLC signal DB31..,DBX31.6 'Correct synchronism' or writing variable $AA_COUP_CORR[Sn].

Program Continuation: Clear alarm with the Delete key or NC START.

22040 Channel %1 block %3 spindle %2 is not referenced with zero marker

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Block number, label

Definitions: The current position is not referenced with the MS position although reference is made to it.

Reactions: - Alarm display.

Remedy: Correct NC part program. Create the zero mark synchronization by positioning, by rotation (at least 1 revolution) in speed control mode or G74 before switching the alarm generating function on.

Program Continuation: Clear alarm with the Delete key or NC START.

22045 Block %2 spindle/axis %3 not available in channel %1 because active in channel %4

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number
%4 = Number of the channel in which the spindle/axis is currently active.

Definitions: The specified spindle/axis is required in channel %1 for the correct execution of a function. The spindle/axis is currently active in the %4 channel. The constellation can only occur with replacement axes.

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Problem case: A synchronized spindle coupling was programmed. The master spindle/axis is not contained in the channel programmed for the coupling at the time the coupling is activated. The master spindle/axis can be moved by FC18 or synchronized actions. When using FC18, please note that the master spindle/axis must be assigned to the channel which activates the coupling. When FC18 terminates, the master spindle/axis must not be assigned to another channel via PLC while the coupling is still active (VDI interface signals).

Reactions: - Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: • Program a GET for the master spindle/axis in the NC program before activating the coupling, or
• Assign the master spindle/axis to the channel that activated the coupling via PLC.

Program Continuation: Clear alarm with the Delete key or NC START.

22050 Channel %1 block %3 spindle %2 no transition from speed control mode to position control mode

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Block number, label

Definitions: • An oriented spindle stop (SPOS/SPOSA) has been programmed or the position control of the spindle was switched on with SPCON but no spindle encoder has been defined.
• When switching on the position control, the spindle speed is greater than the limiting speed of the measuring system.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Spindle without attached encoder: Any NC language elements requiring the encoder signals must not be used.
Spindle with attached encoder: Enter the number of spindle encoders used in the MD NUM_ENCS.

Program Continuation: Clear alarm with the RESET key. Restart part program

22051 Channel %1 block %3 spindle %2 reference mark not found

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Block number, label

Definitions: When referencing, the spindle turned through a greater distance than given in the axis-specific machine data 34060 REFP_MAX_MARKER_DIST, without receiving a reference mark signal. The check is performed for spindle positioning with SPOS or SPOSA when the spindle has not previously run with speed control (S=...).

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check and correct the machine data 34060 REFP_MAX_MARKER_DIST. The value entered states the distance in [mm] or [degrees] between 2 zero markers.

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Program Continuation: Clear alarm with the RESET key. Restart part program

22052 **Channel %1 block %3 spindle %2 no standstill on block change**

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Block number, label

Definitions: The displayed spindle has been programmed as spindle or as axis even though a positioning operation is still running from the previous block (with SPOSA ... spindle positioning beyond block limits).
Example:
N100 SPOSA [2] = 100
:
N125 S2 = 1000 M2 = 04 ; Error, if spindle S2 from block N100 is still running!

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Before programming the spindle/axis again using the SPOSA instruction, a WAITS command should be activated in order to wait for the programmed spindle position.
Example:
N100 SPOSA [2] = 100
:
N125 WAITS (2)
N126 S2 = 1000 M2 = 04

Program Continuation: Clear alarm with the RESET key. Restart part program

22053 **Channel %1 block %3 spindle %2 reference mode not supported**

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Block number, label

Definitions: In the case of SPOS/SPOSA with an absolute encoder, only the referencing mode ENC_REFP_MODE = 2 is supported! SPOS/SPOSA does not support ENC_REFP_MODE = 6 at all!

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Modify setting of ENC_REFP_MODE or change to JOG+REF and then reference.

Program Continuation: Clear alarm with the RESET key. Restart part program

22054 **Channel %1 block %3 spindle %2 improper punching signal**

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Block number, label

Definitions: If the punching signal is irregular between the punching strokes, this alarm is generated according to machine data.

Reactions: - Alarm display.

Remedy: Indicates poor condition of the punching hydraulics.

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Program Continuation: Clear alarm with the Delete key or NC START.

22055 **Channel %1 block %3 spindle %2 configured positioning speed is too high**

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Block number, label

Definitions: The current position is not referenced with the MS position although reference is made to it.

Reactions: - Alarm display.

Remedy: Correct NC part program. Create the zero mark synchronization by positioning, by rotation (at least 1 revolution) in speed control mode or G74 before switching the alarm generating function on.

Program Continuation: Clear alarm with the Delete key or NC START.

22057 **Channel %1 block %2 for following spindle %3 coupling as leading spindle/axis already existing**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: A coupling has been switched on in which the following spindle/axis has already been active as leading spindle/axis in another coupling. Chained couplings cannot be processed.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check in the parts program whether the following spindle/axis is already active as leading spindle/axis in another coupling.

Program Continuation: Clear alarm with the RESET key. Restart part program

22058 **Channel %1 block %2 for leading spindle %3 coupling as following spindle/axis already existing**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Definitions: A coupling has been switched on in which the leading spindle/axis has already been active as following spindle/axis in another coupling. Chained couplings cannot be processed.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check in the parts program whether the leading spindle/axis is already active as following spindle/axis in another coupling.

Program Continuation: Clear alarm with the RESET key. Restart part program

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22060 **Channel %1 position control expected for axis/spindle %2**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: The programmed coupling type (DV, AV) or the programmed function requires position control.

Reactions: - Alarm display.

Remedy: Activate position control, e.g. by programming SPCON.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

22062 **Channel %1 axis %2 reference point approach: zero marker search velocity (MD) is not reached**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: The configured zero marker search velocity is not reached.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check active spindle speed limitations. Configure a lower zero marker search velocity $MA_REFP_VELO_SEARCH_MARKER. Check the tolerance range for the actual velocity $MA_SPIND_DES_VELO_TOL. Set a different referencing mode $MA_ENC_REFP_MODE != 7.

Program Continuation: Clear alarm with the RESET key. Restart part program

22064 **Channel %1 axis %2 reference point approach: zero marker search velocity (MD) is too high**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: The configured zero marker search velocity is too high. The encoder limit frequency is exceeded for the active measuring system.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Configure a lower zero marker search velocity $MA_REFP_VELO_SEARCH_MARKER. Check the encoder frequency configuration $MA_ENC_FREQ_LIMIT and $MA_ENC_FREQ_LIMIT_LOW. Set a different referencing mode ($MA_ENC_REFP_MODE != 7).

Program Continuation: Clear alarm with the RESET key. Restart part program

22065 **Channel %1 tool management: Tool motion is not possible, as tool %2 with Duplo no. %3 is not in magazine %4**

Parameters: %1 = Channel number
%2 = String (identifier)
%3 = Duplo no.
%4 = Magazine no.

Definitions: The desired tool motion command - triggered from the MMC or PLC - is not possible. The specified tool is not contained in the specified magazine. (NCK cannot contain tools that

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are not assigned to a magazine. With this kind of tool, no operations (motion, change) can be performed.)

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check that the specified tool is contained in the desired magazine, or program another tool to be changed.

Program Continuation: Clear alarm with the Delete key or NC START.

22066 **Channel %1 tool management: Tool change is not possible, as tool %2 with Duplo no. %3 is not in magazine %4**

Parameters: %1 = Channel number
%2 = String (identifier)
%3 = Duplo no.
%4 = Magazine no.

Definitions: The desired tool change is not possible. The specified tool is not contained in the specified magazine. (NCK cannot contain tools that are not assigned to a magazine. With this kind of tool, no operations (motion, change) can be performed.)

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
- Check that the specified tool is contained in the desired magazine, or program another tool to be changed.
- Check whether the settings in machine data $MC_RESET_MODE_MASK, $MC_START_MODE_MASK and the associated machine data $MC_TOOL_RESET_NAME match the current definition data.

Program Continuation: Clear alarm with the RESET key. Restart part program

22067 **Channel %1 tool management: tool change not possible since there is no tool available in tool group %2**

Parameters: %1 = Channel number
%2 = String (identifier)

Definitions: The desired tool change is not possible. The specified tool group does not contain a tool which is ready for use and could be used for tool change. It is possible that all of the tools in question have been set to the 'Disabled' state by the tool monitoring function.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy:
- Ensure that the specified tool group contains a tool that is ready for use when tool change is requested.
- This can be achieved, for example, by replacing disabled tools, or
- by releasing a disabled tool manually.
- Check whether the tool data are correctly defined. Have all intended tools in the group been defined with the specified identifier and loaded?

Program Continuation: Clear alarm with the RESET key. Restart part program

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22068 **Channel %1 block %2 tool management: no tool available in tool group %3**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = String (identifier)

Definitions: The specified tool group does not contain a tool which is ready for use and could be used for tool change. It is possible that all of the tools in question have been set to the 'Disabled' state by the tool monitoring function. The alarm can occur for example in conjunction with the alarm 14710 (error on INIT block generation). In this specific situation, NCK attempts to replace the disabled tool located on the spindle with an available replacement tool (which does not exist in this error condition).
The user must resolve this conflict, for example, by removing the tool located on the spindle from the spindle by issuing a movement command (e.g. through MMC operation).

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy:
- Ensure that the specified tool group contains a tool that is ready for use when tool change is requested.
- This can be achieved, for example, by replacing disabled tools, or
- by releasing a disabled tool manually.
- If an alarm occurs on programming TCA: Has the duplo number been programmed >0?
- Check whether the tool data are correctly defined. Have all intended tools in the group been defined/loaded with the specified identifier?

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

22069 **Channel %1 block %2 tool management: No tool available in tool group %3, program %4**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = String (identifier)
%4 = Program name

Definitions: The specified tool group does not contain a tool which is ready for use and could be used for tool change. It is possible that all of the tools in question have been set to the 'Disabled' state by the tool monitoring function. Parameter %4 = program name facilitates the identification of the program containing the programming command (tool selection) that caused the error. This can be a subprogram or cycle, etc., which can no longer be identified from the display. If the parameter is not specified, it is the currently displayed program.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy:
- Ensure that the specified tool group contains a tool that is ready for use when tool change is requested.
- This can be achieved, for example, by replacing disabled tools, or
- by releasing a disabled tool manually.
- Check whether the tool data are correctly defined. Have all intended tools in the group been defined with the specified identifier and loaded?

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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22070 **TO unit %1 Please change tool T= %2 into magazine. Repeat data backup**

Parameters: %1 = TO unit

%2 = T number of tool

Definitions: The alarm can only occur when the tool management function is active in the NCK. (TOOLMAN = tool management) A data backup of the tool/magazine data has been started. During the backup, the system detected that tools are still located in the buffer magazine (= spindle, gripper, ...). During the backup, these tools will lose the information which defines the magazine and location to which they are allocated.

It is therefore practical -assuming that the data are to be stored exactly as before - to ensure that all tools have been deposited in the magazine before the data backup!!

If this is not the case, some magazine locations will have the 'reserved' status when the data are loaded again. This 'reserved' status must then be reset manually.

For tools with fixed location coding, the loss of the information allocating their location in the magazine has the same effect as a general empty location search when they are returned to the magazine.

Reactions: - Interface signals are set.

- Alarm display.

Remedy: Ensure that no tools are located in the buffer magazine before the data backup. Repeat the data backup after removing the tools from the buffer magazine.

Program Continuation: Clear alarm with the Delete key or NC START.

22071 **TO unit %1 tool %2 duplo no. %3 is active, but not in the magazine area under consideration**

Parameters: %1 = TO unit

%2 = Tool identifier

%3 = Duplonummer

Definitions: The alarm can only occur when the tool management function is active in the NCK. Either the language command SETTA has been programmed or the corresponding operator action has been carried out via MMC, PLC, ... The alarm can also be triggered automatically by the NCK in the wear grouping function. It is detected that more than one tool from the tool group (tools with the same name/identifier) has the status "active".

The specified tool is either

from a non-considered magazine,

from a non-considered wear grouping,

or from a non-active wear grouping

in a buffer location (is neither magazine nor wear grouping).

Reactions: - Interface signals are set.

- Alarm display.

Remedy: The alarm is intended for information purposes. If only one tool in a group can be active at a time for technological reasons or for reasons of display, the "active" status must be canceled for the tool causing the error.

Otherwise, the alarm can be ignored or even suppressed via the machine data SUPPRESS_ALARM_MASK.

Typical reasons of display are present, if the operator works with the function 'definite D numbers', which can be displayed on Siemens MMC in a definite form only, if exactly one tool from a tool group has the status 'active'.

Before machining can be started or before the SETTA (or corresponding MMC operation, ...) language command is used, all tools of the magazine should have the status "not active".

One option to achieve this is programming SETTIA (or corresponding MMC operation, ...).

Program Continuation: Clear alarm with the Delete key or NC START.

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22100 **Channel %1 block %3 spindle %2 chuck speed exceeded**

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Block number, label

Definitions: The actual spindle speed is higher than the maximum speed configured in machine data 35100 $MA_SPIND_VELO_LIMIT plus a tolerance of 10 percent (fixed setting).
The alarm should not occur after correct optimization of the drive actuator and gear configuration.
This alarm can be reconfigured with MD 11412 $MN_ALARM_REACTION_CHAN_NOREADY (channel not ready to operate) to 'BAG not ready'.
Note: Reconfiguring affects all alarms with alarm response 'Chan not ready'.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Check the setup and optimization data of the drive actuator in accordance with the Installation and Start-up Guide and make corrections.
Increase the tolerance window in machine data 35150 SPIND_DES_VELO_TOL.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

22101 **Channel %1 block %3 spindle %2 maximum speed for encoder resynchronization exceeded**

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Block number, label

Definitions: The maximum encoder speed was exceeded with G33, G95, G96 or G97. Reference to actual speed and actual position is no longer possible. The NC reduces the setpoint speed with the above functions until the active encoder is able to measure again. The alarm is issued if the encoder still reports the fault.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: • Program speed limit with G26.
• Reduce the maximum speed in the appropriate machine data.

Program Continuation: Clear alarm with the RESET key. Restart part program

22150 **Channel %1 block %3 spindle %2 maximum speed for position control exceeded**

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Block number, label

Definitions: The maximum encoder speed was exceeded with SPCON. Position control is no longer possible. The NC reduces the setpoint speed with the above functions until the active encoder is able to measure again. The alarm is issued if the encoder still reports the fault.

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Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: • Program speed limit with G26.
• Reduce the maximum speed in the appropriate machine data.

Program Continuation: Clear alarm with the RESET key. Restart part program

22200 Channel %1 spindle %2 axis stopped during tapping

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: When tapping with compensating chuck (G63) the drilling axis was stopped via the NC/PLC interface and the spindle continues to rotate. The thread and possibly also the tap were damaged as a result.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Provide an interlock in the PLC user program so that no axis stop can be initiated when tapping is active. If the tapping operation is to be terminated under critical machine conditions, the spindle and the axis should be stopped simultaneously if at all possible. Slight differences are then accommodated by the compensating chuck.

Program Continuation: Clear alarm with the RESET key. Restart part program

22250 Channel %1 spindle %2 axis stopped during thread cutting

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: The thread cutting axis has been stopped while a thread block was active.
The stop can be caused by VDI signals that cause the feed to be interrupted.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Check the axis-specific/spindle-specific stop signals (DB 31 - 48, DBX 4.3).

Program Continuation: Clear alarm with the RESET key. Restart part program

22260 Channel %1 spindle %2 thread might be damaged

Parameters: %1 = Channel number
%2 = Axis name
%3 = Block number

Definitions: When DECODING SINGLE BLOCK has been selected and there is a chain of thread blocks, then machining pauses occur at the block limits until the next block is executed with the new NC Start.
In normal single block mode, the program is stopped by a higher-level logic only at the block boundaries at which no contour distortions or contour errors can occur. With chained thread blocks, this is the last thread block!

Reactions: - Alarm display.

Remedy: If only one thread block has been programmed, the alarm message can be ignored.

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If there are several consecutive thread blocks, this machining section must not be executed in the automatic DECODING SINGLE BLOCK mode.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

22270 Channel %1 block %2 maximum velocity of thread axis at position %3 reached

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Position

Definitions: The axis velocity is too high for thread cutting. The maximum feedrate was reached at the axis position indicated. The velocity of the thread axis depends on:
• The programmed thread pitch
• The programmed thread lead change (G34)
• The thread length (G34)
• The defined spindle speed (part program, FC18, synchronized action)
• The spindle override (path and individual axis overrides are ineffective)

Reactions: - Alarm display.

Remedy: Reduce the velocity for at least one of the above factors.

Program Continuation: Clear alarm with the Delete key or NC START.

22275 Channel %1 block %2 zero velocity of thread axis at position %3 reached

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Position

Definitions: An axis standstill was reached at the specified position during thread cutting with G35 due to the linear decrease in the thread lead. The standstill position of the thread axis depends on:
• Programmed thread lead decrease
• Thread length

Reactions: - Alarm display.

Remedy: Change at least one of the above factors.

Program Continuation: Clear alarm with the Delete key or NC START.

22280 Channel %1 in block %2: Prog. acceleration path too short %3, %4 required

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Prog. acceleration path
%4 = Required acceleration path

Definitions: In order to stay within the programmed acceleration path, the acceleration caused an overload on the thread axis. In order to accelerate the axis with the programmed dynamic response, the length of the acceleration path must be at least as large as the value in parameter %4.

The alarm is of the technological type and is output whenever bit 2 in $MN_ENABLE_ALARM_MASK is enabled. The MMC softkey 'Technology support' sets and clears this bit in the MD.

Reactions: - Alarm display.

Remedy: Modify part program or reset MD $MN_ENABLE_ALARMMASK bit 2.

Program Continuation: Clear alarm with the Delete key or NC START.

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22290 **Channel %1 spindle operation for transformed spindle/axis %2 not possible (reason: error code %3).**

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = Error code

Definitions: It is impermissible to start a spindle as long as it is used by a transformation. Reason: spindle usage in a transformation requires axis operation which must not be exited.
This alarm may have the following reasons:
• Error code 1 : M3, M4 or M5 per synchronized action;
• Error code 2 : M41 through M45 per synchronized action;
• Error code 3 : SPOS, M19 per synchronized action;
• Error code 11 : DBB30 spindle stop;
• Error code 12 : DBB30 spindle start clockwise rotation;
• Error code 13 : DBB30 spindle start counterclockwise rotation;
• Error code 14 : DBB30 spindle positioning.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Resolve the conflict, for example by deactivating transformation prior to spindle start.

Program Continuation: Clear alarm with the Delete key or NC START.

22320 **Channel %1 block %2 PUTFTOCF command could not be transferred**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The cyclic transfer of the PUTFTOCF data block (fine tool compensation) could not be performed because the transfer area is already occupied.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check the part program, in particular with regard to the other channels. Is a data block being transferred by another channel?

Program Continuation: Clear alarm with the RESET key. Restart part program

22321 **Channel %1 axis %2 PRESET not allowed during traverse motion**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A preset command was given from MMC or PLC while an axis was traveling in JOG mode.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Wait until the axis is stationary.

Program Continuation: Clear alarm with the Delete key or NC START.

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22322 **Channel %1 axis %2 PRESET: illegal value**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: The entered Preset value is too large (number format overflow).

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Use more realistic (smaller) Preset values.

Program Continuation: Clear alarm with the RESET key. Restart part program

25000 **Axis %1 hardware fault of active encoder**

Parameters: %1 = Axis name, spindle number

Definitions: The signals of the currently active position actual value encoder (interface signal DB 31 - 48, DBX 1.5 = 1 or DBX 1.6 = 1) are missing, do not have the same phase, or exhibit grounding/short-circuit.
The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Axes of this channel must be re-referenced.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Check measuring circuit connectors for correct contacting. Check encoder signals and replace the encoder if faults are found.

Program Continuation: Switch control OFF - ON.

25001 **Axis %1 hardware fault of passive encoder**

Parameters: %1 = Axis name, spindle number

Definitions: The signals from the position actual value encoder that is presently not active are missing, or they are not of the same phase, or they exhibit grounding/short-circuit.

Reactions:
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Check measuring circuit connectors for correct contacting. Check encoder signals and replace the encoder if faults are found. Switch off the monitoring with the corresponding interface signal (DB 31 - 48, DBX 1.5 = 0 or DBX 1.6 = 0). o

Program Continuation: Clear alarm with the RESET key. Restart part program

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25010 **Axis %1 pollution of measuring system**

Parameters: %1 = Axis name, spindle number

Definitions: The encoder used for position control sends a contamination signal (only in measuring systems with contamination signal).

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Axes of this channel must be re-referenced.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Check the measuring system in accordance with the instructions given by the measuring device manufacturer.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

25011 **Axis %1 pollution of passive encoder**

Parameters: %1 = Axis name, spindle number

Definitions: The encoder not used for position control sends a contamination signal (only in measuring systems with contamination signal).

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. Check the measuring system in accordance with the instructions given by the measuring device manufacturer.

Program Continuation: Clear alarm with the Delete key or NC START.

25020 **Axis %1 zero mark monitoring of active encoder**

Parameters: %1 = Axis name, spindle number

Definitions: The position encoder pulses between 2 zero marker pulses are counted (hardware function). A check is made in the interpolation cycle grid (standard setting 4 ms) as to whether the encoder always issues the same number of pulses between the zero markers. As soon as a difference is registered in the 4 counter bits of lowest significance, an alarm is triggered!

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Axes of this channel must be re-referenced.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. The differences can result from transmission errors, disturbances, encoder hardware faults or from the evaluation

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electronics in the encoder used for position control. The actual value branch must therefore be checked:

1. Transmission path: Check the actual-value connector on the motor and on the FDD module for correct contacting, encoder cable for continuity, and also check for short-circuits or grounding (loose contact?).

2. Encoder pulses: Encoder power supply within the tolerance limits?

3. Evaluation electronics: Replace or reconfigure the drive module used.

Monitoring can be switched off by setting machine data 36310 ENC_ZERO_MONITORING [n]=... N ... encoder number: 1, 2) is set to 0.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

25021 Axis %1 zero mark monitoring of passive encoder

Parameters: %1 = Axis name, spindle number

Definitions: Monitoring relates to the encoder that is not used by the position control! (Interface signal DB 31 - 48, DBX 1.5 = 0 or 1.6 = 0)

The position encoder pulses between 2 zero marker pulses are counted (hardware function). A check is made in the interpolation cycle grid (standard setting 4 ms) as to whether the encoder always issues the same number of pulses between the zero markers. As soon as a difference is registered in the 4 counter bits of lowest significance, an alarm is triggered!

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. The differences can result from transmission errors, disturbances, encoder hardware faults or from the evaluation electronics in the encoder used for position control. The actual value branch must therefore be checked:

1. Transmission path: Check the actual-value connector on the motor and on the FDD module for correct contacting, encoder cable for continuity, and also check for short-circuits or grounding (loose contact?).

2. Encoder pulses: Encoder power supply within the tolerance limits?

3. Evaluation electronics: Replace or reconfigure the drive module used.

Monitoring can be switched off by setting machine data ENC_ZERO_MON_ACTIVE [n]=... N ... encoder number: 1, 2) to 0.

Program Continuation: Clear alarm with the Delete key or NC START.

25022 Axis %1 encoder %2 warning %3

Parameters: %1 = Axis name, spindle number

%2 = Encoder number

%3 = Error fine coding

Definitions: This alarm occurs only with absolute encoders on the SIMODRIVE 611D, if zero mark monitoring has been activated for them (cf. $MA_ENC_ZERO_MONITORING): In this case, the absolute position of the absolute encoder could not be read without any errors:

Breakdown of error fine codings:

(Bit 0 not used)

Bit 1 Parity error

Bit 2 Alarm bit of the encoder

Bit 3 CRC error

Bit 4 Timeout start bit for EnDat transfer is missing

Only display of this alarm, since the absolute position itself is not required at this time for control/contour.

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Frequent occurring of this alarm indicates that absolute encoder transfer or the absolute encoder itself are faulty and that the absolute value determined with the next encoder selection or Power On situation could possibly be wrong.

Reactions: - Alarm display.

Remedy: Replace the encoder, replace or screen the encoder cable (or deactivate zero mark monitoring).

Program Continuation: Clear alarm with the Delete key or NC START.

25030 Axis %1 actual velocity alarm limit

Parameters: %1 = Axis name, spindle number

Definitions: If the axis has at least one active encoder, then the actual speed of the axis is cyclically checked in the IPO cycle. If there are no errors, the actual velocity can never become greater than specified in the axis-specific MD 36200 $MA_AX_VELO_LIMIT (threshold for velocity monitoring). This threshold value in [mm/min, rev/min] is input by an amount that is about 5 to 10% greater than that which can occur at maximum traversing velocity. Drive errors can result in the velocity being exceeded and the alarm is then triggered.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Check the speed setpoint cable (bus cable). Check the actual values and direction of position control. Change position control direction if the axis rotates uncontrollably -> axis-specific MD 32110 ENC_FEEDBACK_POL [n] = < -1, 0, 1 >. Increase the monitoring limit value in MD 36200 $MA_AX_VELO_LIMIT.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

25031 Axis %1 actual velocity warning limit

Parameters: %1 = Axis name, spindle number

Definitions: The present velocity actual value is more than 80% of the limit value defined in the machine data -- not used --

Reactions: - Alarm display.

Remedy: -

Program Continuation: Clear alarm with the Delete key or NC START.

25040 Axis %1 standstill monitoring

Parameters: %1 = Axis name, spindle number

Definitions: The NC monitors to ensure that the position is held at zero speed. Monitoring is started after a time that can be set for a specific axis in the machine data 36040 STSTILL_DELAY_TIME after interpolation has ended. A constant check is made to determine whether the axis remains within the tolerance range given in MD 36030 STSTILL_POS_TOL.

The following cases are possible:

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1. The interface signal SERVO ENABLE (DB31 - 48, DBX 2.1) is zero because the axis has jammed mechanically. Due to mechanical influences (e.g. high machining pressure), the axis is pushed away from the permissible position tolerance.

2. With closed position control loop (without jamming) - interface signal SERVO ENABLE (DB 31 - 48, DBX 2.1) is "1" - the axis is pushed away from its position by mechanical forces with a small gain in the position control loop.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
- Check MD 36040 STSTILL_DELAY_TIME and MD 36030 STSTILL_POS_TOL; increase if necessary. The value must be greater than the machine data "Exact stop - coarse" ($MA_STOP_LIMIT_COARSE).
- Estimate machining forces and reduce if necessary by setting a lower feed or a higher rotational speed.
- Increase clamping pressure.
- Increase the gain in the position control loop by improved optimization (Kv factor MD 32200 POSCTRL_GAIN, 611D drive).

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

25042 Axis %1 standstill monitoring during torque/force limitation

Parameters: %1 = Axis name, spindle number

Definitions: The defined end position was not reached within the time specified in the machine data.

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy:
- If the drive torque (FXST) was set too low with the result that the force of the motor was not sufficient to reach the end position -> increase FXST.
- If the machined part is slowly deformed, there may be a delay in reaching the end position -> increase MD 36042 FOC_STANDSTILL_DELAY_TIME.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

25050 Axis %1 contour monitoring

Parameters: %1 = Axis name, spindle number

Definitions: The NCK calculates for each interpolation point (setpoint) of an axis the actual value that should result based on an internal model. If this calculated actual value and the true machine actual value differ by a larger amount than given in the machine data 36400 CONTOUR_TOL, then the program is aborted and the alarm message is issued.

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The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
- Check whether the tolerance value set in MD 36400: CONTOUR_TOL is too small.
- Check optimization of the position controller (Kv factor in the machine data 32200 POSCTRL_GAIN) to establish whether the axis follows the given setpoint without overshooting. Otherwise, the speed controller optimization must be improved or the Kv servo gain factor must be reduced.
- Improvement of speed controller optimization
- Check the mechanics (smooth running, inertial masses).

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

25060 Axis %1 speed setpoint limitation

Parameters: %1 = Axis name, spindle number

Definitions: The speed setpoint has exceeded its upper limit for a longer period than allowed.

The maximum speed setpoint is limited to a certain percentage with the axis-specific machine data 36210 CTRLOUT_LIMIT. The input value of 100% corresponds to the rated speed of the motor and hence the rapid traverse velocity (default values: 840D=110%, FM-NC=100%).

If the values are exceeded for a short time, then this is tolerated provided they do not last longer than allowed for in the axis-specific MD 36220 CTRLOUT_LIMIT_TIME. The setpoint is limited during this time to the maximum value that has been set (MD 36210).

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. If the drive controller has been set correctly and if the machining conditions are those that normally prevail, then this alarm should not occur.
- Check actual values: Local tight running of the carriage, speed dip by torque reduction due to contact with workpiece/tool, travel against fixed obstacle, etc.
- Check direction of position control: Does the axis continue to rotate without control (not on 611D drives)?
- Check the speed setpoint cable.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

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25070 **Axis %1 drift value too large**

Parameters: %1 = Axis name, spindle number

Definitions: Only in FM-NC with analog drives!

The permissible maximum value of drift (internal, integrated drift value of automatic drift compensation) has been exceeded during the last compensation operation. The permissible maximum value is defined in the axis-specific machine data 36710 DRIFT_LIMIT. The drift value itself is not limited.

Automatic drift compensation: MD 36700 DRIFT_ENABLE=1

The difference between actual and setpoint position (drift) is checked cyclically in the IPO cycle when the axes are at zero speed. The difference is compensated automatically to zero by slowly integrating an internal drift value.

Drift compensation by hand: MD 36700 DRIFT_ENABLE=0

A static offset can be added to the speed setpoint in the machine data 36720 DRIFT_VALUE. This is not included in the drift monitoring because it acts like a voltage zero offset.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. Adjust the drift compensation with the automatic drift compensation switched off at the drive until the position lag is approximately zero. Then reactivate the automatic drift compensation in order to balance out the dynamic drift changes (effects of heating up).

Program Continuation: Clear alarm with the Delete key or NC START.

25080 **Axis %1 positioning monitoring**

Parameters: %1 = Axis name, spindle number

Definitions: For blocks in which "exact stop" is effective, the axis must have reached the exact stop window after the positioning time given in the axis-specific MD 36020 POSITIONING_TIME.

Exact stop coarse: MD 36000 STOP_LIMIT_COARSE

Exact stop fine: MD 36010 STOP_LIMIT_FINE

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - Mode group not ready.

- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Check whether the exact stop limits (course and fine) correspond to the dynamic possibilities of the axis, otherwise increase them, if necessary in connection with the positioning time set in MD 36020 POSITIONING_TIME. Check speed controller/position controller optimization; select highest possible gains. Check setting of Kv factor (MD 32200 POSCTRL_GAIN) and increase if necessary.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

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25100 **Axis %1 measuring system switchover not possible**

Parameters: %1 = Axis name, spindle number

Definitions: The prerequisites are not satisfied for the required encoder switchover:

1. The newly selected encoder must be in the active state (DB 31 - 48, DBX 1.5 or 1.6 = 1 "Position measuring system 1/2")

2. The actual value difference between the two encoders is greater than the value in the axis-specific MD 36500 ENC_CHANGE_TOL ("Maximum tolerance for position actual value switchover").

Activation of the measuring system concerned takes place in accordance with the interface signals: "Position measuring system 1" (DB 31 - 48, DBX 1.5) and "Position measuring system 2" (DB 31 - 48, DBX 1.6), i.e. the position control is now operated with this measuring system. The other measuring system is switched over to follow-up mode. If both interface signals are set to "1", then only the 1st measuring system is active; if both interface signals are set to "0", the axis is parked.

Changeover takes place as soon as the interface signals have changed, even if the axis is in motion!

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. When referencing the active position actual value encoder, the actual value system of the inactive encoder is set to the same reference point value as soon as phase 3 has been concluded. A later positional difference between the 2 actual value systems can have occurred only as the result of an encoded defect or a mechanical displacement between the encoders.

- Check the encoder signals, actual value cable, connectors.
- Check the mechanical fastenings (displacement of the measuring head, mechanical twisting possible).
- Increase the axis-specific MD 36500 ENC_CHANGE_TOL.

Program continuation is not possible. The program must be aborted with "Reset", then program execution can be reinitiated with NC Start, if necessary at the interruption point after "Block search with/without calculation".

Program Continuation: Clear alarm with the RESET key. Restart part program

25105 **Axis %1 measuring systems differ considerably**

Parameters: %1 = Axis name, spindle number

Definitions: The two measuring systems differ considerably, i.e. the cyclically monitored actual value difference between the two measuring systems is greater than the associated tolerance value set in the machine data $MA_ENC_DIFF_TOL. This can only occur when both measuring systems are active ($MA_NUM_ENCS = 2) and referenced. The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Check machine data for the active, selected encoders. Check the machine data relating to encoder ($MA_ENC_DIFF_TOL) tolerance.

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Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

25110 **Axis %1 selected encoder not available**

Parameters: %1 = Axis name, spindle number

Definitions: The selected encoder does not correspond to the maximum number of encoders in the axis-specific machine data 30200 NUM_ENCS, i.e. the 2nd encoder does not exist.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. Enter the number of actual value encoders used for this axis in the machine data 30200 NUM_ENCS ("Number of encoders").

Input value 0: Axis without encoder -> e.g. spindle

Input value 1: Axis with encoder -> default setting

Input value 2: Axis with 2 encoders -> e.g. direct and indirect measuring system

Program Continuation: Clear alarm with the Delete key or NC START.

25200 **Axis %1 requested set of parameters invalid**

Parameters: %1 = Axis name, spindle number

Definitions: A new parameter set has been requested for the positioning control. The number of this parameter set is beyond the permissible limit (8 parameter sets: 0 ... 7 available).

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check the axis-specific/spindle-specific interface signals (DB 31 - 48, DBX 9.0, 9.1 and 9.2 "Select parameter set servo A, B, C").

One parameter set includes the following machine data:

- Modify MD 31050: DRIVE_AX_RATIO_DENOM [n]
- Modify MD 31060: DRIVE_AX_RATIO_NUMERA [n]
- Modify MD 32200: POSCTRL_GAIN [n]
- Modify MD 32800: EQUIV_CURRCTRL_TIME [n]
- Modify MD 32810: EQUIV_SPEEDCTRL_TIME [n]
- Modify MD 32910: DYN_MATCH_TIME [n]
- Modify MD 36200: AX_VELO_LIMIT [n]

Program Continuation: Clear alarm with the RESET key. Restart part program

25201 **Axis %1 drive fault**

Parameters: %1 = Axis name, spindle number

Definitions: The drive signals a serious fault of status class 1 (ZK1). The exact cause of the fault can be recognized by evaluating the following drive alarms which are output in addition:

Alarm 300 500, alarms 300 502 - 300 505, alarm 300 508, alarm 300 515, alarm 300 608, alarm 300 612, alarm 300 614, alarms 300 701 - 300 761, alarm 300 799.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.

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- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Evaluation of the drive alarms listed above.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

25202 Axis %1 waiting for drive

Parameters: %1 = Axis name, spindle number

Definitions: Drive group error (self-clearing).

Reactions:
- Interface signals are set.
- Alarm display.

Remedy: Wait for the drive. 25202 reveals similar problems to alarm 25201 (see this alarm). The alarm is active continuously during power-up if the drive does not communicate (e.g. Profibus connector removed). Otherwise, the alarm is active only briefly and is replaced by alarm 25201 after an internal timeout in the event of a permanent problem.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

26000 Axis %1 clamping monitoring

Parameters: %1 = Axis name, spindle number

Definitions: The clamped axis is to be pushed out of its setpoint position. The permissible difference is defined in the axis-specific machine data 36050 CLAMP_POS_TOL.

Clamping of an axis is activated with the axis-specific interface signal DB 31 - 48, DBX 2.3: "Clamping process active".

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Determine the position deviation to the setpoint position and, depending on the results, either increase the permissible tolerance in the MD or mechanically improve the clamping (e.g. increase clamping pressure).

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

26001 Axis %1 parameterization error: friction compensation

Parameters: %1 = Axis name, spindle number

Definitions: The parameterization of the adaptation characteristic in the quadrant error compensation is not allowed because acceleration value 2 (MD 32560 FRICT_COMP_ACCEL2 is not between acceleration value 1 (MD 32550 FRICT_COMP_ACCEL1) and acceleration value 3 (MD 32570 FRICT_COMP_ACCEL3).

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.

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- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Check the setting parameters of the quadrant error compensation (friction compensation), if necessary switch off the compensation with MD 32500 FRICT_COMP_ENABLE.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

26002 Axis %1 encoder %2 parameterization error: number of encoder marks

Parameters: %1 = Axis name, spindle number

%2 = Encoder number

Definitions: 1. Rotary measuring system ($MA_ENC_IS_LINEAR[]==FALSE)

The number of encoder marks set in MD31020 $MA_ENC_RESOL[] does not correspond to the value in the drive machine data MD1005 or zero has been entered in one of the two machine data.

2. Absolute measuring system with EnDat interface ($MA_ENC_TYPE[]==4)

On absolute encoders, the resolution of the incremental and absolute track supplied by the drive is also checked for consistency.

• Motor measuring system: MD1005, MD1022

• Direct measuring system: MD1007, MD1032

The two drive machine data must have a defined relation to one another. If the conditions listed below are not fulfilled, an alarm is output.

2.1 Rotary measuring system ($MA_ENC_IS_LINEAR[] == FALSE)

MD1022/MD1005 == 4 * n [n=1,2,3...] (motor measuring system)

MD1032/MD1007 == 4 * n [n=1,2,3...] (direct measuring system)

2.2 Linear measuring system ($MA_ENC_IS_LINEAR[] == TRUE)

MD1005/MD1022 == 4 * n [n=1,2,3...] (motor measuring system)

MD1007/MD1032 == 4 * n [n=1,2,3...] (direct measuring system)

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Adjust machine data. For absolute encoders, pending drive alarms indicating encoder problems should be evaluated, if necessary. They could be the cause of incorrect entries in MD1022/MD1032 which are read out of the encoder by the drive.

Program Continuation: Switch control OFF - ON.

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26003 **Axis %1 parameterization error: lead screw pitch**

Parameters: %1 = Axis name, spindle number

Definitions: The pitch of the ballscrew/trapezoidal leadscrew set in the axis-specific machine data 31030 LEADSCREW_PITCH is zero.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Determine the leadscrew pitch (specify the machine manufacturer or pitch measurement with spindle cover removed) and enter it in the machine data 31030: LEADSCREW_PITCH (mostly 10 or 5 mm/rev.).

Program Continuation: Switch control OFF - ON.

26004 **Axis %1 encoder %2 parameterization error: grid point distance with linear encoders**

Parameters: %1 = Axis name, spindle number

%2 = Encoder number

Definitions: The scale division of the linear scale set in the axis-specific MD 31010 ENC_GRID_POINT_DIST is zero or differs from the corresponding drive parameters.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Enter the encoder grid point distance according to the data given by the machine (or measuring device) manufacturer in the machine data 31010 ENC_GRID_POINT_DIST.

Program Continuation: Switch control OFF - ON.

26005 **Axis %1 parameterization error: output rating**

Parameters: %1 = Axis name, spindle number

Definitions: The output evaluation of the analog speed setpoint set in the machine data 32250 RATED_OUTVAL or in MD 32260 RATED_VELO is zero.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.

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- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. The nominal output voltage in [%] of the maximum setpoint value (10 V) is entered in the machine data 32250 RATED_OUTVAL, at which the rated motor speed in [degrees/s] is to be reached (machine data 32260 RATED_VELO).

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

26006 Axis %1 encoder %2 encoder type/output type %3 not possible

Parameters: %1 = Axis name, spindle number
%2 = Encoder number
%3 = Encoder type/output type

Definitions: Not every encoder type or output type is suitable for both the FM-NC and the 840D.
Permissible settings for 840D:
MD 30240 ENC_TYPE
= 0 Simulation
= 1 Signal generator
= 2 Square-wave encoder
MD 30130 CTRLOUT_TYPE
= 0 Simulation
= 1 Standard
Permissible settings for FM-NC:
MD 30240 ENC_TYPE
= 0 Simulation
= 3 Step motor control
= 4 FM module position
MD 30130 CTRLOUT_TYPE
= 2 Step motor control
= 3 FM module position
The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Check machine data MD 20240 ENC_TYPE and/or MD 30130 CTRLOUT_TYPE and make the necessary corrections.

Program Continuation: Switch control OFF - ON.

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26007 **Axis %1 QEC: invalid coarse step size**

Parameters: %1 = Axis name, spindle number

Definitions: The course step width for QEC must be within the range 1 <= course step width <= maximum value of MD 18342 MM_QEC_MAX_POINTS (currently 1025), because a greater number of values would exceed the available memory space.

Reactions: - Alarm display.

Remedy: Modify the system variable $AA_QEC_COARSE_STEPS accordingly.

Program Continuation: Clear alarm with the RESET key. Restart part program

26008 **Axis %1 QEC: invalid fine step size**

Parameters: %1 = Axis name, spindle number

Definitions: The fine step size for quadrant error compensation $AA_QEC_FINE_STEPS must be in the range 1 <= fine step size <= 16 because this value has an influence on the computation time of the QEC.

Reactions: - Alarm display.

Remedy: Modify the system variable $AA_QEC_FINE_STEPS accordingly.

Program Continuation: Clear alarm with the RESET key. Restart part program

26009 **Axis %1 QEC: memory overflow**

Parameters: %1 = Axis name, spindle number

Definitions: The product of the data $AA_QEC_COARSE_STEPS+1 and $AA_QEC_FINE_STEPS must not exceed the maximum number of the characteristic curve points (MD $MA_MM_QEC_MAX_POINTS). With a direction-dependent characteristic, this criterion applies to 2 * ($AA_QEC_COARSE_STEPS+1) * $AA_QEC_FINE_STEPS!

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. Either increase $MA_MM_QEC_MAX_POINTS or reduce $AA_QEC_COARSE_STEPS and/or $AA_QEC_FINE_STEPS.

Program Continuation: Clear alarm with the RESET key. Restart part program

26010 **Axis %1 QEC: invalid acceleration characteristic**

Parameters: %1 = Axis name, spindle number

Definitions: $AA_QEC_ACCEL_1/2/3: The acceleration characteristic is divided into three areas. In each area there is a different quantization of the acceleration steps. The defaults should be changed only if compensation is inadequate in these acceleration areas.

The defaults are as follows:

- $AA_QEC_ACCEL_1 with approx. 2% of maximum acceleration ($AA_QEC_ACCEL_3),
- $AA_QEC_ACCEL_2 with approx. 60% of maximum acceleration ($AA_QEC_ACCEL_3),
- $AA_QEC_ACCEL_3 with maximum acceleration (32300 MAX_AX_ACCEL).

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. Enter the values correctly: 0 < $AA_QEC_ACCEL_1 < $AA_QEC_ACCEL_2 < $AA_QEC_ACCEL_3.

Program Continuation: Clear alarm with the RESET key. Restart part program

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26011 **Axis %1 QEC: invalid measuring periods**

Parameters: %1 = Axis name, spindle number

Definitions: $AA_QEC_MEAS_TIME_1/2/3: measuring time to determine the error criterion.

The measuring period begins when the criterion for activating the compensation value has been satisfied (the desired velocity changes the sign). The end is defined by the machine data values. In general, different measuring times are required for the three characteristic ranges. The presettings should be changed only if a problem occurs. The three data apply in each case for the three corresponding acceleration ranges.

1. $AA_QEC_MEAS_TIME_1 specifies the measuring time (for determining the error criterion) for accelerations in the range between 0 and $AA_QEC_ACCEL_1.

2. $AA_QEC_MEAS_TIME_2 specifies the measuring time in the range from $AA_QEC_ACCEL_1 to $AA_QEC_ACCEL_2.

3. $AA_QEC_MEAS_TIME_3 specifies the measuring time in the range from $AA_QEC_ACCEL_2 to $AA_QEC_ACCEL_3 and beyond.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. Enter the values correctly: 0 < $AA_QEC_MEAS_TIME_1 < $AA_QEC_MEAS_TIME_2 < $AA_QEC_MEAS_TIME_3.

Program Continuation: Clear alarm with the RESET key. Restart part program

26012 **Axis %1 QEC: feed forward control not active**

Parameters: %1 = Axis name, spindle number

Definitions: The error criterion for determining the quadrant error necessitates a correctly set feedforward control.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Alarm display.
- Channel not ready.

Remedy: Switch on feedforward control and set it correctly.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

26014 **Axis %1 machine data %2 invalid value**

Parameters: %1 = Axis name, spindle number
%2 = String: MD identifier

Definitions: Machine data includes a value that is not valid.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Repeat entry with correct value and then Power On.

Program Continuation: Switch control OFF - ON.

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26015 **Axis %1 machine data %2[%3] invalid value**

Parameters: %1 = Axis name, spindle number
%2 = String: MD identifier
%3 = Index: MD array

Definitions: Machine data includes a value that is not valid.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Repeat entry with correct value and then Power On.

Program Continuation: Switch control OFF - ON.

26016 **Axis %1 machine data %2 invalid value**

Parameters: %1 = Axis name, spindle number
%2 = String: MD identifier

Definitions: Machine data includes a value that is not valid.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Repeat entry with correct value and then Reset.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

26017 **Axis %1 machine data %2[%3] invalid value**

Parameters: %1 = Axis name, spindle number
%2 = String: MD identifier
%3 = Index: MD array

Definitions: Machine data includes a value that is not valid.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Repeat entry with correct value and then Reset.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

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26018 **Axis %1 setpoint output drive %2 used more than once**

Parameters: %1 = Axis name, spindle number
%2 = Drive number

Definitions: A setpoint has been selected more than once. The machine data 30110 $MA_CTRLOUT_MODULE_NR contains the same value for different axes.

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Avoid dual assignment of the setpoint by correcting 30110 $MA_CTRLOUT_MODULE_NR. Also check the selected bus type $MA_CTRLOUT_SEGMENT_NR.

Program Continuation: Switch control OFF - ON.

26019 **Axis %1 encoder %2 measurement not possible with this controller module**

Parameters: %1 = NC axis number
%2 = Encoder number

Definitions: If the MD $MN_DRIVE_DIAGNOSIS[8] contains a value not equal to zero, then the control has found at least one control module which does not support measuring. Measuring was programmed from the part program for the associated axis.

Reactions:
- Local alarm reaction.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: If possible, modify the measuring motion such that the axis concerned does not have to travel; do not program this axis in the MEAS block again. However, it is then no longer possible to query a measured value for this axis. Otherwise, exchange the controller module for one that supports measuring. See MD $MN_DRIVE_DIAGNOSIS[8].

Program Continuation: Clear alarm with the RESET key. Restart part program

26020 **Axis %1 encoder %2 hardware fault %3 during encoder initialization**

Parameters: %1 = Axis name, spindle number
%2 = Encoder number
%3 = Error fine coding

Definitions: Error during initialization of encoder (refer to additional information for absolute encoder interface from error fine coding).
The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Axes of this channel must be re-referenced.
- Interface signals are set.
- Alarm display.

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- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Rectify hardware error, replace encoder if necessary. Make sure that an appropriate control module supporting this function is available with EnDat or SSI absolute encoders.

Bit nos. and their significance:

Bit 0: Lighting failed

Bit 1: Signal amplitude too small

Bit 2: Position value incorrect

Bit 3: Overvoltage

Bit 4: Undervoltage

Bit 5: Overcurrent

Bit 6: Battery change necessary

Bit 7: Control check error, Note: SW 4.2 and higher, synchronous linear motor

Bit 8: EnDat encoder, incorrect overlapping, Note: SW 4.2 and higher, synchronous linear motor

Bit 9: C/D track error on encoder ERN1387 or EQN encoder connected or incorrectly configured (not on EQN, MD 1011)

Bit 10: Log cannot be aborted or old hardware

Bit 11: SSI level detected on data line or no encoder connected or incorrect encoder cable (ERN instead of EQN)

Bit 12: Timeout while reading measuring value

Bit 13: CRC error

Bit 14: Wrong IPU submodule for direct measuring signal, Note: Only with 611D expansion

Bit 15: Encoder faulty

Note: If an axis that is connected to the second measuring system of a controller module 611D only, is driven by an absolute encoder, the axis with the first measuring system of this controller module will have to be switched to Parking Axis, after the measuring system connector has been plugged in and prior to disabling the Parking Axis. After the Parking Axis of the first measuring system has been disabled, all measuring systems of the controller module will be initialized. The Parking Axis of the second measuring system can then be disabled without errors.

Program Continuation: Switch control OFF - ON.

26022 Axis %1 encoder %2 measurement with simulated encoder not possible

Parameters: %1 = NC axis number

%2 = Encoder number

Definitions: Alarm occurs on the control when a measurement was made without the encoder hardware (simulated encoder).

Reactions:
- Local alarm reaction.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy:
- Please inform the authorized personnel/service department. If possible, modify the measuring motion such that the axis concerned does not have to travel; do not program this axis in the MEAS block again. However, it is then no longer possible to query a measured value for this axis.
- Ensure that measurement is not taking place with simulated encoders (MD $MA_ENC_TYPE).

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Program Continuation: Clear alarm with the RESET key. Restart part program

26024 **Axis %1 machine data %2 value changed**

Parameters: %1 = Axis name, spindle number
%2 = String: MD identifier

Definitions: Machine data contains an invalid value and therefore has been changed by the software.

Reactions: - Alarm display.

Remedy: Check MD.

Program Continuation: Clear alarm with the RESET key. Restart part program

26025 **Axis %1 machine data %2[%3] value changed**

Parameters: %1 = Axis name, spindle number
%2 = String: MD identifier
%3 = Index: MD array

Definitions: Machine data contains an invalid value and therefore has been changed by the software internally to a valid value.

Reactions: - Alarm display.

Remedy: Check MD.

Program Continuation: Clear alarm with the RESET key. Restart part program

26030 **Axis %1 encoder %2 absolute position lost**

Parameters: %1 = Axis name, spindle number
%2 = Encoder number

Definitions: The absolute position of the absolute encoder has become invalid because
• on changing parameter block a changed gear stage ratio was identified between encoder and processing or
• the encoder has been replaced (the absolute encoder's serial number has changed).

Reactions: - Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Axes of this channel must be re-referenced.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
Rereferencing/resynchronization of the absolute encoder; attach absolute encoder on the load side and configure correctly (e.g. MD 31040 $MA_ENC_IS_DIRECT).
If an absolute encoder with serial number is replaced, the drive BOT file for this drive must be saved (due to the new serial number).

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

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26031 **Axis %1 configuration error master-slave**

Parameters: %1 = Axis name, spindle number

Definitions: The alarm is output when the same machine axis has been configured as a master and a slave axis. Each of the axes in the master/slave link can be operated either as master or slave.

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy:
• Check machine data for all linked axes and correct if necessary:
• MD 37250 $MA_MS_ASSIGN_MASTER_SPEED_CMD
• MD 37252 $MA_MS_ASSIGN_MASTER_TORQUE_CTR.

Program Continuation: Clear alarm with the RESET key. Restart part program

26032 **Axis %1 master-slave not configured**

Parameters: %1 = Axis name, spindle number

Definitions: The master-slave coupling could not be activated because of incomplete configuration.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check the current configuration of the master-slave coupling.
The configuration can be modified via the MASLDEF instruction or the machine data MD37250 $MA_MS_ASSIGN_MASTER_SPEED_CMD and MD37252 $MA_MS_ASSIGN_MASTER_TORQUE_CTR.

Program Continuation: Clear alarm with the RESET key. Restart part program

26050 **Axis %1 parameter set change from %2 to %3 not possible**

Parameters: %1 = Axis name, spindle number
%2 = Index: current parameter block
%3 = Index: new parameter block

Definitions: The parameter block change cannot be performed without jumps. This is due to the content of the parameter block to be switched on, e.g. different load gear factors.

Reactions:
- The NC switches to follow-up mode.
- Local alarm reaction.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: In following cases, the parameter block change is carried out via MD 31060 and MD 31050 without an alarm, even with different load gear ratio settings:
1. In speed-controlled and follow-up mode.
2. With position control with the direct encoder.
3. With position control with the indirect encoder only within the position window (MD 36500 > actual position > MD 36500).

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Program Continuation: Clear alarm with the RESET key. Restart part program

26051 **Channel %1 in block %2 unanticipated stop crossed in continuous path mode**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: The path interpolation did not stop, as required, at the end of the block, but will only decelerate to a standstill in the next block. This error situation occurs if the stop at block change was not planned by the path interpolation or was not detected early enough. A possible cause is that the PLC changed the spindle speed when $MA_SPIND_ON_SPEED_AT_IPO_START > 0, and the machine has to wait until the spindle has returned to the setpoint range. Another possible cause is that a synchronized action needs to be finished before the path interpolation continues. The alarm is only output if $MN_TRACE_SELECT = 'H400'. The alarm output is normally suppressed. - $MN_TRACE_SELECT has SIEMENS password protection.

Reactions: - Alarm display.

Remedy: $MA_SPIND_ON_SPEED_AT_IPO_START = 1. Program G09 before the alarm output in the block to allow the path interpolation to stop as planned.

Program Continuation: Clear alarm with the Delete key or NC START.

26052 **Channel %1 in block %2: path velocity too high for auxiliary function output**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: This alarm usually occurs in a block with auxiliary function output during a movement. In this case, the wait for acknowledgement of the auxiliary function was longer than planned.

The alarm occurs if internal control inconsistencies cause continuous path mode (G64, G641, ...) to be blocked unexpectedly.

The path interpolation stops abruptly at the end of the block indicated in the message (regenerative stop). On the next block change, the path continues unless the abrupt stop has caused an error in the position controller (e.g. because the $MA_CONTOUR_TOL setting was over-sensitive).

Reactions: - Alarm display.

Remedy:
- If the alarm occurred in a block with auxiliary function output during the movement: from SW 5.1 or higher, increase machine $MN_PLC_CYCLE_TIME_AVERAGE or
- Program G09 in the block indicated in the message to allow the path interpolation to stop as planned.

Program Continuation: Clear alarm with the Delete key or NC START.

26070 **Channel %1 axis %2 cannot be controlled by the PLC, max. number exceeded**

Parameters: %1 = Channel number

%2 = Axis name, spindle number

Definitions: An attempt has been made to control more axes than allowed from the PLC.

Reactions: - Interface signals are set.

- Alarm display.

Remedy: Check the machine data MD_MAXNUM_PLC_CNTRL_AXES and correct if necessary or reduce the number of PLC-controlled axes.

Program Continuation: Clear alarm with the Delete key or NC START.

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26072 **Channel %1 axis %2 cannot be controlled by the PLC**

Parameters: %1 = Channel number
%2 = Axis name, spindle number

Definitions: Axis cannot be made a PLC-controlled axis. For the time being, the axis cannot be controlled at any state from the PLC.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Use Release or Waitp to make the axis a neutral one.

Program Continuation: Clear alarm with the Delete key or NC START.

26074 **Channel %1 switching off PLC control of axis %2 not allowed in the current state**

Parameters: %1 = Channel
%2 = Axis, spindle

Definitions: The PLC can return the control rights for an axis to program processing only, if there is no alarm pending for the axis.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Reset VDI interface signal "PLC controls axis", then activate "Axial reset" and repeat process.

Program Continuation: Clear alarm with the Delete key or NC START.

26075 **Channel %1 axis %2 not available for the NC program, as exclusively controlled by the PLC**

Parameters: %1 = Channel
%2 = Axis, spindle

Definitions: The axis is exclusively controlled by the PLC. Therefore, the axis is not available for the NC program.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Let the PLC control the axis not exclusively, but only temporarily. Change machine date $MA_BASE_FUNCTION_MASK bit 4.

Program Continuation: Clear alarm with the RESET key. Restart part program

26076 **Channel %1 axis %2 not available for NC program, firmly assigned PLC axis**

Parameters: %1 = Channel
%2 = Axis, spindle

Definitions: The axis is a firmly assigned PLC axis. The axis is therefore not available for the NC program.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Do not define axis as a firmly assigned PLC axis. Change of machine date $MA_BASE_FUNCTION_MASK bit5.

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Program Continuation: Clear alarm with the RESET key. Restart part program

26080 Channel %1 retraction position of axis %2 not programmed or invalid

Parameters: %1 = Channel
%2 = Axis, spindle

Definitions: No retraction position has been programmed for the axis trigger time or the position became invalid.

Reactions: - Alarm display.

Remedy: Preset value by means of POLFA(Axis,Type,Pos), with type = 1 (absolut) or type = 2 (incremental); type = 0 specifies the position as invalid.

Program Continuation: Clear alarm with the Delete key or NC START.

26081 Channel %1 axis trigger of axis %2 was activated, but axis is not PLC-controlled

Parameters: %1 = Channel
%2 = Axis, spindle

Definitions: The axis trigger for single axis was initiated. However, the axis is not PLC-controlled at the trigger time (therefore no single axis) or the position became invalid.

Reactions: - Alarm display.

Remedy: Preset axis PLC-controlled (declare single axis).

Program Continuation: Clear alarm with the Delete key or NC START.

26082 Channel %1 ESR for PLC-controlled axis %2 has been triggered

Parameters: %1 = Channel
%2 = Axis, spindle

Definitions: An axial ESR has been triggered for an individual axis (PLC-controlled axis):
The display can be suppressed by machine date MD 11410:
SUPPRESS_ALARM_MASK bit28 = 1.

Reactions: - Alarm display.

Remedy: The individual axis is in axial stop after the ESR movement.
If an axial reset is performed for the individual axis, the alarm will be deleted
and the individual axis can be traversed again.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.
The individual axis is in axial stop after the ESR movement.
If an axial reset is performed for the individual axis, the alarm will be deleted
and the individual axis can be traversed again.

26100 Axis %1 drive %2 sign of life missing

Parameters: %1 = Axis name, spindle number
%2 = Drive number

Definitions: The sign-of-life cell is no longer being updated by the drive.
On output of drive number=0, this alarm may inform about a computing timeout on IPO level (also see alarm 4240)

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

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- NC Stop on alarm.

Remedy: Restart drive, check drive software.

Program Continuation: Switch control OFF - ON.

26101 Axis %1 drive %2 communication failure

Parameters: %1 = Axis name, spindle number
%2 = Drive number

Definitions: The drive is not communicating.

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Axes of this channel must be re-referenced.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy:
• Check the bus configuration.
• Check the interface (connector removed, option module inactive, etc.).

Program Continuation: Clear alarm with the RESET key. Restart part program

26102 Axis %1 drive %2 sign of life missing

Parameters: %1 = Axis name, spindle number
%2 = Drive number

Definitions: The sign-of-life cell is no longer being updated by the drive.

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Axes of this channel must be re-referenced.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy:
• Check the cycle settings.
• Increase the cycle time if necessary.
• Power-up the drive again.
• Check drive software.

Program Continuation: Clear alarm with the RESET key. Restart part program

26105 Drive of axis %1 not found

Parameters: %1 = Axis name, spindle number

Definitions: The drive configured for the specified axis could not be found. For example, a Profibus slave was configured on the NC but is not contained in SDB-Type-2000.

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.

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- Alarm display.
- NC Stop on alarm.

Remedy: Possible causes:

- $MA_CTRLOUT_TYPE not equal to 0 as a result of an oversight; the drive should actually be simulated (= 0).
- $MA_CTRLOUT_MODULE_NR entered incorrectly, i.e. the logical drive numbers were exchanged and an invalid value is stored for this drive in $MN_DRIVE_LOGIC_ADDRESS (see 3.) or a drive number which does not exist on the bus was entered (check the number for slaves, for example).
- $MN_DRIVE_LOGIC_ADDRESS contains values which were not configured on the Profibus (i.e. the values are not in SDB-Type-2000) or different addresses were selected for the input and output slots of the drive in the Profibus configuration.

Program Continuation: Switch control OFF - ON.

26106 Encoder %2 of axis %1 not found

Parameters: %1 = Axis name, spindle number

%2 = Encoder number

Definitions: The drive configured for the specified axis could not be found. For example, a Profibus slave was configured on the NC but is not contained in SDB-Type-2000.

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Possible causes:

- $MA_ENC_TYPE not equal to 0 as a result of an oversight; the encoder should actually be simulated (= 0).
- $MA_ENC_MODULE_NR entered incorrectly, i.e. the logical drive numbers were exchanged and an invalid value is stored for this drive in $MN_DRIVE_LOGIC_ADDRESS (see next paragraph) or a drive number which does not exist on the bus was entered (check the number for slaves, for example).
- $MN_DRIVE_LOGIC_ADDRESS contains values which were not configured on the Profibus (i.e. the values are not in SDB-Type-2000) or different addresses were selected for the input and output slots of the drive in the Profibus configuration.

Program Continuation: Switch control OFF - ON.

26110 Independent drive stop/retract triggered

Definitions: Informational alarm: An "independent extended stop or retract" was triggered on the drive bus for at least one axis. The drive in question subsequently ignores NC travel commands. The bus must be rebooted (hardware reset).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Reboot the drive, hardware reset.

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Program Continuation: Switch control OFF - ON.

26120 **Channel %1 axis %2 $AA_ESR_ENABLE = 1 but axis should be set to NEUTRAL**

Parameters: %1 = Channel
%2 = Axis, spindle

Definitions: One axis with ESR configuration and $AA_ESR_ENABLE[Achse] = 1 should be set to NEUTRAL.
However, neutral axes (apart from single axes) cannot execute an ESR.

Reactions: - Alarm display.

Remedy: Set $AA_ESR_ENABLE[Achse] = 0 before setting axis to NEUTRAL.

Alarm can be suppressed via $MN_ALARM_SUPPRESS_MASK_2 bit 6 = 1.

Program Continuation: Clear alarm with the Delete key or NC START.

26121 **Channel %1 axis %2 is NEUTRAL and $AA_ESR_ENABLE = 1 should be set**

Parameters: %1 = Channel
%2 = Axis, spindle

Definitions: $AA_ESR_ENABLE[Achse] = 1 should not be set to neutral axes (apart from single axes).
Neutral axes (apart from single axes) cannot execute an ESR.

Reactions: - Alarm display.

Remedy: Do not apply $AA_ESR_ENABLE[Achse] = 1 to neutral axes (apart from single axes).

Alarm can be suppressed via $MN_ALARM_SUPPRESS_MASK_2 bit 6 = 1.

Program Continuation: Clear alarm with the Delete key or NC START.

26122 **Channel %1 axis %2, $AA_ESR_ENABLE = 1, axis replacement not executed in this state**

Parameters: %1 = Channel
%2 = Axis, spindle

Definitions: With $AA_ESR_ENABLE[Achse] = 1 axis replacement not permitted.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Set $AA_ESR_ENABLE[axis] = 0 before axis replacement.

Program Continuation: Clear alarm with the RESET key. Restart part program
Set $AA_ESR_ENABLE[axis] = 0

26123 **Channel %1 axis %2, $AA_ESR_ENABLE = 1 should be set, but $MA_ESR_REACTION = 0**

Parameters: %1 = Channel
%2 = Axis, spindle

Definitions: $AA_ESR_ENABLE[axis] = 1 should only be set on axes with $MA_ESR_REACTION[Achse] > 0.

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The following example brings about the alarm:
N100 $MA_ESR_REACTION[AX1] = 21
N110 $AA_ESR_ENABLE[AX1] = 1
N120 NEWCONF
because $MA_ESR_REACTION[AX1] = 21 will become known to the NCK at the time of N120 NEWCONF.

Correct would be:
N100 $MA_ESR_REACTION[AX1] = 21
N110 NEWCONF
N120 $AA_ESR_ENABLE[AX1] = 1

Reactions: - Alarm display.

Remedy: Before setting $AA_ESR_ENABLE[axis] = 1, $MA_ESR_REACTION[axis] > 0 must be set.
When setting $MA_ESR_REACTION[axis] in the parts program, e.g. NEWCONF must be called before $AA_ESR_ENABLE[axis].

Alarm can be suppressed via $MN_ALARM_SUPPRESS_MASK_2 bit 6 = 1.

Program Continuation: Clear alarm with the Delete key or NC START.

26124 **Channel %1 axis %2, $AC_ESR_TRIGGER triggered but axis is NEUTRAL and cannot execute ESR**

Parameters: %1 = Channel
%2 = Axis, spindle

Definitions: Channel-specific ESR ($AC_ESR_TRIGGER) triggered, but one axis with ESR configuration is NEUTRAL at the time of triggering.
Neutral axes are ignored with ESR (apart from single axes which react only to $AA_ESR_TRIGGER[Ax]).

Reactions: - Alarm display.

Remedy: $AA_ESR_ENABLE[Achse] = 1 should not be set with neutral axes.

Alarm can be suppressed via $MN_ALARM_SUPPRESS_MASK_2 bit 6 = 1.

Program Continuation: Clear alarm with the Delete key or NC START.

26200 **Channel %1 block %2: The names of the kinematic chains $NK_CHAIN_NAME[%3] and $NK_CHAIN_NAME[%4] are the same]**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Index of 1st chain
%4 = Index of 2nd chain

Definitions: There are (at least) two kinematic chains with the same name. The names of the kinematic chains must be clear and identifiable.

Reactions: - Correction block is reorganized.
- Interface signals are set.

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- Alarm display.

Remedy: • Change name of involved kinematic chains

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26202 **Channel %1 block %2: The names of the kinematic chain links $NK_NAME[%3] and $NK_NAME[%4] are the same]**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Index of 1st chain element
%4 = Index of 2nd chain element

Definitions: There are (at least) two kinematic chain links with the same name. The names of the kinematic chain links must be clear and identifiable.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: • Change the names of the kinematic chain links involved

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26204 **Channel %1 block %2: The chain element %3 referred to in $NK_NEXT[%4] is already contained in the chain**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Name of the next chain link
%4 = Index of the chain element

Definitions: In one chain link, the next link of the chain is indicated as a chain link already in existence in the chain. This allows you to define a not permitted closed chain.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Define the kinematic chain in such a way that no closed chain results.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26206 **Channel %1 block %2: The chain element %3, referred to in $NK_1ST_ELEM[%4], was not found**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Name of first chain link
%4 = Index of chain

Definitions: The chain link indicated as the first link in a kinematic chain was not found.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

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Remedy: Indicate in $NK_1ST_ELEM[...] the name of an existing chain link.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26208 **Channel %1 block %2: Chain element %3, referred to in $NK_NEXT[%4], was not found**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Name of the next chain link
%4 = Index of chain link

Definitions: The chain link indicated as the next link in a kinematic chain was not found.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Indicate in $NK_1ST_NEXT[...] the name of an existing chain link.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26210 **Channel %1 block %2: Chain element %3, referred to in $NK_NEXTP[%4], was not found**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Name of the next chain link
%4 = Index of chain link

Definitions: The chain link indicated as the next parallel link of a kinematic chain was not found.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Indicate in $NK_1ST_ELEM[...] the name of an existing chain link.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26212 **Channel %1 block %2: Maximum number of %3 chain elements exceeded**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Maximum number of chain links

Definitions: The maximum permitted number of chain links contained in all chains is too large.
When determining the maximum number, a single chain link contained in several chains is counted several times.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Reduce number of chain links contained in all chains.
This can be achieved e.g. by deactivating individual and currently not required chains and by entering the zero string in the name of the chain.

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Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26222 **Channel %1 block %2: The names of the protection areas $NP_PROT_NAME[%3] and $NP_PROT_NAME[%4] are the same**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Index of 1st protection area
%4 = Index of 2nd protection area

Definitions: Two protection areas were assigned the same name. The names of the protection areas must be clear and identifiable.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Rename one of the protection areas involved.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26224 **Channel %1 block %2: The names of the protection area elements $NP_NAME[%3] and $NP_NAME[%4] are the same**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Index of 1st protection area element
%4 = Index of 2nd protection area element

Definitions: Two protection area elements were assigned the same name. The names of the protection area elements must be clear and identifiable.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Rename one of the protection area elements involved.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26226 **Channel %1 block %2: Invalid protection area type in $NP_TYPE[%3]**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Index of protection area element

Definitions: An invalid protection area type was indicated. The permitted protection area types are defined by the machine date $MN_3D_PROT_AREA_TYPE_NAME_TAB.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Indicate valid protection area type.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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26228 **Channel %1 block %2: The protection area element %3, referred to in $NP_1ST_PROT[%4], was not found**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Name of next protection area element
%4 = Index of protection area

Definitions: The protection area element indicated first in a protection area was not found.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Indicate in $NP_1ST_PROT[...] the name of an existing protection area element.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26230 **Channel %1 block %2: Protection area element %3, referred to in $NP_NEXT[%4], was not found**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Name of next protection area element
%4 = Index of protection area

Definitions: The protection area element indicated next in a protection area was not found.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Indicate in $NP_NEXT[...] the name of an existing protection area element.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26232 **Channel %1 bock %2: Maximum number of %3 protection area elements exceeded**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Name of next protection area element

Definitions: The maximum number of permitted protection area elements is too large.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Reduce number of protection areas or protection area elements.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26234 **Channel %1 block %2: The protection area $NP_PROT_NAME[%3] does not contain any protection area elements**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Index of protection area

Definitions: A protection area must contain at least one protection area element.

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Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Change definition of protection area or delete protection area.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26236 Channel %1 block %2: Protection area element %3, referred to in $NP_NEXT[%4], is already contained in the definition chain

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Index of protection area element
%4 = Index of protection area element

Definitions: A closed definition chain was found, i.e. a protection area element contains the protection area of which it is a part.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Change definition of protection area or delete protection area.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26238 Channel %1 block %2: Protection area %3, referred to in $NP_ADD[%4], was not found

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Name of the protection area to be added
%4 = Index of protection area

Definitions: The protection area to be added to the current protection area element was not found.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Indicate in $NP_ADD[...] the name of an existing protection area element, define a protection area with the name indicated or delete entry.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26240 Channel %1 block %2: The protection area indicated in $NP_ADD[%3] is linked with a kinematic chain

Parameters: %1 = Channel number
%2 = Block number
%3 = Index of protection area element

Definitions: Protection areas added to an existing protection area via $NP_ADD[...], must not be linked to a kinematic chain, e.g. $NP_CHAIN_NAME[...] and $NP_CHAIN_ELMEM[...] must be empty.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

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Remedy: Enter in $NP_ADD[...] a protection area not linked with a kinematic chain or delete the reference to a kinematic
chain in the protection area to be added or delete the entry
in $NP_ADD[...].
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26242 Channel %1 block %2: Name of the kinematic chain in $NP_CHAIN_NAME[%3] not defined

Parameters: %1 = Channel number
%2 = Block number
%3 = Index of protection area
Definitions: The name of the element of a kinematic chain was indicated in the protection area in $NP_CHAIN_ELEM[...]. In this case, it is mandatory to indicate the name itself of the kinematic chain in $NP_CHAIN_NAME[...].
Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
Remedy: Indicate in $NP_CHAIN_NAME[...] the name of a kinematic chain or delete the entry in $NP_CHAIN_ELEM[...].
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26244 Channel %1 block %2: Protection area %3, referred to in $NP_ADD[%4], is already contained in the definition chain

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Index of protection area
%4 = Index of protection area element
Definitions: A closed definition chain was found, i.e. a protection area element contains the protection area of which it is a part.
Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
Remedy: Change definition of the protection area or delete protection area.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26246 Channel %1 block %2: Parameter $NP_PARA[%3,%4] is invalid

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Index of protection area element
%4 = Index of parameters
Definitions: An invalid parameter value to define a protection area element was indicated.
Parameter values must not be negative.
Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.
Remedy: Indicate valid parameter value.
Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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26248 **Channel %1 block %2: The contents (%4) of parameter $NP_BIT_NO[%3] are invalid**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Programmed bit index
%4 = Index of parameters

Definitions: Invalid bit number indicated for the switchover of a preactivated protection area between the states activated / deactivated.
Bit number must have a value between -1 and 63.
Whereby -1 means that no interface bit was assigned to the protection area.
Values between 0 and 63 indicate the index of the interface bit through which the activation state of the protection area is switched over.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Indicate valid index

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26250 **Channel %1 block %2: The names of the protection area groups $NP_NAME[%3] and $NP_NAME[%4] are the same**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Index of 1st protection area group
%4 = Index of 2nd protection area group

Definitions: Two protection area groups were assigned the same name. The names of the protection area groups must be clear and identifiable.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Rename one of the protection area groups involved.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26252 **Channel %1 block %2: Element %4 of the protection area groups %3 is not linked with a kinematic chain**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Index of 1st protection area group
%4 = Index of 2nd protection area group

Definitions: Protection areas being elements of a protection area group must be linked with a kinematic chain.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Defining the assignment of a protection area to a kinematic chain.
Deleting the protection area from the protection area group.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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26254 **Channel %1 block %2: The protection area referred to in element %4 of protection area group %3 was not found**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Number of protection area group
%4 = Number of the element of the protection area group

Definitions: The protection area to be added to the current protection area group was not found.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Indicate in $NP_MEMBER_X[...] the name of an existing protection area, define a protection area with the indicated name or delete entry.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26256 **Channel %1 block %2: The protection area group %3 referred to in $NP_ADD_GROUP[%4] was not found**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Name of the protection area group to be added
%4 = Index of protection area group

Definitions: The protection area group to be added to the current protection area group was not found.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Indicate in $NP_ADD_GROUP[...] the name of an existing protection area group, define a protection area group with the name indicated or delete entry.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26260 **Channel %1 block %2: Collision of the two protection areas %3 and %4**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Name of 1st protection area
%4 = Name of 2nd protection area

Definitions: The two protection areas named collide in the indicated block, i.e. the distance between the two protection areas is smaller than the value defined by machine date $MN_COLLISION_TOLERANCE.

Reactions: - Correction block is reorganized.
- Alarm display.
- NC Stop on alarm.

Remedy: Change NC program or definition of the protection areas involved.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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26262 **Channel %1: Not enough memory space during collision test of the two protection areas %2 and %3. Nominal / Actual: %4**

Parameters: %1 = Channel number
%2 = Name of 1st protection area
%3 = Name of 2nd protection area
%4 = Nominal / Actual

Definitions: The collision monitoring of two protection areas requires temporary internal memory space the size of which depends on the number of the elements contained in the protection areas.
If the 1st protection area has m elements and the 2nd protection area n elements, then a maximum of 4 * n *m memory spaces of 4 bytes each are required.
Example:
1st protection area has 20 elements
2nd protection area has 25 elements

A temporary memory space of 4 * 4 * 20 * 25 = 8000 bytes is required.

The size of the available memory space can be influenced via machine date $MN_MM_3D_COLLISION.

Reactions: - Correction block is reorganized.
- Alarm display.
- NC Stop on alarm.

Remedy: Change NC program or definition of the protection areas involved.
Adjust machine date $MN_MM_3D_COLLISION.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26264 **Channel %1 block %2: The protection area with the name %3 was not found.**

Parameters: %1 = Channel number
%2 = Block number
%3 = Name of protection area

Definitions: One protection area with the name indicated was not found (e.g. during function call PROTA).

Reactions: - Correction block is reorganized.
- Alarm display.
- NC Stop on alarm.

Remedy: Indicate the name of an existing protection area or define the protection area with the name indicated.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26266 **Channel %1 block %2: The protection area with the name %3 was programmed several times.**

Parameters: %1 = Channel number
%2 = Block number
%3 = Name of protection area

Definitions: The name of a protection area was programmed several times (e.g, during the function call PROTA).

Reactions: - Correction block is reorganized.
- Alarm display.

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- NC Stop on alarm.

Remedy: Indicate each required name of a protection area only once.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26268 **Channel %1 block %2: Protection area %3 has not been assigned an interface bit**

Parameters: %1 = Channel number
%2 = Block number
%3 = Name of protection area

Definitions: An attempt was made to preactivate a protection area to which no interface bit was assigned. Protection areas can be preactivated only if an interface bit was defined in $NP_BIT_NO[..] through which switchover between activated and deactivated state is possible in a preactivated protection area.

Reactions: - Correction block is reorganized.
- Alarm display.
- NC Stop on alarm.

Remedy: Assign an interface bit to the protection area or select another activation mode (active / inactive).

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26270 **Channel %1 block %2: Invaid activation parameter during the PROTA function call**

Parameters: %1 = Channel number
%2 = Block number

Definitions: The activation parameter of the PROTA function contains an invalid value.
Only the following values are permitted:
"A" or "a" (= activated)
"I" or "i" (= inactivated)
"P" or "p" (= preactivated)
"R" or "r" (= take over activation state from protection area definitions)

Reactions: - Correction block is reorganized.
- Alarm display.
- NC Stop on alarm.

Remedy: Indicate a valid activation parameter ("A", "a", "I", "i", "P", "p" , "R", "r").

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26272 **Channel %1 block %2: The contents (%3) of parameter $NP_INIT_STAT[%4] are invalid**

Parameters: %1 = Channel number
%2 = Block number
%3 = Programmed state
%4 = Index of parameters

Definitions: An invalid activation state was indicated for a protection area.
Only the following values are permitted:
"A" or "a" (= activated)
"I" or "i" (= inactivated)
"P" or "p" (= preactivated)

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Reactions: - Correction block is reorganized.
- Alarm display.
- NC Stop on alarm.

Remedy: Indicate a valid activation parameter ("A", "a", "I", "i", "P", "p").

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26274 **Channel %1 block %2: Chain %3 referred to in $NP_CHAIN_NAME[%4] was not found**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Name of the chain
%4 = Index of protection area

Definitions: The kinematic chain referred to in the protection area definition ($NP_CHAIN_NAME[...]) was not found.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Indicate in $NP_CHAIN_NAME[...] the name of an existing kinematic chain or define a chain with the name indicated.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26276 **Channel %1 block %2: Chain element %3 referred to in $NP_CHAIN_ELEM[%4] was not found**

Parameters: %1 = Channel number
%2 = Block number, label
%3 = Name of the chain element
%4 = Index of protection area

Definitions: The kinematic chain element referred to in the protection area definition ($NP_CHAIN_ELEM[...]) was not found.

Reactions: - Correction block is reorganized.
- Interface signals are set.
- Alarm display.

Remedy: Indicate in $NP_CHAIN_ELEM[...] the name of an existing chain element or define a chain element with the name indicated.

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

26280 **Channel %1 axis %2 stopped due to the risk of collision**

Parameters: %1 = Channel number
%2 = Axis name, spindle number
%3 = String

Definitions: The indicated axis was stopped due to the risk of collision.

Reactions: - Alarm display.

Remedy: In JOG mode: Retract axis from danger zone.

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In automatic mode: Determine reason for the risk of collision and eliminate. Possible reasons: wrong NC program, too large handwheel overrides, axis couplings and vice-versa impairing of two channels.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

27000 Axis %1 is not safely referenced

Parameters: %1 = Axis number

Definitions: There are two reasons for this alarm:

- the machine position has not yet been acknowledged by the user,
- the machine position has not yet been verified through follow-up referencing.

Even if the axis is already referenced, there is no confirmation that referencing has supplied the correct result. For example, wrong results can occur if the axis was moved after the control was switched off, with the result that the standstill position saved prior to switching off is no longer correct. To make sure that this does not happen, the user must acknowledge the displayed actual position after the first referencing process.

When the user enable has first been set, follow-up referencing must be carried out each time the control is booted (with absolute encoders, this follow-up referencing is executed automatically). This procedure is carried out to verify the standstill position saved prior to switching off of the control.

Via the MD $MN_SAFE_ALARM_SUPPRESS_LEVEL (MD>=3), the alarm display can be set in such a way that the group alarm 27100 is displayed for all SI axes.

Reactions: - Alarm display.

SGA "Axis safely referenced" is not set. SE will be switched off, if the actual safety position has not yet been confirmed by a user agreement. If the user agreement has been set, SE will remain active. The safe cams are calculated and output. However, their significance is limited as referencing has not been confirmed.

Remedy: Traverse the axis to a known position, change to operating mode "Referencing" and press softkey "Agreement". Check the positions displayed in the agreement screen on the machine. If they match the expected or known position, confirm this by using the toggle key. If the user agreement has already been set, reference the axis again.

The user agreement can be changed only via keyswitch position 3 or after password entry.

WARNING:

If the axis is not referenced safely and the user agreement is not available, the following will apply:

- the safe cams are not yet safe
- the safe end positions are not yet active.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

27001 Axis %1 error in a monitoring channel, code %2, values: NCK %3, drive %4

Parameters: %1 = Axis number

%2 = Additional info cross-comparison index

%3 = NCK comparison value extension

%4 = Additional info comparison value drive

Definitions: The mutual comparison of the two monitoring channels has found a difference between input data or results of the monitoring operations. One of the monitors no longer functions reliably, i.e. safe operation is no longer possible.

The following error codes are possible on the NCK side:

- 0 No error found in this channel; following alarm to drive alarm 300911.
- 1 result list 1: different SBH, SG, SBR or SE result, e.g. due to different activation of the monitoring channels. For further information see drive MDs 1391, 1392.

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- 2 Result list 2: difference in SN, n_x result. For further information see drive MD 1393, 1394.
- 3 Actual value difference greater than setting in $MA_SAFE_POS_TOL.
- 4 Not assigned.
- 5 Function enables $MA_SAFE_FUNCTION_ENABLE.
- 6 Velocity limit $MA_SAFE_VELO_LIMIT[0].
- 7 Velocity limit $MA_SAFE_VELO_LIMIT[1].
- 8 Velocity limit $MA_SAFE_VELO_LIMIT[2].
- 9 Velocity limit $MA_SAFE_VELO_LIMIT[3].
- 10 Tolerance for safe operational stop $MA_SAFE_STANDSTILL_TOL.
- 11 Safe position limit $MA_SAFE_POS_LIMIT_PLUS[0].
- 12 Safe position limit $MA_SAFE_POS_LIMIT_MINUS[0].
- 13 Safe position limit $MA_SAFE_POS_LIMIT_PLUS[1].
- 14 Safe position limit $MA_SAFE_POS_LIMIT_MINUS[1].
- 15 Cam position $MA_SAFE_CAM_POS_PLUS[0] + $MA_SAFE_CAM_TOL.
- 16 Cam position $MA_SAFE_CAM_POS_PLUS[0].
- 17 Cam position $MA_SAFE_CAM_POS_MINUS[0] + $MA_SAFE_CAM_TOL.
- 18 Cam position $MA_SAFE_CAM_POS_MINUS[0].
- 19 Cam position $MA_SAFE_CAM_POS_PLUS[1] + $MA_SAFE_CAM_TOL.
- 20 Cam position $MA_SAFE_CAM_POS_PLUS[1].
- 21 Cam position $MA_SAFE_CAM_POS_MINUS[1] + $MA_SAFE_CAM_TOL.
- 22 Cam position $MA_SAFE_CAM_POS_MINUS[1].
- 23 Cam position $MA_SAFE_CAM_POS_PLUS[2] + $MA_SAFE_CAM_TOL.
- 24 Cam position $MA_SAFE_CAM_POS_PLUS[2].
- 25 Cam position $MA_SAFE_CAM_POS_MINUS[2] + $MA_SAFE_CAM_TOL.
- 26 Cam position $MA_SAFE_CAM_POS_MINUS[2].
- 27 Cam position $MA_SAFE_CAM_POS_PLUS[3] + $MA_SAFE_CAM_TOL.
- 28 Cam position $MA_SAFE_CAM_POS_PLUS[3].
- 29 Cam position $MA_SAFE_CAM_POS_MINUS[3] + $MA_SAFE_CAM_TOL.
- 30 Cam position $MA_SAFE_CAM_POS_MINUS[3].
- 31 Actual position tolerance $MA_SAFE_POS_TOL. $MA_SAFE_SLIP_VELO_TOL for active actual value synchronization (slippage)
- 32 Ref. position tolerance $MA_SAFE_REFP_POS_TOL.
- 33 Delay SG[x] -> SG[y] $MA_SAFE_VELO_SWITCH_DELAY.
- 34 Delay cross-comparison $MA_SAFE_MODE_SWITCH_TIME.
- 35 Delay pulse disable Stop B $MA_SAFE_PULSE_DISABLE_DELAY.
- 36 Delay pulse disable test stop $MA_SAFE_PULSE_DIS_CHECK_TIME
- 37 Delay Stop C -> SBH $MA_SAFE_STOP_SWITCH_TIME_C.
- 38 Delay Stop D -> SBH $MA_SAFE_STOP_SWITCH_TIME_D.
- 39 Delay Stop E -> SBH $MA_SAFE_STOP_SWITCH_TIME_E.
- 40 Stop reaction on SG exceeded $MA_SAFE_VELO_STOP_MODE.
- 41 Stop reaction on SE exceeded $MA_SAFE_POS_STOP_MODE.
- 42 Standstill speed $MA_SAFE_STANDSTILL_VELO_TOL.
- 43 Memory test, stop reaction.
- 44 Actual position + SG[0] $MA_SAFE_VELO_LIMIT[0].
- 45 Actual position - SG[0] $MA_SAFE_VELO_LIMIT[0].
- 46 Actual position + SG[1] $MA_SAFE_VELO_LIMIT[1].
- 47 Actual position - SG[1] $MA_SAFE_VELO_LIMIT[1].
- 48 Actual position + SG[2] $MA_SAFE_VELO_LIMIT[2].

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- 49 Actual position - SG[2] $MA_SAFE_VELO_LIMIT[2].
- 50 Actual position + SG[3] $MA_SAFE_VELO_LIMIT[3].
- 51 Actual position - SG[3] $MA_SAFE_VELO_LIMIT[3].
- 52 Standstill position + tolerance $MA_SAFE_STANDSTILL_TOL.
- 53 Standstill position - tolerance $MA_SAFE_STANDSTILL_TOL.
- 54 Actual postion + n_x + tolerance $MA_SAFE_VELO_X + $MA_SAFE_POS_TOL.
- 55 Actual postion + n_x $MA_SAFE_VELO_X.
- 56 Actual postion - n_x $MA_SAFE_VELO_X.
- 57 Actual postion - n_x - tolerance $MA_SAFE_VELO_X - $MA_SAFE_POS_TOL
- 58 Active external standstill request.
- 59 SG override factor 1 $MA_SAFE_VELO_OVR_FACTOR[0].
- 60 SG override factor 2 $MA_SAFE_VELO_OVR_FACTOR[1].
- 61 SG override factor 3 $MA_SAFE_VELO_OVR_FACTOR[2].
- 62 SG override factor 4 $MA_SAFE_VELO_OVR_FACTOR[3].
- 63 SG override factor 5 $MA_SAFE_VELO_OVR_FACTOR[4].
- 64 SG override factor 6 $MA_SAFE_VELO_OVR_FACTOR[5].
- 65 SG override factor 7 $MA_SAFE_VELO_OVR_FACTOR[6].
- 66 SG override factor 8 $MA_SAFE_VELO_OVR_FACTOR[7].
- 67 SG override factor 9 $MA_SAFE_VELO_OVR_FACTOR[8].
- 68 SG override factor 10 $MA_SAFE_VELO_OVR_FACTOR[9].
- 69 SG override factor 11 $MA_SAFE_VELO_OVR_FACTOR[10].
- 70 SG override factor 12 $MA_SAFE_VELO_OVR_FACTOR[11].
- 71 SG override factor 13 $MA_SAFE_VELO_OVR_FACTOR[12].
- 72 SG override factor 14 $MA_SAFE_VELO_OVR_FACTOR[13].
- 73 SG override factor 15 $MA_SAFE_VELO_OVR_FACTOR[14].
- 74 SG override factor 16 $MA_SAFE_VELO_OVR_FACTOR[15].
- 75 Velocity limit n_x $MA_SAFE_VELO_X.
- 76 Stop reaction SG1 $MA_SAFE_VELO_STOP_REACTION[0].
- 77 Stop reaction SG2 $MA_SAFE_VELO_STOP_REACTION[1].
- 78 Stop reaction SG3 $MA_SAFE_VELO_STOP_REACTION[2].
- 79 Stop reaction SG4 $MA_SAFE_VELO_STOP_REACTION[3].
- 80 Modulo value for safe cam $MA_SAFE_MODULO_RANGE.
- 81 Velocity tolerance for safe deceleration ramp $MA_SAFE_STOP_VELO_TOL.
- 82 SG override factor SGE 0...15 = active SGE position. -1 = SG override inactive (neither SG2 nor SG4 active, or function not activated in $MA_SAFE_FUNCTION_ENABLE).
- 83 Acceptance test time different $MA_SAFE_ACCEPTANCE_TST_TIMEOUT.
- 84 Delay time Stop F -> Stop B $MA_SAFE_STOP_SWITCH_TIME_F.
- 85 Delay time pulse disable bus fail $MN_SAFE_PULSE_DIS_TIME_BUSFAIL.
- 86 Single encoder system $MA_SAFE_SINGLE_ENC.
- 87 Encoder assignment $MA_SAFE_ENC_INPUT_NR.
- 88 Cam enable $MA_SAFE_CAM_ENABLE.
- 89 Encoder limit frequency $MA_SAFE_ENC_FREQ_LIMIT.
- 90 Cam SGA outside $MA_SAFE_CAM_TOL different
- 1000 Control timer expired: If one channel informs another of an SGE change, this control timer is used to check whether the update timer in the other channel has expired.
- 1001 (only assigned on drive, see alarm 300911)
- 1002 User confirmation inconsistent: Data for user confirmation different in both monitoring channels after 2 seconds.

%3 = state of the NCK user acknowledgement.

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%4 = state of the 611D user acknowledgement.

- 1003 Reference tolerance $MA_SAFE_REFP_POS_TOL exceeded.
- 1004 Plausibility error in user confirmation.
- 1005 Pulses already disabled on test stop selection.
- 1006 (only assigned on drive, see alarm 300911).
- 1007 (only assigned on drive, see alarm 300911).
- 1008 (only assigned on drive, see alarm 300911).
- 1009 Pulses not disabled after $MA_SAFE_PULSE_DIS_CHECK_TIME test stop time.
- 1010 Pulses not disabled during test of the external pulse suppression after $MA_SAFE_PULSE_DIS_CHECK_TIME test stop time.
- 1011 NCK/drive acceptance test state different.
- 1013 NCK user acknowledgement from PLC SRAM and NCK user acknowledgement from the NCK machine date are different.
- 1014 NCK axis number from PLC SRAM and NCK axis number from the ramp up are different.
- 1020 Communication disrupted between NCK monitoring channel and drive monitoring channel.
- 1024 NCK standstill position from PLC SRAM and NCK standstill position from the NCK machine date are different.

Reactions: - NC Start disable in this channel.

- Alarm display.

If safe monitoring was active, STOP B was also triggered automatically. In this case, a power OFF/ON of the control will be required.

Remedy: Find the difference between the monitoring channels. Error code %2 shows the cause of the alarm.

It is possible that safety-relevant machine data are no longer the same (reload if required) or

that the safety-relevant inputs do not have the same level (check).

If an error like that cannot be found, an error in the CPU may have occurred such as a memory cell that has "fallen over". This error may be temporary (remove with power ON) or permanent (replace hardware, if it is displayed again after power ON).

Error codes for STOP F for 840D/611D:

0: No error in this channel. Look for the cause in the other channel.

1: Results list 1. Unequal control of the functions via the SGEs; analyze precise error coding in 611D MD 1391 and 1392.

2: Results list 2. Check cam tolerance, analyze precise error coding in the 611D-MDs 1393 and 1394.

3: Actual position. Incorrect encoder evaluation (check MDs). Differently stored standstill position.

4: No cross-comparison.

5: Function enables. Enter equal MDs.

6: Limit value for SG1. Enter equal MDs.

7: Limit value for SG2. Enter equal MDs.

8: Limit value for SG3. Enter equal MDs.

9: Limit value for SG4. Enter equal MDs.

10: Standstill tolerance. Enter equal MDs.

11: Upper limit value SE1. Enter equal MDs.

12: Lower limit value SE1. Enter equal MDs.

13: Upper limit value SE2. Enter equal MDs.

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14: Lower limit value SE2. Enter equal MDs.
15: Safe cam 1+ (+tolerance). Enter equal MDs.
16: Safe cam 1+. Enter equal MDs.
17: Safe cam 1- (+tolerance). Enter equal MDs.
18: Safe cam 1-. Enter equal MDs.
19: Safe cam 2+ (+tolerance). Enter equal MDs.
20: Safe cam 2+. Enter equal MDs.
21: Safe cam 2- (+tolerance). Enter equal MDs.
22: Safe cam 2-. Enter equal MDs.
23: Safe cam 3+ (+tolerance). Enter equal MDs.
24: Safe cam 3+. Enter equal MDs.
25: Safe cam 3- (+tolerance). Enter equal MDs.
26: Safe cam 3-. Enter equal MDs.
27: Safe cam 4+ (+tolerance). Enter equal MDs.
28: Safe cam 4+. Enter equal MDs.
29: Safe cam 4- (+tolerance). Enter equal MDs.
30: Safe cam 4-. Enter equal MDs.
31: Position tolerance. Enter equal MDs.
32: Reference position tolerance. Enter equal MDs.
33: Time velocity changeover. Enter equal MDs.
34: Tolerance time SGE changeover. Enter equal MDs.
35: Delay time pulse deletion. Enter equal MDs.
36: Time for check of pulse suppression. Enter equal MDs.
37: Transition time STOP C to SBH. Enter equal MDs.
38: Transition time STOP D to SBH. Enter equal MDs.
39: Transition time STOP E to SBH. Enter equal MDs.
40: Stop reaction to SG. Enter equal MDs.
41: Stop reaction to SE. Enter equal MDs.
42: Creep speed pulse deletion. Enter equal MDs.
43: Storage test stop reaction.
44: Actual position value + limit value SG1.
45: Actual position value - limit value SG1.
46: Actual position value + limit value SG2.
47: Actual position value - limit value SG2.
48: Actual position value + limit value SG3.
49: Actual position value - limit value SG3.
50: Actual position value + limit value SG4.
51: Actual position value - limit value SG4.
52: Standstill position + tolerance.
53: Standstill position - tolerance.
54: Actual position value "+ nx" + tolerance.
55: Actual position value "+ nx".
56: Actual position value "- nx".
57: Actual position value "- nx" + tolerance.
58: Current shutdown request.
59: SG override factor 1. Enter equal MDs.
60: SG override factor 2. Enter equal MDs.
61: SG override factor 3. Enter equal MDs.
62: SG override factor 4. Enter equal MDs.

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63: SG override factor 5. Enter equal MDs.
64: SG override factor 6. Enter equal MDs.
65: SG override factor 7. Enter equal MDs.
66: SG override factor 8. Enter equal MDs.
67: SG override factor 9. Enter equal MDs.
68: SG override factor 10. Enter equal MDs.
69: SG override factor 11. Enter equal MDs.
70: SG override factor 12. Enter equal MDs.
71: SG override factor 13. Enter equal MDs.
72: SG override factor 14. Enter equal MDs.
73: SG override factor 15. Enter equal MDs.
74: SG override factor 16. Enter equal MDs.
75: Velocity limit "nx". Enter equal MDs.
76: Stop reaction with SG1. Enter equal MDs.
77: Stop reaction with SG2. Enter equal MDs.
78: Stop reaction with SG3. Enter equal MDs.
79: Stop reaction with SG4. Enter equal MDs.
80: Modulo value for safe cams. Enter equal MDs.
81: Velocity tolerance for safe braking ramp. Enter equal MDs.
82: SG correction factor SGEs. Actuate equal SGEs.
83: Acceptance test duration. Enter equal MDs.
84: Stop F -> Stop B delay time. Enter equal MDs.
85: Bus failure pulse suppression delay time. Enter equal MDs.
89: Encoder limit frequency. Enter equal MDs.
1000: Control timer expired. Too many switching operations on the SGEs (e.g. due to contact problems, loose contact).
1001: Incorrect control timer initialization.
1002: User confirmation timer expired.
1003: Reference tolerance violated. Comparison of the reference position with the current safe actual position.
1004: Plausibility of user confirmation is violated.
1005: Pulses already deleted during test stop selection. Test stop selection with missing pulse enable, Error in the wiring of the SGE "Pulses have been deleted".
1006: Error during forced SGA dynamization.
1007: Communication failure between PLC and drive.
1008: Erroneous data transfer between PLC and drive.
1009: Trigger a subsequent stop after test stop. Check the wiring. Check the SGE configuration via MD $MA_SAFE_PULSE_STATUS_INPUT. Check the time level for test stop.
1010: Pulses not deleted. Check MD.
1012: Restore data consistency by power On.
1013: Restore data consistency by power On.
1014: Restore data consistency by power On.
1020: Cyclic communication between NCK and drive no longer functioning.

Program Continuation: Clear alarm with the RESET key. Restart part program
If STOP B was triggered, a power OFF/ON of the control will be required.

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27002 **Axis %1 test stop is running**

Parameters: %1 = Axis number

Definitions: Proper functioning of the switch-off path is just being tested by setting of the SGE "Test stop selection".

Reactions: - Alarm display.

Remedy: The message serves only for user information.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.
The alarm will disappear automatically after expiry of the delay time - defined in MD $MA_SAFE_PULSE_DIS_CHECK_TIME - and after removal of SGE "Test stop selection", if the control recognizes pulse suppression, i.e. the test has been completed successfully. An unsuccessful test can be recognized by alarm 27001 with error code 1005 or by alarm 27024.

27003 **Checksum error found: %1 %2**

Parameters: %1 = Note on code section or table
%2 = Table number

Definitions: Checksum error in safety-relevant code or safety-relevant data. The safe monitoring functions (Safety Integrated) in the NCK could be affected.

Reactions: - Alarm display.

Remedy: Continue to work very carefully. Reload code and data as soon as possible (Power On). If this error occurs again, contact your service personnel.

Program Continuation: Switch control OFF - ON.

27004 **Axis %1, difference safe input %2, NCK %3, drive %4**

Parameters: %1 = Axis number
%2 = Monitoring input
%3 = Interface identifier NCK input
%4 = Interface identifier drive input

Definitions: A difference has been found on the specified safe input. The state of the specified input signal differed in the two monitoring channels NCK and 611D during the duration set in $MA_SAFE_MODE_SWITCH_TIME.

Monitoring in question (%2):
SS/SV = Difference in SGE "Deselection of safe operating stop/Safe velocity"
SS = Difference in SGE "Safe operating stop"
SV = Difference in SGE "Selection safe velocity"
SP = Difference in SGE "Selection safe limit position"
SVOVR = Difference in SGEs "Selection SG correction"

Interface identifier NCK input (%3):
DMP<drv><mod><bit>=<value>
<drv> = Drive number of terminal block (1...31)
<mod> = Submodule number (1...8)
<bit> = Terminal number (1...16)
<value> = Value of NCK SGE (0,1)

SPL For when the SGE is parameterized at the SPL interface.
<io> = Parameterizable system variable range (01=$A_INSID, 02=$A_INSED)
<dword> = System variable double word (1,2)

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<bit> = Bit number in system variable double word (1...32)
<value> = Value of NCK SGE (0,1)

Onboard input For when the SGE is parameterized at an onboard input.
<bit> = Input number = 01 ...04
<value> = Value of NCK SGE = 0,1

Interface identifier drive input (%4):
DBX<byte><bit>=<value >
<byte> = Byte number in axial DB (22, 23, 32, 33)
<bit> = Bit number in byte (0...7)
<value> = Value of drive SGE (0,1)

This alarm can be hidden by setting MD $MN_SAFE_DIAGNOSIS_MASK, bit 0 = 0.

Reactions: - Alarm display.

Remedy: Check settings for safe input signals (NCK I/Os, PLC DB parameters).

Program Continuation: Clear alarm with the RESET key. Restart part program

27005 Axis %1 error in data cross check: static actual value difference

Parameters: %1 = Axis number

Definitions: Via the data cross check between NCK and 611D monitoring channel, a difference in actual values was detected, which is greater than the maximum tolerance defined in MD $MA_SAFE_POS_TOL. This can be checked by means of the safe position values for the two monitoring channels displayed in the service menu.
The alarm is displayed only, if monitoring with absolute reference (SE/SN) has been enabled for the specified axis and if the user enable has been set. The alarm is cleared, as soon as the user enable is deleted or the actual value difference between the two monitoring channels falls again below the maximum permissible difference.

Reactions: - Alarm display.

Remedy: If the alarm is present statically, the user enable must be deleted. When the control is then rebooted, the machine can be brought to the safe state again and operation resumed by a new referencing process and setting of the user enable. Prior to setting the user enable, the actual position of the axis displayed in the "User enable" screen must be compared with the current machine position. This is obligatory to ensure the proper functioning of the safe limit positions (SE) and safe cams (SN).
A change of the user acknowledgement is only possible with key switch position 3 or after input of a password.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

27006 Axis %1 Test ext. pulse deletion running

Parameters: %1 = Axis number

Definitions: The correct functioning of the external pulse disable is being checked now by setting the "Test stop of external shutdown" SGE.

Reactions: - Alarm display.

Remedy: Alarm disappears automatically when the test has been exited by deleting the "Test stop of external shutdown" SGE.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary

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27007 **Axis %1 acceptance test mode is active**

Parameters: %1 = Axis number

Definitions: Via the operator panel, an SI acceptance test has been started for example with the acceptance test wizard. The acceptance test mode is activated via the NCK and drive for the time of this acceptance test. In the acceptance test mode, SI PowerOn alarms can be acknowledged with the Reset key.

Reactions: - Alarm display.

Remedy: Deselect the acceptance test, for example with the acceptance test wizard or wait until completed (acceptance test time can be parameterized via MD $MA_SAFE_ACCEPTANCE_TST_TIMEOUT).

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

27008 **Axis %1 SW limit switch deactivated**

Parameters: %1 = Axis number

Definitions: Via the HMI, the SI acceptance test Safe limit position has been started, for example with the acceptance test wizard. For these acceptance tests, the single-channel software limit switches are deactivated for the axis/spindle, in order to assure that the safe limit positions can be approached.

Reactions: - Alarm display.

Deactivation of the single-channel software limit switch for the displayed axis/spindle.

Remedy: Deselect the acceptance test, for example with the acceptance test wizard, or wait until completed.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

27010 **Axis %1 tolerance for safe standstill exceeded**

Parameters: %1 = Axis number

Definitions: The axis has moved too far away from the setpoint position. It is further away than allowed in MD $MA_SAFE_STANDSTILL_TOL.

The alarm can be reprogrammed in the MD $MN_ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - Mode group not ready.

- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Stop of the axis with the setpoint speed value=0 (STOP B). As soon as the actual speed value is smaller than defined in MD $MA_SAFE_STANDSTILL_VELO_TOL, but the latest after time-out in MD $MA_SAFE_PULSE_DISABLE_DELAY, the pulses will be suppressed (STOP A).

Remedy: Check the tolerance of zero speed monitoring: does the value match the precision and control dynamics of the axis? If not, increase tolerance. If yes, check the machine for any damage and rectify it.

Program Continuation: Switch control OFF - ON.

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27011 **Axis %1 safe velocity exceeded**

Parameters: %1 = Axis number

Definitions: The axis has moved too quickly and faster than allowed in MD $MA_SAFE_VELO_LIMIT. With active SBH/SG and a 1-encoder system, the velocity which corresponds to an encoder limit frequency of MD SAFE_ENC_FREQ_LIMIT has been exceeded.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Axis stop with STOP A, C, D or E, depending on the configuration in MD $MA_SAFE_VELO_STOP_MODE or MD $MA_SAFE_VELO_STOP_REACTION.

Remedy: If no obvious operator error occurred: check the input value of the MD, check SGEs: was the correct safe velocity selected? If the MDs and SGEs are o.k., check the machine for any damage and rectify it.

Program Continuation: Clear alarm with the RESET key. Restart part program

27012 **Axis %1 safe end position exceeded**

Parameters: %1 = Axis number

Definitions: The axis has exceeded the limit position entered in MD $MA_SAFE_POS_LIMT_PLUS or MD $MA_SAFE_POS_LIMIT_MINUS.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Stop the axis with STOP C,D or E, depending on the configuration in MD $MA_SAFE_POS_STOP_MODE.

Remedy: If no obvious operator error occurred: Check the input value of the machine data and check the SGEs: was the correct one of 2 limit positions selected? If the MDs and SGEs are o.k., check the machine for any damage and rectify it.

Program Continuation: Clear alarm with the RESET key. Restart part program

Remove the user agreement for this axis. Then press the RESET key causing the program to be aborted and the alarm to be deleted. Traverse the axis in JOG mode to the valid traversing range. After fault correction of the NC program and an axis position check, the user agreement can be set again and the program can be restarted.

27013 **Axis %1 safe braking ramp exceeded**

Parameters: %1 = Axis number

Definitions: After the initiation of STOP B or C, the velocity exceeded the tolerance value entered in MD $MA_SAFE_STOP_VELO_TOL.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Pulse interlock by triggering a STOP A.

Remedy: Check MD $MA_SAFE_STOP_VELO_TOL. Check the braking behavior of the affected drive.

Program Continuation: Switch control OFF - ON.

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27020 **Axis %1 stop E triggered**

Parameters: %1 = Axis number

Definitions: This alarm is output together with alarms 27011 "Safe velocity exceeded" or 27012 "Safe limit position exceeded" (when configured as such in MD $MA_SAFE_VELO_STOP_MODE, $MA_SAFE_VELO_STOP_REACTION or MD: $MA_SAFE_POS_STOP_MODE).

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Trigger a LIFTFAST ASUB and internal activation of the safe operational stop (SBH) after expiry of the time set in MD $MA_SAFE_STOP_SWITCH_TIME_E.

Remedy: Eliminate causes of the alarms "Safe velocity exceeded" or "Safe limit position exceeded" (see description of these alarms).

Program Continuation: Clear alarm with the RESET key. Restart part program

27021 **Axis %1 stop D triggered**

Parameters: %1 = Axis number

Definitions: This alarm is output together with alarms 27011 "Safe velocity exceeded" or 27012 "Safe limit position exceeded" (when configured as such in $MA_SAFE_VELO_STOP_MODE, $MA_SAFE_VELO_STOP_REACTION or $MA_SAFE_POS_STOP_MODE).

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Trigger a "Deceleration on the path" and internal activation of the safe operational stop (SBH) after expiry of the time set in MD $MA_SAFE_STOP_SWITCH_TIME_D.

Remedy: Eliminate causes of alarm "Safe velocity exceeded" or "Safe limit position exceeded" (see description of these alarms).

Program Continuation: Clear alarm with the RESET key. Restart part program

27022 **Axis %1 stop C triggered**

Parameters: %1 = Axis number

Definitions: This alarm is output together with alarms 27011 "Safe velocity exceeded" or 27012 "Safe limit position exceeded" (when configured as such in $MA_SAFE_VELO_STOP_MODE, $MA_SAFE_VELO_STOP_REACTION or $MA_SAFE_POS_STOP_MODE).

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Trigger a "Deceleration on the current limit" and internal activation of the safe operational stop (SBH) after expiry of the time set in MD $MA_SAFE_STOP_SWITCH_TIME_C.

Remedy: Eliminate causes of alarm "Safe velocity exceeded" or "Safe limit position exceeded" (see description of these alarms).

Program Continuation: Clear alarm with the RESET key. Restart part program

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27023 **Axis %1 stop B triggered**

Parameters: %1 = Axis number

Definitions: This alarm is output together with alarm 27010 "Tolerance for safe operational stop exceeded" or after alarm 27001 "STOP F triggered".

The alarm can be reprogrammed in MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Trigger a "Deceleration on the current limit" and activation of the timer for a switchover after STOP A (see MD $MA_SAFE_PULSE_DISABLE_DELAY).

Remedy: Eliminate causes of alarm "Tolerance for safe standstill exceeded" or "STOP F triggered" (see description of these alarms).

Program Continuation: Switch control OFF - ON.

27024 **Axis %1 stop A triggered**

Parameters: %1 = Axis number

Definitions: This alarm follows an
- Alarm 27011 "Safe velocity exceeded" (when configured as such in $MA_SAFE_VELO_STOP_MODE, $MA_SAFE_VELO_STOP_REACTION)
- Alarm 27013 "Safe braking ramp exceeded",
- Alarm 27023 "Stop B triggered"
- unsuccessful test stop.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Trigger a "Pulse suppression".

Remedy: Eliminate causes of
- alarm "Save velocity exceeded",
- alarm "Safe braking ramp exceeded",
- alarm "Stop B triggered"
- unsuccessful test stop

(see description of these alarms).

Program Continuation: Switch control OFF - ON.

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27030 **Axis %1 function not supported on this 611D module**

Parameters: %1 = Axis number

Definitions: SINUMERIK Safety Integrated can be used only with the 611D Performance control modules with 2 measuring circuits per drive and cutoff relay. An attempt has been made to activate a safety function although no such module is plugged in.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Replace module or switch off safety functions in MD $MA_SAFE_FUNCTION_ENABLE.

Program Continuation: Switch control OFF - ON.

27031 **Axis %1 limit value for safe velocity %2 at gear ratio %3 too large (max. %4)**

Parameters:
%1 = Axis number
%2 = Limit value index
%3 = Number of the transmission ratio
%4 = Maximum velocity

Definitions: All limit values in MD $MA_SAFE_VELO_LIMIT have to be set in a way that the limit frequency of the amplitude monitoring in the measuring circuit hardware is not exceeded. The limit value which did not fulfil this condition is indicated as second parameter (1 for SG1, 2 for SG2, etc.). The third parameter indicates the gear stage, e.g. 1 for gear stage 1, 2 for gear stage 2, etc. The fourth parameter indicates the maximum velocity which can be entered to just maintain the limit frequency in safe operation.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Trigger a "Pulse suppression".

Remedy: Reduce the limit value in MD $MA_SAFE_VELO_LIMIT[x], x = (2nd alarm parameter) - 1, or correct the setting of the gear factors.

Program Continuation: Switch control OFF - ON.

27032 **Axis %1 checksum error %2 of safe monitoring. Confirmation and acceptance test required!**

Parameters:
%1 = Axis number
%2 = Index of $MA_SAFE_ACT_CHECKSUM

Definitions: The relevant MDs $MN_SAFE_..., $MN_PROFISAFE_..., $MA_SAFE ... are protected by a checksum. The alarm indicates that the current checksum does not coincide any longer with the stored checksum, which means that either an MD value has been changed without authorization or an MD is defective.

The 2nd parameter indicates the field entry of $MA_SAFE_ACT_CHECKSUM in which the error was found.

Reactions:
- Mode group not ready.
- Channel not ready.

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- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check MDs. Allow the checksum to be recalculated. Re-accept safety functions.

Program Continuation: Switch control OFF - ON.

27033 Axis %1 parameterization of MD %2[%3] invalid

Parameters: %1 = Axis number

%2 = MD identifier

%3 = Machine data index

Definitions: The parameterization of machine data %2 is incorrect. An additional indication is the array index of the machine data. If the machine data is a single machine date, a zero is specified as array index. This alarm occurs in the following contexts:

- 1. Conversion of the specified MD into the internal calculation format will cause an overflow.
- 2. The values entered in MD $MA_SAFE_POS_LIMIT_PLUS and $MA_SAFE_POS_LIMIT_MINUS have been interchanged. The upper limit is less than or equal to the lower limit.
- 3. For an axis with safety functions, the setpoint/actual channel assignment in MD $MA_SAFE_ENC_SEGMENT_NR, MD $MA_CTRLOUT_SEGMENT_NR was not made on the drive bus. No module number was stated for a setpoint/actual value assignment in MD $MA_CTRLOUT_MODULE_NR, MD $MA_SAFE_ENC_MODULE_NR.
- 4. The number of drives has changed. On reading back the standstill position and the associated drive number, a difference has been found to the current drive configuration.
- 5. A safety function has been enabled in MD $MA_SAFE_FUNCTION_ENABLE without the safety functions SBH/SG having been enabled.
- 6. Error on parameterizing the input/output settings for the SGEs/SGAs.
- 7. A zero has been entered in MD $MA_SAFE_ENC_GRID_POINT_DIST.
- 8. A zero has been entered in MD $MA_SAFE_ENC_RESOL .
- 9. In MD $MA_IS_ROT_AX and MD $MA_SAFE_IS_ROT_AX , different settings have been made.
- 10. A non-existing measuring circuit has been parameterized in MD $MA_SAFE_ENC_INPUT_NR.
- 11. In MD $MA_SAFE_ENC_MODULE_NR, the number of a drive has been entered that either does not exist or has been detected as inactive. With an inactive drive, MD $MA_SAFE_ENC_TYPE was not reset to 0.
- 12. In MD $MA_SAFE_ENC_TYPE, an encoder type has been parameterized not matching the physically present type.
- 13. In MD $MA_SAFE_ENC_TYPE, an incorrect encoder type has been entered for an active drive ($MA_SAFE_ENC_TYPE = 0, 2, 3 or 5).
- 14. When setting the parameters for the motor encoder in MD $MA_SAFE_ENC_INPUT_NR, the measuring circuit for the 2nd measuring system is also used to ensure double-redundancy. The 2nd measuring circuit of this drive module has also been parameterized in the data of another axis, therefore there is a dual assignment. The 2nd measuring circuit connection cannot be used for the actual value acquisition in this parameterization.
- 15. In MD $MA_SAFE_POS_TOL a value greater than 10mm was entered for a linear axis.
- 16. In MD $MA_SAFE_REFP_POS_TOL, a value greater than 1mm was entered for a linear axis.

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- 17. The limit values for the "n<n_x" monitoring, calculated from MD $MA_SAFE_VELO_X and MD $MA_SAFE_POS_TOL, are of equal size.
- 18. One of the activated cam positions is outside the actual value modulo range.
- 19. The parameterized cam modulo range MD $MA_SAFE_MODULO_RANGE is not a multiple integer of 360 degrees.
- 20. The parameterized cam modulo range MD $MA_SAFE_MODULO_RANGE and the modulo range in MD $MA_MODULO_RANGE cannot be divided as integers into one another.
- 21. The "Actual value synchronization 2-encoder system" function (slippage) is selected for a single-encoder system, or a function with an absolute reference (SE/SN) is active at the same time.
- 22. Alarms 27000/300950 should be suppressed for parking (MD $MA_SAFE_PARK_ALARM_SUPPRESS!=0). The SGA "Axis safely referenced" must be configured in MD $MA_SAFE_REFP_STATUS_OUTPUT.
- 23. An axial SGE/SGA was configured at the SPL interface (segment number = 4) and the function enable for the external stops (MD $MA_SAFE_FUNCTION_ENABLE, bit6) is missing.
- 24. An axial SGE/SGA was parameterized at the SPL interface (segment number = 4) and the SGE "Deselect ext. Stop A" (assignment via MD $MA_SAFE_EXT_STOP_INPUT[0]) was parameterized inverted (bit31 = 1) or the SGE "Deselect ext. Stop A" was not parameterized at the SPL interface $A_OUTSI.
- 25. The function "Save actual value with incremental encoder" is enabled via MD $MA_ENC_REFP_STATE for the parameterizable incremental encoder, and a monitoring function with absolute reference (SE/SN) is enabled via MD $MA_SAFE_FUNCTION_ENABLE. It is not permissible to combine these functions.
- 26. A value greater than 1000 mm/min was entered for a linear axis in MD $MA_SAFE_STANDSTILL_VELO_TOL.
- 27. A value greater than 20000 mm/min was entered for a linear axis in MD $MA_SAFE_STOP_VELO_TOL.
- 28. A value greater than 1000 mm/min was entered for a linear axis in MD $MA_SAFE_VELO_X.
- 29. A value greater than 1000 mm/min was entered for a linear axis in $MA_SAFE_SLIP_VELO_TOL.
- 30. A value greater than the maximum settable encoder limit frequency for the safe operation of a single-encoder system was set in MD $MA_SAFE_ENC_FREQ_LIMIT.
- 31. A value greater than 300kHz for a Performance-1 or Standard-2 control module was set in MD $MA_SAFE_ENC_FREQ_LIMIT.
- 32. MD $MA_SAFE_EXT_PULSE_ENAB_OUTPUT was not or not correctly parameterized. A parameterization of this MD is required if in MD $MA_SAFE_PULSE_ENABLE_OUTPUT, bit30 is set to 1, i.e. internal pulse suppression is being used.
- 33. The MD $MN_SAFE_SPL_STOP_MODE has been parameterized to the value of 4 (Stop E) without having enabled the external Stop E in all the axes with SI function enables (MD $MA_SAFE_FUNCTION_ENABLE not equal to 0).
- 34. Testing the mechanical system of the brakes was enabled in MD $MA_FIXED_STOP_MODE (bit1 = 1), without previously enabling the safe operation function for this axis in MD $MA_SAFE_FUNCTION_ENABLE. Testing the mechanical system of the brakes is permitted only with safety functions in this axis.
- 35. Illegal values have been parameterized in MD $MA_SAFE_VELO_STOP_MODE or MD $MA_SAFE_VELO_STOP_REACTION.
- 36. In MD $MA_SAFE_FUNCTION_ENABLE, the cam synchronization was activated via bit7 without enabling any cams via bit8...bit15 or via $MA_SAFE_CAM_ENABLE.
- 37. The cam is enabled both via $MA_SAFE_FUNCTION_ENABLE and via $MA_SAFE_CAM_ENABLE

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- 38. In MD $MA_SAFE_DRIVE_PS_ADDRESS an invalid value was parameterized or the same address was assigned for several axes.
- 39. The internal default of MD $MA_SAFE_ENC_PULSE_SHIFT from drive parameterization could not be executed, as some values outside the specified range would have to be defaulted in this case. Adjust the encoder parameterization in the drive.
- 40. The MD $MA_SAFE_VELO_OVR_FACTOR was parameterized with digits behind the decimal point.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check and change the specified MD. Allow the checksum to be recalculated. Re-accept safety functions.

Program Continuation: Switch control OFF - ON.

27034 Parameterization of MD %1 invalid.

Parameters: %1 = MD identifier

Definitions: The parameterization of %1 is incorrect. This alarm occurs in the following context:
- an incorrect value was entered for MD $MN_SAFE_ALARM_SUPPRESS_LEVEL.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check and correct the specified machine data.

Program Continuation: Switch control OFF - ON.

27035 Axis %1 new hardware component, confirmation and acceptance required.

Parameters: %1 = Axis number

Definitions: The IDs for the corresponding hardware components (encoder, motor module) read out by the drive do not match the NCK parameterization.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Continue the start-up operation; correct the checksums.

Program Continuation: Switch control OFF - ON.

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27036 **Axis %1 encoder parameterization MD %2[%3] has been adjusted.**

Parameters: %1 = Axis number
%2 = MD identifier
%3 = Machine data index

Definitions: Encoder parameterization of the encoder read out by the drive for the SI monitoring functions
does not match NCK parameterization in the displayed MD. The relevant NCK MD has been adjusted.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

In addition, a Stop F is triggered that may cause follow-up alarm 27001 with error code 0 as well as
alarms 27023 and 27024.
Alarm 27001 with error code 0 can be avoided by alarm reduction
($MA_SAFE_ALARM_SUPPRESS_LEVEL higher or equal to 1).

Remedy: Continue the start-up operation; correct the checksums.

Program Continuation: Switch control OFF - ON.

27037 **Axis %1 and %2 with the same PROFIsafe address %3.**

Parameters: %1 = Axis number
%2 = Axis number
%3 = PROFIsafe address

Definitions: The PROFIsafe addresses of these two axes read out by the drive are identical.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Set the correct PROFIsafe addresses of the drives.

Program Continuation: Switch control OFF - ON.

27038 **Axis %1 value %2 in drive parameter %3 violates the limits of NCK MD %4.**

Parameters: %1 = Axis number
%2 = Value in drive parameter
%3 = Drive parameter number, for example parameter 979.
%4 = NCK machine data name.

Definitions: A SINAMICS drive delivers values in a parameter that violate the min/max value for an NCK machine data.

Reactions: - Alarm display.

Remedy: Examine why incorrect values are entered in parameter 979 of the drive (for example, internal software errors in the drive, see drive documentation).

Program Continuation: Switch control OFF - ON.

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27040 **Axis %1 waiting for motor module.**

Parameters: %1 = Axis name, spindle number

Definitions: Alarm on ramp-up as long as the motor module is not yet ready for SI.

Communication to the motor module is not yet active on ramp-up, the safety functions are not yet available.

Reactions: - Interface signals are set.

- Alarm display.

Remedy: The alarm will remain present during ramp-up, if the drive does not communicate (for example, PROFIBUS connector fallen off). Otherwise, the alarm will be displayed only shortly and is deleted automatically.

The alarm may remain present during start-up, if safe motion monitoring was activated in $MA_SAFE_FUNCTION_ENABLE only, but not in the corresponding parameter of the drive (P9501).

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

27050 **Axis %1 SI communication failure.**

Parameters: %1 = Axis number

Definitions: Communication with the drive for Safety Integrated

motion monitoring is additionally monitored. This monitoring

has found an error.

Reactions: - NC Start disable in this channel.

- Interface signals are set.

- Alarm display.

- NC Stop on alarm.

Remedy: Verification of the connections between NCK and drive.

Check for compliance with the EMC requirements.

Program Continuation: Clear alarm with the RESET key. Restart part program

27090 **Error in data cross check NCK-PLC, %1[%2], NCK: %3; %4<ALSI>**

Parameters: %1 = Name of system variable in which the error was detected

%2 = System variable array index extension

%3 = NCK comparison value extension

%4 = Cross-check array index extension

Definitions: Differences in the compared data have occured in a cyclic data cross check between NCK and PLC. Parameter %1 specifies the erroneous system variable ($A_INSI, $A_OUTSI, $A_INSE, $A_OUTSE or$A_MARKERSI) with error index %2.

Special cases:

- Alarm "Error in NCK-PLC data cross check, $MN_PREVENT_SYNACT_LOCK[0], ..." means that the SPL startup status has been set differently in the NCK and PLC.
- Alarm "Error in NCK-PLC data cross check, $MN_SPL_STOP_MODE[0], ..." means that the SPL stop reaction (Stop D or E) has been set differently in the NCK and PLC.
- Alarm "Error in NCK-PLC data cross check, TIMEOUT[0], NCK: 0" means that the communication between NCK and PLC is generally disturbed and that a data cross check can no longer be performed.

With data cross-check errors on system variables $A_INSE, the hardware assignment parameterized in MD $MN_SAFE_IN_HW_ASSIGN[0...7] is displayed in addition to the affected system variables in alarm parameter %1, so that the affected hardware connection is shown directly by the specifications in the alarm line.

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Example: Error in NCK-PLC data cross-check, DMP 04.03 Bit 01=$A_INSE[2], NCK: 1;

The specifications in the example (04.03) correspond to the entries made in the machine data $MN_SAFE_IN_HW_ASSIGN[0...7] for the mentioned system variable.

They specify:

DMP 04.xx The drive number of the affected terminal block (value range = 01...21).

DMP xx.03 Module number of the input module (value range = 01...08).

The indicated numbers are represented as hexadecimal numbers, same as in MD $MN_SAFE_IN_HW_ASSIGN[0...7].

Same as with the numbering of the inputs on the DMP modules, the bit numbers begin with value 0 (value range = 00...15).

When assigning the SPL inputs to the NC onboard inputs, the extended alarm text is as follows:

Error in NCK-PLC data cross-check, NC-Onboard-In 01=$A:INSE[1], NCK: 1; 2.

With parameter %4 a specific alarm message can be configured on HMI for all listed system variables:

%4 = 0: Error SPL startup status ($MN_PREVENT_SYNACT_LOCK[0,1] - DB18.DBX36.0)

or different stop reaction ($MN_SAFE_SPL_STOP_MODE - DB18.DBX36.1).

%4 = 1.... 64: Error in system variable $A_INSE[1...64]

%4 = 65...128: Error in system variable $A_OUTSE[1...64]

%4 = 129...192: Error in system variable $A_INSI[1...64]

%4 = 193...256: Error in system variable $A_OUTSI[1...64]

%4 = 257...320: Error in system variable $A_MARKERSI[1...64]

In order to parameterize alarm 27090, file ALSI_xx.com must be incorporated in data handling and announced in HMI via MBDDE.INI in section[IndexTextFiles] ALSI=f:\dh\mb.dir\alsi_ . The definition of this file can be changed by the machine OEM, in order to incorporate additional text passages in the alarm that make sense for their system. If the file definition shall be changed, the new file must be announced in the system via MBDDE.INI.

Via MD $MN_SAFE_ALARM_SUPPRESS_LEVEL the display of alarm 27090 can be influenced: MD $MN_SAFE_ALARM_SUPPRESS_LEVEL = 2 : Alarm 27090 is only displayed for the data difference found first.

Reactions: - Alarm display.

Trigger a STOP D/E (settable via MD $MN_SPL_STOP_MODE) on all axes with safety functionality, as soon as the SPL start-up phase (MD $MN_PREVENT_SYNACT_LOCK[0,1] unequal to 0) is completed.

Remedy: Analyze the value displayed and evaluate DB18: SPL_DELTA on the PLC side.

Find the difference between the monitoring channels. Possible causes:

- Incorrect wiring
- Incorrect SPL
- Incorrect assignment of the axial SGEs to internal interface $A_OUTSI
- Incorrect assignment of the axial SGAs to internal interface $A_INSI
- Incorrect assignment of the SPL SGEs to external interface $A_INSE
- Incorrect assignment of the SPL SGAs to external interface $A_OUTSE
- Different SPL startup status set in NCK and PLC
- Different SPL stop reaction set in NCK and PLC

Program Continuation: Clear alarm with the RESET key. Restart part program

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27091 **Error in data cross check NCK-PLC, stop of %1**

Parameters: %1 = Extension indicating the monitoring channel that triggered the stop

Definitions: The monitoring channel specified in %1 (NCK or PLC) has triggered a stop D or E (depending on the parameterization in MD $MN_SAFE_SPL_STOP_MODE). The alarm 27090 provides further information about the cause for the stop D/E.

Reactions: - Alarm display.

Trigger a STOP D/E (settable via MD $MN_SPL_STOP_MODE) on all axes with safety functionality, as soon as the SPL start-up phase (MD $MN_PREVENT_SYNACT_LOCK[0,1] unequal to 0) is completed.

Remedy: Evaluate the alarm parameters of alarm 27090 and amend the SPL, or check the I/O modules/wiring or the internal SPL interfaces to the safety monitoring channels in the NCK and drive 611D.

Program Continuation: Clear alarm with the RESET key. Restart part program

27092 **Communication broken off during NCK PLC data cross check, error detected by %1**

Parameters: %1 = Extension indicating the monitoring channel that detected the error

Definitions: The delay time (1s) for communication monitoring was exceeded in the monitoring channel specified in %1 (NCK or PLC). The other monitoring channel did not send a new data packet within this time.

Reactions: - Alarm display.

A timer of 5 secs is started, after the expiry of which

• the external NCK SPL outputs are deleted

• the PLC changes to stop.

Remedy: Check the system components (the PLC must have the correct version of FB15 and DB18).

Program Continuation: Switch control OFF - ON.

27093 **Checksum error NCK-SPL, %1, %2, %3**

Parameters: %1 = Extension indicating the type of error

%2 = Extension indicating the reference variable

%3 = Extension indicating the actual variable

Definitions: A checksum error has occurred in the NCK SPL. The file /_N_CST_DIR/_N_SAFE_SPF was subsequently modified. The safe programmable logic (SPL) in the NCK may be corrupted. Parameter %1 indicates the type of modification:

• %1 = FILE_LENGTH: the file length has changed.

• %1 = FILE_CONTENT: the file contents have changed.

%2 specifies the reference variable (file length, checksum of file contents), %3 specifies the actual variable which is calculated cyclically.

Reactions: - Alarm display.

Remedy: Check the file and the time of the last modification to the file. Reload the original file and start the monitoring system again with a Power On.

Program Continuation: Switch control OFF - ON.

27094 **Write access to system variable %1 only allowed from NCK-SPL**

Parameters: %1 = Name of safety system variable concerned

Definitions: Write access to a safety system variable is only allowed from the part program /_N_CST_DIR/_N_SAFE_SPF. If this error occurs, an instruction from another part program was detected.

Reactions: - Alarm display.

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Remedy: Check the part programs you are using for write accesses to safety system variables.
Program Continuation: Clear alarm with the RESET key. Restart part program

27095 %1 SPL protection not activated

Parameters: %1 = Name of the component on which the protection is not activated (NCK or PLC)
Definitions: The protection features are not activated for the SPL. The startup phase of the SPL is not yet complete. No stop reaction (Stop D or E) was initiated on an error in data cross-comparison between NCK and PLC.
Reactions: - Alarm display.
Remedy:
- Remedy for NCK: Activate the protection features with MD $MN_PREVENT_SYNACT_LOCK[0,1]. The number range of the synchronized action IDs used in the SPL must be entered in this MD.
- Remedy for PLC: Activate the protection features by setting the appropriate data bit in DB18.

Program Continuation: Clear alarm with the RESET key. Restart part program

27096 SPL start not allowed

Definitions: To start the SPL in protected state (MD $MN_PREVENT_SYNACT_LOCK[0,1] not equal 0) Safety Integrated functionality must first be activated for at least one axis (via MD $MA_SAFE_FUNCTION_ENABLE). Without this functionality it is only possible to operate SPL in start-up state.
Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Start up axial Safety Integrated functionality or remove the SPL protection via MD $MN_PREVENT_SYNACT_LOCK[0,1].
Program Continuation: Switch control OFF - ON.

27097 SPL start not executed

Definitions: SPL start not executed after predefined timeout in MD SAFE_SPL_START_TIMEOUT.
Reactions: - Alarm display.
Remedy: Find reason for not executed SPL start. Possible causes may be:

- An NC or drive error is present (e.g. after encoder replacement, EMERGENCY STOP, PROFIsafe alarms)
- Syntax error in SPL
- Safety Integrated alarm present (e.g. "Safe limit position overrun")
- Name or path of SPL for PROG_EVENT start written incorrectly; take care of upper and lower cases
- Simultaneous start of an ASUB and PROG_EVENT, parameterization MD 11602 (stop causes e.g. read-in disable)
- Problems when calling FB4/FC9

Program Continuation: Clear alarm with the RESET key. Restart part program

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27100 **At least one axis is not safely referenced**

Definitions: There are two reasons for this alarm:

- the machine position of at least one of the axes monitored with SI has not yet been acknowledged by the user, or
- the machine position of at least one of the axes monitored with SI has not yet been verified through follow-up referencing.

Even if the axis is already referenced, there is no confirmation that referencing has supplied the correct result. For example, wrong results can occur if the axis was moved after the control was switched off, with the result that the standstill position saved prior to switching off is no longer correct. To make sure that this does not happen, the user must acknowledge the displayed actual position after the first referencing process.

When the user enable has first been set, follow-up referencing must be carried out each time the control is booted (with absolute encoders, this follow-up referencing is executed automatically). This procedure is carried out to verify the standstill position saved prior to switching off of the control.

Via the MD $MN_SAFE_ALARM_SUPPRESS_LEVEL (MD>=3), the alarm display can be set in such a way that an alarm is given for each axis individually which has not been safely referenced.

Reactions: - Alarm display.

SGA "Axis safely referenced" is not set. SE will be switched off, if the actual safety position has not yet been confirmed by a user agreement. If the user agreement has been set, SE will remain active. The safe cams are calculated and output. However, their significance is limited as referencing has not been confirmed.

Remedy: Move all SI axes to known positions and change to "Referencing" mode. Check the positions on the machine displayed in the user confirmation field and set "User confirmation" via the selection/toggle key. If the user confirmation for the axes has already been set, reference the axes again.

Changing the user confirmation will be possible only in key switch position 3 or after password entry

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

27101 **Axis %1 difference in function safe operational stop, NCK: %2 drive: %3**

Parameters: %1 = Axis number

%2 = Monitoring status safe operating stop

%3 = Monitoring status safe operating stop

Definitions: During cross-comparison of result list 1 a difference was detected between the NCK and drive monitoring channels in the status of safe operating stop monitoring.

Safe operating stop: Bit 0,1 in result list 1

Monitoring status (%2, %3):

- OFF = Monitoring is inactive in this monitoring channel
- OK = Monitoring is active in this monitoring channel, limit values are not violated
- L+ = Monitoring is active in this monitoring channel, upper limit exceeded
- L- = Monitoring is active in this monitoring channel, lower limit exceeded

Reactions: - Alarm display.

If a safe monitoring was active, STOP B was also triggered automatically. In this case, a power OFF/ON of the control will be required.

Remedy: Check whether the safe inputs have switched to the same status in both monitoring channels within the permissible time tolerance.

For further diagnostics, the drive machine data 1391, 1392 and the servo trace signals "Result list 1, NCK" and "Result list 1, drive" can be used.

Program Continuation: Clear alarm with the RESET key. Restart part program

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27102 **Axis %1 difference in function safe velocity %2, NCK: %3 drive: %4**

Parameters: %1 = Axis number
%2 = SG level for which the difference was determined
%3 = Monitoring status safe velocity
%4 = Monitoring status safe velocity

Definitions: During cross-comparison of result list 1 a difference was detected between the NCK and drive monitoring channels in the status of safe velocity monitoring.
• Safe velocity 1: Bit 6, 7 in result list 1
• Safe velocity 2: Bit 8, 9 in result list 1
• Safe velocity 3: Bit 10, 11 in result list 1
• Safe velocity 4: Bit 12, 13 in result list 1
Monitoring status (%3, %4):
• OFF = Monitoring is inactive in this monitoring channel
• OK = Monitoring is active in this monitoring channel, limit values are not violated
• L+ = Monitoring is active in this monitoring channel, upper limit exceeded
• L- = Monitoring is active in this monitoring channel, lower limit exceeded

Reactions: - Alarm display.
If a safe monitoring was active, STOP B was also triggered automatically. In this case, a power OFF/ON of the control will be required.

Remedy: Check whether the safe inputs have switched to the same status in both monitoring channels within the permissible time tolerance.
For further diagnostics, the drive machine data 1391, 1392 and the servo trace signals "Result list 1, NCK" and "Result list 1, drive" can be used.

Program Continuation: Clear alarm with the RESET key. Restart part program

27103 **Axis %1 difference in function safe limit position %2, NCK: %3 drive: %4**

Parameters: %1 = Axis number
%2 = Number of safe limit position
%3 = Monitoring status safe limit position
%4 = Monitoring status safe limit position

Definitions: During cross-comparison of result list 1 a difference was detected between the NCK and drive monitoring channels in the status of safe limit position monitoring.
• Safe limit position 1: Bit 2, 3 in result list 1
• Safe limit position 2: Bit 4, 5 in result list 1
Monitoring status (%3, %4):
• OFF = Monitoring is inactive in this monitoring channel
• OK = Monitoring is active in this monitoring channel, limit values are not violated
• L+ = Monitoring is active in this monitoring channel, upper limit exceeded
• L- = Monitoring is active in this monitoring channel, lower limit exceeded

Reactions: - Alarm display.
If a safe monitoring was active, STOP B was also triggered automatically. In this case, a power OFF/ON of the control will be required.

Remedy: Check whether the safe inputs have switched to the same status in both monitoring channels within the permissible time tolerance.
For further diagnostics, the drive machine data 1391, 1392 and the servo trace signals "Result list 1, NCK" and "Result list 1, drive" can be used.

Program Continuation: Clear alarm with the RESET key. Restart part program

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27104 **Axis %1 difference in function safe cam plus %2, NCK: %3 drive: %4**

Parameters: %1 = Axis number
%2 = Cam number
%3 = Monitoring status safe cam plus
%4 = Monitoring status safe cam plus

Definitions: During cross-comparison of result list 2 a difference was detected between the NCK and drive monitoring channels in the status of safe cam plus monitoring.
• Safe cam 1+: Bit 0, 1 in result list 2
• Safe cam 2+: Bit 4, 5 in result list 2
• Safe cam 3+: Bit 8, 9 in result list 2
• Safe cam 4+: Bit 12, 13 in result list 2
Monitoring status (%3, %4):
• OFF = Monitoring is inactive in this monitoring channel
• OK = Monitoring is active in this monitoring channel, limit values are not violated
• L+ = Monitoring is active in this monitoring channel, upper limit exceeded
• L- = Monitoring is active in this monitoring channel, lower limit exceeded

Reactions: - Alarm display.
If a safe monitoring was active, STOP B was also triggered automatically. In this case, a power OFF/ON of the control will be required.

Remedy: Check whether the safe actual values in both monitoring channels are the same.
For further diagnostics, the drive machine data 1393, 1394 and the servo trace signals "Result list 2, NCK" and "Result list 2, drive" can be used.

Program Continuation: Clear alarm with the RESET key. Restart part program

27105 **Axis %1 difference in function safe cam minus %2, NCK: %3 drive: %4**

Parameters: %1 = Axis number
%2 = Cam number
%3 = Monitoring status safe cam minus
%4 = Monitoring status safe cam minus

Definitions: During cross-comparison of result list 2 a difference was detected between the NCK and drive monitoring channels in the status of safe cam minus monitoring.
• Safe cam 1-: Bit 2, 3 in result list 2
• Safe cam 2-: Bit 6, 7 in result list 2
• Safe cam 3-: Bit 10, 11 in result list 2
• Safe cam 4-: Bit 14, 15 in result list 2
Monitoring status (%3, %4):
• OFF = Monitoring is inactive in this monitoring channel
• OK = Monitoring is active in this monitoring channel, limit values are not violated
• L+ = Monitoring is active in this monitoring channel, upper limit exceeded
• L- = Monitoring is active in this monitoring channel, lower limit exceeded

Reactions: - Alarm display.
If a safe monitoring was active, STOP B was also triggered automatically. In this case, a power OFF/ON of the control will be required.

Remedy: Check whether the safe actual values in both monitoring channels are the same.
For further diagnostics, the drive machine data 1393, 1394 and the servo trace signals "Result list 2, NCK" and "Result list 2, drive" can be used.

Program Continuation: Clear alarm with the RESET key. Restart part program

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27106 **Axis %1 difference in function safe velocity nx, NCK: %2 drive: %3**

Parameters: %1 = Axis number
%2 = Monitoring status safe velocity nx
%3 = Monitoring status safe velocity nx

Definitions: During cross-comparison of result list 2 a difference was detected between the NCK and drive monitoring channels in the status of safe velocity monitoring.
• Safe velocity nx+: Bit 16, 17 in result list 2
• Safe velocity nx-: Bit 18, 19 in result list 2
Monitoring status (%2, %3):
• OFF = Monitoring is inactive in this monitoring channel
• OK = Monitoring is active in this monitoring channel, limit values are not violated
• L+ = Monitoring is active in this monitoring channel, upper limit exceeded
• L- = Monitoring is active in this monitoring channel, lower limit exceeded

Reactions: - Alarm display.
If a safe monitoring was active, STOP B was also triggered automatically. In this case, a power OFF/ON of the control will be required.

Remedy: Check whether the safe actual values in both monitoring channels are the same.
For further diagnostics, the drive machine data 1393, 1394 and the servo trace signals "Result list 2, NCK" and "Result list 2, drive" can be used.

Program Continuation: Clear alarm with the RESET key. Restart part program

27107 **Axis %1 difference in function cam modulo monitoring, NCK: %2 drive: %3**

Parameters: %1 = Axis number
%2 = Monitoring status safe cam modulo range
%3 = Monitoring status safe cam modulo range

Definitions: During cross-comparison of result list 2 a difference was detected between the NCK and drive monitoring channels in the status of cam modulo monitoring.
Safe cam modulo range: Bit 20, 21 in result list 2
Monitoring status (%2, %3):
• OFF = Monitoring is inactive in this monitoring channel
• OK = Monitoring is active in this monitoring channel, limit values are not violated
• L+ = Monitoring is active in this monitoring channel, upper limit exceeded
• L- = Monitoring is active in this monitoring channel, lower limit exceeded

Reactions: - Alarm display.
If a safe monitoring was active, STOP B was also triggered automatically. In this case, a power OFF/ON of the control will be required.

Remedy: Check whether the safe actual values in both monitoring channels are the same.
For further diagnostics, the drive machine data 1393, 1394 and the servo trace signals "Result list 2, NCK" and "Result list 2, drive" can be used.

Program Continuation: Clear alarm with the RESET key. Restart part program

27110 **Axis %1 fault during data transmission index%2.**

Parameters: %1 = Axis number
%2 = Index in data cross-check.

Definitions: Faulty communication between NCK and drive caused that data cross-check of data and indicated index could not be executed three times in a row.

Reactions: - Alarm display.

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In addition, a Stop F is triggered that may cause follow-up alarm 27001 with error code 0 as well as
alarms 27023 and 27024.
Alarm 27001 with error code 0 can be avoided by alarm reduction
($MA_SAFE_ALARM_SUPPRESS_LEVEL higher or equal to 1).

Remedy: Verification of compliance with the EMC regulations.
Replace the hardware.

Program Continuation: Clear alarm with the RESET key. Restart part program

27111 **Axis %1 fault during encoder evaluation of the safe actual value.**

Parameters: %1 = Axis number

Definitions: The redundantly determined safe actual value does not match
the fine resolution actual value of the same encoder.

Reactions: - Alarm display.
In addition, a Stop F is triggered that may cause follow-up alarm 27001 with error code 0 as well as
alarms 27023 and 27024.
Alarm 27001 with error code 0 can be avoided by alarm reduction
($MA_SAFE_ALARM_SUPPRESS_LEVEL higher or equal to 1).

Remedy: Verification of compliance with the EMC regulations.
Replace the hardware.

Program Continuation: Clear alarm with the RESET key. Restart part program

27112 **Axis %1 CRC error of the safe actual value.**

Parameters: %1 = Axis number

Definitions: An error has been detected on verifying data consistency of
the safe actual value (CRC).

Reactions: - Alarm display.
In addition, a Stop F is triggered that may cause follow-up alarm 27001 with error code 0 as well as
alarms 27023 and 27024.
Alarm 27001 with error code 0 can be avoided by alarm reduction
($MA_SAFE_ALARM_SUPPRESS_LEVEL higher or equal to 1).

Remedy: Verification of compliance with the EMC regulations.
Replace the hardware.

Program Continuation: Clear alarm with the RESET key. Restart part program

27113 **Axis %1 hardware encoder error of the safe actual value.**

Parameters: %1 = Axis number

Definitions: Encoder evaluation outputs a hardware error. The reasons may be pollution in
the visual encoder evaluation or problems during signal transmission.

Reactions: - Alarm display.
In addition, a Stop F is triggered that may cause follow-up alarm 27001 with error code 0 as well as
alarms 27023 and 27024.
Alarm 27001 with error code 0 can be avoided by alarm reduction
($MA_SAFE_ALARM_SUPPRESS_LEVEL higher or equal to 1).

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Remedy: Verification of compliance with the EMC regulations.
Replace the encoder hardware.
Program Continuation: Clear alarm with the RESET key. Restart part program

27124 Stop A triggered at least in 1 axis

Definitions: This is only an informational alarm indicating that Stop A has been triggered in at least 1 axis and Power On is required for alarm acknowledgment.
This alarm occurs if the alarm priority function was activated in MD $MN_SAFE_ALARM_SUPPRESS_LEVEL.
Reactions: - Interface signals are set.
- Alarm display.
Trigger a "Pulse suppression" for the affected axis.
Remedy: Find the error cause by means of further alarm messages.
Program Continuation: Switch control OFF - ON.

27140 Waiting for motor module of at least one axis.

Definitions: Alarm during ramp-up as long as the motor module of at least one axis is not yet ready for SI.
Communication to the motor module during ramp-up has not yet been activated; the safety functions of at least one axis are not yet available.
Via MD $MN_SAFE_ALARM_SUPPRESS_LEVEL (MD<3) the alarm display can be set to display for each axis individually whether communication has been activated.
Reactions: - Interface signals are set.
- Alarm display.
Remedy: The alarm will remain present during ramp-up, if at least one drive does not communicate (for example, PROFIBUS connector fallen off). Otherwise the alarm will be displayed only shortly and is deleted automatically.
The alarm may remain present during start-up, even if safe motion monitoring was activated in $MA_SAFE_FUNCTION_ENABLE only, but not in the corresponding parameter of the drive (P9501).
Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

27200 PROFIsafe: cycle time %1 [ms] too long

Parameters: %1 = Parameterized cycle time
Definitions: The PROFIsafe communication cycle time resulting from MD $MN_PROFISAFE_IPO_TIME_RATIO and MD $MN_IPO_CYCLE_TIME exceeds the permissible limit value (25 ms).
Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
Remedy: Adapt cycle time via MD $MN_PROFISAFE_IPO_TIME_RATIO or correct the reduction of the IPO cycle.
Program Continuation: Switch control OFF - ON.

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27201 **PROFIsafe: MD %1[%2]: bus segment %3 error**

Parameters: %1 = MD name
%2 = MD array index
%3 = Parameterized bus segment

Definitions: An incorrect bus segment was entered in the specified machine data. The value must be 5.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct the MD.

Program Continuation: Switch control OFF - ON.

27202 **PROFIsafe: MD %1[%2]: address %3 error**

Parameters: %1 = MD name
%2 = MD array index
%3 = Parameterized PROFIsafe address

Definitions: An incorrect PROFIsafe address was entered in the specified machine data. The value must be greater than 0.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct the MD.

Program Continuation: Switch control OFF - ON.

27203 **PROFIsafe: MD %1[%2]: SPL assignment error**

Parameters: %1 = MD name
%2 = MD array index

Definitions: The parameterization of the specified machine data for the link between the SPL interface and a PROFIsafe module is incorrect because of the following reasons:
- Exchanged bit limits (upper bit value < lower bit value)
- Bit values greater than definition of SPL interface (bit value > 64)
- Number of bits too high for this PROFIsafe module (upper bit value - lower bit value + 1 > 8)
- No SPL assignment parameterized (both bit values equal to zero)
- Incorrect SPL assignment (bit value equals zero)

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct the MD.

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Program Continuation: Switch control OFF - ON.

27204 **PROFIsafe: double assignment MD %1[%2] - MD %3[%4]**

Parameters: %1 = MD name 1
%2 = MD array index for MD name 1
%3 = MD name 2
%4 = MD array index for MD name 2

Definitions: A double assignment has illegally been parameterized in the specified machine data:

$A_INSE parameterized on DMP as well as PROFIsafe modules. Involved MDs:
• MD $MN_SAFE_IN_HW_ASSIGN
• MD $MN_PROFISAFE_IN_ASSIGN

$A_INSE parameterized on several PROFIsafe modules. Involved MD:
• MD $MN_PROFISAFE_IN_ASSIGN

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct the MD.

Program Continuation: Switch control OFF - ON.

27205 **PROFIsafe: number of signals in MD %1 [%2] <> MD %3[%4]**

Parameters: %1 = MD name 1
%2 = MD array index for MD name 1
%3 = MD name 2
%4 = MD array index for MD name 2

Definitions: The parameterized number or the signals used must be the same in both machine data.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct the MD.

Program Continuation: Switch control OFF - ON.

27206 **PROFIsafe: MD %1[%2] maximum number of F user data (%3 bits) exceeded.**

Parameters: %1 = MD name
%2 = MD array index for MD name
%3 = Maximum F user data bits.

Definitions: The parameterized data indicated in the machine data are outside the F user data range of the F module.

Note

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When machine data PROFISAFE_IN/OUT_ADDRESS is displayed, the sub slot address parameterized in it will exceed the F user data range of the F module.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct the MD.

Program Continuation: Switch control OFF - ON.

27207 PROFIsafe: MD %1[%2] max. sub slot number: %3 exceeded

Parameters:
%1 = MD name
%2 = MD array index for MD name
%3 = Max. number of sub slots

Definitions: The sub slot parameterized in the indicated machine data exceeds the max. permissible number of sub slots per PROFIsafe module.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Reduce the number of sub slots by changing the splitting of F user data of the PROFIsafe module.

Program Continuation: Switch control OFF - ON.

27208 PROFIsafe: MD %1[%2]: max. sub-slot address %3 exceeded.

Parameters:
%1 = MD name
%2 = MD array index
%3 = Maximum sub-slot address.

Definitions: A sub-slot address was entered in the MD that is too high. The entered value must not exceed the displayed maximum sub-slot address.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct the MD.

Program Continuation: Switch control OFF - ON.

27220 PROFIsafe: Number of NCK F modules (%1) <> Number of S7 F modules (%2)

Parameters:
%1 = Number of parameterized NCK F modules
%2 = Number of parameterized S7 F modules

Definitions: The number of F modules parameterized via the NCK machine data $MN_PROFISAFE_IN/OUT_ADDRESS is:

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- Greater than the number of PROFIBUS slaves in the S7 PROFIBUS configuration.
- Smaller than the number of F modules in the S7 PROFIBUS configuration,
- greater than the number of F modules known in the S7 PROFIBUS configuration.

If alarm parameter %2 = 0, then none of the configured F modules were found in the S7 PROFIBUS configuration.

In most cases, the reason for the alarm is an error in the parameterization of the PROFIsafe master address.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check the F parameterization in MD $MN_PROFISAFE_IN/OUT_ADDRESS.
Check the F configuration in the S7 PROFIBUS configuration.
Check the parameterized PROFIsafe master address in MD $MN_PROFISAFE_MASTER_ADDRESS and in the S7 PROFIBUS configuration.

Program Continuation: Switch control OFF - ON.

27221 **PROFIsafe: NCK F module MD %1[%2] unknown**

Parameters: %1 = MD name
%2 = MD array index

Definitions: The F module parameterized in the specified machine data is unknown under this PROFIsafe address in the S7 PROFIBUS configuration.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check the PROFIsafe addresses in the NCK MD and S7 PROFIBUS configuration.

Program Continuation: Switch control OFF - ON.

27222 **PROFIsafe: S7 F module PROFIsafe address %1 unknown**

Parameters: %1 = PROFIsafe address

Definitions: The F module with the specified PROFIsafe address has not been parameterized as an F module in the NCK MD.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check the S7 PROFIBUS configuration. Enter the module in the NCK MD.

Program Continuation: Switch control OFF - ON.

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27223 **PROFIsafe: NCK F module MD %1[%2] is not a %3 module**

Parameters: %1 = MD name
%2 = MD array index
%3 = Module type

Definitions: The F module parameterized in the specified NCK MD has not been entered as input/output module in the S7 PROFIBUS configuration.
- %3 = INPUT: NCK F parameterization expects INPUT module
- %3 = OUTPUT: NCK F parameterization expects OUTPUT module
- %3 = IN/OUT: NCK F parameterization expects INPUT or OUTPUT module

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check the module in the S7 PROFIBUS configuration.

Program Continuation: Switch control OFF - ON.

27224 **PROFIsafe: F module MD %1[%2] - MD %3[%4]: double assignment of PROFIsafe address**

Parameters: %1 = MD name 1
%2 = MD array index 1
%3 = MD name 2
%4 = MD array index 2

Definitions: In the NCK MD or in the S7 F parameters, the same PROFIsafe address has been parameterized for the F modules parameterized in the specified machine data. Therefore, no clear communication link is possible between F master and F slave.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check and correct the S7 F parameterization and NCK MD.

Program Continuation: Switch control OFF - ON.

27225 **PROFIsafe: slave %1, configuration error %2**

Parameters: %1 = PROFIBUS slave address
%2 = Configuration error

Definitions: An error occurred during the evaluation of the S7 PROFIBUS configuration for the specified slave. This is further specified in alarm parameter %2.
%2 = PRM header: the PRM telegram for this slave could not clearly be interpreted.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

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Remedy: Check and correct the S7 PROFIBUS configuration.
Program Continuation: Switch control OFF - ON.

27240 PROFIsafe: DP M not running up, DP info: %1

Parameters: %1 = Current information from the DP interface NCK-PLC
Definitions: There is no DP configuration available to the NCK after the time specified via the MD $MN_PLC_RUNNINGUP_TIMEOUT.
Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy:
• Increase MD $MN_PLC_RUNNINGUP_TIMEOUT
• Check the PLC operating status.
• Check the PLC operating system software version.
• Delete the F parameterization in the NCK MD.

Program Continuation: Switch control OFF - ON.

27241 PROFIsafe: DP M version different, NCK: %1, PLC: %2

Parameters: %1 = DP interface version of the NCK
%2 = DP interface version of the PLC
Definitions: The NCK and PLC components have different implementations of the DP interface. The F communication cannot be initialized.
Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy:
• Check the PLC operating system and NCK software versions.
• Upgrade the PLC operating system.
• Delete the NCK F parameterization.

Program Continuation: Switch control OFF - ON.

27242 PROFIsafe: F module %1, %2 faulty

Parameters: %1 = PROFIsafe address
%2 = Incorrect F parameter
Definitions: An error was detected during the evaluation of the F parameters.
%2 = CRC1: CRC specified by F parameters faulty.
%2 = F_WD_Timeout: The monitoring time parameterized in Step 7 is too small for the PROFIsafe cycle time defined by the MD $MN_PROFISAFE_IPO_TIME_RATIO.
%2 = CRC2_Len: CRC message length faulty.
%2 = F_Data_Len: the telegram length defined for the specified module is incorrect.
Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.

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- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: %2 = CRC1: PLC overall reset, reload the S7 F configuration.
%2 = F_WD_Timeout: reparameterize the PROFIsafe cycle time or F monitoring time.
%2 = CRC2_Len: PLC overall reset, reload the S7 F configuration.
%2 = F_Data_Len: PLC overall reset, reload the S7 F configuration.

Program Continuation: Switch control OFF - ON.

27250 PROFIsafe: configuration in DP M changed; error code %1 - %2

Parameters: %1 = NCK project number
%2 = Current PLC project number

Definitions: The DP master shows a modified S7 PROFIBUS configuration. Error-free operation can no longer be guaranteed.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Communication with F slaves is finished.
A STOP D/E (settable via MD $MN_SPL_STOP_MODE) is triggered on all axes with safety functionality.

Remedy: Restart the PLC/NCK.

Program Continuation: Switch control OFF - ON.

27251 PROFIsafe: F module %1, %2 reports error %3

Parameters: %1 = PROFIsafe address
%2 = Reporting component (master/slave)
%3 = Error code

Definitions: An error occurred in the PROFIsafe communication between the F master and the specified F module which was detected by the component (master/slave) shown in parameter %2.
The error code specifies the error type:
• %3 = TO: The parameterized communication timeout was exceeded
• %3 = CRC: A CRC error was detected
• %3 = CN: An error in the time sequence of the F messages was detected
• %3 = SF: F master error, NCK/PLC are no longer synchronous
• %3 = EA: Communication error, slave sends empty messages

Reactions:
- Mode group not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Trigger a STOP D/E (settable via MD $MN_SPL_STOP_MODE) on all axes with safety functionality.

Remedy: Check the DP wiring. Restart F slave modules. Restart the NCK/PLC.

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Program Continuation: Clear alarm with the RESET key. Restart part program

27252 **PROFIsafe: Slave %1, sign-of-life error**

Parameters: %1 = DP slave address

Definitions: The specified DP slave no longer communicates with the master.

Reactions:
- Mode group not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Trigger a STOP D/E (settable via MD $MN_SPL_STOP_MODE) on all axes with safety functionality.

Remedy: Check the DP wiring. Restart F slave modules. Restart the NCK/PLC.

Program Continuation: Clear alarm with the RESET key. Restart part program

27253 **PROFIsafe: communication fault F master component %1, error %2**

Parameters:
%1 = Error component (NCK/PLC)
%2 = Error code

Definitions: The F master signals that the communication between the NCK and PLC is no longer working.

The error code %1 specifies the cause:
• %1 = NCK: Link between PROFIsafe and SPL interface is interrupted.
• %1 = PLC: the PLC does no longer execute the OB40 request.
• %1 = PLC-DPM: DP master is no longer in OPERATE status.

Parameter %2 provides further information about the error's cause:
• %2 = 0: NCK-internal sequence error (see %1=NCK).
• %2 = 1,2,4: PLC processing of the OB40 not finished.

Reactions:
- Mode group not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Trigger a STOP D/E (settable via MD $MN_SPL_STOP_MODE) on all axes with safety functionality.

Remedy: Extend the PROFIsafe cycle time via MD $MN_PROFISAFE_IPO_TIME_RATIO.

Program Continuation: Clear alarm with the RESET key. Restart part program

27254 **PROFIsafe: F module %1, error on channel %2; %3<ALSI>**

Parameters:
%1 = PROFIsafe address
%2 = Channel type, channel number
%3 = System variable array index extension

Definitions: The F module signals that an error occurred in the interface of the specified channel.

This alarm is only triggered for ET200S F modules.

The type of channel (input or output channel) is indicated by the abbreviations IN and OUT in %2.

A specific alarm message can be programmed for each of the system variables on the HMI via parameter %3:
• %3 = 1....64: Error in system variables $A_INSE[1...64]

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• %3 = 65...128: Error in system variables $A_OUTSE[1...64]
• %3 = -1: Error in an input or output channel for which there is no SPL assignment

Reactions: - Mode group not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
Trigger a STOP D/E (settable via MD $MN_SPL_STOP_MODE) on all axes with safety functionality.

Remedy: Check wiring. Wiring OK: replace F module.

Program Continuation: Clear alarm with the RESET key. Restart part program

27255 **PROFIsafe: F module %1, general error**

Parameters: %1 = PROFIsafe address

Definitions: The specified PROFIsafe module signals an error. A more exact specification of the error's cause cannot be made without further assistance.
This alarm is triggered for all types of PROFIsafe slaves.

Reactions: - Mode group not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
Trigger a STOP D/E (settable via MD $MN_SPL_STOP_MODE) on all axes with safety functionality.

Remedy: Check wiring.

Program Continuation: Clear alarm with the RESET key. Restart part program

27256 **PROFIsafe: Current cycle time %1 [ms]> parameterized cycle time**

Parameters: %1 = Current PROFIsafe communication cycle time

Definitions: The current PROFIsafe communication cycle time is greater than the value set via MD $MN_PROFISAFE_IPO_TIME_RATIO. The parameterized PROFIsafe communication cycle time is continually exceeded on the PLC side.

Reactions: - Mode group not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
Trigger a STOP D/E (settable via MD $MN_SPL_STOP_MODE) on all axes with safety functionality.

Remedy: Adapt cycle time via MD $MN_PROFISAFE_IPO_TIME_RATIO.
The value displayed in parameter %1 has to be set at least.
The set cycle time affects the runtime load of the PLC module. This also has to be taken into consideration when making the setting.

Program Continuation: Clear alarm with the RESET key. Restart part program

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27299 **PROFIsafe: Diagnostics %1 %2 %3 %4**

Parameters: %1 = Error code 1
%2 = Error code 2
%3 = Error code 3
%4 = Error code 4

Definitions: Internal error in the NCK PROFIsafe implementation.

Reactions: - Alarm display.

Remedy: Make a note of the error text and contact Siemens A&D MC, Hotline
• Tel 0180 / 5050 - 222 (Germany)
• Fax 0180 / 5050 - 223
• Tel +49-180 / 5050 - 222 (International)
• Fax +49-180 / 5050 - 223
• email techsupport@ad.siemens.de

Program Continuation: Clear alarm with the Delete key or NC START.

27900 **PROFIBUS DP: SI fault on axis %1, code %2, value %3, time %4.**

Parameters: %1 = Axis number
%2 = Fault code of the drive (P9747).
%3 = Fault value of the drive (P9749)
%4 = Fault time of drive (P9748).

Definitions: Error in a SINAMICS drive.

Reactions: - Alarm display.

Remedy: See drive documentation for fault codes/fault values.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

27901 **PROFIBUS DP: SI fault on axis %1, code %2, value %3, time %4.**

Parameters: %1 = Axis number
%2 = Fault code of the drive (P9747).
%3 = Fault value of the drive (P9749)
%4 = Fault time of drive (P9748).

Definitions: Error in a SINAMICS drive.

Reactions: - Alarm display.

Remedy: See drive documentation for fault codes/fault values.

Program Continuation: Clear alarm with the RESET key. Restart part program

28000 **NCU link connection to all other NCUs of the link network has been aborted**

Definitions: All NCUs in the NCU link network exchange data cyclically (sign-of-life). If this alarm occurs, sign-of-life signals have not been received from any other NCUs on the NCU network. This fault in the link can have various causes:
• Defective hardware.
• The machine data which configure the NCU link are not the same on all NCUs.
• An identical interpolator cycle time has not been selected on all NCUs.

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

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- NC Stop on alarm.

Remedy: Check the IPO cycle on all the NCUs.
If necessary, check NCU link-specific alarms first.

Program Continuation: Switch control OFF - ON.

28001 **NCU link connection to the NCU %1 of the link network has been aborted**

Parameters: %1 = NCU number

Definitions: All NCUs in the NCU link network exchange data cyclically (sign-of-life). If this alarm occurs, sign-of-life signals have not been received from one other NCU on the NCU network. (see alarm parameters) This fault in the link can have various causes:
• Defective hardware.
• The machine data which configure the NCU link are not identical on all NCUs.
• An identical interpolator cycle time has not been selected on all NCUs.

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: • Check the IPO cycle on all the NCUs.
• If necessary, check NCU link-specific alarms first.

Program Continuation: Switch control OFF - ON.

28002 **Error on activation of machine data, NCU network-wide machine data were modified by NCU %1**

Parameters: %1 = NCU number

Definitions: During the activation of machine data with NEWCONFIG or during an operator panel RESET, NCU network-wide machine data were modified on another NCU. This alarm can only occur when a link connection is active.

Reactions: - NC not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Repeat the operator action or, if NEWCONFIG is activated by an NC program, terminate the program with Reset.

Program Continuation: Clear alarm with the RESET key. Restart part program

28004 **NCU link: NCU %1 of the link network is not on the bus**

Parameters: %1 = NCU number

Definitions: Error message of the NCU link module. When the NCU link was powered up, the local NCU (indicated by the alarm) detected that the NCU with the number in the alarm parameter was not on the bus although it should be connected according to the MD settings.
This fault in the link can have various causes:
• Defective hardware.
• The machine data which configure the NCU link are not identical on all NCUs.
• An identical interpolator cycle time has not been selected on all NCUs.

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Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check the machine data configuration and link hardware.

Program Continuation: Switch control OFF - ON.

28005 NCU link: NCU %1 of the link network not running synchronously

Parameters: %1 = NCU number

Definitions: Error message of the NCU link module. When the NCU link was powered up, the local NCU (indicated by the alarm) detected that the NCU with the number in the alarm parameter was not running synchronously.

This fault in the link can have various causes:

• The machine data which configure the NCU link are not identical on all NCUs.

• An identical interpolator cycle time has not been selected on all NCUs.

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check machine data configuration.

Program Continuation: Switch control OFF - ON.

28007 NCU link: conflict in configuration data of NCU %1

Parameters: %1 = NCU number

Definitions: Error message of the NCU link module. When the NCU link was powered up, the local NCU (indicated by the alarm) detected a conflict between its configuration and the configuration of the NCU in the alarm parameter.

Example: Machine data LINK_NUM_OF_MODULES defines the number of nodes on the NCU link network. The alarm occurs if this MD has a different setting on different NCUs.

Reactions: - NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check machine data configuration.

Program Continuation: Switch control OFF - ON.

28008 NCU link: conflict in timer setting of NCU %1

Parameters: %1 = NCU number

Definitions: Error message of the NCU link module. When the NCU link was powered up, the local NCU (indicated by the alarm) detected a conflict between its timer configuration and the configuration of the NCU in the alarm parameter.

Reactions: - NC not ready.

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- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check machine data configuration.

Program Continuation: Switch control OFF - ON.

28009 NCU link: conflict in bus parameters of NCU %1

Parameters: %1 = NCU number

Definitions: Error message of the NCU link module. When the NCU link was powered up, the local NCU (indicated by the alarm) detected a conflict between its timer bus configuration and the configuration of the NCU in the alarm parameter.

Reactions:
- NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check machine data configuration.

Program Continuation: Switch control OFF - ON.

28010 NCU link: the NCU %1 has not received a message

Parameters: %1 = NCU number

Definitions: Error message of the NCU link module. During operation of the NCU link, a message from the local NCU to the NCU specified in the alarm parameter has failed. A hardware error may have occurred (e.g. sporadic disturbances on the communication line).

Reactions:
- NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: The message does not fail until several attempts have been made to repeat the communication. The number of repetitions can be increased with MD LINK_MAX_RETRY_CTR.

Program Continuation: Switch control OFF - ON.

28011 IPO time insufficient for NCU link. Link cycle time: %1

Parameters: %1 = Microseconds

Definitions: Error message of the NCU link module. All messages must be transmitted within one interpolator cycle. This applies particularly to message retries. The time was not sufficient! The parameter indicates how many microseconds the NCU link module needs in order to send the message.

Reactions:
- NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.

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- Alarm display.
- NC Stop on alarm.

Remedy: Increase the interpolator cycle time, i.e. modify one of the following MDs on all NCUs.
IPO_SYSCLOCK_TIME_RATIO
SYSCLOCK_CYCLE_TIME

Program Continuation: Switch control OFF - ON.

28012 NCU link: synchronization cycle signal failure %1 times

Parameters: %1 = Number of cycles

Definitions: Error message of the NCU link module that does not occur at NCU 1. The NCU's are synchronized via their own NCU-link clock line. A large number of cycle signals are missing. The parameter indicates how many cycles have failed.

Reactions:
- NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check the hardware.

Program Continuation: Switch control OFF - ON.

28020 NCU link: too many link axes configured %1

Parameters: %1 = Number of link axis connections

Definitions: Unfortunately, the communication capacity of the NCU link is insufficient for this link axis configuration.
The link axis configuration is determined by the following MDs:
• $MN_AXCONF_LOGIC_MACHAX_TAB
• $MN_AXCT_AXCONF_ASSIGN_TAB1 ... and all further container def.

Reactions:
- NC not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Connect a smaller number of axes across the link or combine the axes in fewer containers.
Machine data to be changed:
• $MN_AXCONF_LOGIC_MACHAX_TAB
• $MN_AXCT_AXCONF_ASSIGN_TAB1 ... and all further container def.

Program Continuation: Switch control OFF - ON.

28030 Serious alarm on NCU %1, axes in follow-up mode

Parameters: %1 = NCU number

Definitions: All axes are trailing because of a serious alarm on another NCU.

Reactions:
- NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.

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- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Acknowledge the alarm on the NCU.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

28031 Serious alarm on NCU %1 not yet acknowledged, axes still in follow-up mode

Parameters: %1 = NCU number

Definitions: A serious alarm was not yet acknowledged on another NCU. Consequently, all the axes continue to trail.

Reactions:
- NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Acknowledge the alarm on the NCU.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

28032 Emergency stop activated on NCU %1, axes in follow-up mode

Parameters: %1 = NCU number

Definitions: The emergency stop request is active at the PLC-NCK interface on one NCU of the NCU network. Consequently, all axes are trailing.

Reactions:
- NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Remedy the cause of the emergency stop on the NCU and acknowledge the emergency stop via the PLC-NCK interface.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

28033 Emergency stop on NCU %1, axes still in follow-up mode

Parameters: %1 = NCU number

Definitions: The emergency stop request is active at the PLC-NCK interface on one NCU of the NCU network. Consequently, all axes are trailing.

Reactions:
- NC not ready.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Remedy the cause of the emergency stop on the NCU and acknowledge the emergency stop via the PLC-NCK interface.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

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29033 **Channel %1 axis change of axis %2 not possible, PLC axis movement not yet completed**

Parameters: %1 = Channel number
%2 = Axis

Definitions: A PLC axis has not yet reached its end position and cannot be returned to a channel or neutralized. This alarm should not occur when PLC data block FC18 is used.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Wait until the axis has reached the end position or terminate the movement with delete distance to go.

Program Continuation: Clear alarm with the RESET key. Restart part program

60000 **Channel %1 block %2:**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: --

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

61000 **Channel %1 block %2 no tool compensation active**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: LONGHOLE, SLOT1, SLOT2, POCKET1 to POCKET4, CYCLE71, CYCLE72, CYCLE90, CYCLE93 to CYCLE96.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: D-correction must be programmed before the cycle call.

Program Continuation: Clear alarm with the RESET key. Restart part program

61000 **Channel %1 block %2: No tool offset active**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: LONGHOLE, SLOT1, SLOT2, POCKET1 through POCKET4, CYCLE71, CYCLE72, CYCLE90, CYCLE93 through CYCLE96.

Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy: D-correction must be programmed prior to cycle call.

Program Continuation: Clear alarm with the RESET key. Restart part program

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61001 **Channel %1 block %2: Thread lead incorrectly defined**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE84, CYCLE840, CYCLE96, CYCLE97.

Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy: Check parameter for the thread size or setting for the lead (contradict each other).

Program Continuation: Clear alarm with the RESET key. Restart part program

61002 **Channel %1 block %2: Type of machining incorrectly defined**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The value of the VARI parameter for the machining has been incorrectly specified. Alarm triggered by following cycles: SLOT1, SLOT2, POCKET1 to POCKET4, CYCLE71, CYCLE72, CYCLE76, CYCLE77, CYCLE93, CYCLE95, CYCLE97, CYCLE98.

Remedy: Modify VARI parameter.

61003 **Channel %1 Block %2: No feed programmed in cycle**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The parameter for the feed has been incorrectly specified. Alarm triggered by following cycles: CYCLE71, CYCLE72.

Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy: Modify feed parameter.

Program Continuation: Clear alarm with the RESET key. Restart part program

61004 **Channel %1 Block %2: Incorrect configuration of geometry axes**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The geometry-axes sequence is wrong. CYCLE328

Reactions: - Alarm display.

Remedy: --

Program Continuation: Internal

61005 **Channel %1 Block %2: 3rd geometry axis not available**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: With an application on the lathe with no Y-axis in the G18 plane. Alarm triggered by following cycle: CYCLE86.

Remedy: Check parameter on cycle call.

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61006 **Channel %1 Block %2: Tool radius too large**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The tool radius is too large for machining. Alarm triggered by following cycles: CYCLE930, CYCLE951, E_CP_CE, E_CP_CO, E_CP_DR, E_PO_CIR, E_PO_REC, F_CP_CE, F_CP_CO, F_CP_DR, F_PO_CIR, F_PO_REC.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Select a smaller tool.

Program Continuation: Clear alarm with the RESET key. Restart part program

61007 **Channel %1 Block %2: Tool radius too small**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The tool radius is too small for machining. Alarm triggered by following cycles: CYCLE92, E_CP_CO, E_SL_CIR, F_CP_CO, F_PARTOF, F_SL_CIR.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Select a larger tool.

Program Continuation: Clear alarm with the RESET key. Restart part program

61008 **Channel %1 Block %2: No tool active**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles:

Remedy: Select a tool.

61009 **Channel %1 Block %2: Active tool number = 0**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No tool (T) has been programmed before the cycle call. Alarm triggered by following cycles: CYCLE71, CYCLE72.

Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy: Program tool (T).

Program Continuation: Clear alarm with the RESET key. Restart part program

61010 **Channel %1 Block %2: Finishing allowance too large**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The finishing allowance for the base is greater than the total depth. Alarm triggered by following cycle: CYCLE72.

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Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy: Reduce finishing allowance.

Program Continuation: Clear alarm with the RESET key. Restart part program

61011 **Channel %1 Block %2: Scaling not permissible**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A scale factor is active which is illegal for this cycle. Alarm triggered by following cycles: CYCLE71, CYCLE72.

Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy: Modify scale factor.

Program Continuation: Clear alarm with the RESET key. Restart part program

61012 **Channel %1 Block %2: Different scaling in planes**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE76, CYCLE77.

Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

61013 **Channel %1 Block %2: Basic settings were changed, program cannot be executed**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The basic settings are not compatible with the generated program. Alarm triggered by following cycles: E_CP_CE, E_CP_CO, E_CP_DR, F_CP_CE, F_CP_CO, F_CP_DR.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check and, if necessary, change the basic settings.

Program Continuation: Clear alarm with the RESET key. Restart part program

61014 **Channel %1 Block %2: Return plane exceeded**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Alarm triggered by following cycles: CYCLE72.

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Remedy: Check parameter RTP.

61015 Channel %1 Block %2: Contour is not defined

Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: Alarm triggered by following cycles: .
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy:
Program Continuation: Clear alarm with the RESET key. Restart part program

61016 Channel %1 block %2: System frame for cycles missing

Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: All measuring cycles can trigger this alarm.
Remedy: Set MD 28082: MM_SYSTEM_FRAME_MASK, Bit 5=1.

61017 Channel %1 block %2: function %4 not present in NCK

Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: Alarm triggered by following cycles: .
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy:
Program Continuation: Clear alarm with the RESET key. Restart part program

61018 Channel %1 block %2: function %4 not executable with NCK

Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: Alarm triggered by following cycles: .
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy:
Program Continuation: Clear alarm with the RESET key. Restart part program

61019 Channel %1 Block %2: Parameter %4 incorrectly defined

Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: Alarm triggered by following cycles: CYCLE60, CYCLE83.
Reactions: - Interpreter stop
- NC Start disable in this channel.

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- Interface signals are set.
- Alarm display.

Remedy: Check the value of the parameter.

Program Continuation: Clear alarm with the RESET key. Restart part program

61020 Channel %1 block %2: Machining not possible with active TRANSMIT/TRACYL

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Alarm triggered by following cycles: .

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy:

Program Continuation: Clear alarm with the RESET key. Restart part program

61099 Channel %1 block %2: Internal cycle error (%4)

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Alarm triggered by following cycles: .

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy:

Program Continuation: Clear alarm with the RESET key. Restart part program

61101 Channel %1 block %2: Reference plane incorrectly defined

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE71, CYCLE72, CYCLE81 to CYCLE90, CYCLE840, SLOT1, SLOT2, POCKET1 to POCKET4, LONGHOLE.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: With the relative specification of the depth, either different values for the reference plane and the retraction plane must be selected or an absolute value must be specified for the depth.

Program Continuation: Clear alarm with the RESET key. Restart part program

61102 Channel %1 block %2: No spindle direction programmed

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE86, CYCLE87, CYCLE88, CYCLE840, POCKET3, POCKET4.

Reactions:
- Alarm display.

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- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy: Parameter SDIR (or SDR in CYCLE840) must be programmed.

Program Continuation: Clear alarm with the RESET key. Restart part program

61103 Channel %1 block %2: Number of holes is zero

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No value for the number of holes has been programmed. Alarm triggered by following cycles: HOLES1, HOLES2.

Remedy: Check parameter NUM.

61104 Channel %1 block %2: Contour violation of grooves

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Incorrect parameterization of the milling pattern in the parameters which define the position of the slots/elongated holes on the circle and their form. Alarm triggered by following cycles: SLOT1, SLOT2, LONGHOLE.

Reactions:
- Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

61105 Channel %1 block %2: Milling cutter radius too large

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The diameter of the cutter used is too large for the form to be machined. Alarm triggered by following cycles: SLOT1, SLOT2, POCKET1 to POCKET4, LONGHOLE, CYCLE90.

Reactions:
- Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy: Either a tool with a smaller radius has to be used or the contour must be modified.

Program Continuation: Clear alarm with the RESET key. Restart part program

61106 Channel %1 block %2: Number of or distance between circular elements

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Incorrect parameterization of NUM or INDA. The layout of the circle elements within a full circle is not possible. Alarm triggered by following cycles: HOLES2, LONGHOLE, SLOT1, SLOT2.

Reactions:
- Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

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Remedy: Correct parameterization.
Program Continuation: Clear alarm with the RESET key. Restart part program

61107 Channel %1 block %2: First drilling depth incorrectly defined

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: First drilling depth is in the opposite direction to the total drilling depth. Alarm triggered by following cycle: CYCLE83.
Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop
Remedy: Modify drilling depth.
Program Continuation: Clear alarm with the RESET key. Restart part program

61108 Channel %1 Block %2: Values for parameters _RAD1 and _DP1 not permissible

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The parameters _RAD1 and _DP for defining the path for the depth infeed have been incorrectly specified. Alarm triggered by following cycles: POCKET3, POCKET4.
Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop
Remedy: Modify parameter.
Program Continuation: Clear alarm with the RESET key. Restart part program

61109 Channel %1 Block %2: Parameter _CDIR incorrectly defined

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The value of the parameter for the cutting direction _CDIR has been incorrectly defined. Alarm triggered by following cycles: POCKET3, POCKET4.
Remedy: Change parameter _CDIR.

61110 Channel %1 Block %2: Finishing allowance at bottom > depth infeed

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The finishing allowance at the base has been specified greater than the maximum depth infeed. Alarm triggered by following cycles: POCKET3, POCKET4.
Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop
Remedy: Either reduce finishing allowance or increase depth infeed.
Program Continuation: Clear alarm with the RESET key. Restart part program

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61111 **Channel %1 Block %2: Infeed width > Tool diameter**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The programmed infeed width is greater than the diameter of the active tool. Alarm triggered by following cycles: CYCLE71, POCKET3, POCKET4.

Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy: Infeed width must be reduced.

Program Continuation: Clear alarm with the RESET key. Restart part program

61112 **Channel %1 Block %2: Tool radius negative**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The radius of the active tool is negative. This is illegal. Alarm triggered by following cycles: CYCLE72, CYCLE76, CYCLE77, CYCLE90.

Remedy: Change the tool radius.

61113 **Channel %1 Block %2: Parameter _CRAD too large for corner radius**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The parameter for the corner radius _CRAD has been specified too large. Alarm triggered by following cycle: POCKET3.

Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy: Parameter must be reduced.

Program Continuation: Clear alarm with the RESET key. Restart part program

61114 **Channel %1 Block %2: Machining direction G41/G42 incorrectly defined**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The machining direction of the cutter radius compensation G41/G42 has been incorrectly selected. Alarm triggered by following cycle: CYCLE72.

Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy: Change machining direction.

Program Continuation: Clear alarm with the RESET key. Restart part program

61115 **Channel %1 Block %2: Approach or retract mode(straight / circle / plane / space) incorrectly defined**

Parameters: %1 = Channel number
%2 = Block number, label

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Definitions: The approach or retract mode to/from the contour has been incorrectly defined. Alarm triggered by following cycle: CYCLE72.
Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop
Remedy: Check parameter _AS1 or _AS2.
Program Continuation: Clear alarm with the RESET key. Restart part program

61116 Channel %1 Block %2: Approach or retract path = 0

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The approach or retract path has been specified with zero. Alarm triggered by following cycle: CYCLE72.
Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop
Remedy: Check parameter _LP1 or _LP2.
Program Continuation: Clear alarm with the RESET key. Restart part program

61117 Channel %1 Block %2: Active tool radius <= 0

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The radius of the acive tool is negative or zero. Alarm triggered by following cycles: CYCLE71, POCKET3, POCKET4.
Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop
Remedy: Modify radius.
Program Continuation: Clear alarm with the RESET key. Restart part program

61118 Channel %1 Block %2: Length or width = 0

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The length or width of the milling area is illegal. Alarm triggered by following cycle: CYCLE71.
Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop
Remedy: Check parameters _LENG and _WID.
Program Continuation: Clear alarm with the RESET key. Restart part program

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61119 **Channel %1 Block %2: Nominal or core diameter programmed incorrectly**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The nominal or core diameter was incorrectly programmed. Alarm triggered by following cycles: CYCLE70, E_MI_TR, F_MI_TR.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check thread geometry.

Program Continuation: Clear alarm with the RESET key. Restart part program

61120 **Channel %1 Block %2: Thread type inside / outside not defined**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The thread type (internal/external) was not defined. Alarm triggered by following cycles: CYCLE70.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: The internal/external thread type must be entered.

Program Continuation: Clear alarm with the RESET key. Restart part program

61121 **Channel %1 Block %2: Number of teeth per cutting edge is missing**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No value was entered for the number of teeth per cutting edge. Alarm triggered by following cycles: CYCLE70.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Enter the number of teeth/cutting edges for the active tool into the tool list.

Program Continuation: Clear alarm with the RESET key. Restart part program

61122 **Channel %1 Block %2: Safety distance incorrectly defined in plane**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The safety clearance is negative or zero. This is not allowed.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Define the safety clearance.

Program Continuation: Clear alarm with the RESET key. Restart part program

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61123 **Channel %1 Block %2: CYCLE72 cannot be simulated**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE72.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy:

Program Continuation: Clear alarm with the RESET key. Restart part program

61124 **Channel %1 Block %2: Infeed width is not programmed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE71.

Reactions:
- Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy: With active simulation without tool, a value for the infeed width _MIDA must always be programmed.

Program Continuation: Clear alarm with the RESET key. Restart part program

61125 **Channel %1 block %2: Technology selection in parameter _TECHNO incorrectly defined**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE84, CYCLE840.

Reactions:
- Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy: Check parameter _TECHNO.

Program Continuation: Clear alarm with the RESET key. Restart part program

61126 **Channel %1 block %2: Thread length too short**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE840.

Reactions:
- Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy: Program lower spindle speed/raise reference plane.

Program Continuation: Clear alarm with the RESET key. Restart part program

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61127 **Channel %1 block %2: Wrong definition of tapping axis transformation ratio (machine data)**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE84, CYCLE840.

Reactions:
- Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy: Check machine data 31050 and 31060 in the appropriate gear stage of the drilling axis.

Program Continuation: Clear alarm with the RESET key. Restart part program

61128 **Channel %1 block %2: Insertion angle = 0 for insertion with oscillation or helix**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: SLOT1.

Reactions:
- Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy: Check parameter _STA2.

Program Continuation: Clear alarm with the RESET key. Restart part program

61129 **Channel %1 block %2: perpendic. approach and retraction during contour milling only allowed with G40**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE72.

Reactions:
- Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy:

Program Continuation: Clear alarm with the RESET key. Restart part program

61130 **Channel %1 block %2: positions of parallel axes cannot be compensated. No workpiece reference agreed.**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE69.

Reactions:
- Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy:

Program Continuation: Clear alarm with the RESET key. Restart part program

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61131 **Channel %1 block %2: parameter _GEO incorrect, _GEO=%4**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE69.

Reactions:
- Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy:

Program Continuation: Clear alarm with the RESET key. Restart part program

61132 **Channel %1 block %2: parallel axis parameter incorrect, check values for parallel axis parameters ABS/INK**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE69.

Reactions:
- Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy:

Program Continuation: Clear alarm with the RESET key. Restart part program

61133 **Channel %1 block %2: 3rd parallel axis parameter incorrect, check axis name or GUD _SCW_N[]**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE69.

Reactions:
- Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy:

Program Continuation: Clear alarm with the RESET key. Restart part program

61134 **Channel %1 block %2: rotary axis parameter incorrect, check values for rotary axis parameters ABS/INK**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE69.

Reactions:
- Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy:

Program Continuation: Clear alarm with the RESET key. Restart part program

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61135 **Channel %1 block %2: incorrect parameter sequence for approaching target position: %4**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE69.

Reactions:
- Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy:

Program Continuation: Clear alarm with the RESET key. Restart part program

61136 **Channel %1 block %2: no 3rd geometry axis agreed in GUD _SCW_N[]**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE69.

Reactions:
- Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy:

Program Continuation: Clear alarm with the RESET key. Restart part program

61137 **Channel %1 block %2: swiveling and parallel axes cycle are mutually exclusive because of workpiece reference $WPFRAME**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE69.

Reactions:
- Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy:

Program Continuation: Clear alarm with the RESET key. Restart part program

61138 **Channel %1 block %2: parameter %4 incorrectly defined for tool monitoring in cycles**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions:

Reactions:
- Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy:

Program Continuation: Clear alarm with the RESET key. Restart part program

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61139 **Channel %1 block %2: error in function Tool monitoring in cycles**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE69.

Reactions:
- Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy:

Program Continuation: Clear alarm with the RESET key. Restart part program

61175 **Channel %1 block %2: angle of aperture _DF programmed too small**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The angle of aperture of the text in the engraving cycle is too small. This means that the text for engraving does not fit in the specified angle.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Enter a larger angle of aperture.

Program Continuation: Clear alarm with the RESET key. Restart part program

61176 **Channel %1 block %2: text length _DF programmed too small**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The text length in the engraving cycle is too short. This means that the text for engraving is longer than the specified text length.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Enter longer text length

Program Continuation: Clear alarm with the RESET key. Restart part program

61177 **Channel %1 block %2: polar text length > 360 degrees**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In the engraving cycle, the polar text length must not exceed 360 degrees.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Enter shorter text length.

Program Continuation: Clear alarm with the RESET key. Restart part program

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61178 **Channel %1 block %2: code page not present**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The specified code page is not supported by the cycle.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Use code page 1252.

Program Continuation: Clear alarm with the RESET key. Restart part program

61179 **Channel %1 block %2: character does not exist, no.: %4**

Parameters: %1 = Channel number
%2 = Block number, label
%4 = Character number

Definitions: The character entered in the text for engraving cannot be milled.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Enter another character.

Program Continuation: Clear alarm with the RESET key. Restart part program

61180 **Channel %1 block %2: no name assigned to swivel data block, although MD $MN_MM_NUM_TOOL_CARRIER > 1**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Although there are several swivel data blocks, no unique names have been assigned. Alarm triggered by following cycles: CYCLE800.

Remedy: Assign unique names for swivel data blocks.

61181 **Channel %1 block %2: Insufficient NCK software version (TOOLCARRIER functionality missing)**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Swivelling is not possible with the current NCK software version. Alarm triggered by following cycles: CYCLE800.

Remedy: Upgrade NCK software; functionality TOOLCARRIER available in NCU 6.3xx and higher.

61182 **Channel %1 block %2: Name of swivel data record unknown**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: the specified name of the swivel data block is unknown. Alarm triggered by following cycles: CYCLE800.

Remedy: Check the name of the swivel data block.

61183 **Channel %1 block %2: Clearance mode _FR outside of value range 0..2.**

Parameters: %1 = Channel number
%2 = Block number, label

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Definitions: The retraction mode value lies outside of the valid range. Alarm triggered by following cycles: CYCLE800.
Remedy: Check installation and start-up of swivel cycle CYCLE800 -> retraction parameter _FR.

61184 Channel %1 block %2: No solution possible with current input angle values
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The surface defined via the input angle cannot be processed with the machine. Alarm triggered by following cycles: CYCLE800.
Remedy: -Check the angle entered for the swiveling of the machining plane.
-Parameter _MODE coding incorrect, e.g. rotation axis-wise YXY

61185 Channel %1 block %2: no or wrong (min > max) angle areas of rotary axes agreed
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The rotary axis angle range is invalild. Alarm triggered by following cycles: CYCLE800.
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: Check installation and start-up of the swivel cycle CYCLE800.
Program Continuation: Clear alarm with the RESET key. Restart part program

61186 Channel %1 block %2: Invalid rotary axis vectors --> Start-up check swivel cycle CYCLE800
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: No or incorrect entry for rotary axis vector V1 or V2. Alarm triggered by following cycles: CYCLE800.
Remedy: Check installation and start-up of the swivel cycle CYCLE800.
Check rotary axis vectors V1 and V2.

61187 Channel %1 block %2: block search mode not allowed -> select block search with contour calculation
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The alarm is triggerd by the following cycles: CYCLE800.
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: Select block search with contour calculation.
Program Continuation: Clear alarm with the RESET key. Restart part program

61188 Channel %1 block %2: No axis name agreed for 1st rotary axis -> Start-up check CYCLE800
Parameters: %1 = Channel number
%2 = Block number, label

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Definitions: No axis name was specified for the 1st rotary axis. Alarm triggered by following cycles: CYCLE800.
Remedy: Check installation and start-up of the swivel cycle CYCLE800.
No entry under rotary axis 1 identifier.

61189 Channel %1 block %2: invalid rotary axis positions
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE800.
Remedy: Swivel in JOG, swivel mode direct, check position of rotary axes or start-up of swivel cycle CYCLE800 rotary axes, check area of angles.

61190 Channel %1 block %2: unable to retract in tool direction --> error code: %4
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE800.

Note on 61190
61190 Retraction in tool direction not possible --> error code: %4
Error code %4 = abcd
a=0xxx -> Parameter CYCLE800 _FR incorrect or retraction variant in start-up CYCLE800 not created.
a=1xxx -> No applicats available $P_AXN3
a=2xxx -> Maximum retraction path incorrect, see GUD _TC_P[8]
a=3xxx -> Incremental retraction path incorrect, see GUD _TC_P[8]
b=Input parameter _FR*100
cd=Start-up parameter $P_TCARR37[] (7th,8th decimal place)
see table Coding retraction modes.
Remedy: Error code: %4

61191 Channel %1 block %2: 5 axis transformation not set up
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The alarm is triggerd by the following cycles: CYCLE832.
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: --
Program Continuation: Clear alarm with the RESET key. Restart part program

61192 Channel %1 block %2: second 5 axis transformation not set up
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The alarm is triggerd by the following cycles: CYCLE832.
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.

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- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

61193 **Channel %1 block %2: compressor option not set up**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The alarm is triggerd by the following cycles: CYCLE832.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

61194 **Channel %1 block %2: spline interpolation option not set up**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The alarm is triggerd by the following cycles: CYCLE832.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

61196 **Channel %1 block %2: no swiveling in JOG --> 5 axis transformation and TCARR simultaneously activated**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: 5-axis transformation and TOOLCARRIER activated at the same time.
Alarm triggered by following cycles: CYCLE800.

Remedy: 5-axis transformation and TOOLCARRIER activated at the same time.

61197 **Channel %1 block %2: no swiveling in JOG --> active WO G%4 and basic frames contain rotations**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE800.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

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61198 **Channel %1 block %2: no swiveling in JOG --> several active basic frames(G500) contain rotations**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE800.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

61199 **Channel %1 block %2: approach of tool and swivel data record change (TOOLCARRIER) not allowed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE800.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

61200 **Channel %1 block %2: Too many elements in machining block**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The machining block contains too many elements.
Alarm triggered by following cycles: CYCLE76, CYCLE77, E_CALL, E_DR, E_DR_BGF, E_DR_BOR, E_DR_O1, E_DR_PEC, E_DR_REA, E_DR_SIN, E_DR_TAP, E_MI_TR, E_PI_CIR, E_PI_REC, E_PO_CIR, E_PO_REC, E_PS_CIR, E_PS_FRA, E_PS_HIN, E_PS_MRX, E_PS_POL, E_PS_ROW, E_PS_SEQ, E_PS_XYA, E_SL_LON, F_DR, F_DR_PEC, F_DR_REA, F_DR_SIN, F_DR_TAP, F_MI_TR, F_PI_CIR, F_PI_REC, F_PO_CIR, F_PO_REC, F_PS_CIR, F_PS_MRX, F_PS_ROW, F_PS_SEQ, F_SL_LON

Remedy: Check the machining block, delete some elements, if required.

61201 **Channel %1 block %2: Wrong sequence in machining block**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The sequence of elements in the machining block is invalid.
Alarm triggered by following cycles: E_CP_CE, E_CP_DR, E_MANAGE, F_CP_CE, F_CP_DR, F_MANAGE.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Sort the sequence in the machining block.

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Program Continuation: Clear alarm with the RESET key. Restart part program

61202 Channel %1 block %2: No technology cycle

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No technology cycle was programmed in the machining block.
Alarm triggered by following cycles: E_MANAGE, F_MANAGE.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Program a technology block.

Program Continuation: Clear alarm with the RESET key. Restart part program

61203 Channel %1 block %2: No position cycle

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No positioning cycle was programmed in the machining block.
Alarm triggered by following cycles: E_MANAGE, F_MANAGE.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Program positioning block.

Program Continuation: Clear alarm with the RESET key. Restart part program

61204 Channel %1 block %2: Technology cycle unknown

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The specified technology cycle in the machining block is unknown.
Alarm triggered by following cycles: E_MANAGE, F_MANAGE.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Delete and reprogram the technology block.

Program Continuation: Clear alarm with the RESET key. Restart part program

61205 Channel %1 block %2: Position cycle unknown

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The specified positioning cycle in the machining block is unknown.
Alarm triggered by following cycles: E_MANAGE, F_MANAGE.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.

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- Alarm display.

Remedy: Delete and reprogram the positioning block.

Program Continuation: Clear alarm with the RESET key. Restart part program

61210 Channel %1 block %2: Block search element not found

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The element specified for the block search does not exisit.
Alarm triggered by following cycles: E_MANAGE, E_PS_CIR, E_PS_MRX, E_PS_POL, E_PS_SEQ, E_PS_XYA, F_MANAGE, F_PS_CIR, F_PS_MRX, F_PS_SEQ

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Repeat block search.

Program Continuation: Clear alarm with the RESET key. Restart part program

61211 Channel %1 block %2: Absolute reference missing

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: An incremental indication was made, but the absolute reference is unknown.
Alarm triggered by following cycles: E_MI_CON, E_MI_PL, E_PI_CIR, E_PI_REC, E_PO_CIR, E_PO_REC, E_PS_CIR, E_PS_HIN, E_PS_MRX, E_PS_POL, E_PS_SEQ, E_PS_XYA, E_SL_CIR, E_SL_LON, F_PS_CIR, F_PS_MRX, F_PS_SEQ

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Program an absolute position prior to using incremental indications.

Program Continuation: Clear alarm with the RESET key. Restart part program

61212 Channel %1 block %2: Wrong tool type

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The tool type is not suitable for machining.
Alarm triggered by following cycles: CYCLE92, CYCLE951, E_DR, E_DR_O1, E_DR_PEC, E_DR_SIN, E_MI_TXT, F_DR, F_DR_PEC, F_DR_SIN, F_DRILL, F_DRILLC, F_DRILLD, F_DRM_DR, F_DRM_PE, F_DRM_SI, F_GROOV, F_MI_TXT, F_MT_LEN, F_PARTOF, F_ROU_Z, F_ROUGH, F_SP_EF, F_TAP, F_TR_CON, F_UCUT_T

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Select a new tool type.

Program Continuation: Clear alarm with the RESET key. Restart part program

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61213 **Channel %1 block %2: Circle radius too small**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The programmed circle radius is too small.
Alarm triggered by following cycles: CYCLE77, E_CR_HEL, E_PI_CIR, E_PO_CIR, E_PO_REC, F_PI_CIR, F_PO_CIR, F_PO_REC

Remedy: Correct the circle radius, center point or end point.

61214 **Channel %1 block %2: No lead programmed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No lead/helical lead has been entered.
Alarm triggered by following cycles: E_CR_HEL, E_PO_CIR, E_PO_REC, F_PO_CIR, F_PO_REC.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Program a lead.

Program Continuation: Clear alarm with the RESET key. Restart part program

61215 **Channel %1 Block %2: Unfinished dimension incorrectly programmed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Check the blank spigot dimensions. The blank spigot must be larger than the production part spigot.
Alarm triggered by following cycles: CYCLE76, CYCLE77, E_PI_CIR, E_PI_REC, E_PO_CIR, E_PO_REC, F_PI_CIR, F_PI_REC, F_PO_CIR, F_PO_REC

Remedy: Check parameters _AP1 and _AP2.

61216 **Channel %1 Block %2: Feed/tooth only possible with cutting tools**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Feed per tooth is only possible with milling tools.
Alarm triggered by following cycles: E_TFS, F_TFS.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: As alternative, set a different feed type.

Program Continuation: Clear alarm with the RESET key. Restart part program

61217 **Channel %1 Block %2: Cutting speed programmed for tool radius 0**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: To be able to work with cutting speed, the tool radius has to be specified.
Alarm triggered by following cycles: E_DR_SIN, E_DR_TAP, E_TFS, F_DR_SIN, F_DR_TAP, F_DRILLC, F_DRM_TA, F_TAP, F_TFS

Reactions: - Interpreter stop

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- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Enter a value for cutting speed.

Program Continuation: Clear alarm with the RESET key. Restart part program

61218 Channel %1 Block %2: Feed/tooth programmed, but number of tools equals zero

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: For feed per tooth, the number of teeth has to be specified.
Alarm triggered by following cycles: E_TFS, E_DR_BGF, F_TFS.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Enter the number of teeth on the milling tool in the "Tool list" menu.

Program Continuation: Clear alarm with the RESET key. Restart part program

61219 Channel %1 Block %2: Tool radius too large

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The tool radius is too large for machining.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Select a suitable tool.

Program Continuation: Clear alarm with the RESET key. Restart part program

61220 Channel %1 Block %2: Tool radius too small

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The tool radius is too small for machining.
Alarm triggered by following cycles: CYCLE78.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Select a suitable tool.

Program Continuation: Clear alarm with the RESET key. Restart part program

61221 Channel %1 Block %2: No tool active

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No tool active.

Reactions:
- Interpreter stop

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- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Select a suitable tool.

Program Continuation: Clear alarm with the RESET key. Restart part program

61222 Channel %1 Block %2: Plane infeed greater than tool diameter

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The plane infeed must not be greater than the tool diameter.
Alarm triggered by following cycles: CYCLE79, , E_MI_PL, E_PO_CIR, E_PO_REC, F_PO_CIR, F_PO_REC.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Reduce plane infeed.

Program Continuation: Clear alarm with the RESET key. Restart part program

61223 Channel %1 Block %2: Approach path too small

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The approach path must not be less than zero.
Alarm triggered by following cycles: E_MI_CON, F_MI_CON.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Enter a greater value for the approach path.

Program Continuation: Clear alarm with the RESET key. Restart part program

61224 Channel %1 Block %2: Retract path too small

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The retract path must not be less than zero.
Alarm triggered by following cycles: E_MI_CON, F_MI_CON.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Enter a greater value for the retract path.

Program Continuation: Clear alarm with the RESET key. Restart part program

61225 Channel %1 block %2: Swivel data record unknown

Parameters: %1 = Channel number
%2 = Block number, label

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Definitions: An attempt was made to access a swivel data block which has not been defined.
Alarm triggered by following cycles: E_TCARR, F_TCARR.
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: Select another swivel data block or define a new swivel data block.
Program Continuation: Clear alarm with the RESET key. Restart part program

61226 Channel %1 block %2: Inclinable head cannot be exchanged

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The parameter "Swivel data block" is set to "No". In spite of this, an attempt has been made to change the swivel head.
Alarm triggered by following functions: E_TCARR, F_TCARR.
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: Set the parameter "Swivel data block" in the start-up screen "Rotary axes" to "Automatic" or "Manual".
Program Continuation: Clear alarm with the RESET key. Restart part program

61230 Channel %1 Block %2: Tool probe diameter too small

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The tool probe has not been calibrated correctly.
Alarm triggered by following cycles: E_MT_CAL, E_MT_RAD, E_MT_LEN.
Remedy: Correct variable E_MESS_MT_DR[n] or E_MESS_MT_DL[n] for tool probe n+1 in data block GUD7
(measuring in JOG).

61231 Channel %1 block %2: ShopMill program %4 not executable, as not tested by ShopMill

Parameters: %1 = Channel number
%2 = Block number, label
%4 = Program name
Definitions: Before a ShopMill program can be executed, it has to be tested by ShopMill.
Alarm triggered by following cycle: E_HEAD.
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: The program has to be simulated first in ShopMill or loaded into the operating mode "Machine auto" by ShopMill.
Program Continuation: Clear alarm with the RESET key. Restart part program

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61232 **Channel %1 block %2: Impossible to load magazine tool**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Only manual tools may be loaded into a swivel head in which only manual tools can be loaded.
The alarm is triggered by the following cycles: E_TD, E_TFS, F_TFS

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Load a manual tool into the swivel head or set the parameter "Tool change" in the start-up screen form "Rotary axes" to "Automatic".

Program Continuation: Clear alarm with the RESET key. Restart part program

61233 **Channel %1 block %2: Thread angle wrongly defined**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The thread angles were specified too large or too small.
Alarm triggered by following cycles: E_TR_CON, F_TR_CON

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check thread geometry.

Program Continuation: Clear alarm with the RESET key. Restart part program

61234 **Channel %1 block %2: ShopMill subroutine %4 cannot be executed, as not tested by ShopMill**

Parameters: %1 = Channel number
%2 = Block number, label
%4 = Subroutine name

Definitions: Before a ShopMill subroutine can be used, it has to be tested by ShopMill.
Alarm triggered by following cycle: E_HEAD.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: The subroutine has to be simulated first in ShopMill or loaded into the ShopMill operating mode "Machine auto".

Program Continuation: Clear alarm with the RESET key. Restart part program

61235 **Channel %1 block %2: ShopTurn program %4 cannot be executed as not tested by ShopTurn.**

Parameters: %1 = Channel number
%2 = Block number, label
%4 = Program name

Definitions: Before a ShopTurn program can be executed, it has to be tested by ShopTurn.
Alarm triggered by following cycle: F_HEAD

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Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Simulate the subroutine first in ShopTurn or load it into the ShopTurn operating mode "Machine auto".

Program Continuation: Clear alarm with the RESET key. Restart part program

61236 **Channel %1 block %2: ShopTurn subroutine %4 cannot be executed as not tested by ShopTurn.**

Parameters: %1 = Channel number
%2 = Block number, label
%4 = Subroutine name

Definitions: Before a ShopTurn subroutine can be used, it has to be tested by ShopTurn.
Alarm triggered by following cycle: F_HEAD.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Simulate the subroutine first in ShopTurn or load it into the ShopTurn operating mode "Machine auto".

Program Continuation: Clear alarm with the RESET key. Restart part program

61237 **Channel %1 Block %2: Retraction direction unknown. Withdraw tool manually!**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The tool is in the retraction area and it is unknown in which direction it can be travelled out of it.
Alarm triggered by following cycle: F_SP_RP

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Manually retract the tool from the retraction area defined in the program header and restart the program.

Program Continuation: Clear alarm with the RESET key. Restart part program

61238 **Channel %1 Block %2: Machining direction unknown!**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The direction of the next machining is unknown.
Alarm triggered by following cycle: F_SP_RP.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Please contact the responsible Siemens regional office.

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Program Continuation: Clear alarm with the RESET key. Restart part program

61239 Channel %1 Block %2: Tool change point lies within retraction area!

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The tool change point has to be far enough outside the retraction area so that when the revolver is swiveled, no tool extends into the retraction area.
The alarm is triggered by the following cycle: F_SP_RP

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Specify another tool change point.

Program Continuation: Clear alarm with the RESET key. Restart part program

61240 Channel %1 Block %2: Wrong feed type

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The feed type is not possible for this machining.
Alarm triggered by following cycles: F_DRM_DR, F_DRM_PE, F_DRM_RE, F_DRM_SI, F_GROOV, F_MIM_TR, F_ROUGH, F_SP_EF, F_UCUT_T

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check feed type.

Program Continuation: Clear alarm with the RESET key. Restart part program

61241 Channel %1 Block %2: Retraction plane not defined for this machining direction

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No retraction plane has been defined for the selected machining direction.
Alarm triggered by following cycles: F_SP_RP, F_SP_RPT.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Define the missing retraction plane.

Program Continuation: Clear alarm with the RESET key. Restart part program

61242 Channel %1 block %2: Wrong machine direction

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The machining direction has been specified incorrectly.
Alarm triggered by following cycles: F_DR, F_DR_PEC, F_DR_REA, F_DR_SIN, F_DR_TAP, F_DRILL, F_DRILLC, F_DRILLD, F_DRM_DR, F_DRM_PE, F_DRM_RE,

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F_DRM_SI, F_DRM_TA, F_MI_CON, F_MI_EDG, F_MI_TR, F_MI_TXT, F_MIM_TR, F_PI_CIR, F_PI_REC, F_PO_CIR, F_PO_REC, F_SL_CIR, F_SL_LON, F_TAP.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check the programmed machining direction.

Program Continuation: Clear alarm with the RESET key. Restart part program

61243 Channel %1 block %2: Correct tool change point, tool tip in

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The tool change point must be situated so far outside the retraction area that no tool protrudes into the retraction area on turret swivelling.
Alarm triggered by following cycle: F_SP_RP

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Specify another tool change point.

Program Continuation: Clear alarm with the RESET key. Restart part program

61244 Channel %1 block %2: Pitch change causing

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The specified lead change causes a reversal of the thread direction.
Alarm triggered by following cycle: CYCLE99

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check lead change and thread geometry.

Program Continuation: Clear alarm with the RESET key. Restart part program

61245 Channel %1 block %2: Machining plane does not match modal

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Machining plane does not match modal one.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check the machining plane.

Program Continuation: Clear alarm with the RESET key. Restart part program

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61246 **Channel %1 block %2: Safety distance too small**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The safety clearance is too small for machining.
Alarm triggered by following cycle: CYCLE79.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Increase safety clearance.

Program Continuation: Clear alarm with the RESET key. Restart part program

61247 **Channel %1 block %2: Blank radius too small**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The blank radius is too small for machining.
Alarm triggered by following cycle: CYCLE79.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Increase blank radius.

Program Continuation: Clear alarm with the RESET key. Restart part program

61248 **Channel %1 block %2: Infeed too small**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The infeed is too small for machining.
Alarm triggered by following cycle: CYCLE79.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Increase infeed.

Program Continuation: Clear alarm with the RESET key. Restart part program

61249 **Channel %1 block %2: Number of edges too small**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The number of edges is too small.
Alarm triggered by following cycle: CYCLE79.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Increase number of edges.

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Program Continuation: Clear alarm with the RESET key. Restart part program

61250 Channel %1 block %2: Width across flats/edge length too small

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The width across flats/edge length is too small.
Alarm triggered by following cycle: CYCLE79.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Increase key width/edge length.

Program Continuation: Clear alarm with the RESET key. Restart part program

61251 Channel %1 block %2: Width across flats/edge length too large

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The width across flats/edge length is too large.
Alarm triggered by following cycle: CYCLE79.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Decrease key width/edge length.

Program Continuation: Clear alarm with the RESET key. Restart part program

61252 Channel %1 block %2: Chamfer/radius too large

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Chamfer/radius is too large.
Alarm triggered by following cycle: CYCLE79.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Decrease chamfer/radius.

Program Continuation: Clear alarm with the RESET key. Restart part program

61253 Channel %1 Block %2: No finishing allowance programmed

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No finishing allowance has been entered.
Alarm triggered by following cycles: E_PO_CIR, E_PO_REC, E_SL_CIR, E_SL_LON, F_PO_CIR, F_PO_REC, F_SL_CIR, F_SL_LON.

Reactions: - Interpreter stop
- NC Start disable in this channel.

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- Interface signals are set.
- Alarm display.

Remedy: Programm a finishing allowance.

Program Continuation: Clear alarm with the RESET key. Restart part program

61254 Channel %1 Block %2: Error while traveling to fixed stop

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Error on travelling to fixed stop.
Alarm triggered by following cycle: F_SUB_SP.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: specify another Z1 position for gripping the counterspindle.

Program Continuation: Clear alarm with the RESET key. Restart part program

61255 Channel %1 block %2: Error during cut-off: Tool broken?

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Cut-off could not be completed. A tool breakage might have occurred.
Alarm triggered by following cycles: F_PARTOF, F_SUB_SP.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check the tool.

Program Continuation: Clear alarm with the RESET key. Restart part program

61256 Channel %1 block %2: Mirroring not allowed at program start. Deselect work offset!

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Mirroring impermissible at program start.
Alarm triggered by following cycle: F_HEAD.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Deselect work offset.

Program Continuation: Clear alarm with the RESET key. Restart part program

61257 Channel %1 block %2: incomplete installation of counterspindle

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Start-up of the counterspindle is incomplete.
Alarm triggered by following cycle: F_SUB_SP.

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Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check display machine data 9803, 9851, 9852, 9853 and 9854 .

Program Continuation: Clear alarm with the RESET key. Restart part program

61258 Channel %1 block %2: set parameters for counterspindle chuck in the spindle image

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The parameters for the counterspindle chuck have not been set in the spindle view.
Alarm triggered by following cycle: F_SUB_SP.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Specify parameters "ZL1", "ZL2" and "ZL3" in mask "Tools work offset" > "Spindles".

Program Continuation: Clear alarm with the RESET key. Restart part program

61259 Channel %1 block %2: program contains new machining steps from ShopMill %4

Parameters: %1 = Channel number
%2 = Block number, label
%4 = ShopMill version

Definitions: The program has been created with a ShopMill version that is higher than the existing one.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Delete the machining step and reprogram machining if required.

Program Continuation: Clear alarm with the RESET key. Restart part program

61260 Channel %1 block %2: program contains new machining steps from ShopTurn %4

Parameters: %1 = Channel number
%2 = Block number, label
%4 = ShopTurn version

Definitions: The program has been created with a ShopMill version that is higher than the existing one.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Delete the machining step and reprogram machining if required.

Program Continuation: Clear alarm with the RESET key. Restart part program

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61261 **Channel %1 block %2: center offset too large**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The center offset on center drilling is larger than permissible.
Alarm triggered by following cycles: F_DRILL, F_DRILLD.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Enter smaller center offset (see display machine data 9862).

Program Continuation: Clear alarm with the RESET key. Restart part program

61262 **Channel %1 block %2: lead not possible with selected tool**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The lead of the tap does not match the programmed lead.
Alarm triggered by following cycles: F_DR_TAP, F_DRM_TA, F_TAP.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Use a tap with the programmed lead.

Program Continuation: Clear alarm with the RESET key. Restart part program

61263 **Channel %1 Block %2: Chained ShopMill program blocks not permissible in subprogram on pos. pattern**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: If a subroutine is called from a position pattern, the subroutine itself must not include a position pattern.
The alarm is triggered by the following cycle: E_MANAGE

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Reprogram machining.

Program Continuation: Clear alarm with the RESET key. Restart part program

61264 **Channel %1 Block %2: Chained ShopTurn program blocks not permissible in subprogram on pos. pattern**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: If a subroutine is called from a position pattern, the subroutine itself must not include a position pattern.
Alarm triggered by following cycle: F_MANAGE.

Reactions: - Interpreter stop
- NC Start disable in this channel.

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- Interface signals are set.
- Alarm display.

Remedy: Reprogram machining.

Program Continuation: Clear alarm with the RESET key. Restart part program

61265 Channel %1 block %2: Too many restrictions, use rectangular pocket

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In face milling a maximum of only 3 sides can be delimited.
Alarm triggered by following cycle: CYCLE61

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Use pocket cycle.

Program Continuation: Clear alarm with the RESET key. Restart part program

61266 Channel %1 Block %2: Illegal machining direction

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In face milling, the delimitations and the direction of machining do not match.
Alarm triggered by following cycle: CYCLE61

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Select another direction of machining.

Program Continuation: Clear alarm with the RESET key. Restart part program

61267 Channel %1 Block %2: Plane infeed too large, residual corners remain

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In face milling, the plane infeed must not exceed 85%.
Alarm triggered by following cycle: CYCLE61

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Select a smaller plane infeed, as otherwise residual corners will be left over.

Program Continuation: Clear alarm with the RESET key. Restart part program

61268 Channel %1 block %2: Illegal machining direction, residual corners are left over.

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In face milling, the machining direction does not match the selected delimitations.
Alarm triggered by following cycle: CYCLE61.

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Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: The machining direction must be selected to match the delimitations.

Program Continuation: Clear alarm with the RESET key. Restart part program

61269 Channel %1 block %2: External tool diameter too small

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Incorrect tool definition.
Alarm triggered by following cycle: CYCLE61.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check angle and diameter of the tool used.

Program Continuation: Clear alarm with the RESET key. Restart part program

61270 Channel %1 block %2: Chamfer width too small

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Chamfer width selected too small.
Alarm triggered by the following cycles: E_SP_CHA, F_SP_CHA.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Increase the chamfer width.

Program Continuation: Clear alarm with the RESET key. Restart part program

61271 Channel %1 block %2: Chamfer width > tool radius

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Chamfer width larger than tool radius.
Alarm triggered by following cycles: E_SP_CHA, F_SP_CHA.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Use a larger tool.

Program Continuation: Clear alarm with the RESET key. Restart part program

61272 Channel %1 block %2: Insertion depth too small

Parameters: %1 = Channel number
%2 = Block number, label

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Definitions: Insertion depth on chamfering too small.
Alarm triggered by following cycles: E_SP_CHA, F_SP_CHA.
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: Increase the insertion depth.
Program Continuation: Clear alarm with the RESET key. Restart part program

61273 Channel %1 block %2: Insertion depth too large

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Insertion depth on chamfering too large.
Alarm triggered by following cycles: E_SP_CHA, F_SP_CHA.
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: Decrease the insertion depth.
Program Continuation: Clear alarm with the RESET key. Restart part program

61274 Channel %1 block %2: Invalid tool angle

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Invalid tool angle.
Alarm triggered by following cycles: E_SP_CHA, F_SP_CHA.
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: Check tool angle.
Program Continuation: Clear alarm with the RESET key. Restart part program

61275 Channel %1 block %2: Target point violates software limit switch!

Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Due to a swivel action, the end point is outside the software limit switches.
Alarm triggered by following cycle: E_SP_RP.
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: Select another retraction plane or approach a suitable interpolation point.
Program Continuation: Clear alarm with the RESET key. Restart part program

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61276 **Channel %1 block %2: External tool diameter required for restrictions**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Outer tool diameter required in case of delimitations.
Alarm triggered by following cycle: CYCLE61.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Specify the outer tool diameter.

Program Continuation: Clear alarm with the RESET key. Restart part program

61277 **Channel %1 block %2: Tool diameter larger than restriction**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Tool diameter larger than delimitation.
Alarm triggered by following cycle: CYCLE61.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Use a smaller tool.

Program Continuation: Clear alarm with the RESET key. Restart part program

61278 **Channel %1 block %2: If tool angle is larger than 90°, both tool diameters must be equal**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: For tool angles larger than 90°, the two tool diameters must be identical.
Alarm triggered by following cycle: CYCLE61.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Correct the tool angle or the tool diameters.

Program Continuation: Clear alarm with the RESET key. Restart part program

61279 **Channel %1 block %2: If tool angle equals 90°, both tool diameters must be equal**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: For tool angles equal to 90°, the two tool diameters must be identical.
Alarm triggered by following cycle: CYCLE61.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Correct the tool angle or the tool diameters.

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Program Continuation: Clear alarm with the RESET key. Restart part program

61280 Channel %1 Block %2: Mirroring in WO %4 missing

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: If the program starts with a counterspindle movement, a work offset with mirroring will have to be selected.
Alarm triggered by following cycle: F_SUB_SP

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Select the mirroring for the work offset used.

Program Continuation: Clear alarm with the RESET key. Restart part program

61281 Channel %1 block %2: starting point of machining outside retraction planes

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The starting point of machining is outside the retraction planes.
Alarm triggered by following cycle: F_SP_RP.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Adjust the retraction planes.

Program Continuation: Clear alarm with the RESET key. Restart part program

61282 Channel %1 block %2: end point of machining outside retraction planes

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The end point of machining is outside the retraction planes.
Alarm triggered by following cycle: F_SP_RP.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Adjust the retraction planes.

Program Continuation: Clear alarm with the RESET key. Restart part program

61283 Channel %1 block %2: direct approach not possible, as tool change required

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: After block search a position is to be reached by direct approach, but a tool change is required before.
Alarm triggered by following cycle: F_TFS.

Reactions: - Interpreter stop

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- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: First execute a manual tool change, then restart the block search.

Program Continuation: Clear alarm with the RESET key. Restart part program

61284 **Channel %1 block %2: starting point cannot be approached without collision. Pre-position tool manually**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The starting point cannot be approached without collisions.
Alarm triggered by following cycles: F_DRILL, F_DRILLC, F_DRILLD, F_DRM_DR, F_DRM_PE, F_DRM_RE, F_DRM_SI, F_DRM_TA, F_GROOV, F_MIM_TR, F_PARTOF, F_SP_EF, F_TAP, F_TR_CON, F_UCUT_T.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Preposition the tool manually.

Program Continuation: Clear alarm with the RESET key. Restart part program

61285 **Channel %1 block %2: parking position is below return plane XRA.**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The parking position is below retraction plane XRA.
Alarm triggered by following cycle: F_SP_RP.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Move the parking position above retraction plane XRA.

Program Continuation: Clear alarm with the RESET key. Restart part program

61286 **Channel %1 block %2: machining not possible, check tool angle.**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Machining not possible with the specified tool.
Alarm triggered by following cycles: F_UCUT_T.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Use a suitable tool.

Program Continuation: Clear alarm with the RESET key. Restart part program

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61287 **Channel %1 block %2: no master spindle active.**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No master spindle active.
Alarm triggered by following cycle: F_TFS.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Activate the master spindle (machine data 20090).

Program Continuation: Clear alarm with the RESET key. Restart part program

61300 **Channel %1 Block %2: Probe defective**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy:

Program Continuation: Clear alarm with the RESET key. Restart part program

61301 **Channel %1 Block %2: Probe not switching**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The measuring distance was completely traversed but no switching signal was generated at the measuring input.
Alarm can be triggered by following measuring cycles: all measuring cycles.

Remedy: -Check measuring input.
-Check measuring distance.
-Probe defective.

61302 **Channel %1 Block %2: Probe - collision**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The measuring probe collided with an obstacle when being positioned.
Alarm can be triggered by following measuring cycles: all measuring cycles.

Remedy: ? Check spigot diameter (may be too small)
? Check measuring distance (may be to long)

61303 **Channel %1 Block %2: Safety margin exceeded**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The measuring result differs greatly from the specified value.
Alarm can be triggered by following measuring cycles: all measuring cycles.

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Remedy: -Check setpoint value.
-Increase parameter _TSA.

61304 Channel %1 Block %2: Allowance

Parameters: %1 = Channel number
%2 = Block number, label

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy:

Program Continuation: Clear alarm with the RESET key. Restart part program

61305 Channel %1 Block %2: Dimension too small

Parameters: %1 = Channel number
%2 = Block number, label

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy:

Program Continuation: Clear alarm with the RESET key. Restart part program

61306 Channel %1 Block %2: Permissible measuring difference exceeded

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Alarm triggered by following cycles: CYCLE971, CYCLE972, CYCLE974, CYCLE977, CYCLE978, CYCLE979, CYCLE982, CYCLE994.

Remedy: -Check setpoint value
-Increase parameter _TDIF

61307 Channel %1 Block %2: Incorrect measuring variant

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Alarm can be triggered by following measuring cycles: all measuring cycles.

Remedy: The value of parameter _MVAR is impermissible.

61308 Channel %1 Block %2: Check measuring path _FA

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: A traversing path for measuring was generated whose size was specified by parameter _FA that describes the maximum distance before and after the switching position (workpiece edge) and that must have a value greater than 0.
Alarm can be triggered by following measuring cycles: all measuring cycles.

Remedy: Check parameter _FA.

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61309 **Channel %1 Block %2: Check probe type**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Probe type: 3D probe inactive.
This alarm is generated by all cycles except for CYCLE971, CYCLE972, CYCLE982.

Remedy: The probe has to be of the "3D probe" type in the tool management.
Tool type of the workpiece probe in the TO memory is impermissible.
For CYCLE971: no permissible tool probe type entered in _TP[x,8], or check
the permissible working plane G17...G19 for tool type "Wheel".

61310 **Channel %1 Block %2: Scale factor is active**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Scale factor = scaling is active.
Alarm can be triggered by following measuring cycles: all measuring cycles.

Remedy: Switch off the active scale factor in the program. Measuring is not possible with an active scale factor.

61311 **Channel %1 Block %2: No D number active**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No tool offset for the measuring probe (for workpiece measurement) or no tool offset for the active tool (for tool measurement) is selected.
Alarm can be triggered by following measuring cycles: all measuring cycles.

Remedy: Select the tool's tool edge number D.

61312 **Channel %1 Block %2: Check measuring cycle number**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The alarm can be triggered by the following measuring cycles: all measuring cycles.

Remedy: Measuring cycle called is impermissible...

61313 **Channel %1 Block %2: Check probe number**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The probe has an impermissible value (_PRNUM).
The alarm can be triggered by the following measuring cycles: all measuring cycles.

Remedy: Correct _PRNUM or create data field _TP[] or _WP[] for additional tool or workpiece probe
and adjust _CVAL[0]/_CVAL[1] accordingly.

61314 **Channel %1 Block %2: Check selected tool type**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm is triggered: CYCLE971, CYCLE972, CYCLE982.

Remedy: Tool type impermissible for tool measurement/tool probe calibration.

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61315 **Channel %1 Block %2: Check position of cutting edge**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm is triggered: CYCLE972, CYCLE973, CYCLE974, CYCLE982, CYCLE994.

Remedy: Check tool edge position (probe) in TO memory.

61316 **Channel %1 Block %2: Center and radius cannot be determined**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No circle can be calculated from the measured points, as all measured points lie on a straight line.
The alarm is triggered by: CYCLE979

Remedy: Program change

61317 **Channel %1 Block %2: Check parameter CYCLE116**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Parameterization faulty; requires 3 or 4 points to calculate the center point. Alarm is triggered: CYCLE979.

Remedy: Change parameterization of CYCLE116.

61318 **Channel %1 Block %2: Check weighting factor _K**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Parameter _K is 0. Alarm is triggered: CYCLE974, CYCLE977, CYCLE978, CYCLE979, CYCLE994, CYCLE998.

Remedy: Check parameter _K.

61319 **Channel %1 Block %2: Check call parameter CYCLE114**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Internal error in measuring cycles. Alarm is triggered: CYCLE974, CYCLE977, CYCLE978, CYCLE979, CYCLE994, CYCLE998.

Remedy: Check call parameter CYCLE114.

61320 **Channel %1 Block %2: Check tool number**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: With active tool management, parameter _TNUM=0 and parameter _TNAME is not set or the specified tool name of tool management is unknown.
The alarm can be triggered by the following measuring cycles: all measuring cycles.

Remedy: Check parameter _TNUM, _TNAME.

61321 **Channel %1 Block %2: Check WO memory number**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: WO with the number specified in _KNUM not existing. Alarm is triggered: CYCLE974, CYCLE977, CYCLE978, CYCLE979, CYCLE994, CYCLE998.

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Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check parameter _KNUM.

Program Continuation: Clear alarm with the RESET key. Restart part program

61322 Channel %1 Block %2: Check 4th number of _KNUM

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The specified position of _KNUM includes invalid values. Also check _MVAR.
Alarm is triggered: CYCLE974, CYCLE977, CYCLE978, CYCLE979, CYCLE994, CYCLE998, CYCLE114.

Remedy: Check parameter _KNUM, _MVAR.

61323 Channel %1 Block %2: Check 5th number of _KNUM

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The specified position of _KNUM includes invalid values. Also check _MVAR.
Alarm is triggered: CYCLE974, CYCLE977, CYCLE978, CYCLE979, CYCLE994, CYCLE998, CYCLE114.

Remedy: Check parameter _KNUM, _MVAR.

61324 Channel %1 Block %2: Check 6th number of _KNUM

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The specified position of _KNUM includes invalid values. Also check _MVAR.
Alarm is triggered: CYCLE974, CYCLE977, CYCLE978, CYCLE979, CYCLE994, CYCLE998, CYCLE114.

Remedy: Check parameter _KNUM, _MVAR.

61325 Channel %1 Block %2: Check measuring axis/auxiliary measuring axis

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Parameter for metering shaft _MA has an incorrect value.
Alarm is triggered by: all measuring cycles except for CYCLE979.

Remedy: Check parameter _MA.

61326 Channel %1 Block %2: Check measuring direction

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Parameter for measuring direction _MD has an incorrect value. Alarm is triggered: CYCLE973, CYCLE976.

Remedy: Check parameter _MD.

61327 Channel %1 Block %2: Program reset required

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: NC reset required.
Alarm is triggered: all measuring cycles except for CYCLE973, CYCLE976.

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Remedy: Execute NC reset.

61328 Channel %1 Block %2: Check D number

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: D number in parameter _KNUM is 0.
The alarm can be triggered by all measuring cycles.

Remedy: Check parameter _KNUM.

61329 Channel %1 Block %2: Check rotary axis

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No name assigned to the axis number specified under parameter _RA or axis not configured as rotary axis. Alarm is triggered: CYCLE998.

Remedy: Check MD 20080 or MD 30300.

61330 Channel %1 Block %2: Coordinate rotation active

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No measuring possible in the rotated coordinate system. Alarm is triggered: CYCLE972, CYCLE973, CYCLE974, CYCLE994.

Remedy: Check the conditions for measuring.

61331 Channel %1 Block %2: Angle too large, change measuring axis

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Parameter _STA is too large of the specified metering shaft. Alarm is triggered: CYCLE998.

Remedy: Select another metering axis.

61332 Channel %1 Block %2: Modify tool tip position

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The tool tip is below the measuring probe surface (e.g. for a ring gauge or cube). Alarm is triggered: CYCLE971, CYLCE972, CYCLE982, E_MT_CAL, E_MT_LEN, E_MT_RAD.

Remedy: Place the tool above the measuring probe surface.

61333 Channel %1 Block %2: Check calibration facility number

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Parameter _CALNUM is too large. Alarm is triggered: CYCLE973.

Remedy: Reduce _CALNUM to a permissible value or increase maximum value _CVAL[2] in GUD6.

61334 Channel %1 Block %2: Check safety area

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Parameter _SZA, _SZO too large or too small. Alarm is triggered: CYCLE977.

Remedy: Check parameter _SZA, _SZO.

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61336 **Channel %1 Block %2: Geometry axes do not exist**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: No geometry axes configured. Alarm can be triggered by following measuring cycles: all measuring cycles.

Remedy: Machine data in MD 20060 must be changed.

61337 **Channel %1 Block %2: Check measuring input**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy:

Program Continuation: Clear alarm with the RESET key. Restart part program

61338 **Channel %1 Block %2: Positioning speed equal to zero**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: For some measuring versions, for example measuring spigots, in addition to the actual measuring paths, intermediate paths are generated that are traversed with a specified feed. The values for the feed are specified in parameters _SPEED[1] and _SPEED[2] in GUD6.
Alarm triggered by following measuring cycles: all measuring cycles.

Remedy: Check parameter _SPEED[1], _SPEED[2] in GUD6.

61339 **Channel %1 Block %2:Correction factor for rapid traverse speed = 0**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Alarm can be triggered by following measuring cycles: all measuring cycles.

Remedy: Check parameter _SPEED[0] in GUD6.

61340 **Channel %1 Block %2: Incorrect alarm number**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Alarm can be triggered by following measuring cycles: all measuring cycles.

Remedy: Internal error in measuring cycles.

61341 **Channel %1 block %2: Probe not calibrated in active plane.**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE974, CYCLE977, CYCLE978, CYCLE979.

Remedy: Calibrate the probe prior to calling a cycle.

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61342 **Channel %1 Block %2: Invalid software version or wrong format entered in GUD6**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Alarm can be triggered by following measuring cycles: all measuring cycles.

Remedy: Lower than measuring cycle software 6.2:_SI[1] in GUD6 has no value or a value < 3
Higher than measuring cycle software 6.3: Upgrade NCK software version.

61343 **Channel %1 Block %2: No tool available for specified tool identifier**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Alarm can be triggered by following measuring cycles: all measuring cycles.

Remedy: Check name of tool identifier.

61344 **Channel %1 Block %2: Several tools are active**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Alarm can be triggered by following measuring cycles: all measuring cycles.

Remedy: Remove tool from another spindle.

61345 **Channel %1 Block %2: Parameterized D number (_KNUM) too large**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Alarm can be triggered by following measuring cycles: all measuring cycles.

Remedy: Reduce the D number in _KNUM, check software or MD of flat D number.

61346 **Channel %1 Block %2: Distance starting point/measuring point _SETV[0] and _SETV[1] <=0**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE961.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Parameters _SETV[0] or _SETV[1] are empty or smaller than 0.

Program Continuation: Clear alarm with the RESET key. Restart part program

61347 **Channel %1 Block %2: Angle 1st edge - 2nd edge equals 0**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE961.

Remedy: Parameter _INCA equals 0.

61348 **Channel %1 Block %2: Angle rel. to reference edge equals 0**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.

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- Interface signals are set.
- Alarm display.

Remedy:

Program Continuation: Clear alarm with the RESET key. Restart part program

61349 Channel %1 Block %2: Distance upper probe edge - measuring position = 0 for tool radius measurement

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE971.
Parameter _TP[x,9] distance between upper edge and lower edge of tool probe equals 0; relevant for radius measurement.

Remedy: Check parameter _TP[x,9].

61350 Channel %1 block %2: feed, speed not programmed in _MFS for tool measurement with rotating spindle

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE971.
Measuring feed and/or spindle speed of tool measurement with rotating spindle in GUD variable _MFS[2] not specified.

Remedy: Check parameter _MFS[2].

61351 Channel %1 Block %2: Tool length or radius is 0

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE971.
For the active tool, the length or radius equal zero.

Remedy: Check length and radius of the active tool in the compensation data memory.

61352 Channel %1 Block %2: Path for logfile not permitted

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE106.
The specified path for the log file is incorrect.

Remedy: Check parameter _PROTNAME[1].

61353 Channel %1 Block %2: Path for logfile not found

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE106.
The specified directory does not exist or the specified path is incorrect.

Remedy: Check parameter _PROTNAME[1].

61354 Channel %1 Block %2: File for logfile not found

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE106.
No name specified for the log file.

Remedy: Check parameter _PROTNAME[1].

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61355 **Channel %1 Block %2: Incorrect file type for logfile**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE106.
The file extension for the log file is incorrect.

Remedy: Check parameter _PROTNAME[1].

61356 **Channel %1 Block %2: File for logfile is being used**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE106.
The log file is already used by an NC program.

Remedy: Check parameter _PROTNAME[1].

61357 **Channel %1 Block %2: No resources free**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE106.
Not enough NC memory space available.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Delete the files.

Program Continuation: Clear alarm with the RESET key. Restart part program

61358 **Channel %1 Block %2: Error during recording**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE106.
Internal error

Remedy: Call the hotline!

61359 **Channel %1 Block %2: - continue with RESET**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE106.
Internal error

Remedy: Call the hotline!

61360 **Channel %1 Block %2: Log job undefined - continue with RESET**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Alarm triggered by following cycle: CYCLE106.
Cycle CYCLE106 was called by an incorrect parameter.

Remedy: Check cycle call for CYCLE106, specifically the call parameter.

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61361 **Channel %1 Block %2: Variable cannot be recorded**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE105.
The value specified in _PROTVAL[] cannot be logged.

Remedy: Check parameter _PROTVAL[].

61362 **Channel %1 Block %2: Cycle118: No. of values too large**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE118.
4th parameter for CYCLE118 is larger than 10.

Remedy: Reduce the 4th parameter (PAR4) of CYCLE118.

61363 **Channel %1 Block %2: Max. no. of value lines for recording exceeded**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Maximum number of value lines exceeded.
Alarm triggerd by following cycle: CYCLE105.

Remedy: Reduce the number of value lines.
Check parameter _PROTFORM[4].

61364 **Channel %1 block %2: Check distance from measuring point 1 to measuring point2**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE998.
Parameter _ID is <= 0.

Remedy: Check parameter _ID.

61365 **Channel %1 block %2: Check circular feed**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE979.
Parameter _RF is <= 0.

Remedy: Check parameter _RF.

61366 **Channel %1 block %2: Direction of rotation for tool measurement with rotating spindle not specified in _CM[5]**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE971.
Permissible values for data field _CM[5] in GUD6 block are 3 (corresponds to M3) or 4 (corresponds to M4).

Remedy: Check parameter _CM[5] in GUD6.

61367 **Channel %1 block %2: Parameters _SETV[0...3] or _SETV[4...7] are identical**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE961.

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Remedy: Specify different positions for the relevant points of _SETV[0...7] .

61368 **Channel %1 block %2: Straights through parameter _SETV[0...3] or _SETV[4...7]do not intersect**

Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm is triggerd by the following cycles: CYCLE961.
Remedy: Specify different positions for the relevant points of _SETV[0...7] .

61369 **Channel %1 block %2: Position of corner not clearly definable, check parameter (_SETV[0...7])**

Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm is triggerd by the following cycles: CYCLE961.
Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
Remedy: Define P1 and P2 or P3 and P4 in a way that the intersection of the straights determined by these points is outside the sections formed by P1 and P2 or P3 and P4.
Program Continuation: Clear alarm with the RESET key. Restart part program

61370 **Channel %1 block %2: _PROTVAL[0] -_PROTVAL[5] do not have any entries**

Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm is triggerd by the following cycles: CYCLE105.
Remedy: Enter values in _PROTVAL[0...5].

61371 **Channel %1 block %2: Product of column width and number of columns exceeds 200 characters per line**

Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm is triggerd by the following cycles: CYCLE105.
Remedy: Reduce the column width (_PROTFORM[4]) or number of columns (_PROTVAL[2...5]).

61372 **Channel %1 block %2: selected meas.variant requires SPOS-capable spindle**

Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: Alarm can be triggered by following measuring cycles: all measuring cycles.
Remedy: Change measuring variant or check machine equipment.

61373 **Channel %1 block %2: Mono-directional probe requires SPOS-capable spindle**

Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: Alarm can be triggered by following measuring cycles: all measuring cycles.
Remedy: Check machine equipment.

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61401 **Channel %1 block %2: Probe not switching, traversing path limitation through software limit position**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE961, CYCLE971, CYCLE976, CYCLE977, CYCLE978, CYCLE998
The position defined by a setpoint value cannot be reached, as the software limit position has been exceeded.

Remedy: Check specified setpoint value.

61402 **Channel %1 block %2: Probe collision, traversing path limitation through software limit position**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE977
For the measuring variant Measure web/shaft, the position path in the plane was limited by the software limit position. The probe switched in the following infeed along the infeed axis.

Remedy: Check programmed position regarding software end position.

61403 **Channel %1 block %2: Internal cycle error during frame calculation.**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Alarm can be triggered by following measuring cycles: all measuring cycles.

Remedy: Call the SIEMENS hotline

61404 **Channel %1 block %2: Internal cycle error during tool offset.**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Alarm can be triggered by following measuring cycles: all measuring cycles.

Remedy: Check the dependent tool specifications.

61405 **Channel %1 block %2: tool environment does not exist in _TENV**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Alarm can be triggered by following measuring cycles: all measuring cycles.

Remedy: Correct the names or create this environment.

61406 **Channel %1 block %2: check DL number in _DLNUM**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Alarm can be triggered by following measuring cycles: all measuring cycles.

Remedy: Check the number of additive offset and setup offset.
Check parameter _DLNUM.

61407 **Channel %1 block %2: check 7th digit and higher of _KNUM**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The 6th position of _KNUM includes invalid values.
Alarm can be triggered by following measuring cycles: all measuring cycles.

Remedy: Check the number of additive offset and setup offset.

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Check parameter _KNUM.

61408 **Channel %1 block %2: total offsets not present**
Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: Alarm can be triggered by following measuring cycles: all measuring cycles.
Remedy: Set MD 18080, Bit 8=1

61409 **Channel %1 block %2: set up offsets not present**
Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: Alarm can be triggered by following measuring cycles: all measuring cycles.
Remedy: Set MD 18112, Bit 4=1

61410 **Channel %1 block %2: option or offset value not present**
Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: Alarm can be triggered by following measuring cycles: all measuring cycles.
Remedy: The variable to be corrected requires an option or an increase in MD values.

61411 **Channel %1 block %2: frame calculation impossible, check values**
Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm is triggerd by the following cycles: CYCLE997, CYCLE119
Remedy: Check the setpoint and actual values

61412 **Channel %1 block %2: channel basic frame not present**
Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm is triggerd by the following cycles: CYCLE997, CYCLE119
Remedy: Set MD 28081>0, $P_CHBFRMASK>0

61413 **Channel %1 block %2: check setpoint of ball diameter, _SETVAL<=0**
Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm is triggerd by the following cycles: CYCLE997
Remedy: Check setpoint value of spherical diameter.

61414 **Channel %1 block %2 : distortion of triangle over limit**
Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm is triggerd by the following cycles: CYCLE997, CYCLE119
Remedy: Check the setpoint and actual values

61415 **Channel %1 block %2: check probe / machining plane**
Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm is triggerd by the following cycles: CYCLE971
Remedy: Enter permissible probe (_TP[x,8], _TPW[x,8]) for machining plane or change machining plane.

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61416 **Channel %1 block %2: adapt array size %4!**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: "Adjust field size _TP[ ]/_CVAL[0]!" or "Adjust field size _WP[ ]/_CVAL[1]!" or "Adjust field size _KP[ ]/_CVAL[2]!" or "Adjust field size _TWP[ ]/_CVAL[3]!". Check probe/machining plane.
Alarm triggered by following measuring cycles: all measuring cycles.

Remedy: Adjust _CVAL entry with the number of available probe or calibration block data fields.

61417 **Channel %1 block %2: Probe will collide with the carrier of the reference groove.**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following measuring cycles: CYCLE973

Remedy: Take up collision-free initial position of the axes involved in the measuring process.

61418 **Channel %1 block %2: Protocol file too small, check MD11420: LEN_PROTOCOL_FILE.**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Alarm can be triggered by following measuring cycle: CYCLE106

Remedy: Check MD11420: LEN_PROTOCOL_FILE.

61419 **Channel %1 block %2: Check probe ball calibration of center point/south pole**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following measuring cycles: CYCLE974, CYCLE994, CYCLE977, CYCLE978, CYCLE979, CYCLE997, CYCLE998

Remedy: The workpiece probe must be calibrated according to its use in the measuring cycles.

61420 **Channel %1 block %2: Check calibration of multi/mono probes.**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following measuring cycles: CYCLE974, CYCLE994, CYCLE977, CYCLE978, CYCLE979, CYCLE997, CYCLE998

Remedy: The workpiece probe must be calibrated according to its type and use.

61501 **Channel %1 block %2: Simulation is active**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycles: all grinding cycles

Remedy: Reset simulation

61502 **Channel %1 block %2: No tool offset active**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycles: all grinding cycles

Remedy: A tool number must be programmed

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61503 **Channel %1 block %2: tool nose radius compensation left or right**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycles: CYCLE410, CYCLE411, CYCLE412, CYCLE413, CYCLE414, CYCLE415, CYCLE416, CYCLE420

Remedy: A tool offset value has to be programmed

61504 **Channel %1 block %2: _KNG incorrect for setup**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: setup function

Remedy:

61505 **Channel %1 block %2: retraction path < 1mm**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: CYCLE420

Remedy: Increase retraction path

61506 **Channel %1 block %2: infeed path < 1mm**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: CYCLE420

Remedy: Increase infeed path

61507 **Channel %1 block %2: safety clearance < 1mm**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: setup function

Remedy:

61508 **Channel %1 block %2: Incorrect default setting for shoulder position**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: setup function

Remedy:

61509 **Channel %1 block %2: Incorrect default setting for dresser position**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: setup function

Remedy:

61510 **Channel %1 block %2: Test run feed is active**

Parameters: %1 = Channel number
%2 = Block number, label channel number

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Definitions: The alarm can be triggered by the following grinding cycles: CYCLE410, CYCLE411, CYCLE413, CYCLE415, CYCLE420
Remedy: Switch off test run feed

61511 Channel %1 block %2: Incorrect shoulder position or tool edge D1/D2
Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm can be triggered by the following grinding cycle: setup function
Remedy:

61512 Channel %1 block %2: Incorrect longitudinal position
Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm can be triggered by the following grinding cycle: setup function
Remedy:

61513 Channel %1 block %2: Dresser left and inclined grinding wheel
Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm can be triggered by the following grinding cycle: setup function
Remedy:

61514 Channel %1 block %2: Grinding wheel type missing
Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm can be triggered by the following grinding cycle: setup function
Remedy:

61515 Channel %1 block %2: Retraction path <= dressing amount
Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm can be triggered by the following grinding cycle: CYCLE416
Remedy: Change retraction path

61517 Channel %1 block %2: Angle of inclined grinding wheel missing
Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm can be triggered by the following grinding cycle: CYCLE416
Remedy: Enter angle under $TC_TPG8

61518 Channel %1 block %2: Shoulder height of grinding wheel must be > grinding wheel radius
Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm can be triggered by the following grinding cycle: CYCLE432
Remedy: Change shoulder height or grinding wheel radius

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61519 **Channel %1 block %2: Incorrect type of machining**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycles: CYCLE410, CYCLE411, CYCLE412, CYCLE413, CYCLE415

Remedy: Assign a value between 1 and 3 to parameter B_ART

61520 **Channel %1 block %2: Additional offsets not set**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycles: CYCLE413, CYCLE420, CYCLE433

Remedy: Set MD18094 MM_NUM_CC_TDA_PARAM=10

61521 **Channel %1 block %2: Current grinding wheel too wide**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycles: CYCLE411, CYCLE415

Remedy: Reduce width of grinding wheel

61522 **Channel %1 block %2: Overlap >= current grinding wheel width**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: CYCLE411

Remedy: Reduce overlap

61523 **Channel %1 block %2: Zero signal of calipers missing**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycles: CYCLE410, CYCLE411, CYCLE413

Remedy: Check calipers signal

61524 **Channel %1 block %2: Incorrect oblique angle**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: CYCLE413

Remedy: Oblique plunge angles must be >-90° and <90°

61525 **Channel %1 block %2: Incorrect grinding wheel type**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: CYCLE413

Remedy: Change grinding wheel type $TC_TPC1

61526 **Channel %1 block %2: Workpiece radius = 0**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: CYCLE414

Remedy: Enter workpiece radius > 0

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61527 **Channel %1 block %2: Grinding wheel radius >= workpiece radius**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: CYCLE414

Remedy: Change grinding wheel radius or workpiece radius

61529 **Channel %1 block %2: Dimensional notation INCH programmed**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycles: CYCLE410, CYCLE411, CYCLE412, CYCLE413, CYCLE414, CYCLE415, CYCLE420

Remedy: Basic system MD $MN_SCALING_SYSTEM_IS_METRIC does not correspond to programmed G command (G group 13).

61530 **Channel %1 block %2: Default longitudinal position incorrect**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycles: CYCLE420

Remedy: Check longitudinal position parameter

61531 **Channel %1 block %2: Longitudinal position not registered in Z**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycles: CYCLE420

Remedy: Increase infeed path parameter

61532 **Channel %1 block %2: Value for _LAGE is incorrect**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: CYCLE414

Remedy: Correct parameter content for _LAGE

61533 **Channel %1 block %2: No length L1 entered under D...**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycles: CYCLE416, CYCLE420

Remedy: Enter length L1 in the tool offset D of the grinding wheel

61540 **Channel %1 block %2: Incorrect D number / dresser D field active**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycles: CYCLE401, CYCLE402, CYCLE403, CYCLE443

Remedy: A tool D number must be programmed that is < _GC_DNUM

61541 **Channel %1 block %2: Incorrect grinding wheel type entered**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycles: CYCLE432, CYCLE434, CYCLE435, CYCLE436, CYCLE438, CYCLE439, CYCLE444, CYCLE447

Remedy: Select a valid grinding wheel type in tool management

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61542 **Channel %1 block %2: Incorrect grinding wheel reference point selected when selecting the dresser coordinate system**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycles: CYCLE435, CYCLE441, CYCLE447

Remedy: A tool D number must be programmed that is < _GC_DNUM

61543 **Channel %1 block %2: Incorrect dresser selected when selecting the dresser coordinate system**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycles: CYCLE402, CYCLE435, CYCLE442, CYCLE447

Remedy: A dresser number >0 and <4 must be selected

61544 **Channel %1 block %2: Grinding wheel diameter worn down**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: CYCLE438

Remedy: New grinding wheel required, or check limit values in the grinding wheel data

61545 **Channel %1 block %2: Width of grinding wheel worn down**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: CYCLE438

Remedy: New grinding wheel required, or check limit values in the grinding wheel data

61546 **Channel %1 block %2: Dresser %4, wear limit length 1 reached**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: CYCLE438

Remedy: New dresser required, or check limit values of dresser

61547 **Channel %1 block %2: Dresser %4, wear limit length 2 reached**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: CYCLE438

Remedy: New dresser required, or check limit values of dresser

61548 **Channel %1 block %2: Dresser %4, wear limit length 3 reached**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: CYCLE438

Remedy: New dresser required, or check limit values of dresser

61549 **Channel %1 block %2: Incorrect dresser type selected**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycles: CYCLE402, CYCLE421, CYCLE422, CYCLE423, CYCLE424

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Remedy: Check dresser type on input

61555 **Channel %1 block %2: Diameter of grinding wheel ==0, GWPS cannot be calculated**
Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm can be triggered by the following grinding cycle: CYCLE446
Remedy: Check diameter

61556 **Channel %1 block %2: Impossible chamfer and radius of left edge of wheel**
Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm can be triggered by the following grinding cycle: CYCLE432
Remedy: Check values in grinding wheel data

61557 **Channel %1 block %2: Impossible chamfer and radius of right edge of wheel**
Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm can be triggered by the following grinding cycle: CYCLE432
Remedy: Check values in grinding wheel data

61558 **Channel %1 block %2: Chamfer / radius + shoulder height are less than the retraction height of the left edge of the grinding wheel**
Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm can be triggered by the following grinding cycle: CYCLE432
Remedy: Check values in grinding wheel data

61559 **Channel %1 block %2: Chamfer / radius + shoulder height are less than the retraction height of the right edge of the grinding wheel**
Parameters: %1 = Channel number
%2 = Block number, label channel number
Definitions: The alarm can be triggered by the following grinding cycle: CYCLE432
Remedy: Check values in grinding wheel data

61601 **Channel %1 block %2: Finished part diameter too small**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The programmed radius of the machined part is too small. Alarm triggered by following cycles: CYCLE94, CYCLE96.
Remedy: Check parameter SPD or DIATH.

61602 **Channel %1 block %2: Tool width incorrectly defined**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Plunge cutter is larger than the programmed groove width. Alarm triggered by following cycle: CYCLE93.
Remedy: Check tool or change program.

61603 **Channel %1 block %2: Recess type incorrectly defined**
Parameters: %1 = Channel number
%2 = Block number, label

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Definitions: Radii/chamfers at the groove base do not match the groove width. Face groove on a contour element running parallel to the longitudinal axis is not possible. Alarm triggered by following cycle: CYCLE93.
Remedy: Check parameter VARI.

61604 Channel %1 block %2: Active tool violates programmed contour
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Contour violation in the relief cut elements due to the tool clearance angle of the tool used. Alarm triggered by following cycle: CYCLE95.
Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop
Remedy: Use a different tool or check the contour subroutine.
Program Continuation: Clear alarm with the RESET key. Restart part program

61605 Channel %1 block %2: Contour incorrectly programmed
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Illegal relief cut element detected. Alarm triggered by following cycles: CYCLE76, CYCLE77, CYCLE95.
Remedy: Check contour program.

61606 Channel %1 block %2: Error during contour preparation
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: An error has been found on conditioning the contour. This alarm is always related to one of NCK alarms 10930...10934, 15800 or 15810. Alarm triggered by following cycle: CYCLE95.
Remedy: Check contour subroutine.

61607 Channel %1 block %2: Starting point incorrectly programmed
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The starting point reached before the cycle call does not lie outside the rectangle described by the contour subroutine. Alarm triggered by following cycle: CYCLE95.
Remedy: Check starting point prior to cycle call.

61608 Channel %1 block %2: Incorrect tool point direction programmed
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE94, CYCLE96.
Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop
Remedy: A cutting edge position 1...4, matching the undercut form, must be programmed.
Program Continuation: Clear alarm with the RESET key. Restart part program

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61609 **Channel %1 block %2: Shape incorrectly defined**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE94, CYCLE96, LONGHOLE, POCKET3, SLOT1.

Remedy: Check parameter for the undercut form or groove form or pocket.

61610 **Channel %1 Block %2: No infeed depth programmed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE76, CYCLE77, CYCLE96.

Remedy: Check parameter MID.

61611 **Channel %1 Block %2: No point of intersection found**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No intersection could be calculated with the contour. Alarm triggered by following cycle: CYCLE95.

Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy: Check contour programming or modify infeed depth.

Program Continuation: Clear alarm with the RESET key. Restart part program

61612 **Channel %1 block %2: Thread finishing not possible**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE97, CYCLE98.

Remedy: Check the conditions for thread finishing.

61613 **Channel %1 block %2: Undercut position incorrectly defined**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE94, CYCLE96.

Reactions: - Alarm display.
- Interface signals are set.
- NC Start disable in this channel.
- Interpreter stop

Remedy: Check value in parameter _VARI.

Program Continuation: Clear alarm with the RESET key. Restart part program

61701 **Channel %1 block %2: Error in finished part contour description**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Either none of parameters _NP1, _NP2 and _NP3 supplied or error in finished part contour programming.
Alarm triggered by following cycle: CYCLE950

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Remedy: • Check parameters _NP1, _NP2 and _NP3.
• Check finished-part contour programming.

61702 Channel %1 block %2: Error in blank contour description

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Either none of parameters _NP5, _NP6 and _NP7 supplied or error in blank contour programming.
The alarm is triggered by the following cycles: CYCLE950

Remedy: • Check parameters _NP5, _NP6 and _NP7.
• Check blank contour programming.

61703 Channel %1 block %2: Internal cycle error while deleting file

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE950, CYCLE73, CYCLE74, CYCLE75.

Remedy: --

61704 Channel %1 block %2: Internal cycle error while writing to file

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE950, CYCLE73, CYCLE74, CYCLE75.

Remedy: --

61705 Channel %1 block %2: Internal cycle error while reading to file

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE950, CYCLE73, CYCLE74, CYCLE75.

Remedy: --

61706 Channel %1 block %2: Internal cycle error while generating checksum

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE950, CYCLE73, CYCLE74, CYCLE75.

Remedy: --

61707 Channel %1 block %2: internal cycle error with ACTIVATE at HMI

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE950, CYCLE73, CYCLE74, CYCLE75.

Remedy: --

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61708 **Channel %1 block %2: internal cycle error with READYPROG at HMI**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE950, CYCLE73, CYCLE74, CYCLE75.

Remedy: --

61709 **Channel %1 block %2: Timeout in contour calculation**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: --

61710 **Channel %1 block %2: Stock removal program not available**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Internal

61711 **Channel %1 block %2: Name of stock removal program missing**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Internal

61712 **Channel %1 block %2: Tool parameter for machining direction not defined**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Internal

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61720 **Channel %1 block %2: Incorrect parameter input.**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: --

61721 **Channel %1 block %2: Error contour direction cannot be determined**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: --

61722 **Channel %1 block %2: System error**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: --

61723 **Channel %1 block %2: Machining not possible**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: Use a tool with a larger clearance angle.

61724 **Channel %1 block %2: Material not available**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: --

61725 **Channel %1 block %2: Memory space problem, therefore error in contour generating**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: --

61726 **Channel %1 block %2: Internal error: Memory space problem _FILECTRL_INTERNAL_ERROR**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: --

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61727 **Channel %1 block %2: Internal error: Memory space problem _FILECTRL_EXTERNAL_ERROR**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: --

61728 **Channel %1 block %2: Internal error: Memory space problem _ALLOC_P_INTERNAL_ERROR**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: --

61729 **Channel %1 block %2: Internal error: Memory space problem _ALLOC_P_EXTERNAL_ERROR**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: --

61730 **Channel %1 block %2: Internal error: invalid memory**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: --

61731 **Channel %1 block %2: Internal error: floating point exception**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: --

61732 **Channel %1 block %2: Internal error: invalid instruction**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: --

61733 **Channel %1 block %2: Internal error: Floating_Point_Error**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE950.

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Remedy: --

61734 **Channel %1 block %2: Cutting edge not compatible with cutting direction**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: --

61735 **Channel %1 block %2: Finished part not within blank contour**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: Check blank contour definition.

61736 **Channel %1 block %2: Insert length of tool < machining depth**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: --

61737 **Channel %1 block %2: Machining_cutting_depth > tool nose radius**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: --

61738 **Channel %1 block %2: Machining_cutting_depth < tool nose radius**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: --

61739 **Channel %1 block %2: Wrong insert position of tool for this machining operation**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: --

61740 **Channel %1 block %2: Blank must be closed contour**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: Check whether blank contour is closed, i.e. starting point = end point.

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61741 **Channel %1 block %2: Abort due to insufficient memory space**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: --

61742 **Channel %1 block %2: Approach collision, correction not possible**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE950.

Remedy: --

61766 **Channel %1 block %2: Error in blank program**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Internal

61798 **Channel %1 block %2: Acknowledgment error ACTIVATE**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Internal

61799 **Channel %1 block %2: Acknowledgment error READYPROG**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Internal

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61800 **Channel %1 block %2: Ext. CNC system missing**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Machine data for external language MD18800: $MN_MM_EXTERN_LANGUAGE or option bit 19800 $ON_EXTERN_LANGUAGE is not set.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Internal

61801 **Channel %1 block %2: Wrong G code selected**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In the program call CYCLE300<value> an impermissible numerical value was programmed for the entered CNC_System, or in the Cycles_Setting_Datum an incorrect value for the G_Code_System was set.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Internal

61802 **Channel %1 block %2: Wrong axis type**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The programmed axis is assigned to a spindle

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Internal

61803 **Channel %1 block %2: Programmed axis not available**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The programmed axis is not in the system.
Alarm triggered by following cycles: CYCLE83, CYCLE84, CYCLE840.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check parameter _AXN.
Check MD20050-20080.

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Program Continuation: Clear alarm with the RESET key. Restart part program

61804 Channel %1 block %2: Progr. position exceeds reference point

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The programmed intermediate position or actual position is behind the reference point.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Internal

61805 Channel %1 block %2: Value programmed absolute and incremental

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The programmed intermediate position is both absolutely as well as incrementally programmed.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Internal

61806 Channel %1 block %2: Wrong axis assignment

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The axis-assignment sequence is wrong.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Internal

61807 Channel %1 block %2: Wrong spindle direction programmed (active)

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE840.
The programmed spindle direction contradicts the spindle direction planned for the cycle.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check parameters SDR and SDAC.

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Program Continuation: Clear alarm with the RESET key. Restart part program

61808 Channel %1 block %2: Final drilling depth or single drilling depth missing

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The total depth Z or individual drilling depth Q is missing from theG8xblock (initial cycle call).

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Internal

61809 Channel %1 Block %2: Drill position not permissible

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: --

Reactions:
- Alarm display.

Remedy: --

Program Continuation: Internal

61810 Channel %1 Block %2: ISO G code not possible

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In the call block an impermissible ISO axis name was programmed.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Internal

61811 Channel %1 Block %2: ISO axis name illegal

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In the call block an impermissible numerical value was programmed.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Internal

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61812 **Channel %1 Block %2: Value(s) in external cycle call wrongly defined**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: In the call block an impermissible numerical value was programmed.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Internal

61813 **Channel %1 Block %2: GUD value wrongly defined**

Definitions: An impermissible numerical value was entered in the cycles-setting data.

Reactions: - Alarm display.

Remedy: --

Program Continuation: Internal

61814 **Channel %1 block %2: Polar coordinates not possible with cycle**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: --

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Internal

61815 **Channel %1 block %2: G40 not active**

Parameters: %1 = Channel number
%2 = Block number

Definitions: G40 was inactive before the cycle call.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Internal

61816 **Channel %1 Block %2: Axes not on reference point**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: --

Reactions: - Alarm display.

Remedy: --

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Program Continuation: Internal

61817 **Channel %1 Block %2: Axis coordinates within protection zone**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: --

Reactions: - Alarm display.

Remedy: --

Program Continuation: Internal

61818 **Channel %1 Block %2: Axis range limits are equal**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: --

Reactions: - Alarm display.

Remedy: --

Program Continuation: Internal

61900 **Channel %1 block %2: No contour available**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.

Remedy: --

61901 **Channel %1 block %2: Contour not closed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.

Remedy: --

61902 **Channel %1 block %2: No more memory available**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.

Remedy: --

61903 **Channel %1 block %2: Too many contour elements**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.

Remedy: --

61904 **Channel %1 block %2: Too many intersections**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.

Remedy: --

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61905 **Channel %1 block %2: Cutter radius too small**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: The diameter of the cutter used is too small, residual material is left in the groove. Alarm triggered by following cycles: SLOT2, CYCLE73, CYCLE74, CYCLE75.
Remedy: Use a tool with a larger radius.

61906 **Channel %1 block %2: Too many contours**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

61907 **Channel %1 block %2: No center point specified for circle**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

61908 **Channel %1 block %2: No starting point specified**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

61909 **Channel %1 block %2: Helix radius too small**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

61910 **Channel %1 block %2: Helix violates contour**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

61911 **Channel %1 block %2: Several approach points required**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

61912 **Channel %1 block %2: No path to generate**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: --
Reactions: - Alarm display.
Remedy: --

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Program Continuation: Internal

61913 **Channel %1 block %2: No residual material generated**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

61914 **Channel %1 block %2: Programmed helix violates contour**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

61915 **Channel %1 block %2: Approach/retract motion violates contour**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

61916 **Channel %1 block %2: Ramp path too short**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

61917 **Channel %1 block %2: Residual corners may remain with overlapping of less than 50%**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

61918 **Channel %1 block %2: Cutter radius for residual material too large**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

61980 **Channel %1 block %2: Error in the island contour**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

61981 **Channel %1 block %2: Error in the edge contour**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.

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Remedy: --

61982 **Channel %1 block %2: Infeed width in the plane too large**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

61983 **Channel %1 block %2: Pocket edge contour missing**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

61984 **Channel %1 block %2: Tool parameter _TN not defined**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

61985 **Channel %1 block %2: Program name for drilling positions missing**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

61986 **Channel %1 block %2: Program pocket milling missing**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

61987 **Channel %1 block %2: Program drilling positions missing**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

61988 **Channel %1 block %2: Program name for pocket milling missing**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

61989 **Channel %1 block %2: D1 is not programmed as active tool cutting edge**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycles: CYCLE73, CYCLE74, CYCLE75.
Remedy: --

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62000 **Channel %1 block %2:**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: --

Reactions: - Alarm display.

Remedy: --

Program Continuation: Clear alarm with the Delete key or NC START.

62000 **Channel %1 block %2: Insert new tool**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Please load new tool.

Remedy: --

62100 **Channel %1 block %2: No drilling cycle active**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No modal drilling cycle has been called before the drilling pattern cycle call. Alarm triggered by following cycles: HOLES1, HOLES2.

Remedy: Check whether a drilling cycle was called prior to calling the drilling pattern cycle.

62101 **Channel %1 Block %2: Milling direction incorrect - G3 is generated**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Synchronous or reverse rotation programmed. But the spindle does not rotate at a cycle call.

Remedy: Check value in paramter CDIR.

62102 **Channel %1 Block %2: pocket not completely solidly machined during finishing**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions:

Reactions: - Alarm display.

Remedy:

Program Continuation: Clear alarm with the Delete key or NC START.

62103 **Channel %1 Block %2: No finishing allowance programmed**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No finishing allowance is programmed, although it is necessary for this machining.

Reactions: - Alarm display.

Remedy: Programm a finishing allowance.

Program Continuation: Clear alarm with the Delete key or NC START.

62104 **Channel %1 Block %2: Drilling cycle incorrectly defined**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions:

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Reactions: - Alarm display.
Remedy:
Program Continuation: Clear alarm with the Delete key or NC START.

62105 **Channel %1 block %2: Number of columns or lines equals zero**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycle: CYCLE801.
Remedy: Check parameters _NUM1 and _NUM2.

62106 **Channel %1 block %2: incorrect value for monitoring status in tool monitoring**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions:
Reactions: - Alarm display.
Remedy:
Program Continuation: Clear alarm with the Delete key or NC START.

62107 **Channel %1 block %2: parameter %4 incorrectly defined for tool monitoring in cycles**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions:
Reactions: - Alarm display.
Remedy:
Program Continuation: Clear alarm with the Delete key or NC START.

62108 **Channel %1 block %2: error in function Tool monitoring in cycles**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions:
Reactions: - Alarm display.
Remedy:
Program Continuation: Clear alarm with the Delete key or NC START.

62180 **Channel %1 block %2: Set rotary axes %4 [deg]**
Parameters: %1 = Channel number
%2 = Block number, label
Definitions: Alarm triggered by following cycle: CYCLE800.

Note on 62180 and 62181:
Sample display of the swivel angle to be set for a manual rotary axis in CYCLE800:
62181 "Set rotary axis B: 32.5 [grd]"
Remedy: Settable angles for manual rotary axes.

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62181 **Channel %1 block %2: Set rotary axis %4 [deg]**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE800.

Note on 62180 and 62181:
Sample display of the swivel angle to be set for a manual rotary axis in CYCLE800:
62181 "Set rotary axis B: 32.5 [grd]"

Remedy: Settable angle for manual rotary axis.

62182 **Channel %1 block %2 : load inclinable head: %4**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: No swivel head is active. Alarm triggered by following cycles: E_TCARR, F_TCARR.

Reactions: - Alarm display.

Remedy: Request to load a swivel head.

Program Continuation: Clear alarm with the Delete key or NC START.

62183 **Channel %1 block %2 : unload inclinable head: %4**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE800.

Reactions: - Alarm display.

Remedy: --

Program Continuation: Clear alarm with the Delete key or NC START.

62184 **Channel %1 block %2 : replace inclinable head: %4**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE800.

Reactions: - Alarm display.

Remedy: --

Program Continuation: Clear alarm with the Delete key or NC START.

62185 **Channel %1 block %2 : angle adapted to angle grid: %4**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: %4 difference angle with Hirth tooth system
Alarm triggered by following cycle: CYCLE800.

Remedy: Check installation and start-up of the swivel cycle CYCLE800.

62186 **Channel %1 Block %2: Swiveling in JOG --> active WO G%4 and basic frames contain rotations**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Alarm triggered by following cycle: CYCLE800.

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Note for 62186 and 62187:
Set and active error messages 62186 and 62187 with GUD7 parameter _TC_FR:
100th position 0xx -> no error analysis 62186 61287
1xx -> error analysis 62186 - active WO G%4 and basic frames include rotations
2xx -> error analysis 62187 - several active basic frames (G500) include rotations
3xx -> error analyses 62186 and 62187.

Remedy: For %4 of the active WO see notes for 62186 and 62187.

62187 Channel %1 Block %2: Swiveling in JOG --> several active basic frames (G500) contain rotations

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Several active basic frames (G500) include rotations.
Alarm triggered by following cycle: CYCLE800.

Note on 62186 and 62187
Setting of the activation of error messages 62186 and 62187 with GUD7 parameter _TC_FR:
100's place 0xx -> no error evaluation 62186 61287
1xx -> error evaluation 62186 - active NV G%4 and basic frames include rotations
2xx -> error evaluation 62187 - several active basic frames (G500) include rotations
3xx -> error evaluation 62186 and 62187

Remedy: See notes for 62186 and 62187.

62200 Channel %1 Block %2: Start spindle

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: Stop prior to thread machining, as the spindle is in stop position.
Alarm triggered by following cycles: ASUP, E_TR_CON, F_TR_CON.

Remedy: Start the tool spindle before machining the thread.

62201 Channel %1 block %2: Z offset does not influence the retraction planes.

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: The retraction planes refer to the workpiece. Therefore, programmable offsets do not influence the retraction planes.
Alarm triggered by following cycle: F_SP_RP.

Remedy: Ensure that the offset will not cause a collision.
Then start the NC.
The alarm can be suppressed via display machine data 9898.

62202 Channel %1 block %2: NOTICE: tool travels directly to machining!

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: After block search a position is to be reached by direct approach.
Alarm triggered by following cycle: F_TFS.

Remedy: Check whether the desired position can be reached without collision.
Then execute an NC start.

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62300 **Channel %1 Block %2: Check number of empirical value memory**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: --

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check setpoint value
Increase parameter _TSA

Program Continuation: Clear alarm with the RESET key. Restart part program

62303 **Channel %1 Block %2: Safety margin exceeded**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Alarm can be triggered by following measuring cycles: all measuring cycles.

Remedy: -Check setpoint value
-Increase parameter _TSA

62304 **Channel %1 Block %2: Allowance**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE974, CYCLE977, CYCLE978, CYCLE979, CYCLE994.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: The difference between actual and setpoint value is larger than upper tolerance limit (parameter _TUL).

Program Continuation: Clear alarm with the RESET key. Restart part program

62305 **Channel %1 Block %2: Dimension too small**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE974, CYCLE977, CYCLE978, CYCLE979, CYCLE994

Remedy: The difference between actual and setpoint value is smaller than lower tolerance limit (parameter _TLL).

62306 **Channel %1 Block %2: Permissible measuring difference exceeded**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE971, CYCLE972, CYCLE974, CYCLE977, CYCLE978, CYCLE979, CYCLE982, CYCLE994

Remedy: The difference between actual and setpoint value is larger than tolerance parameter _TDIF, tool data are not corrected.

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62307 **Channel %1 block %2: Maximum number of characters per line exceeded.**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE105
Insufficient number of characters per line.

Remedy: Increase the value in _PROTFORM[1]

62308 **Channel %1 Block %2: Variable column width not possible**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE105.
Unable to generate variable column widths, as no header available.
A fixed column width of 12 characters is used.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Complete the header in _PROTVAL[0].

Program Continuation: Clear alarm with the RESET key. Restart part program

62309 **Channel %1 Block %2: Insufficient column width**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggerd by the following cycles: CYCLE105.
The value to be logged is larger than the column width.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Adjust _PROTFORM[5] or change the header at variable column width.

Program Continuation: Clear alarm with the RESET key. Restart part program

62310 **Channel %1 block %2: The max. number of characters per line is limited to 200 characters per line**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Alarm triggered by following cycles: CYCLE105.
The maximum number of characters per line has been limited to 200 characters per line.

Remedy: --

62311 **Channel %1 block %2: The maximum number of characters per line _PROTFORM[1] is adjusted.**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggered by the following cycles: CYCLE105
Max. number of characters per line _PROTFORM[1] has been adjusted.

Reactions: - Interpreter stop
- NC Start disable in this channel.

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- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62312 **Channel %1 block %2: probe is not perpendicular to plane!**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62313 **Channel %1 block %2: The number of lines per page _PROTFORM[0] is incorrect and is automatically adjusted.**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: Alarm triggered by following cycle: CYCLE106.

Remedy: Check _PROTFORM[0] in the program.

62314 **Channel %1 block %2: Traverse path limitation via software end position, collision detection activated, continue with NC START / cancel with RESET.**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm is triggered by the following cycle: CYCLE977

Remedy: Position the workpiece to be measured further away from the software end positions.

62500 **Channel %1 block %2: GWPS has been limited**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: CYCLE446

Remedy: Check the limit value for GWPS and program a lower value in the NC program if necessary

62501 **Channel %1 block %2: Speed has been limited**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: CYCLE446

Remedy: Check speed and program a lower value in the NC program if necessary

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62502 **Channel %1 block %2: Dresser %4, GWPS has been limited**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: CYCLE421

Remedy: Check limit value for GWPS and program a lower value in the NC program if necessary

62503 **Channel %1 block %2: Dresser %4, speed has been limited**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions: The alarm can be triggered by the following grinding cycle: CYCLE421

Remedy: Check speed and program a lower value in the NC program if necessary

62900 **Channel %1 block %2: Incorrect source file**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62901 **Channel %1 block %2: Source file not available**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62902 **Channel %1 block %2: Not yet implemented**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

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62903 **Channel %1 block %2: Incorrect contour**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62904 **Channel %1 block %2: Inconsistent tree**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62905 **Channel %1 block %2: Inconsistent archive**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62906 **Channel %1 block %2: Error while reading from input file**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

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62907 **Channel %1 block %2: Error while writing to NC file**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62908 **Channel %1 block %2: Selfcutting contour**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62909 **Channel %1 block %2: Internal error: selfcont_part**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62910 **Channel %1 block %2: Error while calculating the contour orientation**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

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62911 **Channel %1 block %2: Error on overwriting target**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62912 **Channel %1 block %2: Plane cannot be specified here**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62913 **Channel %1 block %2: Inch/metric indication not allowed**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62914 **Channel %1 block %2: Double contour pocket call**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

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62915 **Channel %1 block %2: Contour pocket call is missing**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62916 **Channel %1 block %2: Contour not finished**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62917 **Channel %1 block %2: Contour end without specified start**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62918 **Channel %1 block %2: Rapid traverse within contour definition**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

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62919 **Channel %1 block %2: Nominal radius parameter is missing**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62920 **Channel %1 block %2: Pocket surface not specified**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62921 **Channel %1 block %2: Pocket depth not specified**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62922 **Channel %1 block %2: Output program not specified**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

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62923 **Channel %1 block %2: Starting point not specified**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62924 **Channel %1 block %2: Too many elements in the contour**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62925 **Channel %1 block %2: Radius specified together with center point**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62926 **Channel %1 block %2: Wrong radius specified**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

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62927 **Channel %1 block %2: Error in fillet**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62928 **Channel %1 block %2: Error in chamfer**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62929 **Channel %1 block %2: Overlapping pockets**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62930 **Channel %1 block %2: Contour not closed**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

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62931 **Channel %1 block %2: Residual material file error**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62932 **Channel %1 block %2: error on reading RIF file**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62933 **Channel %1 block %2: DEMO mode**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: --

Program Continuation: Clear alarm with the RESET key. Restart part program

62934 **Channel %1 block %2: Incorrect finishing contour calculation**

Parameters: %1 = Channel number
%2 = Block number, label channel number

Definitions:

Remedy: --

63000 **Channel %1 block %2:**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: --

Reactions: - Alarm display.

Remedy: --

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Program Continuation: Clear alarm with the Delete key or NC START.

65000 **Channel %1 block %2:**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: References: The current alarm text, the error description and the remedial measures for the user cycle alarms can be found in the Programming Guide of the machine manufacturer.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Refer to the manual on user cycles.

Program Continuation: Clear alarm with the RESET key. Restart part program

66000 **Channel %1 block %2:**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: References: The current alarm text, the error description and the remedial measures for the user cycle alarms can be found in the Programming Guide of the machine manufacturer.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Refer to the manual on user cycles.

Program Continuation: Clear alarm with the RESET key. Restart part program

67000 **Channel %1 block %2:**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: References: The current alarm text, the error description and the remedial measures for the user cycle alarms can be found in the Programming Guide of the machine manufacturer.

Reactions: - Alarm display.

Remedy: Refer to the manual on user cycles.

Program Continuation: Clear alarm with the Delete key or NC START.

68000 **Channel %1 block %2:**

Parameters: %1 = Channel number
%2 = Block number, label

Definitions: References: The current alarm text, the error description and the remedial measures for the user cycle alarms can be found in the Programming Guide of the machine manufacturer.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

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- NC Stop on alarm.

Remedy: Refer to the manual on user cycles.

Program Continuation: Clear alarm with the RESET key. Restart part program

69000 **Channel %1 block %2:**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: References: The current alarm text, the error description and the remedial measures for the user cycle alarms can be found in the Programming Guide of the machine manufacturer.

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm at block end.

Remedy: Refer to the manual on user cycles.

Program Continuation: Clear alarm with the RESET key. Restart part program

70001 **Channel %1 Yf is larger than distance C1-Cy**

Parameters: %1 = Channel number

Definitions: In JOG mode, the Yf axis is traversed. The value of the Yf axis is larger than the distance C1-Cy

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Traverse Yf axis in JOG mode in opposite traversing direction

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

70002 **Channel %1 block %2 Yf has been programmed larger than distance C1-Cy**

Parameters: %1 = Channel number

%2 = Block number

Definitions: In the part program, one position in the Yf axis has been programmed larger than the distance C1-Cy

Reactions:
- Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

70003 **Channel %1 Yf is larger than the effective arm length**

Parameters: %1 = Channel number

Definitions: In JOG mode, the Yf axis is traversed. The value of the Yf axis is larger than the sum of the arm lengths and the current tool length in the Z direction.

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Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Traverse Yf axis in JOG mode in opposite traversing direction

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

70004 **Channel %1 block %2 Yf has been programmed larger than the effective arm length**

Parameters: %1 = Channel number
%2 = Block number

Definitions: In the part program, one position in the Yf axis has been programmed larger than the effective arm length

Reactions: - Correction block is reorganized.
- Local alarm reaction.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

70010 **Channel %1 block %2 unreachable point on selection**

Parameters: %1 = Channel number
%2 = Block number

Definitions: On transformation selection, the machine axes are positioned with the joint rod not reaching the platform.
This cannot happen with a machine that has been started up properly.
If the joints have not yet been connected with the platform on start-up, this alarm will show an impermissible position of the machine axes.

Reactions: - Interpreter stop
- Alarm display.

Remedy: Modify machine data or approach other selection position

Program Continuation: Clear alarm with the RESET key. Restart part program

70011 **Channel %1 block %2 unreachable point**

Parameters: %1 = Channel number
%2 = Block number

Definitions: The selected block includes a position outside the possible working range of the machine tool.

Reactions: - Local alarm reaction.
- Alarm display.

Remedy: Modify parts program

Program Continuation: Clear alarm with the RESET key. Restart part program

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70012 **Channel %1 unreachable point**

Parameters: %1 = Channel number

Definitions: Failure in the cyclic backward transformation in the interpolator or in the forward transformation, e.g. after RESET.

Extreme distortions of the mechanical system in the current point may be the reason.

Reactions: - NC Start disable in this channel.

- Alarm display.
- NC Stop on alarm.

Remedy: Deselect transformation and relieve mechanism

Program Continuation: Clear alarm with the RESET key. Restart part program

70013 **Channel %1 block %2 axis %3 reaches angle %4 on platform**

Parameters: %1 = Channel number

%2 = Block number

%3 = Channel axis

%4 = Limit angle "+" or "-"

Definitions: The indicated block includes a position on which the limit angles on the platform are exceeded, see MD 62126 und 62127.

Reactions: - Local alarm reaction.

- Interface signals are set.
- Alarm display.

Remedy: Modify parts program block

Program Continuation: Clear alarm with the RESET key. Restart part program

70014 **Channel %1 block %2 axis %3 reaches angle %4 on the drive**

Parameters: %1 = Channel number

%2 = Block number

%3 = Channel axis

%4 = Limit angle "+" or "-"

Definitions: The indicated block includes a position on which the limit angles on the linear guides are exceeded, see MD 62128 and 62129.

Reactions: - Local alarm reaction.

- Interface signals are set.
- Alarm display.

Remedy: Modify parts program block

Program Continuation: Clear alarm with the RESET key. Restart part program

70015 **Channel %1 axis %2 reaches angle %3 on platform**

Parameters: %1 = Channel number

%2 = Channel axis

%3 = Limit angle "+" or "-"

Definitions: Cyclic monitoring of the cardanic angle on the platform detects a violation. The machine axes are decelerated after having reached their max. acceleration. The specified contour is left. %3 indicates the affected limit value.

• : MD 62126 was not reached

+ : MD 62127 was exceeded

Reactions: - NC Start disable in this channel.

- Alarm display.

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- NC Stop on alarm.

Remedy: Select another traversing direction

Program Continuation: Clear alarm with the RESET key. Restart part program

70016 **Channel %1 axis %2 reaches angle %3 on the drive**

Parameters: %1 = Channel number
%2 = Channel axis
%3 = Limit angle "+" or "-"

Definitions: Cyclic monitoring of the angle between a rod and the associated linear guide detecs a violation. The machine axes are decelerated after having reached their max acceleration. The specified contour is left. %3 indicates the affected limit value.
• : MD 62128 was not reached
+ : MD 62129 was exceeded

Reactions: - NC Start disable in this channel.
- Alarm display.
- NC Stop on alarm.

Remedy: Select another traversing direction

Program Continuation: Clear alarm with the RESET key. Restart part program

70017 **Channel %1 OEM transformer: incorrect MD configuration, error code: %2**

Parameters: %1 = Channel number
%2 = Error code

Definitions: On ramp-up the following error was found in the OEM transformation machine data:
Error code = 3
No channel axis defined. In MD 20070 at least 1 channel axis must be entered.
Error code = 6
Problem on saving when creating the compile cycle machine data, modification of MD 18238 required (SW 6 and higher)
Error code = 10
One of the direction vectors in MD 62113-5 is too short.
Error code = 12
One rod length Li in MD 62120-2 equals zero.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Alarm display.

Remedy: Correct machine data

Program Continuation: Clear alarm with the RESET key. Restart part program

70018 **Channel %1 Transformation was selected with non-referenced axes**

Parameters: %1 = Channel number

Definitions: In order to guarantee proper operation of the transformation, the two linear axes involved in the transformation have to be referenced prior to selection of the transformation. This alarm is output at the first traversing movement after selection of the transformation.

Reactions: - NC Start disable in this channel.
- Alarm display.
- NC Stop on alarm.

Remedy: Reference the machine axes; deselect and reselect the transformation

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Program Continuation: Clear alarm with the RESET key. Restart part program

75000 **CLC: incorrect MD configuration, channel %1, error code: %2**

Definitions: On ramp-up the following error was found in the clearance control machine data:

Error code = -1:The intermediate points of one of the two sensor characteristics are not rising or falling strictly monotonously.

Error code = -2:One of the two sensor characteristics has less than 2 valid intermediate points.

Error code = -3:One of the two sensor characteristics has more than 5 intermediate points with negative velocity or more than 5 intermediate points with positive velocity.

Error code = -4:The digital input for sensor collision monitoring as set in MD $MC_CLC_SENSOR_TOUCHED_INPUT has not been activated on the control (10350 $MN_FASTIO_DIG_NUM_INPUTS)

Error code = -5:No rapid input was assigned to the special function "Fast retraction in the position controller" via MD $MC_CLC_SENSOR_TOUCHED_INPUT.

Error code = -6:The axis selected for the clearance control in MD $MC_CLC_AXNO is not active in the channel.

Error code = -7:The 5-axis transformation (24100 $MC_TRAFO_TYPE_x) selected for the clearance control in MD $MC_CLC_AXNO is not configured in the channel.

Error code = -8:More than one of the axes involved in the clearance control is the master axis of a gantry grouping 37100 $MA_GANTRY_AXIS_TYPE

Error code = -9:One of the axes involved in the clearance control is the slave axis of a gantry grouping 37100 $MA_GANTRY_AXIS_TYPE

Error code = -10: Export versions will only enable activation of an axial clearance control, if less than four simulataneously interpolating axes have been configured.

Error code = -11: In MD $MC_CLC_PROG_ORI_AX_MASK, no or three axes exactly may be configured for CLC(3). When three axes are configured, these must be assigned to the channel with $MC_AXCONF_MACHAX_USED.

Reactions: - Mode group not ready.

- Channel not ready.
- NC Start disable in this channel.
- Alarm display.

Remedy: Modify relevant machine data

Program Continuation: Switch control OFF - ON.

75005 **Channel %1 block %2 CLC: General programming error**

Parameters: %1 = Channel number

%2 = Block number

Definitions: The activation / deactivation command for the clearance control "CLC(..)" accepts only the values 3, 2, 1, 0 and -1 as call parameters. This alarm signals that parameters are incorrect or missing. The activation command CLC(2) with monitoring of the sensor collision signal is accepted only if a valid digital input is configured for the monitoring signal in MD $MC_CLC_SENSOR_TOUCHED_INPUT.

Reactions: - Interpreter stop

- Alarm display.

Remedy: Modify part program. Configure the digital input for the collision evaluation in MD if necessary.

Program Continuation: Clear alarm with the RESET key. Restart part program

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75010 **Channel %1 block %2 CLC_LIM value exceeds MD limit**

Parameters: %1 = Channel number
%2 = Block number

Definitions: One of the limits for the position offset of the clearance control programmed with CLC_LIM(...,...) is greater than the permissible limitation set in the associated MD. $MC_CLC_SENSOR_LOWER_LIMIT[1] or $MC_CLC_SENSOR_UPPER_LIMIT[1].

Reactions: - Interpreter stop
- Alarm display.

Remedy: Modify parts program. Extend limitation in appropriate machine date.

Program Continuation: Clear alarm with the RESET key. Restart part program

75015 **Channel %1 block %2 CLC(0) with active TOC**

Parameters: %1 = Channel number
%2 = Block number

Definitions: The 3D clearance control has been switched off with CLC(0) while tool radius compensation is still active (G41/G42). Since CLC(0) empties the internal block buffer and accepts the current traversed position offset of the clearance control as a "contour jump" in the interpreter, TRC must be deactivated when this command is issued.

Reactions: - Interpreter stop
- Alarm display.

Remedy: Modify part program: Switch off active G41/G42 before CLC(0) or do not switch of clearance control, but just "freeze" temporarily (CLC_GAIN=0.0) or cancel the position offset mechanically with CLC(-1).

Program Continuation: Clear alarm with the RESET key. Restart part program

75016 **Channel %1 block %2 CLC: orientation changed for TRAFOOF**

Parameters: %1 = Channel number
%2 = Block number

Definitions: 1. The 2D/3D clearance control has been switched off before the transformation. The tool direction according to G17/G18/G19 has been applied as the control direction. Switching on the transformation with rotary axis settings that define a different tool orientation requires an orientation step change and is therefore rejected.
2. The transformation has been switched off temporarily (TRAFOOF) while clearance control is still active. When the transformation is switched on again, the tool orientation must be the same as when it was switched off, i.e. the rotary axes must not be moved while the transformation is deactivated.

Reactions: - NC Start disable in this channel.
- Alarm display.
- NC Stop on alarm.

Remedy: Modify part program: Do not switch on the clearance control until the transformation is already active or make sure that the required conditions relating to orientation are observed.

Program Continuation: Clear alarm with the RESET key. Restart part program

75018 **Channel %1, block %2 CLC in programmable direction, error ID: %3**

Parameters: %1 = Channel number
%2 = Block number
%3 = Error ID

Definitions: The subfunction of the 3D clearance control programmed with CLC(3)

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"Closed-loop control in programmable direction" reports an error:

Error ID:
0:CLC(3) was programmed without having set the corresponding option bit or without having entered an axis screen with three validly configured, simulated axes in MD $MC_CLC_PROG_ORI_AX_MASK.

1:The plane in which the closed-loop control direction is to be re-oriented, has not been defined. Probably, two directions programmed one after the other, are anti-parallel.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Modify MD or the part program.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

75019 **Channel %1, error ID: %2, angle %3**

Parameters: %1 = Channel number
%2 = Error ID
%3 = Angle

Definitions: The subfunction of the 3D clearance control programmed with CLC(3) "Closed-loop control in programmable direction" reports an error:

Error ID:
1:The clearance control direction has not been defined. Probably, [0,0,0] has been programmed for the three simulated axes specifying the direction components. In the "angle" parameter, zero is output.

2:The max. permissible angle between the orientation of the blast tool and the programmed control direction was exceeded.
The permissible angle is set in machine data $MC_CLC_PROG_ORI_MAX_ANGLE.

The angle triggering the alarm is output in the 3rd alarm parameter.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Enlarge the monitoring angle or modify the programming in the part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

75020 **Channel %1 CLC position offset at lower limit %2**

Parameters: %1 = Channel number
%2 = Limit value

Definitions: The position offset generated by the overlaid motion has reached the limit set in MD $MC_CLC_SENSOR_LOWER_LIMIT or programmed with CLC_LIM(...,...).

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Depending on the setting in bit 0 of MD $MC_CLC_SPECIAL_FEATURE_MASK the following cancel criterion applies:

Bit 0 = 0: Cancel key

Bit 0 = 1: Reset key

Reactions: - NC Start disable in this channel.

- Alarm display.

- NC Stop on alarm.

Remedy: Check position and form of the workpiece. If necessary, program further limits.

Program Continuation: Clear alarm with the Delete key or NC START.

75021 Channel %1 CLC position offset at upper limit %2

Parameters: %1 = Channel number

%2 = Limit value

Definitions: The position offset generated by the overlaid motion has reached the limit set in MD $MC_CLC_SENSOR_UPPER_LIMIT or programmed with CLC_LIM(...,...).

Depending on the setting in bit 1 of MD $MC_CLC_SPECIAL_FEATURE_MASK the following cancel criterion is active:

Bit 1 = 0: Cancel key

Bit 1 = 1: Reset

Reactions: - NC Start disable in this channel.

- Alarm display.

- NC Stop on alarm.

Remedy: Check position and form of the workpiece. If necessary, program further limits.

Program Continuation: Clear alarm with the Delete key or NC START.

75025 Channel %1 CLC stopped because sensor head has been touched

Parameters: %1 = Channel number

Definitions: The collision monitor of the sensor tip has signaled "Sensor touched".

A retraction motion to the upper limit of the position offset ($MC_CLC_SENSOR_UPPER_LIMIT) is started using the max available velocity and acceleration reserves. The feedrate override setting has no effect on this retraction motion. The path motion is stopped at the same time.

Reactions: - Alarm display.

- NC Stop on alarm.

Remedy: The part program can be continued with NC start. The overlaid motion then returns to the control distance.

Program Continuation: Clear alarm with the Delete key or NC START.

75050 Channel %1 wrong MD configuration, error code %2

Parameters: %1 = Channel number

%2 = Error code

Definitions: Incorrect configuration in MD $MA_CC_MASTER_AXIS

Error code = 2: This axis indicated in the alarm message or the CC_Master axis is a spindle.

Error code = 4: Coupling between rotary and linear axes impermissible.

Error code = 8: Coupled axes must not be exchanged between channels.

Reactions: - Interpreter stop

- Alarm display.

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Remedy: Check machine data.
Program Continuation: Clear alarm with the RESET key. Restart part program

75051 Channel %1 CC_COPON CC_COPOFF error code %2

Parameters: %1 = Channel number
%2 = Error code
Definitions: Error code = 1: Wrong argument programmed
Error code = 10: An axis for which no coupling has been defined, was programmed in CC_COPON (axis identifier).
Error code = 20: Too many arguments programmed.
Error code = 100: Internal error
Error code = 200: Internal error
Reactions: - Interpreter stop
- Alarm display.
Remedy: Modify part program.
Program Continuation: Clear alarm with the RESET key. Restart part program

75060 Channel %1 tolerance window exceeded axis %2

Parameters: %1 = Channel number
%2 = Axis name
Definitions: The actual position value difference between the CC_Slave axis indicated in the alarm message and its CC_Master axis is outside the configured tolerance window.
Reactions: - NC Start disable in this channel.
- Alarm display.
- NC Stop on alarm.
Remedy: Check configured tolerance window.
Compare dynamic response settings of coupled axes.
Check mechanical components of axes.
Program Continuation: Clear alarm with the RESET key. Restart part program

75061 Channel %1 MD modification on active coupling axis %2

Parameters: %1 = Channel number
%2 = Axis name
Definitions: Machine data MD 63000 CC_MASTER_AXIS has been changed when the coupling was active.
Reactions: - Alarm display.
- NC Stop on alarm.
Remedy: Reset machine data to its old value, switch off the coupling and then enter the new value.
Program Continuation: Clear alarm with the RESET key. Restart part program

75062 Channel %1 axes to be coupled are not in standstill axis %2

Parameters: %1 = Channel number
%2 = Axis name
Definitions: The CC_Master and/or CC_Slave axes were not at standstill when the coupling was switched on.
Reactions: - Alarm display.
- NC Stop on alarm.

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Remedy: Input G601 for path axes or program a stop preprocessor (STOPRE) before coupling with CC_COPON.
Program Continuation: Clear alarm with the RESET key. Restart part program

75070 Channel %1 wrong machine data for collision protection axis %2
Parameters: %1 = Channel number
%2 = Axis name
Definitions: Incorrect machine data for collision protection.
Reactions: - Interpreter stop
- Alarm display.
Remedy: Correct machine data. The axes must be either both rotary axes or both linear axes!
Program Continuation: Clear alarm with the RESET key. Restart part program

75071 Channel %1 collision monitoring axis %2
Parameters: %1 = Channel number
%2 = Axis name
Definitions: Collision monitor has responded.
Reactions: - Alarm display.
- NC Stop on alarm.
Remedy: Traverse the axis out of the danger area in manual mode.
Program Continuation: Clear alarm with the RESET key. Restart part program

75090 Axis %1 stopped by external process monitoring system
Parameters: %1 = Axis number
Definitions: An external process monitoring system has stopped the axis, as tool breakage is to be expected or has already occured.
Reactions: - The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
Remedy: Load new tool, if required.
Program Continuation: Clear alarm with the RESET key. Restart part program

75200 RCTR: incorrect MD configuration, channel %1, error in MD: %2
Parameters: %1 = Channel number
%2 = MD name
Definitions: The following error was detected in the handling transformation machine data:
TRAFO6_IRORO: The orientation entered in MD TRAFO6_TIRORO_RPY is impermissible.
TRAFO6_TFLWP: The orientation entered in MD TRAFO6_TFLWP_RPY is impermissible.
TRAFO6_TX3P3: The orientation entered in MD TRAFO6_TX3P3_RPY is impermissible.
TRAFO6_MAIN_LENGTH_AB: The value entered in MD TRAFO6_MAIN_LENGTH_AB is incorrect.)
Reactions: - Mode group not ready.

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- Channel not ready.
- NC Start disable in this channel.
- Alarm display.

Remedy: Correct machine data

Program Continuation: Switch control OFF - ON.

75210 RCTR: Channel: %1, number of axes/axis assignment inconsistent

Parameters: %1 = Channel number

Definitions: On transformation selection an incorrect axis assignment is detected:
The axes entered in MD TRAFO_AXES_IN_1 do not match MD TRAFO6_NUM_AXES.

Reactions:
- Interpreter stop
- Alarm display.

Remedy: Correct machine data.

Program Continuation: Clear alarm with the RESET key. Restart part program

75212 RCTR: channel %1, incorrect TRAFO_TYPE_ : use 4100

Parameters: %1 = Channel number

Definitions: The transformer type entered in MD TRAFO_TYPE_x is incorrect

Reactions:
- Interpreter stop
- Alarm display.

Remedy: TRAFO_TYPE 4100 is to be used

Program Continuation: Clear alarm with the RESET key. Restart part program

75250 RCTR: channel %1, tool parameters incorrect interpreter

Parameters: %1 = Channel number

Definitions: On block interpretation incorrect tool parameters are detected:

Reactions:
- Interpreter stop
- Alarm display.

Remedy: Correct tool parameters.

Program Continuation: Clear alarm with the RESET key. Restart part program

75255 RCTR: channel: %1, unreachable position interpreter

Parameters: %1 = Channel number

Definitions: On block interpretation a non-approachable position is detected:

Reactions:
- Interpreter stop
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

75260 RCTR: channel: %1, block: %2, tool parameters incorrect on block editing

Parameters: %1 = Channel number
%2 = Block number

Definitions: On block editing incorrect tool parameters are detected:

Reactions:
- Interpreter stop
- NC Start disable in this channel.

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- Interface signals are set.
- Alarm display.

Remedy: Correct tool parameters.

Program Continuation: Clear alarm with the RESET key. Restart part program

75265 **RCTR: channel: %1, block: %2, unreachable position on block editing**

Parameters: %1 = Channel number
%2 = Block number

Definitions: On block editing a non-approachable position is detected:

Reactions:
- Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

75270 **RCTR: channel %1, tool parameters incorrect on interpolation**

Parameters: %1 = Channel number

Definitions: On interpolation incorrect tool parameters are detected:

Reactions:
- NC Start disable in this channel.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct tool parameters.

Program Continuation: Clear alarm with the RESET key. Restart part program

75275 **RCTR: channel: %1, block: %2, unreachable position on interpolation**

Parameters: %1 = Channel number
%2 = Block number

Definitions: On block interpolation a non-approachable position is detected:

Reactions:
- NC Start disable in this channel.
- Alarm display.
- NC Stop on alarm.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

75500 **Channel %1 HSLC: Wrong configuration**

Parameters: %1 = Channel number

Definitions: Technology function "rapid cycle-independent switching with 2D path relation" has not been parameterized correctly. There are two reasons for this alarm:
- No geometry axis has been defined
- The option "Software cam" is set.

Reactions:
- Alarm display.
- NC Stop on alarm.

Remedy: Modify MD configuration.

Program Continuation: Clear alarm with the RESET key. Restart part program

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75600 **Channel %1 RESU: wrong MD configuration. Error code %2**

Parameters: %1 = Channel number

%2 = Error code

Definitions: The following errors were detected in the machine data of the retrace support function when ramping up:

Error code = 4 : Machine date $MC_MM_NUM_CC_BLOCK_ELEMENTS or $MC_MM_NUM_CC_BLOCK_USER_MEM must be increased.

Error code = 5 : Insufficient heap memory for compile cycles available. Adjust machine data $MC_RESU_RING_BUFFER_SIZE, $MC_RESU_SHARE_OF_CC_HEAP_MEM and $MC_MM_NUM_CC_HEAP_MEM.

Error code = 6 : The machine data $MN_ASUP_START_MASK and $MN_ASUP_START_PRIO_LEVEL are not set correctly.

Error code = 11: Machine data $MC_AXCONF_GEOAX_NAME_TAB[n], $MN_INTERMEDIATE_POINT_NAME_TAB[n] and $MN_IPO_PARAM_NAME_TAB[n] are not set correctly for RESU:

Error code = 13: With bit 2 = 0 of MD $MC_RESU_SPECIAL_FEATURE_MASK it was specified that the retraction program cc_resu.mpf is to be stored in the DRAM parts program memory. However, no DRAM parts program memory was requested via MD $MN_MM_DRAM_FILE_MEM_SIZE. Remedy: Either set MD $MN_MM_DRAM_FILE_MEM_SIZE to a value inequal to zero or set bit 2 of MD $MC_RESU_SPECIAL_FEATURE_MASK equal to one.

Reactions: - Mode group not ready.

- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Correct machine data.

Program Continuation: Switch control OFF - ON.

75601 **Channel %1 block %2 invalid parameter in CC_PREPRE()**

Parameters: %1 = Channel number

%2 = Block number, label

Definitions: Only the values _1, 0, 1 are valid parameters for CC_STOPRE().

Reactions: - Interpreter stop

- Interface signals are set.
- Alarm display.

Remedy: Modify part program.

Program Continuation: Clear alarm with the RESET key. Restart part program

75604 **Channel %1 RESU: Return traveling not possible, error code %2**

Parameters: %1 = Channel number

%2 = Error code

Definitions: Return traveling is not possible, as the following error was detected:

Error code = 1 : The current reverse block for return traveling is likely to be a block of cc_resu_ini.spf or cc_resu_end.spf programmed with a block number. It is impermissible to program block numbers in the subroutines cc_resu_ini.spf and cc_resu_end.spf, as they have an internal meaning.

Error code = 2 : Unable to create cc_resu.mpf, as DRAM is insufficient.

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Error code = 4 : The selected continuation block is likely to be a block of cc_resu_ini.spf or cc_resu_end.spf programmed with block number. It is impermissible to program block numbers in the subroutines cc_resu_ini.spf and cc_resu_end.spf, as they have an internal meaning.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Error code = 1 or 4 : Remove all block numbers from cc_resu_ini.spf and cc_resu_end.spf and their subroutines.
Error code = 2 : Assign a higher value to machine date $MN_MM_DRAM_FILE_MEM_SIZE.

Program Continuation: Clear alarm with the RESET key. Restart part program

75605 Channel %1 RESU: internal error, error code %2

Parameters: %1 = Channel number
%2 = Error code

Definitions: With this alarm, RESU-internal error states are displayed which, together with the transferred error number, provide information on the error cause and error location.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: If this error occurs, please contact us on the SINUMERIK Hotline of the SIEMENS AG, specifying the error number.

Program Continuation: Clear alarm with the RESET key. Restart part program

75606 Channel %1 RESU: retraceable contour was shortened

Parameters: %1 = Channel number

Definitions: The block search buffer is full. Therefore the retraceable contour had to be shortened.

Reactions: - Alarm display.

Remedy: This alarm has no effect on the current machining. If the alarm continues to occur frequently, the reason should be eliminated: adjust machine data $MC_RESU_RING_BUFFER_SIZE, $MC_RESU_SHARE_OF_CC_HEAP_MEM and $MC_MM_NUM_CC_HEAP_MEM.

Program Continuation: Clear alarm with the Delete key or NC START.

75607 Channel %1 RESU: resynchronisation not possible

Parameters: %1 = Channel number

Definitions: The block search triggered by the compile cycle has been terminated with an error. It can have the following cause: The control is not in the correct operating mode, e.g. in JOG_ AUTO instead of in AUTO.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Switch the control to the AUTO operating mode and restart resynchronisation.

Program Continuation: Clear alarm with the Delete key or NC START.

75608 Channel %1 RESU: NC memory limit reached, RAM type %2

Definitions: A memory limit was reached on writing to file cc_resu.mpf. The possible area for return traveling is shortened.

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RAM type = 1: File cc_resu.mpf is created in the buffer memory (SRAM). The buffer memory is therefore full. If the buffer memory is used and if alarm 75608 with RAM type 1 is output, system alarm 6500 will be output simultaneously.

RAM type = 2: The memory limit was reached on creating file cc_resu.mpf in the dynamic memory (DRAM part program memory).

Reactions: - Alarm display.

Remedy: RAM type = 1: Increase size of buffer memory ($MN_MM_USER_MEM_BUFFERED) or the available space in the buffer memory, e.g. by unloading unused parts programs. Alternatively the ring buffer can be decreased via MD $MC_RESU_RING_BUFFER_SIZE.

Program Continuation: Clear alarm with the Delete key or NC START.

75609 Channel %1 RESU: POS axis not permitted, axis type %2, block no. %3

Parameters: %1 = Channel number

%2 = Axis type

%3 = Block number

Definitions: A geometry axis is traversed as positioning axis at active CC_RREPRE.

Reactions: - Interpreter stop

- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: In order to traverse a geometry axis as positioning axis, RESU must be switched off temporarily (with CC_PREPRE(0)) or completely. In order to make the internal axis state change from the geometry axis as positioning axis after traversing, a block without traveling motion must be programmed, if required: e.g. X=IC(0)

Program Continuation: Clear alarm with the RESET key. Restart part program

75610 Channel %1 RESU: NC start currently not possible

Definitions: While RESU is active, no NC START must be performed in certain situations. If NC START is confirmed nevertheless, execution will be blocked and alarm 75610 will be displayed. This applies in the following situations:

On requesting return traveling: NC START is blocked when return traveling program cc_resu.mpf has been created and selected.

After having triggered continuation under NC STOP condition: as long as the internally started block search or the finally started Asup cc_resu_bs_asup.spf is running.

Reactions: - Interface signals are set.

- Alarm display.

Remedy: Wait for completion of the current internal procedure. Then delete the alarm with NC START and continue

Program Continuation: Clear alarm with NC START or RESET key and continue the program.

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2.2 HMI alarms

100001 **Function %1 not yet implemented!**
Parameters: %1 = --
Definitions: --
Remedy: --

100002 **MS DOS test version !**
Definitions: --
Remedy: --

100003 **Test version only !**
Definitions: --
Remedy: --

100004 **Function %1 not yet finally implemented!**
Parameters: %1 = --
Definitions: --
Remedy: --

100006 **Block stored**
Definitions: --
Remedy: --

100007 **Program stored**
Definitions: --
Remedy: --

100008 **Cannot save**
Definitions: --
Reactions: - Alarm display.
Remedy: --

100009 **Error in tk_getHandle**
Definitions: --
Remedy: --

100010 **Error in task communication**
Definitions: --
Remedy: --

100011 **Incorrect NCK version**
Definitions: --
Remedy: --

100012 **Conf. fault: %1, %2**

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Parameters: %1 = --
%2 = --
Definitions: --
Remedy: --

100013 Selected program already opened by another application
Definitions: --
Remedy: --

100014 No operating area configured for this access level
Definitions: --
Remedy: --

100015 Error in '%1' :%nlog file : %2
Parameters: %1 = --
%2 = --
Definitions: --
Remedy: --

100099 Additional value
Definitions: --
Remedy: --

100100 Record length %1 reached
Parameters: %1 = --
Definitions: --
Remedy: --

100101 No dynamic memory available
Definitions: --
Remedy: --

100102 Buffer limit for selection reached
Definitions: --
Remedy: --

100103 Area disabled for input
Definitions: --
Remedy: --

100104 Buffer is empty
Definitions: --
Remedy: --

100105 Search string '%1' not found
Parameters: %1 = --
Definitions: --
Remedy: --

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100106 **Error on saving**

Definitions: This message will be displayed on editing a file (part program), if a memory operation could not be performed correctly.

Reactions: - Alarm display.

Remedy: If there is no memory space left in the NCK, it will not be possible to save anything. Other contents (files, programs) must be deleted.

If the error occurs when the program is started immediately after the change, the changes will not become effective. The program should be stopped immediately. The change must be repeated and the program must be started after a small delay (approx. 1 sec.).

If the error occurs when a program is changed during execution, only a program reset will help.

100107 **Error on opening %1**

Parameters: %1 = --

Definitions: --

Remedy: --

100108 **Write access not allowed in this state**

Definitions: --

Remedy: --

100109 **No block marked**

Definitions: --

Remedy: --

100110 **Read access not allowed in this state**

Definitions: --

Remedy: --

100111 **Actual changes not yet effective**

Definitions: --

Remedy: --

100112 **Search string '%1' found**

Parameters: %1 = --

Definitions: --

Remedy: --

100113 **Search string '%1' replaced by '%2'**

Parameters: %1 = --

%2 = --

Definitions: --

Remedy: --

100114 **Please wait, storing program (%1)!**

Parameters: %1 = --

Definitions: --

Remedy: --

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100115 **Please wait, flashing file %1 !!!**
Parameters: %1 = --
Definitions: --
Remedy: --

100116 **Please wait, selected group is being copied!**
Definitions: --
Remedy: --

100117 **Please wait, selected group is being deleted!**
Definitions: --
Remedy: --

100118 **'Skip blocks' ignored for this file!**
Definitions: --
Remedy: --

100119 **Please wait, copied data is being inserted!**
Definitions: --
Remedy: --

100120 **Value is too large for%nfield %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100121 **Value is too small for%nfield %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100122 **No input rights**
Definitions: --
Remedy: --

100123 **Invalid character %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100124 **Above number range%n%1**
Parameters: %1 = --
Definitions: --
Remedy: --

100125 **Below number range%n%1**
Parameters: %1 = --
Definitions: --
Remedy: --

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100126 **Division by 0**
Definitions: --
Remedy: --

100130 **Display editing suppressed**
Definitions: --
Remedy: --

100131 **MACRO nesting > 10! MACRO (%1) is ignored.**
Parameters: %1 = --
Definitions: --
Remedy: --

100132 **Pocket calculator mode active - see info**
Definitions: --
Remedy: --

100133 **Maximum input length reached**
Definitions: --
Remedy: --

100134 **Sign change - position of cursor changed!**
Definitions: --
Remedy: --

100135 **Value too large for display field ->input ignored**
Definitions: --
Remedy: --

100136 **Value too small for display field ->input ignored**
Definitions: --
Remedy: --

100137 **Tolerance not implemented: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100140 **Please wait, reading file. (%1)**
Parameters: %1 = --
Definitions: --
Remedy: --

100141 **Please wait, storing file. (%1)**
Parameters: %1 = --
Definitions: --
Remedy: --

100142 **Error on opening the file!**
Definitions: --
Remedy: --

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100143 **Error on reading the file!**
Definitions: --
Remedy: --

100144 **Error on saving the file**
Definitions: --
Remedy: --

100145 **File was stored without error!**
Definitions: --
Remedy: --

100146 **Block marking is active, no changes possible!**
-
Definitions: --
Remedy: --

100150 **Directory could not be read**
Definitions: --
Remedy: --

100151 **Please wait, copying file %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100152 **Error on executing from external**
Definitions: --
Remedy: --

100153 **USB device no longer available,%nexecution from external source no longer possible.**
Definitions: --
Reactions: - Alarm display.
Remedy: --

100154 **USB device no longer available,%nexecution of Extcall no longer possible.**
Definitions: --
Reactions: - Alarm display.
Remedy: --

100155 **USB device no longer available, editing is%naborted. The last changes are lost.**
Definitions: --
Reactions: - Alarm display.
Remedy: --

100156 **USB device no longer available,%ncopying was aborted.**
Definitions: --
Reactions: - Alarm display.
Remedy: --

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100157 **USB device no longer available.**
Definitions: --
Reactions: - Alarm display.
Remedy: --

100160 **Testing in block, please wait!**
Definitions: --
Remedy: --

100161 **The number of lines is being calculated, please wait!**
Definitions: --
Remedy: --

100162 **Caution: Marked line is write-protected!**
Definitions: --
Remedy: --

100170 **File is binary: editing and paging not possible!**
Definitions: --
Remedy: --

100200 **Error on reading NCK data: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100201 **Error on writing NCK data: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100202 **Channel group outside area (%1): %2**
Parameters: %1 = --
%2 = --
Definitions: --
Remedy: --

100203 **Channel switchover key not effective**
Definitions: --
Remedy: --

100204 **Channel on NCU does not exist or is not active**
Definitions: --
Remedy: --

100300 **'%1' not found, continue search without filter!**
xxx not found
Parameters: %1 = --
Definitions: The search term entered in a list image (e.g. general machine data) was not found.
Remedy: --

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100301 **Table cannot be fully generated!**
Definitions: The list image could not be generated due to insufficient memory.
Remedy: System error, a rebooting may be necessary.

100302 **No data available - or no access authorization!**
Definitions: The list image can not be generated, as this data is currently not available.
Example: Local user data is not defined.
Remedy: --

100303 **Paging not possible**
Definitions: You cannot page over, for example, axes, drives or channels, as more axes, drives or channels are not configured.
Remedy: --

100304 **'%1' not found.**
Parameters: %1 = --
Definitions: --
Remedy: --

100350 **Display MD saved**
Definitions: • The display machine data is saved via the softkey "Save" in the operating area start-up, image machine data - display machine data.
• The display machine data is saved in the start-up basic display after pressing the softkey "LCD brighter" or "LCD darker" (this setting will remain at the next start-up).
• As of SW 4.1: If the display options are changed in the machine data images, the change will be saved in the display machine data that is not visible to the user.
Remedy: --

100351 **Display MD cannot be accepted**
Definitions: Saving the display machine data was rejected by the NCK.
Remedy: --

100360 **Logic drive data saved**
Definitions: --
Remedy: --

100361 **Error on saving logic drive data**
Definitions: --
Remedy: --

100362 **Please wait, saving data**
Definitions: --
Remedy: --

100363 **Password has been changed, please confirm first**
Definitions: --
Remedy: --

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100402 **Temporarily no access rights %1 !**
Parameters: %1 = --
Definitions: --
Remedy: --

100403 **No access rights %1 !**
Parameters: %1 = --
Definitions: --
Remedy: --

100405 **Error var. access: Variable address wrong %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100406 **Error var. access: Format unknown %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100407 **Error var. access: Format wrong %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100410 **Error var. access: Variable does not exist %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100411 **Error var. access: Value < minimum value %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100412 **Error var. access: Value > maximum value %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100413 **Error var. access: Value illegal %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100414 **Error on loading operating area notebooks**
Definitions: --
Remedy: --

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100415 **Error on saving operating area notebooks**
Definitions: --
Remedy: --

100500 **COMIC: Syntax error in HMI()**
Definitions: --
Remedy: --

100501 **COMIC: Function not available HMI(.. %1 ..)**
Parameters: %1 = --
Definitions: --
Remedy: --

100511 **Please wait, calculating stock removal program %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100512 **Please wait, copying stock removal program %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100513 **Stock removal DLL does not exist**
Definitions: --
Remedy: --

100514 **Stock removal DLL already started**
Definitions: --
Remedy: --

100550 **Error TA: Syntax error in %1 in line %2**
Parameters: %1 = --
%2 = --
Definitions: --
Remedy: --

100555 **Error TA: Branch point not found in %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100560 **Automatic test machine started**
Definitions: --
Remedy: --

100565 **Automatic test machine stopped**
Definitions: --
Remedy: --

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100570 **Error TA: %1 not found**
Parameters: %1 = --
Definitions: --
Remedy: --

100600 **Error on trying to read text file %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100620 **Error on trying to open font file %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100648 **The selected language was not installed without error**
Definitions: --
Remedy: --

100649 **MMC0_TXV.INI file not found**
Definitions: --
Remedy: --

100650 **No NC/PLC found! NC/PLC being simulated!**
Definitions: --
Remedy: --

100651 **Network driver error!**
Definitions: --
Remedy: --

100652 **Network driver error! (network connection correct?)**
Definitions: --
Remedy: --

100653 **Network driver error! (DHCP/IP address correct?)**
Definitions: --
Remedy: --

100850 **Note : PCU 20 memory limit exceeded**
Definitions: --
Remedy: --

100851 **Kernel error: No memory available any more**
Definitions: --
Remedy: --

100852 **Notice: Active memory statistics are reducing performance**
Definitions: --
Remedy: --

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100860 **Max. 8 characters allowed for the name !**
Definitions: --
Remedy: --

100900 **Press Input key to select**
Definitions: --
Remedy: --

100901 **No data changed**
Definitions: --
Remedy: --

100910 **Remote diagnostics: Error 00 -int4f_func(CREATE_SRV)-**
Definitions: --
Remedy: --

100911 **Remote diagnostics: Error 01 -int4f_func(ACCEPT)-**
Definitions: --
Remedy: --

100912 **Remote diagnostics: Error 02 -initTeleService()-**
Definitions: --
Remedy: --

100913 **Remote diagnostics: Error 03 -initTeleService()-**
Definitions: --
Remedy: --

100914 **Remote diagnostics: Error 04 -no free memory-**
Definitions: --
Remedy: --

100915 **Remote diagnostics: Error 05 -get_gosal_struk-**
Definitions: --
Remedy: --

100916 **Remote diagnostics: Error 06 -synchronizeRemote()-**
Definitions: --
Remedy: --

100917 **Remote diagnostics: Error 07 -socket(device/function %2):# %1**
Parameters: %1 = --
%2 = --
Definitions: --
Remedy: --

100918 **Remote diagnostics: Error 08 -socket(device %2)-timeout**
Parameters: %1 = --
Definitions: --
Remedy: --

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100921 **Remote diagnostics: Waiting for connection to port:%1**
Parameters: %1 = --
Definitions: --
Remedy: --

100922 **Remote diagnostics: No connection by remote PC, timeout**
Definitions: --
Remedy: --

100923 **Remote diagnostics: Connection aborted by remote PC**
Definitions: --
Remedy: --

100924 **Remote diagnostics: SW option not set**
Definitions: --
Remedy: --

100925 **Remote diagnostics:Connection to remote PC has been terminated**
Definitions: --
Remedy: --

100930 **No other settings relevant if no ping server**
Definitions: --
Remedy: --

100931 **Settings have been saved**
Definitions: --
Remedy: --

100932 **!Error(file access): Cannot save**
Definitions: --
Remedy: --

100933 **Timeout: Semaphore not enabled**
Definitions: --
Remedy: --

100934 **Remote diagnostics: Error 10 -SendFileToRemote()- %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100935 **Remote diagnostics: No response from remote PC (timeout)**
Definitions: --
Remedy: --

100936 **Remote diagnostics:Remote diag. port at default setting(5800)!**
Definitions: --
Remedy: --

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100937 **Remote diagnostics: Connection established to %1**
Parameters: %1 = --
Definitions: --
Remedy: --

100938 **Delete a connection in menu Start-up>>Log.drive>>Conn.**
Definitions: --
Remedy: --

101000 **No connection to PLC !**
Definitions: The connection to the PLC cannot be made while booting, e.g. wrong PLC basic program.
Remedy: --

101001 **Cannot read PLC system status list !**
Definitions: After the connection has been made, the system status list cannot be read.
Remedy: Switch controller off/on

101002 **Password is not valid !**
Definitions: The password entered is wrong.
Remedy: Enter a valid password.

101003 **Password has been set for %1 !**
Parameters: %1 = Access-level system, manufacturer, service or user.
Definitions: The password for system, manufacturer, service or user was set successfully.
Remedy: --

101004 **Password has been changed for %1 !**
Parameters: %1 = Access-level system, manufacturer, service or user.
Definitions: The password for system, manufacturer, service or user was changed successfully.

Remedy: --

101005 **Passwords do not correspond !**
Definitions: When the password was changed, the password entered first does not match the one entered second.
Remedy: Enter a valid password.

101006 **Password has been deleted !**
Definitions: The password was deleted via the softkey "Delete password".
Remedy: Enter password.

101007 **Password has not been set !**
Definitions: To delete the password, a higher access authorization is required (at least user).
Remedy: Set the password with a higher access level.

101008 **Current access level: %1**
Parameters: %1 = Access-level system, manufacturer, service or user.
Definitions: When selecting the alarm image, the current access level is displayed: system, manufacturer, service or user or keyswitch positions 3/2/1/0.
Remedy: --

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101013 **Input error - see Help key (i)**

Definitions: PLC status A syntax error occurred while entering a value in the PLC status.
The input syntax is explained in a help image.

Remedy: --

101014 **Error on reading PLC-data !**

Definitions: --

Remedy: --

101015 **Error on writing PLC-data !**

Definitions: --

Remedy: --

101016 **Error: Operand address greater than 65535 !!**

Definitions: The value range of the operand address was exceeded.

Remedy: Use a smaller value range for the operand address.

101017 **No PLC input masks found !**

Definitions: There are no *.plc input masks in the target system.

Remedy: --

101018 **Read-in possible only in active PLC status !**

Definitions: The current PLC status mode is not active, e.g. if the softkey "Change" was pressed.

Remedy: Switch the PLC status to active.

101019 **Not possible to initialize the HMI internal PLC status!**

Definitions: --

Remedy: --

101020 **Not possible to backup the HMI internal PLC status!**

Definitions: --

Remedy: --

101100 **No access rights !**

Definitions: The access level set is too low to open the selected window.

Remedy: Enter a higher password.

101110 **Error on overall reset**

Definitions: --

Remedy: --

101111 **No axes configured !**

Definitions: Due to an incomplete start-up, the image "Service axis" or "Axis machine data" cannot be selected.

Remedy: Complete start-up.

101112 **No drives configured !**

Definitions: Due to an incomplete start-up, the image "Service drive" cannot be selected.

Remedy: Complete start-up.

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101113 **No channels configured !**
Definitions: Due to an incomplete start-up, the image "Channel machine data" cannot be selected.
Remedy: Complete start-up.

101114 **No MSD configured !**
Definitions: Due to an incomplete start-up or missing MSD drives, the image "MSD machine data" cannot be selected.
Remedy: --

101115 **No FDD configured !**
Definitions: Due to an incomplete start-up or missing FDD/SLM drives, the image "FDD machine data" cannot be selected.
Remedy: --

101130 **Error return value undefined: %1 %2**
Parameters: %1 = --
%2 = --
Definitions: A function was called up in the start-up area that then, for unknown reasons, could not be executed.
Remedy: When provided with the issued digits, the service may be able to help.

101131 **No controller disable on PI Start**
Definitions: --
Remedy: --

101132 **Impermissible value execution argument**
Definitions: --
Remedy: --

101133 **MDx120 CURRCTRL_GAIN could not be calculated**
Definitions: --
Remedy: --

101134 **MDx407 SPEEDCTRL_GAIN_1 could not be calculated**
Definitions: --
Remedy: --

101135 **MDx409 SPEEDCTRL_INTEGRATOR_TIME_1 could not be calculated**
Definitions: --
Remedy: --

101136 **MDx150 FIELDCTRL_GAIN could not be calculated**
Definitions: --
Remedy: --

101137 **MDx141 MAGNETIZING_REACTANCE = 0**
MDx141 MAGNETIZING_REACTANCE=0
Definitions: --
Remedy: --

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101138 **MDx139/MDx140 MD_STATOR-/ROTOR_LEAKAGE_REACTANCE = 0**
MDx139/MDx140 MD_STATOR-/ROTOR_LEAKAGE_REACTANCE=0
Definitions: --
Remedy: --

101139 **MDx134 MOTOR_NOMINAL_FREQUENCY = 0**
MDx134 MOTOR_NOMINAL_FREQUENCY=0
Definitions: --
Remedy: --

101140 **MDx138 ROTOR_COLD_RESISTANCE = 0**
MDx138 ROTOR_COLD_RESISTANCE = 0
Definitions: --
Remedy: --

101141 **MDx117 MOTOR_INERTIA = 0**
MDx117 MOTOR_INERTIA = 0
Definitions: --
Remedy: --

101142 **MDx146< MDx142 MOTOR_MAX_ALLOWED_SPEED<FIELD_WEAKENING_SPEED**
MDx146<MDx142 MOTOR_MAX_ALLOWED_SPEED<FIELD_WEAKENING_SPEED
Definitions: --
Remedy: --

101143 **MDx142 FIELD_WEAKENING_SPEED = 0**
MDx142 FIELD_WEAKENING_SPEED = 0
Definitions: --
Remedy: --

101144 **MDx118 MOTOR_STANDSTILL_CURRENT = 0**
MDx118 MOTOR_STANDSTILL_CURRENT = 0
Definitions: --
Remedy: --

101145 **MD1104/1118 MOTOR_MAX_CURRENT/MOTOR_STANDSTILL_CURRENT > 900.0**
MD1104/1118 MOTOR_MAX_CURRENT/MOTOR_STANDSTILL_CURRENT > 900.0
Definitions: --
Remedy: --

101146 **Boot file(s) saved**
Definitions: Saving the boot file in the start-up area, image drive machine data, was successful.
Remedy: --

101147 **Boot file(s) deleted**
Definitions: Deleting the boot file in the start-up area, image drive machine data, was successful.
Remedy: --

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101148 **Controller MD calculated**

Definitions: Calculating the controller data in the start-up area, image drive machine data, was successful.

Remedy: --

101149 **Display MD accepted**

Definitions: --

Remedy: --

101150 **MD set to active**

Definitions: Activation of the machine data in the start-up area, machine data images, was successful.

Remedy: --

101151 **Start-up successful**

Definitions: In the start-up area, image NC start-up, one of the three functions
• normal booting
• booting with default values
• start of the software update
was successfully initiated.

Remedy: --

101152 **Error during communication with NCK**

Definitions: --

Remedy: --

101153 **Erroneous HMI NCK communication %1 %2**

Parameters: %1 = Error class
%2 = Error code

Definitions: In the start-up area the softkey "Calculate controller data", for example, was pressed.
An unspecific error message is sent from the NCK or drive as acknowledgement for this function call.
By using the two hexadecimal values (error class, error code), the start-up engineer can perform an error diagnostics.

Remedy: --

101154 **PI service refused**

Definitions: The current status of the NKC/drive does not permit the function that was selected.

Remedy: See the Installation and Start-up Guide.

101155 **Path %1 does not exist**

Parameters: %1 = Path

Definitions: During a file function, e.g.saving boot files, an attempt was made to access a non-existent path.

Remedy: Switch the control OFF/ON or see the Installation and Start-up Guide.

101156 **Function impermissible**

Definitions: The selected function is impermissible.

Remedy: See the Installation and Start-up Guide.

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101157 **File %1 does not exist**

Parameters: %1 = File name

Definitions: In the start-up area the softkey "delete boot files", for example, was pressed, although no boot files are yet available.

Remedy: --

101158 **Function in current operating mode not allowed**

Definitions: The drive's current status does not permit this function.

Remedy: --

101159 **Remote block in incorrect state**

Definitions: The drive's current status does not permit this function.

Remedy: --

101160 **Date and time of PLC set**

Definitions: In the PLC status, the time or date was changed.

Remedy: --

101161 **The drive is not in cyclic mode!**

Definitions: The start-up is not completely carried out, therefore, the function "Calculate motor data" cannot be selected.

Remedy: --

101162 **MDx134/MDx400 MOTOR_NOMINAL_FREQUENCY/MOTOR_RATED_SPEED illeg.**

Definitions: --

Remedy: --

101163 **MDx130 MOTOR_NOMINAL_POWER <= 0**
MDx130 MOTOR_NOMINAL_POWER <= 0

Definitions: --

Remedy: --

101164 **MDx132 MOTOR_NOMINAL_VOLTAGE <= 0**
MDx132 MOTOR_NOMINAL_VOLTAGE <= 0

Definitions: --

Remedy: --

101165 **MDx103 MOTOR_NOMINAL_CURRENT <= 0**
MDx103 MOTOR_NOMINAL_CURRENT <= 0

Definitions: --

Remedy: --

101166 **MDx129 POWER_FACTOR_COS_PHI illegal**

Definitions: --

Remedy: --

101167 **MDx134/MDx400 MOTOR_NOMINAL_FREQUENCY/MOTOR_RATED_SPEED illeg.**

Definitions: --

Remedy: --

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101168 **Warning MDx142 FIELD_WEAKENING_SPEED<MDx400 MOTOR_RATED_SPEED**
Definitions: --
Remedy: --

101169 **Date and time could not be set!**
Definitions: --
Remedy: --

101200 **Safety Integrated data copied**
Definitions: The SI data copying function was successfull.
Remedy: --

101201 **Safety Integrated data confirmed**
Definitions: The SI data confirmation function was successfull.
Remedy: --

101202 **Copying SI data from axis %1 to drive %2**
Parameters: %1 = Axis name
%2 = Drive number
Definitions: This message is output during the SI data copying function.
Remedy: --

101203 **SI data not copied completely**
Definitions: An error occurred during the SI data copying function; this caused the SI data to be copied incompletely or not at all.
Remedy: --

101204 **SI data not confirmed**
Definitions: The SI data confirmation function was not executed because an error occurred during the processing.
Remedy: --

101205 **Drive data changed? -> Don't forget to save bootfiles!**
Definitions: When exiting the drive machine data images, the operator is reminded to save the boot files so that drive machine data that may have been changed is not lost.
Remedy: --

101206 **Search operation in progress, please wait ...**
Definitions: The search function was initiated in the machine data images.
Remedy: --

101207 **Positioning to %1...**
Parameters: %1 = --
Definitions: A list image, e.g. general machine data, was selected.
The MMC100 attempts to position at the datum selected last in this image.
Remedy: --

101208 **SI data are confirmed: axis %1**
Parameters: %1 = --
Definitions: In the start-up area the function "Confirm Safety Integrated Data" has been started.

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The message was output during this function in order to provied the user with an acknowledgement regarding the operation of the function.

Remedy: --

101209 **SI data are confirmed: drive %1**

Parameters: %1 = --

Definitions: In the start-up area the function "Confirm Safety Integrated Data" has been started.
The message was output during this function in order to provied the user with an acknowledgement regarding the operation of the function.

Remedy: --

101210 **Machine data being prepared for display**

Definitions: A list image in the machine data was selected for which display options are active.
This image's machine data is individually checked to see whether it is permitted to be displayed.

Remedy: --

101211 **Address of NCK not changed!**

Definitions: An attempt was made to change the bus address of the NCK in the start-up area.
The change was rejected by the NCK; the reason is unknown.

Remedy: --

101212 **Address of NCK changed**

Definitions: The NCK's bus address was set to the specified value.

Remedy: --

101213 **Invalid NCK address!**

Definitions: The value specified for the new NCK bus address is too large.

Remedy: --

101214 **Initialization of this window unsuccessful!**

Definitions: An attempt was made to select the image of the NCK address in the start-up area.
An error occured while determining the nodes on the bus.
Due to inconsistent data, this image cannot be displayed.

Remedy: --

101300 **Please wait - Language being changed**

Definitions: In the start-up area the softkey "Change language" was pressed.

The screen content is being restructured.

Remedy: --

101301 **Versions saved -> output via %1**

Parameters: %1 = --

Definitions: --

Remedy: --

101310 **Error in %1: line %2: error in XML structure**

-

Definitions: --

Remedy: Correct the error in the indicated line.

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101311 **Error in %1: line %2: path not found !**
-
Definitions: --
Remedy: Correct the indicated line of the path.

101312 **Error in %1: line %2: path incorrect !**
-
Definitions: --
Remedy: Correct the indicated line of the path.

101400 **License key set.**
Definitions: --
Remedy: --

101401 **License key NOT sufficient.**
Definitions: --
Remedy: --

101402 **Error on writing back the options.**
Definitions: --
Remedy: --

101403 **Please wait - licence screen is being prepared. (%1)**
Parameters: %1 = --
Definitions: --
Remedy: --

101500 **No other drives possible; option not set.**
-
Definitions: --
Remedy: --

102000 **Error %1 %2**
Parameters: %1 = --
%2 = --
Definitions: --
Remedy: --

102001 **No data selected**
Definitions: --
Remedy: --

102002 **Write error on disk**
Definitions: --
Remedy: --

102003 **No data found for archiving**
Definitions: --
Remedy: --

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102004 **No name entered**
Definitions: --
Remedy: --

102005 **Data cannot be created here**
Definitions: --
Remedy: --

102006 **Error on copying %1**
Parameters: %1 = --
Definitions: --
Remedy: --

102007 **Error on deleting %1**
Parameters: %1 = --
Definitions: --
Remedy: --

102008 **Invalid file name**
Definitions: --
Remedy: --

102009 **RS232C stop accepted - please wait !**
Definitions: --
Remedy: --

102010 **RS232C transmission error has occurred -> error log**
Definitions: --
Remedy: --

102011 **You cannot copy and paste the file in this path**
Definitions: --
Remedy: --

102012 **RS232C transmission stopped**
Definitions: --
Remedy: --

102013 **Error: RS232C running**
Definitions: --
Remedy: --

102014 **V24.DLL cannot be loaded**
Definitions: --
Remedy: --

102015 **RS232C ready %1 %2**
Parameters: %1 = --
%2 = --
Definitions: --
Remedy: --

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102016 **Operating area change disabled**

Definitions: --

Remedy: --

102017 **Please select drive/path for archive**

Definitions: --

Remedy: --

103000 **No correction block in the NCK**

Definitions: The following is valid up to SW 3.x:
The correction block window cannot be opened. No program correction is possible in the operating mode "Machine".
The following is valid up to SW 4.1:
The correction block window can be opened in the "Stop program" state.
The program that is currently being executed is opened for editing.
The program part that has not yet been recorded by the NCK's
program processing can be changed permanently.

Remedy: --

103001 **Selection only possible after enable or in RESET state**

Definitions: In order to execute the desired function, the current channel has to be in the RESET state, e.g. "Program selection".

Remedy: Trigger reset.

103002 **Copying to clipboard not possible**

Definitions: The NCK rejects a copy-action to the clipboard because, for example, no more memory is available or the maximum manageable amount of programs has been exceeded.

Remedy: Delete the programs not currently required.

103003 **MDI buffer cannot be deleted**

Definitions: The NCK rejects a deletion of the clipboard because the clipboard is currently being executed.

Remedy: Wait until the MDI program has been executed or trigger an NC reset.

103004 **Block search not possible**

Definitions: The search run cannot be started because the channel is active.

Remedy: Wait until the program has been executed or trigger an NC reset.

103005 **Block search backwards only possible without calculation**

Definitions: --

Remedy: --

103006 **Block search without calculation possible on MP level only**

Definitions: No subroutine calls can be processed during a block search without calculation.

Remedy: If subroutines are to be processed, a search run with calculation has to be performed.

103007 **You cannot terminate overstore in this channel state**

Definitions: Overstore cannot be ended because the channel is still active.

Remedy: Wait until the overstore procedure has finished or trigger an NC reset.

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103008 **Block search started in channel %1 - please wait !**

Parameters: %1 = Channel number

Definitions: The started block search is not yet finished.

Remedy: Text is deleted automatically after the end of the block search.
Wait until the block search has finished or trigger an NC reset.

103009 **Conflict between search type and search target !**

Definitions: The search target entered is not compatible with the search type:
The block number initial character "N" or ":" is missing,
only the digits 0 to 9 are allowed.

Remedy: Correct the entry to correspond with the type.
The following is valid up to SW 3.x: The faulty entry is deleted, and the cursor proceeds to the next field.
As of SW 4.1: The faulty entry is retained, and the cursor remains at the field.

103010 **Invalid file name**

Definitions: The file name entered:
Must not have more than 32 characters (letters, digits, underscore; including the block and program ID:_N_ and _MPF), amounts to 25 assignable characters.
Cannot have any separators (e.g. /).
Must have letters at the first and second position.

Remedy: --

103011 **No program selected - block search ended**

Definitions: At the moment, no program is selected, therefore, no search run is possible.

Remedy: Select a program.

103012 **Safety function not active**

Definitions: --

Remedy: --

103013 **No agreement could be given**

Definitions: --

Remedy: --

103014 **Please first reference axis**

Definitions: The reference point approach was not yet performed or finished.

Remedy: Perform reference point approach.

103015 **NOTICE! Dimension system is changed from inch to metric**

Definitions: --

Remedy: --

103016 **NOTICE! Dimension system is changed from metric to inch**

Definitions: --

Remedy: --

103017 **Scratching impossible due to rotation in %1**

Parameters: %1 = --

Definitions: --

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Remedy: --

103018 **Swivel: Adjustment terminated**

Definitions: --

Remedy: --

103019 **Swivel: Adjustment not possible**

Definitions: --

Remedy: --

104000 **Actual tool not found**

Definitions: If the cursor in the window "Magazine list" is at a blank line, then no tool will be found after pressing the softkey "Tool data".

Remedy: Place the cursor on the tool.

104001 **No additional tools available**

Definitions: After pressing the softkey "T No. +" or "T No. -" the next-highest or next-lowest tool number is searched for.
If no other tools are available, this message will be output.

Remedy: --

104002 **No additional tool edges available**

Definitions: After pressing the softkey "D No. +" or "D No. -" the next-highest or next-lowest cutting edge is searched for.
If no other cutting edges are available,
this message will be output.

Remedy: --

104003 **There are no tools**

Definitions: No tools were set up.

Remedy: Set up tools.

104004 **No active workpiece available**

Definitions: After pressing the softkey "Current T+D No." in the "Tool overview" window, no tool was found because no subroutine is active or in the active subrutine no tool is selected.

Remedy: Select a tool.

104005 **There is no active cutting edge**

Definitions: A tool has been selected, but not a cutting edge.

Remedy: Select a cutting edge.

104006 **No TO area available in current channel**

Definitions: No TO area is assigned to the current channel.

Remedy: Assign the current channel a TO area via the machine data, or switch channels.

104007 **Error on creating tool**

Definitions: The tool could not be created, as, for example, the maximum number of possible tools has already been reached.

Remedy: Extend the maximum number of tools via the machine data, or delete unnecessary tools.

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104008 **Error on creating tool edge**

Definitions: No new cutting edge could be created, as, for example, the maximum number of cutting edges has already been reached.

Remedy: Delete unnecessary cutting edges.

104009 **Error while writing tool type**

Definitions: --

Remedy: --

104010 **Error while writing tool position**

Definitions: --

Remedy: --

104011 **Error on deleting tool**

Definitions: The tool cannot be deleted. It may currently be active.

Remedy: --

104012 **No master spindle available**

Definitions: No master spindle was configured.

Remedy: Configure a master spindle via the machine data.

104013 **Error on deleting area**

Definitions: --

Remedy: --

104014 **Incorrect input**

Definitions: The entered value is impermissible, e.g., it lies outside the input limits.

Remedy: Please observe the value range.

104015 **Number of parameters per tool edge is zero**

Definitions: The number of parameters per cutting edge was not configured.

Remedy: Configure the number of parameters per cutting edge via the machine data.

104016 **No spindles available**

Definitions: No spindle was configured.

Remedy: Configure a spindle via the machine data.

104017 **No settable frame currently active**

Definitions: --

Remedy: --

104018 **Tool not available**

Definitions: The specified tool does not exist.

Remedy: --

104019 **Tool type not available**

Definitions: The specified tool type does not exist.

Remedy: Specify a valid tool type.

104020 **No empty location found**

Definitions: There is no empty location with the specified search parameters.

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Remedy: Correct search parameters.

104021 **Error on searching for empty location**
Definitions: --
Remedy: --

104022 **Error in present location search**
Definitions: --
Remedy: --

104023 **Error in Tool Load**
Definitions: An error occurred while a tool was being loaded; the procedure has been aborted.
Remedy: Check loader.

104024 **Error in Tool Unload**
Definitions: An error occurred while a tool was being unloaded; the procedure has been aborted.
Remedy: Check unloader.

104025 **No magazine configured**
Definitions: No magazine was configured.
Remedy: Configure a magazine via the machine data.

104026 **NOTICE! Tool Load running!**
Definitions: Note regarding loading process.
Remedy: Wait until the loading procedure is terminated.

104027 **NOTICE! Tool Unload running!**
Definitions: Note regarding unloading process.
Remedy: Wait until the unloading procedure is terminated.

104028 **Error on accessing general tool data**
Definitions: --
Remedy: --

104029 **You cannot load into this location**
Definitions: The location may already be occupied.
Remedy: Select another loading location.

104030 **No more data found**
Definitions: All existing data was already displayed.
Remedy: --

104031 **There is no preselected tool**
Definitions: --
Remedy: --

104032 **There is no preselected cutting edge**
Definitions: --
Remedy: --

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104033 **Error on Delete cutting edge**
Definitions: --
Remedy: --

104034 **No work offset selected**
Definitions: --
Remedy: --

104035 **Position minus coarse offset was transferred**
Definitions: --
Remedy: --

104100 **PA: Error on opening the menu**
Definitions: --
Remedy: --

104101 **PA: Error on opening the window**
Definitions: --
Remedy: --

104102 **PA: Error on reading number of T nos.**
Definitions: --
Remedy: --

104103 **PA: Error on reading number of params/cut-edges**
Definitions: --
Remedy: --

104104 **PA: Error on reading actual tool**
Definitions: --
Remedy: --

104105 **PA: Error on reading actual D no.**
Definitions: --
Remedy: --

104106 **PA: No space in global memory**
Definitions: --
Remedy: --

104107 **PA: Error on reading notebook**
Definitions: --
Remedy: --

104108 **PA: Error on reading cutting edge parameters**
Definitions: --
Remedy: --

104109 **PA: Error on reading number of cuttung edges**
Definitions: --
Remedy: --

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104110 **PA: Error on reading tool**
Definitions: --
Remedy: --

104111 **PA: Error on reading number of tools**
Definitions: --
Remedy: --

104112 **PA: Error on reading TO area**
Definitions: --
Remedy: --

104113 **PA: Error on reading tool number**
Definitions: --
Remedy: --

104114 **PA: Error on writing notebook**
Definitions: --
Remedy: --

104115 **PA: Error on reading JOG feed unit**
Definitions: --
Remedy: --

104116 **PA: JOG feed unit not G94 or G95**
Definitions: --
Remedy: --

104117 **PA: Error on writing JOG feed unit**
Definitions: --
Remedy: --

104118 **PA: Error on reading JOG feed**
Definitions: --
Remedy: --

104119 **PA: Feed value outside range**
Definitions: --
Remedy: --

104120 **PA: Error on writing JOG feed value**
Definitions: --
Remedy: --

104121 **PA: Error on reading number of spindles**
Definitions: --
Remedy: --

104122 **PA: Error on reading spindle status**
Definitions: --
Remedy: --

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104123 **PA: Error on reading spindle names**
Definitions: --
Remedy: --

104124 **PA: Error on reading tool type**
Definitions: --
Remedy: --

104125 **PA: Next tool has no cutting edges**
Definitions: --
Remedy: --

104126 **PA: Error on reading global basic unit**
Definitions: --
Remedy: --

104127 **PA: Error on reading number of geometry axes**
Definitions: --
Remedy: --

104128 **PA: Error on reading number of add. axes**
Definitions: --
Remedy: --

104129 **PA: Error on reading number of mach. axes**
Definitions: --
Remedy: --

104130 **PA: Error on reading number of spindles**
Definitions: --
Remedy: --

104131 **PA: Error on reading number of R variables**
Definitions: --
Remedy: --

104132 **PA: Error on reading number of user frames**
Definitions: --
Remedy: --

104133 **PA: Error on reading cont./JOG mode**
Definitions: --
Remedy: --

104134 **PA: Error on writing cont./JOG mode**
Definitions: --
Remedy: --

104135 **PA: Error on activating the user frame**
Definitions: --
Remedy: --

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104136 **PA: Error in getting WO data Block %1 column index %2**
Parameters: %1 = --
%2 = --
Definitions: --
Remedy: --

104137 **PA: Error in writing WO data Block %1 column index %2**
Parameters: %1 = --
%2 = --
Definitions: --
Remedy: --

104201 **Error on setting/resetting semaphores**
Definitions: --
Remedy: --

104202 **Tool identifier not defined**
Definitions: --
Remedy: --

104203 **Blank in tool identifier not allowed**
Definitions: --
Remedy: --

104204 **No new tool created**
Definitions: --
Remedy: --

104205 **Tool exists already**
Definitions: --
Remedy: --

104206 **No magazine available**
Definitions: --
Remedy: --

104207 **The magazine is not defined**
Definitions: --
Remedy: --

104208 **The tool size (L, R, T, B) must have a value between 1 and 7**
Definitions: --
Remedy: --

104209 **Dummy tool cannot be created**
Definitions: --
Remedy: --

104210 **Tool not available**
Definitions: --
Remedy: --

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104211 **Tool number equals 0**
Definitions: --
Remedy: --

104212 **Tool already loaded**
Definitions: --
Remedy: --

104213 **Location already loaded**
Definitions: --
Remedy: --

104214 **Error on positioning magazine**
Definitions: --
Remedy: --

104215 **Error on unloading tools**
Definitions: --
Remedy: --

104216 **Error on relocating tools**
Definitions: --
Remedy: --

104217 **Error on loading tools**
Definitions: --
Remedy: --

104218 **NOTICE! Tool Unload running!**
Definitions: --
Remedy: --

104219 **NOTICE! Tool Load running!**
Definitions: --
Remedy: --

104220 **NOTICE! Relocation of tool running!**
Definitions: --
Remedy: --

104221 **Error on creating tool**
Definitions: --
Remedy: --

104222 **Illegal parameters**
Definitions: --
Remedy: --

104223 **Error on reading TD block**
Definitions: --
Remedy: --

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104224 **Illegal tool type**
Definitions: --
Remedy: --

104225 **No TO memory available in channel**
Definitions: --
Remedy: --

104226 **Error on reading notebook**
Definitions: --
Remedy: --

104227 **Error on writing notebook**
Definitions: --
Remedy: --

104228 **Error on searching for empty location**
Definitions: --
Remedy: --

104229 **Empty location not found**
Definitions: --
Remedy: --

104230 **NOTICE!: Loaded tool cannot be deleted !**
Definitions: --
Remedy: --

104231 **Error on reading number of cutting edges**
Definitions: --
Remedy: --

104232 **Error on reading number of user cutting edges**
Definitions: --
Remedy: --

104233 **Load point not found**
Definitions: --
Remedy: --

104234 **Only memory block from 0..14 possible for NB**
Definitions: --
Remedy: --

104235 **Only 1..15 lines allowed in table**
Definitions: --
Remedy: --

104236 **Load points: %1**
Parameters: %1 = --
Definitions: --

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Remedy: --

104237 **Current location (load point) of real magazine: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

104238 **Empty location %1 found**
Parameters: %1 = --
Definitions: --
Remedy: --

104239 **Syntax error. Only these letters are allowed: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

104240 **Location %1 found**
Parameters: %1 = --
Definitions: --
Remedy: --

104241 **Magazine %1 found**
Parameters: %1 = --
Definitions: --
Remedy: --

104242 **Illegal location number**
Definitions: --
Remedy: --

104243 **Illegal magazine number**
Definitions: --
Remedy: --

104244 **Error on reading user cutting edge data**
Definitions: --
Remedy: --

104245 **Error on writing user cutting edge data**
Definitions: --
Remedy: --

104246 **Error on reading user tool data**
Definitions: --
Remedy: --

104247 **Error on writing user tool data**
Definitions: --
Remedy: --

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104248 **Error on reading monitoring data**
Definitions: --
Remedy: --

104249 **Error on writing monitoring data**
Definitions: --
Remedy: --

104250 **Location not empty or not available**
Definitions: --
Remedy: --

104251 **Only one magazine available !**
Definitions: --
Remedy: --

104252 **Only 0 or 1 allowed for tool life/quantity monitoring !**
Definitions: --
Remedy: --

104253 **Only tool life or quantity monitoring possible**
Definitions: --
Remedy: --

104254 **Illegal magazine or location number**
Definitions: --
Remedy: --

104255 **Function Current location not valid for buffer**
Definitions: --
Remedy: --

105000 **Error %1 ! %2**
Parameters: %1 = --
%2 = --
Definitions: System-internal error.
A memory-access has failed - should not occur in normal operation.
Remedy: --

105001 **Cycles description '%1' not available**
Parameters: %1 = --
Definitions: The cycle description sc.com was not found in the NCK file system.
Remedy: --

105002 **File %1 exists already !**
Parameters: %1 = --
Definitions: The file name entered is already in this directory.
Remedy: --

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105003 **Workpiece %1 exists already**
Parameters: %1 = --
Definitions: The workpiece name entered is already in this directory.
Remedy: --

105004 **Paste buffer is empty! First COPY then PASTE**
Definitions: No file could be inserted, as no file was copied to the clipboard.
Remedy: --

105005 **Only tools can be inserted here**
Definitions: The file type of the previously copied file is not _wpd and cannot be inserted into the workpiece directory.
Remedy: --

105006 **Only files can be inserted here**
Definitions: A file of the file type _wpd, i.e. a workpiece, was copied from the workpiece directory and an attempt was made to insert it into a program directory.
Remedy: --

105007 **No name entered**
Definitions: --
Remedy: Wait until the loading procedure is terminated.

105008 **Write memory error on cycle call**
Definitions: The resources of the MMC100 are exhausted.
No more dynamic memory available.
Remedy: --

105009 **No write access to data**
Definitions: The file is write-protected.
Remedy: --

105010 **No data selected**
Definitions: The cursor is not placed on a valid file name.
Remedy: --

105011 **Cycles overview %1 not available**
Parameters: %1 = --
Definitions: The cycle description sc.com was not found in the NCK file system.
Remedy: --

105012 **Program not or only partially editable (NC Reset)**
Definitions: The selected program is currently being executed.
Remedy: --

105013 **Copied data can be inserted with SK 'Paste'**
Definitions: The copied data is in the clipboard and can be inserted anywhere via the softkey "Paste".
Remedy: --

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105014 **Error on copying ! %1**
Parameters: %1 = --
Definitions: The file could not be copied.
Remedy: --

105015 **Error on renaming ! %1**
Parameters: %1 = --
Definitions: The file could not be renamed.
Remedy: --

105016 **Error on deleting ! %1**
Parameters: %1 = --
Definitions: The file could not be deleted.
Remedy: --

105017 **Selection possible only after enable or in RESET state %1**
Parameters: %1 = --
Definitions: The selected program is either being currently executed or was not yet enabled.
Remedy: --

105018 **Error on generating program ! %1**
Parameters: %1 = --
Definitions: The program could not be created; there may no longer be sufficient memory.
Remedy: --

105019 **Error on opening window ! %1**
Parameters: %1 = --
Definitions: The window could not be opened.
System error that should not occur in normal operation.
Remedy: --

105020 **Error on closing window ! %1**
Parameters: %1 = --
Definitions: The window could not be closed.
System error that should not occur in normal operation.
Remedy: --

105021 **Error on generating workpiece ! %1**
Parameters: %1 = --
Definitions: The workpiece could not be created.
Remedy: --

105022 **Error on enable ! %1**
Parameters: %1 = --
Definitions: The program could not be enabled.
Remedy: --

105023 **File %1 exists already !**
Parameters: %1 = --
Definitions: The file cannot be copied to this directory, as a file with the same name is already here.

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Remedy: --

105024 **Check values! - At least 1 value not within input limits!**
Definitions: An invalild value was entered in the cycle parameter image.
Remedy: --

105025 **Please wait, structuring directory !**
Definitions: The data required for the display of the directory is being determined.
Remedy: --

105026 **NOTICE! Simulated program not identical to edited program!**
Definitions: The program being executed is not identical to the program opened in the editor.
Remedy: --

105027 **Selection is being made**
Definitions: --
Remedy: --

105028 **Selection is impossible**
Definitions: --
Remedy: --

105030 **Please wait, renumbering in progress (%1)!**
Parameters: %1 = --
Definitions: The part program's blocks are serially numbered.
Remedy: --

105031 **Renumbering has been aborted !**
Definitions: Renumbering of the part program was aborted.
Insufficient part program memory may be the cause of the error.
Remedy: --

105032 **Renumbering finished !**
Definitions: Renumbering of the part program was completed without errors.
Remedy: --

105033 **Renumbering incomplete, max. block length exceeded (%1)**
Parameters: %1 = --
Definitions: --
Remedy: --

105041 **Block number will be too large !**
Definitions: The set increment and the size of the program cause the block number to be greater than 999999.
Remedy: --

105042 **Block number not allowed !**
Definitions: The first block number is less than 0 or greater than 999999.
Remedy: --

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105043 **Increment not allowed !**
Definitions: The increment was entered as a negative.
Remedy: --

105050 **Please wait: graphics being output !**
Definitions: The help displays are being prepared for display.
Remedy: --

105051 **%1**
Parameters: %1 = --
Definitions: The dynamic long texts for the cycle parameterization are output here.
Remedy: --

105052 **Error in description of cycles of %1 !**
Parameters: %1 = --
Definitions: The cycle description sc.com, uc.com contains a line that cannot be interpreted.
This line is output via <xxx>.
Remedy: --

105053 **No cycle available in current line !**
Definitions: The editor's cursor is in a line that does not contain a cycle.
A recompilation is not possible.
Remedy: --

105054 **Error on calling of description of cycles !**
Definitions: One of the sc.com, cov.com cycle description files contains a non-interpretable parameter.
Initilization of the cycles is aborted.
Remedy: --

105060 **Please wait: initialization of cycles support**
Definitions: The cycle description files are interpreted and prepared for display on the screen.
Remedy: --

105061 **Error on opening of file %1 !**
Parameters: %1 = --
Definitions: The specified file could not be opened.
System-internal error that does not occur in normal operation.
Remedy: --

105062 **Error on closing of file %1 !**
Parameters: %1 = --
Definitions: The specified file could not be closed.
System-internal error that does not occur in normal operation.
Remedy: --

105063 **Error on positioning in file %1 !**
Parameters: %1 = File name
Definitions: No positioning could be done in the specified file.
System-internal error that does not occur in normal operation.

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Remedy: --

105064 **Error on reading file %1 !**
Parameters: %1 = --
Definitions: The specified file could not be read.
System-internal error that does not occur in normal operation.
Remedy: --

105070 **Please wait: initialization of simulation started !**
Definitions: The graphic travel path is being initialized.
Remedy: --

105071 **Simulation could not be loaded!**
Definitions: --
Remedy: --

105072 **Error while activating the file!**
Definitions: --
Remedy: --

105075 **Channel %1 not enough geo axes, contour definition not%npossible!**
Parameters: %1 = --
Definitions: The default axis names for the required axes are used.
Remedy: --

105076 **Only 2 geo axes defined in channel %1-> working%nplane %2 fixed!**
Parameters: %1 = --
%2 = --
Definitions: --
Remedy: --

105080 **File already selected: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

105081 **Contents were saved in %1.**
Parameters: %1 = --
Definitions: --
Remedy: --

105082 **Selection of 2nd file not possible. Device was removed.**
Parameters: %1 = --
Definitions: --
Remedy: --

107000 **Error on reading a notebook**
Definitions: --
Remedy: --

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107001 **Error on reading MCU data**
Definitions: --
Remedy: --

107002 **Error on writing MCU data**
Definitions: --
Remedy: --

107003 **MCU: No memory available**
Definitions: --
Remedy: --

107004 **MCU: File not available**
Definitions: --
Remedy: --

107010 **MCU: Please wait. Data is being saved!**
Definitions: --
Remedy: --

107011 **MCU: Saving of data successfully carried out!**
Definitions: --
Remedy: --

107021 **MCU.INI: Number of axes incorrect**
Definitions: --
Remedy: --

107022 **MCU.INI: File does not exist / contains error (%1)**
Parameters: %1 = --
Definitions: --
Remedy: --

107023 **MCU.INI: Data for an axis contain error**
Definitions: --
Remedy: --

107024 **MCU.INI: Not all axes specified**
Definitions: --
Remedy: --

107031 **MCU: Command unknown**
Definitions: --
Remedy: --

107032 **MCU: Error in server management block**
Definitions: --
Remedy: --

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107033 **MCU: No table management block available**
Definitions: --
Remedy: --

107034 **MCU: Error in table management block**
Definitions: --
Remedy: --

107035 **MCU: Tool data not saved**
Definitions: --
Remedy: --

107036 **MCU: Tool data not stored on FEPROM**
Definitions: --
Remedy: --

107041 **MCU: Incorrect value for work offset**
Definitions: --
Remedy: --

107042 **MCU: Incorrect value for feedrate**
Definitions: --
Remedy: --

107043 **MCU: Value of traversing path / position incorrect**
Definitions: --
Remedy: --

107050 **MCU: Program is running, cannot be selected !**
Definitions: --
Remedy: --

107051 **MCU: Please wait, reading traversing program !**
Definitions: --
Remedy: --

107052 **MCU: Please wait, transferring traversing program !**
Definitions: --
Remedy: --

107053 **MCU: Traversing program exists already !**
Definitions: --
Remedy: --

107054 **MCU: Traversing program not available !**
Definitions: --
Remedy: --

107055 **MCU: Active program cannot be changed !**
Definitions: --
Remedy: --

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107058 **MCU: Transfer of traversing program terminated without errors!**
Definitions: --
Remedy: --

107059 **MCU: Transfer of traversing program aborted !**
Definitions: --
Remedy: --

107061 **MCU: Program number exists already!**
Definitions: --
Remedy: --

107062 **MCU: Program number not permissible (1 ... 199) !**
Definitions: --
Remedy: --

107063 **MCU: Block number not permissible %1 !**
Parameters: %1 = --
Definitions: --
Remedy: --

107064 **MCU: G function not allowed !**
Definitions: --
Remedy: --

107065 **MCU: Tool offset number (D.) not permissible (0 ... 20) !**
Definitions: --
Remedy: --

107066 **MCU: During a dwell time, only M functions are permissible !**
Definitions: --
Remedy: --

107067 **MCU: Insertion of a block not possible !**
Definitions: --
Remedy: --

107068 **MCU: Subroutine call allowed only with quantity !**
Definitions: --
Remedy: --

107069 **MCU: Appending a block not possible !**
Definitions: --
Remedy: --

107080 **MCU: Unknown error at %1**
Parameters: %1 = --
Definitions: --
Remedy: --

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107081 **MCU: Command being processed (%1) !**
Parameters: %1 = --
Definitions: --
Remedy: --

107082 **MCU: Command number unknown (%1) !**
Parameters: %1 = --
Definitions: --
Remedy: --

107083 **MCU: Acknowledgment op code wrong (%1) !**
Parameters: %1 = --
Definitions: --
Remedy: --

107084 **MCU: Drive not digital (%1) !**
Parameters: %1 = --
Definitions: --
Remedy: --

107085 **MCU: Servo number unknown (%1) !**
Parameters: %1 = --
Definitions: --
Remedy: --

107086 **MCU: Wait for stop acknowledgment (%1) !**
Parameters: %1 = --
Definitions: --
Remedy: --

107087 **MCU: Unknown management status (%1) !**
Parameters: %1 = --
Definitions: --
Remedy: --

107088 **MCU: Not allowed in this PLC mode (%1) !**
Parameters: %1 = --
Definitions: --
Remedy: --

107090 **MCU: Syntax error (%1) !**
Parameters: %1 = --
Definitions: --
Remedy: --

107091 **MCU: Coordinating rules violated (%1) !**
Parameters: %1 = --
Definitions: --
Remedy: --

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107092 **MCU: Protection level of function inadequate (%1) !**
Parameters: %1 = --
Definitions: --
Remedy: --

107093 **MCU: PI service unknown (%1) !**
Parameters: %1 = --
Definitions: --
Remedy: --

107094 **MCU: Context is not supported (%1) !**
Parameters: %1 = --
Definitions: --
Remedy: --

107095 **MCU: Serious error has occurred (%1) !**
Parameters: %1 = --
Definitions: --
Remedy: --

107096 **MCU: PDU magnitude wrong (%1) !**
Parameters: %1 = --
Definitions: --
Remedy: --

107100 **MCU: Unknown error has occurred (%1) !**
Parameters: %1 = --
Definitions: --
Remedy: --

108000 **No dynamic memory available**
Definitions: --
Remedy: --

108001 **No entry in diagnostics file**
Definitions: --
Remedy: --

108002 **There are too many entries/errors**
Definitions: --
Remedy: --

108003 **Change of state**
Definitions: --
Remedy: --

108004 **Communications error to the HiGraph task**
Definitions: --
Remedy: --

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108005 **Too many demands on HiGraph task**
Definitions: --
Remedy: --

108006 **No entries for HiGraph diagnostics (e.g. Z_FEHLER_ALT)**
Definitions: --
Remedy: --

108007 **Not possible to proceed to next transition**
Definitions: --
Remedy: --

108008 **Not possible to proceed to previous transition**
Definitions: --
Remedy: --

108009 **Switch on to next condition not possible**
Definitions: --
Remedy: --

108010 **Switch on to previous condition not possible**
Definitions: --
Remedy: --

108011 **No matching allocation found**
Definitions: --
Remedy: --

108012 **Zoom is empty**
Definitions: --
Remedy: --

109000 **New NCK address has been transferred to NCK**
Definitions: --
Remedy: --

109001 **No switchover: Switchover disable set in current PLC**
Definitions: MMC would like to go offline from this NCU.
The MMC switchover is disabled in the MMC PLC online interface in DB19.
(MMCx_SHIFT_LOCK = TRUE, x = 1,2)
Remedy: --

109002 **No switchover: Target PLC used, try again**
Definitions: MMC would like to go online to this NCU.
MMC has called the target PLC and is awaiting acknowledgement.
MMC bekommt keine Quittung, da die MMC-Parameter-Schnittstelle in DB19 von einem anderen MMC belegt ist.
Remedy: Repeat the operation at a later point in time, as the MMC parameter interface in DB19 is only temporarily occupied.

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109003 **No switchover: Switchover disable set in target PLC**

Definitions: MMC would like to go online to this NCU.
The MMC switchover is disabled in the MMC PLC online interface in DB19.
(MMCx_SHIFT_LOCK = TRUE, x = 1,2)

Remedy: The MMC switchover is disabled/enabled in the machine manufacutrer's PLC program.
Reference to the machine manufacturer's documentation.

109004 **No switchover: PLC occupied by higher-priority HMIs**

Definitions: The MMC is attempting to switch to an NCU that is occupied by two higher-priority MMC's.

Remedy: Switch one of the two higher-priority MMC's to another NCU.

109005 **No switchover: No HMI displaceable on target PLC**

Definitions: MMC would like to go online to this NCU.
At this NCU, two MMC's are online on which uninterruptable processes are active (e.g.: data transfer between MMC and NCU).

Remedy: Wait until at least one of the two MMC's can be displaced and repeat the switchover.

109006 **No switchover: Selected channel invalid**

Definitions: At this NCU, the MMC was switched to a channel that does not exist there.

Remedy: Set up the channel or adapt the parameterization of the NETNAMES.INI.

109007 **Channel switchover running**

Definitions: The channel switchover has been initiated.
A different MMC may have to be displaced.

Remedy: --

109008 **Activation running**

Definitions: The switchover from the passive operating mode to the active operating mode has been initiated.

Remedy: --

109009 **Switchover: error in internal state**

Definitions: --

Remedy: --

109010 **Displacement: error in internal state**

Definitions: --

Remedy: --

109011 **Switchover: trace file cannot be created**

Definitions: --

Remedy: --

109012 **Operator units switchover, PLC timeout: 002**

Definitions: --

Remedy: --

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109013 **Activation denied**
Definitions: --
Remedy: --

110000 **No data available for display**
Definitions: --
Remedy: --

110001 **Cannot read ACC variable:%1**
Parameters: %1 = --
Definitions: --
Remedy: --

110002 **No memory available**
Definitions: --
Remedy: --

110003 **COM file not found: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

110004 **Screen not found: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

111001 **Non-interpretable step in line %1**
Parameters: %1 = Line number
Definitions: The step is not an element of ManualTurn.
Easystep sequencer is not loaded.
Reactions: - Alarm display.
Remedy: Delete the program step or change the program in the operating area PROGRAMS in the SINUMERIK 840D or 810D (CNC mode).
Program Continuation: Internal

111002 **Not enough memory space. Abort in line %1**
Parameters: %1 = Line number
Definitions: Easystep sequencer has too many steps.
Easystep sequencer is not loaded.
Reactions: - Alarm display.
Remedy: Change the program in the operating area PROGRAMS in the SINUMERIK 840D or 810D (CNC mode).
Program Continuation: Internal

111003 **ManualTurn: %1**
ManualTurn: %1
Parameters: %1 = Error code
Definitions: Internal system message over the ManualTurn operator panel.

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Reactions: - Alarm display.
Remedy: Acknowledge error and inform Siemens.
Program Continuation: Internal

111004 File does not exist or is faulty %1
Parameters: %1 = File/Contour name
Definitions: Easystep sequencer cannot interpret a step with contour programming.
Contour not in the directory.
Reactions: - Alarm display.
Remedy: Load contour into the directory.
Program Continuation: Internal

111005 Error when interpreting the contour %1
Parameters: %1 = Contour name
Definitions: Contour is faulty.
Reactions: - Alarm display.
Remedy: Check the contour's machining sequence.
Program Continuation: Internal

111006 Maximum number of contour elements exceeded %1
Parameters: %1 = Contour name
Definitions: The maximum permissible number of 50 contour elements was exceeded when interpreting the machining sequence of a contour.
Reactions: - Alarm display.
Remedy: Check the contour's machining sequence and, if necessary, edit it.
Program Continuation: Internal

111007 Error in line %1 %2
Parameters: %1 = Line number
%2 = Error description
Definitions: --
Reactions: - NC Start disable in this channel.
- Alarm display.
Remedy: Eliminate the corresponding error.
Program Continuation: Internal

111008 Spindle not synchronized
Definitions: Spindle not synchronized.
Reactions: - Alarm display.
Remedy: Let the spindle run at least one revolution (M3, M4).
Program Continuation: Internal

111009 Load new tool: T%1
Parameters: %1 = Tool number
Definitions: Tool change program requests a new tool.

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Reactions: - Alarm display.
- NC Stop on alarm.

Remedy: Load new tool.

Program Continuation: Internal

111010 Teach-in interruption: Log overflow

Definitions: The Teach-in procedure was interrupted. Teach-in file is closed.

Reactions: - Alarm display.

Remedy: In the machine data 9606: $MM_CTM_SIMULATION_TIME_NEW_POS the value of the update rate is to be increased by 100 to 200 ms.

Program Continuation: Internal

111100 Wrong position programmed for the spindle

Definitions: A position beyond the range of 0 -359.999 has been programmed for a modulo axis.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Program a position in the 0 - 359.999 range.

Program Continuation: Clear alarm with the RESET key. Restart part program

111105 No measuring system available

Definitions: SPCON, SPOS or SPOSA has been programmed.
These functions require at least one measuring system. According to MD: NUM_ENCS the machine axis/spindle has no measuring system.

Reactions: - Interpreter stop
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Retrofit a measuring system.

Program Continuation: Clear alarm with the RESET key. Restart part program

111106 No spindle stop for a block change

Definitions: The displayed spindle has been programmed as spindle or as axis even though a positioning operation is still running from the previous block (with SPOSA ... spindle positioning beyond block limits).
Example:
N100 SPOSA [2] = 100
etc.,

N125 S2 = 1000 M2 = 04 Error, if the spindle S2is still running from block N100!

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Before programming the spindle/axis again using the SPOSA instruction, a WAITS command should be activated in order to wait for the programmed spindle position.

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Example:
N100 SPOSA [2] = 100
etc.,
N125 WAITS (2)
N126 S2 = 1000 M2 = 04

Program Continuation: Clear alarm with the RESET key. Restart part program

111107 Reference mark not found

Definitions: When referencing, the spindle turned through a greater distance than given in the axis-specific machine data 34,060 REFP_MAX_MARKER_DIST, without receiving a reference mark signal. The check is performed for spindle positioning with SPOS or SPOSA when the spindle has not previously run with speed control (S=...).

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check and correct the MD 34 060 REFP_MAX_MARKER_DIST. The value entered states the distance in [mm] or [degrees] between 2 zero markers.

Program Continuation: Clear alarm with the RESET key. Restart part program

111108 No transition from speed control mode to position control mode

Definitions: An oriented spindle stop (SPOS/SPOSA) has been programmed or the position control of the spindle was switched on with SPCON but no spindle encoder has been defined.

When switching on the position control, the spindle speed is greater than the limiting speed of the measuring system.

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Spindle without attached encoder: Any NC language elements requiring the encoder signals must not be used.

Spindle with attached encoder: Enter the number of spindle encoders used in the MD NUM_ENCS.

Program Continuation: Clear alarm with the RESET key. Restart part program

111109 Configured positioning velocity is too high

Definitions: When referencing, the spindle turned through a greater distance than given in the axis-specific machine data 34,060 REFP_MAX_MARKER_DIST, without receiving a reference mark signal.

The check is performed for spindle positioning with SPOS or SPOSA when the spindle has not previously run with speed control (S=...).

Reactions:
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check and correct the MD 34 060 REFP_MAX_MARKER_DIST.

The value entered states the distance in [mm] or [degrees] between 2 zero markers.

Program Continuation: Clear alarm with the RESET key. Restart part program

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111110 **Velocity/Speed is negative**

Definitions: The alarms 111110, 111115, 111126, 111127 and 111200 can occur at spindel start/stop.

Reactions: - Alarm display.

Remedy: Inform the sevice department. Please contact the responsible Siemens regional office.

Program Continuation: Internal

111111 **Setpoint speed is zero**

Definitions: The programmed spindle speed setpoint is zero.

Reactions: - Alarm display.

Remedy: Set permissible spindle speed setpoint.

Program Continuation: Internal

111112 **Invalid gear stage**

Definitions: An invalild gear stage was requested by the PLC.

Reactions: - Alarm display.

Remedy: Check the PLC program and axis-specific NC machine data.

Program Continuation: Internal

111115 **Programmed position was not reached**

Definitions: The alarms 111110, 111115, 111126, 111127 and 111200 can occur at spindel start/stop.

Reactions: - Alarm display.

Remedy: Inform the sevice department. Please contact the responsible Siemens regional office.

Program Continuation: Internal

111126 **Absolute value minus not possible**

Definitions: The alarms 111110, 111115, 111126, 111127 and 111200 can occur at spindel start/stop.

Reactions: - Alarm display.

Remedy: Inform the sevice department. Please contact the responsible Siemens regional office.

Program Continuation: Internal

111127 **Absolute value plus not possible**

Definitions: The alarms 111110, 111115, 111126, 111127 and 111200 can occur at spindel start/stop.
The alarms 111110, 111115, 111126, 111127 and 111200 can occur at spindel start/stop.

Reactions: - Alarm display.

Remedy: Inform the sevice department. Please contact the responsible Siemens regional office.
Inform the sevice department. Please contact the responsible Siemens regional office.

Program Continuation: Internal

111200 **Spindle positioning error**

Definitions: The alarms 111110, 111115, 111126, 111127 and 111200 can occur at spindel start/stop.

Reactions: - Alarm display.

Remedy: Inform the sevice department. Please contact the responsible Siemens regional office.

Program Continuation: Internal

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111300 **NC start key defective**

Definitions: Acknowledgement to the PLC user program, that the NC start key is defective, i.e., NC and NO signal = 1.

Reactions: - NC Start disable in this channel.
- Alarm display.

Remedy: Replace the key.

Program Continuation: Internal

111301 **NC stop key defective**

Definitions: Acknowledgement to the PLC user program, that the NC stop key is defective, i.e., NC and NO signal = 1.

Reactions: - NC Start disable in this channel.
- Alarm display.

Remedy: Replace the key.

Program Continuation: Internal

111302 **Spindle start key defective**

Definitions: Acknowledgement to the PLC user program, that the spindle start key is defective, i.e., NC and NO signal = 1.

Reactions: - NC Start disable in this channel.
- Alarm display.

Remedy: Replace the key.

Program Continuation: Internal

111303 **Spindle stop key defective**

Definitions: Acknowledgement to the PLC user program, that the spindle stop key is defective, i.e., NC and NO signal = 1.

Reactions: - NC Start disable in this channel.
- Alarm display.

Remedy: Replace the key.

Program Continuation: Internal

111304 **Connection to the PLC broken off**

Definitions: Acknowledgement to the PLC user program, that the connection with MANUALTURN has been broken off.

Reactions: - Alarm display.

Remedy: Check the PLC user program.

Program Continuation: Internal

111305 **Asynchronous subroutine was not executed**

Definitions: In the asynchronous subroutine, internal settings in the NC were triggered by the operator panel. If one of the alarms from 111306 to 111310 occurrs, these settings cannot be carried out.

Reactions: - Alarm display.

Remedy: Perform an NCK reset

Program Continuation: Internal

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111306 **Error when selecting or deselecting constant cutting speed**

Definitions: In the asynchronous subroutine, internal settings in the NC were triggered by the operator panel. If one of the alarms from 111306 to 111310 occurrs, these settings cannot be carried out.

Reactions: - Alarm display.

Remedy: Perform an NCK reset

Program Continuation: Internal

111307 **Error when deleting handwheel offset**

Definitions: In the asynchronous subroutine, internal settings in the NC were triggered by the operator panel. If one of the alarms from 111306 to 111310 occurrs, these settings cannot be carried out.

Reactions: - Alarm display.

Remedy: Perform an NCK reset

Program Continuation: Internal

111308 **Error when setting upper spindle speed limit**

Definitions: In the asynchronous subroutine, internal settings in the NC were triggered by the operator panel. If one of the alarms from 111306 to 111310 occurrs, these settings cannot be carried out.

Reactions: - Alarm display.

Remedy: Perform an NCK reset

Program Continuation: Internal

111309 **Error when selecting tool**

Definitions: In the asynchronous subroutine, internal settings in the NC were triggered by the operator panel. If one of the alarms from 111306 to 111310 occurrs, these settings cannot be carried out.

Reactions: - Alarm display.

Remedy: Perform an NCK reset

Program Continuation: Internal

111310 **Error when selecting zero offset**

Definitions: In the asynchronous subroutine, internal settings in the NC were triggered by the operator panel. If one of the alarms from 11306 to 111310 occurrs, these settings cannot be carried out.

Reactions: - Alarm display.

Remedy: Perform an NCK reset

Program Continuation: Internal

111311 **NC start not possible: Deselect single block**

Definitions: A program was activated with block search, while at the same time single block was active.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Deselect single block.

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Program Continuation: Internal

111400 Unknown PLC error

Definitions: The PLC has announced an error that is unknown in the operator panel.

Reactions: - NC Start disable in this channel.
- Alarm display.

Remedy: Inform Siemens.

Program Continuation: Switch control OFF - ON.

111410 Tool %1 was created

Parameters: %1 = Tool number

Definitions: When ManualTurn is booted, a check is run to see whether all standard tools are available. If this is not the case, the missing tools will be created automatically.
If several tools are created, they will be output in an aggregate signal.
Meaning: Example:
%1 Number of the tool that was created, 5
%1 First and last tool that were created, 5...16.

Remedy: --

Program Continuation: Internal

111411 %1 Tool(s) can (could) not be created

Definitions: When ManualTurn is booted, a check is run to see whether all standard tools are available. If this is not the case, the missing tools will be created automatically.
Hereby, the specified number of tools could not be created.

Reactions: - NC Start disable in this channel.
- Alarm display.

Remedy: Increase machine data 18082 $MM_NUM_TOOL by the specified amount.

Program Continuation: Internal

111420 Error during the inch/metric conversion! Check all data!

Definitions: The switchover of the data for the inch/metric conversion was not completed.
This alarm can only appear in the event of hardware defects.

Reactions: - NC Start disable in this channel.
- Alarm display.

Remedy: The following data must be checked:
Display MD's:
MD9004: $MM_DISPLAY_RESOLUTION
MD9600: $MM_CTM_SIMULATION_DEF_X
MD9601: $MM_CTM_SIMULATION_DEF_Y
MD9602: $MM_CTM_SIMULATION_DEF_VIS_AREA
MD9603: $MM_CTM_SIMULATION_MAX_X
MD9604: $MM_CTM_SIMULATION_MAX_Z
MD9605: $MM_CTM_SIMULATION_MAX_VIS_AREA
MD9616: $MM_CTM_TEACH_HANDW_FEED_P_MIN
MD9617: $MM_CTM_TEACH_HANDW_FEED_P_REV
MD9620: $MM_CTM_CYCLE_SAFETY_CLEARANCE

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MD9633: $MM_CTM_INC_DEC_FEED_PER_MIN
MD9634: $MM_CTM_INC_DEC_FEED_PER_ROT
MD9637: $MM_CTM_MAX_INP_FEED_P_MIN
MD9638: $MM_CTM_MAX_INP_FEED_P_ROT
MD9639: $MM_CTM_MAX_TOOL_WEAR
MD9648: $MM_CTM_ROUGH_O_RELEASE_DIST
MD9649: $MM_CTM_ROUGH_I_RELEASE_DIST
MD10240: $MN_SCALING_SYSTEM_IS_METRIC
MD20150 [12]: $MC_GCODE_RESET_VALUES
Tool data: Length X, length Z, wear length radius X and Z, vconst.
Zero offsets: Position in X, Z.

Program Continuation: Internal

111430 Program not loaded. Error when converting old cycles in G code. No NC memory.

Definitions: In previous ManualTurn versions, LINE, INCLINED and CIRCLE steps were saved as cycles. Now these are saved as G codes (INCLINED, CIRCLE without angle programming).
When loading a sequence, a check is run to see whether old cycles were used. If there are old cycles, the sequence is converted and saved again in the NC. This alarm is output if an error occurs thereby (memory full).

Reactions: - Alarm display.

Remedy: There must be enough memory for the original sequence and for the backup copy in order for the sequence to be created.

Program Continuation: Internal

111900 Start only possible in basic display

Definitions: A G code program can only be started from the basic display of an operating mode (except MANUAL).

Reactions: - Alarm display.

Remedy: Switch to the basic display of an operating mode (except MANUAL). Start single step mode with NC start.

Program Continuation: Internal

111901 Contour is contained in the current program, machining not enabled

Definitions: There is a contour in the current Easystep sequence and it is not permitted to be changed.

Reactions: - Alarm display.

Remedy: Terminate machining. Reload the Easystep sequence and change it correspondingly.

Program Continuation: Internal

111902 Start only with valid reference point

Definitions: The axes have no valid reference point.

Reactions: - Alarm display.

Remedy: Reference all axes.

Program Continuation: Internal

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111904 **4. Axis not configured, i.e., no driven tool possible**

Definitions: 4. The axis is not configured, i.e., no driven tool is possible.

Reactions: - Alarm display.

Remedy: 4. Create an axis. Hereby, the following machine data has to be changed:
Channel-specific 20070 $MC_AXCONF_MACHAX_USED [3]=4
Axis-specific for the 4th axis.
30300 $MA_IS_ROT_AX=1
30310 $MA_ROT_IS_MODULO=1
30320 $MA_DISPLAY_IS_ MODULO=1
30350 $MA_SIMU_AX_VDI_OUTPUT=1
35000 $MA_SPIND_ASSIGN_TO_MACHAX=2

Program Continuation: Internal

112045 **Several approach points required**

Definitions: Several insertion points are required for machining the contour pocket. The machining breaks up into several individual machinings.

The program can be started.
This alarm is only a warning.
Residual material will remain.

Reactions: - Alarm display.

Remedy: By using a smaller milling cutter, the machining could be done with an insertion point.

Program Continuation: Internal

112046 **Main contour cannot be traced**

Definitions: The pocket contour cannot be bypassed with the specified milling cutter.

Residual material will remain.

The program can be started.
This alarm is only a warning.

Reactions: - Alarm display.

Remedy: By using a smaller milling cutter, the pocket contour could be bypassed.

Program Continuation: Internal

112052 **No residual material available**

Definitions: No residual material has been determined.

Reactions: - Alarm display.

Remedy: Check parameters in the residual material cycle.

Program Continuation: Clear alarm with the Delete key or NC START.

112057 **Programmed helix violates contour**

Definitions: The starting point for helical insertion was so selected, that the helix violates the programmed contour.
The program can be started.
This alarm is only a warning.

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Reactions: - Alarm display.
Remedy: Select another starting point; use a smaller helix radius.
Program Continuation: Internal

112099 **System error contour pocket %1**
Definitions: While the contour pocket was being calculated, an error occurred. The contour pocket cannot be calculated.
The program cannot be started.
Reactions: - Alarm display.
Remedy: Please contact the hotline of Siemens AG, A&D MC and provide with the error message.
Program Continuation: Internal

112100 **Error on renumbering.%nInitial state restored.**
Definitions: The softkey "Renumber" was pressed in the program editor. This caused an error during serial numbering that damaged the program in the memory, making it necessary to reload the initial program into the memory.
The program was not renumbered.
Reactions: - Alarm display.
Remedy: Make room in the memory, e.g. by deleting an old program. Select "Renumber" again.
Program Continuation: Internal

112200 **The contour is a step in the current program%nsequence. Machining not enabled**
Definitions: The contour is an element from a loaded program and cannot be deleted or renamed.
Reactions: - Alarm display.
Remedy: Remove the contour from the loaded program.
Program Continuation: Internal

112201 **Contour is step in current automatic chain%nMachining not possible.**
Definitions: The contour is an element of a program loaded under "Machine auto" and cannot be deleted or renamed.
After the program has been started, the integrated contours cannot be changed under "Program" while the program is running.
Reactions: - Alarm display.
Remedy: Stop the program and load it under "Program". Remove the contour from the program.
Program Continuation: Internal

112210 **Tool axis cannot be changed. Not enough NC-%nmemory.**
Definitions: If the tool axis is reselected, the NC program has to be generated again. Hereby the old NC program is saved first.
Then the new program is generated. Here, the NC memory is insufficient to save the new program.
The reselection of the tool axis was not carried out.
Reactions: - Alarm display.
Remedy: Free memory space must be created on the NC, and it must be enough for the program to be processed (e.g. by deleting programs that are no longer required).
Program Continuation: Internal

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112211 **Tool preselection cannot be processed.%nNot enough NC memory.**

Definitions: When tool preselection is processed, the NC program has to be generated again. Hereby the old NC program is saved first.
Then the new program is generated. Here, the NC memory is insufficient to save the new program.
The tool preselection is not processed.

Reactions: - Alarm display.

Remedy: Free memory space must be created on the NC, and it must be enough for the program to be processed (e.g. by deleting programs that are no longer required).

Program Continuation: Internal

112300 **Tool management concept 2 not possible%nMagazine not completely loaded.**

Definitions: The magazine is not completely loaded with tools.
In the magazine of tool management type 2, the number of tools specified in machine data 18082 has to be created.

Reactions: - Alarm display.

Remedy: Installation and start-up: Create the correct number of tools.

Program Continuation: Internal

112301 **Tool management concept 2 not possible%nMagazine not sorted like tool list.**

Definitions: The magizine list sorting does not correspond to that of the tool list.
In the magazine of tool management type 2, the sequence of the tools has to be defined according to their T numbers.

Reactions: - Alarm display.

Remedy: Installation and start-up: Assign the tools according to their T numbers to the magazine locations.

Program Continuation: Internal

112320 **Replace manual tool:%n%1.**

Definitions: The operator is prompted to replace the indicated manual tool.

Reactions: - Alarm display.

Remedy: Replace the manual tool.

Program Continuation: Internal

112321 **Load manual tool:%n%1.**

Definitions: The operator is prompted to load the specified manual tool.

Reactions: - Alarm display.

Remedy: Load the manual tool.

Program Continuation: Internal

112322 **Exchange manual tool:%n%1 -> %2.**

Definitions: The operator is prompted to replace the specified manual tool by the new manual tool.

Reactions: - Alarm display.

Remedy: Replace the manual tool.

Program Continuation: Internal

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112323 **Replace inclinable head:%n%1**

Definitions: The operator is prompted to remove the specified swivel head from the spindle.

Reactions: - Alarm display.

Remedy: Replace swivel head.
When doing this, please follow the machine manufacturer's instructions.

Program Continuation: Internal

112324 **Load inclinable head:%n%1**

Definitions: The operator is prompted to load the specified swivel head into the spindle.

Reactions: - Alarm display.

Remedy: Load swivel head.
When doing this, please follow the machine manufacturer's instructions.

Program Continuation: Internal

112325 **Exchange inclinable head:%n%1 -> %2**

Definitions: The operator is prompted to replace the specified swivel head in the spindle with the new swivel head.

Reactions: - Alarm display.

Remedy: Exchange swivel head.
When doing this, please follow the machine manufacturer's instructions.

Program Continuation: Internal

112326 **Set inclinable head%n%1%2**

Definitions: The operator is prompted to set the swivel head in accordance with the specified data.

Reactions: - Alarm display.

Remedy: Set swivel head.
When doing this, please follow the machine manufacturer's instructions.

Program Continuation: Internal

112327 **Angle not in allowed area:%n%1%2**

Definitions: The programmed machining cannot be carried out with the swivel head.

Reactions: - Alarm display.

Remedy: If necessary, clamp the workpiece differently.

Program Continuation: Internal

112328 **Angle adapted to angle grid:%n%1%2**

Definitions: Due to the angle grid, the swivel head could not be set exactly to the specified angle.

Reactions: - Alarm display.

Remedy: Machining can be continued with the specified values, but it will not correspond exactly to the programming.

Program Continuation: Internal

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112329 **Set inclinable head/swivel table:%n%1%2**

Definitions: The operator is prompted to set the swivel head/table in accordance with the specified data.

Reactions: - Alarm display.

Remedy: Set swivel head/table.
When doing this, please follow the machine manufacturer's instructions.

Program Continuation: Internal

112330 **Set swivel table:%n%1%2**

Definitions: The operator is prompted to set the swivel table in accordance with the specified data.

Reactions: - Alarm display.

Remedy: Set swivel table.
When doing this, please follow the machine manufacturer's instructions.

Program Continuation: Internal

112340 **Approval not possible, as axes have not%nbeen referenced!**

Definitions: In Safety Integrated a user acknowledgement can only be made after the reference point has been approached.

Reactions: - Alarm display.

Remedy: Approach reference point.

Program Continuation: Clear alarm with the Delete key or NC START.

112350 **No swivel data created!**

Definitions: There are no swivel data blocks.

Reactions: - Alarm display.

Remedy: Set up swivel data blocks (see /FBSP/, ShopMill Description of Functions)

Program Continuation: Internal

112360 **Step was not transferred into program chain%nas program run active.**

Definitions: The program that you want to change is being executed in the operating mode "Machine auto". You can only change programs that are not being executed in the operating mode "Machine auto".

Reactions: - Alarm display.

Remedy: Stop the program run in the "Machine auto" operating mode.

Program Continuation: Internal

112400 **Not stored in the Tool Management:%n%1 Program: %2**

Definitions: The tool specified in the program does not exist.

Reactions: - Alarm display.

Remedy: The tool must be created before the data is saved.

Program Continuation: Internal

112401 **Tool could not be set up:%n%1**

Definitions: When reading in the tool data, a tool could not be created.

Reactions: - Alarm display.

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Remedy: Check tool management.
Program Continuation: Internal

112402 **Work offsets: error on writing**
Definitions: Data could not be written to the NC.
Reactions: - Alarm display.
Remedy: Should the alarm be displayed again after a new try, please contact the hotline of Siemens AG, A&D MC.
Program Continuation: Clear alarm with the Delete key or NC START.

112420 **Error on changing over inch/metric!%nCheck all data!**
Definitions: The switchover of the data for the inch/metric conversion was not completed.
This alarm can only appear in the event of hardware defects.
Reactions: - NC Start disable in this channel.
- Alarm display.
Remedy: The following data must be checked:
Display MD's:
MD9655: $MM_CMM_CYC_PECKING_DIST
MD9656: $MM_CMM_CYC_DRILL_RELEASE_DIST
MD9658: $MM_CMM_CYC_MIN_COUNT_PO_TO_RAD
MD9664: $MM_CMM_MAX_INP_FEED_P_MIN
MD9665: $MM_CMM_MAX_INP_FEED_P_ROT
MD9666: $MM_CMM_MAX_INP_FEED_P_TOOTH
MD9670: $MM_CMM_START_RAD_CONTOUR_POCKET
MD9752: $MM_CMM_MEASURING_DISTANCE
MD9753: $MM_CMM_MEAS_DIST_MAN
MD9754: $MM_CMM_MEAS_DIST_TOOL_LENGTH
MD9755: $MM_CMM_MEAS_DIST_TOOL_RADIUS
MD9756: $MM_CMM_MEASURING_FEED
MD9757: $MM_CMM_FEED_WITH_COLL_CTRL
MD9758: $MM_CMM_POS_FEED_WITH_COLL_CTRL
MD9759: $MM_CMM_MAX_CIRC_SPEED_ROT_SP
MD9761: $MM_CMM_MIN_FEED_ROT_SP
MD9762: $MM_CMM_MEAS_TOL_ROT_SP
MD9765: $MM_CMM_T_PROBE_DIAM_LENGTH_MEAS
MD9766: $MM_CMM_T_PROBE_DIAM_RAD_MEAS
MD9767: $MM_CMM_T_PROBE_DIST_RAD_MEAS
MD10240: $MN_SCALING_SYSTEM_IS_METRIC
MD20150 [12]: $MC_GCODE_RESET_VALUES
Tool data for various cutting edges D: length Z, radius R, wear length radius Z and R.
Zero offsets: Basic offset position in X, Y, Z , as well as A, C (if available) zero offset.
Settings in operating mode MANUAL: Retraction plane, safety clearance.
Program Continuation: Internal

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112500 **Error in NC interpreter % module %1.**

Definitions: The ShopMill program cannot be opened.
Reactions: - Alarm display.
Remedy: Alarm display
Program Continuation: Internal

112501 **Error in EASYSTEP chain:%nNon-interpretable step in line %1.**

Definitions: The ShopMill program cannot be opened.
Reactions: - Alarm display.
Remedy: Correct the faulty line.
Program Continuation: Internal

112502 **Not enough memory space%nAbort in line %1.**

Parameters: %1 = Line number
Definitions: The program cannot interpret a program block with contour programming. Contour not in the directory.
Program is not loaded.
The program cannot interpret a program block with contour programming. Contour not in the directory.
Reactions: - Alarm display.
Remedy: Load contour into the directory.
Program Continuation: Internal

112503 **ShopMill: %1**

Definitions: A system error has occurred.
Reactions: - Alarm display.
Remedy: Please contact the hotline of Siemens AG, A&D MC and provide with the error message.
Program Continuation: Clear alarm with the Delete key or NC START.

112504 **File does not exist or is faulty%n%1**

Parameters: %1 = File name
Definitions: The program cannot interpret a program block with contour programming.
Contour not in the directory.
Reactions: - NC Start disable in this channel.
- Alarm display.
Remedy: Load contour into the directory.
Program Continuation: Internal

112505 **Error on interpreting contour:%n%1**

Parameters: %1 = Contour name
Definitions: Contour is faulty.
Reactions: - NC Start disable in this channel.
- Alarm display.
Remedy: Check the contour's machining sequence.
Program Continuation: Internal

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112506 **Maximum number of contour elements exceeded:%n%1**

Definitions: The maximum permissible number of 50 contour elements was exceeded when interpreting the machining sequence of a contour.

Reactions: - Alarm display.

Remedy: Check the contour's machining sequence and, if necessary, edit it.

Program Continuation: Internal

112541 **Program cannot be interpreted**

Definitions: The program cannot be interpreted as a ShopMill program during loading, as the program header is missing.

Reactions: - NC Start disable in this channel.
- Alarm display.

Remedy: --

Program Continuation: Internal

112542 **GUD variable does not exist or%narray dimension too small:%1**

Definitions: The required GUD variable was not found on read or write access.

Reactions: - Alarm display.

Remedy: Load the correct GUD variable.

Program Continuation: Internal

112543 **Prog. was created with higher software version**

Definitions: The part program has been created with a software version higher than the existing one.

Reactions: - Alarm display.

Remedy: Delete the machining step and reprogram machining if required.

Program Continuation: Clear alarm with the Delete key or NC START.

112544 **Program cannot be opened.%nIt is already being edited.**

Definitions: Program is already open in HMI Advanced (Program or Services operating area).

Reactions: - Alarm display.

Remedy: Close program in HMI Advanced (Program or Services operating area).

Program Continuation: Clear alarm with the Delete key or NC START.

112546 **Program cannot be opened.%nNo read access to the file.**

Definitions: The file has no write access for the current access level.

Reactions: - Alarm display.

Remedy: Set read access with keyswitch or via password.

Program Continuation: Internal

112550 **Sequencer programming is not opened.**

Definitions: Option 'Sequencer programming' has not been set.

Reactions: - Alarm display.

Remedy: The program is opened as G code.

Program Continuation: Internal

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112560 **USB device no longer available,%nexecution from external source no longer possible.**

Definitions: --
Reactions: - Alarm display.
Remedy: --

112561 **USB device no longer available,%nexecution of Extcall no longer possible.**

Definitions: --
Reactions: - Alarm display.
Remedy: --

112562 **USB device no longer available, editing is%naborted. The last changes are lost.**

Definitions: --
Reactions: - Alarm display.
Remedy: --

112563 **USB device not available; program editing is%nbeing interrupted; last changes are lost.**

Definitions: --
Reactions: - Alarm display.
Remedy: --

112564 **USB device no longer available,%ncopying was aborted.**

Definitions: --
Reactions: - Alarm display.
Remedy: --

112565 **USB device no longer available.**

Definitions: --
Reactions: - Alarm display.
Remedy: --

112600 **Spindle not synchronized**

Definitions:
Reactions: - Alarm display.
Remedy: Synchronize the spindle.
Program Continuation: Internal

112601 **ShopTurn: %1**

Definitions: A system error has occurred.
Reactions: - Alarm display.
Remedy: Please contact the hotline of Siemens AG, A&D MC and provide with the error message.
Program Continuation: Clear alarm with the Delete key or NC START.

112604 **Connection to the PLC broken off**

Definitions: Acknowledgement to the PLC user program, that the connection with the PCU has been broken off.
ShopMill PLC is terminated.
Reactions: - Alarm display.

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Remedy: Check the PLC user program.
Program Continuation: Internal

112605 Asynchronous subprogram was%nnot executed
Definitions: The input values could not be correctly processed by the NC.
Reactions: - Alarm display.
Remedy: Perform an NCK reset
Program Continuation: Internal

112611 NC start not possible:%nDeselect single block
Definitions: A program was activated with block search while a single block has been active.
Reactions: - Alarm display.
Remedy: Deselect the single block.
Program Continuation: Internal

112620 Language %1 not installed.
Definitions: Language not installed.
Reactions: - Alarm display.
Remedy: Install language.
Program Continuation: Internal

112650 Unknown PLC error
Definitions: The PLC has announced an error that is unknown in the operator panel.
Reactions: - NC Start disable in this channel.
- Alarm display.
Remedy: Press POWER ON, inform Siemens.
Program Continuation: Internal

112999 Faulty grafic data. Exit graphic %nand restart
Definitions: More data was generated than can be read from the operator panel.
Stop the graphic.
Remedy: Deselect the graphic and then select it again.

113000 Invalid value - value range: %1
Parameters: %1 = --
Definitions: --
Remedy: --

113001 Incorrect configuration in line %1
Parameters: %1 = --
Definitions: --
Remedy: --

113002 Insufficient access level!
Definitions: --
Remedy: --

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113003 **Error when writing variable %1**
Parameters: %1 = --
Definitions: --
Remedy: --

113004 **Insufficient dynamic memory**
Definitions: --
Remedy: --

113005 **Incorrect NC file positioning: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

113006 **NC program is not open %1**
Parameters: %1 = --
Definitions: --
Remedy: --

113007 **Cannot read NC block, no.: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

113008 **NC block cannot be written, no.: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

113009 **File name missing for copy**
Definitions: --
Remedy: --

113010 **Cannot open file: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

113011 **Cannot write file: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

113012 **Cannt write NC file: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

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113013 **Cannot read NC file: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

113014 **Invalid NC file name: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

113015 **DLL not loaded: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

113016 **No link to %1**
Parameters: %1 = --
Definitions: --
Remedy: --

113017 **Incorrect DDE address: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

113018 **Invalid command: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

113019 **Invalid data format: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

113020 **Cursor data item cannot be written**
Definitions: --
Remedy: --

113021 **Error on data access: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

113022 **No variables exist**
Definitions: --
Remedy: --

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113023 **Impossible to enter code: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

113024 **Invalid mask property: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

113025 **Invalid action: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

113026 **Invalid type of action: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

113027 **No mask defined**
Definitions: --
Remedy: --

113028 **You cannot insert here**
Definitions: --
Remedy: --

113029 **Mask '%1' being generated - please wait ...**
Parameters: %1 = --
Definitions: --
Remedy: --

113030 **PLC connection '%1' not in 'common.com'**
Parameters: %1 = --
Definitions: --
Remedy: --

113031 **PLC interpreter: %1 bytes not allocated**
Parameters: %1 = --
Definitions: --
Remedy: --

113032 **Invalid PLC command: %1**
Parameters: %1 = --
Definitions: --
Remedy: --

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113033 **Block cannot be recompiled**

Definitions: --

Remedy: --

113100 **Internal error %1**

Parameters: %1 = --

Definitions: --

Remedy: --

120000 **Area %1 cannot be loaded! Acknowledge alarm, press area switchover key!**

Parameters: %1 = Operating area name

Definitions: One of the applications listed in the REGIE.INI could not be started.

Reactions: - Alarm display.

Remedy: Check whether the entry in REGIE.INI is correct.

Program Continuation: Internal

120001 **Area %1 cannot be selected. Please deactivate area %2**

Parameters: %1 = Operating area name
%2 = Operating area name

Definitions: Within the scope of an area switchover, a different area is to be terminated (unloaded).
However, the area refuses this.
The area switchover does not take place.

Reactions: - Alarm display.

Remedy: Try again and, if possible, close the reluctant area first.

Program Continuation: Internal

120002 **Area %1 is still active. Please deactivate area %1**

Parameters: %1 = Operating area name

Definitions: When the MMC system is closed (closing the master control), an area is to be terminated.
However, the area refuses this.
The system was NOT closed.

Reactions: - Alarm display.

Remedy: Try again and, if possible, close the reluctant area first.

Program Continuation: Internal

120003 **Area %1 cannot be deactivated. Please try again**

Parameters: %1 = Operating area name

Definitions: Within the scope of an area switchover, an area is to be deselected.
However, the area refuses this.
The area switchover does not take place.

Reactions: - Alarm display.

Remedy: Try again and, if possible, close the reluctant area first.

Program Continuation: Internal

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120005 **Please acknowledge the dialog box in area %1**

Parameters: %1 = Operating area name

Definitions: The area %1 could not be deselected, as in this area a dialog box is still open.

Reactions: - Alarm display.

Remedy: Close the dialog box in area %1!

Program Continuation: Internal

120006 **The channel switchover is currently disabled by area %1.**

Parameters: %1 = Operating area name

Definitions: The area %1 has disabled the channel switchover at the moment, as it is performing a critical operation (e.g. execution from external sources, etc.), during which no channel switchover may occur.

Reactions: - Alarm display.

Remedy: Wait until the critical operation is finished or end the critical operation manually.

Program Continuation: Internal

120007 **The channel switchover is currently disabled.**

Definitions: The channel switchover is currently disabled, as a critical operation, during which no channel switchover may occur, is being carried out.

Reactions: - Alarm display.

Remedy: Wait until the critical operation is finished or end the critical operation manually.

Program Continuation: Internal

120008 **Control unit switchover, PLC timeout: %1**

Parameters: %1 = --

Definitions: 001: MMC would like to go offline from this NCU. MMC has made the offline request in the online PLC and is waiting for the positive / negative acknowledgement from the PLC.

002: MMC would like to go online to this NCU. MMC has called the target PLC and is waiting for the release to go online.

003: MMC has requested the active operating mode and is waiting for acknowledgement from the PLC.

Remedy: Check whether the switchover blocks are loaded and started in the online PLC.

120010 **PCU temperature alarm**

Definitions: The temperature sensor on the PCU module has reached the response threshold.

Interface bit DB10.DB103.6 will be set.

Remedy: Switch off the PCU and let it cool off.

Improve the ventilation of the PCU module.

Check the function of the fan of the PCU module (fan defect).

If the error is displayed again, please inform the authorized service personnel.

120011 **Request for authority to operate from another station.%nTo retain authority to operate=>Recall key,%nto transfer authority to operate=>wait (no entry)**

Definitions: The operator of another station requests authority to operate. This can be refused to him through Recall. After approx. 5 seconds, the authority to operate will automatically be transferred to the other station.

Reactions: - Alarm display.

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Remedy: The alarm automatically disappears after approx. five seconds or if the Recall key is pressed within this time limit.

Program Continuation: Internal

120020 PCU fan monitoring CPU fan

Definitions: Low fan speed of CPU fan.

Interface bit DB10.DB103.4 is being set.

Remedy: Switch off the PCU, let it cool off and have the function of the CPU fan of PCU module checked by qualified service personnel (fan problem).

Spare part description: Manual Operator Components SINUMERIK

840D/840Di/810D section PCU 50 V3 spare parts, replacement of device fan.

120021 PCU fan monitoring housing fan 1

Definitions: Low fan speed of PCU casing fan 1.

Interface bit DB10.DB103.4 is being set.

Remedy: Switch off the PCU, let it cool off and have the function of casing fan 1 of PCU module checked by qualified service personnel (fan problem).

Spare part description: Manual Operator Components SINUMERIK

840D/840Di/810D section PCU 50 V3 spare parts, replacement of device fan.

120022 PCU fan monitoring housing fan 2

Definitions: Low fan speed of PCU casing fan 2.

Interface bit DB10.DB103.4 is being set.

Remedy: Switch off the PCU, let it cool off and have the function of casing fan 2 of PCU module checked by qualified service personnel (fan problem).

Spare part description: Manual Operator Components SINUMERIK

840D/840Di/810D section PCU 50 V3 spare parts, replacement of device fan.

120029 PCU: fatal hard disk error

Definitions: A high number of write/read errors was found on the hard disk.

This indicates a hardware failure to come soon (S.M.A.R.T error).

Interface bit DB10.DB103.3 is being set.

Remedy: Back up the PCU data and have the hard disk replaced by qualified service personnel.

Spare part description: Manual Operator Components SINUMERIK

840D/840Di/810D section PCU 50 V3 spare parts.

Hard disk replacement: Installation & Start-Up Guide HMI SINUMERIK

840D/840Di/810D section Installation variants/data backup.

120120 %1 see explanation

Parameters: %1 = Alarm texts are displayed below in respect of individual causes of the alarm

Definitions: Alarm text: Alarm list is full.

Pending alarms/messages could not be entered into the alarm list due to lack of space. The alarm cannot be deleted, as this event has made the alarm list permanently inconsistent.

Alarm text: Number of alarm texts too high.

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The number of alarm texts is currently limited to 5000. This limit has been exceeded by the alarm text configuration.
Alarm text: File %1 not found.
Alarm text: Input/output error in file %1.
Alarm text: Input/output error.
Alarm text: Error on reading from the index file.
Alarm text: Error on writing into the index file.
Alarm text: Syntax error in alarm text file %1.
Alarm texts are stored in files. One of these files could not be accessed properly.

Reactions: - Alarm display.

Remedy: Expand the alarm list (Enter maximum number in the file mbdde.ini in the section [Alarms]). Then perform a cold restart for the operator panel.
Reduce the number of alarm texts. Then perform a cold restart for the operator panel.
Make sure that the MMC memory on the hard disk is available after booting, or re-install the MMC software.
When entering your own alarm texts, check whether the path and file name are entered correctly in mbdde.ini.

Program Continuation: Internal

120200 Image preparation suppressed

Definitions: The control is so heavily loaded by the processing of a subroutine, that it cannot keep all the display values up-to-date.

Reactions: - Alarm display.

Remedy: The alarm disappears automatically as soon as the overload situation has been eliminated.
If this alarm occurrs often, the start-up engineer will have to take appropriate measures (e.g. reduce IPO clock pulse rate).

Program Continuation: Internal

120201 Communication failure

Definitions: The operator panel is connected with the NC and PLC via a serial bus.
This alarm occurs when the communication to these components is interrupted.
In connection with this alarm, all display values connected with the NC/PLC become invalid.
Such faults are normal while the controls are ramping up (e.g. after resetting).

Reactions: - Alarm display.

Remedy: The alarm disappears automatically as soon as the fault situation has ended.
If this alarm is continuously present, a wide variety of faults may be the cause. (e.g. wire breakage, NC/PLC not ramped up,
faulty address/data transfer rate configuration of one of the bus nodes, etc.).

Program Continuation: Internal

120202 Waiting for a connection to the NC/PLC

Definitions: The operator panel is connected to the NC and PLC via a serial bus.
This alarm occurs if the MMC is started for the first time and the NC/PLC ramp-up is not yet finished or the communication to these components is faulty.
In connection with this alarm, all display values connected with the NC/PLC become invalid.
Such faults are normal while the controls are ramping up (e.g. after resetting).

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Reactions: - Alarm display.

Remedy: The alarm disappears automatically as soon as the fault situation has ended.

If this alarm is continuously present, a wide variety of faults may be the cause. (e.g. wire breakage, NC/PLC not ramped up, faulty address/data transfer rate configuration of one of the bus nodes, etc.).

Program Continuation: Internal

120203 Communication failure

Definitions: The operator panel is connected to the NC and PLC via a serial bus.

This alarm occurs if the MMC is started for the first time and the NC/PLC ramp-up is not yet finished or the communication to these components is faulty.

In connection with this alarm, all display values connected with the NC/PLC become invalid.

Such faults are normal while the controls are ramping up (e.g. after resetting).

Reactions: - Alarm display.

Remedy: The alarm disappears automatically as soon as the fault situation has ended.

If this alarm is continuously present, a wide variety of faults may be the cause. (e.g. wire breakage, NC/PLC not ramped up, faulty address/data transfer rate configuration of one of the bus nodes, etc.).

Program Continuation: Internal

120301 Faulty entry for hardkey 'Program' in Keys.ini.

Definitions: The configuration in Keys.ini is wrong.

Reactions: - Alarm display.

Remedy: In Keys.ini, the parameter ChildTask:=26 has to be set in the line KEY2.0=.

The alarm can also be acknowledged manually via diagnostics.

Program Continuation: Internal

120302 The selection is not possible. A program has to have been edited first via the area 'Program'.

Definitions: A program can only be selected via the hardkey program if a program has already been edited in the program area.

Reactions: - Alarm display.

Remedy: The alarm disappears automatically as soon as a program is edited or simulated in the program area.

The alarm can also be acknowledged manually via diagnostics.

Program Continuation: Internal

120303 The selection is not possible. The edited file %1 no longer exists.

Parameters: %1 = Program name with path

Definitions: The file edited last in the program area has in the meantime been deleted.

Reactions: - Alarm display.

Remedy: The alarm disappears automatically as soon as a program is edited or simulated in the program area.

The alarm can also be acknowledged manually via diagnostics.

Program Continuation: Internal

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120304 **The selection is not possible. The file %1 has insufficient read rights.**

Parameters: %1 = Program name with path

Definitions: The file has insufficient read rights for the current access level.

Reactions: - Alarm display.

Remedy: Set the required read rights by means of keyswitch or password entry.
The alarm disappears automatically as soon as a program is edited or simulated in the program area.
The alarm can also be acknowledged manually via diagnostics.

Program Continuation: Internal

120305 **Selection is not possible. The file %1 is currently being edited.**

Parameters: %1 = Program name with path

Definitions: The file is currently open in another application (e.g. services) with an editor.

Reactions: - Alarm display.

Remedy: Change the program in the already open editor.
The alarm disappears automatically as soon as a program is edited or simulated in the program area.
The alarm can also be acknowledged manually via diagnostics.

Program Continuation: Internal

120306 **The selection is not possible. The file %1 is selected and active in channel %2.**

Parameters: %1 = Program name with path
%2 = Channel number

Definitions: --

Reactions: - Alarm display.

Remedy: Stop the program with the NCU's channel reset and make the selection again.
The alarm disappears automatically as soon as a program is edited or simulated in the program area.
The alarm can also be acknowledged manually via diagnostics.

Program Continuation: Internal

120307 **The file %1 cannot be opened for the editor because it is selected in channel %2 for execution from external sources.**

Parameters: %1 = Program name with path
%2 = Channel number

Definitions: --

Reactions: - Alarm display.

Remedy: A different program on the NCU or for execution from external sources has to be selected.
The alarm disappears automatically as soon as a program is edited or simulated in the program area.
The alarm can also be acknowledged manually via diagnostics.

Program Continuation: Internal

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120308 **In the event of an emergency stop, the program %1 can only be changed in the machine/program correction area.**

Parameters: %1 = Program name with path

Definitions: --

Reactions: - Alarm display.

Remedy: Switch to the machine area and change the program with the program correction function.
The alarm disappears automatically as soon as a program is edited or simulated in the program area.
The alarm can also be acknowledged manually via diagnostics.

Program Continuation: Internal

120309 **The selection is not possible. Please close the simulation and repeat the selection.**

Definitions: The simulation is currently active in the program area.
A simultaneous editing is not possible.

Reactions: - Alarm display.

Remedy: Close the simulation and make the selection again.
The alarm disappears automatically as soon as a program is edited or simulated in the program area.
The alarm can also be acknowledged manually via diagnostics.

Program Continuation: Internal

120310 **The selection is not possible. Please wait for the pending action or terminate it, then repeat the selection.**

Definitions: In the program area, programs are currently being copied, loaded or unloaded.
A simultaneous editing is not possible.

Reactions: - Alarm display.

Remedy: Wait until the action is completed or terminate the action via the softkey "Cancel" and then repeat the selection.
The alarm disappears automatically as soon as a program is edited or simulated in the program area.
The alarm can also be acknowledged manually via diagnostics.

Program Continuation: Internal

129900 **Data of passive drives are not backed up!**

Definitions: This indicates that passive drives are not backed up as well when an upgrade is made.

Reactions: - Alarm display.

Remedy: If the drive shall be backed up as well, it must be enabled. If the note shall not be displayed again, set the drive to "0" in machine data 30240 ENC_TYPE and 30130 CTRLOUT_TYPE.

Program Continuation: Internal

129901 **Time determination is being initialized. Please wait...**

Definitions: This indicates that the time determination is being initialized and that the operator shall not yet press NC Start or execute other operator actions.

Reactions: - Alarm display.

Remedy: Not necessary. After completion of the initialization, the dialog box will be faded out again automatically.

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Program Continuation: Internal

129902 **Recorded data are being processed. Please wait...**

Definitions: This indicates that data recorded by time determination are currently processed and that the operator shall not yet press NC Start or execute other operating actions.

Reactions: - Alarm display.

Remedy: Not necessary. After completion of the initialization, the dialog box will be faded out again automatically.

Program Continuation: Internal

129903 **Time determination is active.**

Definitions: This indicates that time determination is enabled and that the user can press NC Start.

Reactions: - Alarm display.

Remedy: Not necessary. As soon as all channels viewed for time determination are in Reset again, this message will be cancelled automatically.

Program Continuation: Internal

129904 **%1: Current NCK Version %2 is too low for time measurement. Version 500000 or higher will be required.**

Parameters: %1 = Name of the NCU according to NETNAMES.INI
%2 = Current NCU version

Definitions: The version of the specified NCU is too old (< 500000).

Remedy: Upgrade or replace the relevant NCU for the required software version in order to use the time determination.

129905 **%1: Unable to determine the NCK version for time measurement.**

Parameters: %1 = Name of the NCU according to NETNAMES.INI

Definitions: The version of the specified NCU could not be determined.

Remedy: Connect to the NCU and restart the PCU if required.

129906 **%1: Unable to determine the number of channels.**

Parameters: %1 = Name of the NCU according to NETNAMES.INI

Definitions: The number of channels of the specified NCU could not be determined.

Remedy: Connect to the NCU and restart the PCU if required.

129907 **%1:The max. number of channels could not be determined.**

Parameters: %1 = Name of the NCU according to NETNAMES.INI

Definitions: The maximum number of channels of the specified NCU could not be determined.

Remedy: Connect to the NCU and restart the PCU if required.

129908 **%1: Unable to determine active channels.**

Parameters: %1 = Name of the NCU according to NETNAMES.INI

Definitions: The active channels of the specified NCU could not be determined.

Remedy: Connect to the NCU and restart the PCU if required.

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129909 **%1: Unable to determine the name of channel %2.**

Parameters: %1 = Name of the NCU according to NETNAMES.INI
%2 = Channel number

Definitions: The channel name of the specified NCU could not be determined.

Remedy: Connect to the NCU and restart the PCU if required.

129910 **%1: Unable to determine general machine data.**

Parameters: %1 = Name of the NCU according to NETNAMES.INI

Definitions: The general machine data of the specified NCU could not be determined.

Remedy: Connect to the NCU and restart the PCU if required.

129911 **%1: Unable to determine machine data $MN_MM_PROTOC_NUM_FILES[1,10].**

Parameters: %1 = Name of the NCU according to NETNAMES.INI

Definitions: Machine data MN_MM_PROTOC_NUM_FILES[1,10] of the specified NCU could not be determined.

Remedy: Connect to the NCU and restart the PCU if required.

129912 **%1: Unable to determine machine data $MN_MM_PROTOC_NUM_ETPD_STD_LIST[1,10].**

Parameters: %1 = Name of the NCU according to NETNAMES.INI

Definitions: Machine data LINKITEM_MN_MM_PROTOC_NUM_ETPD_STD_LIST[1,10] of the specified NCU could not be determined.

Remedy: Connect to the NCU and restart the PCU if required.

129913 **%1: Unable to determine machine data $MN_MM_PROTOC_NUM_ETPD_OEM_LIST[1,10].**

Parameters: %1 = Name of the NCU according to NETNAMES.INI

Definitions: Machine data LINKITEM_MN_MM_PROTOC_NUM_ETPD_OEM_LIST[1,10] of the specified NCU could not be determined.

Remedy: Connect to the NCU and restart the PCU if required.

129914 **%1: Unable to determine channel-specific machine data.**

Parameters: %1 = Name of the NCU according to NETNAMES.INI

Definitions: The channel-specific machine data of the specified NCU could not be determined.

Remedy: Connect to the NCU and restart the PCU if required.

129915 **%1: Unable to determine active user for channel %2.**

Parameters: %1 = Name of the NCU according to NETNAMES.INI
%2 = Channel number

Definitions: The "active user" of the specified channel of the specified NCU could not be determined.

Remedy: Connect to the NCU and restart the PCU if required.

129930 **%1: Min. %2 log files are required for the requested time determination ($MN_MM_PROTOC_NUM_FILES[%3])**

Parameters: %1 = Name of the NCU according to NETNAMES.INI
%2 = Number of log files required
%3 = User index

Definitions: Time measuring of the configured workpiece requires at least the specified number of log files.

Remedy: Set general machine data $MN_MM_PROTOC_NUM_FILES[%3] of NCU %1 to value %2.

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129931 **%1: Min. %2 ETPD lists are required for the requested time determination ($MN_MM_PROTOC_NUM_ETPD_STD_LIST[%3])**

Parameters: %1 = Name of the NCU according to NETNAMES.INI
%2 = Number of ETPD lists required
%3 = User index

Definitions: Time measuring of the configured workpiece requires at least the specified number of ETPD lists.

Remedy: Set general machine data $MN_MM_PROTOC_NUM_ETPD_STD_LIST[%3] of NCU %1 to value %2.

129932 **DAT: The configured NCU (%1) for part program %2 in channel %3 is invalid.**

Parameters: %1 = Name of the NCU according to NETNAMES.INI
%2 = Name of the part program
%3 = Channel number

Definitions: The specified combination of NCU, part program and channel is invalid for time measuring of the configured workpiece.

Remedy: Part program %2 can only be assigned to a channel in an NCU configured in NETNAMES.INI.

129933 **DAT: The configured channel (%1) for part program %2 in NCU %3 is invalid.**

Parameters: %1 = Channel number
%2 = Name of the part program
%3 = Name of the NCU according to NETNAMES.INI

Definitions: The specified combination of NCU, part program and channel is invalid for time measuring of the configured workpiece.

Remedy: Correct the corresponding entry in the DAT file belonging to the workpiece.

129934 **DAT: Part program %1 has been configured more than once.**

Parameters: %1 = Name of the part program

Definitions: For time measuring of the configured workpiece, the specified part program is configured for several channels.

Remedy: Correct the corresponding entry in the DAT file belonging to the workpiece.

129935 **NC configuration not yet determined.**

Definitions: Unable to determine the configuration of the NCs.

Remedy: Ensure that communication to the NC has been activated and all machine data required for time measuring have been set correctly.

129936 **Initialization not yet executed.**

Definitions: An order has been sent to the ITS server although the server has not been initialized yet.

Remedy: Execute your operation again later.

129937 **Workpiece selection missing.**

Definitions: The ITS server has not yet received any DAT file for time measuring, or the contents of the DAT file is faulty.

Remedy: Select a workpiece for execution prior to executing a time measurement.

129938 **Status of workpiece (%1) could not be determined.**

Parameters: %1 = Workpiece name

Definitions: The state ?editable? of the DAT file or the workpiece could not be determined.

Remedy: Restart communication to the NC, if required.

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129939 **Workpiece (%1) is currently being machined.**

Parameters: %1 = Workpiece name

Definitions: The DAT file or workpiece is currently disabled.

Remedy: Close the open DAT file or the corresponding workpiece in MCSE, if required.

129940 **Error in workpiece (%1).**

Parameters: %1 = Workpiece name

Definitions: The ITS server has not yet been initialized, it cannot, therefore, execute the order.

Remedy: Execute your operation again later.

129941 **Not all involved channels are in RESET.**

Definitions: At least one of the channels configured in the workpiece for time measuring is not in the "Reset" state.

Remedy: Ensure that all channels configured in the workpiece for time measurement are in the "Reset" state.

129942 **Not all involved channels are in AUTO.**

Definitions: At least one channel/mode group configured in the workpiece for time measurement is not in the "AUTO" mode.

Remedy: Ensure that all channels/mode groups configured in the workpiece for time measurement are in the "AUTO" state.

129943 **%1: Invalid configuration of $AN_TIMER.**

Parameters: %1 = NCU name

Definitions: Setting AN_TIMER_Nr of section [DAT] in ITS.INI is incompatible with the setting in machine data 18710 $MN_MM_NUM_AN_TIMER.

Remedy: The value in general machine data 18710 $MN_MM_NUM_AN_TIMER must be at least "1".

The value set for AN_TIMER_Nr of section [DAT] in ITS.INI must be higher than "0" and smaller than or equal to the value of general machine data 18710 $MN_MM_NUM_AN_TIMER.

The following rule applies:

0 < AN_TIMER_Nr <= $MN_MM_NUM_AN_TIMER

129944 **%1: $AN_TIMER[%2] not running.**

Parameters: %1 = NCU name

%2 = Index of system variable $AN_TIMER used.

Definitions: The $AN_TIMER[AN_TIMER_No] configured with setting AN_TIMER_Nr of section [DAT] in ITS.INI has not been started.

Remedy: Ensure that system variable $AN_TIMER[AN_TIMER_No] with value "0" is initialized and started on NCU ramp-up; for example, with AN_TIMER_No = 1 the system variable must be initialized with NC instruction $AN_TIMER[1] = 0.

129945 **%1: The current NCK version (%2) is too old for this type of time measuring.**

Parameters: %1 = NCU name

%2 = NCK software version of NCU %1.

Definitions: Measuring method "1" configured with setting MeasureMode of section [DAT] in ITS.INI cannot be used, as the current NCK version is too old.

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Remedy: Either upgrade NCK software to at least 511300 or select measuring method "0".

129946 **General error. See entry in log file ITSx.LOG.**

Definitions: A general error has occured that is specified in detail in log file "ITSx.LOG".
The files are stored in sub-directory "SEditor" of the "TMP" directory in HMI Advanced.

Remedy: Follow the instructions in log file "ITSx.LOG" or contact the Siemens hotline.

142000 **Operator at the machine is waiting for support via remote diagnostics! %1 %2 %3 %4**

Parameters: %1 = IP address for existing Internet connection via modem
Definitions: Will be triggered in "User Controlled" mode, if user uses "Request Support" function.
Reactions: - Alarm display.
Remedy: Acknowledge alarm
Program Continuation: Internal

142001 **Operator at the machine is waiting for support via remote diagnostics! %1 %2 %3 %4**

Parameters: %1 = IP address for existing Internet connection via modem
Definitions: Will be triggered in "User Controlled" mode, if user uses "Request Support" function.
Reactions: - Alarm display.
Remedy: Acknowledge alarm
Program Continuation: Internal

142002 **Operator at the machine is waiting for support via remote diagnostics! %1 %2 %3 %4**

Parameters: %1 = IP address for existing Internet connection via modem
Definitions: Will be triggered in "User Controlled" mode, if user uses "Request Support" function.
Reactions: - Alarm display.
Remedy: Acknowledge alarm
Program Continuation: Internal

142003 **Operator at the machine is waiting for support via remote diagnostics! %1 %2 %3 %4**

Parameters: %1 = IP address for existing Internet connection via modem
Definitions: Will be triggered in "User Controlled" mode, if user uses "Request Support" function.
Reactions: - Alarm display.
Remedy: Acknowledge alarm
Program Continuation: Internal

142004 **Operator at the machine is waiting for support via remote diagnostics! %1 %2 %3 %4**

Parameters: %1 = IP address for existing Internet connection via modem
Definitions: Will be triggered in "User Controlled" mode, if user uses "Request Support" function.
Reactions: - Alarm display.
Remedy: Acknowledge alarm

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Program Continuation: Internal

142005 **Machine ready for remote diagnostics! %1 %2 %3 %4**

Parameters: %1 = IP address for existing Internet connection via modem

Definitions: Are triggered in "PLC Controlled" mode

Reactions: - Alarm display.

Remedy: Acknowledge alarm

Program Continuation: Internal

142006 **Machine ready for remote diagnostics! %1 %2 %3 %4**

Parameters: %1 = IP address for existing Internet connection via modem

Definitions: Are triggered in "PLC Controlled" mode

Reactions: - Alarm display.

Remedy: Acknowledge alarm

Program Continuation: Internal

142007 **Machine ready for remote diagnostics! %1 %2 %3 %4**

Parameters: %1 = IP address for existing Internet connection via modem

Definitions: Are triggered in "PLC Controlled" mode

Reactions: - Alarm display.

Remedy: Acknowledge alarm

Program Continuation: Internal

142008 **Machine ready for remote diagnostics! %1 %2 %3 %4**

Parameters: %1 = IP address for existing Internet connection via modem

Definitions: Are triggered in "PLC Controlled" mode

Reactions: - Alarm display.

Remedy: Acknowledge alarm

Program Continuation: Internal

142009 **Machine ready for remote diagnostics! %1 %2 %3 %4**

Parameters: %1 = IP address for existing Internet connection via modem

Definitions: Are triggered in "PLC Controlled" mode

Reactions: - Alarm display.

Remedy: Acknowledge alarm

Program Continuation: Internal

142010 **Operator at the machine is waiting for support via remote diagnostics! %1 %2 %3 %4**

Parameters: %1 = IP address for existing Internet connection via modem

Definitions: Will be triggered in "User Controlled" mode, if user explicitely selects and starts a host object.

Reactions: - Alarm display.

Remedy: Acknowledge alarm

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Program Continuation:	Internal

142011 **Operator at the machine is waiting for support via remote diagnostics! %1 %2 %3 %4**

Parameters:	%1 = IP address for existing Internet connection via modem
Definitions:	Will be triggered in "User Controlled" mode, if user uses "Request Support" function.
Reactions:	- Alarm display.
Remedy:	Acknowledge alarm
Program Continuation:	Internal

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2.3 SINAMICS alarms

201000 <location>Internal software error

Reaction: OFF2

Acknowledge: POWER ON

Cause: An internal software error has occurred.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.
- upgrade the firmware release.
- contact the Hotline.
- replace the Control Unit.

201001 <location>Internal software error

Reaction: OFF2

Acknowledge: POWER ON

Cause: An internal software error has occurred.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.
- upgrade the firmware release.
- contact the Hotline.

201002 <location>Internal software error

Reaction: OFF2

Acknowledge: POWER ON

Cause: An internal software error has occurred.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.
- upgrade the firmware release.
- contact the Hotline.

201003 <location>Acknowledgment delay when accessing the memory

Reaction: OFF2

Acknowledge: POWER ON

Cause: A memory area was accessed that does not return a "READY".
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.
- contact the Hotline.

201005 <location>Firmware download DRIVE-CLiQ component unsuccessful

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: Firmware was not able to be downloaded into a DRIVE-CLiQ component.
Fault value (r0949):
xxyyyy hex: xx = component number, yyyy = cause of the fault.

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Cause of the fault (decimal):
011: DRIVE-CLiQ component has detected a checksum error.
015: The selected DRIVE-CLiQ component did not accept the contents of the firmware file.
101: After several communication attempts, not response from the DRIVE-CLiQ component.
140: Firmware file for the DRIVE-CLiQ component not available on the CompactFlash card.
143: Component is not changed in the firmware download mode.
156: Component with the specified component number is not available (p7828).
Additional values:
Only for internal Siemens troubleshooting.

Remedy: - check the selected component number (p7828).
- check the DRIVE-CLiQ connection.
- save suitable firmware file for download in the directory /siemens/sinamics/code/sac/.
- after POWER ON has been carried-out again for the DRIVE-CLiQ component, download the firmware again.

201006 <location>Firmware update DRIVE-CLiQ component required

Reaction: NONE

Acknowledge: NONE

Cause: The firmware of a DRIVE CLiQ component must be updated as there is no suitable firmware or firmware version in the component for operation with the Control Unit.
Alarm value (r2124, decimal):
Component number of the DRIVE-CLiQ component.

Remedy: Firmware update using the commissioning software:
The firmware version of all of the components on the "version overview" page can be read in the Project Navigator under "Configuration" of the associated drive unit and an appropriate firmware update can be carried-out.
Firmware update via parameter:
- take the component number from the alarm value and enter into p7828.
- start the firmware download with p7829 = 1.

201007 <location>POWER ON DRIVE-CLiQ component required

Reaction: NONE

Acknowledge: NONE

Cause: A DRIVE-CLiQ component must be powered-up again (POWER ON) as, for example, the firmware was updated.
Alarm value (r2124, decimal):
Component number of the DRIVE-CLiQ component.

Remedy: Switch-out the power supply of the specified DRIVE-CLiQ component and switch-in again.

201010 <location>Drive type unknown

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: An unknown drive type was found.
Fault value (r0949, decimal):
Drive object number.

Remedy: Check the EEPROM data of the drive objects.

201015 <location>Internal software error

Reaction: OFF2

Acknowledge: POWER ON

Cause: An internal software error has occurred.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.

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- upgrade the firmware release.
- contact the Hotline.

201016 <location>CompactFlash card changed

Reaction: NONE

Acknowledge: NONE

Cause: On the CompactFlash card, at least one file in the directory /SIEMENS/SINAMICS/ has been illegally changed with respect to that supplied from the factory. No changes are permitted in this directory.
Alarm value (r2124, decimal):
0: Checksum of one file is incorrect.
1: File missing.
2: Too many files.
3: Incorrect firmware version.
4: Incorrect checksum of the back-up file.
See also: r9925

Remedy: For the CompactFlash card, restore the status when originally supplied from the factory.
Note:
The file involved can be read-out using parameter r9925.
See also: r9926

201030 <location>Monitoring master control: Sign-of-life failure PC

Reaction: OFF1

Acknowledge: IMMEDIATELY

Cause: For active PC master control, no sign-of-life was received within the monitoring time.
The master control was returned to the active BICO interconnection.

Remedy: Set the monitoring time higher at the PC/AOP or disable completely.
Notice:
The monitoring time should be set as short as possible. A long monitoring time means a late response when the communications fail!
The monitoring time is set in milliseconds.
- in the AOP using the Main menu -> Settings -> Control settings -> Timeout monitoring
- In STARTER using <Drive> -> Commissioning -> Control panel -> Button "Fetch master control" -> a window is displayed in which the monitoring time can be set.

201035 <location>ACX: Run-up from the back-up files

Reaction: NONE

Acknowledge: NONE

Cause: When the Control Unit ran-up no complete data set from the parameter save files was found. The last time that the parameterization was saved, it was not completely carried-out. Instead, a backup data set or file is downloaded.
Alarm value (r2124, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: If you saved the project in STARTER, download your project again and save using the function "Copy RAM to ROM" or with p0977 = 1. This means that all of the parameter files are again completely written into the CompactFlash card.

201036 <location>ACX: Parameter back-up file missing

Reaction: A_INFEED: NONE (OFF2)
SERVO: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: When downloading the device parameterization, a file associated with a drive object cannot be found. Neither a PSxxxyyy.ACX, a PSxxxyyy.NEW nor a PSxxxyyy.BAK exists on the CompactFlash card for this drive object.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

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Remedy: If you have saved your project data using STARTER, carry-out a new download for your project. Save using the function "Copy RAM to ROM" or with p0977 = 1 so that all of the parameter files are again completely written into the CompactFlash card.
If you have not saved the project data, then the system must be again commissioned for the first time.

201037 <location>ACX: Re-naming parameter file not successful

Reaction: A_INFEED: NONE (OFF2)
SERVO: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: The re-naming after saving a parameter-save file on the CompactFlash card was unsuccessful.
One of the files to be re-named had the "read only" attribute. The parameter-save files are saved on the CompactFlash card in the directory \USER\SINAMICS\DATA.
It is possible that the CompactFlash card is defective.
Fault value (r0949, hexadecimal):
The least-significant byte includes the drive object number (yyy in the file names PSxxxyyy.* or CAxxxyyy.* or CCxxxyyy.*).
Special cases: yyy = 0 --> consistency save file PSxxx000.*, yyy = 99 --> PROFIBUS parameter file PSxxx099.*
The next most significant byte includes the file number xxx.
The value for xxx depends on p0977 with which the save operation was started:
p0977 = 1, 10, 11, 12 --> xxx = 0, 10, 11, 12
The two most significant bytes are used for internal Siemens troubleshooting.

Remedy: Check whether one of the files to be overwritten has the attribute "read only" and change this file attribute into "writable". Check all of the files (PSxxxyyy.*, CCxxxyyy.*, CAxxxyyy.*) that belong to drive yyy designated in the fault value.
Replace the CompactFlash card.

201039 <location>ACX: Writing to the parameter back-up file was unsuccessful

Reaction: A_INFEED: NONE (OFF2)
SERVO: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: Writing to at least one parameter-back-up file PSxxxyyy.acx on the CompactFlash card was unsuccessful.
- on the CompactFlash card in the directory /USER/SINAMICS/DATA/ at least one parameter back-up file has the "read only" file attribute and cannot be saved.
- the CompactFlash card is defective and cannot be written to.
Fault value (r0949, hexadecimal):
Byte 1: yyy in the file name PSxxxyyy.acx
yyy = 000 --> consistency back-up file
yyy = 001 ... 098 --> drive object number
yyy = 099 --> PROFIBUS parameter file
Byte 2: xxx in file name PSxxxyyy.acx
xxx = 000 --> data save started with p0977 = 1
xxx = 010 --> data save started with p0977 = 10
xxx = 011 --> data save started with p0977 = 11
xxx = 012 --> data save started with p0977 = 12
Byte 4, 3:
Only for internal Siemens troubleshooting.

Remedy: - check the file attribute of the files (PSxxxyyy.*, CAxxxyyy.*, CCxxxyyy.*) and, if required, change from "read only" to "writeable".
- replace the CompactFlash card.

201040 <location>Save parameter settings and carry-out a POWER ON

Reaction: OFF2

Acknowledge: POWER ON

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Cause: A parameter was changed in the drive system that means that it is necessary to save the parameters and run-up again (e.g. p0110).
Remedy: - save the parameters (p0971/p0977).
- carry-out a POWER ON (power off/on) for all components.

201041 <location>Parameter save necessary

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: Defective or missing files were detected on the CompactFlash card at run-up.
Fault value (r0949, decimal):
-1: Source file cannot be opened.
-2: Source file cannot be read.
-3: Target directory cannot be set-up.
-4: Target file cannot be set-up/opened.
-5: Target file cannot be written into.
Additional values:
Only for internal Siemens troubleshooting.
Remedy: - save the parameters (p0977).
- download the project again into the drive unit.

201042 <location>Parameter error during project download

Reaction: OFF2 (NONE, OFF1, OFF3)
Acknowledge: IMMEDIATELY
Cause: An error was detected when downloading a project using the commissioning (start-up) software (e.g. incorrect parameter value).
For the specified parameter, it was detected that dynamic limits were exceeded that could possibly depend on other parameters.
Fault value (r0949, decimal):
Low word: Parameter number (16 bits without sign)
Byte 3: Parameter index
Byte 4: Fault detection
0: Parameter number illegal.
1: Parameter value cannot be changed.
2: Lower or upper value limit exceeded.
3: Sub-index incorrect.
4: No array, no sub-index.
5: Data type incorrect.
6: Setting not permitted (only resetting).
7: Descriptive element cannot be changed.
9: Descriptive data not available.
11: No master control.
15: No text array present.
17: Task cannot be executed due to operating status.
20: Illegal value.
21: Response too long.
22: Parameter address illegal.
23: Format illegal.
24: Number of values not consistent.
25: Drive object does not exist.
101: Presently de-activated.
104: Illegal value.
107: Write access not permitted when controller enabled.
108: Units unknown.
109: Write access only in the commissioning state, encoder (p0010 = 4).
110: Write access only in the commissioning state, motor (p0010 = 3).
111: Write access only in the commissioning state, power module (p0010 = 2).
112: Write access only in the quick commissioning mode (p0010 = 1).

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113: Write access only in the ready mode (p0010 = 0).
114: Write access only in the commissioning state, parameter reset (p0010 = 30).
115: Write access only in the Safety Integrated commissioning state (p0010 = 95).
116: Write access only in the commissioning state, technological application/units (p0010 = 5).
117: Write access only in the commissioning state (p0010 not equal to 0).
118: Write access only in the commissioning state, download (p0010 = 29).
119: Parameter may not be written into in download.
120: Write access only in the startup state, drive basis configuration (device: p0009 = 3).
121: Write access only in commissioning state Define drive type" (device: p0009 = 2).
122: Write access only in commissioning state Data set basic configuration" (device: p0009 = 4).
123: Write access only in commissioning state "Device Configuration" (device: p0009 = 1).
124: Write access only in commissioning state Device download" (device: p0009 = 29).
125: Write access only in commissioning state Device parameter reset" (device: p0009 = 30).
126: Write access only in commissioning state Device ready" (device: p0009 = 0).
127: Write access only in commissioning state Device" (device: p0009 not equal to 0).
129: Parameter may not be written into in download.
130: Transfer of the master control is inhibited via BI: p0806.
131: Required BICO interconnection not possible, because BICO output does not supply floating value
132: Free BICO interconnection inhibited via p0922.
133: Access method not defined.
200: Below the valid values.
201: Above the valid values.
202: Cannot be accessed from the Basic Operator Panel (BOP).
203: Cannot be read from the Basic Operator Panel (BOP).
204: Write access not permitted.

Remedy: - enter the correct value into the specified parameter.
- identify the parameter that narrows (restricts) the limits of the specified parameter.

201043 <location>Fatal error when downloading a project

Reaction: OFF2 (OFF1, OFF3)

Acknowledge: IMMEDIATELY

Cause: A fatal error was detected when downloading a project using the commissioning (start-up) software.
Fault value (r0949, decimal):
1: Device status cannot be changed to Device Download (drive object ON?).
2: Drive object ID incorrect
3: A drive object that has already been deleted is deleted again.
4: Deletes drive object that has already been registered for generation.
5: Deletes a drive object that no longer exists.
6: Generating an undeleted drive object that already existed.
7: Regeneration of a drive object already registered for generation.
8: Maximum number of drive objects that can be generated exceeded.
9: Error while generating a device drive object.
10: Error while generating target topology parameters (p9902 and p9903).
11: Error when generating a drive object (global component).
12: Error when generating a drive object (drive component).
13: Unknown drive object type.
14: Drive status cannot be changed to Ready (p0947 and p0949).
15: Drive status cannot be changed to Drive Download.
16: Device status cannot be changed to Ready.
17: It is not possible to download the topology. The component wiring should be checked, taking into account the various messages/signals.

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18: A new download is only possible if the factory settings are re-established for the drive unit.
19: The slot for the option module has been configured several times (e.g. CAN and COMM BOARD)
20: The configuration is inconsistent (e.g. CAN for Control Unit, however no CAN configured for drive objects - Active Line Module, servo or vector).

Remedy: - use the actual version of the commissioning software.
- modify the offline project and carry-out a new download (e.g. compare the number of drive objects, motor, encoder, power module in the offline project and at the drive).
- change the drive system (is a drive rotating or is there a message/signal?).
- carefully note any other messages/signals and remove their cause.

201044 <location>CU CompactFlash: Message description incorrect

Reaction: OFF2

Acknowledge: POWER ON

Cause: An error was detected when loading the message descriptions (FDxxxyyy.ACX) saved on the CompactFlash card.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: Replace the CompactFlash card.

201045 <location>CU CompactFlash: Configuration data invalid

Reaction: NONE

Acknowledge: NONE

Cause: An invalid data type was detected when evaluating parameter files PSxxxyyy.ACX, PTxxxyyy.ACX, CAxxxyyy.ACX or CCxxxyyy.ACX, saved on the CompactFlash card.
Alarm value (r2124, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: Restore the factory setting using (p0976 = 1) and re-load the project into the drive unit. Operation without any restrictions is then possible.
After downloading the project, save the parameterization in STARTER using the function "Copy RAM to ROM" or with p0977 = 1. This means that the incorrect parameter files are overwritten on the CompactFlash card.

201046 <location>CU CompactFlash: Configuration data invalid

Reaction: NONE

Acknowledge: NONE

Cause: An invalid data type was detected when evaluating the parameter files PSxxxyyy.ACX, PTxxxyyy.ACX, CAxxxyyy.ACX or CCxxxyyy.ACX saved on the CompactFlash card.
Alarm value (r2124, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: Restore the factory setting using (p0976 = 1) and re-load the project into the drive unit. Operation without any restrictions is then possible.
After downloading the project, save the parameterization in STARTER using the function "Copy RAM to ROM" or with p0977 = 1 so that the incorrect parameter files are overwritten on the CompactFlash card.

201047 <location>ACX: Parameter write error

Reaction: NONE

Acknowledge: NONE

Cause: When evaluating the parameters files PSxxxyyy.ACX, PTxxxyyy.ACX, CAxxxyyy.ACX or CCxxxyyy.ACX, saved on the CompactFlash card, a parameter value was not able to be transferred into the Control Unit memory.
Alarm value (r2124, hexadecimal):
Only for internal Siemens troubleshooting.

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Remedy: Restore the factory setting using (p0976 = 1) and re-load the project into the drive unit. Operation without any restrictions is then possible.
After downloading the project, save the parameterization in STARTER using the function "Copy RAM to ROM" or with p0977 = 1. This means that the incorrect parameter files are overwritten on the CompactFlash card.

201049 <location>CU CompactFlash: It is not possible write into the file

Reaction: NONE

Acknowledge: NONE

Cause: It is not possible to write into a write-protective file (PSxxxxxx.acx). The write request was interrupted.
Alarm value (r2124, decimal):
Drive object number.

Remedy: Check whether the write-protected attribute has been set for the files on the CompactFlash card under .../USER/SINAMICS/DATA/... When required, remove write protection and save again (e.g. set p0971 to 1).

201050 <location>CompactFlash card and device not compatible

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: OFF2 (NONE, OFF1, OFF3)

Acknowledge: IMMEDIATELY

Cause: The CompactFlash card and the device type do not match (e.g. a CompactFlash card for SINAMICS S is inserted in SINAMICS G).

Remedy: - insert the matching CompactFlash card
- use the matching Control Unit or power module.

201051 <location>Drive object type is not available

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The drive object type in conjunction with the selected application-specific perspective is not available. The required descriptive file (PDxxxyyy.ACX) does not exist on the CompactFlash card.
Fault value (r0949, decimal):
Index of p0103 and p0107.
See also: p0103, r0103, p0107, r0107

Remedy: - for this drive object type (p0107), select a valid application-specific perspective (p0103).
- save the required descriptive file (PDxxxyyy.ACX) on the CompactFlash card.
See also: p0103, r0103, p0107, r0107

201052 <location>CU: System overload calculates, for the complete target topologie

Reaction: NONE

Acknowledge: NONE

Cause: A system overload was calculated based on a complete active target topology.
Alarm value (r2124, decimal):
2: Computation time load too high.
6: Cyclic computation time load too high.

Remedy: - reduce the sampling time.
- only use one data set (CDS, DDS).
- de-activate the function module.
- de-activate the drive object.
- remove the drive object from the target topology.
Note:
After executing the appropriate counter-measure, a new calculation must be initiated with p9974 = 1.

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201053 <location>CU: System overload measured

Reaction: NONE

Acknowledge: NONE

Cause: A system overload was determined based on measured values.
Alarm value (r2124, decimal):
2: Computation time load too high.
6: Cyclic computation time load too high.
See also: r9976

Remedy: - reduce the sampling time.
- only use one data set (CDS, DDS).
- de-activate the function module.
- de-activate the drive object.
- remove the drive object from the target topology.

201054 <location>Parameter save necessary

Reaction: NONE

Acknowledge: NONE

Cause:

Remedy:

201064 <location>Parameter save necessary

Reaction: NONE

Acknowledge: NONE

Cause:

Remedy:

201090 <location>Non-volatile data save cannot be activated.

Reaction: NONE

Acknowledge: NONE

Cause: Non-volatile data save cannot be activated as this is not supported by the CU.

Remedy:

201100 <location>CU: CompactFlash card withdrawn

Reaction: NONE

Acknowledge: NONE

Cause: The CompactFlash card (non-volatile memory) was withdrawn in operation.
Notice:
It is not permissible that the CompactFlash card is withdrawn or inserted under voltage.

Remedy: - power-down the drive system.
- re-insert the CompactFlash card that was withdrawn - this card must match the drive system.
- power-up the drive system again.

201105 <location>CU: Insufficient memory

Reaction: OFF1

Acknowledge: IMMEDIATELY (POWER ON)

Cause: Two many functions, data sets or drives configured on this Control Unit.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - change the configuration on this Control Unit.
- use an additional Control Unit.

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201107 <location>CU: Save to CompactFlash card unsuccessful

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A data save on the CompactFlash card was not able to be successfully carried-out.
- CompactFlash card is defective.
- CompactFlash card does not have sufficient memory space.
Fault value (r0949, decimal):
-1: The file on the RAM was not able to be opened.
-2: The file on the RAM was not able to be read.
-3. A new directory was not able to be set-up on the CompactFlash card.
-4: A new file was not able to be set-up on the CompactFlash card.
-5: A new file was not able to be written onto the CompactFlash card.

Remedy: - try to save again.
- use another CompactFlash card.

201110 <location>CU: More than one SINAMICS G on one Control Unit

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: More than one SINAMICS G power module type is being operated from the Control Unit.
Fault value (r0949, decimal):
Number of the second drive with a SINAMICS G power module type.

Remedy: Only one SINAMICS G drive type is permitted.

201111 <location>CU: SINAMICS S and G together on one Control Unit

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: SINAMICS S and G drive units are being operated together on one Control Unit.
Fault value (r0949, decimal):
Number of the first drive object with a different power module type.

Remedy: Only power modules of one particular drive type may be operated with one CU.

201120 <location>Terminal initialization has failed

Reaction: OFF1 (OFF2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: An internal software error has occurred when initializing the terminal functions on the CU3xx, the TB30 or the TM31.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.
- upgrade the firmware release.
- contact the Hotline.
- replace the Control Unit.

201122 <location>Frequency at the measuring probe input too high

Reaction: OFF1 (OFF2)

Acknowledge: IMMEDIATELY

Cause: The frequency of the pulses at the measuring probe input is too high.
Fault value (r0949, decimal):
1: DI/DO 9 (X122.8)
2: DI/DO 10 (X122.10)
4: DI/DO 11 (X122.11)
8: DI/DO 13 (X132.8)
16: DI/DO 14 (X132.10)
32: DI/DO 15 (X132.11)
1001: DI/DO 9 (X122.8) initialization error
1002: DI/DO 10 (X122.10) initialization error

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1004: DI/DO 11 (X122.11) initialization error
1008: DI/DO 13 (X132.8) initialization error
1016: DI/DO 14 (X132.10) initialization error
1032: DI/DO 15 (X132.11) initialization error

Remedy: Reduce the frequency of the pulses at the measuring probe input

201150 <location>CU: Number of instances of a drive object type have been exceeded

Reaction: NONE

Acknowledge: POWER ON

Cause: The maximum permissible number of instances of a drive object type was exceeded.
Fault value (r0949, decimal):
Byte 1: Drive object type (p0107).
Byte 2: Max. permissible number of instances for this drive object type.
Byte 3: Actual number of instances for this drive object type.

Remedy: - power-down the unit.
- suitably restrict the number of instances of a drive object type by reducing the number of inserted components.
- re-commission the unit.

201205 <location>CU: Time slice overflow

Reaction: OFF2

Acknowledge: POWER ON

Cause: Insufficient processing time is available for the existing topology.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: - reduce the number of drives.
- increase the sampling times.

201210 <location>CU: Basic clock cycle selection and DRIVE-CLiQ clock cycles do not match

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The parameter to select the basic clock cycle does not match the drive topology. Drives connected to the same DRIVE-CLiQ port of the Control Unit have been assigned different basic clock cycles.
Fault value (r0949, decimal):
The fault value specifies the parameter involved.
See also: p0111

Remedy: Only those drive objects may be connected to the same DRIVE-CLiQ socket of the Control Unit that should run with the same basic clock cycle. For example, Active Line Modules and Motor Modules should be inserted at different DRIVE-CLiQ ports as their basic clock cycles and current controller clock cycles are generally different.
See also: p0111

201220 <location>CU: Bas clock cyc too low

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The parameter for the basic clock cycle is set too short for the number of connected drives.
Fault value (r0949, decimal):
The fault value specifies the parameter involved.
See also: p0110

Remedy: - increase the basic clock cycle.
- reduce the number of connected drives and start to re-commission the unit.
See also: p0110

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201221 <location>CU: Bas clock cyc too low

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The closed-loop control / monitoring cannot maintain the intended clock cycle.
The runtime of the closed-loop control/monitoring is too longer for the particular clock cycle or the computation time remaining in the system is not sufficient for the closed-loop control/monitoring.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: Increase the basic clock cycle of DRIVE-CLiQ communications.
See also: p0112

201250 <location>CU: CU-EEPROM incorrect read-only data

Reaction: NONE (OFF2)

Acknowledge: POWER ON

Cause: Error when reading the read-only data of the EEPROM in the Control Unit.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON.
- replace the Control Unit

201251 <location>CU: CU-EEPROM incorrect read-write data

Reaction: NONE

Acknowledge: NONE

Cause: Error when reading the read-write data of the EEPROM in the Control Unit.
Alarm value (r2124, decimal):
Only for internal Siemens troubleshooting.

Remedy: For alarm value r2124 < 256, the following applies:
- carry-out a POWER ON.
- replace the Control Unit.
For alarm value r2124 >= 256, the following applies:
- delete (clear) the fault memory on the drive object on which the alarm occurred (p0952 = 0).
- as an alternative, delete (clear) the fault memories of all drive objects (p2147 = 1).
- replace the Control Unit.

201255 <location>CU: Opt. module EEPROM incorrect read-only data

Reaction: NONE (OFF2)

Acknowledge: POWER ON

Cause: Error when reading the read-only data of the EEPROM in the option module.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON.
- replace the Control Unit.

201256 <location>CU: Opt. module EEPROM incorrect read-write data

Reaction: NONE

Acknowledge: NONE

Cause: Error when reading the read-write data of the EEPROM in the option module.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON.
- replace the Control Unit.

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201303 **<location>DRIVE-CLiQ component does not support the required function**

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A function requested by the Control Unit is not supported by a DRIVE-CLiQ component.
Fault value (r0949, decimal):
1: A component does not support the de-activation.
101: The Motor Module does not support an internal armature short-circuit.
102: The Motor Module does not support the de-activation.
201: The Sensor Module does not support actual value inversion (p0410.0 = 1) when using a Hall sensor (p0404.6 = 1) for the commutation.
202: The Sensor Module does not support parking/unparking.
203: The Sensor Module does not support the de-activation.
204: The firmware of this Terminal Module 15 (TM15) does not support the application TM15DI/DO.

Remedy: Upgrade the firmware of the DRIVE-CLiQ component involved.

201305 **<location>Topology: Component number missing**

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The component number from the topology was not parameterized (p0121 (for power module, refer to p0107), p0131 (for servo/vector drives, refer to p0107), p0141, p0151, p0161).
Fault value (r0949, decimal):
The fault value includes the particular data set number.
The fault also occurs if speed encoders were configured (p0187 ... p0189), however, no component numbers exist for them.
In this case, the fault value includes the drive data set number plus 100 * encoder number (e.g. 3xx, if a component number was not entered into p0141 for the third encoder (p0189)).
See also: p0121, p0131, p0141, p0142, p0186, p0187, p0188, p0189

Remedy: Enter the missing component number or remove the component and restart commissioning.
See also: p0121, p0131, p0141, p0142, p0186, p0187, p0188, p0189

201315 **<location>Drive object not ready for operation**

Reaction: NONE

Acknowledge: NONE

Cause: For the active drive object involved, at least one activated component is missing.
Note:
All other active and operational drive objects can be in the "RUN" state.

Remedy: The alarm automatically disappears again with the following actions:
- de-activate the drive object involved (p0105 = 0).
- de-activate the components involved (p0125 = 0, p0145 = 0, p0155 = 0, p0165 = 0).
- re-insert the components involved.
See also: p0105, p0125, p0145

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201316 <location>Drive object inactive and again ready for operation

Reaction: NONE

Acknowledge: NONE

Cause: If, when inserting a component of the target topology, an inactive, non-operational drive object becomes operational again. The associated parameter of the component is, in this case, set to "activate" (p0125, p0145, p0155, p0165).
Note:
This is the only message, that is displayed for a de-activated drive object.

Remedy: The alarm automatically disappears again with the following actions:
- activate the drive object involved (p0105 = 1).
- again withdraw the components involved.
See also: p0105

201317 <location>De-activated component again present

Reaction: NONE

Acknowledge: NONE

Cause: If a component of the target topology for an active drive object is inserted and the associated parameter of the component is set to "de-activate" (p0125, p0145, p0155, p0165).
Note:
This is the only message, that is displayed for a de-activated component.

Remedy: The alarm automatically disappears again with the following actions:
- activate the components involved (p0125 = 1, p0145 = 1, p0155 = 1, p0165 = 1).
- again withdraw the components involved.
See also: p0125, p0145

201318 <location>BICO: De-activated interconnections present

Reaction: NONE

Acknowledge: NONE

Cause: An inactive drive object/a drive object that is not ready for operation, is again active/ready to run, r9498[0...29] and r9499[0...29] are not empty.
Alarm value (r2124, decimal):
Number of BICO interconnections to de-activated drive objects found.

Remedy: Re-establish the BICO interconnections using p9496 or delete the list of interconnections using p9496.
De-activate the drive object again.

201320 <location>Topology: Drive object number does not exist in configuration

Reaction: NONE

Acknowledge: NONE

Cause: A drive object number is missing in p0978
Alarm value (r2124, decimal):
Index of p0101 under which the missing drive object number can be determined.

Remedy: Set p0009 to 1 and change p0978:
Rules:
- p0978 must include all of the drive object numbers (p0101).
- it is not permissible that a drive object number is repeated.
- by entering a 0, the drive objects with PZD are separated from those without PZD.
- only 2 partial lists are permitted. After the second 0, all values must be 0.
- dummy drive object numbers (255) are only permitted in the first partial list.

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201321 <location>Topology: Drive object number does not exist in configuration

Reaction: NONE

Acknowledge: NONE

Cause: p0978 contains a drive object number that does not exist.
Alarm value (r2124, decimal):
Index of p0978 under which the drive object number can be determined.

Remedy: Set p0009 to 1 and change p0978:
Rules:
- p0978 must include all of the drive object numbers (p0101).
- it is not permissible that a drive object number is repeated.
- by entering a 0, the drive objects with PZD are separated from those without PZD.
- only 2 partial lists are permitted. After the second 0, all values must be 0.
- dummy drive object numbers (255) are only permitted in the first partial list.

201322 <location>Topology: Drive object number present twice in configuration

Reaction: NONE

Acknowledge: NONE

Cause: A drive object number is present more than once in p0978.
Alarm value (r2124, decimal):
Index of p0978 under which the involved drive object number is located.

Remedy: Set p0009 to 1 and change p0978:
Rules:
- p0978 must include all of the drive object numbers (p0101).
- it is not permissible that a drive object number is repeated.
- by entering a 0, the drive objects with PZD are separated from those without PZD.
- only 2 partial lists are permitted. After the second 0, all values must be 0.
- dummy drive object numbers (255) are only permitted in the first partial list.

201323 <location>Topology: More than two part lists set-up

Reaction: NONE

Acknowledge: NONE

Cause: Partial lists are available more than twice in p0978. After the second 0, all must be 0.
Alarm value (r2124, decimal):
Index of p0978, under which the illegal value is located.

Remedy: Set p0009 to 1 and change p0978:
Rules:
- p0978 must include all of the drive object numbers (p0101).
- it is not permissible that a drive object number is repeated.
- by entering a 0, the drive objects with PZD are separated from those without PZD.
- only 2 partial lists are permitted. After the second 0, all values must be 0.
- dummy drive object numbers (255) are only permitted in the first partial list.

201324 <location>Topology: Dummy drive object number incorrectly set-up

Reaction: NONE

Acknowledge: NONE

Cause: In p0978, dummy drive object numbers (255) are only permitted in the first partial list.
Alarm value (r2124, decimal):
Index of p0978, under which the illegal value is located.

Remedy: Set p0009 to 1 and change p0978:
Rules:
- p0978 must include all of the drive object numbers (p0101).
- it is not permissible that a drive object number is repeated.
- by entering a 0, the drive objects with PZD are separated from those without PZD.
- only 2 partial lists are permitted. After the second 0, all values must be 0.
- dummy drive object numbers (255) are only permitted in the first partial list.

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201330 <location>Topology: Quick commissioning not possible

Reaction: NONE

Acknowledge: NONE

Cause: Unable to carry-out a quick commissioning. The existing actual topology does not fulfill the requirements.
Alarm value (r2124, hexadecimal):
The cause is in byte 1 supplementary information is included in byte 2 and the high word.
Byte 1 = 1:
For a component, illegal connections were detected.
- byte 2 = 1: For a Motor Module, more than one motor with DRIVE-CLIQ was detected.
- byte 2 = 2: For a motor with DRIVE-CLiQ, the DRIVE-CLiQ cable is not connected to a Motor Module.
- high word = preliminary component number of the component with illegal connection.
Byte 1 = 2:
The topology contains too many components of a particular type.
- byte 2 = 1: There is more than one master Control Unit.
- byte 2 = 2: There is more than 1 infeed (8 for a parallel circuit configuration).
- byte 2 = 3: There are more than 10 Motor Modules (8 for a parallel circuit configuration).
- byte 2 = 4: There are more than 9 encoders.
- byte 2 = 5: There are more than 8 Terminal Modules.
- byte 2 = 7: Component type unknown.
- byte 2 = 8: There are more than 6 drive slaves.
- byte 2 = 9: Connection of a drive slave not permitted.
- byte 2 = 10: No drive master available.
- byte 2 = 11: There is more than one motor with DRIVE-CLiQ for a parallel circuit.
- high word = not used.
Byte 1 = 3:
More than 16 components are connected at a DRIVE-CLiQ socket of the Control Unit.
- byte 2 = 0, 1, 2, 3 means e.g. detected at the DRIVE-CLiQ socket X100, X101, X102, X103.
- high word = not used.
Byte 1 = 4:
The number of components connected one after the other is greater than 125.
- byte 2 = not used.
- high word = preliminary component number of the 1st component found that resulted in the fault.
Byte 1 = 5:
The component is not permissible for SERVO.
- byte 2 = 1: SINAMICS G available.
- byte 2 = 2: Chassis available.
- high word = preliminary component number of the 1st component found that resulted in the fault.
Byte 1 = 6:
For a component, illegal EEPROM data was detected. These must be corrected before the system continues to run-up.
- byte 2 = 1: The Order No. [MLFB] of the power module that was replaced includes a space retainer. The space retainer (*) must be replaced by a correct character.
- high word = preliminary component number of the component with illegal EEPROM data.
Byte 1 = 7:
The actual topology contains an illegal combination of components.
- byte 2 = 1: Active Line Module (ALM) and Basic Line Module (BLM).
- byte 2 = 2: Active Line Module (ALM) and Smart Line Module (SLM).
- byte 2 = 3: SIMOTION control (e.g. D445) and SINUMERIK components (e.g. NX15).
- byte 2 = 4: SINUMERIK control (e.g. NC SINUMERIK 730.net) and SIMOTION components (e.g. CX32).
- high word = not used.
Note:

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Connection type and connection number are described in F01375.
See also: p0097, r0098, p0099

Remedy: - adapt the output topology to the permissible requirements.
- carry-out commissioning using the commissioning software.
- for motors with DRIVE-CLiQ, connect the power and DRIVE-CLiQ cable to the same Motor Module (single Motor Module: DRIVE-CLiQ at X202, double Motor Module: DRIVE-CLiQ from motor 1 (X1) to X202, from motor 2 (X2) to X203).
Re byte 1 = 6 and byte 2 = 1:
Correct the order number when commissioning using the commissioning software.
See also: p0097, r0098, p0099

201331 <location>Topology: Component not assigned to a drive object

Reaction: NONE

Acknowledge: NONE

Cause: A component is not assigned to a drive object.
- when commissioning, a component was not able to be automatically assigned to a drive object.
- the parameters for the data sets are not correctly set.
Alarm value (r2124, decimal):
Component number of the unassigned component.

Remedy: This component is assigned to a drive object.
Check the parameters for the data sets.
Examples:
- power module (p0121).
- motor (p0131, p0186).
- encoder interface (p0140, p0141, p0187 ... p0189).
- encoder (p0140, p0142, p0187 ... p0189).
- Terminal Module (p0151).
- option board (p0161).

201340 <location>Topology: Too many components on one line

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: For the selected communications clock cycle, too many DRIVE-CLiQ components are connected to one line of the Control Unit.
Fault value (r0949, hexadecimal):
xyy hex: x = fault cause, yy = component number or connection number.
1yy:
The communications clock cycle of the DRIVE-CLiQ connection on the CU is not sufficient for all read transfers.
2yy:
The communications clock cycle of the DRIVE-CLiQ connection on the CU is not sufficient for all write transfers.
3yy:
Cyclic communications is fully utilized.
4yy:
The DRIVE-CLiQ cycle starts before the earliest end of the application. An additional deadtime must be added to the control. Sign-of-life errors can be expected.
5yy:
Internal buffer overflow for net data of a DRIVE-CLiQ connection.
6yy:
Internal buffer overflow for receive data of a DRIVE-CLiQ connection.
7yy:
Internal buffer overflow for send data of a DRIVE-CLiQ connection.

Remedy: Check the DRIVE-CLiQ connection:

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Approximately the same number of components should be connected in series and operated at the DRIVE-CLiQ connections. This means that communication is uniformly distributed over several communication lines.
Re fault value = 1yy - 4yy in addition:
- increase the basic clock cycle (p0112).

201355 <location>Topology: Actual topology changed

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The unit target topology p0099 does not correspond to the unit actual topology r0098.
The fault only occurs if the topology was commissioned using the automatic internal device mechanism and not using the commissioning software.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.
See also: r0098, p0099

Remedy: One of the following counter-measures can be selected if no faults have occurred in the topology detection itself:
If commissioning was still not completed:
- carry-out a self-commissioning routine (starting from p0009 = 1).
general: Set p0099 to r0098, set p0009 to 0; for existing Motor Modules, this results in servo drives being automatically generated (refer to p0107).
or to generate servo drives: Set p0097 to 1, set p0009 to 0;
or to generate vector drives: Set p0097 to 2, set p0009 to 0.
or to generate vector drives with a parallel circuit configuration: Set p0097 to 12, set p0009 to 0.
In order to set configurations in p0108, before setting p0009 to 0, it is possible to first set p0009 to 2 and p0108 modified (the index corresponds to the drive object,also refer to p0107).
If commissioning was already completed:
- re-establish the original connections and re-connect power to the Control Unit.
- restore the factory setting for the complete equipment (all of the drives) and allow automatic self-commissioning again.
- change the device parameterization to match the connections (this is only possible using the commissioning software).
Notice:
Topology changes, that result in this fault being generated, cannot be accepted by the automatic function in the device, but must be transferred using the commissioning software and parameter download. The automatic function in the device only allows constant topology to be used. Otherwise, when the topology is changed, all of the previous parameter settings are lost and replaced by the factory setting.
See also: r0098

201360 <location>Topology: Actual topology is illegal

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The detected actual topology is not permissible.
Fault value (r0949, hexadecimal):
Byte 1 (cause):
1: Too many components were detected at the Control Unit. The maximum permissible number of components is 199.
2: The component type of a component is not known. The preliminary component number is in the high word.
Note:
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Re fault value = 1:
Change the configuration. Connect less than 199 components to the Control Unit.

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Re fault value = 2:
Remove the component with unknown component type.

201361 <location>Topology: Actual topology contains SINUMERIK and SIMOTION components

Reaction: NONE

Acknowledge: NONE

Cause: The detected actual topology contains SINUMERIK and SIMOTION components.
Fault value (r0949, hexadecimal):
Byte 1: Component number of the component
Byte 2: Component class of the actual topology
Byte 3 (cause):
1: An NX10 or NX15 was connected to a SIMOTION control.
2: A CX32 was connected to a SINUMERIK control.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Re fault value = 1:
Replace all NX10 or NX15 by a CX32.
Re fault value = 2:
Replace all CX32 by an NX10 or NX15

201375 <location>Topology: Actual topology duplicate connection between two components

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: When detecting the actual topology, a ring-type connection was detected.
Fault value (r0949, hexadecimal):
Low word: Preliminary component number of a component included in the ring
Byte 3: Component class
Byte 4: Connection number
Example:
Fault value = 33751339 dec = 203012B hex
Byte 4 = 02 hex = 2 dec, byte 3 = 03 hex = 3 dec, low word = 012B hex = 299 dec
Component class:
1: Control unit
2: Motor Module
3: Line Module
4: Sensor Module (SM)
5: Voltage Sensing Module (VSM)
6: Terminal Module (TM)
7: DMC20, repeater
8: CX32
49: DRIVE-CLiQ components (non-listed components)
50: Option slot (e.g. Terminal Board 30)
60: Encoder (e.g. EnDat)
70: Motor with DRIVE-CLiQ
Component type:
Precise designation within a component class (e.g. "SMC20").
Connection number:
Consecutive numbers, starting from zero, of the appropriate connection or slot (e.g. DRIVE-CLiQ connection X100 on the Control Unit has the connection number 0).

Remedy: Output the fault value and remove the specified connection.

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201380 <location>Topology: Actual topology, defective EEPROM

Reaction: NONE

Acknowledge: POWER ON

Cause: When detecting the actual topology, a component with a defective EEPROM was detected.
Fault value (r0949, hexadecimal):
Low word:
Preliminary component number of the defective components.

Remedy: Output the fault value and remove the defected component.

201381 <location>Topology: Comparison, power module shifted

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a power module in the actual topology that has been shifted with respect to the target topology.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component shifted in the target topology.
The connection in the actual topology where the shifted component was detected, is described in bytes 2, 3 and 4.
Byte 2: Component class
Byte 3: Component number
Byte 4: Connection number
Note:
Component class and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- undo the change to the actual topology by changing-over the DRIVE-CLiQ cables.
- commissioning software: Go online, upload the drive unit, adapt the topology offline and download the modified project.
- automatically remove the topology error (p9904).

201382 <location>Topology: Comparison, Sensor Module shifted

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a Sensor Module in the actual topology that has been shifted with respect to the target topology.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component shifted in the target topology
The connection in the actual topology where the shifted component was detected, is described in bytes 2, 3 and 4.
Byte 2: Component class
Byte 3: Component number
Byte 4: Connection number
Note:
Component class and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- undo the change to the actual topology by changing-over the DRIVE-CLiQ cables.
- commissioning software: Go online, upload the drive unit, adapt the topology offline and download the modified project.
- automatically remove the topology error (p9904).

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201383 <location>Topology: Comparison, Terminal Module shifted

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a Terminal Module in the actual topology that has been shifted with respect to the target topology.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component shifted in the target topology
The connection in the actual topology where the shifted component was detected, is described in bytes 2, 3 and 4.
Byte 2: Component class
Byte 3: Component number
Byte 4: Connection number
Note:
Component class and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- undo the change to the actual topology by changing-over the DRIVE-CLiQ cables.
- commissioning software: Go online, upload the drive unit, adapt the topology offline and download the modified project.
- automatically remove the topology error (p9904).

201385 <location>Topology: Comparison, CX32 shifted

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a controller extension 32 (CX32) in the actual topology that has been shifted with respect to the target topology.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component shifted in the target topology
The connection in the actual topology where the shifted component was detected, is described in bytes 2, 3 and 4.
Byte 2: Component class
Byte 3: Component number
Byte 4: Connection number
Note:
Component class and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- undo the change to the actual topology by changing-over the DRIVE-CLiQ cables.
- commissioning software: Go online, upload the drive unit, adapt the topology offline and download the modified project.
- automatically remove the topology error (p9904).

201386 <location>Topology: Comparison, DRIVE-CLiQ component shifted

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a DRIVE-CLiQ component in the actual topology that has been shifted with respect to the target topology.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component shifted in the target topology
The connection in the actual topology where the shifted component was detected, is described in bytes 2, 3 and 4.
Byte 2: Component class
Byte 3: Component number
Byte 4: Connection number

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Note:
Component class and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- undo the change to the actual topology by changing-over the DRIVE-CLiQ cables.
- commissioning software: Go online, upload the drive unit, adapt the topology offline and download the modified project.
- automatically remove the topology error (p9904).

201387 <location>Topology: Comparison, option slot component shifted

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a option slot component in the actual topology that has been shifted with respect to the target topology.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component shifted in the target topology
The connection in the actual topology where the shifted component was detected, is described in bytes 2, 3 and 4.
Byte 2: Component class
Byte 3: Component number
Byte 4: Connection number
Note:
Component class and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- undo the change to the actual topology by changing-over the DRIVE-CLiQ cables.
- commissioning software: Go online, upload the drive unit, adapt the topology offline and download the modified project.
- automatically remove the topology error (p9904).

201388 <location>Topology: Comparison, EnDat encoder shifted

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected an EnDat encoder in the actual topology that has been shifted with respect to the target topology.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component shifted in the target topology
The connection in the actual topology where the shifted component was detected, is described in bytes 2, 3 and 4.
Byte 2: Component class
Byte 3: Component number
Byte 4: Connection number
Note:
Component class and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- undo the change to the actual topology by changing-over the DRIVE-CLiQ cables.
- commissioning software: Go online, upload the drive unit, adapt the topology offline and download the modified project.
- automatically remove the topology error (p9904).

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201389 <location>Topology: Comparison, motor with DRIVE-CLiQ shifted

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a motor with DRIVE-CLiQ in the actual topology that has been shifted with respect to the target topology.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component shifted in the target topology
The connection in the actual topology where the shifted component was detected, is described in bytes 2, 3 and 4.
Byte 2: Component class
Byte 3: Component number
Byte 4: Connection number
Note:
Component class and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- undo the change to the actual topology by changing-over the DRIVE-CLiQ cables.
- commissioning software: Go online, upload the drive unit, adapt the topology offline and download the modified project.
- automatically remove the topology error (p9904).

201416 <location>Topology: Comparison, additional component in actual topology

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has found a component in the actual topology which is not specified in the target topology. The alarm value defines the connection at which the additional component was detected.
Alarm value (r2124, hexadecimal):
Byte 1: Component number
Byte 2: Component class
Byte 3: Connection number
Note:
Component class and connection number are described in F01375.

Remedy: Adapting the topologies:
- remove the additional component in the actual topology.
- download the target topology that matches the actual topology (commissioning software).

201420 <location>Topology: Comparison, a component is different

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected differences in the actual and target topologies in relation to one component. There are differences in the electronic rating plate.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component
Byte 2: Component class of the target topology
Byte 3: Component class of the actual topology
Byte 4 (cause):
1: Different component type
2: Different order number
3: Different manufacturer
4: Connection changed-over for a multi-component slave (e.g. double Motor Module) or defective EEPROM data in the electronic rating plate
5: A CX32 was replaced by an NX10 or NX15.
6: An NX10 or NX15 was replaced by a CX32.

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Note:
Component class and component type are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- check the component soft-wired connections against the hardware configuration of the drive unit in the commissioning software and correct differences.
- parameterize the topology comparison of all components (p9906).
- parameterize the topology comparison of one components (p9907, p9908).

201421 <location>Topology: Comparison, different components

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected differences in the actual and target topologies in relation to one component. The component class, the component type or the number of connections differ.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component
Byte 2: Component class of the target topology
Byte 3: Component class of the actual topology
Byte 4 (cause):
1: Different component class
2: Different component type
3: Different order number
4: Different number of connections
Note:
Component class, component type and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Check the component soft-wired connections against the hardware configuration of the drive unit in the commissioning software and correct differences.

201425 <location>Topology: Comparison, serial number of a component is different

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected differences in the actual and target topologies in relation to one component. The serial number is different.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component
Byte 2: Component class
Byte 3: Number of differences
Note:
The component class is described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- change over the actual topology to match the target topology.
- download the target topology that matches the actual topology (commissioning software).
Re byte 3:
Byte 3 = 1 --> can be acknowledged using p9904 or p9905.
Byte 3 > 1 --> can be acknowledged using p9905 and can be de-activated using p9906 or p9907/p9908.
See also: p9904, p9905, p9906, p9907, p9908

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201428 <location>Topology: Comparison, connection of a component is different

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected differences in the actual and target topologies in relation to one component. A component was connected to another connection.
The different connections of a component are described in the alarm value:
Alarm value (r2124, hexadecimal):
Byte 1: Component number
Byte 2: Component class
Byte 3: Connection number in the actual topology
Byte 4: Connection number in the target topology
Note:
Component class and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- change over the actual topology to match the target topology.
- download the target topology that matches the actual topology (commissioning software).
- automatically remove the topology error (p9904).
See also: p9904

201429 <location>Topology: Comparison, connection is different for more than component

Reaction: NONE

Acknowledge: NONE

Cause: A topology comparison has found differences between the actual and target topology for several components. A component was connected to another connection.
The different connections of a component are described in the alarm value:
Alarm value (r2124, hexadecimal):
Byte 1: Component number
Byte 2: Component class
Byte 3: Connection number in the actual topology
Byte 4: Connection number in the target topology
Note:
Component class and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- change over the actual topology to match the target topology.
- download the target topology that matches the actual topology (commissioning software).
Note:
In the software, a double Motor Module behaves just like two separate DRIVE-CLiQ nodes. If a double Motor Module is re-inserted, this can result in several differences in the actual topology.

201451 <location>Topology: Target topology is invalid

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: An error has occurred when writing into the target topology.
The write operation was interrupted due to an invalid target topology.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: Reload the target topology using the commissioning software.

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201470 <location>Topology: Target topology ring connection

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A ring-type connection was detected when writing into the target topology.
Fault value (r0949, hexadecimal):
Byte 1: Component number of a component included in the ring
Byte 2: Component class
Byte 3: Connection number
Note:
Component class and connection number are described in F01375.

Remedy: Read-out the fault value and remove one of the specified connections.
Then, download the target topology again using the commissioning software.

201475 <location>Topology: Target topology duplicate connection between two components

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: When writing the target topology, a duplicate connection between two components was detected.
Fault value (r0949, hexadecimal):
Byte 1: Component number of one of the components connected twice
Byte 2: Component class
Byte 3: Connection number 1 of the duplicate connection
Byte 4: Connection number 2 of the duplicate connection
Note:
Component class and connection number are described in F01375.

Remedy: Read-out the fault value and remove one of the two specified connections.
Then, download the target topology again using the commissioning software.

201481 <location>Topology: Comparison, power module missing in the actual topology

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a power module in the target topology that is not available in the actual topology.
Alarm value (r2124, decimal):
Component number of the additional target components.
Note:
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: - delete the drive belonging to the power module in the commissioning software project and download the new configuration into the drive unit.
- check that the actual topology matches the target topology and if required, change over.
- check DRIVE-CLiQ cables for interruption and contact problems.

201482 <location>Topology: Comparison, Sensor Module missing in the actual topology

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a Sensor Module in the target topology that is not available in the actual topology.
Alarm value (r2124, decimal):
Component number of the additional target components.
Note:
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

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Remedy: - re-configure the drive belonging to the Sensor Module in the commissioning software project (encoder configuration) and download the new configuration into the drive unit.
- delete the drive belonging to the Sensor Module in the commissioning software project and download the new configuration into the drive unit.
- check that the actual topology matches the target topology and if required, change over.
- check DRIVE-CLiQ cables for interruption and contact problems.

201483 <location>Topology: Comparison, Terminal Module missing in the actual topology

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a Terminal Module in the target topology that is not available in the actual topology.
Alarm value (r2124, decimal):
Component number of the additional target components.
Note:
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: - delete the Terminal Module in the commissioning software project and download the new configuration into the drive unit.
- check that the actual topology matches the target topology and if required, change over.
- check DRIVE-CLiQ cables for interruption and contact problems.

201485 <location>Topology: Comparison, CX32 in actual topology missing

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a controller extension 32 (CX32) in the target topology that is not available in the actual topology.
Alarm value (r2124, decimal):
Component number of the additional target components.
Note:
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: - delete the CX32 in the commissioning software project and download the new configuration into the drive unit.
- check that the actual topology matches the target topology and if required, change over.
- check DRIVE-CLiQ cables for interruption and contact problems.

201486 <location>Topology: Comparison, DRIVE-CLiQ components missing in the the actual topology

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a DRIVE-CLiQ component in the target topology that is not available in the actual topology.
Alarm value (r2124, decimal):
Component number of the additional target components.
Note:
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: - delete the drive belonging to this component in the commissioning software project and download the new configuration into the drive unit.
- re-configure the drive belonging to this component in the commissioning software project and download the new configuration into the drive unit.
- check that the actual topology matches the target topology and if required, change over.
- check DRIVE-CLiQ cables for interruption and contact problems.

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201487 **<location>Topology: Comparison, option slot components missing in the actual topology**

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected an option slot module in the target topology that is not available in the actual topology.
Alarm value (r2124, decimal):
Component number of the additional target components.
Note:
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: - delete the option board in the commissioning software project and download the new configuration into the drive unit.
- re-configure the drive unit in the commissioning software project and download the new configuration into the drive unit.
- check that the actual topology matches the target topology and if required, change over.

201488 **<location>Topology: Comparison, EnDat encoder missing in the actual topology**

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected an EnDat encoder in the target topology that is not available in the actual topology.
Alarm value (r2124, decimal):
Component number of the additional target components.
Note:
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: - re-configure the drive belonging to the encoder in the commissioning software project (encoder configuration) and download the new configuration into the drive unit.
- delete the drive belonging to the encoder in the commissioning software project and download the new configuration into the drive unit.
- check that the actual topology matches the target topology and if required, change over.

201489 **<location>Topology: Comparison, motor with DRIVE-CLiQ missing in the actual topology**

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a motor with DRIVE-CLiQ in the target topology that is not available in the actual topology.
Alarm value (r2124, decimal):
Component number of the additional target components.
Note:
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: - re-configure the drive belonging to this motor in the commissioning software project and download the new configuration into the drive unit.
- delete the drive belonging to this motor in the commissioning software project and download the new configuration into the drive unit.
- check that the actual topology matches the target topology and if required, change over.
- check DRIVE-CLiQ cables for interruption and contact problems.

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201505 <location>BICO: Interconnection cannot be established

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A PROFIBUS telegram has been set (p0922).
An interconnection contained in the telegram, was not able to be established.
Fault value (r0949, decimal):
Parameter receiver that should be changed.

Remedy: Establish another interconnection.

201506 <location>BICO: No standard telegram

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The standard telegram in p0922 is not maintained and therefore p0922 is set to 999.
Fault value (r0949, decimal):
BICO parameter for which the write attempt was unsuccessful.

Remedy: Again set the required standard telegram (p0922).

201507 <location>BICO: Interconnections to inactive objects present

Reaction: OFF2 (DCBRAKE, ENCODER, NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause: There are BICO interconnections as signal drain from a drive object that is either inactive/not operational.
The BI/CI parameters involved are listed in r9498.
The associated BO/CO parameters are listed in r9499.
The list of the BICO interconnections to other drive objects is displayed in r9491 and r9492 of the de-activated drive object.
Note:
r9498 and r9499 are only written into, if p9495 is not set to 0.
Alarm value (r2124, decimal):
Number of BICO interconnections found to inactive drive objects.
See also: r9491, r9492, r9498, r9499

Remedy: - set all open BICO interconnections centrally to the factory setting with p9495 = 2.
- make the non-operational drive object active/operational again (re-insert or activate components).

201510 <location>BICO: Signal source is not float type

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The selected connector output does not have the correct data type. This interconnection is not established.
Fault value (r0949, decimal):
Parameter number to which an interconnection should be made (connector output).

Remedy: Interconnect this connector input with a connector output having a float data type.

201511 <location>BICO: Interconnection between various normalizations

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The requested interconnection was set up. However, a conversion is made between the BICO output and BICO input using the reference values.
- the BICO output has different normalized units than the BICO input.
- message only for interconnections within a drive object.
Message during commissioning and download inactive.
Example:
The BICO output has, as normalized unit, voltage and the BICO input has current.

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This means that the factor p2002 (contains the reference value for current) / p2001 (contains the reference value for voltage) is calculated between the BICO output and BICO input.
Fault value (r0949, decimal):
Parameter number of the BICO input (signal receiver).

Remedy: No correction needed.

201512 <location>BICO: No normalization available

Reaction: A_INFEED: OFF2 (OFF1)
SERVO: OFF2

Acknowledge: POWER ON

Cause: An attempt was made to determine a conversion factor for a normalization that does not exist.
Fault value (r0949, decimal):
Unit (e.g. corresponding to SPEED) for which an attempt was made to determine a factor.

Remedy: Apply normalization or check the transfer value.

201513 <location>BICO: Spanning DO between different normalizations

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The requested interconnection was set up. However, a conversion is made between the BICO output and BICO input using the reference values.
An interconnection is made between different drive objects and the BICO output has different normalized units than the BICO input or the normalized units are the same but the reference values are different.
Example:
The BICO output has, as standard unit, voltage and the BICO input has current; both lie in different drive objects.
This means that the factor p2002 (contains the reference value for current) / p2001 (contains the reference value for voltage) is calculated between the BICO output and BICO input.
Fault value (r0949, decimal):
Parameter number of the BICO input (signal receiver).

Remedy: No correction needed.

201514 <location>BICO: Error when writing during a reconnect

Reaction: NONE

Acknowledge: NONE

Cause: During a reconnect operation (e.g. at run-up or download - but cannot occur in normal operation) a parameter was not able to be written into.
Example:
When writing to a double word BICO input in the second index, the memory areas overlap (e.g. p8861). The parameter is then reset to the factory setting.
Alarm value (r2124, decimal):
Parameter number of the BICO input (signal receiver).

Remedy: None necessary.

201590 <location>Drive: Motor maintenance interval expired

Reaction: NONE

Acknowledge: NONE

Cause: The selected service/maintenance interval for this motor was reached.
Alarm value (r2124, decimal):
Motor data set number.
See also: p0650, p0651

Remedy: Carry-out service/maintenance and reset the service/maintenance interval (p0651).

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201600 <location>SI CU: STOP A initiated

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The drive-based "Safety Integrated" function in the Control Unit (CU) has detected a fault and initiated a STOP A (pulse cancellation via the safety shutdown path of the Control Unit).
- forced checking procedure of the safety shutdown path of the Control Unit unsuccessful.
- subsequent response to fault F01611 (defect in a monitoring channel).
Fault value (r0949, decimal):
0: Stop request from the Motor Module.
1005: Pulses cancelled although SH not selected and there is not internal STOP A present.
1010: Pulses enabled although SH is selected or an internal STOP A is present.
1015: Feedback of the safe pulse cancellation for Motor Modules connected in parallel are different.
9999: Subsequent response to fault F01611.

Remedy: - select safe standstill and then de-select again.
- replace the Motor Module involved.
Re fault value = 9999:
- carry-out diagnostics for fault F01611.
Note:
CU: Control unit
MM: Motor Module
SH: Safe standstill
SI: Safety Integrated

201611 <location>SI CU: Defect in a monitoring channel

Reaction: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The drive-based "Safety Integrated" function in the Control Unit (CU) has detected a fault in the crosswise data comparison between the CU and Motor Module (MM) and initiated a STOP F.
As a result of this fault, after the parameterized transition has expired (p9658), fault F01600 (SI CU: STOP A initiated) is output.
Fault value (r0949, decimal):
0: Stop request from the Motor Module.
1 to 999:
Number of the crosswise compared data that resulted in this fault.
1: SI monitoring clock cycle (r9780, r9880).
2: SI enable safety functions (p9601, p9801).
3: SI SGE changeover tolerance time (p9650, p9850).
4: SI transition period STOP F to STOP A (p9658, p9858).
5: SI enable safe brake control (p9602, p9802).
6: SI motion enable, safety-relevant functions (p9501, internal value). This number is also displayed in r9795.
1000: Watchdog timer has expired. Within the time of approx. 5 * p9650 too many switching operations have occurred at terminal EP of the Motor Module.
1001, 1002: Initialization error, change timer / check timer.
2000: Status of the SH terminals on the Control Unit and Motor Module are different.
2001: Feedback signal for safe pulse cancellation on the Control Unit and Motor Module are different.
2004: Status of the SH selection for modules connected in parallel are different.
2005: Feedback signal of the safe pulse cancellation on the Control Unit and Motor Modules connected in parallel are different.

Remedy: Re fault value = 1 to 999:
- check the crosswise compared data that resulted in a STOP F.
- carry-out a POWER ON (power off/on) for all components.
- upgrade the Motor Module software.

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- upgrade the Control Unit software.
Re fault value = 1000:
- check the EP terminal at the Motor Module (contact problems).
Re fault value = 1001, 1002:
- carry-out a POWER ON (power off/on) for all components.
- upgrade the Motor Module software.
- upgrade the Control Unit software.
Re fault value = 2000, 2001, 2004, 2005:
- check the tolerance time SGE changeover and if required, increase the value (p9650, p9850).
- check the wiring of the safety-relevant inputs (SGE) (contact problems).
- replace the Motor Module involved.
Note:
CU: Control unit
EP: Enable Pulses (pulse enable)
MM: Motor Module
SGE: Safety-relevant input
SH: Safe standstill
SI: Safety Integrated

201620 <location>SI CU: Safe standstill active

Reaction: NONE

Acknowledge: NONE

Cause: The "safe standstill" function has been selected on the Control Unit (CU) and is active.
Note:
This message does not result in a safety stop response.

Remedy: None necessary.
Note:
CU: Control unit
SI: Safety Integrated

201625 <location>SI CU: Sign-of-life error in safety data

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The drive-based "Safety Integrated" function in the Control Unit (CU) has detected an error in the sign-of-life of the safety data between the CU and Motor Module (MM) and initiated a STOP A.
- there is either a DRIVE-CLIQ communications error or communications have failed.
- a time slice overflow of the safety software has occurred.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - select safe standstill and then de-select again.
- carry-out a POWER ON (power off/on) for all components.
- check whether there is a DRIVE-CLiQ communications error between the Control Unit and the Motor Module involved and if required, carry-out a diagnostics routine for the faults identified.
- de-select all drive functions that are not absolutely necessary.
- reduce the number of drives.
- check the electrical cabinet design and cable routing for EMC compliance
Note:
CU: Control unit
MM: Motor Module
SI: Safety Integrated

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201630 <location>SI CU: Brake control defective

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The drive-based "Safety Integrated" function in the Control Unit (CU) has detected a brake control fault and initiated a STOP A.
- no motor holding brake connected.
- the motor holding brake control on the Motor Module is faulty.
- a DRIVE-CLiQ communications error has occurred between the Control Unit and the Motor Module involved.
Fault value (r0949, decimal):
10: No brake connected or fault in the Motor Module brake control circuit ("open brake" operation).
11: Defect in the brake control circuit of the Motor Module ("brake open" operation).
20: Short-circuit in the brake winding or fault in the brake control circuit of the Motor Module ("brake open" state).
30: No brake connected, short-circuit in the brake winding or fault in the Motor Module brake control circuit ("close brake" operation).
31: Defect in the brake control circuit of the Motor Module ("close brake" operation).
40: Defect in the brake control circuit of the Motor Module ("brake closed" state).
50: Defect in the brake control circuit of the Motor Module or communications fault between the Control Unit and the Motor Module (brake control diagnostics).

Remedy: - select safe standstill and then de-select again.
- check the motor holding brake connection.
- check the function of the motor holding brake.
- check whether there is a DRIVE-CLiQ communications error between the Control Unit and the Motor Module involved and if required, carry-out a diagnostics routine for the faults identified.
- check the electrical cabinet design and cable routing for EMC compliance
- replace the Motor Module involved.
Note:
CU: Control unit
MM: Motor Module
SI: Safety Integrated

201649 <location>SI CU: Internal software error

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: An internal error in the Safety Integrated software on the Control Unit has occurred.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.
- re-commission the "Safety Integrated" function and carry-out a POWER ON.
- upgrade the Control Unit software.
- contact the Hotline.
- replace the Control Unit.
Note:
CU: Control unit
MM: Motor Module
SI: Safety Integrated

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201650 <location>SI CU: Acceptance test required

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The drive-based "Safety Integrated" function in the Control Unit requires an acceptance test.
Note:
This fault results in a STOP A that can be acknowledged.
Fault value (r0949, decimal):
130: No safety parameters available for the Motor Module.
1000: Reference and actual checksum on the Control Unit are not identical (run-up).
- at least one checksum-checked piece of data is defective.
2000: Reference and actual checksum on the Control Unit are not identical (commissioning mode).
- reference checksum incorrectly entered into the Control Unit (p9799 not equal to r9798).
2001: Reference and actual checksum on the Motor Module are not identical (commissioning mode).
- reference checksum incorrectly entered into the Motor Module (p9899 not equal to r9898).
2002: Enable of safety-related functions between the Control Unit and Motor Module differ (p9601 not equal to p9801).
2003: Acceptance test is required as a safety parameter has been changed.
2004: An acceptance test is required because a project with enabled safety-functions has been downloaded.
2010: Safe brake control is enabled differently the Control Unit and Motor Module (p9602 not equal to p9802).
2020: Error when saving the safety parameters for the Motor Module.
9999: Subsequent response of another safety-related fault that occurred at run-up that requires an acceptance test.

Remedy: Re fault value = 130:
- carry-out safety commissioning routine.
Re fault value = 1000:
- again carry-out safety commissioning routine.
- replace the CompactFlash card.
Re fault value = 2000:
- check the safety parameters in the Control Unit and adapt the reference checksum (p9799).
Re fault value = 2001:
- check the safety parameters in the Motor Module and adapt the reference checksum (p9899).
Re fault value = 2002:
- enable the safety-related functions on the Control Unit and check on the Motor Module (p9601 = p9801).
Re fault value = 2003, 2004:
- Carry-out an acceptance test and generate an acceptance report. The procedure when carrying-out an acceptance test as well as an example of the acceptance report are provided in the documentation for SINAMICS Safety Integrated.
Re fault value = 2010:
- enable the safe brake control in the Control Unit and check on the Motor Module (p9602 = p9802).
Re fault value = 2020:
- again carry-out safety commissioning routine.
- replace the CompactFlash card.
Re fault value = 9999:
- carry-out diagnostics for the other safety-related fault that is present.
Note:
CU: Control unit
MM: Motor Module

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SI: Safety Integrated
See also: p9799, p9899

201651 <location>SI CU: Synchronization safety time slices unsuccessful

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The "Safety Integrated" function requires a synchronization of the safety time slices between the Control Unit (CU) and Motor Module (MM) and between the Control Unit and the higher-level control. This synchronization routine was not successful.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.
- upgrade the Motor Module software.
- upgrade the Control Unit software.
- upgrade the software of the higher-level control.
Note:
CU: Control unit
MM: Motor Module
SI: Safety Integrated

201652 <location>SI CU: Monitoring clock cycle not permissible

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: One of the Safety Integrated monitoring clock cycles is not permissible:
- the drive-based monitoring clock cycle cannot be maintained due to the communication conditions required in the system.
- the monitoring clock cycle for safe motion monitoring functions with the higher-level control is not permissible (p9500).
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, decimal):
- for enabled drive-based SI monitoring (p9601/p9801 > 0):
Minimum setting for the monitoring clock cycle (in µs).
- with the motion monitoring function enabled (p9501 > 0):
100: No matching monitoring clock cycle was able to be found.
101: The monitoring clock cycle is not an integer multiple of the position controller clock cycle.
102: An error has occurred when transferring the DP clock cycle to the Motor Module (MM).
103: An error has occurred when transferring the DP clock cycle to the Sensor Module.

Remedy: For enabled drive-based SI monitoring (p9601/p9801 > 0):
- upgrade the Control Unit software.
For enabled motion monitoring function (p9501 > 0):
- correct the monitoring clock cycle (p9500) and carry-out POWER ON.
Note:
CU: Control unit
MM: Motor Module
SI: Safety Integrated

201655 <location>SI CU: Align monitoring functions

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: An error has occurred when aligning the Safety Integrated monitoring functions on the Control Unit (CU) and Motor Module (MM). Control unit and Motor Module were not able to determine a common set of supported SI monitoring functions.
- there is either a DRIVE-CLIQ communications error or communications have failed.

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- Safety Integrated software releases on the Control Unit and Motor Module are not compatible with one another.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.
- upgrade the Motor Module software.
- upgrade the Control Unit software.
- check the electrical cabinet design and cable routing for EMC compliance
Note:
CU: Control unit
MM: Motor Module
SI: Safety Integrated

201656 <location>SI CU: Incorrect Motor Module parameter

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: When accessing the Safety Integrated parameters for the Motor Module (MM) on the CompactFlash card, an error has occurred.
Note:
This fault results in a STOP A that can be acknowledged.
Fault value (r0949, decimal):
129: Safety parameters for the Motor Module corrupted.
131: Internal Motor Module software error.
132: Communication errors when uploading or downloading the safety parameters for the Motor Module.
255: Internal software error on the Control Unit.

Remedy: - re-commission the safety functions.
- upgrade the Control Unit software.
- upgrade the Motor Module software.
- replace the CompactFlash card.
Re fault value = 132:
- check the electrical cabinet design and cable routing for EMC compliance
Note:
CU: Control unit
MM: Motor Module
SI: Safety Integrated

201659 <location>SI CU: Write request for parameter rejected

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The write request for one or several Safety Integrated parameters on the Control Unit (CU) was rejected.
Note:
This fault does not result in a safety stop response.
Fault value (r0949, decimal):
1: The Safety Integrated password is not set.
2: It was selected that the drive parameters are reset. However, the Safety Integrated parameters cannot be reset, as Safety Integrated is presently enabled.
3: The interlocked SH input is in the simulation mode.
10: An attempt was made to enable the SH function although this cannot be supported.
11: An attempt was made to enable the SBC function although this cannot be supported.
12: An attempt was made to enable the SBC function although this cannot be supported for a parallel circuit configuration.
13: An attempt was made to enable the safe motion monitoring function with the higher-level control, although this cannot be supported.

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See also: p0970, p3900, r9771, r9871

Remedy: Re fault value = 1:
- set the Safety Integrated password (p9761).
Re fault value = 2:
- inhibit Safety Integrated and again reset the drive parameters.
Re fault value = 3:
- simulation mode for the digital input ended (p0795).
Re fault value = 10, 11, 12, 13:
- check whether there are faults in the safety function alignment between the Control Unit and the Motor Module involved (F01655, F30655) and if required, carry-out diagnostics for the faults involved.
- use a Motor Module that supports the function "safe standstill" or "safe brake control".
- upgrade the Motor Module software.
- upgrade the Control Unit software.
Note:
CU: Control unit
SBC: Safe brake control
SH: Safe standstill
SI: Safety Integrated
See also: p9501, p9601, p9620, p9761, p9801

201660 <location>SI CU: Safety-related functions not supported

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The Motor Module (MM) does not support the safety-related functions (e.g. the Motor Module version is not the correct one). Safety Integrated cannot be commissioned.
Note:
This fault results in a STOP A that cannot be acknowledged.

Remedy: - use a Motor Module that supports the safety-related functions.
- upgrade the Motor Module software.
Note:
CU: Control unit
MM: Motor Module
SI: Safety Integrated

201670 <location>SI motion: Invalid parameterization, Sensor Module

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The parameterization of a Sensor Module used for Safety Integrated is not permissible.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, decimal):
1: No encoder was parameterized for Safety Integrated.
2: An encoder was parameterized for Safety Integrated that does not have an A/B track (sinusoidal/cosinusoidal).
3: The encoder data set selected for Safety Integrated is still not valid.
4: A communications error to the encoder has occurred.
10: For an encoder used for Safety Integrated, not all of the Drive Data Sets (DDS) are assigned to the same Encoder Data Set (EDS) (p0187 ... p0189).

Remedy: Re fault value = 1, 2:
- use and parameterize an encoder that Safety Integrated supports (encoder with track A/B sinusoidal, p0404.4 = 1).
Re fault value = 3:
- check whether the drive or drive commissioning function is active and if required, exit this (p0009 = p00010 = 0), save the parameters (p0971 = 1) and carry-out a POWER ON
Re fault value = 4:

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- check whether there is a DRIVE-CLiQ communications error between the Control Unit and the Sensor Module involved and if required, carry-out a diagnostics routine for the faults identified.
Re fault value = 10:
- align the EDS assignment of all of the encoders used for safety integrated (p0187 ... p0189).
Note:
SI: Safety Integrated

201671 <location>SI motion: Error when parameterizing the encoder

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The parameterization of the encoder used by Safety Integrated is different than the parameterization of the standard encoder.
Fault value (r0949, decimal):
Parameter number of the non-corresponding safety parameter.

Remedy: Align the encoder parameterization between the safety encoder and the standard encoder.
Note:
SI: Safety Integrated

201672 <location>SI motion: Motor Module software incompatible

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The existing Motor Module software does not support the safe motion monitoring function with the higher-level control.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - check whether there are faults in the safety function alignment between the Control Unit and the Motor Module involved
(F01655, F30655) and if required, carry-out the appropriate diagnostics routine for the particular faults.
- use a Motor Module that supports safe motion monitoring
- upgrade the Motor Module software.
Note:
SI: Safety Integrated

201673 <location>SI motion: Sensor Module software incompatible

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The existing Sensor Module software does not support the safe motion monitoring function with the higher-level control.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - use a Sensor Module that supports safe motion monitoring function.
- upgrade the Sensor Module software.
Note:
SI: Safety Integrated

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201680 <location>SI motion: Checksum error, safety monitoring functions

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The actual checksum calculated by the drive and entered in r9728 over the safety-relevant parameters does not match the target checksum saved in p9729 at the last machine acceptance.
Safety-relevant parameters have been changed or a fault is present.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, decimal):
0: Checksum error for SI parameters for motion monitoring.
1: Checksum error for SI parameters for actual values.

Remedy: - Check the safety-relevant parameters and if required, correct.
- carry-out a POWER ON.
- carry-out an acceptance test.
Note:
SI: Safety Integrated

201681 <location>SI motion: Incorrect parameter value

Reaction: NONE

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The parameter value cannot be parameterized with this value.
Fault value (r0949, decimal):
Parameter number with the incorrect value

Remedy: Correct parameter value

201682 <location>SI motion: Monitoring function not supported

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The monitoring function enabled in p9501 is not supported in this firmware version.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, decimal):
1: Monitoring function SE not supported (p9501.1).
2: Monitoring function SN not supported (p9501.7 and p9501.8 - 15 and p9503).
3: Monitoring function SG override not supported (p9501.5).
10: Monitoring functions only supported in the servo mode.

Remedy: De-select the monitoring function involved (p9501, p9503).
Note:
SE: Safe software limit switch
SG: Safely-reduced speed
SI: Safety Integrated
SN: Safe software cams
See also: p9501

201683 <location>SI motion: SBH/SG enable missing

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The safety-relevant basic function "SBH/SG" is not enabled in p9501 although other safety-relevant monitoring functions are enabled.
Note:
This fault results in a STOP A that cannot be acknowledged.

Remedy: Enable the function "SBH/SG" (p9501.0) and carry-out a POWER ON.
Note:
SBH: Safe operating stop
SG: Safely-reduced speed

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SI: Safety Integrated
See also: p9501

201684 <location>SI motion: Safe software limit switch limit values interchanged

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: For the function "safe software limit switch" (SE), a lower value is in p9534 as in p9535.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, decimal):
1: Limit values SE1 interchanged.
2: Limit values SE2 interchanged.

Remedy: Correct the limit values in p9534 and p9535 and carry-out a POWER ON.
Note:
SE: Safe software limit switch
SI: Safety Integrated

201685 <location>SI motion: Safe velocity limit value too high

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The limit value for the function "safely reduced speed" (SG) is greater than the speed that corresponds to an encoder limit frequency of 500 kHz.
Fault value (r0949, decimal):
Maximum permissible speed.

Remedy: Correct the limit values for SG and carry-out a POWER ON.
Note:
SG: Safely-reduced speed
SI: Safety Integrated
See also: p9531

201686 <location>SI motion: Illegal parameterization, cam position

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: At least one enabled "safety software cam" (SN) is parameterized in p9536 or p9537 too close at the tolerance range around the modulo position.
Fault value (r0949, decimal):
Number of the "safe software cam" with an illegal position.
See also: p9501

Remedy: Correct the cam position and carry-out a POWER ON.
Note:
SI: Safety Integrated
SN: Safe software cams
See also: p9536, p9537

201687 <location>SI motion: Illegal parameterization, modulo value SN

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The parameterized modulo value for the "safe software cams" (SN) function is not a multiple of 360 000 mDegrees.

Remedy: Correct the modulo value for SN and carry-out a POWER ON.
Note:
SI: Safety Integrated
SN: Safe software cams

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201688 <location>SI motion: Actual value synchronization not permissible

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: It is not permissible to simultaneously enable the actual value synchronization and a monitoring function with absolute reference (SE/SN).

Remedy: Either carry-out the monitoring functions with absolute reference (SE/SN) or de-select the "actual value synchronization" function and carry-out a POWER ON.
Note:
SE: Safe software limit switch
SI: Safety Integrated
SN: Safe software cams
See also: p9501

201689 <location>SI motion: Axis re-configured

Reaction: OFF2

Acknowledge: POWER ON

Cause: The axis configuration was changed.
Parameter p0108.13 is internally set to the correct value.
Fault value (r0949, decimal):
Parameter number that initiated the change
See also: p9502

Remedy: Carry-out a POWER ON.

201698 <location>SI CU: Commissioning mode active

Reaction: NONE

Acknowledge: NONE

Cause: The commissioning of the "Safety Integrated" function is selected.
This message is withdrawn after the safety functions have been commissioned.
Note:
This message does not result in a safety stop response.
See also: p0010

Remedy: None necessary.
Note:
CU: Control unit
SI: Safety Integrated

201699 <location>SI CU: Shutdown path test required

Reaction: NONE

Acknowledge: NONE

Cause: The time set in p9659 for the forced checking procedure of the safety shutdown paths has been exceeded. The safety shutdown paths must be re-tested.
After the next time that the "safe standstill" function (SH) is de-selected, the message is withdrawn and the monitoring time is reset.
Note:
This message does not result in a safety stop response.
See also: p9659

Remedy: Select safe standstill and then deselect again.
Note:
CU: Control unit
SH: Safe standstill
SI: Safety Integrated

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201700 <location>SI motion: STOP A initiated

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The drive is stopped via a STOP A (pulses are cancelled via the safety shutdown path of the Control Unit).
Possible causes:
- stop request from the higher-level control.
- pulses not cancelled after a parameterized time (p9557) after test stop selection.
- subsequent response to the message C01706 "SI Motion: Safe braking ramp exceeded".
- subsequent response to the message C01714 "SI Motion: Safe speed exceeded".
- subsequent response to the message C01701 "SI Motion: STOP B initiated".

Remedy: - remove the fault cause in the control and carry-out a POWER ON.
- check the value in p9557, if necessary, increase the value, and carry-out POWER ON.
- check the shutdown path of Control Unit (check DRIVE-CLiQ communications).
- carry-out a diagnostics routine for message C01706.
- carry-out a diagnostics routine for message C01714.
- carry-out a diagnostics routine for message C01701.
- replace Motor Module.
- replace Control Unit.
Note:
SI: Safety Integrated

201701 <location>SI motion: STOP B initiated

Reaction: OFF3

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The drive is stopped via a STOP B (braked along the current limit).
As a result of this fault, after the time, parameterized in p9556 has expired, or the speed threshold, parameterized in p9560 has been fallen below, message C01700 "STOP A initiated" is output.
Possible causes:
- stop request from the higher-level control.
- subsequent response to the message C01714 "SI Motion: Safely reduced speed exceeded".
- subsequent response to the message C01711 "SI Motion: Defect in a monitoring channel".

Remedy: - remove the fault cause in the control and carry-out a POWER ON.
- carry-out a diagnostics routine for message C01714.
- carry-out a diagnostics routine for message C01711.
Note:
SI: Safety Integrated

201706 <location>SI motion: Safe braking ramp exceeded

Reaction: NONE

Acknowledge: IMMEDIATELY (POWER ON)

Cause: After initiating STOP B or STOP C, the velocity has exceeded the selected tolerance.
The drive is shut down by the message C01700 "SI Motion: STOP A initiated".

Remedy: Check the braking behavior, if required, adapt the tolerance for "safe braking ramp" (SBR).
Note:
SBR: Safe braking ramp
SI: Safety Integrated
See also: p9548

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201707 <location>SI motion: Tolerance for safe operating stop exceeded

Reaction: NONE

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The actual position has distanced itself further from the target position than the standstill tolerance.
The drive is stopped by the message C01701 "SI Motion: STOP B initiated".

Remedy: - check whether safety faults are present and if required carry-out the appropriate diagnostic routines for the particular faults.
- check whether the standstill tolerance matches the accuracy and control dynamic performance of the axis.
- carry-out a POWER ON.
Note:
SBH: Safe operating stop
SI: Safety Integrated
See also: p9530

201708 <location>SI motion: STOP C initiated

Reaction: STOP2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The drive is stopped via a STOP C (braked along the current limit).
"Safe operating stop" (SBH) is activated after the parameterized timer stage has expired.
Possible causes:
- stop request from the higher-level control.
- subsequent response to the message C01714 "SI Motion: Safely reduced speed exceeded".
- subsequent response to the message C01715 "SI Motion: Safe endstop "exceeded".
See also: p9552

Remedy: - remove the fault cause in the control and carry-out a POWER ON.
- carry-out a diagnostics routine for message C01714.
Note:
SBH: Safe operating stop
SI: Safety Integrated

201709 <location>SI motion: STOP D initiated

Reaction: NONE

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The drive is stopped via a STOP D (braking along the path).
"Safe operating stop" (SBH) is activated after the parameterized timer stage has expired.
Possible causes:
- stop request from the higher-level control.
- subsequent response to the message C01714 "SI Motion: Safely reduced speed exceeded".
- subsequent response to the message C01715 "SI Motion: Safe endstop "exceeded".
See also: p9553

Remedy: - remove the fault cause in the control and carry-out a POWER ON.
- carry-out a diagnostics routine for message C01714.
Note:
SBH: Safe operating stop
SI: Safety Integrated

201710 <location>SI motion: STOP E initiated

Reaction: NONE

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The drive is stopped via a STOP E (retraction motion).
"Safe operating stop" (SBH) is activated after the parameterized timer stage has expired.
Possible causes:

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- stop request from the higher-level control.
- subsequent response to the message C01714 "SI Motion: Safely reduced speed exceeded".
- subsequent response to the message C01715 "SI Motion: Safe endstop "exceeded".
See also: p9554

Remedy: - remove the fault cause in the control and carry-out a POWER ON.
- carry-out a diagnostics routine for message C01714.
Note:
SBH: Safe operating stop
SI: Safety Integrated

201711 <location>SI motion: Defect in a monitoring channel

Reaction: NONE

Acknowledge: IMMEDIATELY (POWER ON)

Cause: When cross-checking and comparing the two monitoring channels, the drive detected a difference between the input data or results of the monitoring functions and initiated a STOP F. One of the monitoring function functions no longer reliably functions - i.e. safe operation is no longer possible.
If at least one monitoring function is active, then after the parameterized timer stage has expired, the message C01701 "SI Motion: STOP B initiated" is output.
The message value that resulted in a STOP F is displayed in r9725.
Message value (r9749, decimal):
Value, that resulted in a STOP F.
See also: p9555, r9725

Remedy: The message value contained in r9725 is described in message 27001 of the higher-level control.
Note:
SI: Safety Integrated

201714 <location>SI motion: Safely reduced speed exceeded

Reaction: NONE

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The drive had moved faster than that specified by the velocity limit value (p9531). The drive is stopped as a result of the configured stop response (p9563).
Message value (r9749, decimal):
100: SG1 exceeded.
200: SG2 exceeded..
300: SG3 exceeded.
400: SG4 exceeded.
1000: Encoder limit frequency exceeded.

Remedy: - check the traversing/motion program in the control.
- check the limits for "safely reduced speed (SG) and if required, adapt (p9531).
Note:
SG: Safely-reduced speed
SI: Safety Integrated
See also: p9531, p9563

201798 <location>SI motion: Test stop running

Reaction: NONE

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The test stop is active.

Remedy: None necessary.
The message is withdrawn when the test stop is ended.
Note:
SI: Safety Integrated

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201799 <location>SI motion: Acceptance test mode active

Reaction: NONE

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The acceptance test mode is active. The POWER ON signals of the safety-relevant motion monitoring functions can be acknowledged during the acceptance test using the RESET button of the higher-level control.

Remedy: None necessary.
The message is withdrawn when exiting the acceptance test mode.
Note:
SI: Safety Integrated

201800 <location>DRIVE-CLiQ: Hardware/configuration incorrect

Reaction: NONE (DCBRAKE, ENCODER, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: A DRIVE-CLiQ connection fault has occurred.
Fault value (r0949, decimal):
0 ... 7:
Communications via DRIVE-CLiQ socket 0 ... 7 has not been switched to cyclic operation. The cause can be an incorrect structure or a configuration that results in an impossible bus timing.
10:
Loss of the DRIVE-CLiQ connection. The cause can be, for example, that the DRIVE-CLiQ cable was withdrawn from the Control Unit or as a result of a short-circuit for motors with DRIVE-CLiQ. This fault can only be acknowledged in cyclic communication.
11:
Repeated fault when detecting the connection. This fault can only be acknowledged in cyclic communication.
12:
A connection was detected but the node ID exchange mechanism does not function. The reason is probably that the component is defective. This fault can only be acknowledged in cyclic communication.

Remedy: Re fault value = 0 ... 7:
- ensure that the DRIVE-CLiQ components have the same firmware releases.
- avoid longer topologies for short current controller clock cycles.
Re fault value = 10:
- check the DRIVE-CLiQ cables at the Control Unit.
- remove any short-circuit for motors with DRIVE-CLiQ.
- carry-out a POWER ON.
Re fault value = 11:
- check the electrical cabinet design and cable routing for EMC compliance
Re fault value = 12:
- replace the component involved.

201802 <location>CU DRIVE-CLiQ: POWER ON due to basic sampling times

Reaction: OFF2 (DCBRAKE, OFF1)

Acknowledge: POWER ON

Cause: It is not possible to change the DRIVE-CLiQ basic sampling times p0110 in operation. POWER ON is required.
Fault value (r0949, decimal):
Index of p0110.

Remedy: - save (p0971 = 1).
- carry-out a POWER ON.

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201900 <location>PROFIBUS: Configuration telegram error

Reaction: NONE

Acknowledge: NONE

Cause: A PROFIBUS master attempts to establish a connection using an incorrect configuring telegram.
Alarm value (r2124, decimal):
50: Syntax error.
51: Connection established to more drive objects than configured in the device. The drive objects for process data exchange and their sequence was defined using p0978.
52: Too many data words for input or output to a drive object. A max. of 16 words is permitted for SERVO and VECTOR; max. 5 words, for A_INFEED, TB30, TM31 and CU320.
53: Uneven number of bytes for input or output.

Remedy: Check the bus configuring on the master and slave sides.
Re alarm value = 51:
Check the list of the drive objects with process data exchange (p0978). With p0978[x] = 0, all of the following drive objects in the list are excluded from the process data exchange.

201901 <location>PROFIBUS: Parameterizing telegram error

Reaction: NONE

Acknowledge: NONE

Cause: A PROFIBUS master attempts to establish a connection using an incorrect parameterizing telegram.
Alarm value (r2124, decimal):
1: Incorrect parameterizing bits
10: Illegal length of an optional parameterizing block
11: Illegal ID of an optional parameterizing block
20: Double parameterizing block for clock synchronization
21: Incorrect parameterizing block for clock synchronization
22: Incorrect parameterizing bits for clock synchronization

Remedy: Check the bus configuration:
- bus addresses
- slave configuring

201902 <location>PROFIBUS: Parameterizing telegram not permissible

Reaction: NONE

Acknowledge: NONE

Cause: Alarm value (r2124, decimal):
0: Bus cycle time Tdp < 0.5 ms.
1: Bus cycle time Tdp > 32 ms.
2: Bus cycle time Tdp is not a integer multiple of the current controller clock cycle.
3: Instant of the actual value sensing Ti > Bus cycle time Tdp.
4: Instant of the actual value sensing Ti is not an integer multiple of the current controller clock cycle.
5: Instant of the setpoint transfer To >= Bus cycle time Tdp.
6: Instant of the setpoint transfer To is not an integer multiple of the current controller clock cycle.
7: Master application cycle time Tmapc is not an integer multiple of the speed controller clock cycle.
8: Bus reserve bus cycle time Tdp - data exchange time Tdx less than two current controller clock cycles.
9: Bus cycle time Tdp has been modified with respect to the first time that the connection was established.
10: Instant of the setpoint transfer not To <= data exchange time Tdx + To_min.
11: Master application cycle time Tmapc > 14.
12: PLL tolerance window Tpll_w > Tpll_w_max.

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13: Bus cycle time Tdp is not a multiple of all basic clock cycles p0110[x].
14: For COMM BOARD with the setting To - 1 = Tdp - Ti, the instant of the setpoint transfer is not To <= Data Exchange time Tdx + 2 * To_min.
15: This configuration is not permitted for Tdp < 1 ms.
16: Instant of the actual value sensing Ti is less than the permitted value (COMM BOARD: Ti >= 2).
17: The setting (To + Ti = Tdp + 2) is not permitted for COMM BOARD.

Remedy: - adapt the parameterizing telegram.
- adapt the current and speed controller clock cycle.
Re alarm value = 9:
- carry-out a POWER ON.
Re alarm value = 15:
- check the number specific drive object types in the configuration.

201903 <location>COMM INT: Receive configuration data not valid

Reaction: NONE

Acknowledge: NONE

Cause: The drive unit did not accept the receive-configuration data.
Alarm value (r2124, decimal):
Return value of the receive-configuration data check.
0: Configuration accepted.
1: Connection established to more drive objects than configured in the device. The drive objects for process data exchange and their sequence was defined using p0978.
2: Too many data words for input or output to a drive object. A max. of 16 words is permitted for SERVO and VECTOR; max. 5 words, for A_INFEED, TB30, TM31 and CU320.
3: Uneven number of bytes for input or output.
4: Setting data for synchronization not accepted.
5: Drive still not in cyclic operation.
6: Buffer system not accepted.
7: Cyclic channel length too short for this setting.
8: Cyclic channel address not initialized.
9: 3-buffer system not permitted.
10: DRIVE-CLiQ fault.
11: CU link fault.
12: CX32 not in cyclic operation.

Remedy: Check the receive configuration data.
Re alarm value = 1:
Check the list of the drive objects with process data exchange (p0978). With p0978[x] = 0, all of the following drive objects in the list are excluded from the process data exchange.

201910 <location>PROFIBUS: Setpoint timeout

Reaction: A_INFEED: OFF2 (DCBRAKE, NONE, OFF1, OFF3, STOP1, STOP2)
SERVO: OFF3 (DCBRAKE, NONE, OFF1, OFF2, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause: The receipt of setpoints from the PROFIBUS interface is interrupted because the bus connection is interrupted or the PROFIBUS master is switched off or was set into the STOP state.

Remedy: Restore the bus connection and set the PROFIBUS master to RUN.

201911 <location>PROFIBUS: Clock synchronous operation, clock cycle failure

Reaction: OFF1

Acknowledge: IMMEDIATELY

Cause: The global control telegram to synchronize the clock cycles has failed - in cyclic operation - for several DP clock cycles or has violated the time grid specified in the parameterizing telegram over several consecutive DP clock cycles (refer to the bus cycle time, Tdp and Tdpllw).

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Remedy: - check the PROFIBUS cables and connectors.
- check whether communications were briefly or permanently interrupted.
- check the bus and master for utilization level (e.g. bus cycle time Tdp was set too short).

201912 <location>PROFIBUS: Clock-synchronous operation, sign-of-life failure

Reaction: OFF1

Acknowledge: IMMEDIATELY

Cause: The maximum permissible number of errors in the master sign-of-life (clock synchronous PROFIBUS) has been exceeded in cyclic operation.

Remedy: - check the physical bus configuration (terminating resistor, shielding, etc.).
- check the interconnection of the master sign-of-life (p2045).
- check whether the master correctly sends the sign-of-life (e.g. set-up a trace with STW2.12 ... STW2.15 and trigger signal ZSW1.3).
- check the permissible telegram failure rate (p0925).
- check the bus and master for utilization level (e.g. bus cycle time Tdp was set too short).

201913 <location>COMM INT: Monitoring time, sign-of-life expired

Reaction: OFF1 (NONE, OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: The monitoring time for the sign-of-life counter has expired.

Remedy: - acknowledge faults that are present.
- carry-out a POWER ON (power off/on) for all components.
- upgrade the firmware release.
- contact the Hotline.

201914 <location>COMM INT: Monitoring time, configuration expired

Reaction: OFF1 (NONE, OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: The monitoring time for the configuration has expired.
Fault value (r0949, decimal):
0: The transfer of the send-configuration data has been exceeded (time).
1: The transfer of the receive-configuration data has been exceeded (time).

Remedy: - acknowledge faults that are present.
- carry-out a POWER ON (power off/on) for all components.
- upgrade the firmware release.
- contact the Hotline.

201920 <location>PROFIBUS: Interruption, cyclic connection

Reaction: NONE

Acknowledge: NONE

Cause: The cyclic connection to the PROFIBUS master is interrupted.

Remedy: Set up the PROFIBUS connection and activate the PROFIBUS master in the cyclic mode.

201921 <location>PROFIBUS: Clock cyc synchron

Reaction: NONE

Acknowledge: NONE

Cause: Output data of PROFIBUS master (setpoints) received at the incorrect instant in time within the PROFIBUS clock cycle.

Remedy: Check the bus configuration:
- parameters for clock synchronization: Ensure the instant in time for setpoint acceptance To > data exchange time Tdx

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201930 **<location>PROFIBUS: Current controller clock cycle for clock synchronous operation, not the same**

Reaction: NONE

Acknowledge: NONE

Cause: The current controller clock cycle of all drives must be set the same for the clock synchronous PROFIBUS.
Alarm value (r2124, decimal):
Number of the drive object with the different current controller clock cycle.

Remedy: - set current controller clock cycles to identical values (p0115[0]).
See also: p0115

201931 **<location>PROFIBUS: Speed controller clock cycle for clock synchronous operation, not the same**

Reaction: NONE

Acknowledge: NONE

Cause: The speed controller clock cycle of all drives must be set the same for the clock synchronous PROFIBUS.
Alarm value (r2124, decimal):
Number of the drive object with the different speed controller clock cycle.

Remedy: - set the speed controller clock cycles the same (p0115[1]).
See also: p0115

201940 **<location>PROFIBUS: Clock cycle synchronism not reached**

Reaction: NONE

Acknowledge: NONE

Cause: PROFIBUS is in the data exchange state and clock synchronous operation has been selected using the parameterizing telegram. It was not possible to synchronize to the clock cycle specified by the master.
- the master doesn't send a clock synchronous global control telegram although the clock synchronous operation was selected when configuring the bus.
- the master is using another clock synchronous DP clock cycle than was transferred to the slave in the parameterizing telegram.
- at least one drive object (that is not controlled from PROFIBUS) has a pulse enable.

Remedy: - check the master application and bus configuration.
- check the consistency between the clock cycle input when configuring the slave and clock cycle setting at the master.
- ensure that the pulses of drive objects, not controlled from PROFIBUS, are not enabled. Only enable the pulses after synchronizing the PROFIBUS drives.

201941 **<location>PROFIBUS: Clock cycle signal missing when the bus is being established**

Reaction: NONE

Acknowledge: NONE

Cause: PROFIBUS is in the data exchange state and clock synchronous operation has been selected using the parameterizing telegram. The global control telegram for synchronization is not being received.

Remedy: Check the master application and bus configuration.

201943 **<location>PROFIBUS: Clock cycle signal error when the bus is being established**

Reaction: NONE

Acknowledge: NONE

Cause: PROFIBUS is in the data exchange state and clock synchronous operation has been selected using the parameterizing telegram. The global control telegram for synchronization is being irregularly received.

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-.the master is sending an irregular global control telegram.
- the master is using another clock synchronous DP clock cycle than was transferred to the slave in the parameterizing telegram.

Remedy: - check the master application and bus configuration.
- check the consistency between the clock cycle input when configuring the slave and clock cycle setting at the master.

201944 <location>PROFIBUS: Sign-of-life synchronism not reached

Reaction: NONE

Acknowledge: NONE

Cause: PROFIBUS is in the data exchange state and clock synchronous operation has been selected using the parameterizing telegram. Synchronization with the master sign-of-life (STW2 bits 12-15) could not be completed because the sign-of-life is changing differently than configured in the Tmapc time grid.

Remedy: - ensure that the master correctly increments the sign-of-life in the master application clock cycle.
- check the interconnection of the master sign-of-life (p2045).

201950 <location>PROFIBUS: Clock synchronous operation, synchronization unsuccessful

Reaction: OFF1 (NONE)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: Synchronization of the internal clock cycle to the global control telegram has failed. The internal clock cycle exhibits an unexpected shift.

Remedy: Siemens-internal

201951 <location>CU DRIVE-CLiQ: Synchronization, application clock cycle missing

Reaction: OFF2 (NONE)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: If DRIVE-CLiQ components with different application clock cycle are operated at a DRIVE-CLiQ port, then this requires synchronization with the Control Unit.
This synchronization routine was not successful.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.
- upgrade the Motor Module software.
- upgrade the Control Unit software.

201952 <location>CU DRIVE-CLiQ: Synchronization of components not supported

Reaction: OFF2 (NONE)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The existing system configuration requires at the connected DRIVE-CLiQ components support the synchronization between the basic clock cycle, DRIVE-CLiQ clock cycle and the application clock cycle.
However, not all DRIVE-CLiQ components have this functionality.
Fault value (r0949, decimal):
Component number of the first faulted DRIVE-CLiQ component.

Remedy: Upgrade the firmware of the component specified in the fault value.
Note:
If required, also upgrade additional components in the DRIVE-CLiQ line.

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201953 <location>CU DRIVE-CLiQ: Synchronization not completed

Reaction: NONE

Acknowledge: NONE

Cause: After the drive system is powered-up, the synchronization between the basic clock cycle, DRIVE-CLiQ clock cycle and application clock cycle was started but was not completed within the selected time (tolerance).
Alarm value (r2124, decimal):
Only for internal Siemens troubleshooting.

Remedy: Carry-out a POWER ON (power off/on) for all components.

201954 <location>CU DRIVE-CLiQ: Synchronization not successful

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: After the drive system is powered-up, the synchronization between the basic clock cycle, DRIVE-CLiQ clock cycle and application clock cycle was started and was not able to be successfully completed.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: 1. Ensure perfect functioning of the DRIVE-CLiQ.
2. Initiate a new synchronization, e.g. by:
- remove the PROFIBUS master and re-insert again.
- restart the PROFIBUS master.
- power-down the Control Unit and power-up again.
- press the Control Unit reset button.
- reset the parameter and download the saved parameters (p0009 = 30, p0976 = 2).

201955 <location>CU DRIVE-CLiQ: Synchronization DO not completed

Reaction: NONE

Acknowledge: NONE

Cause: After the drive system is powered-up, the synchronization between the basic clock cycle, DRIVE-CLiQ clock cycle and application clock cycle was started but was not completed within the selected time (tolerance).
Alarm value (r2124, decimal):
Only for internal Siemens troubleshooting.

Remedy: Carry-out a POWER ON (power off/on) for all components of the DO.

202000 <location>Function generator: Start not possible

Reaction: NONE

Acknowledge: NONE

Cause: The function generator has already been started.

Remedy: Stop the function generator and restart again if necessary.
See also: p4800

202005 <location>Function generator: Drive does not exist

Reaction: NONE

Acknowledge: NONE

Cause: The drive object specified for connection does not exist.
See also: p4815

Remedy: Use the existing drive object with the corresponding number.
See also: p4815

202006 <location>Function generator: No drive specified for connection

Reaction: NONE

Acknowledge: NONE

Cause: No drive specified for connection in p4815.

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See also: p4815

Remedy: At least one drive to be connected must be specified in p4815.
See also: p4815

202007 <location>Function generator: Drive not SERVO

Reaction: NONE

Acknowledge: NONE

Cause: The drive object specified for connection is not a SERVO.
See also: p4815

Remedy: Use a SERVO drive object with the corresponding number.

202008 <location>Function generator: Drive specified a multiple number of times

Reaction: NONE

Acknowledge: NONE

Cause: The drive object specified for connection is already specified.
Alarm value (r2124, decimal):
Drive object number of the drive object that is specified a multiple number of times.

Remedy: Specify a different drive object.

202010 <location>Function generator: Speed setpoint from the drive is not zero

Reaction: NONE

Acknowledge: NONE

Cause: The speed setpoint of a drive - selected to be connected to - is greater than the value for the standstill detection set using p1226.
Alarm value (r2124, decimal):
Number of the drive object involved.

Remedy: For all of the drives specified for connection, set the speed setpoints to 0.

202011 <location>Function generator: The actual drive speed is not zero

Reaction: NONE

Acknowledge: NONE

Cause: The speed actual value of a drive - selected to be connected to - is greater than the value for the standstill detection set using p1226.
Alarm value (r2124, decimal):
Number of the drive object involved.

Remedy: Set the relevant drives to zero speed before starting the function generator.

202015 <location>Function generator: Drive enable signals missing

Reaction: NONE

Acknowledge: NONE

Cause: The master control and/or enable signals are missing to connect to the specified drive.
Alarm value (r2124, decimal):
Number of the drive object involved.
See also: p4815

Remedy: Fetch the master control to the specified drive object and set all enable signals.

202020 <location>Function generator: Parameter cannot be changed

Reaction: NONE

Acknowledge: NONE

Cause: This parameter setting cannot be changed when the function generator is active (p4800 = 1).
See also: p4810, p4812, p4813, p4815, p4820, p4821, p4822, p4823, p4824, p4825, p4826, p4827, p4828, p4829

Remedy: - stop before parameterizing the function generator (p4800 = 0).

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- if required, start the function generator (p4800 = 1).
See also: p4800

202025 <location>Function generator: Period too short

Reaction: NONE

Acknowledge: NONE

Cause: The value for the period is too short.
See also: p4821

Remedy: Check and adapt the value for the period.
See also: p4821

202026 <location>Function generator: Pulse width too wide

Reaction: NONE

Acknowledge: NONE

Cause: The selected pulse width is too high.
The pulse width must be less than the period duration.
See also: p4822

Remedy: Reduce pulse width.
See also: p4821, p4822

202030 <location>Function generator: Physical address equals zero

Reaction: NONE

Acknowledge: NONE

Cause: The specified physical address is zero.
See also: p4812

Remedy: Set a physical address with a value other than zero.
See also: p4812

202040 <location>Function generator: Impermissible value for offset

Reaction: NONE

Acknowledge: NONE

Cause: The value for the offset is higher than the value for the upper limit or lower than the value for the lower limit.
See also: p4826

Remedy: Adjust the offset value accordingly.
See also: p4826, p4828, p4829

202041 <location>Function generator: Impermissible value for bandwidth

Reaction: NONE

Acknowledge: NONE

Cause: The bandwidth, referred to the time slice clock cycle of the function generator has either been set too low or too high.
Depending on the time slice clock cycle, the bandwidth is defined as follows:
Bandwidth_max = 1 / (2 * time slice clock cycle)
Bandwidth_min = Bandwidth_max / 100000
Example:
Assumption: p4830 = 125 µs
--> Bandwidth_max = 1 / (2 * 125 µs) = 4000 Hz
--> Bandwidth_min = 4000 Hz / 100000 = 0.04 Hz
Note:
p4823: Function generator bandwidth
p4830: Function generator time slice cycle
See also: p4823, p4830

Remedy: Check the value for the bandwidth and appropriately adapt.

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202047 <location>Function generator: Invalid time slice clock cycle

Reaction: NONE

Acknowledge: NONE

Cause: The time slice cycle selected does not match any of the existing time slices.
See also: p4830

Remedy: Input an existing time slice cycle. The existing time slices can be read out via p7901.
See also: r7901

202050 <location>Trace: Start not possible

Reaction: NONE

Acknowledge: NONE

Cause: The trace has already been started.
See also: p4700

Remedy: Stop the trace and, if necessary, start again.

202055 <location>Trace: Recording time too short

Reaction: NONE

Acknowledge: NONE

Cause: The trace duration is too short.
The minimum is twice the value of the trace clock cycle.
See also: p4721

Remedy: Check the selected recording time and, if necessary, adjust.

202056 <location>Trace: Recording cycle too low

Reaction: NONE

Acknowledge: NONE

Cause: The selected recording cycle is shorter than the selected basis clock cycle 0 (p0110[0]).
See also: p4720

Remedy: Increase the value for the trace cycle.

202057 <location>Trace: Invalid time slice clock cycle

Reaction: NONE

Acknowledge: NONE

Cause: The time slice cycle selected does not match any of the existing time slices.
See also: p4723

Remedy: Input an existing time slice cycle. The existing time slices can be read out via p7901.
See also: r7901

202060 <location>Trace: Signal to be recorded is missing

Reaction: NONE

Acknowledge: NONE

Cause: - a signal to be traced was not specified.
- the specified signals are not valid.
See also: p4730, p4731, p4732, p4733

Remedy: - specify the signal to be traced.
- check whether the relevant signal can be traced.

202061 <location>Trace: Invalid signal

Reaction: NONE

Acknowledge: NONE

Cause: - the specified signal does not exist.
- the specified signal can no longer be traced (recorded).
See also: p4730, p4731, p4732, p4733

Remedy: - specify the signal to be traced.
- check whether the relevant signal can be traced.

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202062 <location>Trace: Trigger signal invalid

Reaction: NONE

Acknowledge: NONE

Cause: - a trigger signal was not specified.
- the specified signal does not exist.
- the specified signal is not a fixed-point signal.
- the specified signal cannot be used as trigger signal for the trace.
See also: p4711

Remedy: Specify a valid trigger signal.

202063 <location>Trace: Invalid data type

Reaction: NONE

Acknowledge: NONE

Cause: The specified data type to select a signal using a physical address is invalid.
See also: p4711, p4730, p4731, p4732, p4733

Remedy: Use a valid data type.

202070 <location>Trace: Parameter cannot be changed

Reaction: NONE

Acknowledge: NONE

Cause: The trace parameter settings cannot be changed when the trace is active.
See also: p4700, p4710, p4711, p4712, p4713, p4714, p4715, p4716, p4720, p4721, p4722, p4730, p4731, p4732, p4733, p4780, p4781, p4782, p4783, p4789, p4795

Remedy: - stop the trace before parameterization.
- if required, start the trace.

202075 <location>Trace: Pretrigger time too long

Reaction: NONE

Acknowledge: NONE

Cause: The selected pretrigger time must be shorter than the recording time.
See also: p4721, p4722

Remedy: Check the pretrigger time setting and change if necessary.

202099 <location>Trace: Insufficient memory

Reaction: NONE

Acknowledge: NONE

Cause: The memory space still available on the Control Unit is no longer sufficient for the trace function.

Remedy: Reduce the memory required, e.g. as follows:
- reduce the trace (record) time.
- increase the trace clock cycle.
- reduce the number of signals to be traced (recorded).
See also: r4708, r4799

202100 <location>CU: Computation deadtime current controller too low

Reaction: NONE

Acknowledge: NONE

Cause: The value in p0118 produces a dead time of one clock cycle because it lies before the setpoint becomes available. A possible cause could be, for example, that the system characteristics no longer match those parameterized after a component has been replaced.
Alarm value (r2134, floating point):
The minimum value for p0118 where a deadtime no longer occurs.

Remedy: - set p0118 to a value greater than or equal to the alarm value.
- set p0117 to an automatic setting.

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- check the firmware releases of the components involved.
See also: p0117, p0118

203500 <location>TM: Initialization

Reaction: OFF1 (OFF2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: When initializing the Terminal Modules, the terminals of the Control Unit or the Terminal Board 30, an internal software error has occurred.
Fault value (r0949, decimal):
The thousands location = 1 ... 3:
The component number (p0151) of the module involved is specified at the ones, tens and hundreds position.

Remedy: - power-down the power supply for the Control Unit and power-up again.
- check the DRIVE-CLiQ connection.
- if required, replace the Terminal Module.
The Terminal Module should be directly connected to a DRIVE-CLiQ socket of the Control Unit.
If the fault occurs again, replace the Terminal Module.

203501 <location>TM: Sampling time change

Reaction: NONE

Acknowledge: NONE

Cause: The sampling times of the inputs/outputs were changed.
This change only becomes valid after the next run-up

Remedy: Carry-out a Power On

203505 <location>TM: Analog input, wire breakage

Reaction: OFF1 (OFF2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The input current of the TM analog input has exceeded the threshold value parameterized in p4061[x].
This fault can only occur, if p4056[x] = 3 (4 ... 20 mA with monitoring) is set.
Index x = 0: Analog input 0 (X522.1 to .3)
Index x = 1: Analog input 1 (X522.4 to .5)
Fault value (r0949, decimal):
The component number (p0151) of the module involved is specified at the ones, tens and hundreds position.
The thousands position specifies the analog input involved: 0: Analog input 0 (AI 0), 1: Analog input 1 (AI 1)

Remedy: Check the connection to the signal source for interruptions.
Check the magnitude of the impressed current - it is possible that the impressed signal is too low.
Please note that the input has a load resistor of 250 Ohm.
The input current measured by the TM can be read-out of r4052[x].

203550 <location>TM: Speed setpoint filter natural frequency > Shannon frequency

Reaction: NONE

Acknowledge: NONE

Cause: The natural filter frequency of the speed setpoint filter (p1417) is greater than the Shannon frequency.
The Shannon frequency is calculated according to the following formula: 0.5 / p0115[0]
See also: p1417

Remedy: Reduce the natural frequency of the speed setpoint filter (PT2 low pass) (p1417).

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203590 <location>TM: Module not ready

Reaction: A_INFEED: OFF2 (NONE)
SERVO: NONE (DCBRAKE, ENCODER, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The Terminal Module involved does not send a ready signal and no valid cyclic data.
Fault value (r0949, decimal):
Drive object number.

Remedy: - check the 24 V power supply.
- check the DRIVE-CLiQ connection.

205000 <location>Power module: Overtemperature heatsink

Reaction: NONE

Acknowledge: NONE

Cause: The alarm threshold for overtemperature at the inverter heatsink has been reached. The response is set using p0290.
If the temperature of the heatsink increases by an additional 5 K, then fault F30004 is initiated.

Remedy: Check the following:
- is the ambient temperature within the defined limit values?
- have the load conditions and the load duty cycle been appropriately dimensioned?
- has the cooling failed?

205001 <location>Power module: Overtemperature chip

Reaction: NONE

Acknowledge: NONE

Cause: Alarm threshold for overtemperature of the power semiconductor in the AC converter has been reached. The response is set using p0290.
If the chip temperature increases by an additional 15 K, then fault F30025 is initiated.

Remedy: Check the following:
- is the ambient temperature within the defined limit values?
- have the load conditions and the load duty cycle been appropriately dimensioned?
- has the cooling failed?
- pulse frequency too high?
See also: r0037, p0290

205002 <location>Power module: Overtemp. air intake

Reaction: NONE

Acknowledge: NONE

Cause: The alarm threshold for the air intake overtemperature has been reached. The response is set using p0290.
If the air intake temperature increases by an additional 5 K, then fault F30035 is output.

Remedy: Check the following:
- is the ambient temperature within the defined limit values?
- has the fan failed? Check the direction of rotation.

205003 <location>Power module: Overtemperature electronics unit

Reaction: NONE

Acknowledge: NONE

Cause: The alarm threshold for the overtemperature of the electronics module has been reached. The response is set using p0290.
If the temperature of the electronics module increases by an additional 5 K, then fault F30036 is initiated.

Remedy: Check the following:
- is the ambient temperature within the defined limit values?
- has the fan failed? Check the direction of rotation.

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205004 <location>Power module: Overtemperature rectifier

Reaction: NONE

Acknowledge: NONE

Cause: The alarm threshold for the overtemperature of the rectifier has been reached. The response is set using p0290.
If the temperature of the rectifier increases by an additional 5 K, then fault F30037 is initiated.

Remedy: Check the following:
- is the ambient temperature within the defined limit values?
- have the load conditions and the load duty cycle been appropriately dimensioned?
- has the fan failed? Check the direction of rotation.
- has a phase of the line supply failed?
- is an arm of the supply (incoming) rectifier defective?

205005 <location>Cooling system: Cooling medium flow rate too low

Reaction: NONE

Acknowledge: NONE

Cause: Cooling system: Alarm - flow rate has fallen below the alarm value

Remedy:

205050 <location>Parallel circuit configuration: Pulse enable in spite of pulse inhibit

Reaction: OFF2 (NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause: A power module signals that the pulses are enabled although the pulses are inhibited.
Fault value (r0949, decimal):
Number of the power module involved.

Remedy: The power module is defective and must be replaced.

205051 <location>Parallel circuit configuration: Power module pulse enable missing

Reaction: OFF2 (NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause: For one or several power modules, the pulses were not able to be enabled.
Fault value (r0949, decimal):
Number of the power module involved.

Remedy: - acknowledge power module faults that are still present.
- inhibit the pulses of the power module involved (p7001).

205052 <location>Parallel circuit configuration: Impermissible current dissymmetry

Reaction: NONE

Acknowledge: NONE

Cause: The deviation of the individual currents of the power modules exceeds the alarm threshold specified in p7010.
Alarm value (r2124, decimal):
1: Phase U.
2: Phase V.
3. Phase W.

Remedy: - inhibit the pulses of the faulted power module (p7001).
- check the connecting cables. Loose contacts can cause current spikes.
- the motor reactors are non-symmetrical or faulty and must be replaced.
- the CTs must be calibrated or replaced.

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205053 <location>Parallel circuit configuration: Inadmissible DC link voltage dissymmetry

Reaction: NONE

Acknowledge: NONE

Cause: The deviation of the DC link voltage measured values exceeds the alarm threshold specified in p7011.

Remedy: - inhibit the pulses of the faulted power module (p7001).
- check the DC link connecting cables.
- the DC link voltage measurement is incorrect and must be calibrated or renewed.

205055 <location>Parallel circuit configuration: Power modules with different code numbers

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The code numbers of the power modules do not match.
Fault value (r0949, decimal):
Parameter in which the first different power module code number was detected.

Remedy: For parallel circuit configurations, only power modules with identical power module data may be used.

205056 <location>Parallel circuit configuration: Power module EPROM versions differ

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The EEPROM versions of the power modules do not match.
Fault value (r0949, decimal):
Parameter in which the first different version number was detected.

Remedy: For parallel circuit configurations, only power modules with identical EEPROM versions may be used.

205057 <location>Parallel circuit configuration: Power module firmware versions differ

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The firmware versions of the power modules connected in parallel do not match.
Fault value (r0949, decimal):
Parameter in which the first different version number was detected.

Remedy: For parallel circuit configurations, only power modules with identical firmware versions may be used.

205058 <location>Parallel circuit configuration: VSM EEPROM versions differ

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The EEPROM versions of the Voltage Sensing Modules (VSM) do not match.
Fault value (r0949, decimal):
Parameter in which the first different version number was detected.

Remedy: For parallel circuit configurations, only Voltage Sensing Modules (VSM) with identical EEPROM versions may be used.

205059 <location>Parallel circuit configuration: VSM firmware versions differ

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The firmware versions of the Voltage Sensing Modules (VSM) do not match.
Fault value (r0949, decimal):
Parameter in which the first different version number was detected.

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Remedy: For parallel circuit configurations, only Voltage Sensing Modules (VSM) with identical firmware versions may be used.

205060 <location>Parallel circuit configuration: Power module firmware version does not match

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: Firmware from version V02.30.01.00 is required when connecting the power modules in parallel.

Remedy: Update the firmware of the power modules (at least V02.30.01.00).

205061 <location>Parallel infeed circuit, number of VSM

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: For closed-loop controlled chassis line supply infeeds: The number of connected and active Voltage Sensing Modules (VSM) does not match the number of power modules (connected in parallel).
Fault value (r0949, decimal):
Number of VSMs that are currently assigned to the drive object.

Remedy: Adapt the number of VSMs.

206000 <location>Infeed: Precharging monitoring time expired

Reaction: OFF2 (OFF1)

Acknowledge: IMMEDIATELY

Cause: After the line contactor closes the power module does not signal the READY state within the monitoring time (p0857).
The end of the DC link pre-charging was not detected due to one of the following reasons:
- there is not line supply voltage.
- the line contactor is not closed.
- the line supply voltage is too low.
- the power module has detected an internal fault.
- there is a DC link short-circuit.
- the DC link has a ground fault.
- the pre-charging resistors are overheated as there were too many pre-charging operations per time unit.
- the pre-charging resistors are overheated as the DC link capacitance is too high (max. 20 mF).
- line supply voltage incorrectly set.
See also: p0857

Remedy:
- check the line supply voltage
- check or energize the line contactor.
- check and if required increase the monitoring time p0857.
- if relevant, carefully note additional power module fault messages.
- check the DC link regarding short-circuit or ground fault.
- wait until the pre-charging resistors have cooled down.
- reduce the DC link capacitance by removing the power modules or supplementary modules.
- check the line supply voltage setting (p0210).

206010 <location>Infeed: Power module EP 24 V missing in operation

Reaction: OFF2 (OFF1)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: In operation, withdraw the pulse enable at terminal EP at the Line Module (X21.3, X21.4).

Remedy:
- do not open the line breaker in operation - only when the pulses are inhibited.
- check the wiring of the DP input (X21.3, X21.4) at the Line Module to exclude any poor contacts.

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206050 <location>Infeed: Smart mode is not supported

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The power module does not support the smart mode.

Remedy: - set the sampling time p0115[0] >= 250 µs by setting the sampling time default (p0112) to the default value.
- de-activate the smart mode with p3400 and supply voltage p0210 <= 415 V.
- upgrade the power module software and/or hardware for the smart mode (r0192).
See also: r0192

206100 <location>Infeed: Shutdown due to line undervoltage condition

Reaction: OFF2 (OFF1)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The filtered (steady-state) value of the line supply voltage is less than the fault threshold (p0283).
Alarm condition: Vrms < p0283 * p0210.
Fault value (r0949, floating point):
Actual steady-state line supply voltage.
See also: p0283

Remedy: - check the line supply.
- check the line supply voltage (p0210).
- check the fault threshold (p0283).

206105 <location>Infeed: Line undervoltage

Reaction: NONE

Acknowledge: NONE

Cause: The filtered (steady-state) value of line supply voltage is lower than the alarm threshold (p0282).
Alarm condition: Vrms < p0282 * p0210.
Alarm value (r2124, floating point):
Actual steady-state line supply voltage.
See also: p0282

Remedy: - check the line supply.
- check the line supply voltage (p0210).
- check the alarm threshold (p0282).

206200 <location>Infeed: Failure of one or several line phases

Reaction: OFF2 (OFF1)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: Failure of one or several line phases.
The fault can be output in two operating states:
1. During the power-on phase of the infeed unit.
The measured line supply angle deviates from the regular characteristic for a 3-phase system - the PLL cannot be synchronized.
2. While the infeed is operational.
After a voltage dip has been detected (A06205) in one or several line phases a fault occurred within 100 ms (also refer to other relevant messages).
Probable causes of the fault:
- voltage dip on the line side or phase phase failure lasting longer than 10 ms.
- overload condition on the load side with peak current.
- commutating reactor missing.

Remedy: - check the line supply and fuses.
- check the connection and size (rating) of the line commutating reactor.
- check the load.
See also: p3463

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206205 <location>Infeed: Voltage dip in at least one line supply phase

Reaction: NONE

Acknowledge: NONE

Cause: Voltage dip or overvoltage in one or several line supply phases has been detected in operation.
The pulses are then cancelled for 10 ms. The ready signal of the infeed unit in r0863.0 remains and the pulse inhibit due to the phase failure is displayed in r3405.2.
Alarm value (r2124, decimal):
Internal fault type of the line angle characteristic.

Remedy: - check the line supply and fuses.
- check the line supply quality and system fault level.
- check the load.
See also: r3405, p3463

206210 <location>Infeed: Summed current too high

Reaction: OFF2 (OFF1)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: Smoothed sum of the phase currents (i1 + i2 + i3) greater than 4 % of the maximum power module current (r0209).
Possible causes:
- the DC link has a ground fault that results in a high summed current (r0069.6). The DC component in the line currents can damage/destroy the power module, commutating reactor or line filter!
- the zero point calibration of the current measurement was not carried-out (p3491, A06602).
- defective current measurement in the power module.
Fault value (r0949, floating point):
Smoothed sum of the phase currents.

Remedy: - check the DC link for a low-ohmic or high-ohmic ground fault and if one is present, remove.
- increase the monitoring time of the current-offset measurement (p3491).
- if required, replace the power module.

206215 <location>Infeed: Summed current high

Reaction: NONE

Acknowledge: NONE

Cause: Smoothed sum of the phase currents (i1 + i2 + i3) greater than 3 % of the maximum power module current (r0209).
Possible causes:
- the DC link has a ground fault that results in a high summed current (r0069.6). The DC component in the line currents can damage/destroy the power module, commutating reactor or line filter!
- the zero point calibration of the current measurement was not carried-out (p3491, A06602).
- defective current measurement in the power module.
Alarm value (r2124, floating point):
Smoothed sum of the phase currents.

Remedy: - check the DC link for a low-ohmic or high-ohmic ground fault and if one is present, remove.
- increase the monitoring time of the current-offset measurement (p3491).
- if required, replace the power module.

206250 <location>Infeed: Defective capacitor(s) in at least one phase of line filter

Reaction: NONE

Acknowledge: NONE

Cause: A change in the line filter capacitance was detected in at least line phase.

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The voltages and phase currents of the line filter, measured using a Voltage Sensing Module (VSM), indicated a deviation of the filter capacitances from the value parameterized in p0221.
A change or a defect of the line filter capacitors results in a shift of the resonant frequencies and can result in severe damage to the drive system.
Alarm value (r2124, floating point):
The calculated actual capacitance in µF (rounded-off to an integer number).
The 1st decimal point specifies the number of the phase (1, 2, 3) where the capacitance deviates from the specified value.

Remedy: - check the parameterized value of the filter capacitance (p0221).
- check the correct wiring of the Voltage Sensing Module (VSM):
Differential voltages u12 and u23 must be present at the 100 V/690 V inputs of the VSM; the phase currents of the line filter must be connected to the 10 V inputs through a current - voltage converter.
- check the alarm limits for the permissible filter capacitance deviation (p3676).
- check the normalization of the line supply voltage measurement using the VSM (p3660).
- check the normalization of the filter current measurement using the VSM (p3670).
- check the line filter capacitors and if required, replace the line filter.
See also: p0221, p3660, p3670, p3676

206300 <location>Infeed: Line voltage too high at power on

Reaction: OFF2 (NONE, OFF1)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The RMS line supply voltage Vrms was so high when powering-up that controlled operation is not possible without exceeding the permissible maximum voltage in the DC link (p0280).
Fault condition: Vrms * 1.5 > p0280.
Fault value (r0949, floating point):
Lowest possible controlled DC link voltage for the line supply voltage presently connected.
See also: p0280

Remedy: - check the line supply voltage
- check the maximum DC link voltage and if required, increase (p0280).
- check the line supply voltage and compare with the actual line supply voltage (p0210).
- check whether the power module is dimensioned for the line supply voltage actually being used.
See also: p0210, p0280

206301 <location>Infeed: Line overvoltage

Reaction: NONE

Acknowledge: NONE

Cause: The filtered (steady-state) value of the rms line supply voltage Vrms is higher than the alarm threshold (p0281).
Alarm condition: Vrms < p0281 * p0210.
Alarm value (r2124, floating point):
Actual steady-state line supply voltage.
See also: p0281

Remedy: - check the line supply.
- check the line supply voltage (p0210).
- check the alarm threshold (p0281).
See also: p0210, p0281

206310 <location>Infeed: Supply voltage (p0210) incorrectly parameterized

Reaction: NONE (OFF1, OFF2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: After pre-charging was completed, the line supply voltage Vrms was calculated using the measured DC link voltage. This voltage Vrms is not within the tolerance range of the supply voltage.

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The following applies for the tolerance range: 85 % * p0210 < Vrms < 110 % * p0210.
Alarm value (r2124, floating point):
Line supply voltage Vrms present.
See also: p0210

Remedy: - check the parameterized supply voltage and if required change (p0210).
- check the line supply voltage.
See also: p0210

206350 <location>Infeed: Measured line frequency too high

Reaction: NONE

Acknowledge: NONE

Cause: The actual line frequency f_line is higher than the parameterized alarm threshold (f_line > p0211 * p0284).
The alarm can be output in two operating states:
1. During the power-on phase of the infeed unit.
Consequence:
Synchronization of the infeed to the line supply is interrupted and is restarted.
2. While the infeed is operational.
Consequence:
The infeed remains in the operating (run) state and alarm A6350 is output. This signifies a critical operational fault.
Alarm value (r2124, floating point):
Actual line frequency determined.
See also: p0284

Remedy: - check the parameterized line frequency and if required change (p0211).
- check the alarm threshold (p0284).
- check the line supply.
- check the line supply quality.
See also: p0211, p0284

206351 <location>Infeed: Measured line supply frequency too low

Reaction: NONE

Acknowledge: NONE

Cause: The actual line frequency f_line is lower than the parameterized alarm threshold (f_line < p0211 * p0285).
The alarm can be output in two operating states:
1. During the power-on phase of the infeed unit.
Consequence:
Synchronization of the infeed to the line supply is interrupted and is restarted.
2. While the infeed is operational.
Consequence:
The infeed remains in the operating (run) state and alarm A6351 is output. This signifies a critical operational fault.
Alarm value (r2124, floating point):
Actual line frequency determined.
See also: p0285

Remedy: - check the parameterized line frequency and if required change (p0211).
- check the alarm threshold (p0285).
- check the line supply.
- check the line supply quality.
See also: p0211, p0285

206400 <location>Infeed: Line supply data identification selected/active

Reaction: NONE

Acknowledge: NONE

Cause: Line supply data identification selected/active.
The line inductance and the DC link capacitance are measured at the next pulse enable.

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See also: p3410

Remedy: No remedial action required.

206500 <location>Infeed: Line synchronization not possible

Reaction: OFF2 (OFF1)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The line synchronization is not possible within the monitoring time.
The infeed was re-synchronized to the line supply because it was interrupted due to a line frequency that was determined to be either too low or too high.
After 20 attempts, synchronization - and therefore also the power-on operation - were interrupted.

Remedy: - check the parameterized line frequency and if required change (p0211).
- check the fault thresholds (p0284, p0285).
- check the line supply.
- check the line supply quality.
See also: p0211, p0284, p0285

206601 <location>Infeed: Current offset measurement interrupted

Reaction: NONE

Acknowledge: NONE

Cause: Defective current measurement or a DC current is present during the offset measurement.
Alarm value (r2124, decimal):
1: Excessively high phase current has occurred during the current-offset calibration.
2: The measured current - offset is greater than the 3% of the maximum permissible converter current (e.g. due to a ground fault in the DC link).

Remedy: Re alarm value = 1:
- possible counter-measure if there is no line contactor: Switch-in the line supply for a sufficiently long time before OFF1 = 1.
Re alarm value = 2:
- defective current measurement or a DC current is present during the offset measurement.
- check the DC link for a ground fault.

206602 <location>Infeed: Current offset measurement not possible

Reaction: NONE

Acknowledge: NONE

Cause: After an OFF1 = 1 no valid current offset measurement was able to be made within the monitoring time (p3491) before closing the line contactor.
The phase current measurement calibration is interrupted. The current offset is set to 0.
See also: p3491

Remedy: - check the DC link for a ground fault. A ground fault can destroy parts and components!
- Check the monitoring time setting and if required increase (p3491). At least 100 ms are required for the current calibration (p3491 > 100 ms).
Notice:
If the current measurement is not calibrated, then under certain circumstances, the quality of the DC link control will be reduced.
See also: p3491

206800 <location>Infeed: Maximum steady-state DC link voltage reached

Reaction: NONE

Acknowledge: NONE

Cause: The DC link voltage setpoint has reached the maximum steady-state voltage parameterized in p0280.
The DC link voltage is increased by the modulation depth reserve controller for the following reasons:
- modulation depth reserve is too low (p3480).
- line supply voltage is too high.

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- supply voltage (p0210) parameterized to be too low.
- excessively high setpoint for the reactive line current.

Remedy:
- check the line supply voltage setting (p0210).
- check the line supply for an overvoltage condition.
- reduce the modulation depth reserve (p3480).
- reduce the reactive current setpoint.

See also: p0210, p0280, p3480

207011 <location>Drive: Motor overtemperature

Reaction: OFF2 (NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause:
KTY:
The motor temperature has exceeded the fault threshold (p0605) or the timer stage (p0606) after the alarm threshold was exceeded (p0604) has expired.
VECTOR: The response parameterized in p0610 becomes active.
PTC:
The response threshold of 1650 Ohm was exceeded and the timer stage (p0606) has expired.
VECTOR: The response parameterized in p0610 becomes active.
Possible causes:
- motor is overloaded.
- motor ambient temperature too high.

See also: p0604, p0605, p0606

Remedy:
- reduce the motor load.
- check the ambient temperature.

See also: p0604, p0605, p0606

207015 <location>Drive: Motor temperature sensor fault, alarm

Reaction: NONE

Acknowledge: NONE

Cause:
An error was detected when evaluating the temperature sensor set in p0600 and p0601. With the fault, the time in p0607 is started. If the fault is still present after this time has expired, then fault F07016 is output; however, at the earliest, 1 s after alarm A07015.
Possible causes:
- wire breakage or sensor not connected (KTY: R > 1630 Ohm).
- measured resistance too low (PTC: R < 30 Ohm, KTY: R < 340 Ohm).

Note:
For induction motors, the model value is selected for the temperature monitoring.
For synchronous motors, the temperature monitoring is disabled and the ambient temperature is displayed in r0035.

Remedy:
- check that the sensor is connected correctly.
- check the parameterization (p0600, p0601).

See also: p0600, p0601, p0607

207016 <location>Drive: Motor temperature sensor fault, fault

Reaction: OFF1 (NONE, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause:
An error was detected when evaluating the temperature sensor set in p0600 and p0601.
Possible causes:
- wire breakage or sensor not connected (KTY: R > 1630 Ohm).
- measured resistance too low (PTC: R < 30 Ohm, KTY: R < 340 Ohm).

Note:
For induction motors, the model value is selected for the temperature monitoring.
For synchronous motors, the temperature monitoring is disabled and the ambient temperature is displayed in r0035.

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If alarm A07015 is present, the time in p0607 is started. If the fault is still present after this time has expired, then fault F07016 is output; however, at the earliest, 1 s after alarm A07015.
See also: p0607

Remedy: - check that the sensor is connected correctly.
- check the parameterization (p0600, p0601).
- induction motors: Deactivate temperature sensor fault (p0607 = 0).
See also: p0600, p0601, p0607

207080 <location>Drive: Incorrect control parameter

Reaction: NONE

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The closed-loop control parameters have been parameterized incorrectly (e.g. p0356 = L_spread = 0).
Fault value (r0949, decimal):
The fault value includes the parameter number involved.
The following parameter numbers only occur as fault values for vector drives:
p0310, for synchronous motors: p0341, p0344, p0350, p0357
The following parameter numbers do not occur as fault values for synchronous motors:
p0354, p0358, p0360
See also: p0310, p0311, p0341, p0344, p0350, p0354, p0356, p0358, p0360, p0400, p0640, p1082, p1300

Remedy: Modify the parameter indicated in the fault value (r0949) (e.g. p0640 = current limit > 0).
See also: p0311, p0341, p0344, p0350, p0354, p0356, p0358, p0360, p0400, p0640, p1082

207082 <location>Macro: Execution not possible

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The macro cannot be executed.
Fault value (r0949, hexadecimal):
The fault code is in byte 1, possibly supplementary information is in byte 2 and the high word contains the parameter number involved if this is available.
Fault codes:
Fault for the trigger parameter itself:
-20 called file is not valid for parameter 15
-21 called file is not valid for parameter 700
-22 called file is not valid for parameter 1000
-23 called file is not valid for parameter 1500
-24 data type of a TAG is incorrect (e.g.: Index, number or bit is not U16)
Faults for the parameters to be set:
-25 error level has an undefined value
-26 mode has an undefined value
-27 a value was entered as string in the tag value that is not "DEFAULT"
-31 entered DO type unknown
-32 a device was not able to be found for the determined DO number
-34 a trigger parameter was recursively called
-35 it is not permissible to write to the parameter via macro
-36 check, writing to a parameter unsuccessful, parameter can only be read, not available, incorrect data type, value range or assignment incorrect
-37 source parameter for a BICO connection was not able to be determined
-38 an index was set for a non-indexed parameter
-39 no index was set for an indexed parameter
-41 a bit operation is only permissible for parameters with the parameter format DISPLAY_BIN
-42 a value not equal to 0 or 1 was set for a bit operation
-43 reading the parameter to be changed by the bit operation was unsuccessful

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-51 factory setting for DEVICE may only be executed on the DEVICE
-61 the setting of a value was unsuccessful

Remedy: - check the parameter involved.
- check the macro file and BICO interconnection.
See also: p0015, p0700, p1000, p1500

207083 <location>Macro: ACX file not found

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The ACX file (PM file) to be executed was not able to be found in the appropriate directory.
Fault value (r0949, decimal):
Parameter number with which the execution was started.
See also: p0015, p0700, p1000, p1500

Remedy: - check whether the file is saved in the appropriate directory on the CompactFlash card.
Example:
If p0015 = 1501 is set to 1501, then the selected ACX file must be located in the following directory:
... /PMACRO/DEVICE/P15/PM001501.ACX

207084 <location>Macro: Condition for WaitUntil not fulfilled

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The wait condition set in the macro was not fulfilled in a certain number attempts.
Fault value (r0949, decimal):
Parameter number for which the condition was set.

Remedy: Check and correct the conditions for the WaitUntil loop.

207085 <location>Drive: Open-loop/closed-loop control parameters changed

Reaction: NONE

Acknowledge: IMMEDIATELY (POWER ON)

Cause: Parameters of the open-loop/closed-loop control had to be changed as they exceeded dynamic limits as a result of other parameters.
Fault value (r0949, decimal):
The fault value includes the modified parameter number.
See also: p0640, p1082, p1300, p1800

Remedy: It is not necessary to change the parameters as they have already been correctly limited.

207090 <location>Drive: Upper torque limit less than the lower torque limit

Reaction: OFF2 (NONE, OFF1, OFF3)

Acknowledge: IMMEDIATELY

Cause: The upper torque limit is lower than the lower torque limit.

Remedy: P1 must be >= P2 if parameter P1 is connected to p1522 and parameter P2 to p1523.

207100 <location>Drive: Sampling times cannot be reset

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: When resetting drive parameter (p0976) sampling times cannot be reset using p0111, p0112, p0115.
Fault value (r0949, decimal):
Parameter whose setting prevents the sampling times being reset.
See also: p0110

Remedy: - continue to work with the set sampling times.
- before resetting the drive parameters, set the basic clock cycle p0110[0] to the original value.
See also: p0110

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207110 <location>Drive: Sampling time and basic clock cycle do not match

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The parameterized sampling times do not match the basic clock cycle.
Fault value (r0949, decimal):
The fault value specifies the parameter involved.
See also: p0110, p0111, p0115

Remedy: Enter the current controller sampling times so that they are identical to the basic clock cycle, e.g. by selecting p0112. Note which basic clock cycle is selected in p0111.
The sampling times in p0115 can only be changed manually in the sampling times preset "Expert" (p0112).
See also: p0110, p0111, p0112, p0115

207111 <location>Drive: POWER ON due to sampling times

Reaction: OFF2 (DCBRAKE, OFF1)

Acknowledge: POWER ON

Cause: It is not possible to change the sampling times p0112, p0115 in operation. POWER ON is required.
Fault value (r0949, decimal):
The fault value specifies the parameter involved.

Remedy: - save (p0009 = 0 and p0977 = 1).
- carry-out a POWER ON.

207200 <location>Drive: Master control ON/OFF1 command present

Reaction: NONE

Acknowledge: NONE

Cause: The ON/OFF1 command is not 0, either via binector input p0840 (current CDS) or in control word p3982 bit 0.

Remedy: The signal at binector input p0840 (actual CDS) as well as p3982 bit 0 must be 0.

207210 <location>Master control PC/AOP inhibited

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The transfer of master control is disabled via binector input p3985.

Remedy: Change the signal via binector input p3985.

207220 <location>Drive: Master control by PLC withdrawn in operation

Reaction: OFF1 (NONE, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause: The "control by PLC" signal was withdrawn in operation.
- interconnection of the binector input for "control by PLC" is incorrect (p0854).
- the higher-level control has withdrawn the "control by PLC" signal in operation.
- data transfer via the fieldbus (master - drive) was interrupted in operation.

Remedy: - check the interconnection of the binector input for "control by PLC" (p0854).
- check the "control by PLC" signal and, if required, switch-in.
- check the data transfer via the fieldbus (master - drive).
Note:
If the drive should continue to operate after withdrawing "control by PLC" then fault response must be parameterized to NONE.

207300 <location>Drive: Line contactor feedback signal missing

Reaction: OFF2 (NONE)

Acknowledge: IMMEDIATELY

Cause: - the line contactor was not able to be closed within the time in p0861.
- the line contactor was not able to be opened within the time in p0861.

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- the line contactor has dropped-out in operation.
- the line contactor has closed although the drive converter is powered-down.

Remedy:
- check the setting of p0860.
- check the feedback circuit from the line contactor.
- increase the monitoring time in p0861.

See also: p0860, p0861

207350 <location>Drive: Measuring probe parameterized to a digital output

Reaction: NONE

Acknowledge: NONE

Cause: The measuring probe is connected to a bi-directional digital input/output and the terminal is set as output.
Alarm value (r2124, decimal):
9: DI/DO 9 (X122.8)
10: DI/DO 10 (X122.10)
11: DI/DO 11 (X122.11)
13: DI/DO 13 (X132.8)
14: DI/DO 14 (X132.10)
15: DI/DO 15 (X132.11)

Remedy:
- set the terminal as input (p0728).
- de-select the measuring probe (p0488, p0489, p0580).

207400 <location>Drive: DC link voltage maximum controller active

Reaction: NONE

Acknowledge: NONE

Cause: The DC link voltage controller has been activated because the upper switch-in threshold has been exceeded (r1242).
The ramp-down times are automatically increased in order to maintain the DC link voltage (r0026) within the permissible limits. There is a system deviation between the setpoint and actual speeds.
When the DC link voltage controller is switched-out (disabled), this is the reason that the ramp-function generator output is set to the speed actual value.
See also: p1240

Remedy: If the controller is not to intervene:
- increase the ramp-down times.
- disable the Vdc max controller

If the ramp-down times are not to be changed:
- use a chopper or regenerative feedback unit

207402 <location>Drive: DC link voltage minimum controller active

Reaction: NONE

Acknowledge: NONE

Cause: The DC link voltage controller has been activated as the lower switch-in threshold has been fallen below (r1246).
The kinetic energy of the motor is used in order to buffer the DC link. This brakes the drive.
See also: p1240

Remedy: The alarm disappears when power supply returns.

207403 <location>Drive: Lower DC link voltage threshold reached

Reaction: OFF1 (NONE, OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: The DC link voltage monitoring is active (p1240 = 2, 3) and the lower DC link voltage threshold (p1248) was reached in the "Operation" state.

Remedy:
- check the line supply voltage.
- check the infeed module
- reduce the lower DC link threshold (p1248).

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- switch-out (disable) the DC link voltage monitoring (p1240 = 0).

207404 <location>Drive: Upper DC link voltage threshold reached

Reaction: OFF2 (NONE, OFF1, OFF3)

Acknowledge: IMMEDIATELY

Cause: The DC link voltage monitoring is active (p1240 = 1, 3) and the upper DC link voltage threshold (p1244) was reached in the "Operation" state.

Remedy:
- check the line supply voltage.
- check the infeed module or the Braking Module.
- increase the upper DC link voltage threshold (p1244).
- switch-out (disable) the DC link voltage monitoring (p1240 = 0).

207410 <location>Drive: Current controller output limited

Reaction: OFF2 (NONE, OFF1)

Acknowledge: IMMEDIATELY

Cause: The condition "I_act = 0 and Uq_set_1 longer than 16 ms at its limit" is present and can be caused by the following:
- motor not connected or motor contactor open.
- no DC link voltage present.
- Motor Module defective.
- the "flying restart" function is not activated.

Remedy:
- connect the motor or check the motor contactor.
- check the DC link voltage (r0070).
- check the Motor Module.
- activate the "flying restart" function (p1200).

207411 <location>Drive: Flux controller output limited

Reaction: OFF2 (NONE, OFF1)

Acknowledge: IMMEDIATELY

Cause: The specified flux setpoint cannot be reached although 90% of the maximum current has been specified.
- incorrect motor data.
- motor data and motor configuration (star/delta) do not match.
- the current limit has been set too low for the motor.
- induction motor (sensorless, open-loop controlled) in I2t limiting.
- the Motor Module is too small.

Remedy:
- correct the motor data.
- check the motor configuration.
- correct the current limits (p0640, p0323).
- reduce the induction motor load.
- if required, use a larger Motor Module.

207412 <location>Drive: Commutation angle incorrect (motor model)

Reaction: ENCODER (NONE, OFF2)

Acknowledge: IMMEDIATELY

Cause: An incorrect commutation angle was detected, that can result in a positive coupling in the speed controller. The comparison of the pole position angle from the encoder and the motor model resulted in an excessively high value (> 80 ° electrical).
- the motor encoder is incorrectly adjusted with respect to the magnet position.
- the motor encoder is damaged.
- the angular commutation offset is incorrectly set (p0431).
- data to calculate the motor model has been incorrectly set (p0356 (motor-stator leakage inductance) and/or p0350 (motor-stator resistance) and/or p0352 (cable resistance).
- the changeover speed for the motor model is too low (p1752). The monitoring function only becomes effective above the changeover speed.

Remedy:
- if the encoder mounting was changed - re-adjust the encoder.

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- replace the defective motor encoder.
- correctly set the angular commutation offset (p0431).
- correctly set the motor stator leakage inductance, motor-stator resistance and cable resistance (p0356, p0350, p0352).
- increase the changeover speed for the motor model (p1752).

207413 <location>Drive: Commutation angle incorrect (pole position identification)

Reaction: OFF2 (ENCODER, NONE)

Acknowledge: IMMEDIATELY

Cause: An incorrect commutation angle was detected, that can result in a positive coupling in the speed controller.
- within the pole position identification routine (p1982 = 2):
A difference of > 45° electrical to the encoder angle was determined.
- for VECTOR, within the encoder adjustment (p1990 = 2):
A difference of > 6 ° electrical to the encoder angle was determined.

Remedy: - correctly set the angular commutation offset (p0431).
- re-adjust the motor encoder after the encoder has been replaced.
- replace the defective motor encoder.
- check the pole position identification routine. If the pole position identification routine is not suitable for this motor type, then disable the plausibility check (p1982 = 0).

207414 <location>Drive: Encoder serial number changed

Reaction: ENCODER (NONE, OFF2)

Acknowledge: IMMEDIATELY

Cause: The serial number of the motor encoder of a synchronous motor has changed. The change was only checked for encoders with serial number (e.g. EnDat encoders) and build-in motors (e.g. p300 = 401) or third-party motors (p0300 = 2).
Cause 1:
The motor with integrated and adjusted encoder was replaced.
Cause 2:
The encoder was replaced.
Cause 3:
A third-party, build-in or linear motor was re-commissioned.
Cause 4:
The firmware was updated to a version that checks the encoder serial number.

Remedy: Re causes 1, 4:
Accept the new serial number with p0440 = 1.
Re causes 2, 3:
Carry-out an automatic adjustment using the pole position identification routine. First, accept the serial number with p0440 = 1. Acknowledge the fault. Initiate the pole position identification routine with p1990 = 1. Then check that the pole position identification routine is correctly executed.
SERVO: If a pole position identification technique is selected in p1980, and if p0301 does not contain a motor type with an encoder adjusted in the factory, then p1990 is automatically activated.
or
Set the adjustment using parameter p0431. In this case, the new serial number is automatically accepted.
or
Mechanically adjust the encoder. Accept the new serial number with p0440 = 1.

207415 <location>Drive: Angular commutation offset transfer running

Reaction: OFF2

Acknowledge: NONE

Cause: The angular commutation offset was automatically determined using p1990 = 1.

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This fault causes the pulses to be cancelled - this is necessary to transfer the angular commutation offset to p0431.
See also: p1990

Remedy: The fault can be acknowledged without any additional measures.

207420 <location>Drive: Current setpoint filter natural frequency > Shannon frequency

Reaction: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: One of the filter natural frequencies is greater than the Shannon frequency.
The Shannon frequency is calculated according to the following formula: 0.5 / p0115[0]
Fault value (r0949, hexadecimal):
Bit 0: Filter 1 (p1658, p1660)
Bit 1: Filter 2 (p1663, p1665)
Bit 2: Filter 3 (p1668, p1670)
Bit 3: Filter 4 (p1673, p1675)

Remedy: - reduce the numerator or denominator natural frequency of the current setpoint filter involved.
- reduce the current controller sampling time (p0115[0]).
- switch-out the filter involved (p1656).

207421 <location>Drive: Speed setpoint filter natural frequency > Shannon frequency

Reaction: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: One of the filter natural frequencies is greater than the Shannon frequency.
The Shannon frequency is calculated according to the following formula: 0.5 / p0115[1]
Fault value (r0949, hexadecimal):
Bit 0: Filter 1 (p1417, p1419)
Bit 1: Filter 2 (p1423, p1425)
Bit 8 ... 15: Data set number (starting from zero).

Remedy: - reduce the numerator or denominator natural frequency of the speed setpoint filter involved.
- reduce the speed controller sampling time (p0115[1]).
- switch-out the filter involved (p1414).

207422 <location>Drive: Reference model natural frequency > Shannon frequency

Reaction: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The natural filter frequency of the PT2 element for the reference model (p1433) is greater than the Shannon frequency.
The Shannon frequency is calculated according to the following formula: 0.5 / p0115[1]

Remedy: - reduce the natural frequency of PT2 element for reference model (p1433).
- reduce the speed controller sampling time (p0115[1]).

207430 <location>Drive: Changeover to open-loop torque controlled operation not possible

Reaction: OFF2 (NONE, OFF1, OFF3)

Acknowledge: IMMEDIATELY

Cause: For sensorless operation, the converter cannot change over to closed-loop torque-controlled operation (BI: p1501).

Remedy: Do not attempt to cover over to closed-loop torque-controlled operation.

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207431 **<location>Drive: Changeover to sensorless operation not possible**

Reaction: OFF2 (OFF1)

Acknowledge: IMMEDIATELY

Cause: For closed-loop torque control, the converter cannot change over to sensorless operation (p1404).

Remedy: Do not attempt to change over to sensorless operation.

207432 **<location>Drive: Synchronous motor without overvoltage protection**

Reaction: OFF2 (OFF1)

Acknowledge: IMMEDIATELY

Cause: Under voltage conditions, a synchronous motor can generate an overvoltage condition that can destroy the drive system.
Fault value (r0949, hexadecimal):
Associated Drive Data Set (DDS).

Remedy: Overvoltage protection can be implemented in the following ways:
- limit the maximum speed (p1082) without any additional protection.
The maximum speed without protection is calculated as follows:
p1082[RPM] <= 9590/p0316[Nm/A] for rotating motors, and
p1082[m/min] <= 60257.45/p0316[N/A] for linear motors.
- use a voltage protection module (VPM) in conjunction with the function "safe standstill" (p9601, p9801).
When a fault condition exists, the VPM short-circuits the motors. During the short-circuit, the pulses must be cancelled - this means that the terminals for the safe standstill must be connected to the VPM.
When using a VPM, p0643 must be set to 1.
See also: p0643

207433 **<location>Drive: Closed-loop control with encoder is not possible as the encoder has not been unparked**

Reaction: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: The changeover to closed-loop control with encoder is not possible as the encoder has not been unparked.

Remedy: Check whether the encoder firmware supports the parking/unparking function (r481.6=1).
Upgrade the firmware.
For long-stator motors (p3870.0=1):
The encoder must have complete the unparking procedure (r3875.0=1) before a changeover can be made to closed-loop control with encoder. The encoder is unparked using a 0/1 edge at BI: p3876 and remains unparked until the signal returns to 0.

207500 **<location>Drive: Power module data set PDS not configured**

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: Only for controlled line supply infeed/regenerative feedback units:
The power module data set was not configured - this means that a data set number was not entered into the drive data set.
Fault value (r0949, decimal):
Drive data set number of p0185.

Remedy: The index of the power module data set associated with the drive data set should be entered into p0185.

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207501 <location>Drive: Motor Data Set MDS not configured

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: Only for power modules:
The motor data set was not configured - this means that a data set number was not entered into the associated drive data set.
Fault value (r0949, decimal):
The fault value includes the drive data set number of p0186.

Remedy: The index of the motor data set associated with the drive data set should be entered into p0186.

207502 <location>Drive: Encoder Data Set EDS not configured

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: Only for power modules:
The encoder data set was not configured - this means that a data set number was not entered into the associated drive data set.
Fault value (r0949, decimal):
The fault value includes the drive data set number of p0187, p0188 and p0189.
The fault value is increased by 100 * encoder number (e.g. for p0189: Fault value 3xx with xx = data set number).

Remedy: The index of the encoder data set associated with the drive data set should be entered into p0187 (1st encoder), p0188 (2nd encoder) and p0189 (3rd encoder).

207504 <location>Drive: Motor data set is not assigned to a drive data set

Reaction: NONE

Acknowledge: NONE

Cause: A motor data set is not assigned to a drive object.
All of the existing motor data sets in the drive data sets must be assigned using the MDS number (p0186[0...n]).
Alarm value (r2124, decimal):
Number of the motor data set that has not been assigned.
See also: p0186

Remedy: In the drive data sets, assign the non-assigned motor data set using the MDS number (p0186[0...n]).

207510 <location>Drive: Identical encoder in the drive data set

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: More than one encoder with identical component number is assigned to a single drive data set. In one drive data set, it is not permissible that identical encoders are operated together.
Fault value (r0949, decimal):
1000*first identical encoder + 100*second identical encoder + drive data set.
Example:
Fault value = 1203 means:
In drive data set 3, the first (refer to p0187[3]) and second encoder (refer to p0188[3]) are identical.
See also: p0141, p0187, p0188, p0189

Remedy: Assign the drive data set to different encoders.
See also: p0141, p0187, p0188, p0189

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207511 <location>Drive: Enc. used multiple

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: Each encoder may only be assigned to one drive and within a drive must - in each drive data set - either always be encoder 1, always encoder 2 or always encoder 3. This unique assignment has been violated.
Fault value (r0949, decimal):
The two parameters in coded form, that refer to the same component number.
First parameter:
Index: First and second decimal position
Parameter number: Third decimal position (1 for p0187, 2 for p0188, 3 for p0189)
Drive number: Fourth and fifth decimal position
Second parameter:
Index: Sixth and seventh decimal position
Parameter number: Eighth decimal position (1 for p0187, 2 for p0188, 3 for p0189)
Drive number: Ninth and tenth decimal position
See also: p0141

Remedy: Correct the double use of a component number using the two parameters coded in the fault value.

207512 <location>Drive: Encoder data set changeover cannot be parameterized

Reaction: NONE

Acknowledge: NONE

Cause: A changeover of the encoder data set is prepared using p0187, p0188 or p0189. For this firmware release, an encoder data set changeover is not supported. Commissioning can only be exited with the correct parameterization.
Alarm value (r2124, decimal):
Parameter number with incorrect indices (p0187, p0188 or p0189).
See also: p0187, p0188, p0189

Remedy: The selectors to the encoder data sets (p0187, p0188, p0189) must, for all data sets, point to the same encoder data set.
The following must apply:
p0187[0] = p0187[1] = ... = p0187[n]
p0188[0] = p0188[1] = ... = p0188[n]
p0189[0] = p0189[1] = ... = p0189[n]

207514 <location>Drive: Data structure does not correspond to the interface module

Reaction: NONE

Acknowledge: NONE

Cause: The interface mode "SIMODRIVE 611 universal" was set (p2038 = 1) and the data structure does not correspond to this mode.
For the data structure, the following rule must be complied with.
Within the group of 8 drive data sets, the assignment to the motor data set must be set the same:
p0186[0] = p0186[1] = ... = p0186[7]
p0186[8] = p0186[9] = ... = p0186[15]
p0186[16] = p0186[17] = ... = p0186[23]
p0186[24] = p0186[25] = ... = p0186[31]
See also: p0180, p0186, p2038

Remedy: - structure the data according to the rules of the "SIMODRIVE 611 universal" interface mode.
- check the interface mode (p2038).

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207515 <location>Drive: Power module and motor incorrectly connected

Reaction: NONE

Acknowledge: NONE

Cause: A power module (via PDS) was assigned to a motor (via MDS) in a drive data set that is not connected in the target topology.
Alarm value (r2124, decimal):
Number of the incorrectly parameterized drive data set.

Remedy: - assign the drive data set to a combination of motor and power module permitted by the target topology.
- adapt the target topology.
See also: p0121, p0131, p0186

207516 <location>Drive: Re-commission the data set

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The assignment between the drive data set and motor data set (p0186) or between the drive data set and the encoder data set was modified (p0187). This is the reason that the drive data set must re-commissioned.
Fault value (r0949, decimal):
Drive data set to be re-commissioned.

Remedy: Commission the drive data set specified in the fault value (r0949).

207530 <location>Drive: Drive Data Set DDS not present

Reaction: NONE

Acknowledge: NONE

Cause: The selected drive data set is not available (p0837 > p0180). The drive data set was not changed-over.
See also: p0180, p0820, p0821, p0822, p0823, p0824, r0837

Remedy: - select the existing drive data set.
- set-up additional drive data sets.

207541 <location>Drive: Not possible to changeover data set

Reaction: NONE

Acknowledge: NONE

Cause: The selected drive data set changeover and the assigned motor changeover are not possible and are not carried-out.
For synchronous motors, the motor contactor may only be switched for actual speeds less than the speed at the start of field weakening (r0063 < p0348).
See also: r0063, p0348

Remedy: Reduce the speed below the speed at the start of field weakening.

207550 <location>Drive: Not possible to reset encoder parameters

Reaction: NONE

Acknowledge: NONE

Cause: When carrying-out a factory setting (e.g. using p0970 = 1), it was not possible to reset the encoder parameters. The encoder parameters are directly read out of the encoder via DRIVE-CLiQ.
Alarm value (r2124, decimal):
Component number of the encoder involved.

Remedy: - repeat the operation.
- check the DRIVE-CLiQ connection.

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207551 **<location>Drive encoder: No commutation angle information**

Reaction: OFF2 (DCBRAKE)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The motor encoder used does not supply an absolute commutation angle. This means that synchronous motors cannot be controlled (closed-loop control)
Fault value (r0949, decimal):
Drive data set number

Remedy: - check the encoder parameterization (p0404).
- use an encoder with track C/D, EnDat interface of Hall sensors.
- use an encoder with sinusoidal A/B track for which the motor pole pair number (p0313) is an integer multiple of the encoder pulse number (p0408).
- activate the pole position identification routine (p1982 = 1).

207552 **<location>Drive encoder: Encoder configuration not supported**

Reaction: OFF2 (DCBRAKE, NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The requested encoder configuration is not supported. Only bits may be requested in p0404 that are signaled as being supported by the encoder evaluation in r0456.
Fault value (r0949, decimal):
Low byte of the low word: Encoder data set number
High byte of the low word, component number
High word: Reason for the fault: The encoder does not support a function selected in p404:
1: Abs value encoder
3: Square-wave encoder
4: sin/cos encoder
23: Resolver
65535: Other function (compare p452 and p404)

See also: p0404, r0456

Remedy: - check the encoder parameterization (p0400, p0404).
- use the matching encoder evaluation (r0456).

207553 **<location>Drive encoder: Sensor Module configuration not supported**

Reaction: OFF2 (DCBRAKE, NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The Sensor Module does not support the requested configuration.
Possible causes:
- bits are set in p0430 (requested functions) that are not set in r0458 (supported functions). This does not apply for bit 19 (safety position actual value sensing), bit 29 (phase correction), bit 30 (amplitude correction) and bit 31 (offset correction).
- p1982 > 0 (pole position identification requested), but r0458 bit 16 = 0 (pole position identification not supported).
Fault value (r0949, decimal):
Encoder data set number.

Remedy: - check the encoder parameterization (p0430).
- check the pole position identification routine (p1982).
- use the matching encoder evaluation (r0458).

207560 **<location>Drive encoder: Number of pulses is not to the power of two**

Reaction: OFF2 (DCBRAKE, NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: For rotary absolute value encoders, the pulse number in p0408 must be to the power of two.
Fault value (r0949, decimal):
The fault value includes the encoder data set number involved.

Remedy: - check the parameterization (p0408, p0404.1, r0458.5).

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- if required, upgrade the Sensor Module firmware.

207561 <location>Drive encoder: Number of multiturn pulses is not to the power of two

Reaction: OFF2 (DCBRAKE, NONE, OFF1, OFF3, STOP1, STOP2)
Acknowledge: IMMEDIATELY (POWER ON)
Cause: The multi-turn resolution in p0421 must be to the power of two.
Fault value (r0949, decimal):
The fault value includes the encoder data set number involved.
Remedy: - check the parameterization (p0421, p0404.1, r0458.5).
- if required, upgrade the Sensor Module firmware.

207565 <location>Drive: Encoder fault/error in PROFIdrive encoder interface 1

Reaction: NONE
Acknowledge: NONE
Cause: An encoder error was signaled for encoder 1 via the PROFIdrive encoder interface (G1_ZSW.15).
Alarm value (r2124, decimal):
Error code from G1_XIST2, refer to the description regarding r0483.
Remedy: Acknowledge the encoder error using the encoder control word (G1_STW.15 = 1).

207566 <location>Drive: Encoder fault/error in PROFIdrive encoder interface 2

Reaction: NONE
Acknowledge: NONE
Cause: An encoder error was signaled for encoder 2 via the PROFIdrive encoder interface (G2_ZSW.15).
Alarm value (r2124, decimal):
Error code from G2_XIST2, refer to the description regarding r0483.
Remedy: Acknowledge the encoder error using the encoder control word (G2_STW.15 = 1).

207567 <location>Drive: Encoder fault/error in PROFIdrive encoder interface 3

Reaction: NONE
Acknowledge: NONE
Cause: An encoder error was signaled for encoder 3 via the PROFIdrive encoder interface (G3_ZSW.15).
Alarm value (r2124, decimal):
Error code from G3_XIST2, refer to the description regarding r0483.
Remedy: Acknowledge the encoder error using the encoder control word (G3_STW.15 = 1).

207575 <location>Drive: Motor encoder not ready

Reaction: OFF2 (NONE)
Acknowledge: IMMEDIATELY
Cause: The motor encoder signals that it is not ready.
- initialization of encoder 1 (motor encoder) was unsuccessful.
- the function "parking encoder" is active (selected using the encoder control word G1_STW.14 = 1).
- the Sensor Module is defective.
Remedy: Evaluate other queued faults via encoder 1.

207580 <location>Drive: No Sensor Module with the matching component number

Reaction: NONE
Acknowledge: NONE
Cause: A Sensor Module with the component number specified in p0141 was not found.
Alarm value (r2124, decimal):
Encoder data set involved (index of p0141).

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Remedy: Correct p0141.

207800 <location>Drive: No power module present

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The power module parameters cannot be read or no parameters are stored in the power module.
See also: r0200

Remedy: Connect the data line to power module and restart the Control Unit (POWER ON).

207801 <location>Drive: Motor overcurrent

Reaction: OFF2 (NONE, OFF1, OFF3)

Acknowledge: IMMEDIATELY

Cause: The permissible motor limit current was exceeded.
- effective current limit set too low.
- current controller not correctly set.
- motor was braked with an excessively high stall torque correction factor.
- V/f operation: Up ramp was set too short or the load is too high.
- V/f operation: Short-circuit in the motor cable or ground fault.
- V/f operation: Motor current does not match the current of Motor Module.
Note:
Synchronous motor: Limit current= 1.3 * p0323
Induction motor: Limit current= 1.3 * r0209

Remedy:
- check the current limits (p0323, p0640).
- check the current controller (p1715, p1717).
- reduce the stall torque correction factor (p0326).
- increase the up ramp (p1318) or reduce the load.
- check the motor and motor cables for short-circuit and ground fault.
- check the Motor Module and motor combination.

207802 <location>Drive: Infeed or power module not ready

Reaction: OFF2 (NONE)

Acknowledge: IMMEDIATELY

Cause: After an internal power-on command, the infeed or drive does not signal ready.
- monitoring time is too short.
- DC link voltage is not present.
- associated infeed or drive of the signaling component is defective.
- supply voltage incorrectly set.

Remedy:
- increase the monitoring time (p0857).
- ensure that there is a DC link voltage. Check the DC-link busbar. Enable the infeed.
- replace the associated infeed or drive of the signaling component.
- check the line supply voltage setting (p0210).
See also: p0857

207805 <location>Drive: Power module I2T overload

Reaction: NONE

Acknowledge: NONE

Cause: Alarm threshold for I2t overload (p0294) of the power module exceeded.
The response parameterized in p0290 becomes active.
See also: p0290

Remedy:
- reduce the continuous load.
- adapt the load duty cycle.
- check the assignment of the rated currents of the motor and Motor Module.

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207810 <location>Drive: Power module EEPROM without rated data

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: No rated data are stored in the power module EEPROM.
See also: r0206, r0207, r0208, r0209

Remedy: Replace the power module or inform Siemens Customer Service.

207815 <location>Drive: Power module has been changed

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The code number of the actual power module does not match the saved number.
Fault value (r0949, decimal):
Number of the incorrect parameter.
See also: r0200, p0201

Remedy: Connect the original power module and power-up the Control Unit again (POWER ON) or set p0201 to r0200 and exit commissioning with p0010 = 0.
For infeeds, the following applies: Commutating reactors or line filters must be used that are clearly specified for the new power module. A line supply and DC link identification routine (p3410 = 5) must then be carried-out. It is not possible to change the power module without re-commissioning the system if the type of infeed (A_Infeed, B_Infeed, S_Infeed), the type of construction/design (Booksize, Chassis) or the voltage class differ between the old and new power modules.
For inverters, the following applies: If the new power module is accepted, then if required, the current limit p0640 can be reduced by a lower maximum current of the power module (r0209) (torque limits stay the same).
If not only the power module is changed, but also the motor, then the motor must be re-commissioning (e.g. using p0010 = 1). This is also necessary if motor data is still to be downloaded via DRIVE-CLiQ.
See also: r0200

207820 <location>Drive: Temperature sensor not connected

Reaction: NONE

Acknowledge: NONE

Cause: The temperature sensor for motor temperature monitoring, specified in p0600, is not available.
- parameter download with "incorrect" setting.
- module with sensor evaluation has been, in the meantime, been removed.

Remedy: - connect the module with temperature sensor.
- set the available temperature sensor (p0600, p0601).
See also: p0600, p0601

207840 <location>Drive: Infeed operation missing

Reaction: OFF2 (NONE)

Acknowledge: IMMEDIATELY

Cause: The signal "infeed operation" is not present although the enable signals for the drive have been present for longer than the parameterized monitoring time (p0857).
- infeed not operational.
- interconnection of the binector input for the ready signal is either incorrect or missing (p0864).

Remedy: - bring the infeed into an operational state.
- check the interconnection of the binector input for the signal "infeed operation" (p0864).
- increase the monitoring time (p0857).
See also: p0857, p0864

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207841 <location>Drive: Infeed operation withdrawn

Reaction: OFF2 (NONE, OFF1, OFF3)

Acknowledge: IMMEDIATELY

Cause: The signal "infeed operation" was withdrawn in operation.
- interconnection of the binector input for the signal "infeed operation" is either incorrect or missing (p0864).
- the enable signals of the infeed were disabled.
- due to a fault, the infeed withdraws the signal "infeed operation".

Remedy: - check the interconnection of the binector input for the signal "infeed operation" (p0864).
- check the enable signals of the infeed and if required, enable.
- remove and acknowledge an infeed fault.
Note:
If this drive is intended to back-up the DC link regeneratively, then the fault response must be parameterized for NONE so that the drive can continue to operate even after the infeed fails.

207850 <location>External alarm 1

Reaction: NONE

Acknowledge: NONE

Cause: The BICO signal for "external alarm 1" was triggered.
The condition for this external alarm is fulfilled.
See also: p2112

Remedy: Eliminate the causes of this alarm.

207851 <location>External alarm 2

Reaction: NONE

Acknowledge: NONE

Cause: The BICO signal for "external alarm 2" was triggered.
The condition for this external alarm is fulfilled.
See also: p2116

Remedy: Eliminate the causes of this alarm.

207852 <location>External alarm 3

Reaction: NONE

Acknowledge: NONE

Cause: The BICO signal for "external alarm 3" was triggered.
The condition for this external alarm is fulfilled.
See also: p2117

Remedy: Eliminate the causes of this alarm.

207860 <location>External fault 1

Reaction: OFF2 (DCBRAKE, NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The BICO signal "external fault 1" was triggered.
See also: p2106

Remedy: Eliminate the causes of this fault.

207861 <location>External fault 2

Reaction: OFF2 (DCBRAKE, NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The BICO signal "external fault 2" was triggered.
See also: p2107

Remedy: Eliminate the causes of this fault.

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207862 <location>External fault 3

Reaction: OFF2 (DCBRAKE, NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The BICO signal "external fault 3" was triggered.
See also: p2108, p3111, p3112

Remedy: Eliminate the causes of this fault.

207900 <location>Drive: Motor locked

Reaction: OFF2 (NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause: Motor has been operating at the torque limit longer than the time specified in p2177 and below the speed threshold set in p2175.
This signal can also be initiated if the speed actual value is oscillating and the speed controller output repeatedly goes to its limit.
See also: p2175, p2177

Remedy: - check that the motor can freely rotate.
- check the torque limit: For a positive direction of rotation r1538, for a negative direction of rotation r1539.
- check the parameter, message "Motor locked" and if required, correct (p2175, p2177).
- check the inversion of the actual value (p0410).
- check the motor encoder connection.
- check the encoder pulse number (p0408).

207901 <location>Drive: Motor overspeed

Reaction: OFF2 (NONE, OFF1)

Acknowledge: IMMEDIATELY

Cause: The maximum permissible speed was either positively or negatively exceeded.
The maximum permissible positive speed is formed as follows: Minimum(p1082, CI: p1085) + p2162. The maximum permissible negative speed is formed as follows: Maximum(-p1082, CI: 1088) - p2162.

Remedy: For a positive direction of rotation:
- check r1084 and if required, correct p1082, CI: p1085 and p2162.
For a negative direction of rotation:
- check r1087 and if required, correct p1082, CI: p1088 and p2162.

207902 <location>Drive: Motor stalled

Reaction: OFF2 (NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause: Only for vector drives (refer to p0107):
It was detected that the motor was stalled for a time longer than that entered into p2178.
Fault value (r0949, decimal):
1: Stall detection using r1408.11 (refer to p1744)
2: Stall detection using r1408.12 (refer to p1745)

Remedy: For closed-loop speed and torque control with speed encoder:
- check the speed signal (interrupted cable, polarity, pulse number).
If there is no fault, then the fault tolerance can be increased (p1744).
For closed-loop speed and torque control without speed encoder:
- check whether the drive stalls due to the load if the speed setpoint is still zero. If yes, then increase the current setpoint using p1610.
- if the motor excitation (magnetizing) time (r0346) was significantly reduced, then it should be increased again.
- check the current limits (p0640, r0067). If these are too low, then the drive cannot be magnetized.
If there is no fault, then the fault tolerance (p1745) or the delay time (p2178) can be increased.

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207903 <location>Drive: Motor speed deviation

Reaction: NONE

Acknowledge: NONE

Cause: The absolute value of the speed difference from the two setpoints (p2151, p2154) and the speed actual value (r2169) exceeds the tolerance threshold (p2163) longer than tolerated (p2164, p2166).
The alarm is only enabled for p2149.0 = 1.
Possible causes could be:
- the load torque is greater than the torque setpoint.
- when accelerating, the torque/current/power limit is reached. If the limits are not sufficient, then it is possible that the drive has been dimensioned too small.
- the speed controller is inhibited (refer to p0856; refer to Kp/Tn adaptation of the speed controller).
- for closed-loop torque control, the speed setpoint does not track the speed actual value.
- for active Vdc controller.
The signal is not generated if the ramp-function generator tracking prevents the setpoint and actual speed from drifting (moving) apart.
Only for vector drives:
For V/f control, the overload condition is detected as the Imax controller is active.
See also: p2149

Remedy: - increase p2163 and/or p2166.
- increase the torque/current/power limits.
- enable the speed controller.
- for closed-loop torque control: The speed setpoint should track the speed actual value.

207910 <location>Drive: Motor overtemperature

Reaction: NONE

Acknowledge: NONE

Cause: KTY:
The motor temperature has exceeded the alarm threshold (p0604).
VECTOR: The response parameterized in p0610 becomes active.
PTC:
The response threshold of 1650 Ohm was exceeded.
Alarm value (r2124, decimal):
1: No output current reduction.
2: Output current reduction active.
See also: p0604

Remedy: - check the motor load.
- check the motor ambient temperature.

207920 <location>Drive: Torque too low

Reaction: NONE

Acknowledge: NONE

Cause: The torque deviates from the torque/speed envelope characteristic in the negative direction (too low).
See also: p2181

Remedy: Adapt the load.

207921 <location>Drive: Torque too high

Reaction: NONE

Acknowledge: NONE

Cause: The torque deviates from the torque/speed envelope characteristic in the positive direction (too high).

Remedy: Adapt the load.

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207922 <location>Drive: Torque outside the tolerance

Reaction: NONE
Acknowledge: NONE
Cause: The torque deviates from the torque/speed envelope characteristic.
Remedy: Adapt the load.

207923 <location>Drive: Torque too low

Reaction: OFF1 (NONE, OFF2, OFF3)
Acknowledge: IMMEDIATELY
Cause: The torque deviates from the torque/speed envelope characteristic in the negative direction (too low).
Remedy: Adapt the load.

207924 <location>Drive: Torque too high

Reaction: OFF1 (NONE, OFF2, OFF3)
Acknowledge: IMMEDIATELY
Cause: The torque deviates from the torque/speed envelope characteristic in the positive direction (too high).
Remedy: Adapt the load.

207925 <location>Drive: Torque outside the tolerance

Reaction: OFF1 (NONE, OFF2, OFF3)
Acknowledge: IMMEDIATELY
Cause: The torque deviates from the torque/speed envelope characteristic.
Remedy: Adapt the load.

207926 <location>Drive: Envelope curve, parameter invalid

Reaction: NONE
Acknowledge: NONE
Cause: Invalid parameter values were entered for the envelope characteristic of the load monitoring.
The following rules apply for the speed thresholds:
p2182 < p2183 < p2184
The following rules apply for the torque thresholds:
p2185 > p2186
p2187 > p2188
p2189 > p2190
Alarm value (r2124, decimal):
Number of the parameter with the invalid value.
Remedy: Set the parameters for the load monitoring according to the applicable rules.

207930 <location>Drive: Brake control defective

Reaction: OFF1 (NONE, OFF2, OFF3)
Acknowledge: IMMEDIATELY
Cause: The Control Unit has detected a brake control fault.
- no motor holding brake connected.
- the motor holding brake control on the Motor Module is faulty.
- a DRIVE-CLiQ communications error has occurred between the Control Unit and the Motor Module involved.
Fault value (r0949, decimal):
10: No brake connected or fault in the Motor Module brake control circuit ("open brake" operation).
11: Defect in the brake control circuit of the Motor Module ("brake open" operation).
20: Short-circuit in the brake winding or fault in the brake control circuit of the Motor Module ("brake open" state).

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30: No brake connected, short-circuit in the brake winding or fault in the Motor Module brake control circuit ("close brake" operation).
31: Defect in the brake control circuit of the Motor Module ("close brake" operation).
40: Defect in the brake control circuit of the Motor Module ("brake closed" state).
50: Defect in the brake control circuit of the Motor Module or communications fault between the Control Unit and the Motor Module (brake control diagnostics).

Remedy: - check the motor holding brake connection.
- check the function of the motor holding brake.
- check whether there is a DRIVE-CLiQ communications error between the Control Unit and the Motor Module involved and if required, carry-out a diagnostics routine for the faults identified.
- check the electrical cabinet design and cable routing for EMC compliance
- replace the Motor Module involved.

207931 <location>Brake does not open

Reaction: NONE

Acknowledge: NONE

Cause: This alarm is output for r1229.4 = 1.
See also: p1216, r1229

Remedy: - check the functionality of the motor holding brake.
- check the feedback signal (p1223).

207932 <location>Brake does not close

Reaction: NONE

Acknowledge: NONE

Cause: This alarm is output for r1229.5 = 1.
See also: p1217, r1229

Remedy: - check the functionality of the motor holding brake.
- check the feedback signal (p1222).

207950 <location>Drive: Motor parameter defective

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The motor parameters were incorrectly entered while commissioning (e.g. p0300 = 0, no motor selected)
Fault value (r0949, decimal):
The fault value includes the parameter number involved.
The following parameter numbers only occur as fault values for induction motors: p0304, p0310, p0320
The following parameter numbers only occur as fault values for synchronous motors: p0314; only for vector drives: p0305, p0307; only for servo drives: p0316, p0322, p0323; only for linear drives: p0315
See also: p0300, p0301, p0304, p0305, p0307, p0310, p0311, p0314, p0315, p0316, p0320, p0322, p0323

Remedy: Compare the motor data with the rating plate data and if required, correct.
See also: p0300, p0301, p0304, p0305, p0307, p0310, p0311, p0314, p0316, p0320, p0322, p0323

207955 <location>Drive: motor was changed

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The code number of the actual motor with DRIVE-CLiQ does not match the saved number.
Fault value (r0949, decimal):
Number of the incorrect parameter.
See also: p0301, r0302

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Remedy: Connect the original motor, power-up the Control Unit again (POWER ON) and exit the quick commissioning by setting p0010 to 0.
Or set p0300 = 10000 (load the motor parameter with DRIVE-CLiQ) and re-commission.
Quick commissioning (p0010 = 1) is automatically exited with p3900 > 0.
If quick commissioning was exited by setting p0010 to 0, then an automatic controller calculation (p0340 = 1) is not carried-out.

207956 <location>Drive: Motor code does not match the list (catalog) motor

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The motor code of the actual motor with DRIVE-CLiQ does not match the possible list motor types (refer to the selection, p0300).
Fault value (r0949, decimal):
Motor code of the motor with DRIVE-CLiQ

Remedy: Use a motor with DRIVE-CLiQ and the matching motor code.
The first three digits of the motor code generally correspond to the matching list motor type.

207960 <location>Drive: Friction characteristic incorrect

Reaction: NONE

Acknowledge: NONE

Cause: The friction characteristic is incorrect.
Alarm value (r2124, decimal):
1538: The friction torque is greater than the maximum from the upper effective torque limit (p1538) and zero. This is the reason that the friction characteristic output (p3841) is limited to this value.
1539: The friction torque is less than the minimum from the lower effective torque limit (p1539) and zero. This is the reason that the friction characteristic output (p3841) is limited to this value.
3820 - 3839: Incorrect parameter number, if
the speeds entered in the parameters for the friction characteristic do not correspond to the following condition:
0.0 < p3820 < p3821 < ... < p3829 <= p0322 or p1082, if p0322 = 0
or
the torques entered in the parameters for the friction characteristic do not correspond to the following condition:
0 <= p3830, p3831 ... p3839 <= p0333.
Therefore the friction characteristic output (p3841) is set to zero.
See also: r3840

Remedy: Fulfill the conditions for the friction characteristic.
Re alarm value = 1538:
Check the upper effective torque limit, e.g. in the field weakening range.
Re alarm value = 1539:
Check the lower effective torque limit, e.g. in the field weakening range.
Re alarm value = 3820 - 3839:
Fulfill the conditions to set the parameters of the friction characteristic.

207961 <location>Drive: Friction characteristic plot activated

Reaction: NONE

Acknowledge: NONE

Cause: The automatic friction characteristic plot is activated.
The friction characteristic is plotted at the next power-on command.

Remedy: None necessary.
The alarm disappears automatically after the friction characteristic plot has been successfully completed or the plot is de-activated (p3845 = 0).

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207963 <location>Drive: Friction characteristic plot aborted

Reaction: OFF1

Acknowledge: IMMEDIATELY

Cause: The condition to plot the friction characteristic are not fulfilled.
Fault value (r0949, decimal):
0046: Missing enable signals (r0046).
0840: OFF1 (p0840) is selected before the friction characteristic has been completely plotted.
1082: The highest speed value to be approached (p3829) is greater than the maximum speed (p1082).
1110: Friction characteristic plot, negative direction of rotation has be selected (p3845) and the negative direction of rotation is inhibited (p1110).
1111: Friction characteristic plot, positive direction of rotation has be selected (p3845) and the positive direction of rotation is inhibited (p1111).
1198: Friction characteristic plot selected (p3845 > 0) and the negative direction of rotation (p1110) and positive (p1111) are inhibited (r1198).
1300: The control mode (p1300) has not been set to closed-loop speed control.
1755: For sensorless closed-loop control (p1300 = 20), the lowest speed value to be approached (p3820) is less than or equal to the changeover speed, open-loop controlled operation (p1755).
1910: Motor data identification activated.
1960: Speed controller optimization activated.
3820 - 3829: Speed (p382x) cannot be approached.
3840: Friction characteristic incorrect.
3845: Friction characteristic plot de-selected.

Remedy: Fulfill the conditions to plot the friction characteristic.
Re fault value = 0046:
Establish missing enable signals.
Re fault value = 0840:
Select OFF1 (p0840) only after the friction characteristic plot has been completed.
Re fault value = 1082:
Select the highest speed value to be approached (p3829) less than or equal to the maximum speed (p1082).
Re fault value = 1110:
Select the frequency characteristic plot, positive direction of rotation (p3845).
Re fault value = 1111:
Select the frequency characteristic plot, negative direction of rotation (p3845).
Re fault value = 1198:
Enable the permitted direction of rotation (p1110, p1111, r1198).
Re fault value = 1300:
Set the control mode (p1300) on the closed-loop speed control (p1300 = 20, 21).
Re fault value = 1755:
For sensorless closed-loop speed control (p1300 = 20) select the lowest speed value to be approached (p3820) greater than the changeover speed of open-loop controlled operation (p1755).
Re fault value = 1910:
Exit the motor data identification routine (p1910).
Re fault value = 1960:
Exist the speed controller optimization routine (p1960).
Re fault value 3820 - 3829:
- check the load at speed p382x.
- check the speed signal (r0063) for oscillation at speed p382x. If required, check the speed controller settings.
Re fault value = 3840:
Make the friction characteristic error-free (p3820 - p3829, p3830 - p3839, p3840).
Re fault value = 3845:
Activate the friction characteristic plot (p3845).

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207966 <location>Drive: Check the commutation angle

Reaction: OFF2 (NONE)

Acknowledge: IMMEDIATELY

Cause: The speed actual value was inverted and the associated angular commutation offset is not equal to zero and is therefore possibly incorrect.

Remedy: Angular commutation offset after the actual value inversion or determine it again (p1990=1).

207971 <location>Drive: Automatic encoder adjustment activated

Reaction: NONE

Acknowledge: NONE

Cause: The automatic encoder adjustment is activated (p1990 = 1).
The automatic encoder adjustment is carried-out with the next power-on command.
SERVO: If a pole position identification technique is selected in p1980, and if p0301 does not contain a motor type with an encoder adjusted in the factory, p1990 is automatically activated if fault 7414 is output.
See also: p1990

Remedy: None necessary.
The alarm automatically disappears after the encoder has been successfully adjusted or for the setting p1990 = 0.

207990 <location>Drive: Incorrect motor data identification

Reaction: OFF2 (NONE, OFF1)

Acknowledge: IMMEDIATELY

Cause: A fault has occurred during the identification routine.
Fault value (r0949, decimal):
1: Current limit value reached.
2: Identified stator resistance lies outside the expected range 0.1 ... 100 % of Zn.
3: Identified rotor resistance lies outside the expected range 0.1 ... 100 % of Zn.
4: Identified stator reactance lies outside the expected range 50 ... 500 % of Zn.
5: Identified magnetizing reactance lies outside the expected range 50 ... 500 % of Zn.
6: Identified rotor time constant lies outside the expected range 10 ms ... 5 s.
7: Identified total leakage reactance lies outside the expected range 4 ... 50 % of Zn.
8: Identified stator leakage reactance lies outside the expected range 2 ... 50 % of Zn.
9: Identified rotor leakage reactance lies outside the expected range 2 ... 50 % of Zn.
10: Motor has been incorrectly connected.
11: Motor shaft rotates.
20: Identified threshold voltage of the semiconductor devices lies outside the expected range 0 ... 10 V.
30: Current controller in voltage limiting.
40: At least one identification contains errors. The identified parameters are not saved to prevent inconsistencies.
50: With the selected current controller sampling rate, the pulse frequency cannot be implemented.
Note:
Percentage values are referred to the rated motor impedance:
Zn = Vmot.nom / sqrt(3) / Imot,nom
101: Voltage amplitude even at 30% maximum current amplitude is too low to measure the inductance.
102, 104: Voltage limiting while measuring the inductance.
103: Maximum frequency exceeded during the rotating inductance measurement.
110: Motor not finely synchronized before the rotating measurement.
173: Internal problem.
180: Identification speed (maximum speed, rated speed, 0.9*p0348) less than p1755.
190: Speed setpoint not equal to zero.
191: Zero speed not reached.

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Remedy: Re fault value = 0:
Check whether the motor is correctly connected. Observe the configuration (star-delta).
Re fault value = 1 ... 40:
- check whether the motor data have been correctly entered into p0300, p0304 - p0311.
- is there an appropriate relationship between the motor power rating and that of the Motor Module? The ratio of the Motor Module to the rated motor current should not be less than 0.5 and should not be greater than 4.
- check the motor configuration (star-delta).
Re fault value = 4, 7:
Check whether inductances are correctly entered in p0233 and p0353.
Re fault value = 50:
Reduce the current controller sampling rate.
Re fault value = 101:
Increase current limit (p0640)
Reduce the current controller sampling time (p0115).
It may be impossible to completely identify the L characteristic, as the required current amplitude is too high.
Suppress measurement (p1909, p1959)
Re fault value = 102, 104:
Reduce the current limit (p0640).
Check the current controller P gain.
Suppress measurement (p1909, p1959)
Re fault value = 103:
Increase the external moment of inertia (if possible).
Reduce the current controller sampling time (p0115).
Suppress measurement (p1909, p1959)
Re fault value 110:
Traverse the motor over the zero mark
Re fault value 173:
-
Re fault value 180:
Increase the maximum speed (p1082).
Reduce p1755.
Suppress measurement (p1909, p1959)
Re fault value 190:
Set the speed setpoint to zero.
Re fault value 191:
?

207991 <location>Drive: Motor data identification activated

Reaction: NONE

Acknowledge: NONE

Cause: The motor data identification routine is activated.
The motor data identification routine is carried-out at the next power-on command.

Remedy: None necessary.
The alarm automatically disappears after the motor data identification routine has been successfully completed or for the setting p1900 = 0.

207995 <location>Drive: Pole position identification routine not successful

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The pole position identification routine was unsuccessful.
Fault value (r0949, decimal):
1: No current is established.
2: The starting current is not zero.
3: The selected maximum distance was exceeded (p1981).
4x: The measuring signal does not permit a clear evaluation.

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5: The maximum current was exceeded during the measurement.
6: The current measurement must be re-calibrated.
7x: The Sensor Module does not support the pole position identification routine.
70 ... 79: Only for internal Siemens troubleshooting.
8: The pole position identification routine current required is greater than the maximum current.
9: The set pole position identification routine current is zero.
100: Motion-based pole position identification, 1st and 2nd measurement different. Motor locked or current (p1993) too low.
101: Motion-based position position identification, insufficient motion, motor locked or current (p1993) too low.
102: Motion-based pole position identification, brake is being used and is closed. The motion-based position position identification in conjunction with the brake is not permitted.
Note: x = 0 ... 9

Remedy: Re fault value = 1:
Check the motor connection and DC link voltage.
For the following parameters, set practical values that are not zero (p0325, p0329).
Re fault value = 3:
Increase the maximum distance (p1981).
Reduce the currents for the pole position identification routine (p0325, p0329).
Stop the motor in order to carry-out the pole position identification routine.
Re fault value = 40 ... 49:
Increase the currents for the pole position identification routine (p0325, p0329).
Stop the motor in order to carry-out the pole position identification routine.
Select another technique for pole position identification routine (p1980).
Use another motor, absolute value encoder or Hall sensors.
Re fault value = 5:
Reduce the currents for the pole position identification routine (p0325, p0329).
Re fault value = 6:
Re-calibrate the Motor Module.
Re fault value = 7x:
Upgrade the software in the Sensor Module.
Re fault value = 8:
Reduce the currents for the pole position identification routine (p0329, p0325, p1993).
The power module cannot provide the necessary pole position identification routine current (p0209 < p0329, p0325, p1993), replace the power module by a power module with a higher maximum current.
Re fault value = 9:
Enter a value not equal to zero in the pole position identification routine current (p0329, p0325, p1993).
Re fault value = 100, 101:
Check and ensure that the motor is free to move.
Increase the current for motion-based pole position identification (p1993).
Re fault value = 102:
If the motor with brake is to be operated: Select a different technique for pole position identification (p1980).
If the motor can be operated without brake: Open brake (p1215 = 2).

207996 <location>Drive: Pole position identification routine not carried-out

Reaction: ENCODER (OFF2)

Acknowledge: IMMEDIATELY

Cause: The drive was changed over, flying, from sensorless operation to operation with encoder without having previously carried-out a pole position identification for the encoder. p1404 is then at a value between zero and the maximum speed and the pulses in the speed range above p1404 were enabled without a pole position identification routine having been previously carried-out in operation with encoder.

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Remedy: For a flying changeover between operation with and without encoder with pole position identification after POWER ON or commissioning (p0010 not equal to zero) enable the pulses once at zero speed. This means that the pole position identification routine is carried-out and the result is available for operation.

208000 <location>TB: +/-15 V power supply faulted

Reaction: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: Terminal Board 30 detects an incorrect internal power supply voltage.
Fault value (r0949, decimal):
0: Error when testing the monitoring circuit.
1: Fault in normal operation.

Remedy: - replace Terminal Board 30.
- replace Control Unit.

208010 <location>TB: Analog-digital converter

Reaction: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The analog/digital converter on Terminal Board 30 has not supplied any converted data.

Remedy: - check the power supply.
- replace Terminal Board 30.

208500 <location>COMM BOARD: Monitoring time, configuration expired

Reaction: OFF1 (OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: The monitoring time for the configuration has expired.
Fault value (r0949, decimal):
0: The transfer of the send-configuration data has been exceeded (time).
1: The transfer of the receive-configuration data has been exceeded (time).

Remedy: Check communication line.

208501 <location>COMM BOARD: Monitoring time, process data expired

Reaction: OFF1 (OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: The set monitoring time expired while transferring process data via COMM BOARD.
See also: p2040

Remedy: - check communications link.
- check the set monitoring time if the error persists.
See also: p2040

208502 <location>COMM BOARD: Monitoring time, sign-of-life expired

Reaction: OFF1 (OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: The monitoring time for the sign-of-life counter has expired.

Remedy: Check communication line.

208504 <location>COMM BOARD: Internal cyclic data transfer error

Reaction: NONE

Acknowledge: NONE

Cause: The cyclic actual and/or setpoint values were not transferred within the specified times.
Alarm value (r2124, decimal):
Only for internal Siemens troubleshooting.

Remedy: Check the parameterizing telegram (Ti, To, Tdp, etc.).

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208510 <location>COMM BOARD: send configuration data not valid.

Reaction: OFF1 (OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: COMM BOARD did not accept the send-configuration data.
Fault value (r0949, decimal):
Return value of the send-configuration data check.

Remedy: Check the send configuration data.

208511 <location>COMM BOARD: Receive configuration data not valid

Reaction: NONE

Acknowledge: NONE

Cause: The drive unit did not accept the receive-configuration data.
Alarm value (r2124, decimal):
Return value of the receive-configuration data check.
0: Configuration accepted.
1: Connection established to more drive objects than configured in the device. The drive objects for process data exchange and their sequence was defined using p0978.
2: Too many data words for input or output to a drive object. A max. of 16 words is permitted for SERVO and VECTOR; max. 5 words, for A_INFEED, TB30, TM31 and CU320.
3: Uneven number of bytes for input or output.
4: Setting data for synchronization not accepted.
5: Drive still not in cyclic operation.
6: Buffer system not accepted.
7: Cyclic channel length too short for this setting.
8: Cyclic channel address not initialized.
9: 3-buffer system not permitted.
10: DRIVE-CLiQ fault.
11: CU link fault.
12: CX32 not in cyclic operation.

Remedy: Check the receive configuration data.
Re alarm value = 1:
Check the list of the drive objects with process data exchange (p0978). With p0978[x] = 0, all of the following drive objects in the list are excluded from the process data exchange.

208520 <location>COMM BOARD: Non-cyclic channel error

Reaction: NONE

Acknowledge: NONE

Cause: The memory or the buffer status of the non-cyclic channel has an error.
Alarm value (r2124, decimal):
0: Error in the buffer status.
1: Error in the memory.

Remedy: Check communication line.

208530 <location>COMM BOARD: Message channel error

Reaction: NONE

Acknowledge: NONE

Cause: The memory or the buffer status of the message channel has an error.
Alarm value (r2124, decimal):
0: Error in the buffer status.
1: Error in the memory.

Remedy: Check communication line.

208700 <location>CBC: Communications error

Reaction: OFF3 (NONE, OFF1, OFF2)

Acknowledge: IMMEDIATELY

Cause: A CAN communications error has occurred.

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Fault value (r0949, decimal):
1: The error counter for the send telegrams has exceeded the BUS OFF value 255. The bus disables the CAN controller.
- bus cable interrupted.
- bus cable not connected.
- incorrect baud rate.
- incorrect bit timing.
2: The master no longer interrogated the CAN node status longer than for its "life time". The "life time" is obtained from the "guard time" (p8604[0]) multiplied by the "life time factor" (p8604[1]).
- bus cable interrupted.
- bus cable not connected.
- incorrect baud rate.
- incorrect bit timing.
- master fault.
Note:
The fault response can be set as required using p8641.
See also: p8641

Remedy: - check the bus cable
- check the baud rate (p8622).
- check the bit timing (p8623).
- check the master.

208701 <location>CBC: NMT state change

Reaction: A_INFEED: OFF2
SERVO: OFF3

Acknowledge: IMMEDIATELY

Cause: A CANopen NMT state transition from "operational" to "pre-operational" or after "stopped".
Fault value (r0949, decimal):
1: CANopen NMT state transition from "operational" to "pre-operational".
2: CANopen NMT state transition from "operational" to "stopped".
Note:
In the NMT state "pre-operational", process data cannot be transferred and in the NMT state "stopped", no process data and no service data can be transferred.

Remedy: None necessary.
Acknowledge the fault and continue operation.

208751 <location>CBC: Telegram loss

Reaction: NONE

Acknowledge: NONE

Cause: The CAN controller has lost a receive message (telegram).

Remedy: Reduce the cycle times of the receive messages.

208752 <location>CBC: Error counter for error passive exceeded

Reaction: NONE

Acknowledge: NONE

Cause: The error counter for the send or receive telegrams has exceeded the value 127.

Remedy: - check the bus cable
- set a higher baud rate (p8622).
- check the bit timing and if required optimize (p8623).

208753 <location>CBC: Message buffer overflow

Reaction: NONE

Acknowledge: NONE

Cause: A message buffer overflow.
Alarm value (r2124, decimal):

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1: Non-cyclic send buffer (SDO response buffer) overflow.
2: Non-cyclic receive buffer (SDO receive buffer) overflow.
3: Cyclic send buffer (PDO send buffer) overflow.

Remedy: Check the bus cable.
Set a higher baud rate (p8622).
Check the bit timing and if required optimize (p8623).
Re alarm value = 2:
- reduce the cycle times of the SDO receive messages.

208754 <location>CBC: Incorrect communications mode

Reaction: NONE

Acknowledge: NONE

Cause: In the "operational" mode, an attempt was made to change parameters p8700 ... p8737.

Remedy: Change into the "pre-operational" or "stopped" mode.

208755 <location>CBC: Obj cannot be mapped

Reaction: NONE

Acknowledge: NONE

Cause: The CANopen object is not provided for the Process Data Object (PDO) Mapping.

Remedy: Use a CANopen object intended for the PDO mapping or enter 0.
The following objects can be mapped in the Receive Process Data Object (RPDO) or Transmit Process Data Object (TPDO):
- RPDO: 6040 hex, 6060 hex, 60FF hex, 6071 hex.
- TPDO: 6041 hex, 6061 hex, 6063 hex, 6069 hex, 606B hex, 606C hex, 6074 hex.
Note:
As long as A08755 is present, the COB-ID cannot be set to valid.

208756 <location>CBC: Number of mapped bytes exceeded

Reaction: NONE

Acknowledge: NONE

Cause: The number of bytes of the mapped objects exceeds the telegram size for net data. A maximum of 8 bytes is permissible.

Remedy: Map fewer objects or objects with a smaller data type.
See also: p8710, p8711, p8712, p8713, p8714, p8715, p8716, p8717, p8730, p8731, p8732, p8733, p8734, p8735, p8736, p8737

208757 <location>CBC: Set COB-ID invalid

Reaction: NONE

Acknowledge: NONE

Cause: For online operation, the appropriate COB-ID must be set invalid before mapping.
Example:
Mapping for RPDO 1 should be changed (p8710[0]).
--> set p8700[0] = C00006E0 hex (invalid COB-ID)
--> set p8710[0] as required.
--> p8700[0] enter a valid COB-ID

Remedy: Set the COB-ID to invalid.

208758 <location>CBC: Number of PDO channels too low

Reaction: NONE

Acknowledge: NONE

Cause: The number of PDO channels in p8740 has either been set to 0 or too low.

Remedy: The number of channels set in p8740 must be greater than or equal to the number of PDOs.
There are 2 possibilities:
Increase the number of channels in p8740 and confirm the selection using p8741.
Reduce the number of PDOs by setting the COB-ID to invalid.

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208759 <location>CBC: PDO COB-ID already available

Reaction: NONE

Acknowledge: NONE

Cause: An existing PDO COB-ID was allocated.

Remedy: Select another PDO COB-ID.

213000 <location>License not adequate

Reaction: NONE

Acknowledge: NONE

Cause: - for the drive unit, the options that require a license are being used but the licenses are not sufficient.
- an error occurred when checking the existing licenses.
Alarm value (r2124, decimal):
0:
The existing license is not sufficient.
1:
An adequate license was not able to be determined as the CompactFlash card with the required licensing data was withdrawn in operation.
2:
An adequate license was not able to be determined, as an error occurred when reading-out the required licensing data from the CompactFlash card.
3:
An adequate license was not able to be determined as there is a checksum error in the license key.
4:
An internal error occurred when checking the license.

Remedy: Alarm value 0:
Additional licenses are required and these must be activated (p9920, p9921).
Alarm value 1:
With the system powered-down, re-insert the CompactFlash card that matches the system.
Alarm value 2:
Enter and activate the license key (p9920, p9921).
Alarm value 3:
Compare the license key (p9920) entered with the license key on the certificate of license.
Re-enter the license key and activate (p9920, p9921).
Alarm value 4:
- carry-out a POWER ON.
- upgrade the firmware release.
- contact the Hotline.

213001 <location>Error in license checksum

Reaction: NONE

Acknowledge: NONE

Cause: When checking the checksum of the license key, an error was detected.

Remedy: Compare the license key (p9920) entered with the license key on the certificate of license.
Re-enter the license key and activate (p9920, p9921).

230001 <location>Power module: Overcurrent

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The power module has detected an overcurrent condition.
- closed-loop control is incorrectly parameterized.
- motor has a short-circuit or fault to ground (frame).
- V/f operation: Up ramp set too short.
- V/f operation: Rated motor current is significantly greater than that of the Motor Module.
- infeed: High discharge and post-charging current for line supply voltage interruptions.

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- infeed: High post-charging currents for overload when motoring and DC link voltage dip.
- infeed: Short-circuit currents at power-on due to the missing commutating reactor.
- power cables are not correctly connected.
- power cables exceed the maximum permissible length.
- power module defective.

Fault value (r0949):
Bit 0: Phase U.
Bit 1: Phase V.
Bit 2: Phase W.

Remedy:
- check the motor data - if required, carry-out commissioning.
- check the motor circuit configuration (star-delta).
- V/f operation: Increase the up ramp.
- V/f operation: Check the assignment of the rated currents of the motor and Motor Module.
- infeed: Check the line supply quality.
- infeed: Reduce the load when motoring.
- infeed: Correct connection of the line commutating reactor.
- check the power cable connections.
- check the power cables for short-circuit or ground fault.
- check the length of the power cables.
- replace power module.

230002 <location>Power module: DC link overvoltage

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The power module has detected an overvoltage condition in the DC link.
- motor regenerates too much energy.
- line supply voltage too high.

Fault value (r0949, decimal):
DC link voltage [1 bit = 100 mV].
For SINAMICS GM/SM, the following applies:
Fault value (r0949, decimal):
64: Overvoltage in the negative partial DC link (VdcP)
128: Overvoltage in the positive partial DC link (VdcN)
192: Overvoltage in both partial -DC links

Remedy:
- increase the ramp-down time.
- activate the DC link voltage controller.
- use a brake resistor or Active Line Module.
- increase the current limit of the infeed or use a larger module (for the Active Line Module).
- check the line supply voltage.

See also: p0210, p1240

230003 <location>Power module: DC link undervoltage

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The power module has detected an undervoltage condition in the DC link.
- line supply failure
- line supply voltage below the permissible value.
- line supply infeed failed or faulted.

Note:
The monitoring threshold for the DC link undervoltage is the minimum of the following values:
- 85% of the unit supply voltage (p0210).
- lowest permissible lower DC link voltage of the power modules (descriptive data).

Remedy:
- check the line supply voltage
- check the line supply infeed and if necessary observe the fault messages of the line supply infeed.

Note:

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The ready signal of the infeed r0863 must be connected to the associated inputs p0864 of the drives.
See also: p0210

230004 <location>Power module: Overtemperature heatsink AC inverter

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The temperature of the power module heatsink has exceeded the permissible limit value.
- insufficient cooling, fan failure.
- overload
- ambient temperature too high.
- pulse frequency too high.
Fault value (r0949):
Temperature [1 bit = 0.01 °C].

Remedy: - check whether the fan is running.
- check the fan elements
- check whether the ambient temperature is in the permissible range.
- check the motor load.
- reduce the pulse frequency if this is higher than the rated pulse frequency.
Notice:
This fault can only be acknowledged after this alarm threshold for alarm A05000 has been fallen below.
See also: p1800

230005 <location>Power module: Overload I2T

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The power module was overloaded (r0036 = 100 %).
- the permissible rated power module current was exceeded for an inadmissibly long time.
- the permissible load duty cycle was not maintained.
Fault value (r0949, decimal):
I2t [100 % = 16384].

Remedy: - reduce the continuous load.
- adapt the load duty cycle.
- check the motor and power module rated currents.
See also: r0036, r0206, p0307

230006 <location>Power module: Thyristor control board

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The thyristor control board of the Basic Line Module signals a fault.
- there is not line supply voltage.
- the line contactor is not closed.
- the line supply voltage is too low.
- line supply frequency outside the permissible range (45 ... 66 Hz).
- there is a DC link short-circuit.
- there is a DC link short-circuit (during the pre-charging phase).
- power supply thyristor control board outside the nominal range (5 ... 18 V) and supply voltage >30 V.
- there is an internal fault in the thyristor control board.

Remedy: The faults are saved in the TCB and are acknowledged by switching-out the TCB supply voltage for at least 10 s!
- check the line supply voltage
- check or energize the line contactor.
- check the monitoring time and, if required, increase (p0857).
- if required, observe additional power module messages/signals.
- check the DC link regarding short-circuit or ground fault.

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- observe the LED fault display of the thyristor control board.

230010 <location>Power module: Sign-of-life, cyclic data

Reaction: NONE

Acknowledge: NONE

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the power module involved.
The cyclic setpoint telegrams of the Control Unit were not received on time by the power module for at least one clock cycle.

Remedy: - check the electrical cabinet design and cable routing for EMC compliance

230011 <location>Power module: Line phase failure in main circuit

Reaction: OFF2 (OFF1)

Acknowledge: IMMEDIATELY

Cause: A line phase failure was detected at the power module.
- the fuse of a phase of a main circuit has ruptured.
- the DC link voltage ripple has exceeded the permissible limit value.

Remedy: Check the fuses in the main circuit.

230012 <location>Power module: Temperature sensor heatsink wire breakage

Reaction: OFF1 (OFF2)

Acknowledge: IMMEDIATELY

Cause: The connection to one of the heatsink temperature sensors in the power module is interrupted.
Fault value (r0949, hexadecimal):
Bit 0: Module slot (electronics slot)
Bit 1: Air intake
Bit 2: Inverter 1
Bit 3: Inverter 2
Bit 4: Inverter 3
Bit 5: Inverter 4
Bit 6: Inverter 5
Bit 7: Inverter 6
Bit 8: Rectifier 1
Bit 9: Rectifier 2
See also: r0949

Remedy: Contact the manufacturer.

230013 <location>Power module: Temperature sensor heatsink short-circuit

Reaction: OFF1 (OFF2)

Acknowledge: IMMEDIATELY

Cause: The heatsink temperature sensor in the Motor Module is short-circuited.
Fault value (r0949, hexadecimal):
Bit 0: Module slot (electronics slot)
Bit 1: Air intake
Bit 2: Inverter 1
Bit 3: Inverter 2
Bit 4: Inverter 3
Bit 5: Inverter 4
Bit 6: Inverter 5
Bit 7: Inverter 6
Bit 8: Rectifier 1
Bit 9: Rectifier 2

Remedy: Contact the manufacturer.

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230017 <location>Power module: Hardware current limit has responded too often

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The hardware current limitation in the relevant phase (see A30031, A30032, A30033) has responded too often. The number of times the limit has been exceeded depends on the design and type of power module.
For infeed units, the following applies:
- closed-loop control is incorrectly parameterized.
- load on the infeed is too high.
- Voltage Sensing Module incorrectly connected.
- commutating reactor missing or the incorrect type.
- power module defective.
The following applies to Motor Modules:
- closed-loop control is incorrectly parameterized.
- fault in the motor or in the power cables.
- the power cables exceed the maximum permissible length.
- motor load too high
- power module defective.
Fault value (r0949, binary):
Bit 0: Phase U
Bit 1: Phase V
Bit 2: Phase W

Remedy: For infeed units, the following applies:
- check the controller settings, if required, reset and identify the controller (p0340 = 2, p3410 = 5).
- reduce the load, if required, increase the DC link capacitance or use a higher-rating infeed.
- check the connection of the optional Voltage Sensing Module.
- check the connection and technical data of the commutating reactor.
- check the power cables for short-circuit or ground fault.
- replace power module.
The following applies to Motor Modules:
- check the motor data.
- check the motor circuit configuration (star-delta).
- check the motor load.
- check the power cable connections.
- check the power cables for short-circuit or ground fault.
- check the length of the power cables.
- replace power module.

230021 <location>Power module: Ground fault

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: Power module has detected a ground fault.
- ground fault in the power cables
- winding fault or ground fault at the motor.
- CT defective.
Fault value (r0949, decimal):
Absolute value, summed current [32767 = 271 % rated current].

Remedy: - check the power cable connections.
- check the motor.
- check the CT.
See also: p0287

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230022 <location>Power module: Monitoring U_ce

Reaction: OFF2

Acknowledge: POWER ON

Cause: In the power module, the monitoring of the collector-emitter voltage (V_ce) of the semiconductor has responded. Possible causes:
- short-circuit at the Motor Module output.
- defective semiconductor in the power module.
Fault value (r0949, binary):
Bit 0: Short-circuit in phase U
Bit 1: Short-circuit in phase V
Bit 2: Short-circuit in phase W
Bit 3: Light transmitter enable defective
Bit 4: V_ce group fault signal interrupted
See also: r0949

Remedy: - check the power cable connections.
- select the defective semiconductor and replace.

230025 <location>Power module: Overtemperature chip

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: Chip temperature of the semiconductor has exceeded the permissible limit value.
- the permissible load duty cycle was not maintained.
- insufficient cooling, fan failure.
- overload
- ambient temperature too high.
- pulse frequency too high.
Fault value (r0949):
Temperature difference between the heatsink and chip [1 Bit = 0.01 °C].

Remedy: - adapt the load duty cycle.
- check whether the fan is running.
- check the fan elements
- check whether the ambient temperature is in the permissible range.
- check the motor load.
- reduce the pulse frequency if this is higher than the rated pulse frequency.
Notice:
This fault can only be acknowledged after this alarm threshold for alarm A05001 has been fallen below.
See also: r0037

230027 <location>Power module: Precharging DC link monitoring

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The power module DC link was not able to be pre-charged within the expected time.
- line supply voltage too low.
- line supply phase fault.
- short-circuit or ground fault in the DC link.
- pre-charging circuit defective.
Fault value (r0949):
Missing internal enable signals, power module (lower 16 bit):
(Inverted bit-coded notation FFFF hex -> all internal enable signals available)
Bit 0: Power supply of the IGBT gating shut down
Bit 1: Reserved
Bit 2: Reserved
Bit 3: Ground fault detected
Bit 4: Peak current intervention
Bit 5: I2t exceeded

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Bit 6: Thermal model, overtemperature calculated
Bit 7: (heatsink, gating module, power module) overtemperature measured
Bit 8: Reserved
Bit 9: Overvoltage detected
Bit 10: Power module has completed pre-charging, ready for pulse enable
Bit 11: SH terminal missing
Bit 12: Overcurrent condition detected
Bit 13: Armature short-circuit active
Bit 14: DRIVE-CLiQ fault active
Bit 15: Vce fault detected, transistor de-saturated due to overcurrent/circuit-circuit
Status, power module (upper 16 bit, hexadecimal number):
0: Fault status (wait for OFF and fault acknowledgment)
1: Restart inhibit (wait for OFF)
2: Overvoltage condition detected -> change into the fault state
3: Undervoltage condition detected -> change into the fault state
4: Wait for bypass contactor to open -> change into the fault state
5: Wait for bypass contactor to open -> change into restart inhibit
6: Commissioning
7: Ready for pre-charging
8: Pre-charging started, DC link voltage lower than the minimum switch-on voltage
9: Pre-charging, DC link voltage end of pre-charging still not detected
10: Wait for the end of the de-bounce time of the main contactor after pre-charging has been completed
11: Pre-charging completed, ready for pulse enable
12: It was detected that the SH terminal was energized at the power module
See also: p0210

Remedy: - check the line supply voltage
- check the line supply.
See also: p0210

230031 <location>Power module: Hardware current limiting, phase U

Reaction: NONE

Acknowledge: NONE

Cause: Hardware current limit for phase U responded. The pulsing in this phase is inhibited for one pulse period.
- closed-loop control is incorrectly parameterized.
- fault in the motor or in the power cables.
- the power cables exceed the maximum permissible length.
- motor load too high
- power module defective.

Remedy: - check the motor data.
- check the motor circuit configuration (star-delta).
- check the motor load.
- check the power cable connections.
- check the power cables for short-circuit or ground fault.
- check the length of the power cables.

230032 <location>Power module: Hardware current limiting, phase V

Reaction: NONE

Acknowledge: NONE

Cause: Hardware current limit for phase V responded. The pulsing in this phase is inhibited for one pulse period.
- closed-loop control is incorrectly parameterized.
- fault in the motor or in the power cables.
- the power cables exceed the maximum permissible length.
- motor load too high
- power module defective.

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Remedy: - check the motor data.
- check the motor circuit configuration (star-delta).
- check the motor load.
- check the power cable connections.
- check the power cables for short-circuit or ground fault.
- check the length of the power cables.

230033 <location>Power module: Hardware current limiting, phase W

Reaction: NONE

Acknowledge: NONE

Cause: Hardware current limit for phase W responded. The pulsing in this phase is inhibited for one pulse period.
- closed-loop control is incorrectly parameterized.
- fault in the motor or in the power cables.
- the power cables exceed the maximum permissible length.
- motor load too high
- power module defective.

Remedy: - check the motor data.
- check the motor circuit configuration (star-delta).
- check the motor load.
- check the power cable connections.
- check the power cables for short-circuit or ground fault.
- check the length of the power cables.

230035 <location>Power module: Overtemp. air intake

Reaction: OFF1 (OFF2)

Acknowledge: IMMEDIATELY

Cause: Power module air intake temperature has exceeded the permissible limit value.
- ambient temperature too high.
- insufficient cooling, fan failure
Fault value (r0949):
Temperature [1 bit = 0.01 °C].

Remedy: - check whether the fan is running.
- check the fan elements
- check whether the ambient temperature is in the permissible range.
Notice:
This fault can only be acknowledged after this alarm threshold for alarm A05002 has been fallen below.

230036 <location>Power module: Overtemperature electronics unit

Reaction: OFF1 (OFF2)

Acknowledge: IMMEDIATELY

Cause: Power module temperature in the module slot of the drive converter has exceeded the permissible limit value.
- insufficient cooling, fan failure.
- overload
- ambient temperature too high.
Fault value (r0949):
Temperature [1 bit = 0.01 °C].

Remedy: - check whether the fan is running.
- check the fan elements
- check whether the ambient temperature is in the permissible range.
Notice:
This fault can only be acknowledged after this alarm threshold for alarm A05003 has been fallen below.

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230037 <location>Power module: Overtemperature rectifier

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: Power module rectifier temperature has exceeded the permissible limit value.
- insufficient cooling, fan failure.
- overload
- ambient temperature too high.
- line supply phase failure.
Fault value (r0949):
Temperature [1 bit = 0.01 °C].

Remedy: - check whether the fan is running.
- check the fan elements
- check whether the ambient temperature is in the permissible range.
- check the motor load.
- check the line supply phases.
Notice:
This fault can only be acknowledged after this alarm threshold for alarm A05004 has been fallen below.

230040 <location>Power module: Undervoltage 24 V

Reaction: OFF2

Acknowledge: POWER ON

Cause: Failure of the 24 V power supply for the power module.
- the 16 V threshold was fallen below for longer than 3 ms.
Fault value (r0949):
24 V voltage [1 bit = 0.1 V].
Note:
The following applies for PSA XM and PSA GL:
Failure of the 24 V power supply for the power module.
- the set lower threshold for the 24 V power supply voltage (default setting 18 V) was fallen below.

Remedy: Check the 24 V DC voltage supply to power module.

230041 <location>Power module: Undervoltage 24 V alarm

Reaction: NONE

Acknowledge: NONE

Cause: 24 V power supply fault for the power module.
- the 16 V threshold was fallen below.
Fault value (r0949):
24 V voltage [1 bit = 0.1 V].
Note:
The following applies for PSA XM and PSA GL:
Before the last new start, a problem occurred at the 24 V power module power supply.
- the set lower threshold for the 24 V power supply voltage (default setting 18 V) was fallen below.

Remedy: Check the 24 V DC voltage supply to power module.

230042 <location>Power module: Fan operating time reached or exceeded

Reaction: NONE

Acknowledge: NONE

Cause: The maximum operating time of the fan in the power module is set in p0252.
This message indicates the following:
Fault value (r0949, decimal):
0: The maximum fan operating time is 500 hours.
1: The maximum fan operating time has been exceeded.

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Remedy: Replace the fan in the power module and reset the operating hours counter to 0 (p0251 = 0).
See also: p0251, p0252

230043 <location>Power module: Overvoltage 24 V

Reaction: OFF2

Acknowledge: POWER ON

Cause: The following applies for PSA XM and PSA GL:
24 V power supply overvoltage for the power module.
- the set, upper threshold for the 24 V power supply voltage (default setting 31.5 V) was exceeded.

Remedy: Check the 24 V DC voltage supply to power module.

230044 <location>Power module: Overvoltage 24 V alarm

Reaction: NONE

Acknowledge: NONE

Cause: The following applies for PSA XM and PSA GL:
Before the last new start, a problem occurred at the 24 V power module power supply.
- the set, upper threshold for the 24 V power supply voltage (default setting 31.5 V) was exceeded.

Remedy: Check the 24 V DC voltage supply to power module.

230045 <location>Power module: Undervoltage, supply

Reaction: OFF2

Acknowledge: POWER ON

Cause: The following applies for PSA XM and PSA GL:
Power supply fault in the power module.
- the voltage monitoring in the internal FPGA of the PSA signals an undervoltage fault on the module.
Fault value (r0949):
Register value of the voltage fault register.

Remedy: Check the 24 V DC power supply for the power module and if required replace the module.

230046 <location>Power module: Undervoltage, alarm

Reaction: NONE

Acknowledge: NONE

Cause: The following applies for PSA XM and PSA GL:
Before the last new start, a problem occurred at the power module power supply.
- the voltage monitoring in the internal FPGA of the PSA signals an undervoltage fault on the module.
Fault value (r0949):
Register value of the voltage fault register.

Remedy: Check the 24 V DC power supply for the power module and if required replace the module.

230047 <location>Cooling system: Cooling medium flow rate too low

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: Cooling system: Fault - flow rate has fallen below the fault value

Remedy:

230105 <location>PM: Actual value sensing incorrect

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: At least one incorrect actual value channel was detected on the Power Stack Adapter (PSA).
The incorrect actual value channels are displayed in the following diagnostic parameters.

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Remedy: Evaluate the diagnostic parameters.
If the actual value channel is incorrect, check the components and if required, replace.

230600 <location>SI MM: STOP A initiated

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The drive-based "Safety Integrated" function in the Motor Module (MM) has detected a fault and initiated STOP A (pulse cancellation via the safety shutdown path of the Motor Module).
- forced checking procedure of the safety shutdown path of the Motor Module unsuccessful.
- subsequent response to fault F30611 (defect in a monitoring channel).
Fault value (r0949, decimal):
0: Stop request from the Control Unit.
1005: Pulses cancelled although SH not selected and there is not internal STOP A present.
1010: Pulses enabled although SH is selected or an internal STOP A is present.
9999: Subsequent response to fault F30611.

Remedy: - select safe standstill and then de-select again.
- replace the Motor Module involved.
Re fault value = 9999:
- carry-out diagnostics for fault F30611.
Note:
CU: Control unit
MM: Motor Module
SH: Safe standstill
SI: Safety Integrated

230611 <location>SI MM: Defect in a monitoring channel

Reaction: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The drive-based "Safety Integrated" function in the Motor Module (MM) has detected a fault in the crosswise data comparison between the Control Unit (CU) and MM and initiated a STOP F.
As a result of this fault, after the parameterized transition has expired (p9858), fault F30600 (SI MM: STOP A initiated) is output.
Fault value (r0949, decimal):
0: Stop request from the Control Unit.
1 to 999:
Number of the crosswise compared data that resulted in this fault.
1: SI monitoring clock cycle (r9780, r9880).
2: SI enable safety functions (p9601, p9801).
3: SI SGE changeover tolerance time (p9650, p9850).
4: SI transition period STOP F to STOP A (p9658, p9858).
5: SI enable safe brake control (p9602, p9802).
6: SI motion enable, safety-relevant functions (p9501, internal value). This number is also displayed in r9895.
1000: Watchdog timer has expired. Within the time of approx. 5 * p9850 too many switching operations have occurred at the safety-related inputs of the Control Unit.
1001, 1002: Initialization error, change timer / check timer.
2000: Status of the SH terminals on the Control Unit and Motor Module are different.
2001: Feedback signal for safe pulse cancellation on the Control Unit and Motor Module are different.

Remedy: Re fault value = 1 to 999:
- check the crosswise compared data that resulted in a STOP F.
- carry-out a POWER ON (power off/on) for all components.
- upgrade the Motor Module software.
- upgrade the Control Unit software.

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Re fault value = 1000:
- check the wiring of the safety-relevant inputs (SGE) on the Control Unit (contact problems).
Re fault value = 1001, 1002:
- carry-out a POWER ON (power off/on) for all components.
- upgrade the Motor Module software.
- upgrade the Control Unit software.
Re fault value = 2000, 2001:
- check the tolerance time SGE changeover and if required, increase the value (p9650, p9850).
- check the wiring of the safety-relevant inputs (SGE) (contact problems).
- replace the Motor Module involved.
Note:
CU: Control unit
MM: Motor Module
SGE: Safety-relevant input
SH: Safe standstill
SI: Safety Integrated

230620 <location>SI MM: Safe standstill active

Reaction: NONE

Acknowledge: NONE

Cause: The "safe standstill" function was selected on the Motor Module (MM) and is active.
Note:
This message does not result in a safety stop response.

Remedy: None necessary.
Note:
MM: Motor Module
SI: Safety Integrated

230625 <location>SI MM: Sign-of-life error in safety data

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The drive-based "Safety Integrated" function on the Motor Module (MM) has detected an error in the sign-of-life of the safety data between the Control Unit (CU) and MM and initiated a STOP A.
- there is either a DRIVE-CLIQ communications error or communications have failed.
- a time slice overflow of the safety software has occurred.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - select safe standstill and then de-select again.
- carry-out a POWER ON (power off/on) for all components.
- check whether there is a DRIVE-CLiQ communications error between the Control Unit and the Motor Module involved and if required, carry-out a diagnostics routine for the faults identified.
- de-select all drive functions that are not absolutely necessary.
- reduce the number of drives.
- check the electrical cabinet design and cable routing for EMC compliance
Note:
CU: Control unit
MM: Motor Module
SI: Safety Integrated

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230630 <location>SI MM: Brake control defective

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The drive-based "Safety Integrated" function on the Motor Module (MM) has detected a brake control fault and initiated a STOP A.
- no motor holding brake connected.
- the motor holding brake control on the Motor Module or the Control Unit is faulty.
- a DRIVE-CLiQ communications error has occurred between the Control Unit and the Motor Module.
Fault value (r0949, decimal):
10: No brake connected or fault in the Motor Module brake control circuit ("open brake" operation).
30: Short-circuit in the brake winding or fault in the Motor Module brake control circuit ("close brake" operation).
40: Defect in the brake control circuit of the Motor Module ("brake closed" state).
60, 70: Fault in the brake control of the Control Unit or communications fault between the Control Unit and Motor Module (brake control).

Remedy: - select safe standstill and then de-select again.
- check the motor holding brake connection.
- check the function of the motor holding brake.
- check whether there is a DRIVE-CLiQ communications error between the Control Unit and the Motor Module involved and if required, carry-out a diagnostics routine for the faults identified.
- check the electrical cabinet design and cable routing for EMC compliance
- replace the Motor Module involved.
Note:
CU: Control unit
MM: Motor Module
SI: Safety Integrated

230640 <location>SI MM: Fault in the control shutdown path

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The Motor Module has detected a communications error with the higher-level control to transfer the shutdown information.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - check the PROFIsafe address in the higher-level control and Motor Modules.
- carry-out a POWER ON for all components.
- upgrade the Motor Module software.
Note:
MM: Motor Module
SI: Safety Integrated
See also: p9810

230649 <location>SI MM: Internal software error

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: An internal error in the Safety Integrated software on the Motor Module has occurred.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.

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- re-commission the Safety Integrated function and carry-out a POWER ON.
- upgrade the Motor Module software.
- contact the Hotline.
- replace the Motor Module.

Note:
MM: Motor Module
SI: Safety Integrated

230650 <location>SI MM: Acceptance test required

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The "Safety Integrated" function on the Motor Module requires an acceptance test.
Note:
This fault results in a STOP A that can be acknowledged.
Fault value (r0949, decimal):
130: No safety parameters available for the Motor Module.
1000: Reference and actual checksum in the Motor Module are not identical (run-up).
- at least one checksum-checked piece of data is defective.

2000: Reference and actual checksum on the Motor Module are not identical (commissioning mode).
- reference checksum incorrectly entered into the Motor Module (p9899 not equal to r9898).

2003: Acceptance test is required as a safety parameter has been changed.
9999: Subsequent response of another safety-related fault that occurred at run-up that requires an acceptance test.

Remedy: Re fault value = 130:
- carry-out safety commissioning routine.

Re fault value = 1000:
- again carry-out safety commissioning routine.
- replace the CompactFlash card.

Re fault value = 2000:
- check the safety parameters in the Motor Module and adapt the reference checksum (p9899).

Re fault value = 2003:
- carry-out an acceptance test.

Re fault value = 9999:
- carry-out diagnostics for the other safety-related fault that is present.

Note:
MM: Motor Module
SI: Safety Integrated
See also: p9799, p9899

230651 <location>SI MM: Synchronization with Control Unit unsuccessful

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The drive-based "Safety Integrated" function is requesting synchronization of the safety time slices on the Control Unit and Motor Module. This synchronization routine was not successful.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy:
- carry-out a POWER ON (power off/on) for all components.
- upgrade the Motor Module software.
- upgrade the Control Unit software.

Note:
MM: Motor Module

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SI: Safety Integrated

230652 <location>SI MM: Monitoring clock cycle not permissible

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The Safety Integrated monitoring clock cycle cannot be maintained due to the communication conditions requested in the system.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: Upgrade the Motor Module software.
Note:
MM: Motor Module
SI: Safety Integrated

230655 <location>SI MM: Align monitoring functions

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: An error has occurred when aligning the Safety Integrated monitoring functions on the Control Unit (CU) and Motor Module (MM). Control unit and Motor Module were not able to determine a common set of supported SI monitoring functions.
- there is either a DRIVE-CLIQ communications error or communications have failed.
- Safety Integrated software releases on the Control Unit and Motor Module are not compatible with one another.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.
- upgrade the Motor Module software.
- upgrade the Control Unit software.
- check the electrical cabinet design and cable routing for EMC compliance
Note:
CU: Control unit
MM: Motor Module
SI: Safety Integrated

230656 <location>SI MM: Incorrect Motor Module parameter

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: When accessing the Safety Integrated parameters for the Motor Module (MM) on the CompactFlash card, an error has occurred.
Note:
This fault results in a STOP A that can be acknowledged.
Fault value (r0949, decimal):
129: Safety parameters for the Motor Module corrupted.
131: Internal software error on the Control Unit.
255: Internal Motor Module software error.

Remedy: - re-commission the safety functions.
- upgrade the Control Unit software.
- upgrade the Motor Module software.
- replace the CompactFlash card.
Note:
MM: Motor Module
SI: Safety Integrated

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230659 <location>SI MM: Write request for parameter rejected

Reaction: OFF2

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The write request for one or several Safety Integrated parameters on the Motor Module (MM) was rejected.
Note:
This fault does not result in a safety stop response.
Fault value (r0949, decimal):
10: An attempt was made to enable the SH function although this cannot be supported.
11: An attempt was made to enable the SBC function although this cannot be supported.
See also: r9771, r9871

Remedy: Re fault value = 10, 11:
- check whether there are faults in the safety function alignment between the Control Unit and the Motor Module involved (F01655, F30655) and if required, carry-out diagnostics for the faults involved.
- use a Motor Module that supports the function safe standstill or safe brake control.
- upgrade the Motor Module software.
- upgrade the Control Unit software.
Note:
MM: Motor Module
SBC: Safe brake control
SH: Safe standstill
SI: Safety Integrated

230801 <location>Power module DRIVE-CLiQ: Sign-of-life missing

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the power module involved.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.

Remedy: - check the electrical cabinet design and cable routing for EMC compliance
- replace the component involved.
See also: p9916

230802 <location>Power module: Time slice overflow

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: Time slide overflow.

Remedy:

230804 <location>Power module: CRC

Reaction: NONE

Acknowledge: NONE

Cause: CRC error actuator

Remedy:

230805 <location>Power module: Incorrect EPROM checksum

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: Internal parameter data is corrupted
Fault value (r0949, hexadecimal):
01: EEPROM access error.
02: Too many blocks in the EEPROM.

Remedy: Replace the module.

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230809 <location>Power module: Switching information not valid

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: For 3P gating unit:
The last switching status word in the setpoint telegram is identified by the end ID. Such an end ID was not found.

Remedy:

230810 <location>Power module: Watchdog timer

Reaction: NONE

Acknowledge: NONE

Cause: At run-up it was detected that the cause of the previous reset was an SAC watchdog timer overflow.

Remedy:

230820 <location>Power module DRIVE-CLiQ: Telegram error

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the power module involved.
Fault value (r0949, hexadecimal):
01: CRC error.
02: Telegram is shorter than specified in the length byte or in the receive list.
03: Telegram is longer than specified in the length byte or in the receive list.
04: The length of the receive telegram does not match the receive list.
05: The type of the receive telegram does not match the receive list.
06: The address of the power module in the telegram and in the receive list do not match.
07: Power module expects a SYNC telegram, but the receive telegram is not a SYNC telegram.
08: Power module does not expect a SYNC telegram, but the receive telegram is a SYNC telegram.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9916

230835 <location>Power module DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the power module involved. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.

Remedy: - carry-out a POWER ON.
- replace the component involved.
See also: p9916

230836 <location>Power module DRIVE-CLiQ: Send error for DRIVE-CLiQ data

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the power module involved. Data were not able to be sent.

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Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

230837 <location>Power module DRIVE-CLiQ: Component faulted

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

230845 <location>Power module DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the power module involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: Carry-out a POWER ON.
See also: p9916

230850 <location>Power module: Internal software error

Reaction: OFF1 (NONE, OFF2, OFF3)

Acknowledge: POWER ON

Cause: An internal software error in the power module has occurred.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - replace power module.
- if required, upgrade the firmware in the power module.
- contact the Hotline.

230851 <location>CU DRIVE-CLiQ: Sign-of-life missing

Reaction: OFF2 (NONE, OFF1, OFF3)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the power module involved. The DRIVE-CLiQ component did not set the sign of life to the Control Unit.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.

Remedy: - upgrade the firmware of the component involved.

230860 <location>CU DRIVE-CLiQ: Telegram error

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the power module involved.
Fault value (r0949, hexadecimal):
11: CRC error and the receive telegram is too early.

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01: CRC error.
12: The telegram is shorter than that specified in the length byte or in the receive list and the receive telegram is too early.
02: Telegram is shorter than specified in the length byte or in the receive list.
13: The telegram is longer than that specified in the length byte or in the receive list and the receive telegram is too early.
03: Telegram is longer than specified in the length byte or in the receive list.
14: The length of the receive telegram does not match the receive list and the receive telegram is too early.
04: The length of the receive telegram does not match the receive list.
15: The type of the receive telegram does not match the receive list and the receive telegram is too early.
05: The type of the receive telegram does not match the receive list.
16: The address of the power module in the telegram and in the receive list does not match and the receive telegram is too early.
06: The address of the power module in the telegram and in the receive list do not match.
19: The error bit in the receive telegram is set and the receive telegram is too early.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9915

230885 <location>CU DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the power module involved. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
1A: Sign-of-life bit in the receive telegram not set and the receive telegram is too early.
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.
62: Error at the transition to cyclic operation.

Remedy: - check the power supply voltage of the component involved.
- carry-out a POWER ON.
- replace the component involved.
See also: p9915

230886 <location>CU DRIVE-CLiQ: Error when sending DRIVE-CLiQ data

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the power module involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

230887 <location>CU DRIVE-CLiQ: Component faulted

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.

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42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.
60: Response received too late during runtime measurement.
61: Time taken to exchange characteristic data too long.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

230895 <location>CU DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF2 (DCBRAKE, NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the power module involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9915

230896 <location>CU DRIVE-CLiQ: Inconsistent component properties

Reaction: OFF2 (DCBRAKE, NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause: The properties of the DRIVE-CLiQ component, specified by the fault value, have changed in an incompatible fashion with respect to the run-up. One cause can be, e.g. that a DRIVE-CLiQ cable or DRIVE-CLiQ component has been replaced.
Fault value (r0949, decimal):
Component ID.

Remedy: - when replacing cables, only use cables with the same length as the original cables.
- when replacing components, use the same components and firmware releases.
- carry-out a POWER ON.

230897 <location>DRIVE-CLiQ: No communications to the components

Reaction: OFF2 (DCBRAKE, ENCODER, NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: Communications with the DRIVE-CLiQ component specified by the fault value is not possible.
One cause can be, e.g. that a DRIVE-CLiQ cable has been withdrawn.
Fault value (r0949, decimal):
Component ID.

Remedy: - check the DRIVE-CLiQ connections.
- carry-out a POWER ON.

230899 <location>Power module: Unknown fault

Reaction: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: A fault occurred on the power module that cannot be interpreted by the Control Unit firmware. This can occur if the firmware on the power module is more recent than the firmware on the Control Unit.
Fault value (r0949, decimal):
Fault number.
If required, the significance of this new fault can be read about in a more recent description of the Control Unit.

Remedy: - replace the firmware on the power module by an older firmware version (r0128).
- upgrade the firmware on the Control Unit (r0018).

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230903 <location>Power module: I2C bus

Reaction: NONE

Acknowledge: NONE

Cause: Communications with EPROM not possible
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: Replace module

230907 <location>Power module: FPGA configuration unsuccessful

Reaction: OFF2 (DCBRAKE, NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause:

Remedy:

230920 <location>Power module: Temperature sensor fault

Reaction: NONE

Acknowledge: NONE

Cause: When evaluating the temperature sensor, an error occurred.
Alarm value (r2124, decimal):
1: Wire breakage or sensor not connected (KTY: R > 1630 Ohm).
2: Measured resistance too low (PTC: R < 20 Ohm, KTY: R < 50 Ohm).

Remedy: - check that the sensor is connected correctly.
- replace sensor.

230999 <location>Power module: Unknown alarm

Reaction: NONE

Acknowledge: NONE

Cause: An alarm occurred on the power module that cannot be interpreted by the Control Unit firmware. This can occur if the firmware on the power module is more recent than the firmware on the Control Unit.
Alarm value (r2124, decimal):
Alarm number.
If required, the significance of this new alarm can be read about in a more recent description of the Control Unit.

Remedy: - replace the firmware on the power module by an older firmware version (r0128).
- upgrade the firmware on the Control Unit (r0018).

231100 <location>Encoder 1: Zero mark clearance error

Reaction: A_INFEED: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: READY

Cause: The measured zero mark clearance does not correspond to the parameterized zero mark clearance.
For distance-coded encoders, the zero mark distance is determined from zero marks detected pairs. This means that if a zero mark is missing, depending on the pair generation, this cannot result in a fault and also has no effect in the system.
The zero mark clearance for the zero mark monitoring is set in p0425 (rotary encoder) or p0424 (linear encoder).
Fault value (r0949, decimal):
Last measured zero mark clearance in increments (4 increments = 1 encoder pulse).
The sign designates the direction of motion when detecting the zero mark clearance (distance).

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
. check the encoder type (encoder with equidistant zero marks).

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- adapt the parameter for the distance between zero marks (p0424, p0425).
- replace the encoder or encoder cable.

231101 <location>Encoder 1: Zero mark failed

Reaction: A_INFEED: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: READY

Cause: The 1.5 x parameterized zero mark distance was exceeded.
The zero mark clearance for the zero mark monitoring is set in p0425 (rotary encoder) or p0424 (linear encoder).
Fault value (r0949, decimal):
Number of increments after POWER ON or since the last zero mark that was detected (4 increments = 1 encoder pulse).

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
. check the encoder type (encoder with equidistant zero marks).
- adapt the parameter for the clearance between zero marks (p0425).
- replace the encoder or encoder cable.

231110 <location>Encoder 1: EnDat communications error

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

Cause: Serial communication protocol transfer error between the encoder and evaluation module SMCxx.
Fault value (r0949, binary):
Bit 0: Alarm bit in the position protocol.
Bit 1: Incorrect quiescent level on the data line.
Bit 2: EnDat encoder does not respond (does not supply a start bit within 50 ms).
Bit 3: CRC error: The checksum in the protocol from the encoder does not match the data.
Bit 4: Incorrect encoder acknowledgement: The encoder incorrectly understood the task (request) or cannot execute it.
Bit 5: Internal error in the EnDat driver: An illegal mode command was requested.
Bit 6: Timeout with cyclically reading.

Remedy: Re fault value:
Bit 0 = 1: Encoder defective. F31111 may provide additional details.
Bit 1 = 1: Incorrect encoder type / replace the encoder or encoder cable.
Bit 2 = 1: Incorrect encoder type / replace the encoder or encoder cable.
Bit 3 = 1: EMC / connect the cable shield, replace the encoder or encoder cable.
Bit 4 = 1: EMC / connect the cable shield, replace the encoder or encoder cable, replace the Sensor Module.
Bit 5 = 1: EMC / connect the cable shield, replace the encoder or encoder cable, replace the Sensor Module.
Bit 6 = 1: Update the Sensor Module firmware.

231111 <location>Encoder 1: Absolute value encoder EnDat, internal fault/error

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

Cause: The EnDat encoder fault word contains fault bits that have been set.
Fault value (r0949, binary):
Bit 0: Lighting system failed.
Bit 1: Signal amplitude too low.
Bit 2: Position value incorrect.
Bit 3: Encoder power supply overvoltage condition.
Bit 4: Encoder power supply undervoltage condition.
Bit 5: Encoder power supply overcurrent condition.

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Bit 6: The battery must be changed.

Remedy: Re fault value, bit 0 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 1 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 2 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 3 = 1:
5 V power supply voltage fault.
When using an SMC. Check the plug-in cable between the encoder and SMC or replace the SMC.
When a motor encoder with a direct DRIVE-CLiQ connection is used: Replace the motor.
Re fault value, bit 4 = 1:
5 V power supply voltage fault.
When using an SMC. Check the plug-in cable between the encoder and SMC or replace the SMC.
When using a motor with DRIVE-CLiQ: Replace the motor.
Re fault value, bit 5 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 6 = 1:
The battery must be changed - only for encoders with battery back-up.

231115 <location>Encoder 1: Amplitude error track A or B (A^2 + B^2)

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

Cause: The amplitude (A^2 + B^2) does not lie within the tolerance bandwidth (software monitoring function).
SMC20:
The nominal signal level of the encoder must lie in the range 375 mV to 600 mV (500 mV -25 % / +20 %).
On the other hand, the response thresholds are < 230 mV and > 750 mV (frequency characteristic).
SMC10:
The nominal signal level is at 2900 mV (2.0 Vrms). The response thresholds are at < 1070 mV and > 3535 mV.
Fault value (r0949, decimal):
Low word:
Signal level, track A (16 bits with sign).
High word:
Signal level, track B (16 bits with sign).
SMC20:
A signal level of 500 mV peak value corresponds to the numerical value 5333 hex = 21299 dec.
SMC10:
A signal level of 2900 mV peak value corresponds to the numerical value 6666 hex = 26214 dec.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).

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231116 <location>Encoder 1: Amplitude error, monitoring track A + B

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: The amplitude of the rectified encoder signals A and B is not within the tolerance bandwidth (hardware monitoring).
The nominal signal level of the encoder must lie in the range 375 mV to 600 mV (500 mV -25 % / +20 %).
On the other hand, the hardware response thresholds are at < 176 mV and > 1.35 V.
Fault value (r0949, decimal):
Low word: Signal level, track A (16 bits with sign).
High word: Signal level, track B (16 bits with sign).
A signal level of 500 mV corresponds to the numerical value 5333 hex = 21299 dec.
These analog values are not measured at the same time with the hardware fault output.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).

231117 <location>Encoder 1: Inversion error, signals A and B

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: For a square-wave signal encoder (TTL. bipolar. double ended) the A* and B* signals are not inverted with respect to signals A and B.

Remedy: Check the setting of p0405: p0405.2 = 1 is only possible if the encoder is connected at X520.
Check the encoder/cable: Does the encoder supply TTL signals and the associated inverted signals?

231118 <location>Encoder 1: Speed difference outside the tolerance range

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

Cause: For an HTL/TTL encoder, the speed difference between two sampling cycles has exceeded the value in p0492.
Encoder 1 is used as motor encoder and can be effective has fault response to change over to sensorless operation.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - check the tachometer feeder cable for interruptions.
- check the grounding of the tachometer shielding.
- if required, increase the maximum speed difference per sampling cycle (p0492).

231120 <location>Encoder 1: Power supply volt.

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

Cause: Encoder power supply voltage fault.
Note:
If the encoder cables 6FX2002-2EQ00-.... and 6FX2002-2CH00-.... are interchanged, this can result in the encoder being destroyed because the pins of the operating voltage are reversed.
Fault value (r0949, binary):
Bit 0: Undervoltage condition on the sense line (threshold 4.75 V).
Bit 1: Encoder power supply voltage overcurrent condition (threshold 450 mA).

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Remedy: For fault value, bit 0 = 1:
- correct encoder cable connected?
- check the plug connections of the encoder cable.
- SMC30: Check the parameterization (p0404.22).
For fault value, bit 1 = 1:
- correct encoder cable connected?
- replace the encoder or encoder cable.

231121 <location>Encoder 1: Coarse position incorrect

Reaction: A_INFEED: NONE
SERVO: ENCODER (NONE)

Acknowledge: READY

Cause: For the actual value sensing, an error was detected on the module. As a result of this error, it must be assumed that the actual value sensing supplies an incorrect coarse position.

Remedy: Replace the motor with DRIVE-CLiQ or the appropriate Sensor Module.

231129 <location>Encoder 1: Position difference, hall sensor/track C/D and A/B too large

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

Cause: The error of track C/D is greater than +/-15 ° mechanical or +/-60 ° electrical.
One period of track C/D corresponds to 360 ° mechanical.
One period of the Hall signal corresponds to 360 ° electrical.
The monitoring responds if, for example, Hall sensors are connected as equivalent for the C/D tracks with the incorrect rotational sense or supply values that are not accurate enough.
After the fine synchronization using one reference mark or 2 reference marks for distance-coded encoders, this fault is no longer initiated, but instead, Alarm A31429.
Fault value (r0949, decimal):
Measured deviation as mechanical angle (16 bits with sign, 182 dec corresponds to 1 °).

Remedy: - track C or D not connected.
- correct the direction of rotation of the Hall sensor possibly connected as equivalent for track C/D.
- check that the encoder cables are routed in compliance with EMC.
- check the adjustment of the Hall sensor.

231130 <location>Encoder 1: Zero mark and position from the coarse synchronization are incorrect

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: READY

Cause: After initializing the pole position using track C/D, Hall signals or pole position identification routine, the zero mark was detected outside the permissible range. For distance-coded encoders, the test is carried-out after passing 2 zero marks. Fine synchronization was not carried-out.
The deviation may be up to 18 ° mechanical or up to 60 ° electrical.
Fault value (r0949, decimal):
Normalization: 32768 = 180 °
High word:
Mechanical zero mark position determined.
If the initialization via a track C/D is selected in p0404, then it is checked whether the zero mark occurs in an angular range of +/-18 ° mechanical.
Low word:
Deviation of the zero mark from the expected position as electrical angle.
If the correction of the commutation position with the zero mark is selected in p0404, then a difference of a maximum of +/- 60 ° electrical is permitted.

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This fault can occur when automatically determining the angular commutation offset (p0431) with p1990=1. This has no significance here and can be acknowledged without taking any other measures.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- if the Hall sensor is used as an equivalent for track C/D, check the connection.
- check the connection of track C or D.
- replace the encoder or encoder cable.

231131 <location>Encoder 1: Deviation, position incremental/absolute too large

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: READY

Cause: When cyclically reading the absolute position, an excessively high deviation to the incremental position was detected. The absolute position that was read is rejected.
Limit value for the deviation:
- EnDat encoder: Is supplied from the encoder and is a minimum of 2 quadrants (e.g. EQI 1325 > 2 quadrants, EQN 1325 > 50 quadrants).
- other encoders: 15 pulses = 60 quadrants.
Fault value (r0949, decimal):
Deviation in quadrants (1 pulse = 4 quadrants).

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check whether the coding disk is dirty or there are strong ambient magnetic fields.

231150 <location>Encoder 1: Initialization error

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: READY

Cause: Encoder functionality selected in p0404 is not operating correctly.
Fault value (r0949, hexadecimal):
The fault value is a bit field. Every set bit indicates functionality that is faulted.
The bit assignment corresponds to that of p0404 (e.g. bit 5 set: Error track C/D).
See also: p0404

Remedy: - Check that p0404 is correctly set.
- check the encoder type used (incremental/absolute value) and for SMCxx, the encoder cable.
- if relevant, note additional fault/error messages that describe the fault in detail.

231405 <location>Encoder 1: Encoder evaluation temperature too high

Reaction: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The encoder evaluation for a motor with DRIVE-CLiQ has detected an excessively high temperature.
The fault threshold is 125 ° C.
Alarm value (r2124, decimal):
Measured board/module temperature in 0.1 °C.

Remedy: Reduce the ambient temperature for the DRIVE-CLiQ connection of the motor.

231410 <location>Encoder 1: Serial communications

Reaction: NONE

Acknowledge: NONE

Cause: Serial communication protocol transfer error between the encoder and evaluation module SMCxx.
Alarm value (r2124, binary):

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Bit 0: Alarm bit in the position protocol.
Bit 1: Incorrect quiescent level on the data line.
Bit 2: EnDat encoder does not respond (does not supply a start bit).
Bit 3: CRC error: The checksum in the protocol from the encoder does not match the data.
Bit 4: Incorrect encoder acknowledgement: The encoder incorrectly understood the task (request) or cannot execute it.
Bit 5: Internal error in the EnDat driver: An illegal mode command was requested.
Bit 6: Position value longer than 40 bits.

Remedy:
- check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder.

231411 <location>Encoder 1: EnDat encoder signals alarms

Reaction: NONE

Acknowledge: NONE

Cause: The error word of the EnDat encoder has alarm bits that have been set.
Alarm value (r2124, binary):
Bit 0: Frequency exceeded (speed too high).
Bit 1: Temperature exceeded.
Bit 2: Control reserve, lighting system exceeded.
Bit 3: Battery discharged.
Bit 4: Reference point passed.

Remedy: Replace encoder.

231414 <location>Encoder 1: Amplitude error track C or D (C^2 + D^2)

Reaction: NONE

Acknowledge: NONE

Cause: The amplitude (C^2 + D^2) of track C or D of the encoder or from the Hall signals, is not within the tolerance bandwidth.
The nominal signal must be in the range 375 mV to 600 mV (500 mV -25 % / +20 %).
On the other hand, the response thresholds are < 230 mV and > 750 mV (frequency characteristic).
This fault also occurs if the A/D converter is overcontrolled.
If the amplitude is not within the tolerance bandwidth, then it cannot be used to initialize the start position.
Alarm value (r2124, decimal):
Low word: Signal level, track C (16 bits with sign).
High word: Signal level, track D (16 bits with sign).
A signal level of 500 mV corresponds to the numerical value 5333 hex = 21299 dec.

Remedy:
- check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).
- check the Hall sensor box

231415 <location>Encoder 1: Amplitude alarm, track A or B (A^2 + B^2)

Reaction: NONE

Acknowledge: NONE

Cause: The amplitude (A^2 + B^2) of track A or B is not within the tolerance bandwidth.
SMC20:
The nominal signal level is at 500 mV (500 mV -25 % / +20 %). The response threshold is < 300 mV.
SMC10:
The nominal signal level is at 2900 mV (2.0 Vrms). The response threshold is < 1414 mV (1.0 Vrms).
Alarm value (r2124, decimal):
Low word:

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Amplitude square root(A*A + B*B).
SMC20:
A signal level of 500 mV peak value corresponds to the numerical value 299A hex = 10650 dec.
SMC10:
A signal level of 2900 mV peak value corresponds to the numerical value 3333 hex = 13107 dec.
High word:
Angle 0 to 65535 corresponds to 0 to 360 degrees of the fine position. Zero degrees is at the negative zero crossover of track B.

Remedy: - check the speed range, frequency characteristic (amplitude characteristic) of the measuring equipment is not sufficient for the speed range.
- check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).
- dirty code disk
- aged lighting system.

231418 <location>Encoder 1: Speed difference per sampling rated exceeded

Reaction: NONE

Acknowledge: NONE

Cause: For an HTL/TTL encoder, the speed difference between two sampling cycles has exceeded the value in p0492.
Alarm value (r2124, decimal):
Only for internal Siemens troubleshooting.

Remedy: - check the tachometer feeder cable for interruptions.
- check the grounding of the tachometer shielding.
- if required, increase the setting of p0492.

231419 <location>Encoder 1: Track A or B outside the tolerance range

Reaction: NONE

Acknowledge: NONE

Cause: The amplitude, phase or offset correction for track A or B is at the limit.
Amplitude error correction: Amplitude B / Amplitude A = 0.78 ... 1.27
Phase: <84 degrees or >96 degrees
SMC20: Offset correction: +/-140 mV
SMC10: Offset correction: +/-650 mV
Alarm value (r2124, hexadecimal):
xxx1: Minimum of the offset correction, track B
xxx2: Maximum of the offset correction, track B
xx1x: Minimum of the offset correction, track A
xx2x: Maximum of the offset correction, track A
x1xx: Minimum of the amplitude correction, track B/A
x2xx: Maximum of the amplitude correction, track B/A
1xxx: Minimum of the phase error correction
2xxx: Maximum of the phase error correction

Remedy: - check mechanical mounting tolerances for encoders without their own bearings (e.g. toothed-wheel encoders).
- check the plug connections (also the transition resistance).
- check the encoder signals.
- replace the encoder or encoder cable.

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231429 <location>Encoder 1: Position difference, hall sensor/track C/D and A/B too large

Reaction: NONE

Acknowledge: NONE

Cause: The error of track C/D is greater than +/-15 ° mechanical or +/-60 ° electrical.
One period of track C/D corresponds to 360 ° mechanical.
One period of the Hall signal corresponds to 360 ° electrical.
The monitoring responds if, for example, Hall sensors are connected as equivalent for the C/D tracks with the incorrect rotational sense or supply values that are not accurate enough.
Alarm value (r2124, decimal):
Measured deviation as mechanical angle (16 bits with sign, 182 dec corresponds to 1 °).

Remedy: - track C or D not connected.
- correct the direction of rotation of the Hall sensor possibly connected as equivalent for track C/D.
- check that the encoder cables are routed in compliance with EMC.
- check the adjustment of the Hall sensor.

231801 <location>Encoder 1 DRIVE-CLiQ: Sign-of-life missing

Reaction: A_INFEED: OFF2 (NONE)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.

Remedy: - check the electrical cabinet design and cable routing for EMC compliance
- replace the component involved.
See also: p9916

231802 <location>Encoder 1: Time slice overflow

Reaction: A_INFEED: OFF2 (NONE)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: Time slice overflow, encoder 1.
Fault value (r0949, decimal):
9: Time slice overflow of the fast (current controller clock cycle) time slice.
10: Time slice overflow of the average time slice.
12: Time slice overflow of the slow time slice.
999: Timeout when waiting for SYNO, e.g. unexpected return to non-cyclic operation.

Remedy: Reduce the current controller frequency.

231804 <location>Encoder 1: CRC CODE RAM

Reaction: A_INFEED: OFF2 (NONE)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: The checksum via the CODE-RAM of the Sensor Module has changed in operation.
Fault value (r0949, hexadecimal):
Difference between the checksum at POWER ON and the actual checksum.

Remedy: Hardware defect: Replace the Sensor Module.
Firmware error: If required, upgrade the firmware.

231805 <location>Encoder 1: Incorrect EPROM checksum

Reaction: A_INFEED: OFF2 (NONE)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: Internal parameter data is corrupted.

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Fault value (r0949, hexadecimal):
01: EEPROM access error.
02: Too many blocks in the EEPROM.

Remedy: Replace the module.

231806 <location>Encoder 1: Initialization unsuccessful

Reaction: A_INFEED: OFF2 (NONE)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

Cause: The encoder was not successfully initialized.
Fault value (r0949, hexadecimal):
1, 2, 3: Encode initialization with the motor rotating.

Remedy: Acknowledge the fault.

231811 <location>Encoder 1: Encoder serial number changed

Reaction: A_INFEED: OFF2 (NONE)
SERVO: NONE (ENCODER, OFF2)

Acknowledge: IMMEDIATELY

Cause: The serial number of the motor encoder of a synchronous motor has changed. The change was only checked for encoders with serial number (e.g. EnDat encoders) and build-in motors (e.g. p300 = 401) or third-party motors (p0300 = 2).
Cause 1:
The motor with integrated and adjusted encoder was replaced.
Cause 2:
The encoder was replaced.
Cause 3:
A third-party, build-in or linear motor was re-commissioned.
Cause 4:
The firmware was updated to a version that checks the encoder serial number.

Remedy: Re causes 1, 4:
Accept the new serial number with p0440 = 1.
Re causes 2, 3:
Carry-out an automatic adjustment using the pole position identification routine. First, accept the serial number with p0440 = 1. Acknowledge the fault. Initiate the pole position identification routine with p1990 = 1. Then check that the pole position identification routine is correctly executed.
SERVO: If a pole position identification technique is selected in p1980, and if p0301 does not contain a motor type with an encoder adjusted in the factory, then p1990 is automatically activated.
or
Set the adjustment using parameter p0431. In this case, the new serial number is automatically accepted.
or
Mechanically adjust the encoder. Accept the new serial number with p0440 = 1.

231820 <location>Encoder 1 DRIVE-CLiQ: Telegram error

Reaction: A_INFEED: OFF2
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved.
Fault value (r0949, hexadecimal):
01: CRC error.
02: Telegram is shorter than specified in the length byte or in the receive list.
03: Telegram is longer than specified in the length byte or in the receive list.
04: The length of the receive telegram does not match the receive list.
05: The type of the receive telegram does not match the receive list.
06: The address of the encoder in the telegram and in the receive list do not match.

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07: The encoder expects a SYNC telegram, but the receive telegram is not a SYNC telegram.
08: The encoder does not expect a SYNC telegram, but the receive telegram is a SYNC telegram.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9916

231835 <location>Encoder 1 DRIVE-CLiQ: Cyclic data transfer error

Reaction: A_INFEED: OFF2
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.

Remedy: - carry-out a POWER ON.
- replace the component involved.
See also: p9916

231836 <location>Encoder 1 DRIVE-CLiQ: Send error for DRIVE-CLiQ data

Reaction: A_INFEED: OFF2
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

231837 <location>Encoder 1 DRIVE-CLiQ: Component faulted

Reaction: A_INFEED: OFF2
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

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231845 <location>Encoder 1 DRIVE-CLiQ: Cyclic data transfer error

Reaction: A_INFEED: OFF2
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: Carry-out a POWER ON.
See also: p9916

231850 <location>Encoder 1: Sensor Module, internal software error

Reaction: A_INFEED: OFF2 (NONE)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: POWER ON

Cause: Internal software error in the Sensor Module of encoder 1.
Fault value (r0949, decimal):
1: Background time slice is blocked.
2: Checksum over the code memory is not OK.
10000: OEM memory of the EnDat encoder contains data that cannot be interpreted.

Remedy: - replace the Sensor Module.
- if required, upgrade the firmware in the Sensor Module.
- contact the Hotline.

231851 <location>CU DRIVE-CLiQ: Sign-of-life missing

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the power module involved. The DRIVE-CLiQ component did not set the sign of life to the Control Unit.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.

Remedy: - upgrade the firmware of the component involved.

231860 <location>CU DRIVE-CLiQ: Telegram error

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved.
Fault value (r0949, hexadecimal):
11: CRC error and the receive telegram is too early.
01: CRC error.
12: The telegram is shorter than that specified in the length byte or in the receive list and the receive telegram is too early.
02: Telegram is shorter than specified in the length byte or in the receive list.
13: The telegram is longer than that specified in the length byte or in the receive list and the receive telegram is too early.
03: Telegram is longer than specified in the length byte or in the receive list.
14: The length of the receive telegram does not match the receive list and the receive telegram is too early.
04: The length of the receive telegram does not match the receive list.
15: The type of the receive telegram does not match the receive list and the receive telegram is too early.
05: The type of the receive telegram does not match the receive list.
16: The address of the encoder in the telegram and in the receive list does not match and the receive telegram is too early.

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06: The address of the encoder in the telegram and in the receive list do not match.
19: The error bit in the receive telegram is set and the receive telegram is too early.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9915

231885 <location>CU DRIVE-CLiQ: Cyclic data transfer error

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
1A: Sign-of-life bit in the receive telegram not set and the receive telegram is too early.
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.
62: Error at the transition to cyclic operation.

Remedy: - check the power supply voltage of the component involved.
- carry-out a POWER ON.
- replace the component involved.
See also: p9915

231886 <location>CU DRIVE-CLiQ: Error when sending DRIVE-CLiQ data

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.
- check whether the firmware version of the encoder (r0148) matches the firmware version of Control Unit (r0018).

231887 <location>CU DRIVE-CLiQ: Component faulted

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.
60: Response received too late during runtime measurement.
61: Time taken to exchange characteristic data too long.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

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231895 <location>CU DRIVE-CLiQ: Cyclic data transfer error

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9915

231896 <location>CU DRIVE-CLiQ: Inconsistent component properties

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: OFF2 (DCBRAKE, ENCODER, NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause: The properties of the DRIVE-CLiQ component, specified by the fault value, have changed in an incompatible fashion with respect to the run-up. One cause can be, e.g. that a DRIVE-CLiQ cable or DRIVE-CLiQ component has been replaced.
Fault value (r0949, decimal):
Component ID.

Remedy: - when replacing cables, only use cables with the same length as the original cables.
- when replacing components, use the same components and firmware releases.
- carry-out a POWER ON.

231897 <location>DRIVE-CLiQ: No communications to the components

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: Communications with the DRIVE-CLiQ component specified by the fault value is not possible.
One cause can be, e.g. that a DRIVE-CLiQ cable has been withdrawn.
Fault value (r0949, decimal):
Component ID.

Remedy: - check the DRIVE-CLiQ connections.
- carry-out a POWER ON.

231899 <location>Encoder 1: Unknown fault

Reaction: A_INFEED: OFF2 (DCBRAKE, NONE, OFF1, OFF3, STOP1, STOP2)
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: A fault occurred on the Sensor Module for encoder 1 that cannot be interpreted by the Control Unit firmware.
This can occur if the firmware on the Sensor Module for encoder 1 is more recent than the firmware on the Control Unit.
Fault value (r0949, decimal):
Fault number.
If required, the significance of this new fault can be read about in a more recent description of the Control Unit.

Remedy: - replace the firmware on the Sensor Module by an older firmware version (r0148).
- upgrade the firmware on the Control Unit (r0018).

231905 <location>Encoder 1: Parameteriz. error

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause: A parameter of encoder 1 was detected as being incorrect.
It is possible that the parameterized encoder type does not match the connected encoder.

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The parameter involved can be determined as follows:
- determine the parameter number using the fault value (r0949).
- determine the parameter index (p0187).
Fault value (r0949, decimal):
Parameter number.

Remedy: - check whether the connected encoder type matches the encoder that has been parameterized.
- correct the parameter specified by the fault value (r0949) and p0187.

231920 <location>Encoder 1: Temperature sensor fault

Reaction: NONE

Acknowledge: NONE

Cause: When evaluating the temperature sensor, an error occurred.
Alarm value (r2124, decimal):
1: Wire breakage or sensor not connected (KTY: R > 1630 Ohm).
2: Measured resistance too low (PTC: R < 20 Ohm, KTY: R < 50 Ohm).

Remedy: - check that the encoder cable is the correct type and is correctly connected.
- check the temperature sensor selection in p0600 to p0603.
- replace the Sensor Module (hardware defect or incorrect calibration data).

231999 <location>Encoder 1: Unknown alarm

Reaction: NONE

Acknowledge: NONE

Cause: A alarm has occurred on the Sensor Module for encoder 1 that cannot be interpreted by the Control Unit firmware.
This can occur if the firmware on the Sensor Module for encoder 1 is more recent than the firmware on the Control Unit.
Alarm value (r2124, decimal):
Alarm number.
If required, the significance of this new alarm can be read about in a more recent description of the Control Unit.

Remedy: - replace the firmware on the Sensor Module by an older firmware version (r0148).
- upgrade the firmware on the Control Unit (r0018).

232100 <location>Encoder 2: Zero mark clearance error

Reaction: A_INFEED: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: READY

Cause: The measured zero mark clearance does not correspond to the parameterized zero mark clearance.
For distance-coded encoders, the zero mark distance is determined from zero marks detected pairs. This means that if a zero mark is missing, depending on the pair generation, this cannot result in a fault and also has no effect in the system.
The zero mark clearance for the zero mark monitoring is set in p0425 (rotary encoder) or p0424 (linear encoder).
Fault value (r0949, decimal):
Last measured zero mark clearance in increments (4 increments = 1 encoder pulse).
The sign designates the direction of motion when detecting the zero mark clearance (distance).

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
. check the encoder type (encoder with equidistant zero marks).
- adapt the parameter for the distance between zero marks (p0424, p0425).
- replace the encoder or encoder cable.

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232101 <location>Encoder 2: Zero mark failed

Reaction: A_INFEED: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: READY

Cause: The 1.5 x parameterized zero mark distance was exceeded.
The zero mark clearance for the zero mark monitoring is set in p0425 (rotary encoder) or p0424 (linear encoder).
Fault value (r0949, decimal):
Number of increments after POWER ON or since the last zero mark that was detected (4 increments = 1 encoder pulse).

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
. check the encoder type (encoder with equidistant zero marks).
- adapt the parameter for the clearance between zero marks (p0425).
- replace the encoder or encoder cable.

232110 <location>Encoder 2: EnDat communications error

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

Cause: Serial communication protocol transfer error between the encoder and evaluation module SMCxx.
Fault value (r0949, binary):
Bit 0: Alarm bit in the position protocol.
Bit 1: Incorrect quiescent level on the data line.
Bit 2: EnDat encoder does not respond (does not supply a start bit within 50 ms).
Bit 3: CRC error: The checksum in the protocol from the encoder does not match the data.
Bit 4: Incorrect encoder acknowledgement: The encoder incorrectly understood the task (request) or cannot execute it.
Bit 5: Internal error in the EnDat driver: An illegal mode command was requested.
Bit 6: Timeout with cyclically reading.

Remedy: Re fault value:
Bit 0 = 1: Encoder defective. F31111 may provide additional details.
Bit 1 = 1: Incorrect encoder type / replace the encoder or encoder cable.
Bit 2 = 1: Incorrect encoder type / replace the encoder or encoder cable.
Bit 3 = 1: EMC / connect the cable shield, replace the encoder or encoder cable.
Bit 4 = 1: EMC / connect the cable shield, replace the encoder or encoder cable, replace the Sensor Module.
Bit 5 = 1: EMC / connect the cable shield, replace the encoder or encoder cable, replace the Sensor Module.
Bit 6 = 1: Update the Sensor Module firmware.

232111 <location>Encoder 2: Absolute value encoder EnDat, internal fault/error

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

Cause: The EnDat encoder fault word contains fault bits that have been set.
Fault value (r0949, binary):
Bit 0: Lighting system failed.
Bit 1: Signal amplitude too low.
Bit 2: Position value incorrect.
Bit 3: Encoder power supply overvoltage condition.
Bit 4: Encoder power supply undervoltage condition.
Bit 5: Encoder power supply overcurrent condition.
Bit 6: The battery must be changed.

Remedy: Re fault value, bit 0 = 1:

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Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 1 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 2 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 3 = 1:
5 V power supply voltage fault.
When using an SMC. Check the plug-in cable between the encoder and SMC or replace the SMC.
When a motor encoder with a direct DRIVE-CLiQ connection is used: Replace the motor.
Re fault value, bit 4 = 1:
5 V power supply voltage fault.
When using an SMC. Check the plug-in cable between the encoder and SMC or replace the SMC.
When using a motor with DRIVE-CLiQ: Replace the motor.
Re fault value, bit 5 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 6 = 1:
The battery must be changed - only for encoders with battery back-up.

232115 <location>Encoder 2: Amplitude error track A or B (A^2 + B^2)

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

Cause: SMC20:
The nominal signal level of the encoder must lie in the range 375 mV to 600 mV (500 mV -25 % / +20 %).
On the other hand, the response thresholds are < 230 mV and > 750 mV (frequency characteristic).
SMC10:
The nominal signal level is at 2900 mV (2.0 Vrms). The response thresholds are at < 1070 mV and > 3535 mV.
Fault value (r0949, decimal):
Low word:
Signal level, track A (16 bits with sign).
High word:
Signal level, track B (16 bits with sign).
SMC20:
A signal level of 500 mV peak value corresponds to the numerical value 5333 hex = 21299 dec.
SMC10:
A signal level of 2900 mV peak value corresponds to the numerical value 6666 hex = 26214 dec.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).

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232116 <location>Encoder 2: Amplitude error, monitoring track A + B

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: The amplitude of the rectified encoder signals A and B is not within the tolerance bandwidth (hardware monitoring).
The nominal signal level of the encoder must lie in the range 375 mV to 600 mV (500 mV -25 % / +20 %).
On the other hand, the hardware response thresholds are at < 176 mV and > 1.35 V.
Fault value (r0949, decimal):
Low word: Signal level, track A (16 bits with sign).
High word: Signal level, track B (16 bits with sign).
A signal level of 500 mV corresponds to the numerical value 5333 hex = 21299 dec.
These analog values are not measured at the same time with the hardware fault output.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).

232117 <location>Encoder 2: Inversion error, signals A and B

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: For a square-wave signal encoder (TTL. bipolar. double ended) the A* and B* signals are not inverted with respect to signals A and B.

Remedy: Check the setting of p0405: p0405.2 = 1 is only possible if the encoder is connected at X520.
Check the encoder/cable: Does the encoder supply TTL signals and the associated inverted signals?

232118 <location>Encoder 2: Speed difference outside the tolerance range

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

Cause: For an HTL/TTL encoder, the speed difference between two sampling cycles has exceeded the value in p0492.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - check the tachometer feeder cable for interruptions.
- check the grounding of the tachometer shielding.
- if required, increase the maximum speed difference per sampling cycle (p0492).

232120 <location>Encoder 2: Power supply volt.

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

Cause: Encoder power supply voltage fault.
Note:
If the encoder cables 6FX2002-2EQ00-.... and 6FX2002-2CH00-.... are interchanged, this can result in the encoder being destroyed because the pins of the operating voltage are reversed.
Fault value (r0949, binary):
Bit 0: Undervoltage condition on the sense line (threshold 4.75 V).
Bit 1: Encoder power supply voltage overcurrent condition (threshold 450 mA).

Remedy: For fault value, bit 0 = 1:
- correct encoder cable connected?

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- check the plug connections of the encoder cable.
- SMC30: Check the parameterization (p0404.22).
For fault value, bit 1 = 1:
- correct encoder cable connected?
- replace the encoder or encoder cable.

232121 <location>Encoder 2: Coarse position incorrect

Reaction: A_INFEED: NONE
SERVO: ENCODER (NONE)

Acknowledge: READY

Cause: For the actual value sensing, an error was detected on the module. As a result of this error, it must be assumed that the actual value sensing supplies an incorrect coarse position.

Remedy: Replace the motor with DRIVE-CLiQ or the appropriate Sensor Module.

232129 <location>Encoder 2: Position difference, hall sensor/track C/D and A/B too large

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

Cause: The error of track C/D is greater than +/-15 ° mechanical or +/-60 ° electrical.
One period of track C/D corresponds to 360 ° mechanical.
One period of the Hall signal corresponds to 360 ° electrical.
The monitoring responds if, for example, Hall sensors are connected as equivalent for the C/D tracks with the incorrect rotational sense or supply values that are not accurate enough.
After the fine synchronization using one reference mark or 2 reference marks for distance-coded encoders, this fault is no longer initiated, but instead, Alarm A32429.
Fault value (r0949, decimal):
Measured deviation as mechanical angle (16 bits with sign, 182 dec corresponds to 1 °).

Remedy: - track C or D not connected.
- correct the direction of rotation of the Hall sensor possibly connected as equivalent for track C/D.
- check that the encoder cables are routed in compliance with EMC.
- check the adjustment of the Hall sensor.

232130 <location>Encoder 2: Zero mark and position from the coarse synchronization are incorrect

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: READY

Cause: After initializing the pole position using track C/D, Hall signals or pole position identification routine, the zero mark was detected outside the permissible range. For distance-coded encoders, the test is carried-out after passing 2 zero marks. Fine synchronization was not carried-out.
The deviation may be up to 18 ° mechanical or up to 60 ° electrical.
Fault value (r0949, decimal):
Normalization: 32768 = 180 °
High word:
Mechanical zero mark position determined.
If the initialization via a track C/D is selected in p0404, then it is checked whether the zero mark occurs in an angular range of +/-18 ° mechanical.
Low word:
Deviation of the zero mark from the expected position as electrical angle.
If the correction of the commutation position with the zero mark is selected in p0404, then a difference of a maximum of +/- 60 ° electrical is permitted.

Remedy: - check that the encoder cables are routed in compliance with EMC.

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- check the plug connections.
- if the Hall sensor is used as an equivalent for track C/D, check the connection.
- check the connection of track C or D.
- replace the encoder or encoder cable.

232131 <location>Encoder 2: Deviation, position incremental/absolute too large

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: READY

Cause: When cyclically reading the absolute position, an excessively high deviation to the incremental position was detected. The absolute position that was read is rejected.
Limit value for the deviation:
- EnDat encoder: Is supplied from the encoder and is a minimum of 2 quadrants (e.g. EQI 1325 > 2 quadrants, EQN 1325 > 50 quadrants).
- other encoders: 15 pulses = 60 quadrants.
Fault value (r0949, decimal):
Deviation in quadrants (1 pulse = 4 quadrants).

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check whether the coding disk is dirty or there are strong ambient magnetic fields.

232150 <location>Encoder 2: Initialization error

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: READY

Cause: Encoder functionality selected in p0404 is not operating correctly.
Fault value (r0949, hexadecimal):
The fault value is a bit field. Every set bit indicates functionality that is faulted.
The bit assignment corresponds to that of p0404 (e.g. bit 5 set: Error track C/D).

Remedy: - Check that p0404 is correctly set.
- check the encoder type used (incremental/absolute value) and for SMCxx, the encoder cable.
- if relevant, note additional fault/error messages that describe the fault in detail.

232405 <location>Encoder 2: Encoder evaluation temperature too high

Reaction: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The encoder evaluation for a motor with DRIVE-CLiQ has detected an excessively high temperature.
The fault threshold is 125 ° C.
Alarm value (r2124, decimal):
Measured board/module temperature in 0.1 °C.

Remedy: Reduce the ambient temperature for the DRIVE-CLiQ connection of the motor.

232410 <location>Encoder 2: Serial communications

Reaction: NONE

Acknowledge: NONE

Cause: Serial communication protocol transfer error between the encoder and evaluation module SMCxx.
Alarm value (r2124, binary):
Bit 0: Alarm bit in the position protocol.
Bit 1: Incorrect quiescent level on the data line.
Bit 2: EnDat encoder does not respond (does not supply a start bit).
Bit 3: CRC error: The checksum in the protocol from the encoder does not match the data.

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Bit 4: Incorrect encoder acknowledgement: The encoder incorrectly understood the task (request) or cannot execute it.
Bit 5: Internal error in the EnDat driver: An illegal mode command was requested.
Bit 6: Position value longer than 40 bits.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder.

232411 <location>Encoder 2: EnDat encoder signals alarms

Reaction: NONE

Acknowledge: NONE

Cause: The error word of the EnDat encoder has alarm bits that have been set.
Alarm value (r2124, binary):
Bit 0: Frequency exceeded (speed too high).
Bit 1: Temperature exceeded.
Bit 2: Control reserve, lighting system exceeded.
Bit 3: Battery discharged.
Bit 4: Reference point passed.

Remedy: Replace encoder.

232414 <location>Encoder 2: Amplitude error track C or D (C^2 + D^2)

Reaction: NONE

Acknowledge: NONE

Cause: The amplitude (C^2 + D^2) of track C or D of the encoder or from the Hall signals, is not within the tolerance bandwidth.
The nominal signal must be in the range 375 mV to 600 mV (500 mV -25 % / +20 %).
On the other hand, the response thresholds are < 230 mV and > 750 mV (frequency characteristic).
This fault also occurs if the A/D converter is overcontrolled.
If the amplitude is not within the tolerance bandwidth, then it cannot be used to initialize the start position.
Alarm value (r2124, decimal):
Low word: Signal level, track C (16 bits with sign).
High word: Signal level, track D (16 bits with sign).
A signal level of 500 mV corresponds to the numerical value 5333 hex = 21299 dec.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).
- check the Hall sensor box

232415 <location>Encoder 2: Amplitude alarm, track A or B (A^2 + B^2)

Reaction: NONE

Acknowledge: NONE

Cause: The amplitude (A^2 + B^2) of track A or B is not within the tolerance bandwidth.
SMC20:
The nominal signal level is at 500 mV (500 mV -25 % / +20 %). The response threshold is < 300 mV.
SMC10:
The nominal signal level is at 2900 mV (2.0 Vrms). The response threshold is < 1414 mV (1.0 Vrms).
Alarm value (r2124, decimal):
Low word:
Amplitude square root(A*A + B*B).
SMC20:
A signal level of 500 mV peak value corresponds to the numerical value 299A hex = 10650 dec.

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SMC10:
A signal level of 2900 mV peak value corresponds to the numerical value 3333 hex = 13107 dec.
High word:
Angle 0 to 65535 corresponds to 0 to 360 degrees of the fine position. Zero degrees is at the negative zero crossover of track B.

Remedy: - check the speed range, frequency characteristic (amplitude characteristic) of the measuring equipment is not sufficient for the speed range.
- check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).
- dirty code disk
- aged lighting system.

232418 <location>Encoder 2: Speed difference per sampling rated exceeded

Reaction: NONE

Acknowledge: NONE

Cause: For an HTL/TTL encoder, the speed difference between two sampling cycles has exceeded the value in p0492.
Alarm value (r2124, decimal):
Only for internal Siemens troubleshooting.

Remedy: - check the tachometer feeder cable for interruptions.
- check the grounding of the tachometer shielding.
- if required, increase the setting of p0492.

232419 <location>Encoder 2: Track A or B outside the tolerance range

Reaction: NONE

Acknowledge: NONE

Cause: The amplitude, phase or offset correction for track A or B is at the limit.
Amplitude error correction: Amplitude B / Amplitude A = 0.78 ... 1.27
Phase: <84 degrees or >96 degrees
SMC20: Offset correction: +/-140 mV
SMC10: Offset correction: +/-650 mV
Alarm value (r2124, hexadecimal):
xxx1: Minimum of the offset correction, track B
xxx2: Maximum of the offset correction, track B
xx1x: Minimum of the offset correction, track A
xx2x: Maximum of the offset correction, track A
x1xx: Minimum of the amplitude correction, track B/A
x2xx: Maximum of the amplitude correction, track B/A
1xxx: Minimum of the phase error correction
2xxx: Maximum of the phase error correction

Remedy: - check mechanical mounting tolerances for encoders without their own bearings (e.g. toothed-wheel encoders).
- check the plug connections (also the transition resistance).
- check the encoder signals.
- replace the encoder or encoder cable.

232429 <location>Encoder 2: Position difference, hall sensor/track C/D and A/B too large

Reaction: NONE

Acknowledge: NONE

Cause: The error of track C/D is greater than +/-15 ° mechanical or +/-60 ° electrical.
One period of track C/D corresponds to 360 ° mechanical.
One period of the Hall signal corresponds to 360 ° electrical.

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The monitoring responds if, for example, Hall sensors are connected as equivalent for the C/D tracks with the incorrect rotational sense or supply values that are not accurate enough.
Alarm value (r2124, decimal):
Measured deviation as mechanical angle (16 bits with sign, 182 dec corresponds to 1 °).

Remedy: - track C or D not connected.
- correct the direction of rotation of the Hall sensor possibly connected as equivalent for track C/D.
- check that the encoder cables are routed in compliance with EMC.
- check the adjustment of the Hall sensor.

232801 <location>Encoder 2 DRIVE-CLiQ: Sign-of-life missing

Reaction: A_INFEED: OFF2 (NONE)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.

Remedy: - check the electrical cabinet design and cable routing for EMC compliance
- replace the component involved.
See also: p9916

232802 <location>Encoder 2: Time slice overflow

Reaction: A_INFEED: OFF2 (NONE)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: Time slice overflow, encoder 2.
Fault value (r0949, decimal):
9: Time slice overflow of the fast (current controller clock cycle) time slice.
10: Time slice overflow of the average time slice.
12: Time slice overflow of the slow time slice.
999: Timeout when waiting for SYNO, e.g. unexpected return to non-cyclic operation.

Remedy: Reduce the current controller frequency.

232804 <location>Encoder 2: CRC CODE RAM

Reaction: A_INFEED: OFF2 (NONE)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: The checksum via the CODE-RAM of the Sensor Module has changed in operation.
Fault value (r0949, hexadecimal):
Difference between the checksum at POWER ON and the actual checksum.

Remedy: Hardware defect: Replace the Sensor Module.
Firmware error: If required, upgrade the firmware.

232805 <location>Encoder 2: Incorrect EPROM checksum

Reaction: A_INFEED: OFF2 (NONE)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: Internal parameter data is corrupted.
Fault value (r0949, hexadecimal):
01: EEPROM access error.
02: Too many blocks in the EEPROM.

Remedy: Replace the module.

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232806 <location>Encoder 2: Initialization unsuccessful

Reaction: A_INFEED: OFF2 (NONE)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

Cause: The encoder was not successfully initialized.
Fault value (r0949, hexadecimal):
1, 2, 3: Encode initialization with the motor rotating.

Remedy: Acknowledge the fault.

232820 <location>Encoder 2 DRIVE-CLiQ: Telegram error

Reaction: A_INFEED: OFF2
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved.
Fault value (r0949, hexadecimal):
01: CRC error.
02: Telegram is shorter than specified in the length byte or in the receive list.
03: Telegram is longer than specified in the length byte or in the receive list.
04: The length of the receive telegram does not match the receive list.
05: The type of the receive telegram does not match the receive list.
06: The address of the encoder in the telegram and in the receive list do not match.
07: The encoder expects a SYNC telegram, but the receive telegram is not a SYNC telegram.
08: The encoder does not expect a SYNC telegram, but the receive telegram is a SYNC telegram.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9916

232835 <location>Encoder 2 DRIVE-CLiQ: Cyclic data transfer error

Reaction: A_INFEED: OFF2
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved.
The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.

Remedy: - carry-out a POWER ON.
- replace the component involved.
See also: p9916

232836 <location>Encoder 2 DRIVE-CLiQ: Send error for DRIVE-CLiQ data

Reaction: A_INFEED: OFF2
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved.
Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

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232837 <location>Encoder 2 DRIVE-CLiQ: Component faulted

Reaction: A_INFEED: OFF2
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

232845 <location>Encoder 2 DRIVE-CLiQ: Cyclic data transfer error

Reaction: A_INFEED: OFF2
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: Carry-out a POWER ON.
See also: p9916

232850 <location>Encoder 2: Sensor Module, internal software error

Reaction: A_INFEED: OFF2 (NONE)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: POWER ON

Cause: Internal software error in the Sensor Module of encoder 2.
Fault value (r0949, decimal):
1: Background time slice is blocked.
2: Checksum over the code memory is not OK.
10000: OEM memory of the EnDat encoder contains data that cannot be interpreted.

Remedy: - replace the Sensor Module.
- if required, upgrade the firmware in the Sensor Module.
- contact the Hotline.

232851 <location>CU DRIVE-CLiQ: Sign-of-life missing

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the power module involved. The DRIVE-CLiQ component did not set the sign of life to the Control Unit.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.

Remedy: - upgrade the firmware of the component involved.

232860 <location>CU DRIVE-CLiQ: Telegram error

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved.
Fault value (r0949, hexadecimal):

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11: CRC error and the receive telegram is too early.
01: CRC error.
12: The telegram is shorter than that specified in the length byte or in the receive list and the receive telegram is too early.
02: Telegram is shorter than specified in the length byte or in the receive list.
13: The telegram is longer than that specified in the length byte or in the receive list and the receive telegram is too early.
03: Telegram is longer than specified in the length byte or in the receive list.
14: The length of the receive telegram does not match the receive list and the receive telegram is too early.
04: The length of the receive telegram does not match the receive list.
15: The type of the receive telegram does not match the receive list and the receive telegram is too early.
05: The type of the receive telegram does not match the receive list.
16: The address of the encoder in the telegram and in the receive list does not match and the receive telegram is too early.
06: The address of the encoder in the telegram and in the receive list do not match.
19: The error bit in the receive telegram is set and the receive telegram is too early.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9915

232885 <location>CU DRIVE-CLiQ: Cyclic data transfer error

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
1A: Sign-of-life bit in the receive telegram not set and the receive telegram is too early.
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.
62: Error at the transition to cyclic operation.

Remedy: - check the power supply voltage of the component involved.
- carry-out a POWER ON.
- replace the component involved.
See also: p9915

232886 <location>CU DRIVE-CLiQ: Error when sending DRIVE-CLiQ data

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

232887 <location>CU DRIVE-CLiQ: Component faulted

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

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Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.
60: Response received too late during runtime measurement.
61: Time taken to exchange characteristic data too long.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

232895 <location>CU DRIVE-CLiQ: Cyclic data transfer error

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9915

232896 <location>CU DRIVE-CLiQ: Inconsistent component properties

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: OFF2 (DCBRAKE, ENCODER, NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause: The properties of the DRIVE-CLiQ component, specified by the fault value, have changed in an incompatible fashion with respect to the run-up. One cause can be, e.g. that a DRIVE-CLiQ cable or DRIVE-CLiQ component has been replaced.
Fault value (r0949, decimal):
Component ID.

Remedy: - when replacing cables, only use cables with the same length as the original cables.
- when replacing components, use the same components and firmware releases.
- carry-out a POWER ON.

232897 <location>DRIVE-CLiQ: No communications to the components

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: Communications with the DRIVE-CLiQ component specified by the fault value is not possible.
One cause can be, e.g. that a DRIVE-CLiQ cable has been withdrawn.
Fault value (r0949, decimal):
Component ID.

Remedy: - check the DRIVE-CLiQ connections.
- carry-out a POWER ON.

232899 <location>Encoder 2: Unknown fault

Reaction: A_INFEED: OFF2 (DCBRAKE, NONE, OFF1, OFF3, STOP1, STOP2)
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: A fault occurred on the Sensor Module for encoder 2 that cannot be interpreted by the Control Unit firmware.

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This can occur if the firmware on the Sensor Module for encoder 2 is more recent than the firmware on the Control Unit.
Fault value (r0949, decimal):
Fault number.
If required, the significance of this new fault can be read about in a more recent description of the Control Unit.

Remedy: - replace the firmware on the Sensor Module by an older firmware version (r0148).
- upgrade the firmware on the Control Unit (r0018).

232905 <location>Encoder 2: Parameteriz. error

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause: A parameter of encoder 2 was detected as being incorrect.
It is possible that the parameterized encoder type does not match the connected encoder.
The parameter involved can be determined as follows:
- determine the parameter number using the fault value (r0949).
- determine the parameter index (p0188).
Fault value (r0949, decimal):
Parameter number.

Remedy: - check whether the connected encoder type matches the encoder that has been parameterized.
- correct the parameter specified by the fault value (r0949) and p0188.

232920 <location>Encoder 2: Temperature sensor fault

Reaction: NONE

Acknowledge: NONE

Cause: When evaluating the temperature sensor, an error occurred.
Alarm value (r2124, decimal):
1: Wire breakage or sensor not connected (KTY: R > 1630 Ohm).
2: Measured resistance too low (PTC: R < 20 Ohm, KTY: R < 50 Ohm).

Remedy: - check that the encoder cable is the correct type and is correctly connected.
- check the temperature sensor selection in p0600 to p0603.
- replace the Sensor Module (hardware defect or incorrect calibration data).

232999 <location>Encoder 2: Unknown alarm

Reaction: NONE

Acknowledge: NONE

Cause: A alarm has occurred on the Sensor Module for encoder 2 that cannot be interpreted by the Control Unit firmware.
This can occur if the firmware on the Sensor Module for encoder 2 is more recent than the firmware on the Control Unit.
Alarm value (r2124, decimal):
Alarm number.
If required, the significance of this new alarm can be read about in a more recent description of the Control Unit.

Remedy: - replace the firmware on the Sensor Module by an older firmware version (r0148).
- upgrade the firmware on the Control Unit (r0018).

233100 <location>Encoder 3: Zero mark clearance error

Reaction: A_INFEED: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: READY

Cause: The measured zero mark clearance does not correspond to the parameterized zero mark clearance.

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For distance-coded encoders, the zero mark distance is determined from zero marks detected pairs. This means that if a zero mark is missing, depending on the pair generation, this cannot result in a fault and also has no effect in the system.
The zero mark clearance for the zero mark monitoring is set in p0425 (rotary encoder) or p0424 (linear encoder).
Fault value (r0949, decimal):
Last measured zero mark clearance in increments (4 increments = 1 encoder pulse).
The sign designates the direction of motion when detecting the zero mark clearance (distance).

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
. check the encoder type (encoder with equidistant zero marks).
- adapt the parameter for the distance between zero marks (p0424, p0425).
- replace the encoder or encoder cable.

233101 <location>Encoder 3: Zero mark failed

Reaction: A_INFEED: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: READY

Cause: The 1.5 x parameterized zero mark distance was exceeded.
The zero mark clearance for the zero mark monitoring is set in p0425 (rotary encoder) or p0424 (linear encoder).
Fault value (r0949, decimal):
Number of increments after POWER ON or since the last zero mark that was detected (4 increments = 1 encoder pulse).

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
. check the encoder type (encoder with equidistant zero marks).
- adapt the parameter for the clearance between zero marks (p0425).
- replace the encoder or encoder cable.

233110 <location>Encoder 3: EnDat communications error

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

Cause: Serial communication protocol transfer error between the encoder and evaluation module SMCxx.
Fault value (r0949, binary):
Bit 0: Alarm bit in the position protocol.
Bit 1: Incorrect quiescent level on the data line.
Bit 2: EnDat encoder does not respond (does not supply a start bit within 50 ms).
Bit 3: CRC error: The checksum in the protocol from the encoder does not match the data.
Bit 4: Incorrect encoder acknowledgement: The encoder incorrectly understood the task (request) or cannot execute it.
Bit 5: Internal error in the EnDat driver: An illegal mode command was requested.
Bit 6: Timeout with cyclically reading.

Remedy: Re fault value:
Bit 0 = 1: Encoder defective. F31111 may provide additional details.
Bit 1 = 1: Incorrect encoder type / replace the encoder or encoder cable.
Bit 2 = 1: Incorrect encoder type / replace the encoder or encoder cable.
Bit 3 = 1: EMC / connect the cable shield, replace the encoder or encoder cable.
Bit 4 = 1: EMC / connect the cable shield, replace the encoder or encoder cable, replace the Sensor Module.
Bit 5 = 1: EMC / connect the cable shield, replace the encoder or encoder cable, replace the Sensor Module.
Bit 6 = 1: Update the Sensor Module firmware.

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233111 <location>Encoder 3: Absolute value encoder EnDat, internal fault/error

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

Cause: The EnDat encoder fault word contains fault bits that have been set.
Fault value (r0949, binary):
Bit 0: Lighting system failed.
Bit 1: Signal amplitude too low.
Bit 2: Position value incorrect.
Bit 3: Encoder power supply overvoltage condition.
Bit 4: Encoder power supply undervoltage condition.
Bit 5: Encoder power supply overcurrent condition.
Bit 6: The battery must be changed.

Remedy: Re fault value, bit 0 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 1 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 2 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 3 = 1:
5 V power supply voltage fault.
When using an SMC. Check the plug-in cable between the encoder and SMC or replace the SMC.
When a motor encoder with a direct DRIVE-CLiQ connection is used: Replace the motor.
Re fault value, bit 4 = 1:
5 V power supply voltage fault.
When using an SMC. Check the plug-in cable between the encoder and SMC or replace the SMC.
When using a motor with DRIVE-CLiQ: Replace the motor.
Re fault value, bit 5 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 6 = 1:
The battery must be changed - only for encoders with battery back-up.

233115 <location>Encoder 3: Amplitude error track A or B (A^2 + B^2)

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

Cause: SMC20:
The nominal signal level of the encoder must lie in the range 375 mV to 600 mV (500 mV -25 % / +20 %).
On the other hand, the response thresholds are < 230 mV and > 750 mV (frequency characteristic).
SMC10:
The nominal signal level is at 2900 mV (2.0 Vrms). The response thresholds are at < 1070 mV and > 3535 mV.
Fault value (r0949, decimal):
Low word:
Signal level, track A (16 bits with sign).
High word:
Signal level, track B (16 bits with sign).
SMC20:

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A signal level of 500 mV peak value corresponds to the numerical value 5333 hex = 21299 dec.
SMC10:
A signal level of 2900 mV peak value corresponds to the numerical value 6666 hex = 26214 dec.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).

233116 <location>Encoder 3: Amplitude error, monitoring track A + B

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: The amplitude of the rectified encoder signals A and B is not within the tolerance bandwidth (hardware monitoring).
The nominal signal level of the encoder must lie in the range 375 mV to 600 mV (500 mV -25 % / +20 %).
On the other hand, the hardware response thresholds are at < 176 mV and > 1.35 V.
Fault value (r0949, decimal):
Low word: Signal level, track A (16 bits with sign).
High word: Signal level, track B (16 bits with sign).
A signal level of 500 mV corresponds to the numerical value 5333 hex = 21299 dec.
These analog values are not measured at the same time with the hardware fault output.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).

233117 <location>Encoder 3: Inversion error, signals A and B

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: For a square-wave signal encoder (TTL. bipolar. double ended) the A* and B* signals are not inverted with respect to signals A and B.

Remedy: Check the setting of p0405: p0405.2 = 1 is only possible if the encoder is connected at X520.
Check the encoder/cable: Does the encoder supply TTL signals and the associated inverted signals?

233118 <location>Encoder 3: Speed difference outside the tolerance range

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

Cause: For an HTL/TTL encoder, the speed difference between two sampling cycles has exceeded the value in p0492.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - check the tachometer feeder cable for interruptions.
- check the grounding of the tachometer shielding.
- if required, increase the maximum speed difference per sampling cycle (p0492).

233120 <location>Encoder 3: Power supply volt.

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

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Cause: Encoder power supply voltage fault.
Note:
If the encoder cables 6FX2002-2EQ00-.... and 6FX2002-2CH00-.... are interchanged, this can result in the encoder being destroyed because the pins of the operating voltage are reversed.
Fault value (r0949, binary):
Bit 0: Undervoltage condition on the sense line (threshold 4.75 V).
Bit 1: Encoder power supply voltage overcurrent condition (threshold 450 mA).

Remedy: For fault value, bit 0 = 1:
- correct encoder cable connected?
- check the plug connections of the encoder cable.
- SMC30: Check the parameterization (p0404.22).
For fault value, bit 1 = 1:
- correct encoder cable connected?
- replace the encoder or encoder cable.

233121 <location>Encoder 3: Coarse position incorrect

Reaction: A_INFEED: NONE
SERVO: ENCODER (NONE)

Acknowledge: READY

Cause: For the actual value sensing, an error was detected on the module. As a result of this error, it must be assumed that the actual value sensing supplies an incorrect coarse position.

Remedy: Replace the motor with DRIVE-CLiQ or the appropriate Sensor Module.

233129 <location>Encoder 3: Position difference, hall sensor/track C/D and A/B too large

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

Cause: The error of track C/D is greater than +/-15 ° mechanical or +/-60 ° electrical.
One period of track C/D corresponds to 360 ° mechanical.
One period of the Hall signal corresponds to 360 ° electrical.
The monitoring responds if, for example, Hall sensors are connected as equivalent for the C/D tracks with the incorrect rotational sense or supply values that are not accurate enough.
After the fine synchronization using one reference mark or 2 reference marks for distance-coded encoders, this fault is no longer initiated, but instead, Alarm A33429.
Fault value (r0949, decimal):
Measured deviation as mechanical angle (16 bits with sign, 182 dec corresponds to 1 °).

Remedy: - track C or D not connected.
- correct the direction of rotation of the Hall sensor possibly connected as equivalent for track C/D.
- check that the encoder cables are routed in compliance with EMC.
- check the adjustment of the Hall sensor.

233130 <location>Encoder 3: Zero mark and position from the coarse synchronization are incorrect

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: READY

Cause: After initializing the pole position using track C/D, Hall signals or pole position identification routine, the zero mark was detected outside the permissible range. For distance-coded encoders, the test is carried-out after passing 2 zero marks. Fine synchronization was not carried-out.
The deviation may be up to 18 ° mechanical or up to 60 ° electrical.
Fault value (r0949, decimal):

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Normalization: 32768 = 180 °
High word:
Mechanical zero mark position determined.
If the initialization via a track C/D is selected in p0404, then it is checked whether the zero mark occurs in an angular range of +/-18 ° mechanical.
Low word:
Deviation of the zero mark from the expected position as electrical angle.
If the correction of the commutation position with the zero mark is selected in p0404, then a difference of a maximum of +/- 60 ° electrical is permitted.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- if the Hall sensor is used as an equivalent for track C/D, check the connection.
- check the connection of track C or D.
- replace the encoder or encoder cable.

233131 <location>Encoder 3: Deviation, position incremental/absolute too large

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: READY

Cause: When cyclically reading the absolute position, an excessively high deviation to the incremental position was detected. The absolute position that was read is rejected.
Limit value for the deviation:
- EnDat encoder: Is supplied from the encoder and is a minimum of 2 quadrants (e.g. EQI 1325 > 2 quadrants, EQN 1325 > 50 quadrants).
- other encoders: 15 pulses = 60 quadrants.
Fault value (r0949, decimal):
Deviation in quadrants (1 pulse = 4 quadrants).

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check whether the coding disk is dirty or there are strong ambient magnetic fields.

233150 <location>Encoder 3: Initialization error

Reaction: A_INFEED: NONE
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: READY

Cause: Encoder functionality selected in p0404 is not operating correctly.
Fault value (r0949, hexadecimal):
The fault value is a bit field. Every set bit indicates functionality that is faulted.
The bit assignment corresponds to that of p0404 (e.g. bit 5 set: Error track C/D).

Remedy: - Check that p0404 is correctly set.
- check the encoder type used (incremental/absolute value) and for SMCxx, the encoder cable.
- if relevant, note additional fault/error messages that describe the fault in detail.

233405 <location>Encoder 3: Encoder evaluation temperature too high

Reaction: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The encoder evaluation for a motor with DRIVE-CLiQ has detected an excessively high temperature.
The fault threshold is 125 ° C.
Alarm value (r2124, decimal):
Measured board/module temperature in 0.1 °C.

Remedy: Reduce the ambient temperature for the DRIVE-CLiQ connection of the motor.

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233410 <location>Encoder 3: Serial communications

Reaction: NONE

Acknowledge: NONE

Cause: Serial communication protocol transfer error between the encoder and evaluation module SMCxx.
Alarm value (r2124, binary):
Bit 0: Alarm bit in the position protocol.
Bit 1: Incorrect quiescent level on the data line.
Bit 2: EnDat encoder does not respond (does not supply a start bit).
Bit 3: CRC error: The checksum in the protocol from the encoder does not match the data.
Bit 4: Incorrect encoder acknowledgement: The encoder incorrectly understood the task (request) or cannot execute it.
Bit 5: Internal error in the EnDat driver: An illegal mode command was requested.
Bit 6: Position value longer than 40 bits.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder.

233411 <location>Encoder 3: EnDat encoder signals alarms

Reaction: NONE

Acknowledge: NONE

Cause: The error word of the EnDat encoder has alarm bits that have been set.
Alarm value (r2124, binary):
Bit 0: Frequency exceeded (speed too high).
Bit 1: Temperature exceeded.
Bit 2: Control reserve, lighting system exceeded.
Bit 3: Battery discharged.
Bit 4: Reference point passed.

Remedy: Replace encoder.

233414 <location>Encoder 3: Amplitude error track C or D (C^2 + D^2)

Reaction: NONE

Acknowledge: NONE

Cause: The amplitude (C^2 + D^2) of track C or D of the encoder or from the Hall signals, is not within the tolerance bandwidth.
The nominal signal must be in the range 375 mV to 600 mV (500 mV -25 % / +20 %).
On the other hand, the response thresholds are < 230 mV and > 750 mV (frequency characteristic).
This fault also occurs if the A/D converter is overcontrolled.
If the amplitude is not within the tolerance bandwidth, then it cannot be used to initialize the start position.
Alarm value (r2124, decimal):
Low word: Signal level, track C (16 bits with sign).
High word: Signal level, track D (16 bits with sign).
A signal level of 500 mV corresponds to the numerical value 5333 hex = 21299 dec.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).
- check the Hall sensor box

233415 <location>Encoder 3: Amplitude alarm, track A or B (A^2 + B^2)

Reaction: NONE

Acknowledge: NONE

Cause: The amplitude (A^2 + B^2) of track A or B is not within the tolerance bandwidth.
SMC20:

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The nominal signal level is at 500 mV (500 mV -25 % / +20 %). The response threshold is < 300 mV.
SMC10:
The nominal signal level is at 2900 mV (2.0 Vrms). The response threshold is < 1414 mV (1.0 Vrms).
Alarm value (r2124, decimal):
Low word:
Amplitude square root(A*A + B*B).
SMC20:
A signal level of 500 mV peak value corresponds to the numerical value 299A hex = 10650 dec.
SMC10:
A signal level of 2900 mV peak value corresponds to the numerical value 3333 hex = 13107 dec.
High word:
Angle 0 to 65535 corresponds to 0 to 360 degrees of the fine position. Zero degrees is at the negative zero crossover of track B.

Remedy: - check the speed range, frequency characteristic (amplitude characteristic) of the measuring equipment is not sufficient for the speed range.
- check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).
- dirty code disk
- aged lighting system.

233418 <location>Encoder 3: Speed difference per sampling rated exceeded

Reaction: NONE

Acknowledge: NONE

Cause: For an HTL/TTL encoder, the speed difference between two sampling cycles has exceeded the value in p0492.
Alarm value (r2124, decimal):
Only for internal Siemens troubleshooting.

Remedy: - check the tachometer feeder cable for interruptions.
- check the grounding of the tachometer shielding.
- if required, increase the setting of p0492.

233419 <location>Encoder 3: Track A or B outside the tolerance range

Reaction: NONE

Acknowledge: NONE

Cause: The amplitude, phase or offset correction for track A or B is at the limit.
Amplitude error correction: Amplitude B / Amplitude A = 0.78 ... 1.27
Phase: <84 degrees or >96 degrees
SMC20: Offset correction: +/-140 mV
SMC10: Offset correction: +/-650 mV
Alarm value (r2124, hexadecimal):
xxx1: Minimum of the offset correction, track B
xxx2: Maximum of the offset correction, track B
xx1x: Minimum of the offset correction, track A
xx2x: Maximum of the offset correction, track A
x1xx: Minimum of the amplitude correction, track B/A
x2xx: Maximum of the amplitude correction, track B/A
1xxx: Minimum of the phase error correction
2xxx: Maximum of the phase error correction

Remedy: - check mechanical mounting tolerances for encoders without their own bearings (e.g. toothed-wheel encoders).
- check the plug connections (also the transition resistance).

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- check the encoder signals.
- replace the encoder or encoder cable.

233429 <location>Encoder 3: Position difference, hall sensor/track C/D and A/B too large

Reaction: NONE

Acknowledge: NONE

Cause: The error of track C/D is greater than +/-15 ° mechanical or +/-60 ° electrical.
One period of track C/D corresponds to 360 ° mechanical.
One period of the Hall signal corresponds to 360 ° electrical.
The monitoring responds if, for example, Hall sensors are connected as equivalent for the C/D tracks with the incorrect rotational sense or supply values that are not accurate enough.
Alarm value (r2124, decimal):
Measured deviation as mechanical angle (16 bits with sign, 182 dec corresponds to 1 °).

Remedy: - track C or D not connected.
- correct the direction of rotation of the Hall sensor possibly connected as equivalent for track C/D.
- check that the encoder cables are routed in compliance with EMC.
- check the adjustment of the Hall sensor.

233801 <location>Encoder 3 DRIVE-CLiQ: Sign-of-life missing

Reaction: A_INFEED: OFF2 (NONE)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.

Remedy: - check the electrical cabinet design and cable routing for EMC compliance
- replace the component involved.
See also: p9916

233802 <location>Encoder 3: Time slice overflow

Reaction: A_INFEED: OFF2 (NONE)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: Time slice overflow, encoder 3.
Fault value (r0949, decimal):
9: Time slice overflow of the fast (current controller clock cycle) time slice.
10: Time slice overflow of the average time slice.
12: Time slice overflow of the slow time slice.
999: Timeout when waiting for SYNO, e.g. unexpected return to non-cyclic operation.

Remedy: Reduce the current controller frequency.

233804 <location>Encoder 3: CRC CODE RAM

Reaction: A_INFEED: OFF2 (NONE)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: The checksum via the CODE-RAM of the Sensor Module has changed in operation.
Fault value (r0949, hexadecimal):
Difference between the checksum at POWER ON and the actual checksum.

Remedy: Hardware defect: Replace the Sensor Module.
Firmware error: If required, upgrade the firmware.

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233805 <location>Encoder 3: Incorrect EPROM checksum

Reaction: A_INFEED: OFF2 (NONE)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: Internal parameter data is corrupted.
Fault value (r0949, hexadecimal):
01: EEPROM access error.
02: Too many blocks in the EEPROM.

Remedy: Replace the module.

233806 <location>Encoder 3: Initialization unsuccessful

Reaction: A_INFEED: OFF2 (NONE)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: READY

Cause: The encoder was not successfully initialized.
Fault value (r0949, hexadecimal):
1, 2, 3: Encode initialization with the motor rotating.

Remedy: Acknowledge the fault.

233820 <location>Encoder 3 DRIVE-CLiQ: Telegram error

Reaction: A_INFEED: OFF2
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved.
Fault value (r0949, hexadecimal):
01: CRC error.
02: Telegram is shorter than specified in the length byte or in the receive list.
03: Telegram is longer than specified in the length byte or in the receive list.
04: The length of the receive telegram does not match the receive list.
05: The type of the receive telegram does not match the receive list.
06: The address of the encoder in the telegram and in the receive list do not match.
07: The encoder expects a SYNC telegram, but the receive telegram is not a SYNC telegram.
08: The encoder does not expect a SYNC telegram, but the receive telegram is a SYNC telegram.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9916

233835 <location>Encoder 3 DRIVE-CLiQ: Cyclic data transfer error

Reaction: A_INFEED: OFF2
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved.
The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.

Remedy: - carry-out a POWER ON.
- replace the component involved.
See also: p9916

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233836 <location>Encoder 3 DRIVE-CLiQ: Send error for DRIVE-CLiQ data

Reaction: A_INFEED: OFF2
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

233837 <location>Encoder 3 DRIVE-CLiQ: Component faulted

Reaction: A_INFEED: OFF2
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

233845 <location>Encoder 3 DRIVE-CLiQ: Cyclic data transfer error

Reaction: A_INFEED: OFF2
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: Carry-out a POWER ON.
See also: p9916

233850 <location>Encoder 3: Sensor Module, internal software error

Reaction: A_INFEED: OFF2 (NONE)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: POWER ON

Cause: Internal software error in the Sensor Module of encoder 3.
Fault value (r0949, decimal):
1: Background time slice is blocked.
2: Checksum over the code memory is not OK.
10000: OEM memory of the EnDat encoder contains data that cannot be interpreted.

Remedy: - replace the Sensor Module.
- if required, upgrade the firmware in the Sensor Module.
- contact the Hotline.

233851 <location>CU DRIVE-CLiQ: Sign-of-life missing

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the power module involved. The DRIVE-CLiQ component did not set the sign of life to the Control Unit.

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Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.

Remedy: - upgrade the firmware of the component involved.

233860 <location>CU DRIVE-CLiQ: Telegram error

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved.
Fault value (r0949, hexadecimal):
11: CRC error and the receive telegram is too early.
01: CRC error.
12: The telegram is shorter than that specified in the length byte or in the receive list and the receive telegram is too early.
02: Telegram is shorter than specified in the length byte or in the receive list.
13: The telegram is longer than that specified in the length byte or in the receive list and the receive telegram is too early.
03: Telegram is longer than specified in the length byte or in the receive list.
14: The length of the receive telegram does not match the receive list and the receive telegram is too early.
04: The length of the receive telegram does not match the receive list.
15: The type of the receive telegram does not match the receive list and the receive telegram is too early.
05: The type of the receive telegram does not match the receive list.
16: The address of the encoder in the telegram and in the receive list does not match and the receive telegram is too early.
06: The address of the encoder in the telegram and in the receive list do not match.
19: The error bit in the receive telegram is set and the receive telegram is too early.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9915

233885 <location>CU DRIVE-CLiQ: Cyclic data transfer error

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved.
The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
1A: Sign-of-life bit in the receive telegram not set and the receive telegram is too early.
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.
62: Error at the transition to cyclic operation.

Remedy: - check the power supply voltage of the component involved.
- carry-out a POWER ON.
- replace the component involved.
See also: p9915

233886 <location>CU DRIVE-CLiQ: Error when sending DRIVE-CLiQ data

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

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Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

233887 <location>CU DRIVE-CLiQ: Component faulted

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.
60: Response received too late during runtime measurement.
61: Time taken to exchange characteristic data too long.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

233895 <location>CU DRIVE-CLiQ: Cyclic data transfer error

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE)

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the Control Unit and the encoder involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9915

233896 <location>CU DRIVE-CLiQ: Inconsistent component properties

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: OFF2 (DCBRAKE, ENCODER, NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause: The properties of the DRIVE-CLiQ component, specified by the fault value, have changed in an incompatible fashion with respect to the run-up. One cause can be, e.g. that a DRIVE-CLiQ cable or DRIVE-CLiQ component has been replaced.
Fault value (r0949, decimal):
Component ID.

Remedy: - when replacing cables, only use cables with the same length as the original cables.
- when replacing components, use the same components and firmware releases.
- carry-out a POWER ON.

233897 <location>DRIVE-CLiQ: No communications to the components

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: Communications with the DRIVE-CLiQ component specified by the fault value is not possible.
One cause can be, e.g. that a DRIVE-CLiQ cable has been withdrawn.
Fault value (r0949, decimal):
Component ID.

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Remedy: - check the DRIVE-CLiQ connections.
- carry-out a POWER ON.

233899 <location>Encoder 3: Unknown fault

Reaction: A_INFEED: OFF2 (DCBRAKE, NONE, OFF1, OFF3, STOP1, STOP2)
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: A fault occurred on the Sensor Module for encoder 3 that cannot be interpreted by the Control Unit firmware.
This can occur if the firmware on the Sensor Module for encoder 3 is more recent than the firmware on the Control Unit.
Fault value (r0949, decimal):
Fault number.
If required, the significance of this new fault can be read about in a more recent description of the Control Unit.

Remedy: - replace the firmware on the Sensor Module by an older firmware version (r0148).
- upgrade the firmware on the Control Unit (r0018).

233905 <location>Encoder 3: Parameteriz. error

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: ENCODER (DCBRAKE, NONE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause: A parameter of encoder 1 was detected as being incorrect.
It is possible that the parameterized encoder type does not match the connected encoder.
The parameter involved can be determined as follows:
- determine the parameter number using the fault value (r0949).
- determine the parameter index (p0189).
Fault value (r0949, decimal):
Parameter number.

Remedy: - check whether the connected encoder type matches the encoder that has been parameterized.
- correct the parameter specified by the fault value (r0949) and p0189.

233920 <location>Encoder 3: Temperature sensor fault

Reaction: NONE

Acknowledge: NONE

Cause: When evaluating the temperature sensor, an error occurred.
Alarm value (r2124, decimal):
1: Wire breakage or sensor not connected (KTY: R > 1630 Ohm).
2: Measured resistance too low (PTC: R < 20 Ohm, KTY: R < 50 Ohm).

Remedy: - check that the encoder cable is the correct type and is correctly connected.
- check the temperature sensor selection in p0600 to p0603.
- replace the Sensor Module (hardware defect or incorrect calibration data).

233999 <location>Encoder 3: Unknown alarm

Reaction: NONE

Acknowledge: NONE

Cause: A alarm has occurred on the Sensor Module for encoder 3 that cannot be interpreted by the Control Unit firmware.
This can occur if the firmware on the Sensor Module for encoder 3 is more recent than the firmware on the Control Unit.
Alarm value (r2124, decimal):
Alarm number.
If required, the significance of this new alarm can be read about in a more recent description of the Control Unit.

Remedy: - replace the firmware on the Sensor Module by an older firmware version (r0148).

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- upgrade the firmware on the Control Unit (r0018).

234207 <location>VSM: Temperature fault threshold exceeded

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: NONE

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The temperature (r3666) measured using the Voltage Sensing Module (VSM) has exceeded the threshold value (p3668).
This fault can only be initiated if the temperature evaluation was activated (p3665 = 2 for a KTY sensor or p3665 = 1 for a PTC sensor).
Fault value (r0949, decimal):
The hundred thousands and ten thousands position specifies the component number of the VSM where the fault occurred.

Remedy: - check the fan.
- reduce the power.

234211 <location>VSM: Temperature alarm threshold exceeded

Reaction: NONE

Acknowledge: NONE

Cause: The temperature (r3666) measured using the Voltage Sensing Module (VSM) has exceeded the threshold value (p3667).
Alarm value (r2124, decimal):
The hundred thousands and ten thousands position specifies the component number of the VSM where the fault occurred.

Remedy: - check the fan.
- reduce the power.

234801 <location>VSM DRIVE-CLiQ: Sign-of-life missing

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the Voltage Sensing Module.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.

Remedy: - check the DRIVE-CLiQ connection.
- replace the Terminal Module.

234802 <location>VSM: Time slice overflow

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: Time slice overflow on the Voltage Sensing Module.

Remedy: Replace the Voltage Sensing Module.

234803 <location>VSM: Memory test

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: An error has occurred during the RAM test on the Voltage Sensing Module.

Remedy: - check whether the permissible ambient temperature for the Voltage Sensing Module is being maintained.
- replace the Voltage Sensing Module.

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234804 <location>VSM: CRC

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: A checksum error has occurred when reading-out the program memory on the Voltage Sensing Module (VSM).

Remedy: - check whether the permissible ambient temperature for the Voltage Sensing Module is being maintained.
- replace the Voltage Sensing Module.

234805 <location>VSM: Incorrect EPROM checksum

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: Internal parameter data is corrupted.
Fault value (r0949, hexadecimal):
01: EEPROM access error.
02: Too many blocks in the EEPROM.

Remedy: - check whether the permissible ambient temperature for the module is maintained.
- replace the module.

234806 <location>VSM: Initialization

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: For the Voltage Sensing Module (VSM), a fault has occurred while initializing.

Remedy: Replace the Voltage Sensing Module.

234807 <location>VSM: Sequence control, time monitoring

Reaction: NONE

Acknowledge: NONE

Cause: Error, timeout in the sequence control on the Voltage Sensing Module (VSM).

Remedy: Replace the Voltage Sensing Module.

234820 <location>VSM DRIVE-CLiQ: Telegram error

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: NONE (OFF1, OFF2)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the Voltage Sensing Module.
Fault value (r0949, hexadecimal):
01: CRC error.
02: Telegram is shorter than specified in the length byte or in the receive list.
03: Telegram is longer than specified in the length byte or in the receive list.
04: The length of the receive telegram does not match the receive list.
05: The type of the receive telegram does not match the receive list.
06: The address of the encoder in the telegram and in the receive list do not match.
07: The encoder expects a SYNC telegram, but the receive telegram is not a SYNC telegram.
08: The encoder does not expect a SYNC telegram, but the receive telegram is a SYNC telegram.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance

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- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9916

234835 <location>VSM DRIVE-CLiQ: Cyclic data transfer error

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: NONE (OFF1, OFF2)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the Voltage Sensing Module. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.

Remedy: - carry-out a POWER ON.
- replace the component involved.

234836 <location>VSM DRIVE-CLiQ: Send error for DRIVE-CLiQ data

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: NONE (OFF1, OFF2)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the Voltage Sensing Module. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

234837 <location>VSM DRIVE-CLiQ: Component faulted

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: NONE (OFF1, OFF2)

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

234845 <location>VSM DRIVE-CLiQ: Cyclic data transfer error

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: NONE (OFF1, OFF2)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the Voltage Sensing Module (VSM).
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: Carry-out a POWER ON.
See also: p9916

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234850 <location>VSM: Internal software error

Reaction: OFF1 (NONE, OFF2, OFF3)

Acknowledge: POWER ON

Cause: An internal software error in the Voltage Sensing Module (VSM) has occurred.
Fault value (r0949, decimal):
1: Background time slice is blocked.
2: Checksum over the code memory is not OK.

Remedy: - replace the Voltage Sensing Module (VSM).
- if required, upgrade the firmware in the Voltage Sensing Module.
- contact the Hotline.

234851 <location>CU DRIVE-CLiQ: Sign-of-life missing

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: NONE (OFF1, OFF2)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the power module involved. The DRIVE-CLiQ component did not set the sign of life to the Control Unit.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.

Remedy: - upgrade the firmware of the component involved.

234860 <location>CU DRIVE-CLiQ: Telegram error

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: NONE (OFF1, OFF2)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the Voltage Sensing Module.
Fault value (r0949, hexadecimal):
11: CRC error and the receive telegram is too early.
01: CRC error.
12: The telegram is shorter than that specified in the length byte or in the receive list and the receive telegram is too early.
02: Telegram is shorter than specified in the length byte or in the receive list.
13: The telegram is longer than that specified in the length byte or in the receive list and the receive telegram is too early.
03: Telegram is longer than specified in the length byte or in the receive list.
14: The length of the receive telegram does not match the receive list and the receive telegram is too early.
04: The length of the receive telegram does not match the receive list.
15: The type of the receive telegram does not match the receive list and the receive telegram is too early.
05: The type of the receive telegram does not match the receive list.
16: The address of the Voltage Sensing Module in the telegram and in the receive list does not match and the receive telegram is too early.
06: The address of the Voltage Sensing Module in the telegram and in the receive list do not match.
19: The error bit in the receive telegram is set and the receive telegram is too early.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9915

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234885 <location>CU DRIVE-CLiQ: Cyclic data transfer error

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: NONE (OFF1, OFF2)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the Voltage Sensing Module. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
1A: Sign-of-life bit in the receive telegram not set and the receive telegram is too early.
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.
62: Error at the transition to cyclic operation.

Remedy: - check the power supply voltage of the component involved.
- carry-out a POWER ON.
- replace the component involved.
See also: p9915

234886 <location>CU DRIVE-CLiQ: Error when sending DRIVE-CLiQ data

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: NONE (OFF1, OFF2)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the VSM involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

234887 <location>CU DRIVE-CLiQ: Component faulted

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: NONE (OFF1, OFF2)

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.
60: Response received too late during runtime measurement.
61: Time taken to exchange characteristic data too long.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

234895 <location>CU DRIVE-CLiQ: Cyclic data transfer error

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: NONE (OFF1, OFF2)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the Voltage Sensing Module.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9915

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234896 <location>CU DRIVE-CLiQ: Inconsistent component properties

Reaction: A_INFEED: OFF2 (DCBRAKE, ENCODER, NONE, OFF1, OFF3, STOP1, STOP2)
SERVO: OFF2 (DCBRAKE, NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause: The properties of the DRIVE-CLiQ component, specified by the fault value, have changed in an incompatible fashion with respect to the run-up. One cause can be, e.g. that a DRIVE-CLiQ cable or DRIVE-CLiQ component has been replaced.
Fault value (r0949, decimal):
Component ID.

Remedy: - when replacing cables, only use cables with the same length as the original cables.
- when replacing components, use the same components and firmware releases.
- carry-out a POWER ON.

234897 <location>DRIVE-CLiQ: No communications to the components

Reaction: OFF2 (DCBRAKE, ENCODER, NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: Communications with the DRIVE-CLiQ component specified by the fault value is not possible.
One cause can be, e.g. that a DRIVE-CLiQ cable has been withdrawn.
Fault value (r0949, decimal):
Component ID.

Remedy: - check the DRIVE-CLiQ connections.
- carry-out a POWER ON.

234899 <location>VSM: Unknown fault

Reaction: A_INFEED: NONE (OFF1, OFF2)
SERVO: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: A fault occurred on the Voltage Sensing Module that cannot be interpreted by the Control Unit firmware. This can occur if the firmware on the Voltage Sensing Module is more recent than the firmware on the Control Unit.
Fault value (r0949, decimal):
Fault number.
If required, the significance of this new fault can be read about in a more recent description of the Control Unit.

Remedy: - replace the firmware on the Voltage Sensing Module by an older firmware version (r0xyz).
- upgrade the firmware on the Control Unit (r0018).

234903 <location>VSM: Error I2C bus

Reaction: NONE

Acknowledge: NONE

Cause: An error has occurred in while accessing via the internal TM I2C bus.

Remedy: Replace the Terminal Module.

234904 <location>VSM: EEPROM

Reaction: NONE

Acknowledge: NONE

Cause: An error has occurred accessing the non-volatile memory on the Terminal Module.

Remedy: Replace the Terminal Module.

234905 <location>VSM: Parameter access

Reaction: NONE

Acknowledge: NONE

Cause: The Control Unit attempted to write an illegal parameter value into the Voltage Sensing Module (VSM).

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Remedy: - check whether the firmware version of the VSM (r0158) matches the firmware version of Control Unit (r0018).
- if required, replace the Voltage Sensing Module.
Note:
The firmware versions that match each other are in the readme.txt file on the CompactFlash card.

234920 <location>VSM: Temperature sensor fault

Reaction: NONE

Acknowledge: NONE

Cause: When evaluating the temperature sensor, an error occurred.
Alarm value (r2124, decimal):
1: Wire breakage or sensor not connected (KTY: R > 1630 Ohm).
2: Measured resistance too low (PTC: R < 20 Ohm, KTY: R < 50 Ohm).

Remedy: - check that the sensor is connected correctly.
- replace sensor.

234999 <location>VSM: Unknown alarm

Reaction: NONE

Acknowledge: NONE

Cause: A fault occurred on the Voltage Sensing Module (VSM) an alarm has occurred that cannot be interpreted by the Control Unit firmware.
This can occur if the firmware on the module is more recent than the firmware on the Control Unit.
Alarm value (r2124, decimal):
Alarm number.
If required, the significance of this new alarm can be read about in a more recent description of the Control Unit.

Remedy: - replace the firmware on the Voltage Sensing Module by an older firmware version (r0xyz).
- upgrade the firmware on the Control Unit (r0018).

235200 <location>TM: Calibration data

Reaction: NONE

Acknowledge: NONE

Cause: An error was detected in the calibration data of the Terminal Module.
Alarm value (r2124, decimal):
The hundred thousands and ten thousands location specifies the component Id of the Terminal Module where the fault occurred.
The thousands location specifies whether the analog input 0 (=0) or analog output 1 (= 1) is involved.
The hundreds location specifies the fault type:
0: No calibration data available.
1: Offset too high (> 100 mV).
The tens and ones location specifies the number of the input involved.

Remedy: Power-down the unit and power-up again.
If the fault is still present, replace the module/board.

235207 <location>TM: Temperature fault threshold exceeded

Reaction: OFF2 (NONE, OFF1, OFF3)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The temperature measured using the temperature sensing of the Terminal Module (TM) (r4105) has exceeded the threshold value to initiate this fault (p4102[1]).
Please note that this fault can only be initiated if the temperature evaluation was activated (p4100 = 2 for KTY sensor or p4100 = 1 for PTC sensor).
Fault value (r0949, decimal):

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The hundred thousands and ten thousands location specifies the component number of the TMxx where the fault occurred.
Alarm:
Please note that Fault F35207 only causes the drive to be shut down if there is at least one BICO interconnection between the drive and TM31.

Remedy: - allow the temperature sensor to cool down.
- if required, set the fault response to NONE (p2100, p2101).

235211 <location>TM: Temperature alarm threshold exceeded

Reaction: NONE

Acknowledge: NONE

Cause: The temperature measured using the temperature sensing of the Terminal Module (TM) (r4105) has exceeded the threshold value to initiate this alarm (p4102[0]).
Alarm value (r2124, decimal):
The hundred thousands and ten thousands location specifies the component number of the TMxx where the fault occurred.

Remedy: Allow the temperature sensor to cool down.

235220 <location>TM: Frequency limit reached for signal output

Reaction: OFF1 (NONE, OFF2, OFF3)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The signals output from the Terminal Module 41 (TM41) for tracks A/B have reached the limit frequency. The output signals are no longer in synchronism with the specified setpoint.

Remedy: - enter a lower speed setpoint (p1155).
- reduce the encoder pulse number (p0408).

235221 <location>TM: Setpoint - actual value deviation, outside the tolerance range

Reaction: OFF1 (NONE, OFF2, OFF3)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: The deviation between the setpoint and the output signals (track A/B) exceeds the tolerance of +/-3 %.

Remedy: - reduce the basic clock cycle (p0110, p0111).
- replace the module.

235222 <location>TM: Encoder pulse number not permissible

Reaction: NONE

Acknowledge: NONE

Cause: The encoder pulse number entered does not match the permissible pulse number from a hardware perspective.
Fault value (r0949, decimal):
1: Encoder pulse number is too high.
2: Encoder pulse number is too low.
4: Encoder pulse number is less than the zero mark offset (p4426)

Remedy: Enter the encoder pulse number in the permissible range (p0408).

235223 <location>TM: ZM offset not permissible

Reaction: NONE

Acknowledge: NONE

Cause: The entered zero mark offset is not permissible.
Fault value (r0949, decimal):
1: Zero mark offset is too high.

Remedy: Enter the zero mark offset in the permissible range (p4426).

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235801 <location>TM DRIVE-CLiQ: Sign-of-life missing

Reaction: NONE

Acknowledge: NONE

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the Terminal Module involved.
Alarm value (r2124, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.

Remedy: - check the DRIVE-CLiQ connection.
- replace the component involved.
See also: p9916

235802 <location>TM: Time slice overflow

Reaction: NONE

Acknowledge: NONE

Cause: Time slice overflow on Terminal Module.

Remedy: Replace the Terminal Module.

235803 <location>TM: Memory test

Reaction: NONE

Acknowledge: NONE

Cause: An error has occurred in the RAM test on the Terminal Module.

Remedy: - check whether the permissible ambient temperature for the Terminal Module is being maintained.
- replace the Terminal Module.

235804 <location>TM: CRC

Reaction: NONE

Acknowledge: NONE

Cause: A checksum error has occurred when reading-out the program memory on the Terminal Module.
Fault value (r0949, hexadecimal):
Difference between the checksum at POWER ON and the actual checksum.

Remedy: - check whether the permissible ambient temperature for the Terminal Module is being maintained.
- replace the Terminal Module.

235805 <location>TM: Incorrect EPROM checksum

Reaction: NONE

Acknowledge: NONE

Cause: Internal parameter data is corrupted.
Alarm value (r2124, hexadecimal):
01: EEPROM access error.
02: Too many blocks in the EEPROM.

Remedy: - check whether the permissible ambient temperature for the module is maintained.
- replace the module.

235807 <location>TM: Sequence control, time monitoring

Reaction: NONE

Acknowledge: NONE

Cause: Error, timeout, sequence control on the Terminal Module.

Remedy: Replace the Terminal Module.

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235820 <location>TM DRIVE-CLiQ: Telegram error

Reaction: OFF1 (OFF2)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the Terminal Module involved.
Fault value (r0949, hexadecimal):
01: CRC error.
02: Telegram is shorter than specified in the length byte or in the receive list.
03: Telegram is longer than specified in the length byte or in the receive list.
04: The length of the receive telegram does not match the receive list.
05: The type of the receive telegram does not match the receive list.
06: The address of the Terminal Module in the telegram and in the receive list do not match.
07: Terminal Module expects a SYNC telegram, but the receive telegram is not a SYNC telegram.
08: Terminal Module does not expect a SYNC telegram, but the receive telegram is a SYNC telegram.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9916

235835 <location>TM DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF1 (OFF2)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the Terminal Module involved. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.

Remedy: - carry-out a POWER ON.
- replace the component involved.
See also: p9916

235836 <location>TM DRIVE-CLiQ: Send error for DRIVE-CLiQ data

Reaction: OFF1 (OFF2)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the Terminal Module involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

235837 <location>TM DRIVE-CLiQ: Component faulted

Reaction: OFF1 (OFF2)

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.

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Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

235845 <location>TM DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF1 (OFF2)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the Terminal Module (TM) involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: Carry-out a POWER ON.
See also: p9916

235850 <location>TM: Internal software error

Reaction: OFF1 (NONE, OFF2, OFF3)

Acknowledge: POWER ON

Cause: An internal software error in the Terminal Module (TM) has occurred.
Fault value (r0949, decimal):
1: Background time slice is blocked.
2: Checksum over the code memory is not OK.

Remedy: - replace the Terminal Module (TM).
- if required, upgrade the firmware in the Terminal Module.
- contact the Hotline.

235851 <location>CU DRIVE-CLiQ: Sign-of-life missing

Reaction: OFF1 (OFF2)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the power module involved. The DRIVE-CLiQ component did not set the sign of life to the Control Unit.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.

Remedy: - upgrade the firmware of the component involved.

235860 <location>CU DRIVE-CLiQ: Telegram error

Reaction: OFF1 (OFF2)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the Terminal Module involved.
Fault value (r0949, hexadecimal):
11: CRC error and the receive telegram is too early.
01: CRC error.
12: The telegram is shorter than that specified in the length byte or in the receive list and the receive telegram is too early.
02: Telegram is shorter than specified in the length byte or in the receive list.
13: The telegram is longer than that specified in the length byte or in the receive list and the receive telegram is too early.
03: Telegram is longer than specified in the length byte or in the receive list.
14: The length of the receive telegram does not match the receive list and the receive telegram is too early.
04: The length of the receive telegram does not match the receive list.
15: The type of the receive telegram does not match the receive list and the receive telegram is too early.
05: The type of the receive telegram does not match the receive list.

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16: The address of the Terminal Module in the telegram and in the receive list does not match and the receive telegram is too early.
06: The address of the Terminal Module in the telegram and in the receive list do not match.
19: The error bit in the receive telegram is set and the receive telegram is too early.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9915

235885 <location>CU DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF1 (OFF2)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the Terminal Module involved. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
1A: Sign-of-life bit in the receive telegram not set and the receive telegram is too early.
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.
62: Error at the transition to cyclic operation.

Remedy: - check the power supply voltage of the component involved.
- carry-out a POWER ON.
- replace the component involved.
See also: p9915

235886 <location>CU DRIVE-CLiQ: Error when sending DRIVE-CLiQ data

Reaction: OFF1 (OFF2)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the Terminal Module involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

235887 <location>CU DRIVE-CLiQ: Component faulted

Reaction: OFF1 (OFF2)

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.
60: Response received too late during runtime measurement.
61: Time taken to exchange characteristic data too long.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

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235895 <location>CU DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF1 (OFF2)

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the Terminal Module involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9915

235896 <location>CU DRIVE-CLiQ: Inconsistent component properties

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: OFF2 (DCBRAKE, NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause: The properties of the DRIVE-CLiQ component, specified by the fault value, have changed in an incompatible fashion with respect to the run-up. One cause can be, e.g. that a DRIVE-CLiQ cable or DRIVE-CLiQ component has been replaced.
Fault value (r0949, decimal):
Component ID.

Remedy: - when replacing cables, only use cables with the same length as the original cables.
- when replacing components, use the same components and firmware releases.
- carry-out a POWER ON.

235897 <location>DRIVE-CLiQ: No communications to the components

Reaction: A_INFEED: OFF2 (NONE, OFF1)
SERVO: OFF2 (DCBRAKE, ENCODER, NONE, OFF1, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: Communications with the DRIVE-CLiQ component specified by the fault value is not possible.
One cause can be, e.g. that a DRIVE-CLiQ cable has been withdrawn.
Fault value (r0949, decimal):
Component ID.

Remedy: - check the DRIVE-CLiQ connections.
- carry-out a POWER ON.

235899 <location>TM: Unknown fault

Reaction: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY (POWER ON)

Cause: A fault has occurred on the Terminal Module that cannot be interpreted by the Control Unit firmware.
This can occur if the firmware on the Terminal Module is more recent than the firmware on the Control Unit.
Fault value (r0949, decimal):
Fault number.
If required, the significance of this new fault can be read about in a more recent description of the Control Unit.

Remedy: - replace the firmware on the Terminal Module by an older firmware version (r0158).
- upgrade the firmware on the Control Unit (r0018).

235903 <location>TM: Error I2C bus

Reaction: NONE

Acknowledge: NONE

Cause: An error has occurred while accessing the internal I2C bus of the Terminal Module.

Remedy: Replace the Terminal Module.

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235904 <location>TM: EEPROM

Reaction: NONE

Acknowledge: NONE

Cause: An error has occurred accessing the non-volatile memory on the Terminal Module.

Remedy: Replace the Terminal Module.

235905 <location>TM: Parameter access

Reaction: NONE

Acknowledge: NONE

Cause: The Control Unit attempted to write an illegal parameter value into the Terminal Module.

Remedy: - check whether the firmware version of the TM (r0158) matches the firmware version of Control Unit (r0018).
- if required, replace the Terminal Module.
Note:
The firmware versions that match each other are in the readme.txt file on the CompactFlash card.

235906 <location>TM: 24 V power supply missing

Reaction: NONE

Acknowledge: NONE

Cause: The 24 V power supply for the digital outputs is missing.
Alarm value (r2124, hexadecimal):
01: TM17 24 V power supply for DI/DO 0 ... 7 missing.
02: TM17 24 V power supply for DI/DO 8 ... 15 missing.
04: TM15 24 V power supply for DI/DO 0 ... 7 (X520) missing.
08: TM15 24 V power supply for DI/DO 8 ... 15 (X521) missing.
10: TM15 24 V power supply for DI/DO 16 ... 23 (X522) missing.
20: TM41 24 V power supply for DI/DO 0 ... 3 missing.

Remedy: Check the terminals for the power supply voltage (L1+, L2+, L3+, M).

235907 <location>TM: Hardware initialization unsuccessful

Reaction: NONE

Acknowledge: NONE

Cause: The Terminal Module was not successfully initialized.
Alarm value (r2124, hexadecimal):
01: TM17 or TM41 - incorrect configuration request.
02: TM17 or TM41 - programming not successful.
04: TM17 or TM41 - invalid time stamp

Remedy: Carry-out a POWER ON.

235910 <location>TM: Module overtemperature

Reaction: NONE

Acknowledge: NONE

Cause: The temperature in the module has exceeded the highest permissible limit.

Remedy: - reduce the ambient temperature.
- replace the Terminal Module.

235911 <location>TM: PROFIBUS: Clock synchronous operation sign-of-life missing

Reaction: NONE

Acknowledge: NONE

Cause: The maximum permissible number of errors in the master sign-of-life (clock synchronous PROFIBUS) has been exceeded in cyclic operation.
When the alarm is output, the module outputs are reset up to the next synchronization.

Remedy: - check the physical bus configuration (terminating resistor, shielding, etc.).

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- check the interconnection of the master sign-of-life (r4201 via p0915).
- check whether the master correctly sends the sign-of-life (e.g. set-up a trace with r4201.12 ... r4201.15 and trigger signal r4301.9).
- check the bus and master for utilization level (e.g. bus cycle time Tdp was set too short).

235920 <location>TM: Temperature sensor fault

Reaction: NONE

Acknowledge: NONE

Cause: When evaluating the temperature sensor, an error occurred.
Alarm value (r2124, decimal):
1: Wire breakage or sensor not connected (KTY: R > 1630 Ohm).
2: Measured resistance too low (PTC: R < 20 Ohm, KTY: R < 50 Ohm).

Remedy: - check that the sensor is connected correctly.
- replace sensor.

235999 <location>TM: Unknown alarm

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred on the Terminal Module that cannot be interpreted by the Control Unit firmware.
This can occur if the firmware on the Terminal Module is more recent than the firmware on the Control Unit.
Alarm value (r2124, decimal):
Alarm number.
If required, the significance of this new alarm can be read about in a more recent description of the Control Unit.

Remedy: - replace the firmware on the Terminal Module by an older firmware version (r0158).
- upgrade the firmware on the Control Unit (r0018).

240000 <location>Fault on another drive object

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for a drive object with an object number greater than 62.
Fault value (r0949, decimal):
Drive object number with fault.

Remedy: Evaluate the fault buffer of the object specified in the fault value.

240002 <location>Fault on drive object with object number 2

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

240003 <location>Fault on drive object with object number 3

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

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240004 <location>Fault on drive object with object number 4

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240005 <location>Fault on drive object with object number 5

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240006 <location>Fault on drive object with object number 6

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240007 <location>Fault on drive object with object number 7

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240008 <location>Fault on drive object with object number 8

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240009 <location>Fault on drive object with object number 9

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240010 <location>Fault on drive object with object number 10

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

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240011 <location>Fault on drive object with object number 11

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

240012 <location>Fault on drive object with object number 12

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

240013 <location>Fault on drive object with object number 13

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

240014 <location>Fault on drive object with object number 14

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

240015 <location>Fault on drive object with object number 15

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

240016 <location>Fault on drive object with object number 16

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

240017 <location>Fault on drive object with object number 17

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

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240018 <location>Fault on drive object with object number 18

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240019 <location>Fault on drive object with object number 19

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240020 <location>Fault on drive object with object number 20

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240021 <location>Fault on drive object with object number 21

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240022 <location>Fault on drive object with object number 22

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240023 <location>Fault on drive object with object number 23

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240024 <location>Fault on drive object with object number 24

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

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240025 <location>Fault on drive object with object number 25

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

240026 <location>Fault on drive object with object number 26

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

240027 <location>Fault on drive object with object number 27

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

240028 <location>Fault on drive object with object number 28

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

240029 <location>Fault on drive object with object number 29

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

240030 <location>Fault on drive object with object number 30

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

240031 <location>Fault on drive object with object number 31

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

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240032 <location>Fault on drive object with object number 32

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240033 <location>Fault on drive object with object number 33

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240034 <location>Fault on drive object with object number 34

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240035 <location>Fault on drive object with object number 35

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240036 <location>Fault on drive object with object number 36

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240037 <location>Fault on drive object with object number 37

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240038 <location>Fault on drive object with object number 38

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

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240039 <location>Fault on drive object with object number 39

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240040 <location>Fault on drive object with object number 40

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240041 <location>Fault on drive object with object number 41

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240042 <location>Fault on drive object with object number 42

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240043 <location>Fault on drive object with object number 43

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240044 <location>Fault on drive object with object number 44

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240045 <location>Fault on drive object with object number 45

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

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240046 <location>Fault on drive object with object number 46

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240047 <location>Fault on drive object with object number 47

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240048 <location>Fault on drive object with object number 48

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240049 <location>Fault on drive object with object number 49

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240050 <location>Fault on drive object with object number 50

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240051 <location>Fault on drive object with object number 51

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240052 <location>Fault on drive object with object number 52

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

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240053 <location>Fault on drive object with object number 53

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240054 <location>Fault on drive object with object number 54

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240055 <location>Fault on drive object with object number 55

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240056 <location>Fault on drive object with object number 56

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240057 <location>Fault on drive object with object number 57

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240058 <location>Fault on drive object with object number 58

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240059 <location>Fault on drive object with object number 59

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

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240060 **<location>Fault on drive object with object number 60**

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240061 **<location>Fault on drive object with object number 61**

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240062 **<location>Fault on drive object with object number 62**

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

240100 **<location>Alarm on another drive object**

Reaction: NONE
Acknowledge: NONE
Cause: An alarm has occurred for a drive object with an object number greater than 62.
Alarm value (r2124, decimal):
Drive object number with alarm.
Remedy: Evaluate the alarm buffer of the object specified in the fault value.

240102 **<location>Alarm on drive object with object number 2**

Reaction: NONE
Acknowledge: NONE
Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.
Remedy: Evaluate the alarm buffer of the specified object.

240103 **<location>Alarm on drive object with object number 3**

Reaction: NONE
Acknowledge: NONE
Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.
Remedy: Evaluate the alarm buffer of the specified object.

240104 **<location>Alarm on drive object with object number 4**

Reaction: NONE
Acknowledge: NONE
Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.
Remedy: Evaluate the alarm buffer of the specified object.

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240105 <location>Alarm on drive object with object number 5

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240106 <location>Alarm on drive object with object number 6

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240107 <location>Alarm on drive object with object number 7

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240108 <location>Alarm on drive object with object number 8

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240109 <location>Alarm on drive object with object number 9

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240110 <location>Alarm on drive object with object number 10

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240111 <location>Alarm on drive object with object number 11

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

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240112 <location>Alarm on drive object with object number 12

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240113 <location>Alarm on drive object with object number 13

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240114 <location>Alarm on drive object with object number 14

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240115 <location>Alarm on drive object with object number 15

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240116 <location>Alarm on drive object with object number 16

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240117 <location>Alarm on drive object with object number 17

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240118 <location>Alarm on drive object with object number 18

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

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240119 <location>Alarm on drive object with object number 19

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240120 <location>Alarm on drive object with object number 20

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240121 <location>Alarm on drive object with object number 21

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240122 <location>Alarm on drive object with object number 22

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240123 <location>Alarm on drive object with object number 23

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240124 <location>Alarm on drive object with object number 24

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240125 <location>Alarm on drive object with object number 25

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

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240126 <location>Alarm on drive object with object number 26

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240127 <location>Alarm on drive object with object number 27

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240128 <location>Alarm on drive object with object number 28

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240129 <location>Alarm on drive object with object number 29

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240130 <location>Alarm on drive object with object number 30

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240131 <location>Alarm on drive object with object number 31

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240132 <location>Alarm on drive object with object number 32

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

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240133 <location>Alarm on drive object with object number 33

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240134 <location>Alarm on drive object with object number 34

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240135 <location>Alarm on drive object with object number 35

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240136 <location>Alarm on drive object with object number 36

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240137 <location>Alarm on drive object with object number 37

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240138 <location>Alarm on drive object with object number 38

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240139 <location>Alarm on drive object with object number 39

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

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240140 <location>Alarm on drive object with object number 40

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240141 <location>Alarm on drive object with object number 41

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240142 <location>Alarm on drive object with object number 42

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240143 <location>Alarm on drive object with object number 43

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240144 <location>Alarm on drive object with object number 44

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240145 <location>Alarm on drive object with object number 45

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240146 <location>Alarm on drive object with object number 46

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

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240147 <location>Alarm on drive object with object number 47

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240148 <location>Alarm on drive object with object number 48

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240149 <location>Alarm on drive object with object number 49

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240150 <location>Alarm on drive object with object number 50

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240151 <location>Alarm on drive object with object number 51

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240152 <location>Alarm on drive object with object number 52

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

240153 <location>Alarm on drive object with object number 53

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

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240154 <location>Alarm on drive object with object number 54

Reaction: NONE
Acknowledge: NONE
Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.
Remedy: Evaluate the alarm buffer of the specified object.

240155 <location>Alarm on drive object with object number 55

Reaction: NONE
Acknowledge: NONE
Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.
Remedy: Evaluate the alarm buffer of the specified object.

240156 <location>Alarm on drive object with object number 56

Reaction: NONE
Acknowledge: NONE
Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.
Remedy: Evaluate the alarm buffer of the specified object.

240157 <location>Alarm on drive object with object number 57

Reaction: NONE
Acknowledge: NONE
Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.
Remedy: Evaluate the alarm buffer of the specified object.

240158 <location>Alarm on drive object with object number 58

Reaction: NONE
Acknowledge: NONE
Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.
Remedy: Evaluate the alarm buffer of the specified object.

240159 <location>Alarm on drive object with object number 59

Reaction: NONE
Acknowledge: NONE
Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.
Remedy: Evaluate the alarm buffer of the specified object.

240160 <location>Alarm on drive object with object number 60

Reaction: NONE
Acknowledge: NONE
Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.
Remedy: Evaluate the alarm buffer of the specified object.

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240161 <location>Alarm on drive object with object number 61

Reaction: NONE
Acknowledge: NONE
Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.
Remedy: Evaluate the alarm buffer of the specified object.

240162 <location>Alarm on drive object with object number 62

Reaction: NONE
Acknowledge: NONE
Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.
Remedy: Evaluate the alarm buffer of the specified object.

240799 <location>CU link: Configured transfer end time exceeded

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: The configured transfer end time when transferring the cyclic actual values was exceeded.
Remedy: - carry-out a POWER ON (power off/on) for all components.
- contact the Hotline.

240801 <location>CX32 DRIVE-CLiQ: Sign-of-life missing

Reaction: OFF2
Acknowledge: IMMEDIATELY
Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the controller extension involved. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.
Remedy: - carry-out a POWER ON.
- replace the component involved.
See also: p9916

240820 <location>CX32 DRIVE-CLiQ: Telegram error

Reaction: OFF2
Acknowledge: IMMEDIATELY
Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the controller extension involved.
Fault value (r0949, hexadecimal):
01: CRC error.
02: Telegram is shorter than specified in the length byte or in the receive list.
03: Telegram is longer than specified in the length byte or in the receive list.
04: The length of the receive telegram does not match the receive list.
05: The type of the receive telegram does not match the receive list.
06: The address of the controller extension in the telegram and in the receive list do not match.
07: Controller extension expects a SYNC telegram, but the receive telegram is not a SYNC telegram.
08: Controller extension does not expect a SYNC telegram, but the receive telegram is a SYNC telegram.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.
Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance

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- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9916

240835 <location>CX32 DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the controller extension involved. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.

Remedy: - carry-out a POWER ON.
- replace the component involved.
See also: p9916

240836 <location>CX32 DRIVE-CLiQ: Send error for DRIVE-CLiQ data

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the controller extension involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

240837 <location>CX32 DRIVE-CLiQ: Component faulted

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

240845 <location>CX32 DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the controller extension involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9916

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240851 <location>CU DRIVE-CLiQ: Sign-of-life missing

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the power module involved. The DRIVE-CLiQ component did not set the sign of life to the Control Unit.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.

Remedy: - upgrade the firmware of the component involved.

240860 <location>CU DRIVE-CLiQ: Telegram error

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the controller extension involved.
Fault value (r0949, hexadecimal):
11: CRC error and the receive telegram is too early.
01: CRC error.
12: The telegram is shorter than that specified in the length byte or in the receive list and the receive telegram is too early.
02: Telegram is shorter than specified in the length byte or in the receive list.
13: The telegram is longer than that specified in the length byte or in the receive list and the receive telegram is too early.
03: Telegram is longer than specified in the length byte or in the receive list.
14: The length of the receive telegram does not match the receive list and the receive telegram is too early.
04: The length of the receive telegram does not match the receive list.
15: The type of the receive telegram does not match the receive list and the receive telegram is too early.
05: The type of the receive telegram does not match the receive list.
16: The address of the controller extension in the telegram and in the receive list does not match and the receive telegram is too early.
06: The address of the controller extension in the telegram and in the receive list do not match.
19: The error bit in the receive telegram is set and the receive telegram is too early.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9915

240885 <location>CU DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the controller extension involved. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.
1A: Sign-of-life bit in the receive telegram not set and the receive telegram is too early.
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.
62: Error at the transition to cyclic operation.

Remedy: - check the power supply voltage of the component involved.
- carry-out a POWER ON.

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- replace the component involved.
See also: p9915

240886 <location>CU DRIVE-CLiQ: Error when sending DRIVE-CLiQ data

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the controller extension involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

240887 <location>CU DRIVE-CLiQ: Component faulted

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.
60: Response received too late during runtime measurement.
61: Time taken to exchange characteristic data too long.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

240895 <location>CU DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the Control Unit and the controller extension involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9915

249150 <location>Cooling system: Fault occurred

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The cooling system signals a general fault.

Remedy: - check the wiring between the cooling system and the input terminal (Terminal Module).
- check the external Control Unit for the cooling system.
See also: p0266

249151 <location>Cooling system: Conductivity has exceeded the fault threshold

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The conductivity of the cooling water has exceeded the selected fault threshold (p0269[2]).
See also: p0266

Remedy: Check the device to de-ionize the cooling water.

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249152 <location>Cooling system: ON command, feedback signal missing

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The feedback signal of the ON command of the cooling system is missing.
- after the ON command, the feedback signal has not been received within the selected starting time (p0260).
- the feedback signal has failed in operation.
See also: p0260, r0267

Remedy: - check the wiring between the cooling system and the input terminal (Terminal Module).
- check the external Control Unit for the cooling system.

249153 <location>Cooling system: The water flow too low

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The drive converter cooling system signals that the water flow is too low.
- after the ON command, the feedback signal has not been received within the selected starting time (p0260).
- in operation, the feedback signal has failed for longer than the permitted failure time (p0263).
See also: p0260, p0263, r0267

Remedy: - check the wiring between the cooling system and the input terminal (Terminal Module).
- check the external Control Unit for the cooling system.

249154 <location>Cooling system: Water has leaked

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The leakage water monitoring function has responded.
See also: r0267

Remedy: - check the cooling system for leaks in the cooling circuit.
- check the wiring of the input terminal (Terminal Module) used to monitor the leakage water.

249155 <location>Cooling system: Power Stack Adapter, firmware version too old

Reaction: OFF2

Acknowledge: POWER ON

Cause: The firmware version in the Power Stack Adapter (PSA) is too old and does not support any water cooling.

Remedy: Upgrade the firmware version.

249156 <location>Cooling system: Cooling water temperature, fault threshold exceeded

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The cooling water intake temperature has exceeded the permanently set fault threshold.

Remedy: Check the cooling system and the ambient conditions.

249170 <location>Cooling system: Alarm occurred

Reaction: NONE

Acknowledge: NONE

Cause: The cooling system signals a general alarm.

Remedy: - check the wiring between the cooling system and the input terminal (Terminal Module).
- check the external Control Unit for the cooling system.

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249171 **<location>Cooling system: Conductivity has exceeded the alarm threshold**

Reaction: NONE

Acknowledge: NONE

Cause: The conductivity of the cooling water has exceeded the selected alarm threshold (p0269[1]).
See also: p0266

Remedy: Check the device to de-ionize the cooling water.

249172 **<location>Cooling system: Conductivity actual value is not valid**

Reaction: NONE

Acknowledge: NONE

Cause: When monitoring the conductivity of the cooling water, there is a fault in the wiring or in the sensor.

Remedy: - check the wiring between the cooling system and the Power Stack Adapter (PSA).
- check the function of the sensor to measure the conductivity.

249173 **<location>Cooling system: Cooling water temperature, alarm threshold exceeded**

Reaction: NONE

Acknowledge: NONE

Cause: The cooling water intake temperature has exceeded the permanently set alarm threshold.

Remedy: Check the cooling system and the ambient conditions.

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2.4 SIMODRIVE alarms

300000 **Hardware drive bus: DCM not present**

Definitions: The DCM (Drive Communication Master, an ASIC on the NCU module that takes control of the drive bus) has not signaled when powering up the drive. In the 840D, a hardware fault is the possible cause of this error. (For the FM-NC, an incorrect configuration is also possible via the NCK MD 13010 DRIVE_LOGIC_NR).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
Exchange the NCU module.

Program Continuation: Switch control OFF - ON.

300001 **Axis %1 drive number %2 not possible**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: On powering up the drives, the NCK-specific machine data 13010 DRIVE_LOGIC_NR was checked for impermissible inputs. In the MD, a drive logic number is entered that can be selected as required within the established limits (drive number 0 = "No drive available"). Numbers greater than 15 are not allowed, nor may the same number be used more than once. The MD array must be configured without spaces, i.e. as soon as the logical drive number 0 is selected once, it is necessary for the logical drive number 0 to be entered in all MDs with a higher location index [p].

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check MD DRIVE_LOGIC_NR for numbers greater than 15 or for gaps in the machine axis indices.

Program Continuation: Switch control OFF - ON.

300002 **Axis %1 drive number %2 assigned twice**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The drive logic number in the NCK MD 13010 DRIVE_LOGIC_NR has been assigned more than once.

Reactions:
- NC not ready.

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- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check MD 13010 DRIVE_LOGIC_NR for identical drive logic numbers and assign another number in the range between 0 and 15 (0 corresponds to "No drive available" and is the only number that may occur more than once in the MD array) to each drive.

Program Continuation: Switch control OFF - ON.

300003 Axis %1 drive %2 wrong module type %3

Parameters: %1 = NC axis number
%2 = Drive number
%3 = Incorrect module type

Definitions: The hardware configuration of the drive components established at the time of bus initialization does not correspond to the information in machine data 13030 DRIVE_MODULE_TYPE[p]=... (p ... rack location index).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Enter MD 13030 DRIVE_MODULE_TYPE to match the drive modules that are plugged in.
Select MD 13010 DRIVE_LOGIC_NR and search for the drive logic number that is indicated in the alarm text. The location index number + 1 results in the associated rack location number. The VDD module belonging to this location is determined by the configuration in MD 13030 DRIVE_MODULE_TYPE for the same location index.
Input value 1: 1-axis module, input value 2: 2-axis module.

Program Continuation: Switch control OFF - ON.

300004 Axis %1 drive %2 wrong drive type %3 (FDD/MSD)

Parameters: %1 = NC axis number
%2 = Drive number
%3 = Drive type code

Definitions: A feed module is inserted in the rack location determined by the drive logic number, but in the corresponding NCK-specific MD 13040 DRIVE_TYPE, a main spindle is defined (or vice versa).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

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Remedy: Please inform the authorized personnel/service department.

Select MD 13010 DRIVE_LOGIC_NR and search for the drive logic number that is indicated in the alarm text. The location index number + 1 results in the associated rack location number. The FDD/MSD module belonging to this location is determined by the configuration in MD 13040 DRIVE_TYPE for the same location index.

FDD: identifier 1, MSD: identifier 2.

Program Continuation: Switch control OFF - ON.

300005 **At least one module found on drive bus that has not been configured**

Definitions: At bus initialization at least one module was detected which did not have a drive number, which amounts to one too many. Since all (!) modules on the drive bus must be correctly initialized, all modules therefore also have to be accordingly specified in the machine data.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check machine data; with the NCK MD 13000 DRIVE_IS_ACTIVE a drive that is not yet in use but exists on the bus can be declared as inactive. Inactive drives do not need installation and start-up or drive data.

Program Continuation: Switch control OFF - ON.

300006 **Module with drive number %1 has not been found on drive bus**

Parameters: %1 = Drive number

Definitions: Not all of the drives stated in MD $MN_DRIVE_LOGIC_NR could be found on the drive bus. You can find the associated module in the configuration display via the displayed drive number.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Perform the following checks:

1) Using the configuration display or the associated machine data, check whether the number and type (1-axis or 2-axis) of the modules match your bus setup.

2) Check whether the red LED is illuminated on the displayed drive module. If this is not the case, then usually the module does not have any power.

- Check the connections of the ribbon cable running from your I/RF or monitoring unit to the module.
- If after switching on the I/RF or monitoring unit, no LED of a module which is connected to it is illuminated, then check the I/RF or monitoring unit and, if required, replace the ribbon cable.

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• With a multi-tier installation where the power is switched on at different times, an error message can also mean that one tier has been switched on too late (current permissible time 10 seconds). If possible, switch on the second tier at the same time.

3) Check whether all drive bus connectors have correctly snapped into place and that the bus terminaor is connected.

4) If you have not been able to detect an error by now, the module is defective.

Replace the module.

Program Continuation: Switch control OFF - ON.

300007 **Axis %1 drive %2 not present or inactive**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: In the axis-specific machine data 30110 CTRLOUT_MODULE_NR (this specifies at which drive module the speed setpoint is output) and MD 30220 ENC_MODULE_NR (this specifies the drive module which outputs the encoder actual value for the position control) there is a drive logic number that does not occur in the NCK MD 13010 DRIVE_LOGIC_NR and the machine data 30240 ENC_TYPE and MD 30130 CTRLOUT_TYPE are set to "1".

Reactions: - NC not ready.

- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check the setpoint/actual value assignment in the axis-specific MD 30110 CTRLOUT_MODULE_NR and MD 30220 ENC_MODULE_NR and the drive logic number in the NCK MD 13010 DRIVE_LOGIC_NR and bring these into agreement.

Program Continuation: Switch control OFF - ON.

300008 **Axis %1 drive %2 measuring circuit %3 is not available**

Parameters: %1 = NC axis number

%2 = Drive number

%3 = Measuring circuit number

Definitions: In the axis-specific MD 30230 ENC_INPUT_NR [e]=E (e ... encoder index - the position control works with this encoder, E ... encoder number - encoder connector selection on the drive module), an encoder connector (1 or 2) was selected, to which no encoder is connected.

Reactions: - NC not ready.

- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Configure MD 30230 ENC_INPUT_NR [e] according to the encoder connector used or plug the encoder cable onto the other connector.

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If the encoder used corresponds to the input in the MD, there is a hardware fault on the drive module. Replace the module!

Program Continuation: Switch control OFF - ON.

300009 **Axis %1 drive %2 measuring circuit %3 wrong measuring circuit type (type %4 used)**

Parameters: %1 = NC axis number
%2 = Drive number
%3 = Measuring circuit number
%4 = Measuring circuit type

Definitions: The available, displayed actual value module on the drive FBG cannot process the signal type that was stated via the axis-specific machine data 30240 ENC_TYPE [e]=S (e ... encoder index - the position control works with this encoder, E ... , S ... signal type of the actual value encoder - 0 ... simulation axis without hardware, 1 ... raw encoder signals, 2 ... rectangle signals).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
Set MD 30240 ENC_TYPE [e] to 1 (0 should only be entered for pure simulation axes which are to travel in the actual-value display only).

Program Continuation: Switch control OFF - ON.

300010 **Axis %1 drive %2 active without NC axis assignment**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: A drive is active that is not used/addressed by any NC axis (actual value, setpoint).
All active drives must be assigned to an axis with respect to the setpoint value or the actual value.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check the configuration data, the assignment of setpoints and actual values for the drive motor and the position encoder.
MDs for the drive configuration:
• Modify MD 13000: DRIVE_IS_ACTIVE
• Modify MD 13010: DRIVE_LOGIC_NR
• Modify MD 13020: DRIVE_INVERTER_CODE
• Modify MD 13030: DRIVE_MODULE_TYPE
• Modify MD 13040: DRIVE_TYPE

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• MDs for the setpoint/actual-value assignment:
• Modify MD 30110: CTRLOUT_MODULE_NR
• Modify MD 30130: CTRLOUT_TYPE
• Modify MD 30220: ENC_MODULE_NR
• Modify MD 30230: ENC_INPUT_NR
• Modify MD 30240: ENC_TYPE

It might be necessary to first declare an NC axis in the channel for this drive (MD 20070 AXCONF_MACHAX_USED = K, [K ...channel axis no.]).

Program Continuation: Switch control OFF - ON.

300011 **Axis %1 drive %2 hardware version of spindle not supported**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: An old spindle power section (so-called 186-HSA) is connected to the drive bus. This spindle drive is not supported by SINUMERIK 840D. Ramp-up is interrupted.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. A DSP spindle module must be ordered and fitted.

Program Continuation: Switch control OFF - ON.

300012 **Axis %1 drive %2 hardware version of control module not supported**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: There is a drive module with an "old" control module on the drive bus. 810D does not support these modules. Ramp-up is interrupted.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Order standard or performance control module and exchange with "old".

Program Continuation: Switch control OFF - ON.

300020 **Drive %1 removed for diagnostics**

Parameters: %1 = Drive number

Definitions: The alarm indicates that the drive bus configuration has been changed temporarily. The alarm is output if MD 13030 $MN_DRIVE_MODULE_TYPE has value 0 (zero) when a drive is configured.

Reactions: - Mode group not ready.

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- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Normal operation (full bus configuration): Integrate drive module into the bus again, enter the correct type in MD 13030 $MN_DRIVE_MODULE_TYPE.

• Normal operation (module remains removed): Remove the module in the configuration screen. Remove all connections to outputs and inputs.
• MD30110 $MA_CTRLOUT_MODULE_NR
• MD30130 $MA_CTRLOUT_TYPE
• MD30220 $MA_ENC_MODULE_NR
• MD30240 $MA_ENC_TYPE
• MD11342 $MA_ENC_HANDWHEEL_MODULE_NR

Program Continuation: Switch control OFF - ON.

300100 Drive power failure

Definitions: In one or several (all) drive modules, there is a power failure although power was previously available. (The timeout is checked for write/read accesses. Timeouts are interpreted as power failure because this is the most probable case. The test takes place in the cyclic mode only but not at system power-up.)

Since the drives in the SINUMERIK 840D and the NC-CPU have the same power supply, this error does not occur here because then the NCU is also without power supply. In the SINUMERIK FM-NC, this error can arise because the power supply is separate.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Switch off the power to the system and switch on again - the drives start up again.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300101 Bus communications failure

Definitions: This alarm indicates that there is still no power supply to the drives although the NC is already running. This message comes only if no drive module has been signaled. (In theory, it could also be a bus error interrupting the connection to the 1st module).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: 1) If the NCU has its own power supply, then the drives still have no power.

• If possible, switch on the power supply for the drives at the same time as the NCU.

2) If the NCU and the drives have the same power supply then not even the first module could be recognized. Check whether the red LED on the first drive module is illuminated. If this is not the case, then usually the module does not have any power.

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- Check the connections of the ribbon cable running from your I/RF or monitoring unit to the module.
- If after switching on the I/RF or monitoring unit, no LED of a module which is connected to it is illuminated, then check the I/RF or monitoring unit and, if required, replace the ribbon cable.

3) Check whether all drive bus connectors have correctly snapped into place and that the bus terminaor is connected.

4) If you have not been able to detect an error by now, the module is defective.

- Replace the module.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300200 **Drive bus hardware fault**

Definitions: The drive bus has a fault. The following causes are possible:

- The bus terminator is missing.
- The drive bus is physically interrupted at some point.
- Miscellaneous hardware fault.

A check line is tested that runs over the entire bus and returns from the last rack location (bus terminator) back to the NCK.

Note: If the drive ramps up correctly even though this message appeared, the error existed only at the beginning of the initialization. In spite of this, the drives can be capable of functioning.

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department.

- Check the bus terminator.
- Check all plug connections from the drive bus to the drive modules.
- Other hardware faults.

If the remedial measures given above do not lead to a change in the behaviour when starting, please contact the system support for the A&D MC products of SIEMENS AG through the Hotline (tel.: see alarm 1000).

Program Continuation: Switch control OFF - ON.

300201 **Axis %1 drive %2 timeout during access, error location %3**

Parameters:
%1 = NC axis number
%2 = Drive number
%3 = Error location

Definitions: The read cycle of a drive address in the initialization phase or in cyclic operation has not ended within the monitoring time (approx. 1 ms) (timeout error).

The error can occur in conjunction with a power failure of one or several drive modules. A hardware fault might also be the cause (ASICs, bus, drive modules).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Axes of this channel must be re-referenced.

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- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. If the alarm has occurred in conjunction with a power failure, this cause of failure must be eliminated. Otherwise, please contact the system support for A&D MC products, SIEMENS AG, through the Hotline (tel.: see alarm 1000).

Program Continuation: Switch control OFF - ON.

300202 Axis %1 drive %2 CRC error, error location %3

Parameters: %1 = NC axis number
%2 = Drive number
%3 = Error location

Definitions: The cross-check (CRC) has detected an access error in a write/read cycle. All bus accesses are not controlled directly by the processor but they are handled by special ASICs. They transfer not only the required data but also cross-checks for the write/read data and the addresses.

The error can occur in conjunction with a power failure of one or several drive modules. A hardware fault might also be the cause (ASICs, bus, drive modules).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Mode group not ready, also effective for single axes
- NC Start disable in this channel.
- Axes of this channel must be re-referenced.
- Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. If the alarm has occurred in conjunction with a power failure, this cause of failure must be eliminated. Otherwise, please contact the system support for A&D MC products, SIEMENS AG, through the Hotline (tel.: see alarm 1000).

Program Continuation: Switch control OFF - ON.

300300 Axis %1 drive %2 boot error, error code %3

Parameters: %1 = NC axis number
%2 = Drive number
%3 = Error code

Definitions: Error occurred while starting up the displayed drive. (Example: Drive signals timeout).

Meaning of the error code:

- 0..5: Timeout while waiting for the acknowledgement from the drive in the displayed state
- 10: No signal from drive CPU (possibly defective module)

Safety Integrated special case: If the axial machine data $MA_SAFE_FUNCTION_ENABLE of at least one axis is not zero, then the occurrence of this alarm with error code 5 can mean that the PLC, after the timeout PLC_RUNNINGUP_TIMEOUT, has not started the cyclic operation. Synchronization of the drive and the PLC is required because in cyclic operation of the drive, data transmission between the PLC and the drive is monitored.

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.

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- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. You can try to power the system up again. The search for the precise cause of error can only be performed by the development team. The displayed status code is always needed for this.
(contact SIEMENS AG, System Support for A&D MC products, Hotline (Tel.: see alarm 1000).

Program Continuation: Switch control OFF - ON.

300400 Axis %1 drive %2 system error, error codes %3, %4

Parameters: %1 = NC axis number
%2 = Drive number
%3 = Error code 1
%4 = Error code 2

Definitions: An internal software error or serious error condition has occurred which may be recoverable by hardware reset. Troubleshooting can generally be performed only by Siemens AG, System Support for A&D MC Products, Hotline (tel.: see alarm 1000).
In the error code combination (324,26), the calculation time allocation for the drive communication subtask should be increased via the MD 10140 $MN_TIME_LIMIT_NETTO_DRIVE_TASK (possible up to 500 ms).
If the above-mentioned limit is exhausted and the alarm continues to occur, the MD 10150 $MN_PREP_DRIVE_TASK_CYCLE_RATIO=1 can be set additionally. Please note that by reducing MD 10150, the time share of the preparation in the non-cyclic time plane is reduced. This may lead to longer block cycle times.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. You can try to power the system up again. The search for the precise cause of error can only be performed by the development team. The displayed error codes are always needed for this.
(contact SIEMENS AG, System Support for A&D MC products, Hotline (Tel.: see alarm 1000).

Program Continuation: Switch control OFF - ON.

300401 Drive software for type %1, block %2 missing or incorrect

Parameters: %1 = Drive type
%2 = Block number

Definitions: Either there is no software for this drive type or it contains errors.
Drive type
- 1 = VSA (as in MD DRIVE_TYPE!)
- 2 = HSA
- 3 = SLM
- 4 = HYD
- 5 = ANA

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Block number
• 1 = Drive software (code)
• 2 = Data descriptions (ACC file)

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check the data carrier (Jeida board), replace if necessary.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300402 **System error in drive link. Error codes %1, %2**

Parameters: %1 = Error code 1
%2 = Error code 2

Definitions: An internal software error or serious error condition has occurred which may be recoverable by hardware reset. Troubleshooting can generally be performed only by Siemens AG, System Support for A&D MC Products, Hotline (tel.: see alarm 1000).
In the error code combination (1077,X), the calculation time allocation for the drive communication subtask should be increased via the MD 10140 $MN_TIME_LIMIT_NETTO_DRIVE_TASK (possible up to 500 ms).
If the above-mentioned limit is exhausted and the alarm continues to occur, the MD 10150 $MN_PREP_DRIVE_TASK_CYCLE_RATIO=1 can be set additionally. Please note that by reducing MD 10150, the time share of the preparation in the non-cyclic time plane is reduced. This may lead to longer block cycle times.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Make a note of the error text and contact Siemens AG A&D MC, Hotline (tel./fax: see alarm 1000).

Program Continuation: Switch control OFF - ON.

300403 **Axis %1 drive %2 drive software and drive MD with different version numbers**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The version number of the drive software (FDD/MSD) must correspond to the version number stored in the drive machine data because the MD files for different software versions are not compatible.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.

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- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. After exchanging the drive software, the drives must be installed and started up again. Any MD files that were saved by the control running under the old version must no longer be used. The old data can be saved with the installation and start-up tool and this data can also be used again.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300404 Axis %1 drive %2 drive MD contains different drive number

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: In the drive MD file loaded in a drive there is a drive number which does not correspond to this drive.

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Files with drive data for a particular drive number must not be copied to another drive.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

300405 Axis %1 drive %2 unknown drive alarm, code %3

Parameters: %1 = NC axis number
%2 = Drive number
%3 = Service number

Definitions: The service number signaled by the drive is not implemented in the NCK. It cannot be assigned to any alarm number.

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Reinitialization of the drive required.
The search for the precise cause of error can only be performed by the development team. The displayed error codes are always needed for this. (contact SIEMENS AG, System Support for A&D MC products, Hotline (Tel.: see alarm 1000).

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

300406 Problem in the non-cyclic communication for basic address %1, additional information %2, %3, %4

Definitions: A problem has occured during the non-cyclic communication with logic basic address. The additional information defines the position of the problem.

Reactions: - Alarm display.

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- Warning display.

Remedy: Please inform the authorized personnel/service department. The alarm can be suppressed with ENABLE_ALARM_MASK bit 1 == 0

SIEMENS AG, System Support for A&D MC products, Hotline (Phone: see alarm 1000)

Program Continuation: Clear alarm with the Delete key or NC START.

300410 Axis %1 drive %2 error when storing a file (%3, %4)

Parameters: %1 = NC axis number

%2 = Drive number

%3 = Error code 1

%4 = Error code 2

Definitions: An attempt to save a data block, i.e. the result of a measuring function, in the file system has failed.

On error code 1 == 291: An error occurred during preparation of the ACC information. Basic information prepared on the drive contains an error or has an unknown format.

On error code 1 == 292: Memory shortage during preparation of the ACC information.

Reactions: - Interface signals are set.

- Alarm display.

Remedy:
- Please inform the authorized personnel/service department.
- Create more space in the file system. It is normally sufficient to delete 2 NC programs or to free 4 - 8 Kbytes of memory. If these remedies do not work, it will be necessary to increase the number of files per directory or the size of the file system itself (this will require a complete data backup).
- Change settings of machine data
- 18280 $MM_NUM_FILES_PER_DIR
- 18320 $MM_NUM_FILES_IN_FILESYSTEM
- 18350 $MM_USER_FILE_MEM_MINIMUM
- and, if necessary, of
- 18270 $MM_NUM_SUBDIR_PER_DIR,
- 18310 $MM_NUM_DIR_IN_FILESYSTEM,
- Power On
- Reload saved data
- On error code 1 == 291: Replace the drive software and use version with suitable ACC basic information.
- On error code 1 == 292: Replace the drive software and use fewer different versions of the drive software.

Program Continuation: Clear alarm with the RESET key. Restart part program

300411 Axis %1 drive %2 error when reading a file (%3, %4)

Parameters: %1 = NC axis number

%2 = Drive number

%3 = Error code 1

%4 = Error code 2

Definitions: An attempt to read a data block, e.g. a drive boot file, from the file system has failed. The data block or the file system is damaged.

Reactions: - Interface signals are set.

- Alarm display.

Remedy: If the error occurred during power-up, i.e. it is probably connected to a drive boot file, delete all boot files and load them back into the control from the back-up copy.

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Program Continuation: Clear alarm with the RESET key. Restart part program

300412 **Error when storing a file (%1, %2)**

Parameters: %1 = Error code 1
%2 = Error code 2

Definitions: An attempt to save a data block, i.e. the result of a measuring function, in the file system has failed.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Create more space in the file system. It is normally sufficient to delete 2 NC programs or to free 4 - 8 Kbytes of memory. If these remedies do not work, it will be necessary to increase the number of files per directory or the size of the file system itself. To do so, proceed as follows:
• Save all data
• Change settings of machine data
• 18280 $MM_NUM_FILES_PER_DIR
• 18320 $MM_NUM_FILES_IN_FILESYSTEM
• 18350 $MM_USER_FILE_MEM_MINIMUM
• and, if necessary, of
• 18270 $MM_NUM_SUBDIR_PER_DIR
• 18310 $MM_NUM_DIR_IN_FILESYSTEM
• Power On
• Reload saved data

Program Continuation: Clear alarm with the RESET key. Restart part program

300413 **Error when reading a file (%1, %2)**

Parameters: %1 = Error code 1
%2 = Error code 2

Definitions: An attempt to read a data block, e.g. a drive boot file, from the file system has failed. The data block or the file system is damaged.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: If the error occurred during power-up, i.e. it is probably connected to a drive boot file, delete all boot files and load them back into the control from the back-up copy.

Program Continuation: Clear alarm with the RESET key. Restart part program

300423 **Measuring results could not be read (%1)**

Parameters: %1 = Error code

Definitions: An attempt to read a measurement result has failed:
• Error code = 4: Not enough space for test result
• Error code = 16: Measurement not yet finished

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Repeat measurement. Alter measuring time if necessary.

Program Continuation: Clear alarm with the RESET key. Restart part program

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300500 **Axis %1 drive %2 system error, error codes %3, %4**

Parameters: %1 = NC axis number
%2 = Drive number
%3 = Error code 1
%4 = Error code 2

Definitions: The drive has signaled a system error.
Safety Integrated:
Request: In the corresponding cycle.
On FDD: Generator stop (corresponds to STOP B)
On MSD: Pulse and servo disable (corresponds to STOP A)
The error occurs if the computation time of the drive processor is not sufficient for the cycle indicated in the additional information.
Error no.: 03, additional information: 40, monitoring cycle too small for SINUMERIK Safety Integrated.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Notes on the error codes can be found under Section "Error codes of alarm 300500".
NCK reset (POWER ON)
Safety Integrated: Increase the corresponding cycle or the cascade cycle (e.g. current, speed, position control cycle) or deselect the functions which are not required
Any further search for the precise cause of error can only be performed by the development team. The displayed error codes are always needed for this. Reinitialization of the drive required.
Please inform the authorized personnel/service department. System Support, SIEMENS A&D MC, Hotline (Tel.: see alarm 1000).

Program Continuation: Switch control OFF - ON.

300501 **Axis %1 drive %2 maximum current monitoring**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: 1. A serious fault occured during actual current measurement.
2. The maximum current threshold was exceeded while the rotor position identification was active (FDD only).

Reactions: - Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
• Modify MD 1107: $MD_INVERTER_MAX_CURRENT (transistor limit current)

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- Check the motor data (motor code)
- Check the controller data, current/speed controller gain too high
- Reduce MD 1145: $MD_STALL_TORQUE_REDUCTION (stall torque reduction factor).
- Check the power section and motor terminals (including motor protection), possibly power section too small
- Increase MD 1254: $MD_CURRENT_MONITOR_FILTER_TIME (time constant for current monitoring)
- Error in actual current measurement (if necessary, replace 611D power section or controller module)
- If rotor position identification is active, check MD 1019 $MD_CURRENT_ROTORPOS_IDENT (current for rotor position identification) and, if necessary, reduce the setting.

Program Continuation: Switch control OFF - ON.

300502 **Axis %1 drive %2 maximum current monitoring of phase current R**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The phase current R is greater than or equal to 1.05 times the maximum power section current MD 1107: $MD_INVERTER_MAX_CURRENT (transistor limit current).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
- Check max. power section current in MD 1107 $MD_INVERTER_MAX_CURRENT (transistor limit current)
- Check the motor data (motor code)
- Motor has ground or winding fault
- Check the controller data
- Check the power section and motor terminals (including motor protection)
- Error in actual current measurement (if necessary, replace 611D power section or controller module)

Program Continuation: Switch control OFF - ON.

300503 **Axis %1 drive %2 maximum current monitoring of phase current S**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The phase current S is greater than or equal to 1.05 times the maximum power section current MD 1107: $MD_INVERTER_MAX_CURRENT (transistor limit current).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

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- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
- Check max. power section current in MD 1107 $MD_INVERTER_MAX_CURRENT (transistor limit current)
- Check the motor data (motor code)
- Check the controller data
- Motor has ground or winding fault
- Check the power section and motor terminals (including motor protection)
- Error in actual current measurement (if necessary, replace 611D power section or controller module)

Program Continuation: Switch control OFF - ON.

300504 **Axis %1 drive %2 measuring circuit error of motor measuring system**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: Signal level of the motor encoder too low or disturbed.

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
- Check encoders, encoder lines and connectors between drive motor and 611D module.
- Check for temporary interruptions (loose contact) caused, for example, by movements in trailing cable.
- Check the shield connection of the front plate of the closed-loop control module (top screw).
- Use original, preassembled encoder cable from Siemens (high degree of shielding).
- If necessary, replace the motor, encoder and/or cables.
- With linear motor, check the signal level; possibly, the measuring scale of the open measuring system is polluted.
- For a gearwheel encoder, check the distance between the gearwheel and the sensor. Replace the sensor or the defective gearwheel.
- Replace the control module.
- Check the metallized intermediate circuit cover.

Program Continuation: Switch control OFF - ON.

300505 **Axis %1 drive %2 measuring circuit error of absolute track, code %3**

Parameters: %1 = NC axis number
%2 = Drive number
%3 = Fine error coding

Definitions:
- Incremental encoder (ERN 1387)
- The absolute motor track (C/D track) is monitored for wire-breaks.
- Absolute encoder (EQN 1325)

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- Monitoring of the encoder hardware and the EnDat interface
- Accurate diagnostics via error code MD 1023 $MD_ENC_ABS_DIAGNOSIS_MOTOR (diagnostics for measuring system absolute track) on motor measuring systems or MD 1033 $MD_ENC_ABS_DIAGNOSIS_DIRECT (diagnostics for direct measuring system absolute track) for direct measuring systems:
- Overview of bit nos., significance, note:
- Bit 0 Lighting failed
- Bit 1 Signal amplitude too small
- Bit 2 Code connection error
- Bit 3 Overvoltage
- Bit 4 Undervoltage
- Bit 5 Overcurrent
- Bit 6 Battery change necessary
- Bit 7 CRC error (evaluate bit 13) see below, SW 4.2 and higher, synchronous linear motor
- Bit 8 Encoder cannot be used, Assignment of absolute track to incremental track not allowed, SW 4.2 and higher, synchronous linear motor
- Bit 9 C/D track for ERN1387 encoder incorrect (see below) or EQN encoder connected
- Bit 10 Log cannot be aborted
- Bit 11 SSI level detected in data cable
- Bit 12 TIMEOUT while reading measured value
- Bit 13 CRC error
- Bit 14 Wrong IPU submodule for direct measuring signal, only with 611D expansion
- Bit 15 Encoder defective
- CRC error bit 7 and bit 13:
- Bit 7: 0, bit 13: 1 CRC error from SIDA-ASIC
- Bit 7: 1, bit 13: 0 Control check byte error
- Bit 7: 1, bit 13: 1 Error on correction of absolute track by incremental track
- Bits 12 and 15: Zero level monitoring SSI
- Bits 14 and 15: Idle level monitoring SSI
- Note on bit 9:
- Incorrect parameterization (e.g. not on EQN MD 1011: $MD_ACTUAL_VALUE_CONFIG (actual value sensing configuration IM) or MD 1030: $MD_ACTUAL_VALUE_CONFIG_DIRECT (actual value sensing configuration IM)
- or old hardware (not suitable for EQN)
- or no encoder connected
- or incorrect encoder cable (for ERN instead of EQN)

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy:
- Check encoders, encoder lines and connectors between drive motor and 611D module. Check for temporary interruptions (loose contact) caused, for example, by movements in trailing cable. If necessary, replace the motor cable.
- Incorrect cable type

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- Closed-loop control module defective or not suitable for EnDat interface (e.g. closed-loop control module with EPROM)

Program Continuation: Switch control OFF - ON.

300506 **Axis %1 drive %2 NC sign-of-life failure**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: Upon servo enable, the NC must update the sign-of-life monitoring in each position control cycle. In case of error, sign-of-life monitoring has not been updated.

Cause:

- a) NC no longer updates the sign-of-life as a reaction to an alarm (e.g. 611D alarm)
- b) Fault occurred during communication via the drive bus
- c) Hardware error on the drive module
- d) NC fault
- e) For 840D: Value of the machine data MD10082: $MN_CTRLOUT_LEAD_TIME (Offset of the setpoint acceptance instant) is too great
- f) MD 1003 $MD_STS_CONFIG not set correctly (e.g. zero)

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.

- for a) Determine whether the sign-of-life monitoring failure is a sequential fault. A sequential fault arises, e.g. through: Fault/alarm from axis x with an n-axis configuration. If this fault profile arises, the above-stated error message will be isued for all n-axes, although there is only a fault/alarm at axis x. ==Remedy the error at axis x == sign of life of the other axes is irrelevant.
- for b) Check cable connection, perform remedial measures (check shielding or ground connection).
- for c) Change controller module.
- for d) See NC Diagnostics Guide and change NC hardware if necessary.
- for e) Correctly set the machine data 840D MD10082: $MN_CTRLOUT_LEAD_TIME (Offset of the setpoint acceptance instant) with the machine data MD10083: $MN_CTRLOUT_LEAD_TIME_MAX (Maximum settable offset of the setpoint acceptance instant).
- for f) Check MD 1003 $MD_STS_CONFIG.

Program Continuation: Switch control OFF - ON.

300507 **Axis %1 drive %2 synchronization error of rotor position**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: There is a difference of more than 45° electrical between the present rotor position (C/D track) and the new rotor position as determined by fine synchronization. Faults may have occurred in the encoder or zero marker signals.

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The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy:
- Use original Siemens encoder cables (they have a higher degree of screening).
- Check the encoder, encoder cables and screen connection for damage.
- Check the shield connection on the front plate of the controller module (top screw).
- Replace the control module.
- Check MD 1016 $MD_COMMUTATION_ANGLE_OFFSET (commutation angle offset).

Program Continuation: Switch control OFF - ON.

300508 Axis %1 drive %2 zero mark monitoring of motor measuring system

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: An error was detected in the number of encoder lines counted to modulo (16/10) on crossing of the zero marker. Increments were lost or added.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
- Use original Siemens encoder cables (they have a higher degree of screening).
- Check the encoder, encoder cable and shield connection for loose contact or cable breakage.
- Check the shield connection on the front plate of the controller module (top screw).
- For a gearwheel encoder, check the distance between the gearwheel and the sensor.
- Replace the encoder, encoder cable or control module.
- Check the metallized intermediate circuit cover.
- If a BERO proximity switch is used, the zero marker of the encoder is still being monitored and not the BERO signal.

Program Continuation: Switch control OFF - ON.

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300509 **Axis %1 drive %2 converter frequency exceeded**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The motor has exceeded the maximum converter frequency fmax (see below). Converter frequency = speed * number of motor pole pairs

Maximum converter frequency:

- FSD: fmax = 1.12 * minimum(1.2*MD 1400, MD 1147) * MD1112 / 60
- MSD: fmax = 1.12 * minimum(MD 1146, MD 1147) * number of pole pairs / 60
- Number of pole pairs = integer component of rated motor frequency (MD 1134) * 60 / rated motor speed (MD 1400)

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.

- Check number of encoder lines in MD 1005: $MD_ENC_RESOL_MOTOR (encoder resolution for motor measuring system).
- Check encoder power supply (short circuit or ground fault).
- Replace encoder, encoder cable or controller module.
- Modify MD 1400: $MD_MOTOR_RATED_SPEED (rated motor speed),
- Modify MD 1146: $MD_MOTOR_MAX_ALLOWED_SPEED (maximum motor speed).
- Modify MD 1147: $MD_SPEED_LIMIT (speed limit),
- Modify MD 1112: $MD_NUM_POLE_PAIRS (number of motor pole pairs) (FDD),
- Modify MD 1134: $MD_MOTOR_NOMINAL_FREQUENCY (rated motor frequency) (MSD).

Program Continuation: Switch control OFF - ON.

300510 **Axis %1 drive %2 error on actual current measurement zero balancing**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The value of the actual current exceeded the maximum permissible limits during current zero balancing (performed on every pulse disable). For example, the synchronous motor is rotating at a small intermediate circuit voltage and current is flowing across the free-wheeling diodes in the intermediate circuit.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy:
- Error in actual current measurement (if necessary, replace 611D power section or controller module)
- Incorrect power section module (1/2 axis)

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• Check the contact between the controller module and the power section
• Check the contact between the fixing screw and the controller module

Program Continuation: Switch control OFF - ON.

300511 **Axis %1 drive %2 measuring function active**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The measuring function (e.g. frequency response measurement was active during the switching on operation (power supply start-up active). Illegal activation of the measuring function may have occurred internally.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: • Stop the measuring function
• NCK reset

Program Continuation: Switch control OFF - ON.

300512 **Axis %1 drive %2 direct feedback recognized**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The current rotor position and the position information read out by the encoder on ramp-up were compared with each other and a deviation of more than 45 degrees was found.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: • The deviation points to a local contamination of the encoder or an erroneous or loose encoder assembly. The encoder must be examined accordingly.
Operation may commence again only after successful error correction as there is a risk of uncontrollable movements!
• NCK reset

Program Continuation: Switch control OFF - ON.

300513 **Axis %1, drive %2 ground fault detected**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: Firmware has detected ground fault.
Measured phase currents greater than in MD1167 $MD_CURRENT_GROUND_IDENT

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or maximum permitted movement during ground fault detection MD1168 $MD_MAX_TURN_MOTORIDENT configured.

Reactions: - Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Ground fault in power cables or on motor.

At least one phase current overruns threshold MD1167 $MD_CURRENT_GROUND_IDENT or MD1168 $MD_MAX_TURN_MOTORIDENT during the ground fault detection.

Detailed information in the machine date Diagnostics MD1169 $MD_DIAG_MOTORIDENT.

Program Continuation: Switch control OFF - ON.

300515 Axis %1 drive %2 power section heat sink temperature exceeded

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The temperature of the power section is acquired from a temperature switch on the heatsink. 20 seconds after the heatsink temperature warning, drive shutdown is initiated immediately in order to avoid thermal damage to the power section (regenerative stop).

Reactions: - Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Provide better ventilation of the drive modules, e.g. by means of:

- Greater air throughput in the switching cabinet, if necessary cool the ambient air of the 611D modules.
- Avoid numerous acceleration and deceleration operations in rapid sequence by modifying the workpiece programming.
- Incorrect motor/power section dimensioning
- Excessive ambient temperature (see Planning Guide)
- Exceeding of the installation height (see Planning Guide)
- Excessive pulse frequency (see Planning Guide)
- Defective module
- Fan failure
- Observance of the minimum clearance over and under the power section (see Planning Guide)

Program Continuation: Switch control OFF - ON.

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300603 **Axis %1, drive %2 DC link voltage too high**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The current DC link voltage in MD1701:$MD_LINK_VOLTAGE is larger than MD1163: $MD_LINK_VOLTAGE_MAX and MD1165: $MD_DYN_MANAG_ENABLE is activated.

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Increase drive machine data
- MD 1163: $MD_LINK_VOLTAGE_MAX or deactivate
- MD 1165: $MD_DYN_MANAG_ENABLE.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

300604 **Axis %1 drive %2 motor encoder is not adjusted**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The stored serial number of the encoder on a linear motor encoder with an EnDat interface does not match the number of the active encoder. It is therefore assumed that the encoder has not been started up with the motor in question before or has not been adapted to the motor.

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: For 1FN3 linear motors: Measure the rotor position offset to the EMF of the U_R phase and add it as commutation angle offset to MD 1016 $MD_COMMUTATION_ANGLE_OFFSET. Then set MD 1017 $STARTUP_ASSISTANCE to "-1" to store the serial number of the Endat encoder. Then save the bootfiles and execute an NCK Reset. Otherwise: To determine the commutation angle offset in MD 1016, initiate the rotor position identifier via MD 1017 = 1. After the error has been acknowledged, the identification is carried out.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

300605 **Axis %1 drive %2 motor change not valid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: An attempt was made to switch over to a motor data record that is not parameterized.

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.

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- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Parameterize the motor data record selected or switch over to another motor.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

300606 Axis %1 drive %2 flux controller at limit

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The specified flux setpoint cannot be achieved even though the maximum current has been provided.
Causes:
• Incorrect motor data (replacement circuit diagram data)
• Motor data and motor connection type (star/delta) do not match
• Motor has become unstable because motor data grossly wrong
• Current limit is too low for the motor (0.9 * MD 1238 * MD 1103 < MD 1136)
• Power section too small

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Remedy the cause.
• Modify MD 1238: $MD_CURRENT_LIMIT (current limit)
• Modify MD 1103: $MD_MOTOR_NOMINAL_CURRENT (motor nominal current)
• Modify MD 1136: $MD_MOTOR_NOLOAD_CURRENT (motor no-load current)
• Use greater power section.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

300607 Axis %1 drive %2 current controller at limit

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The specified current setpoint cannot be injected into the motor even though the maximum voltage has been provided. Cause: Motor not connected or phase missing.
The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

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- Channel not ready.

Remedy:
- Check the motor converter connection (phase missing).
- Check the motor protection.
- DC link voltage available?
- Check the DC link connections (check that the screws are tight).
- Check the contact between the closed-loop control module and the power section.
- Check the contact between the fixing screw and the closed-loop control module.
- The Uce monitoring circuit has been activated (perform a reset by switching the power supply off and on again).
- Replace the control module.
- Replace the power section.
- Replace the motor.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

300608 **Axis %1 drive %2 speed controller at limit**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The speed controller output is lying for an impermissibly long time at its limit (MD 1605: $MD_SPEEDCTRL_LIMIT_TIME and MD 1606: The torque setpoint has exceeded the torque limit or the current setpoint the current limit. The monitoring system is only active when the speed setpoint is below the speed threshold in MD 1606: $MD_SPEEDCTRL_LIMIT_THRESHOLD.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
- Is the motor blocked, overloaded or the brake closed?
- If permitted by the power section, set the limits for torque, performance and current to higher values.
- Is the motor connected to ground?
- Check the motor converter connection (phase missing, incorrect rotary field).
- Check the encoder resolution.
- Check the encoder, encoder cable and shield connection for loose contact or cable breakage.
- Check the direction of rotation of the encoder tracks (e.g. gearwheel encoder MD 1011: $MD_ACTUAL_VALUE_CONFIG bit 1)
- Is the encoder cable appropriate for the encoder type?
- Check the controller settings (e.g. after software exchange).
- Check the motor protection.
- DC link voltage available?
- Check the DC link connections (check that the screws are tight).
- The Uce monitoring circuit has been activated (perform a reset by switching the power supply off and on again).

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- Modify MD 1605: $MD_SPEEDCTRL_LIMIT_TIME and MD 1606: $MD_SPEEDCTRL_LIMIT_THRESHOLD in accordance with the mechanical and dynamic features of the axis.
- Default values for FDD:
- MD 1605 = 200 ms
- MD 1606 = 8000 rpm
- Default values for MSD:
- MD 1605 = 200 ms
- MD 1606 = 30 rpm
- Replace the motor (encoder is defective, motor has a winding or ground fault or a short circuit)
- With linear motors:
- Check actual value inversion.
- Check the reduction of the max. motor current MD 1105 MD_MOTOR_MAX_CURRENT_REDUCTION and increase the value if necessary.
- Check connection of motor cables.
- Are the motors arranged correctly in a parallel circuit and is their electrical interconnection correct?

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

300609 **Axis %1 drive %2 encoder cut-off frequency exceeded**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: Actual speed value exceeds encoder limit frequency fg,max = 650kHz; fg = nist * MD 1005

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.

- The wrong encoder may be in use.
- Correct MD 1005: Does the number of encoder lines match the setting in MD 1005 $MD_ENC_RESOL_MOTOR (encoder resolution for motor measuring system)?
- Is the motor encoder cable connected correctly?
- Is the motor encoder cable shield installed flat?
- Replace the motor (the encoder is defective).
- Check the encoder, encoder cable and shield connection for loose contact or cable breakage.
- Replace the encoder.
- Replace the 611D control module.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

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300610 **Axis %1 drive %2 rotor position identification failed**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: If P1075=1 (procedure based on saturation)
The rotor position could not be determined from the measurement signals (motor current), as significant saturation effects did not occur.
For detailed diagnostics see also parameter P1734.
If P1075=3 (procedure based on movement)
1. Power increase too small.
2. Max permissible time exceeded.
3. No clear rotor position found.

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
- If P1075=1
- Increase current via P1019
- Check armature inductance (P1116) and increase if necessary.
- Check the motor/converter connection (phase missing).
- Check the motor protection.
- DC link voltage available?
- Check the DC link connections (check that the screws are tight).
- The Uce monitoring circuit in the power section has been activated (perform a reset by switching the power supply off and on again).
- Replace the power section or closed-loop control module.
- If P1075=3
- Re 1.
- The motor was not properly connected.
- The power connection of the motor must be checked.
- Re 2.
- Remove disturbing external forces (e.g. axis couplings not released)
- Identification procedure must remain stable (P1076 must be reduced)
- Use encoder with higher resolution
- Improve encoder attachement (not rigid enough)
- Re 3.
- Remove disturbing external forces (e.g. axis couplings not released)
- The axis must move freely (e.g. motor not stalled)
- Reduce high axis friction (increase P1019)
- Only SIMODRIVE POSMO SI, CD, CA
- If P1075=1
- Increase current via P1019
- Check on armature inductance (P1116) and increase if necessary.
- Check motor/converter connection cable (phase missing)
- Check on motor protection.

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- DC link voltage available?
- Exchange drive module
- If P1075=3
- Re 1.
- The motor is not properly connected.
- The power connection of the motor must be checked.
- Re 2.
- Remove disturbing external forces (e.g. axis couplings not released)
- Identification procedure must remain stable (P1076 must be reduced)
- Use encoder with higher resolution.
- Improve encoder attachement (not rigid enough).
- Re 3.
- Remove disturbing external forces (e.g. axis coupling not released).
- The axis must move freely (e.g. motor not stalled).
- Reduce high axis friction (increase P1019)

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

300611 **Axis %1 drive %2 generator mode: Motion at rotor position identification**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: During the measurement, the motor has turned by more than the permissible value entered in MD1020: $MD_MAX_TURN_ROTORPOS_IDENT (maximum rotation of the rotor position identification). The rotation can be caused by switching on a rotating motor or by the identification itself.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.

- If the rotation was caused by the identification itself, and if the error occurs repeatedly, then reduce MD1019: $MD_CURRENT_ROTORPOS_IDENT (rotor position identification current) or increase MD1020: $MD_MAX_TURN_ROTORPOS_IDENT (maximum rotation of the rotor position identification).
- Rotor position identification with inductance: stall the motor during the identification
- Rotor position identification with movement: check the factor load mass/load moment of inertia MD1076: $MD_FACTOR_MASS / $MD_FACTOR_INERTIA and increase if necessary.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

300612 **Axis %1 drive %2 illegal current during rotor position identification**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: 1. With rotor position identification active, the current was

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>= 1.2 * 1.05 * INVERTER_MAX_CURRENT (MD 1107)
2. With rotor position definition active, the current was
>= MOTOR_MAX_CURRENT (MD 1104)

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Check MD 1019 with rotor position identification active and, if necessary, reduce the setting.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

300613 Axis %1 drive %2 maximum permissible motor temperature exceeded

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The motor temperature (measured via the temperature sensor KTY 84 and fed to the module through the motor encoder cable) has exceeded the temperature limit in drive MD 1607: $MD_MOTOR_TEMP_SHUTDOWN_LIMIT (motor temperature shutdown limit).
The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
- Motor overloaded.
- Check the motor data. Possibly the machine current was too high as a result of incorrect motor data.
- Check the temperature sensor (2nd sensor possible with MSD).
- Check the motor encoder cable.
- Motor encoder defective.
- Check the motor fan.
- Check the acceleration.
- If necessary, use a higher-performance motor.
- Winding fault in motor.
- 611D control module defective.
- Modify MD 1230: $MD_TORQUE_LIMIT (1st torque limit), MD 1235: POWER_LIMIT (1st power limit) set too high.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

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300614 **Axis %1 drive %2 time monitoring of motor temperature**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The motor temperature (measured via the temperature sensor KTY 84 and fed to the module through the motor encoder cable) has exceeded the temperature limit in drive MD 1602: $MD_MOTOR_TEMP_WARN_LIMIT for a longer period of time than permitted in drive machine data 1603 $MD_MOTOR_TEMP_ALARM_TIME.
$MD_MOTOR_TEMP_ALARM_TIME (time stage motor temperature alarm).

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
- Motor overloaded.
- Check the motor data. Possibly the machine current was too high as a result of incorrect motor data.
- Check the temperature sensor.
- Check the motor encoder cable.
- Check the motor fan.
- Motor encoder defective.
- Check the acceleration.
- If necessary, use a higher-performance motor.
- Winding fault in motor.
- 611D control module defective.
- Modify MD 1230: $MD_TORQUE_LIMIT (1st torque limit), MD 1235: POWER_LIMIT (1st power limit) set too high.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

300701 **Axis %1 drive %2 start-up required**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: This alarm appears when installing and starting up for the first time without valid 611D machine data!

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
- Reset motor data.
- Back up boot drive.

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• Repeat the Power ON.

Program Continuation: Switch control OFF - ON.

300702 **Axis %1 drive %2 base cycle time invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The base cycle time set on the NC was too high for the drive.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: 840D: NCK RESET. After powering up the system again, the NCK machine data 10050: $MN_SYSCLOCK_CYCLE_TIME (system base cycle) and MD 10080: $MD_SYSCLOCK_SAMPL_TIME_RATIO (division factor of position control cycle for actual value acquisition) are also modified automatically so that the limits are respected.
840C: Change the base cycle on the NC in MD 168.

Program Continuation: Switch control OFF - ON.

300703 **Axis %1 drive %2 current cycle time invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: In the drive MD 1000: $MD_CURRCTRL_CYCLE_TIME.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
The following values are permissible:
611D control module Current controller cycle
• Standard control as 1-axis: >= 125 µs
• Standard control as 2-axis: >= 125 µs
• Performance 1-axis: >= 62.5 µs
• Performance 2-axis: >= 125 µs
• 810D: >= 156.25 µs
• MCU: >= 125 µs
• Performance 2: >= 31.25 µs

Program Continuation: Switch control OFF - ON.

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300704 **Axis %1 drive %2 speed controller cycle time invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: In the drive MD 1001: $MD_SPEEDCTRL_CYCLE_TIME.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
The following values are permissible:
611D control module Speed controller cycle
• Standard control as 1-axis: >= 125 µs
• Standard control as 2-axis: >= 500 µs
• Performance 1-axis: >= 62.5 µs (MSD >= 125 µs)
• Performance 2-axis: >= 125 µs
• 810D: >= 312.5 µs
• MCU: >= 125 µs
• Performance 2, 1-axis: >= 31.25 µs
• Performance 2, 2-axis: >= 62.5 µs

Program Continuation: Switch control OFF - ON.

300705 **Axis %1 drive %2 position controller cycle time invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The monitor in the 611D module has detected a position controller pulse rate which is beyond the permissible limits. The conditions for a permissible position controller pulse rate are:
1. Minimum cycle period: 250µs (810D 312.5µs)
2. Maximum pulse rate: 4 s
3. The position controller pulse rate must be a multiple of the speed controller cycle given in the drive MD 1001: $MD_SPEEDCTRL_CYCLE_TIME.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Change the position controller pulse rate on the NC.

Program Continuation: Switch control OFF - ON.

300706 **Axis %1 drive %2 monitoring cycle time invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: Monitoring cycle MD 1002: $MD_MONITOR_CYCLE_TIME is invalid.

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Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. See Drive Functions "FB/DB1".

Program Continuation: Switch control OFF - ON.

300707 Axis %1 drive %2 basic cycle times of axes differ

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: In a 2-axis module, the basic drive cycle for the two axes is not the same. This alarm can only occur with OEM users who have the 611D drive without the standard NCK interface. This makes it possible for axially different basic drive cycles to be transferred to the 611D modules.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Set the same basic drive cycle for both axes.

Program Continuation: Switch control OFF - ON.

300708 Axis %1 drive %2 current controller cycle times of axes differ

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The current controller cycle MD 1000: $MD_CURRCTRL_CYCLE_TIME must be identical for both axes on 2-axis modules.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. The current controller cycle MD 1000: $MD_CURRCTRL_CYCLE_TIME must be identical for both axes on 2-axis modules.

Program Continuation: Switch control OFF - ON.

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300709 **Axis %1 drive %2 speed controller cycle times of axes differ**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The speed controller cycle MD 1001: $MD_SPEEDCTRL_CYCLE_TIME must be identical for both axes on 2-axis modules.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Reduce speed controller cycle MD 1001: $MD_SPEEDCTRL_CYCLE_TIME must be identical for both axes on 2-axis modules.

Program Continuation: Switch control OFF - ON.

300710 **Axis %1 drive %2 position controller cycle times of axes differ**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: In a 2-axis module, the position controller cycle for the two axes is not the same. This alarm can only occur with OEM users having the 611D drives without the standard NCK interface. This would make it possible to transfer axially different position controller cycles to the 611D module.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Set an identical position controller cycle for both axes.

Program Continuation: Switch control OFF - ON.

300711 **Axis %1 drive %2 monitoring cycle times of axes differ**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The monitoring cycle MD 1002: $MD_MONITOR_CYCLE_TIME must be identical for both axes on 2-axis modules.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Modify MD 1002: $MD_MONITOR_CYCLE_TIME for both axes.

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Program Continuation: Switch control OFF - ON.

300712 **Axis %1 drive %2 configuration of controller structure (higher dynamic response) not possible**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: On a 2-axis module, an attempt was made to change the control structure via MD 1004: $MD_CTRL_CONFIG in such a way that speed control would be performed in advance of current control. This is only allowed on 1-axis modules in order to improve the dynamic response!

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. In the drive MD 1004: $MD_CTRL_CONFIG bit 2 must be set to zero (no) (default setting). This ensures that the current control acts before the speed control.

Program Continuation: Switch control OFF - ON.

300713 **Axis %1 drive %2 lead time for position controller invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The derivative-action time describes the point in time the setpoints are taken over in the drive. The derivative-action defined by the NC must be smaller than the position controller cycle. The derivative-action time must be an integer multiple of the speed controller cycle.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Modify MD 10082: $MN_CTROUT_LEAD_TIME (derivative-action time).

Program Continuation: Switch control OFF - ON.

300714 **Axis %1 drive %2 power section code invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The code number of the power section entered in drive MD 1106: $MD_INVERTER_CODE (power section code number) does not match the power section in the drive configuration display (MD 13020: $MD_DRIVE_INVERTER_CODE).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.

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- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Delete modified machine data (e.g. controller data). Reset the drive (delete the bootfile) and repeat the startup.

Program Continuation: Switch control OFF - ON.

300715 Axis %1 drive %2 maximum power section current less than or equal to zero

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The maximum current of the power section entered in drive MD 1107: $MD_INVERTER_MAX_CURRENT (transistor limit current) is less than or equal to zero.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Reset the drive (delete the bootfile) and repeat the startup.

Program Continuation: Switch control OFF - ON.

300716 Axis %1 drive %2 torque constant less than or equal to zero

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: 1. The value in drive MD 1113: $MD_TORQUE_CURRENT_RATIO (torque constant) is less than or equal to zero.

2. The ratio of MD1113: $MD_TORQUE_CURRENT_RATIO (torque constant) / MD1112: $MD_NUM_POLE_PAIRS (motor pole pairs) is greater than 70.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.

For standard motors: Reset the drive (delete the bootfile) and repeat the startup.

For third-party motors: Enter a valid value in drive MD 1113: $MD_TORQUE_CURRENT_RATIO (torque constant), or check and, if necessary, correct the ratio of MD1113: $MD_TORQUE_CURRENT_RATIO (torque constant) / MD1112: $MD_NUM_POLE_PAIRS (motor pole pairs).

Program Continuation: Switch control OFF - ON.

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300717 **Axis %1 drive %2 motor moment of inertia less than or equal to zero**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The value in MD 1117: $MD_MOTOR_INERTIA (motor moment of inertia) is less than or equal to zero.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
For standard motors: Reset the drive (delete the bootfile) and repeat the startup. For MSD, configure "1st motor" first.
For third-party motors: Enter a valid value in drive MD 1117: $MD_MOTOR_INERTIA (motor moment of inertia).

Program Continuation: Switch control OFF - ON.

300718 **Axis %1 drive %2 calculation dead time of current controller less than or equal to zero**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The value in MD 1101: $MD_CTRLOUT_DELAY (dead time of current control circuit) is less than or equal to zero. The dead time is calculated internally and automatically initialized according to the type of module (1/2-axis, standard/performance module, 810D).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Reset the drive (delete the bootfile) and repeat the startup. Check drive MD 1101: $MD_CTRLOUT_DELAY (dead time of current control circuit).

Program Continuation: Switch control OFF - ON.

300719 **Axis %1 drive %2 motor not parameterized for delta operation**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: On activating the star/delta switchover by drive MD 1013: $MD_ENABLE_STAR_DELTA, the motor delta (motor 2) is not parameterized.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.

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- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check and enter the machine data for motor delta (motor 2).

Program Continuation: Switch control OFF - ON.

300720 **Axis %1 drive %2 maximum motor speed invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: Because of the high maximum motor speed in the drive MD 1401: $MD_MOTOR_MAX_SPEED and the speed controller cycle in MD 1001: $MD_SPEEDCTRL_CYCLE_TIME sufficiently high speeds can occur to cause a format overflow. Example: A motor speed of 480,000 rpm can still be processed without error at a speed controller cycle time of 125 µs.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Reduce the maximum motor speed MD 1401: $MD_MOTOR_MAX_SPEED (speed for the maximum useful motor speed) or set a smaller speed controller cycle in MD 1001: $MD_SPEEDCTRL_CYCLE_TIME (speed controller cycle).

Program Continuation: Switch control OFF - ON.

300721 **Axis %1 drive %2 zero-load current greater than rated motor current**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The no-load current of the motor (MD 1136: $MD_MOTOR_NOLOAD_CURRENT) has been set at a greater value than the rated current of the motor (MD 1103: $MD_MOTOR_NOMINAL_CURRENT).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
For standard motors:
Reset the drive (delete the bootfile) and repeat the startup.
For third-party motors:
Check and, if necessary, refer to the motor data sheet to correct machine data MD 1103: $MD_MOTOR_NOMINAL_CURRENT (rated motor current) and MD 1136: $MD_MOTOR_NOLOAD_CURRENT (motor no-load current).

Program Continuation: Switch control OFF - ON.

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300722 **Axis %1 drive %2 zero-load motor current greater than rated current of power section**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: On the basis of its no-load current (MD 1136: $MD_MOTOR_NOLOAD_CURRENT (motor no-load current), the connected motor is too large for the power section in use (continuous thermal current MD 1108: $MD_INVERTER_MAX_THERMAL_CURR (current limit for power section).

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
1. Reset the drive (delete the bootfile) and repeat the startup.
2. Check the configuration and install a suitable power section for the motor. Repeat the startup.

Program Continuation: Switch control OFF - ON.

300723 **Axis %1 drive %2 STS configuration of axes differ**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The configuration of the control block MD 1003: $MD_STS_CONFIG (STS configuration) must be identical for both axes on 2-axis modules.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check drive MD 1003: $MD_STS_CONFIG (STS configuration) and set the bits for the two axes of the module so that they are the same. (Do not change the default setting - this corresponds to the optimum configuration).

Program Continuation: Switch control OFF - ON.

300724 **Axis %1 drive %2 number of pole pairs invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: FDD: The configured number of pole pairs in the drive MD 1112: $MD_NUM_POLE_PAIRS is outside the permissible range limits.
MSD: Modify MD 1134: $MD_MOTOR_NOMINAL_FREQUENCY (rated motor frequency) or MD 1400: $MD_MOTOR_RATED_SPEED (rated motor speed) is not correct.

Reactions: - NC not ready.
- The NC switches to follow-up mode.

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- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
For standard motors: Reset the drive (delete the bootfile) and repeat the startup.
For third-party motors: Check and, if necessary, refer to the motor data sheet to correct MD 1112: $MD_NUM_POLE_PAIRS (number of motor pole pairs).

Program Continuation: Switch control OFF - ON.

300725 Axis %1 drive %2 number of encoder marks of measuring system invalid

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The number of encoder marks of the motor measuring system in the drive MD 1005: $MD_ENC_RESOL_MOTOR (number of encoder marks of the motor measuring system) is zero or greater than the maximum input limit.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Match the number of encoder marks of the motor measuring system in drive MD 1005: $MD_ENC_RESOL_MOTOR (number of encoder marks of the motor measuring system) to the encoder in use. (Default setting for motor measuring system: (Default setting for motor measuring system: 2048 incr./rev.).

Program Continuation: Switch control OFF - ON.

300726 Axis %1 drive %2 voltage constant is zero

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The value in drive MD 1114: $MD_EMF_VOLTAGE is set to zero.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
For standard motors: Reset the drive (delete the bootfile) and repeat the startup.
For third-party motors: Check and, if necessary, refer to the motor data sheet to correct MD 1114: $MD_EMF_VOLTAGE (voltage constant).

Program Continuation: Switch control OFF - ON.

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300727 **Axis %1 drive %2 reactance less than or equal to zero**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The value in MD 1139: $MD_STATOR_LEAKAGE_REACTANCE (stator leakage reactance) or MD 1140: $MD_ROTOR_LEAKAGE_REACTANCE (rotor leakage reactance) or MD 1141: $MD_MAGNETIZING_REACTANCE (magnetizing reactance) is less than or equal to zero.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
For standard motors: Reset the drive (delete the bootfile) and repeat the startup.
For third-party motors: Check and, if necessary, refer to the motor data sheet to correct MD 1139: $MD_STATOR_LEAKAGE_REACTANCE (stator leakage reactance) or MD 1140: $MD_ROTOR_LEAKAGE_REACTANCE (rotor leakage reactance) or MD 1141: $MD_MAGNETIZING_REACTANCE (magnetizing reactance).

Program Continuation: Switch control OFF - ON.

300728 **Axis %1 drive %2 adaption factor torque/current too high**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The matching factor from setpoint torque to cross current in the speed controller is too large.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
For standard motors: Reset the drive (delete the bootfile) and repeat the startup.
For third-party motors: Check and, if necessary, refer to the motor data sheet to correct MD 1103: $MD_MOTOR_NOMINAL_CURRENT (rated motor current) or MD 1107: $MD_INVERTER_MAX_CURRENT (transistor limit current) or MD 1113: $MD_TORQUE_CURRENT_RATIO (torque constant).

Program Continuation: Switch control OFF - ON.

300729 **Axis %1 drive %2 motor zero-speed current less than or equal to zero**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The value in MD 1118: $MD_MOTOR_STANDSTILL_CURRENT is less than or equal to zero.

Reactions: - NC not ready.
- The NC switches to follow-up mode.

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- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
For standard motors: Reset the drive (delete the bootfile) and repeat the startup.
For third-party motors: Check and, if necessary, refer to the motor data sheet to correct MD 1118: $MD_MOTOR_STANDSTILL_CURRENT (motor standstill current).

Program Continuation: Switch control OFF - ON.

300730 Axis %1 drive %2 rotor resistance invalid

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The value in drive MD 1138: $MD_ROTOR_COLD_RESISTANCE (cold rotor resistance) is less than or equal to zero or a format overflow has occurred.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
For standard motors: Reset the drive (delete the bootfile) and repeat the startup.
For third-party motors: One of the following machine data may contain an invalid value:
• Modify MD 1001: $MD_SPEEDCTRL_CYCLE_TIME (speed controller cycle),
• Modify MD 1134: $MD_MOTOR_NOMINAL_FREQUENCY (rated motor frequency),
• Modify MD 1138: $MD_ROTOR_COLD_RESISTANCE (cold rotor resistance),
• Modify MD 1139: $MD_STATOR_LEAKAGE_REACTANCE (Staenderstreureaktanz),
• Modify MD 1140: $MD_ROTOR_LEAKAGE_REACTANCE (rotor leakage reactance),
• Modify MD 1141: $MD_MAGNETIZING_REACTANCE (magnetizing reactance)
Fulfill the condition according to the folowing formula:
16 * P1001 * 0.00003125 * P1138 * 2PI * P1134 / (P1140 + P1141) < 1
Call the SIEMENS AG, SIMODRIVE Hotline.

Program Continuation: Switch control OFF - ON.

300731 Axis %1 drive %2 rated power less than or equal to zero

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The value in MD 1130: $MD_MOTOR_NOMINAL_POWER (rated motor power) is less than or equal to zero.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

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- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
For standard motors: Reset the drive (delete the bootfile) and repeat the startup.
For third-party motors: Check and, if necessary, refer to the motor data sheet to correct MD 1130: $MD_MOTOR_NOMINAL_POWER (rated motor power).

Program Continuation: Switch control OFF - ON.

300732 Axis %1 drive %2 rated speed less than or equal to zero

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The value in MD 1400: $MD_MOTOR_RATED_SPEED (rated motor speed) is less than or equal to zero.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
For standard motors: Reset the drive (delete the bootfile) and repeat the startup.
For third-party motors: Check and, if necessary, refer to the motor data sheet to correct MD 1400: $MD_MOTOR_RATED_SPEED (rated motor speed).

Program Continuation: Switch control OFF - ON.

300733 Axis %1 drive %2 zero load voltage invalid

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: Error in the no-load voltage (MD 1135):
- MD 1135 <= 0 or
- MD 1135 > MD 1132 or
- MD 1135 x MD 1142/MD 1400 + Uvor > 450V.

Where
Uvor = 0.181 x MD 1136 x MD 1142 x MD 1119
- Modify MD 1135: $MD_MOTOR_NOLOAD_VOLTAGE (motor no-load voltage)
- Modify MD 1132: $MD_MOTOR_NOMINAL_VOLTAGE (rated motor voltage)
- Modify MD 1400: $MD_MOTOR_RATED_SPEED (rated motor speed)
- Modify MD 1142: $MD_FIELD_WEAKENING_SPEED (threshold speed for field weakening)
- Modify MD 1136: $MD_MOTOR_NOLOAD_CURRENT (motor no-load current)
- Modify MD 1119: $MD_SERIES_INDUCTANCE (series reactor inductance)

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

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Remedy: Please inform the authorized personnel/service department.
For standard motors: Reset the drive (delete the bootfile) and repeat the startup.
For third-party motors:
- Modify MD 1132: $MD_MOTOR_NOMINAL_VOLTAGE (motor voltage)
- Modify MD 1135: $MD_MOTOR_NOLOAD_VOLTAGE (motor no-load voltage)
- Modify MD 1400: $MD_MOTOR_RATED_SPEED (rated motor speed)
- Modify MD 1142: $MD_FIELD_WEAKENING_SPEED (threshold speed for field weakening)
- Modify MD 1136: $MD_MOTOR_NOLOAD_CURRENT (motor no-load current).
- Call the SIEMENS AG, SIMODRIVE Hotline.

Program Continuation: Switch control OFF - ON.

300734 **Axis %1 drive %2 zero load current less than or equal to zero**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The value in MD 1136: $MD_MOTOR_NOLOAD_CURRENT (motor no-load current) is less than or equal to zero.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
For standard motors: Reset the drive (delete the bootfile) and repeat the startup.
For third-party motors: Check and, if necessary, refer to the motor data sheet to correct MD 1136: $MD_MOTOR_NOLOAD_CURRENT (motor no-load current).

Program Continuation: Switch control OFF - ON.

300735 **Axis %1 drive %2 field weakening speed invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The value in MD 1142: $MD_FIELD_WEAKENING_SPEED (threshold speed for field weakening) is less than or equal to zero.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
For standard motors: Reset the drive (delete the bootfile) and repeat the startup.
For third-party motors: Check and, if necessary, refer to the motor data sheet to correct MD 1142: $MD_FIELD_WEAKENING_SPEED (threshold speed for field weakening).

Program Continuation: Switch control OFF - ON.

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300736 **Axis %1 drive %2 Lh characteristic invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The value in MD 1143: $MD_LH_CURVE_UPPER_SPEED (LH curve upper speed) is less than or equal to the value in MD 1142: $MD_FIELD_WEAKENING_SPEED (threshold speed for field weakening) or the value in MD 1144: $MD_LH_CURVE_GAIN (LH curve gain) is less than 100.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
For standard motors: Reset the drive (delete the bootfile) and repeat the startup.
For third-party motors:
• Modify MD 1143: $MD_LH_CURVE_UPPER_SPEED (Lh curve upper speed)
• Modify MD 1144: $MD_LH_CURVE_GAIN (Lh curve gain)
• Modify MD 1142: $MD_FIELD_WEAKENING_SPEED (threshold speed for field weakening) should be checked and, if necessary corrected.
• Call the SIEMENS AG, SIMODRIVE Hotline.

Program Continuation: Switch control OFF - ON.

300737 **Axis %1 drive %2 configuration of two EnDat encoders not possible**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The MCU hardware does not allow two absolute encoders to be connected on one axis with the EnDat interface.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
Disconnect one of the two absolute encoders: Replace the motor measuring system by using another motor or use another encoder for direct measuring system.
Correct the corresponding entries in MD 1011: $MD_ACTUAL_VALUE_CONFIG (actual value sensing configuration IM) or MD 1030: $MD_ACTUAL_VALUE_CONFIG_DIRECT (actual value sensing configuration DM).

Program Continuation: Switch control OFF - ON.

300738 **Axis %1 drive %2 module number for measuring system not possible**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The NC has assigned the direct measuring system to an axis which doesn't have a motor measuring system. This error can only occur with the 810D!

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Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check the configuration of the direct measuring system. See NC-MD 30220: $MA_ENC_MODULE_NR and NC-MD 30230: $MA_ENC_INPUT_NR.

Program Continuation: Switch control OFF - ON.

300739 **Axis %1 drive %2 measuring system already used as motor measuring system**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The NC has assigned the direct measuring system to a measuring system output which is already used by another motor measuring system. This error can only occur with the 810D!

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check the configuration of the direct measuring system. See NC-MD 30220: $MA_ENC_MODULE_NR and NC-MD 30230: $MA_ENC_INPUT_NR.

Program Continuation: Switch control OFF - ON.

300740 **Axis %1 drive %2 measuring system used several times**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The NC has assigned the direct measuring system to a measuring system output which is already used by another direct measuring system. This error can only occur with the 810D!

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check the configuration of the direct measuring system. See NC-MD 30220: $MA_ENC_MODULE_NR and NC-MD 30230: $MA_ENC_INPUT_NR.

Program Continuation: Switch control OFF - ON.

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300741 **Axis %1 drive %2 asynchronous mode: feedforward control gain out of range**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: If motor inertia and motor nominal torque have been selected unfavorably, the asynchronous motor feedforward control gain is beyond the range of the internal number format.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
- Operation without encoder: Reduce the number of encoder lines in MD 1005: $MD_ENC_RESOL_MOTOR (encoder resolution for motor measuring system), since this has an impact on the internal number format. Optional/additional measure: see operation with encoder
- Operation with encoder: Reduce speed controller cycle MD 1001: $MD_SPEEDCTRL_CYCLE_TIME (speed controller cycle).

Program Continuation: Switch control OFF - ON.

300742 **Axis %1 drive %2 voltage/frequency mode: converter frequency invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: Only converter frequencies (MD 1100: $MD_PWM_FREQUENCY (pulse width modulation frequency)) of 4 kHz or 8 kHz are permissible in V/f mode (selected via MD 1014: $MD_UF_MODE_ENABLE).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check and, if necessary, correct the torque adaptation factor MD 1100: $MD_PWM_FREQUENCY (pulse width modulation frequency) or remedy the problem by deselecting V/f mode MD 1014: $MD_UF_MODE_ENABLE.

Program Continuation: Switch control OFF - ON.

300743 **Axis %1 drive %2 function not supported on this 611D controller module**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The 611D performance control module is required for SINUMERIK Safety Integrated. If this hardware has not been installed, this alarm is triggered. The alarm also occurs if 1PH2/4/6 motors are connected and no 611D performance control module is available. The following function is not supported in connection with 611D comfort modules: Motor switchover (MD1013 >0) and MD1100 not equal to MD2100.

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Safety Integrated: Booting is interrupted, the pulses remain disabled. The 611D performance control module is required for SINUMERIK Safety Integrated. If this hardware has not been installed, this alarm is triggered. This alarm is also triggered if the motors 1PH2/4/6 are connected and no 611D performance control module or 611D standard 2 control module has been installed.

Request: During boot-up of the control.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Replace the 611D control module.

Program Continuation: Switch control OFF - ON.

300744 Axis %1 drive %2 safety monitoring checksum invalid, confirmation and acceptance test required!

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The actual checksum of the safety-relevant MDs calculated by the drive and stored in MD 1398: $MD_SAFE_ACT_CHECKSUM (display of the checksum of the machine data for safe functions) has another value than the setpoint checksum stored during the last machine acceptance in MD 1399: $MD_SAFE_DES_CHECKSUM (checksum of the machine data for safe functions). The safety-relevant data have been modified or there is an error.

Request: During boot-up of the control.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check, and if necessary, correct all safety-relevant MDs. Then perform POWER ON. Perform acceptance test.

Program Continuation: Switch control OFF - ON.

300745 Axis %1 drive %2 limit values for safe end positions exchanged

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: For the safe end position monitoring, there is a smaller value in the MD for the upper limit value than in the MD for the lower limit value.

Request: During boot-up of the control.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.

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Check the MDs
- Modify MD 1334: $MD_SAFE_POS_LIMIT_PLUS[n] (upper limit value for safe limit position) and
- Modify MD 1335: $MD_SAFE_POS_LIMIT_MINUS[n] (lower limit value for safe limit position)

and modify so that the upper limit value exceeds the lower limit value.

Program Continuation: Switch control OFF - ON.

300746 **Axis %1 drive %2 SBH/SG not enabled**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: In the machine data 1301: $MD_SAFE_FUNCTION_ENABLE (safe functions enable) the function SBH/SG has not been enabled although the function SE/SN has been selected in this MD.
Request: During boot-up of the control.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Enable the function SBH/SG via MD 1301: $MD_SAFE_FUNCTION_ENABLE (safe functions enable).

Program Continuation: Switch control OFF - ON.

300747 **Axis %1 drive %2 monitoring cycle time MD 1300 invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: Check and, if necessary, correct MD 1300: $MD_SAFETY_CYCLE_TIME (monitoring cycle) has not been set as a multiple of the NC position control cycle.
Request: During boot-up of the control.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Set the monitoring cycle via MD 1300 to n * NC position control cycle, n must be >= 1.

Program Continuation: Switch control OFF - ON.

300748 **Axis %1 drive %2 monitoring cycle times of both axes differ**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The monitoring cycles set in MD 1300: $MD_SAFETY_CYCLE_TIME (monitoring cycle) for the two axes of a 2-axis module are not identical.
Request: During boot-up of the control.

Reactions: - Mode group not ready.

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- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check and, if necessary, correct MD 1300: $MD_SAFETY_CYCLE_TIME (monitoring cycle) on all drives of the module.

Program Continuation: Switch control OFF - ON.

300749 **Axis %1 drive %2 conversion factor between motor and load too large**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The conversion factor from the motor system [increments] to the load system [µm/mdeg] is larger than 1 or the factor which converts the load system to the motor system is larger than 65535.

Conditions:

The condition for the factor load system to motor system is: µm_to_incr <= 65535

The condition for the factor motor system to load system is: incr_to_µm <= 1

with µm_to_incr = 1 / incr_to_µm

Formula for rotary axis:

The following applies for rotary motor encoder and rotary axis:

incr_to_µm(n) = (MD1321 SAFE_ENC_GEAR_DENOM(n) / (MD1322 SAFE_ENC_NUMERA(n)) * incr_to_µm_rot_rotax

with n = 0 ... 7 (gear stage) and

incr_to_µm_rot_rotax = (360000 / 8192) * (1 / MD1318 SAFE_ENC_RESOL)

- MD 1318 SAFE_ENC_RESOL (number of encoder lines per revolution)
- MD 1321 SAFE_ENC_GEAR_DENOM[n] (encoder/load gear denominator)
- MD 1322 SAFE_ENC_GEAR_NUMERA[n] (encoder/load gear numerator)

Formula for linear axis:

The following applies for rotary motor encoder and linear axis:

incr_to_µm(n) = (MD1321 SAFE_ ENC_ GEAR_ DENOM(n) / (MD1322 SAFE_ ENC_ NUMERA(n)) * incr_to_µm_rot_lin

incr_to_µm_rot_lin = (1000 / 8192) * (1 / MD1318 SAFE_ENC_RESOL) * MD1320 SAFE_ENC_GEAR_PITCH

Explanations:

- MD 1318 SAFE_ENC_RESOL (number of encoder lines per revolution)
- MD 1320 SAFE_ENC_GEAR_PITCH (spindle pitch)
- MD 1321 SAFE_ENC_GEAR_DENOM[n] (encoder/load gear denominator)
- MD 1322 SAFE_ENC_GEAR_NUMERA[n] (encoder/load gear numerator)
- n = 0 ... 7 (gear stage)

Request: During boot-up of the control.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

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Remedy: Please inform the authorized personnel/service department. Check the following safety-relevant MDs depending on the motor encoder type and axis type and correct, if necessary.
- MD 1317 SAFE_ENC_GRID_POINT_DIST Grid division linear scale (for linear encoder)
- MD 1318 SAFE_ENC_RESOL Encoder marks per revolution (for rotary encoder)
- MD 1318 SAFE_ENC_RESOL
- MD 1320 SAFE_ENC_GEAR_PITCH (for rotary encoder and linear axis)
- MD 1321 SAFE_ENC_GEAR_DENOM
- MD 1322 SAFE_ENC_GEAR_NUMERA (when using a gear)
- The motor encoder type and the axis type are determined via MD 1302: SAFE_IS_ROT_AX.

Program Continuation: Switch control OFF - ON.

300750 Axis %1 drive %2 parameterization error in speed control adaption

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The upper adaptation speed MD 1412: SPEEDCTRL_ADAPTSPEED_2 (upper adaption speed) is less than the lower adaptation speed MD 1411: SPEEDCTRL_ADAPTSPEED_1 (lower adaption speed).

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Check and correct MD 1412 SPEEDCTRL_ADAPTSPEED_2 (upper adaption speed) and MD 1411: SPEEDCTRL_ADAPTSPEED_1 (lower adaption speed).

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300751 Axis %1 drive %2 speed control gain too high

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The proportional gain of the speed controller MD 1407: $MD_SPEEDCTRL_GAIN_1 (P gain of speed controller) or MD 1408: $MD_SPEEDCTRL_GAIN_2 (P gain of upper adaption speed) has been set too high.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Set a smaller value for the proportional gain in MD 1407: $MD_SPEEDCTRL_GAIN_1 (P gain of speed controller) or

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MD 1408: $MD_SPEEDCTRL_GAIN_2 (P gain of upper adaption speed). (Allow for the active speed controller adaptation.)

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300752 **Axis %1 drive %2 blocking frequency of setpoint current filter too high**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The blocking frequency of a current setpoint filter is greater than the reciprocal value of 2 current controller cycles (violation of the sampling theorem). (1/2*MD 1000*31.25 microsec)

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: The value of machine data MD 1210: $MD_CURRENT_FILTER_1_SUPPR_FREQ (blocking frequency of current setpoint filter 1) or MD 1213: $MD_CURRENT_FILTER_2_SUPPR_FREQ (blocking frequency of current setpoint filter 2) or MD 1216: $MD_CURRENT_FILTER_3_SUPPR_FREQ (blocking frequency of current setpoint filter 3) or MD 1219: $MD_CURRENT_FILTER_4_SUPPR_FREQ (blocking frequency of current setpoint filter 4) must be less than the reciprocal value of two current controller cycles MD 1000: $MD_CURRCTRL_CYCLE_TIME (current controller cycle). (1/2*MD 1000*31.25 microsec)

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300753 **Axis %1 drive %2 rotor position identification current less than minimal value**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The current set in MD1019: $MD_CURRENT_ROTORPOS_IDENT (rotor position identification current) that is smaller than the minimum value permissible for the motor.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: The current set in MD1019: $MD_CURRENT_ROTORPOS_IDENT (rotor position identification current) that is not smaller the permissible minimum value (40% for non-Siemens synchronous linear motor (SLM)).

Possibly, a larger power section must be used.

If allowed with the motor used, hide the error by setting bit 5 in MD 1012: $MD_FUNCTION_SWITCH (function switch).

Caution: Motors with a low saturation response (e.g. 1FN3 linear motors) might react to very low identification currents with misorientation. This can lead to uncontrolled movements.

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Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300754 **Axis %1 drive %2 signal number of var. signaling function invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The signal number for the output of the corresponding signaling function is not permissible. The signal number range is between 0 and 25.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Enter the correct signal number.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300755 **Axis %1 drive %2 voltage/frequency mode: motor is turning**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The motor did not come to a standstill when the voltage/frequency mode was activated.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Stop the motor before activating the voltage/frequency mode.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300756 **Axis %1 drive %2 speed hysteresis of setpoint current smoothing invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The value in MD 1246: $MD_CURRENT_SMOOTH_HYSTERESIS (hysteresis of the speed-dependent M setpoint smoothing) is greater than or equal to the value in MD 1245: $MD_CURRENT_SMOOTH_SPEED (threshold of the speed-dependent M setpoint smoothing).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

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- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Check and, if necessary, correct the torque adaptation factor MD 1246: $MD_CURRENT_SMOOTH_HYSTERESIS (hsyterisis of the speed-dependent M setpoint smoothing) or MD 1245: $MD_CURRENT_SMOOTH_HYSTERESIS (threshold of the speed-dependent M setpoint smoothing). $MD_CURRENT_SMOOTH_SPEED.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300757 Axis %1 drive %2 adaption factor of torque limit invalid

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The torque adaptation factor MD 1191: $MD_TORQUE_LIMIT_ADAPT_SERVO (adaptation of servo limit torque) exceeds the format limit.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
- For standard motors: Reset the drive (delete the bootfile) and repeat the startup.
- For third-party motors: Check and, if necessary, correct the torque adaptation factor MD 1191: $MD_TORQUE_LIMIT_ADAPT_SERVO (adaptation of servo limit torque).

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300758 Axis %1 drive %2 generator mode: response voltage > switch-off threshold

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The sum of the values in MD1631: $MD_LINK_VOLTAGE_GEN_ON (response voltage for generator axis) + MD1632: $MD_LINK_VOLTAGE_GEN_HYST (voltage range for generator control) is greater than MD1633: $MD_LINK_VOLTAGE_GEN_OFF (deactivation threshold for generator axis).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.

Modify drive machine data
- Modify MD 1631: $MD_LINK_VOLTAGE_GEN_ON (response voltage for generator axis) or
- Modify MD 1632: $MD_LINK_VOLTAGE_GEN_HYST (voltage range for generator control) or

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• Modify MD 1633: $MD_LINK_VOLTAGE_GEN_OFF (voltage range for generator control) or

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300759 **Axis %1 drive %2 generator mode: response voltage > monitoring threshold**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The value in MD 1631: $MD_LINK_VOLTAGE_GEN_ON (response voltage for generator axis) is greater than MD1630: $MD_LINK_VOLTAGE_MON_THRESHOLD (response threshold for DC link monitoring).

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
Modify drive machine data
• Modify MD 1631: $MD_LINK_VOLTAGE_GEN_ON (response voltage for generator axis) or
• Modify MD 1630: $MD_LINK_VOLTAGE_MON_THRESHOLD (response threshold for DC link monitoring).

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300760 **Axis %1 drive %2 generator mode: emergency retraction speed > max. motor speed**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The value entered for the emergency retraction speed in MD1639: $MD_RETRACT_SPEED (emergency retraction speed) is greater than MD1146: $MD_MOTOR_MAX_ALLOWED_SPEED (maximum motor speed).

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
Modify drive machine data
• Modify MD 1639: $MD_RETRACT_SPEED (emergency retraction speed) or
• Modify MD 1146: $MD_MOTOR_MAX_ALLOWED_SPEED (maximum motor speed).

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

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300761 **Axis %1 drive %2 generator mode: minimum axis speed > max. motor speed**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The value in MD1635: $MD_GEN_AXIS_MIN_SPEED $MD_GEN_AXIS_MIN_SPEED (minimum generator axis speed) is greater than the value in MD1146: $MD_MOTOR_MAX_ALLOWED_SPEED (maximum motor speed).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
Modify drive machine data
• Modify MD 1635: $MD_GEN_AXIS_MIN_SPEED generator axis) or
• Modify MD 1146: $MD_MOTOR_MAX_ALLOWED_SPEED (maximum motor speed).

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300762 **Axis %1 drive %2 emergency retraction mode/generator mode already active**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: Emergency retraction or generator mode already active.
The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Check parameterization/machine data.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300763 **Axis %1 drive %2 emergency retraction mode/generator mode invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: Value specified by the NC via a G command must be in the range 0 to 7.
The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.

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- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Check parameterization (G command in the NC).

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300764 Axis %1 drive %2 emergency retraction mode/generator mode not possible

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: Emergency retraction/Generator operation is only possible with an active DC link measurement (MD 1161: $MD_FIXED_LINK_VOLTAGE (DC link fixed voltage = 0). In an old hardware version, no DC link measurement is possible and therefore the error message 300765 might appear in addition if MD 1161: $MD_FIXED_LINK_VOLTAGE (DC link fixed voltage) is set to 0 in an old hardware version.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Enter the value zero in the machine data MD 1161: $MD_FIXED_LINK_VOLTAGE (DC link fixed voltage), or order a new hardware version of the control module.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300765 Axis %1 drive %2 measurement of DC link voltage not possible

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: If the fixed voltage MD 1161: $MD_FIXED_LINK_VOLTAGE(DC link fixed voltage) = 0, no DC link measurement is possible because the hardware version is wrong.
The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Enter a value greater than zero in the machine data MD 1161: $MD_FIXED_LINK_VOLTAGE (DC link fixed voltage), or order a new hardware version of the control module.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

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300766 **Axis %1 drive %2 blocking frequency > Shannon frequency**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The blocking frequency of a speed setpoint filter is greater than the Shannon sampling frequency from the sampling theorem.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.

Current setpoint filter:

The value in MD 1210, 1213,1216 or 1219 must be smaller than the inverse value of two current controller cycles MD 1000: $MD_CURRENTCTRL_CYCLE_TIME (current controller cycle) (1/2*MD 1000 *31.25 microsec).

Speciality with SINUMERIK 810D:

Current setpoint filters 2,3 and 4 are calculated in the speed controller cycle. This means that MD 1213, 1216 or 1219 must be smaller than the inverse value of two speed controller cycles MD 1001: $MD_SPEEDCTRL_CYCLE_TIME (speed controller cycle) (1/2*MD 1001 *31.25 microsec).

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300767 **Axis %1 drive %2 natural frequency > Shannon frequency**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The natural frequency of a speed setpoint filter is greater than the Shannon sampling frequency from the sampling theorem.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.

The natural frequency in Hz of a speed setpoint filter must be less than the reciprocal value of two speed controller cycles.

Speed setpoint filter 1:

MD 1520 * 0.01 * MD 1514 < 1 / (2 * MD 1001 * 31.25 microsec)

Speed setpoint filter 2:

MD 1521 * 0.01 * MD 1517 < 1 / (2 * MD 1001 * 31.25 microsec)

- Modify MD 1520: $MD_SPEED_FILTER_1_BS_FREQ (bandstop filter natural frequency speed setpoint filter 1)

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- Modify MD 1514: $MD_SPEED_FILTER_1_SUPPR_FREQ (suppression frequency speed setpoint filter 1) 1)
- Modify MD 1521: $MD_SPEED_FILTER_2_BS_FREQ (bandstop filter natural frequency speed setpoint filter 2)
- Modify MD 1517: $MD_SPEED_FILTER_2_SUPPR_FREQ (suppression frequency speed setpoint filter 2) 2)
- Modify MD 1001: $MD_SPEEDCTRL_CYCLE_TIME (speed controller cycle)

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300768 Axis %1 drive %2 numerator bandwidth > double blocking frequency

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The bandwidth numerator of a current or speed setpoint filter is greater than twice the blocking frequency.

This error message is only issued for the general bandstop filter if:

- Speed setpoint filter 1:
- MD 1516 > 0.0 or
- MD 1520 <> 100.0
- Speed setpoint filter 2:
- MD 1519 > 0.0 or
- MD 1521 <> 100.0
- Current setpoint filter 1:
- MD 1212 > 0.0
- Current setpoint filter 2:
- MD 1215 > 0.0
- Current setpoint filter 3:
- MD 1218 > 0.0
- Current setpoint filter 4:
- MD 1221 > 0.0

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.

The bandwidth numerator must be less than twice the blocking frequency.

- Current setpoint filter 1:
- MD 1212 <= 2 * MD 1210
- Current setpoint filter 2:
- MD 1215 <= 2 * MD 1213
- Current setpoint filter 3:
- MD 1218 <= 2 * MD 1216
- Current setpoint filter 4:
- MD 1221 <= 2 * MD 1219

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- Speed setpoint filter 1:
- MD 1516 <= 2 * MD 1514
- Speed setpoint filter 2:
- MD 1519 <= 2 * MD 1517
- Modify MD 1212: $MD_CURRENT_FILTER_1_BW_NUM (numerator bandwidth current setpoint filter 1)
- Modify MD 1210: $MD_CURRENT_FILTER_1_SUPPR_FREQ (suppression frequency current setpoint filter 1)
- Modify MD 1215: $MD_CURRENT_FILTER_2_BW_NUM (numerator bandwidth current setpoint filter 2)
- Modify MD 1213: $MD_CURRENT_FILTER_2_SUPPR_FREQ (suppression frequency current setpoint filter 2)
- Modify MD 1218: $MD_CURRENT_FILTER_3_BW_NUM (numerator bandwidth current setpoint filter 3)
- Modify MD 1216: $MD_CURRENT_FILTER_3_SUPPR_FREQ (suppression frequency current setpoint filter 3)
- MD1221: $MD_CURRENT_FILTER_4_BW_NUM (numerator bandwidth current setpoint filter 4)
- Modify MD 1219: $MD_CURRENT_FILTER_4_SUPPR_FREQ (suppression frequency current setpoint filter 4)
- Modify MD 1516: $MD_SPEED_FILTER_1_BW_NUMERATOR (numerator bandwidth speed setpoint filter 1)
- Modify MD 1514: $MD_SPEED_FILTER_1_SUPPR_FREQ (suppression frequency speed setpoint filter 1)
- Modify MD 1519: $MD_SPEED_FILTER_2_BW_NUMERATOR (numerator bandwidth speed setpoint filter 2)
- Modify MD 1517: $MD_SPEED_FILTER_2_SUPPR_FREQ (suppression frequency speed setpoint filter 2)

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300769 **Axis %1 drive %2 denominator bandwidth > double natural frequency**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The bandwidth denominator of a current or speed setpoint filter is greater than twice the natural frequency.

This error message is only issued for the general bandstop filter if:

- Speed setpoint filter 1:
- MD 1516 > 0.0 or
- MD 1520 <> 100.0
- Speed setpoint filter 2:
- MD 1519 > 0.0 or
- MD 1521 <> 100.0
- Current setpoint filter 1:
- MD 1212 > 0.0
- Current setpoint filter 2:
- MD 1215 > 0.0
- Current setpoint filter 3:
- MD 1218 > 0.0
- Current setpoint filter 4:
- MD 1221 > 0.0

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The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.

The bandwidth denominator of a current or speed setpoint filter must be less than twice the natural frequency.

- Speed setpoint filter 1:
- MD 1515 <= 2 * MD 1514 * 0.01 * MD 1520
- Speed setpoint filter 2:
- MD 1518 <= 2 * MD 1517 * 0.01 * MD 1521
- Current setpoint filter 1:
- MD 1211 <= 2 * MD 1210
- Current setpoint filter 2:
- MD 1214 <= 2 * MD 1213
- Current setpoint filter 3:
- MD 1217 <= 2 * MD 1216
- Current setpoint filter 4:
- MD 1220 <= 2 * MD 1219
- Modify MD 1515: $MD_SPEED_FILTER_1_BANDWIDTH (bandwidth speed setpoint filter 1)
- Modify MD 1514: $MD_SPEED_FILTER_1_SUPPR_FREQ (suppression frequency speed setpoint filter 1)
- Modify MD 1520: $MD_SPEED_FILTER_1_BS_FREQ (bandstop filter natural frequency speed setpoint filter 1)
- Modify MD 1518: $MD_SPEED_FILTER_2_BANDWIDTH (bandwidth speed setpoint filter 2)
- Modify MD 1517: $MD_SPEED_FILTER_2_SUPPR_FREQ (suppression frequency speed setpoint filter 2)
- Modify MD 1521: $MD_SPEED_FILTER_2_BS_FREQ (bandstop filter natural frequency speed setpoint filter 2)
- Modify MD 1211: $MD_CURRENT_FILTER_1_BANDWIDTH (bandwidth current setpoint filter 1)
- Modify MD 1210: $MD_CURRENT_FILTER_1_SUPPR_FREQ (suppression frequency current setpoint filter 1)
- Modify MD 1214: $MD_CURRENT_FILTER_2_BANDWIDTH (bandwidth speed setpoint filter 2) 2)
- Modify MD 1213: $MD_CURRENT_FILTER_2_SUPPR_FREQ (suppression frequency current setpoint filter 2)
- Modify MD 1217: $MD_CURRENT_FILTER_3_BANDWIDTH (bandwidth speed setpoint filter 3) 3)
- Modify MD 1216: $MD_CURRENT_FILTER_3_SUPPR_FREQ (suppression frequency current setpoint filter 3)
- Modify MD 1220: $MD_CURRENT_FILTER_4_BANDWIDTH (bandwidth speed setpoint filter 4) 4)

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• Modify MD 1219: $MD_CURRENT_FILTER_4_SUPPR_FREQ (suppression frequency current setpoint filter 4)

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300770 Axis %1 drive %2 format error

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The calculated filter coefficients of a bandstop filter are beyond the range of the internal format.
The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Change the filter setting. The Hotline provides support for accurate troubleshooting. Call the SIEMENS AG, SIMODRIVE Hotline.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300771 Axis %1 drive %2 asynchronous mode: converter frequency invalid

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: Only a converter frequency of 4 kHz or 8 kHz is permitted in asynchronous mode (selected by MD 1465 < MD 1146).
• Modify MD 1465: $MD_SWITCH_SPEED_MSD_AM (switchover speed MSD/AM)
• Modify MD 1146: $MD_MOTOR_MAX_ALLOWED_SPEED (maximum motor speed)
The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Modify MD 1100: $MD_PWM_FREQUENCY (pulse width modulation frequency) or deselect AM mode (make the value in MD 1465: $MD_SWITCH_SPEED_MSD_AM less than the value in MD 1146: $MD_MOTOR_MAX_ALLOWED_SPEED.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

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300772 **Axis %1 drive %2 asynchronous mode: speed control gain too high**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The value in MD 1451: $MD_SPEEDCTRL_GAIN_1_AM (proportional gain of AM speed controller) is too high.
The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. The current set in MD1451: $MD_SPEEDCTRL_GAIN_1_AM (proportional gain of AM speed controller).

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300773 **Axis %1 drive %2 asynchronous mode: feedforward control structure not possible**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: In asynchronous mode (select by MD 1465 < MD 1146) a feedforward control structure (MD 1004, bit 0 = 1) is not possible.
• Modify MD 1465: $MD_SWITCH_SPEED_MSD_AM (switchover speed MSD/AM)
• Modify MD 1146: $MD_MOTOR_MAX_ALLOWED_SPEED (maximum motor speed)
• Modify MD 1004: $MD_CTRL_CONFIG (configuration structure)
The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
Rectify the error in the entry for the feedforward control structure MD 1004 or by deselecting the asynchronous mode MD 1465 > MD 1146.
• Modify MD 1004: $MD_CTRL_CONFIG (configuration structure)
• Modify MD 1465: $MD_SWITCH_SPEED_MSD_AM (switchover speed MSD/AM)
• Modify MD 1146: $MD_MOTOR_MAX_ALLOWED_SPEED (maximum motor speed)

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

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300774 **Axis %1 drive %2 asynchronous mode: changeover speed invalid**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: In mixed operation MSD/AM (MD 1465 > 0) only closed-loop controlled AM mode is allowed (MD1466 <= MD1465).

- Modify MD 1465: $MD_SWITCH_SPEED_MSD_AM (switchover speed MSD/AM)
- Modify MD 1466: $MD_SWITCH_SPD_OPEN_LOOP_AM (switchover speed closed-loop/open-loop control AM)

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - NC not ready.

- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.

Rectify error by selecting pure AM mode (MD1465 = 0) or by deselecting the AM-controlled mode (MD1466 < MD1465).

- Modify MD 1465: $MD_SWITCH_SPEED_MSD_AM (switchover speed MSD/AM)
- Modify MD 1466: $MD_SWITCH_SPD_OPEN_LOOP_AM (switchover speed closed-loop/open-loop control AM)

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300775 **Axis %1 drive %2 fixed link voltage of axes differ**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: An unequal fixed voltage MD1161: $MD_FIXED_LINK_VOLTAGE (DC link fixed voltage) has been found for axes of a drive module. Since a fixed voltage <> 0 replaces the measured DC link voltage value, but the DC link voltage value is measured only once for all axes of a drive module, the fixed voltage must be identical on all module axes before it is accepted.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - NC not ready.

- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Set the same fixed voltage (MD 1161) on all module axes. $MD_FIXED_LINK_VOLTAGE (DC link fixed voltage) has been found for axes of a drive module.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

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300776 **Axis %1 drive %2 measuring circuit monitoring must be active**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: On FDD:
The control is disabled, the motor is decelerated, SIMODRIVE_READY and DRIVE_READY are canceled.
On MSD:
Pulse delete, motor coasts, SIMODRIVE_READY and DRIVE_READY are canceled.
Note: The reaction (FDD, MSD) can be configured via 611D-MD 1613.0.
Request: During boot-up of the control and cyclically.
With active Safety Integrated (MD 1301 <> 0: $MD_SAFE_FUNCTION_ENABLE (safe functions enable)), the measuring circuit monitoring of the motor (incremental) must be activated via MD 1600: $MD_ALARM_MASK_POWER_ON (concealable alarms (Power On) bit 4.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Activate measuring circuit monitoring of motor (incremental).

Program Continuation: Switch control OFF - ON.

300777 **Axis %1 drive %2 rotor position identification current too high**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The current set in MD1019: $MD_CURRENT_ROTORPOS_IDENT (current rotor position identification) is greater than the permissible current for the motor and the power section used.
The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Reduce MD1019: $MD_CURRENT_ROTORPOS_IDENT (current rotor position identification).

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

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300778 **Axis %1 drive %2 generator mode: converter frequency rotor position identification**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: When selecting the rotor position identification (MD1011 bit 12 or bit 13) only converter frequencies (MD1100) of 4 kHz/8 kHz are permissible.

- Modify MD 1011: $MD_ACTUAL_VALUE_CONFIG (actual value sensing configuration IM)
- Modify MD 1100: $MD_PWM_FREQUENCY (pulse width modulation frequency)

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.

Change the converter frequency (MD 1100) or deselect rotor position identification (MD1011 bit 12 or bit 13).

- Modify MD 1011: $MD_ACTUAL_VALUE_CONFIG (actual value sensing configuration IM)
- Modify MD 1100: $MD_PWM_FREQUENCY (pulse width modulation frequency)

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300779 **Axis %1 drive %2 motor moment of inertia less than or equal to zero**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The value in MD 1117: $MD_MOTOR_INERTIA (motor moment of inertia) is less than or equal to zero.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
- For standard motors: Reset the drive (delete the bootfile) and repeat the startup.
- For MSD, configure "1st motor" first.
- For third-party motors: Enter a valid value in drive MD 1117: $MD_MOTOR_INERTIA (motor moment of inertia).

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

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300780 **Axis %1 drive %2 zero load current > rated motor current**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The no-load current of the motor (MD 1136: $MD_MOTOR_NOLOAD_CURRENT) has been set at a greater value than the rated current of the motor (MD 1103: $MD_MOTOR_NOMINAL_CURRENT).
The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform authorized personnel / the service department.
- For standard motors: Execute a general drive reset (delete the boot file) and repeat the startup.
- For non-Siemens motors: Check and, if necessary, refer to the motor data sheet to correct machine data MD 1103: $MD_MOTOR_NOMINAL_CURRENT (nominal motor current) and MD 1136: $MD_MOTOR_NOLOAD_CURRENT (motor no-load current).

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300781 **Axis %1 drive %2 zero load current > rated current of power section**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: On the basis of its no-load current (MD 1136: $MD_MOTOR_NOLOAD_CURRENT (motor no-load current), the connected motor is too large for the power section in use (continuous thermal current MD 1108: $MD_INVERTER_MAX_THERMAL_CURR (current limit for power section).
The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
1. Reset the drive (delete the bootfile) and repeat the startup.
2. Check the configuration and install a suitable power section for the motor. Repeat the startup.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

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300782 **Axis %1 drive %2 reactance less than or equal to zero**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The value in MD 1139: $MD_STATOR_LEAKAGE_REACTANCE (stator leakage reactance) or MD 1140: $MD_ROTOR_LEAKAGE_REACTANCE (rotor leakage reactance) or MD 1141: $MD_MAGNETIZING_REACTANCE (magnetizing reactance) is less than or equal to zero.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
• For standard motors: Reset the drive (delete the bootfile) and repeat the startup.
• For third-party motors: Check and, if necessary, refer to the motor data sheet to correct MD 1139: $MD_STATOR_LEAKAGE_REACTANCE (stator leakage reactance) or MD 1140: $MD_ROTOR_LEAKAGE_REACTANCE (rotor leakage reactance) or MD 1141: $MD_MAGNETIZING_REACTANCE (magnetizing reactance).

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300783 **Axis %1 drive %2 rotor resistance invalid**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The value in drive MD 1138: $MD_ROTOR_COLD_RESISTANCE (cold rotor resistance) is less than or equal to zero or a format overflow has occurred.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
• For standard motors: Reset the drive (delete the bootfile) and repeat the startup.
• For third-party motors: One of the following machine data may contain an invalid value:
• Modify MD 1001: $MD_SPEEDCTRL_CYCLE_TIME (speed controller cycle)
• Modify MD 1134: $MD_MOTOR_NOMINAL_FREQUENCY (rated motor frequency)
• Modify MD 1138: $MD_ROTOR_COLD_RESISTANCE (cold rotor resistance)
• Modify MD 1139: $MD_STATOR_LEAKAGE_REACTANCE (Staenderstreureaktanz)
• Modify MD 1140: $MD_ROTOR_LEAKAGE_REACTANCE (rotor leakage reactance)
• Modify MD 1141: $MD_MAGNETIZING_REACTANCE (magnetizing reactance)
Fulfill the condition according to the folowing formula:

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16 * P1001 * 0.00003125 * P1138 * 2PI * P1134 / (P1140 + P1141) < 1

Call the SIEMENS AG, SIMODRIVE Hotline.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300784 Axis %1 drive %2 zero load voltage invalid

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: Error in the no-load voltage (MD 1135):

- MD 1135 <= 0 or
- MD 1135 > MD 1132 or
- MD 1135 x MD 1142/MD 1400 + Uvor > 450V.
- Where
- Uvor = 0.181 x MD 1136 x MD 1142 x MD 1119
- Modify MD 1135: $MD_MOTOR_NOLOAD_VOLTAGE (motor no-load voltage)
- Modify MD 1132: $MD_MOTOR_NOMINAL_VOLTAGE (rated motor voltage)
- Modify MD 1400: $MD_MOTOR_RATED_SPEED (rated motor speed)
- Modify MD 1142: $MD_FIELD_WEAKENING_SPEED (threshold speed for field weakening)
- Modify MD 1136: $MD_MOTOR_NOLOAD_CURRENT (motor no-load current)
- Modify MD 1119: $MD_SERIES_INDUCTANCE (series reactor inductance)

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform authorized personnel / the service department.

For standard motors: Execute a general drive reset (delete the boot file) and repeat the startup.

For non-Siemens motors: Check and, if necessary, correct the following machine data with reference to the data sheet:

- Modify MD 1132: $MD_MOTOR_NOMINAL_VOLTAGE (nominal motor voltage)
- Modify MD 1135: $MD_MOTOR_NOLOAD_VOLTAGE (motor no-load voltage)
- Modify MD 1400: $MD_MOTOR_RATED_SPEED (rated motor speed)
- Modify MD 1142: $MD_FIELD_WEAKENING_SPEED (threshold speed for field weakening)
- Modify MD 1136: $MD_MOTOR_NOLOAD_CURRENT (motor no-load current).
- Call SIEMENS AG, SIMODRIVE Hotline.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

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300785 **Axis %1 drive %2 zero load current less than or equal to zero**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The value in MD 1136: $MD_MOTOR_NOLOAD_CURRENT (motor no-load current) is less than or equal to zero.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
• For standard motors: Reset the drive (delete the bootfile) and repeat the startup.
• For third-party motors: Check and, if necessary, refer to the motor data sheet to correct MD 1136: $MD_MOTOR_NOLOAD_CURRENT (motor no-load current).

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300786 **Axis %1 drive %2 field weakening speed invalid**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The value in MD 1142: $MD_FIELD_WEAKENING_SPEED (threshold speed for field weakening) is less than or equal to zero.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
• For standard motors: Reset the drive (delete the bootfile) and repeat the startup.
• For third-party motors: Check and, if necessary, refer to the motor data sheet to correct MD 1142: $MD_FIELD_WEAKENING_SPEED (threshold speed for field weakening).

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300787 **Axis %1 drive %2 asynchronous mode: feedforward control gain out of range**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: If motor inertia and motor nominal torque have been selected unfavorably, the asynchronous motor feedforward control gain is beyond the range of the internal number format.

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The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department.
- Operation without encoder: Reduce the number of encoder lines in MD 1005: $MD_ENC_RESOL_MOTOR (encoder resolution for motor measuring system), since this has an impact on the internal number format.
- Optional/additional measure: see operation with encoder
- Operation with encoder: Reduce speed controller cycle MD 1001: $MD_SPEEDCTRL_CYCLE_TIME (speed controller cycle).

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300788 Axis %1 drive %2 parameterization error in current control adaption

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The upper current limit in MD 1181: $MD_CURRCTRL_ADAPT_CURRENT_2 (upper adaption current limit) is less than the lower current limit in MD 1180: $MD_CURRCTRL_ADAPT_CURRENT_1 (lower adaption current limit).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Modify MD 1181: $MD_CURRCTRL_ADAPT_CURRENT_2 (upper adaption current limit) and MD 1180: $MD_CURRCTRL_ADAPT_CURRENT_1 (lower adaption current limit).

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300789 Axis %1 drive %2 function not supported on this 611D controller module

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: A function was selected that is not possible with this closed-loop control module.
This alarm appears, if:
- a non-available acceleration sensor was activated in MD 1560.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

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- NC Stop on alarm.
- Channel not ready.

Remedy: Switch off the non-selectable function or use another closed-loop control module!

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300790 Axis %1, drive %2 Changeover speed/velocity too small

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: With the selected setting of MD1466, the induced voltage is too small in the lower speed range in order to be able to guarantee safe, sensorless operation. With the specified speed, the induced voltage must at least reach 40 V (phase-to-phase, effective).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: The following must be ensured:
Rotary machine : MD1466 > 40000 / MD1114
Linear machine : MD1466 > 1386 / MD1114

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

300799 Axis %1 drive %2 data backup and reboot required

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: Since drive machine data have been changed, it is necessary to recalculate parameters. This is initiated by pressing the softkey CALCULATE. After calculating the control parameters, it is necessary to save the machine data and to reboot.
The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: The newly calculated data must be saved (Softkey: SAVE). The new parameters will become effective during the next boot procedure!

Program Continuation: Switch control OFF - ON.

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300850 **Axis %1 drive %2 parameterization error in speed control adaption**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The upper adaptation speed MD 1412: $MD_SPEEDCTRL_ADAPTSPEED_2 (upper adaptation speed) is less than the lower adaptation speed MD 1411: $MD_SPEEDCTRL_ADAPTSPEED_1 (lower adaptation speed).

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Modify MD 1412: $MD_SPEEDCTRL_ADAPTSPEED_2 (upper adaptation speed) and MD 1411: $MD_SPEEDCTRL_ADAPTSPEED_1 (lower adaptation speed).

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

300854 **Axis %1 drive %2 signal number of var. signaling function invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The signal number for the output of the corresponding signaling function is not permissible. The signal number range is between 0 and 25.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Enter the correct signal number.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

300855 **Axis %1 drive %2 voltage/frequency mode: motor is turning**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The motor did not come to a standstill when the voltage/frequency mode was activated.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Stop the motor before activating the voltage/frequency mode.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

300858 **Axis %1 drive %2 generator mode: response voltage > switch-off threshold**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The sum of the values in MD1631: $MD_LINK_VOLTAGE_GEN_ON (response voltage for generator axis) + MD1632: $MD_LINK_VOLTAGE_GEN_HYST (voltage range for generator control) is greater than MD1633: $MD_LINK_VOLTAGE_GEN_OFF (deactivation threshold for generator axis).

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department.
Modify drive machine data
- Modify MD 1631: $MD_LINK_VOLTAGE_GEN_ON (response voltage for generator axis) or
- Modify MD 1632: $MD_LINK_VOLTAGE_GEN_HYST (voltage range for generator control) or

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• Modify MD 1633: $MD_LINK_VOLTAGE_GEN_OFF (voltage range for generator control) or

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

300859 **Axis %1 drive %2 generator mode: response voltage > monitoring threshold**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The value in MD 1631: $MD_LINK_VOLTAGE_GEN_ON (response voltage for generator axis) is greater than MD1630: $MD_LINK_VOLTAGE_MON_THRESHOLD (response threshold for DC link monitoring).

Reactions: - Interface signals are set.

- Alarm display.

Remedy: Please inform the authorized personnel/service department.

• Modify MD 1631: $MD_LINK_VOLTAGE_GEN_ON (response voltage for generator axis) or

• Modify MD 1630: $MD_LINK_VOLTAGE_MON_THRESHOLD (response threshold for DC link monitoring).

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

300860 **Axis %1 drive %2 generator mode: emergency retraction speed > max. motor speed**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The value entered for the emergency retraction speed in MD1639: $MD_RETRACT_SPEED (emergency retraction speed) is greater than MD1146: $MD_MOTOR_MAX_ALLOWED_SPEED (maximum motor speed).

Reactions: - Interface signals are set.

- Alarm display.

Remedy: Please inform the authorized personnel/service department.

• Modify MD 1639: $MD_RETRACT_SPEED (emergency retraction speed) or

• Modify MD 1146: $MD_MOTOR_MAX_ALLOWED_SPEED (maximum motor speed).

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

300861 **Axis %1 drive %2 generator mode: minimum axis speed > max. motor speed**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The value in MD1635: $MD_GEN_AXIS_MIN_SPEED $MD_GEN_AXIS_MIN_SPEED (minimum generator axis speed) is greater than the value in MD1146: $MD_MOTOR_MAX_ALLOWED_SPEED (maximum motor speed).

Reactions: - Interface signals are set.

- Alarm display.

Remedy: Please inform the authorized personnel/service department.

• Modify MD 1635: $MD_GEN_AXIS_MIN_SPEED generator axis) or

• Modify MD 1146: $MD_MOTOR_MAX_ALLOWED_SPEED (maximum motor speed).

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

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300862 **Axis %1 drive %2 emergency retraction mode/generator mode already active**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: Emergency retraction or generator mode already active.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Check parameterization/machine data.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

300863 **Axis %1 drive %2 emergency retraction mode/generator mode invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: Value specified by the NC via a G command must be in the range 0 to 7.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Check parameterization (G command in the NC).

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

300864 **Axis %1 drive %2 emergency retraction mode/generator mode not possible**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: Emergency retraction/Generator operation is only possible with an active DC link measurement (MD 1161: $MD_FIXED_LINK_VOLTAGE (DC link fixed voltage = 0). In an old hardware version, no DC link measurement is possible and therefore the error message 300765 might appear in addition if MD 1161: $MD_FIXED_LINK_VOLTAGE (DC link fixed voltage) is set to 0 in an old hardware version.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Enter the value zero in the machine data MD 1161: $MD_FIXED_LINK_VOLTAGE (DC link fixed voltage), or order a new hardware version of the control module.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

300865 **Axis %1 drive %2 measurement of DC link voltage not possible**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: If the fixed voltage MD 1161: $MD_FIXED_LINK_VOLTAGE(DC link fixed voltage) = 0, no DC link measurement is possible because the hardware version is wrong.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: Please inform the authorized personnel/service department. Enter a value greater than zero in the machine data MD 1161: $MD_FIXED_LINK_VOLTAGE (DC link fixed voltage), or order a new hardware version of the control module.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

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300875 **Axis %1 drive %2 fixed link voltage of axes differ**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: An unequal fixed voltage MD1161: $MD_FIXED_LINK_VOLTAGE (DC link fixed voltage) has been found for axes of a drive module. Since a fixed voltage <> 0 replaces the measured DC link voltage value, but the DC link voltage value is measured only once for all axes of a drive module, the fixed voltage must be identical on all module axes before it is accepted.

Reactions: - Interface signals are set.

- Alarm display.

Remedy: Please inform the authorized personnel/service department. Set the same fixed voltage (MD 1161) on all module axes.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

300888 **Axis %1 drive %2 parameterization error in current control adaption**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The upper current limit in MD 1181: $MD_CURRCTRL_ADAPT_CURRENT_2 (upper adaption current limit) is less than the lower current limit in MD 1180: $MD_CURRCTRL_ADAPT_CURRENT_1 (lower adaption current limit).

Reactions: - Interface signals are set.

- Alarm display.

Remedy: Modify MD 1181: $MD_CURRCTRL_ADAPT_CURRENT_2 (upper adaption current limit) and MD 1180: $MD_CURRCTRL_ADAPT_CURRENT_1 (lower adaption current limit).

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

300900 **Axis %1 drive %2 stop A triggered**

Parameters: %1 = Axis number

%2 = Drive number

Definitions: The drive is disabled via STOP A. This blocks the pulses over the relay "Antrieb_IMP".

Request: In monitoring cycle.

If STOP A has been triggered, this can have several reasons:

1. The timer in MD 1356: $MD_SAFE_PULSE_DISABLE_DELAY (delay pulse disable) of STOP B has expired.

2. The speed threshold in MD 1360: $MD_SAFE_STANDSTILL_VELO_TOL (stop speed pulse disable)of STOP B has not been reached.

3. The test of the deactivation path has been requested by the user through SGE "Test stop selection", but the pulses were not deleted in MD 1357: $MD_SAFE_PULSE_DIS_CHECK_TIME (time for testing the pulse disable) when the time stage expired.

4. Safe brake ramp has responded.

5. "SG-specific stop reaction" is set to STOP A and has responded.

The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions: - Mode group not ready.

- Channel not ready.

- NC Start disable in this channel.

- Interface signals are set.

- Alarm display.

- NC Stop on alarm.

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- Channel not ready.

Remedy: Please inform the authorized personnel/service department. The user must find the cause and take appropriate measures.

Program Continuation: Switch control OFF - ON.

300901 **Axis %1 drive %2 stop B triggered**

Parameters: %1 = Axis number
%2 = Drive number

Definitions: The drive is disabled via STOP B. This blocks the pulses over the relay "Antrieb_IMP".
Request: In monitoring cycle.
If STOP B has been triggered, this can have several reasons:
1. Safe zero speed control has responded.
2. Call after STOP F, that means an error has occurred during cross-comparison.
3. "SG-specific stop reaction" is set to STOP B and has responded.
The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. The user must check the cause and initiate the corresponding measures.

Program Continuation: Switch control OFF - ON.

300906 **Axis %1 drive %2 safe braking ramp exceeded**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The drive is disabled via STOP A.
Request: In monitoring cycle.
The actual velocity of the axis has not been reduced during deceleration with "nset = 0" (STOP B or STOP C) but has increased over the follow-on velocity limit during deceleration and the tolerance entered in MD 1348: $MD_SAFE_VELO_TOL (actual velocity tolerance for SBR).
The alarm can be reprogrammed in the MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Check the deceleration behavior and, if necessary, modify the velocity tolerance in MD 1348: $MD_SAFE_VELO_TOL. Restart is only possible with POWER ON.

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Program Continuation: Switch control OFF - ON.

300907 **Axis %1 drive %2 tolerance for safe operational stop exceeded**

Parameters: %1 = Axis number

%2 = Drive number

Definitions: The drive is disabled via STOP A or STOP B. This blocks the pulses over the relay "Antrieb_IMP".

Request: In monitoring cycle.

The actual position has moved too far away from the setpoint/zero position (outside the zero speed window). The zero speed window is parameterized through MD 1330: $MD_SAFE_STANDSTILL_TOL (safe operational stop standstill tolerance).

Reactions: - Mode group not ready.

- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Please inform the authorized personnel/service department. Check the safe standstill tolerance: does the value match the precision and control dynamics of the axis? If not, increase the tolerance.

Program Continuation: Switch control OFF - ON.

300908 **Axis %1 drive %2 stop C triggered**

Parameters: %1 = Axis number

%2 = Drive number

Definitions: The drive is disabled via STOP C. At the end of the stop reaction, the drive remains under control, the axis is monitored for SBH.

Request: In monitoring cycle.

If STOP C has been triggered, this can have several reasons (depending on the configuration):

1. The safe speed monitoring has been triggered (MD 1361: $MD_SAFE_VELO_STOP_MODE (SG-specific stop reaction) or MD 1363: $MD_SAFE_VELO_STOP_REACTION (SG-specific stop reaction) (840D as of SW4.2)).

2. The safe end-position monitoring has been triggered (MD 1362: $MD_SAFE_POS_STOP_MODE (safe end position stop reaction)).

The alarm indicates the initiation of a "deceleration at current limit" and the internal activation of "safe standstill".

Reactions: - NC Start disable in this channel.

- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. The user must check the cause and initiate the corresponding measures.

Program Continuation: Clear alarm with the RESET key. Restart part program

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300909 **Axis %1 drive %2 stop D triggered**

Parameters: %1 = Axis number
%2 = Drive number

Definitions: The drive ws stopped by the NC with STOP D. At the end of the stop reaction, the drive remains under control, the axis is monitored for SBH.
Request: In monitoring cycle.
If STOP D has been triggered, this can have several reasons (depending on the configuration):
1. The safe speed monitoring has been triggered (MD 1361: $MD_SAFE_VELO_STOP_MODE (SG-specific stop reaction) or MD 1363: $MD_SAFE_VELO_STOP_REACTION (SG-specific stop reaction) (840D as of SW4.2)).
2. The safe end-position monitoring has been triggered (MD 1362: $MD_SAFE_POS_STOP_MODE (safe end position stop reaction)).
The alarm indicates the initiation of a "deceleration on path" in the NC and the internal activation of "safe standstill" in the NC and drive.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. The user must check the cause and initiate the corresponding measures.

Program Continuation: Clear alarm with the RESET key. Restart part program

300910 **Axis %1 drive %2 stop E triggered**

Parameters: %1 = Axis number
%2 = Drive number

Definitions: The drive is stopped by the NC with STOP E. At the end of the stop reaction, the drive remains under control whereby the axis is beingE monitored for SBH.
Request: In monitoring cycle.
If STOP E has been triggered, this can have several reasons (depending on the configuration):
1. The safe speed monitoring has been triggered (MD 1361: $MD_SAFE_VELO_STOP_MODE (SG-specific stop reaction).
2. The safe end-position monitoring has been triggered (MD 1362: $MD_SAFE_POS_STOP_MODE (safe end position stop reaction)).
The alarm indicates the initiation of an "extended stop and retract" in the NC (840C) or "LIFTFAST-ASUP" (840D) and the internal activation of "safe standstill" in the NC and drive.

Reactions: - NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. The user must check the cause and initiate the corresponding measures.

Program Continuation: Clear alarm with the RESET key. Restart part program

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300911 **Axis %1 drive %2 error in one monitoring channel**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The mutual comparison of the two monitoring channels has found a difference between input data or results of the monitoring operations. One of the monitors no longer functions reliably, i.e. safe operation is no longer possible.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department.

Find the difference between the monitoring channels. The error code indicating the cause is displayed as follows:

• On the 840D it is output in the alarm text.

• On the 840C MD 301: diagnostics for STOP F

• On the 611D MD 1395: $MD_SAFE_STOP_F_DIAGNOSIS (diagnostics for STOP F)

You can find the meaning of the error code as follows:

• On the 840D: description of alarm 27001

• On the 840C: description of alarms 1336* / 2097*

A possible cause is that the safety-related machine data are no longer identical or that the SGEs do not have the same level (recalibrate or check in the SI service display). If no error of this type is apparent, an error may have occurred in the CPU, e.g. a "flipped" memory cell. This error can be temporary (in this case it can be eliminated by a POWER ON) or permanent (if it occurs again after POWER ON replace the hardware).

Program Continuation: Clear alarm with the RESET key. Restart part program

300914 **Axis %1 drive %2 safe velocity exceeded**

Parameters: %1 = Axis number

%2 = Drive number

Definitions: The drive is disabled by the reaction configured in MD 1361: $MD_SAFE_VELO_STOP_MODE. At the end of the stop reaction, the drive remains under control, the axis is monitored for SBH.

Request: In monitoring cycle.

The axis has moved faster than allowed in machine data MD 1331: $MD_SAFE_VELO_LIMIT[n] (safe velocity limit values). If the "safe velocity correction" function is enabled in MD1301: $MD_SAFE_FUNCTION_ENABLE (safe functions enable), allowance must be made for the correction factor in the velocity limit when using SG2 and SG4.

Reactions: - NC Start disable in this channel.

- Interface signals are set.

- Alarm display.

- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check the input values of the machine data. Check the safe input signals: is the correct one of four velocity limits selected?

Program Continuation: Clear alarm with the RESET key. Restart part program

300915 **Axis %1 drive %2 safe end positions exceeded**

Parameters: %1 = Axis number

%2 = Drive number

Definitions: The drive is disabled by the reaction configured in MD 1362: $MD_SAFE_POS_STOP_MODE. At the end of the stop reaction, the drive remains under control, the axis is monitored for SBH.

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Request: In monitoring cycle.

The axis has exceeded the limit position which is entered in

• Modify MD 1334: $MD_SAFE_POS_LIMIT_PLUS[n] (upper limit for safe end position)

• Modify MD 1335: $MD_SAFE_POS_LIMIT_MINUS[n] (lower limit for safe end position)

Reactions: - NC Start disable in this channel.

- Interface signals are set.

- Alarm display.

- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. If no obvious operator error occurred: Check the input value of the machine data and check the SGEs: was the correct one of 2 end positions selected? If the MDs and SGEs are o.k., check the machine for any damage and rectify.

Program Continuation: Clear alarm with the RESET key. Restart part program

300950 Axis %1 drive %2 is not safely referenced

Parameters: %1 = Axis number

%2 = Drive number

Definitions: No stop reaction is initiated. The message will be present during enabling of the functions SN/SE until the axis status "Axis safely referenced" has been reached.

Request: In monitoring cycle.

1) The axis is not referenced or

2) The user enable for this axis is missing or was canceled. This can occur, for example, if the axis was moved after the machine was switched off and the standstill position which was stored is therefore no longer correct.

This message prompts the user to confirm the actual position. To do this, you must determine the position, e.g. as follows:

• Measure the position.

• Move to a known position.

Reactions: - Alarm display.

Remedy: Please inform the authorized personnel/service department. If no safe automatic referencing is possible, the user must confirm the new position via the softkey. This user confirmation marks this position as safe, that means the axis status "Axis safely referenced" is reached.

Warning:

If the axis has not been safely referenced and the user has not confirmed, the following applies:

• The safe cams are still active and not yet safe.

• The safe limit positions are not yet active.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

300951 Axis %1 drive %2 test stop is running

Parameters: %1 = Axis number

%2 = Drive number

Definitions: The pulses are deleted.

1. If the positive acknowledgement is not received within the time configured in MD 1357: $MD_SAFE_PULSE_DIS_CHECK_TIME (time for checking the pulse deletion), STOP A is triggered.

2. If pulse deletion is acknowledged within the configured time in the drive, no stop reaction is triggered. This message will be displayed during selection via the SGE "Test stop selection" until the selection is canceled.The test stop has been activated by the user

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by setting the SGE "Test stop selection". If the user cancels the SGE "Test stop selection", the message will also be cancelled.

Request: In monitoring cycle.

The test stop has been activated by the user by setting the SGE "Test stop selection". The pulses are deleted.

1. If the positive acknowledgement is not received within the time configured in MD 1357: $MD_SAFE_PULSE_DIS_CHECK_TIME (time for checking the pulse deletion), STOP A is triggered.

2. If pulse deletion is acknowledged within the configured time in the drive, no stop reaction is triggered. This message will be displayed during selection via the SGE "Test stop selection" until the selection is canceled.

Reactions: - Alarm display.

Remedy: The message disappears automatically if the test is terminated by the user by clearing the SGE "Test stop selection". If STOP A is triggered, restart is only possible with POWER ON.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

300952 **Axis %1 drive %2 acceptance test is active**

Parameters: %1 = Axis number

%2 = Drive number

Definitions: The acceptance test has been activated by the user.

Reactions: - Alarm display.

Remedy: This message disappears automatically when the test is finished.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

301701 **Axis %1 drive %2 limit value for safe velocity too large**

Parameters: %1 = Axis number

%2 = Drive number

Definitions: Booting has been interrupted. The pulses remain disabled.

Request: In monitoring cycle.

The limit value of the safe velocity exceeds the velocity corresponding to a limit frequency of 200 kHz (300 kHz for 840D with SW4.2 and higher and for 840C with SW6.1 and higher).

The max. permissible speed that can be monitored is determined as follows:

nmax[rev/min] = (200000[Hz] * 60) / encoder marks value

Monitoring condition:

Modify MD 1331: $MD_SAFE_VELO_LIMIT[n] <= (1 / ue) * nmax

Reactions: - Mode group not ready.

- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check the entry in the machine data MD 1331: $MD_SAFE_VELO_LIMIT[n] (safe velocity limit values) correct, if necessary, and perform POWER ON.

Program Continuation: Switch control OFF - ON.

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301702 **Axis %1 drive %2 track inversion incorrect**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: With rotary spindles without EnDat interface operating with enhanced controller modules, the track inversion (MD_1011.0=1) must not be switched on. Otherwise this error is triggered.
Modify MD 1011: $MD_ACTUAL_VALUE_CONFIG (actual value sensing configuration IM)

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. With rotary spindles without EnDat interface operating with enhanced controller modules, the track inversion must be performed by soldering the A and B tracks differently: A <-> B and A* <-> B*

Program Continuation: Switch control OFF - ON.

301703 **Axis %1 drive %2 encoder/motor type are not compatible**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: If a linear motor was selected (motor selection menu), but no linear scale was configured (MD_1011.4=0), or if a rotary motor was selected, but a linear scale configured (MD_1011.4=1), then this error is triggered.
Modify MD 1011: $MD_ACTUAL_VALUE_CONFIG (actual value sensing configuration IM)

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Encoder type must be parameterized according to the motor type.

Program Continuation: Switch control OFF - ON.

301704 **Axis %1 drive %2 pole pair width/division of linear scale (internal) out of range**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: With linear motors the pole-pair width and graduations data is used for calculating the equivalent (internal) pole pair number and (internal) encoder marks. For this it is necessary that the encoder marks correspond to one or x pole pair widths as an integer. This error message is output if the result is not an integer pole pair width/graduations*x (to x=16) or if the calculated internal encoder marks value is too high. Absolute interpretation as an integer if the result is within a +/- 0.001 tolerance.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.

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- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.

- Long traversing paths: It is advisable to use a length measuring system where the encoder marks match x* pole pair widths as integer.
- Short traversing paths: With short traversing paths, only a small error can accumulate and hardly affect the heating and the maximum power that can be reached if the encoder marks do not comply with the +/-0.001 tolerance. Then it is advisable to slightly modify the pole pair width:

Example:

Pole pair width: 56.8 mm, graduations: 2.7 µm

=> Pole pair number = 1, encoder marks = 21037.037 => error

Avoid the error by entering pole pair width = 56.7999 mm.

=> Pole pair number = 1, encoder marks = 21037.0 => no error

Program Continuation: Switch control OFF - ON.

301705 Axis %1 drive %2 distance-coded scale incorrectly parameterized

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: When selecting a distance-coded scale (MD_1011.7=1) it is also necessary to configure a length measuring system (MD_1011.4=1). In addition, the MDs 1040, 1041 and 1042 must not be zero or negative.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Check and, if necessary, correct MDs 1011: $MD_ACTUAL_VALUE_CONFIG (actual value sensing configuration IM), 1040, 1041 and 1042.

Program Continuation: Switch control OFF - ON.

301706 Axis %1 drive %2 parameterization of cam position invalid

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: At least one of the parameterized cams enabled via MD 1301: $MD_SAFE_FUNCTION_ENABLE (safe functions enable) does not comply with the rule stating that cam positions are not allowed to be within the tolerance range around the modulo position.

The valid tolerance range is:

With inactive cam synchronization (MD 1301 bit 7 = 0):

Lower modulo value + POS_TOL <= cam position

Upper modulo value - POS_TOL > cam position

With active cam synchronization (MD 1301 bit 7 = 1):

Lower modulo value + POS_TOL <= cam position

Upper modulo value - POS_TOL - CAM_TOL > cam position

Explanations:

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- POS_TOL: Actual value tolerance (MD 1342: $MD_SAFE_POS_TOL (actual value tolerance cross-comparison))
- CAM_TOL: Cam tolerance (MD 1340: $MD_SAFE_CAM_TOL (tolerance for safe cams))
- Upper/lower modulo value: is determined by MD 1305: $MD_SAFE_MODULO_RANGE (actual value range for safe cam with rotary axes)

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department.
Check parameterization of the cam positions in
- Modify MD 1336: $MD_SAFE_CAM_POS_PLUS (plus cam position for safe cam) and
- Modify MD 1337: $MD_SAFE_CAM_POS_MINUS (minus cam position for safe cam) and perform POWER ON.
- Modify MD 1305: $MD_SAFE_MODULO_RANGE (actual value range for safe cam with rotary axes).

Program Continuation: Switch control OFF - ON.

301707 Axis %1 drive %2 parameterization of modulo value for safe cam (SN) invalid

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The cam modulo range parameterized for a rotary axis via MD 1305: $MD_SAFE_MODULO_RANGE (actual value range for safe cam with rotary axes) violates the rule stating that only integral multiples of 360 degrees may be set.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Change parameterization of the cam modulo range in MD 1305: $MD_SAFE_MODULO_RANGE (actual value range for safe cam with rotary axes).

Program Continuation: Switch control OFF - ON.

301708 Axis %1 drive %2 actual value synchronisation not allowed

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The actual value synchronization for drift/slippage in MD 1301: $MD_SAFE_FUNCTION_ENABLE (safe functions enable) is deselected. This is only allowed with SBH/SG monitoring, since the absolute actual position is irrelevant for this type of monitoring. However, safe end position and/or cam monitoring is also selected.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.

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- Alarm display.
- NC Stop on alarm.

Remedy: Please inform the authorized personnel/service department. Deselect actual value synchronization for drift/slippage or the safe end position and/or safe cam monitoring in MD 1301: $MD_SAFE_FUNCTION_ENABLE (safe functions enable).

Program Continuation: Switch control OFF - ON.

301709 Axis %1 drive %2 submodule with integrated linearization invalid

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: If a submodule with integrated linearization is used, all submodules on the module must use the integrated linearization. A submodule with integrated lineearization was found. However, not all submodules have this linearization.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Replace the submodule.

Program Continuation: Switch control OFF - ON.

301710 Axis %1 drive %2 resolution SSI motor measuring system invalid

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The configuration of the motor measuring system for an SSI encoder is incorrect: MD_1022 $MD_ENC_ABS_RESOL_MOTOR must not be 0.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy:
• Set MD_1022 $MD_ENC_ABS_RESOL_MOTOR to the correct value:
• Rotary encoder: Singleturn resolution (increments per revolution).
• Linear encoder: Resolution of an increment (in nanometers).

Program Continuation: Switch control OFF - ON.

301711 Axis %1 drive %2 transmission length SSI motor measuring system invalid

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The configuration of the motor measuring system for an SSI encoder is incorrect: MD_1028 $MD_NO_TRANSMISSION_BITS (SSI transmission length) is less than the number of all parameterized bits in MD_1021 $MD_ENC_ABS_TURNS_MOTOR (multiturn), MD_1022 $MD_ENC_ABS_RESOL_MOTOR (singleturn) and MD_1027 $MD_ENC_CONFIG bit 14 (alarm bit) and MD_1027 $MD_ENC_CONFIG bit 12 (parity bit).

Reactions:
- Mode group not ready.

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- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy:
- Set parameters correctly for all associated machine data:
- MD_1028 $MD_NO_TRANSMISSION_BITS (SSI transmission length): number of bits in an SSI protocol, including all bits, such as alarm bit/parity bit
- MD_1021 $MD_ENC_ABS_TURNS_MOTOR (multiturn): number of resolvable revolutions
- MD_1022 $MD_ENC_ABS_RESOL_MOTOR (singleturn): number of increments per revolution.
- MD_1027.Bit 12 $MD_ENC_CONFIG.Bit 12: parity bit
- MD_1027.Bit 14 $MD_ENC_CONFIG.Bit 14: alarm bit
- Example:
- SSI encoder with 25 bits transmission length, 12 bits multiturn, 12 bits singleturn, one alarm bit:
- $MD_NO_TRANSMISSION_BITS = 25
- $MD_ENC_ABS_TURNS_MOTOR = 4096
- $MD_ENC_ABS_RESOL_MOTOR = 4096
- $MD_ENC_CONFIG.Bit 14 = 1
- $MD_ENC_CONFIG.Bit 12 = 0

Program Continuation: Switch control OFF - ON.

301712 **Axis %1 drive %2 multiturn SSI motor measuring system invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The configuration of a linear SSI motor measuring system is incorrect: A linear measuring system cannot have any multiturn information.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Set MD_1021 $MD_ENC_ABS_TURNS_MOTOR (resolution number revolution) to 0.

Program Continuation: Switch control OFF - ON.

301713 **Axis %1 drive %2 resolution SSI direct measuring system invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: Configuration of the direct measuring system is faulty for SSI encoder: MD_1032 $MD_ENC_ABS_RESOL_DIRECT must not be 0.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

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- NC Stop on alarm.

Remedy:
- Set MD_1032 $MD_ENC_ABS_RESOL_DIRECT to the correct value:
- Rotary encoder: Singleturn resolution (increments per revolution).
- Linear encoder: Resolution of an increment (in nanometers).

Program Continuation: Switch control OFF - ON.

301714 Axis %1 drive %2 transmission length SSI direct measuring system invalid

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: Configuration of the direct measuring system is faulty for SSI encoder: MD_1041 $MD_NO_TRANSMISSION_BITS_DM (SSI transmission length) is smaller than the number of all parameterized bits in MD_1031 $MD_ENC_ABS_TURNS_DIRECT (multiturn), MD_1032 $MD_ENC_ABS_RESOL_DIRECT (singleturn) and MD_1037 $MD_ENC_CONFIG_DIRECT Bit 14 (alarm bit) and MD_1037 $MD_ENC_CONFIG_DIRECT Bit 12 (parity bit).

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy:
- Set parameters correctly for all associated machine data:
- MD_1041 $MD_NO_TRANSMISSION_BITS_DM (SSI transmission length): number of bits in an SSI protocol, including all bits such as alarm bit and parity bit.
- MD_1031 $MD_ENC_ABS_TURNS_DIRECT (multiturn): number of resolvable revolutions
- MD_1032 $MD_ENC_ABS_RESOL_DIRECT (singleturn): number of increments per revolution
- MD_1037.Bit 12 $MD_ENC_CONFIG_DIRECT.Bit 12: parity bit
- MD_1037.Bit 14 $MD_ENC_CONFIG_DIRECT.Bit 14: alarm bit
- Example:
- SSI encoder with 25 bits transmission length, 12 bits multiturn, 12 bits singleturn, one alarm bit:
- $MD_NO_TRANSMISSION_BITS_DM = 25
- $MD_ENC_ABS_TURNS_DIRECT = 4096
- $MD_ENC_ABS_RESOL_DIRECT = 4096
- $MD_ENC_CONFIG_DIRECT.Bit 14 = 1
- $MD_ENC_CONFIG_DIRECT.Bit 12 = 0

Program Continuation: Switch control OFF - ON.

301715 Axis %1 drive %2 multiturn SSI direct measuring system invalid

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: Configuration faulty for a linear and direct measuring system with SSI: A linear measuring system cannot have any multiturn information.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.

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- Alarm display.
- NC Stop on alarm.

Remedy: Set MD_1031 $MD_ENC_ABS_TURNS_DIRECT (resolution number revolution) to 0.

Program Continuation: Switch control OFF - ON.

301716 Axis %1 drive %2 SSI direct measuring system without incremental signals not possible

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: With the present module, it is not possible to use SSI encoders without incremental signals.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Use newer module.

Program Continuation: Switch control OFF - ON.

301717 Axis %1 drive %2 SSI transmission timeout

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The SSI transmission must be completed within an NC clock cycle. This is not possible with its current parameterization.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Either increase the clock cycle length of the NC or increase the SSI transmission rate (MD_1030 $MD_ACTUAL_VALUE_CONFIG_DIRECT.Bits 14 and 15).
The following transmission rates are possible: 100 kHz, 500 kHz, 1 MHz and 2 MHz. Caution: It might be possible that the length of the encoder cable does not allow an increase in frequency!

Program Continuation: Switch control OFF - ON.

301718 Axis %1 drive %2 combination of motor/power section invalid

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The motor cannot be operated with the power section selected.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

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Remedy:
- Check selection of power section.
- Check motor selection.
- Use valid power section.

Program Continuation: Switch control OFF - ON.

301719 Axis %1 drive %2 power section data incomplete

Parameters:
%1 = NC axis number
%2 = Drive number

Definitions: The data for the power section are incomplete:
- Operation of a power section with an FDD motor requires: MD_1178 $MD_INVERTER_DERATING_SYN (derating factor at 8kHz)
- Operation of a power section with an MSD motor requires: MD_1179 $MD_INVERTER_DERATING_ASYN (derating factor at 8kHz)
- Operation of a power section with a PE MSD motor requires: MD_1179 $MD_INVERTER_DERATING_ASYN (derating factor at 8kHz)
- MD_1175 $MD_INVERTER_THERM_CURR_ASYN (limit current power section for PE MSD)
- MD_1177 $MD_INVERTER_RATED_CURR_ASYN (limit current power section for PE MSD).

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Carry out new start-up with power section selection or enter the following data:
- Operation of a power section with an FDD motor requires:
- MD_1178 $MD_INVERTER_DERATING_SYN (derating factor at 8kHz)
- Operation of a power section with an MSD motor requires:
- MD_1179 $MD_INVERTER_DERATING_ASYN (derating factor at 8kHz)
- Operation of a power section with a PE MSD motor requires:
- MD_1179 $MD_INVERTER_DERATING_ASYN (derating factor at 8kHz)
- MD_1175 $MD_INVERTER_THERM_CURR_ASYN (limit current power section for PE MSD)
- MD_1177 $MD_INVERTER_RATED_CURR_ASYN (limit current power section for PE MSD).

Program Continuation: Switch control OFF - ON.

310505 Axis %1 drive %2 measuring circuit error of absolute track, code %3

Parameters:
%1 = NC axis number
%2 = Drive number
%3 = Fine error coding

Definitions:
- Absolute encoder (EQN 1325) Monitoring of the encoder hardware and the EnDat interface
- More accurate diagnostics via MD5023: $MD_ENC_ABS_DIAGNOSIS_MOTOR (diagnostics for absolute track on motor measuring system).
- Bit nos. and their meaning:
- Bit 0 Lighting failed
- Bit 1 Signal amplitude too small

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- Bit 2 Code connection error
- Bit 3 Overvoltage
- Bit 4 Undervoltage
- Bit 5 Overcurrent
- Bit 6 Battery change necessary
- Bit 7 CRC error (evaluate bit 13), note: see below
- Bit 8 Encoder cannot be used, assignment of absolute track to incremental track not allowed
- Bit 9 C/D track for ERN 1387 encoder incorrect or EQN encoder connected
- Bit 10 Log cannot be aborted
- Bit 11 SSI level detected in data cable
- Bit 12 TIMEOUT while reading measured value
- Bit 13 CRC error (evaluate bit 7), note: see below
- Bit 14 (810D) Wrong IPU submodule for direct measuring system
- Bit 15 Encoder defective
- CRC error: CRC error bit 7 and bit 13, meaning:
- Bit 7: 0, bit 13: 1 CRC error from SIDA-ASIC
- Bit 7:1, bit 13: 0 Control check byte error
- Bit 7: 1, bit 13: 1 Error on correction of absolute track by incremental track
- Bits 12 and 15: Zero level monitoring SSI
- Bits 14 and 15: Idle level monitoring SSI

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy:
- Check encoders, encoder lines and connectors between drive motor and 611D module. Check for temporary interruptions (loose contact) caused, for example, by movements in trailing cable. If necessary, replace the motor cable.
- Incorrect cable type
- Controller hardware not suitable for EnDat interface (e.g. control module with EPROM)

Program Continuation: Switch control OFF - ON.

310606 **Axis %1 drive %2 external valve voltage supply failed**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The external 26.5 V supply is monitored for undervoltage in the closed-loop control.
Check the monitoring criteria:
- Voltage range (average) 26.0 V to 27.0 V
- Ripple factor 240 mVss
- No voltage failures

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.

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- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: The external 26.5 V supply is monitored for undervoltage in the closed-loop control.
Check the monitoring criteria:
• Voltage range (average) 26.0 V to 27.0 V
• Ripple factor 240 mVss
• No voltage failures

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

310607 Axis %1 drive %2 valve not responding

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The valve is not responding to the valve slide setpoint. Cause: valve not connected or valve has no valve slide checkback signal.

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy:
• Valve without valve slide checkback signal: Modify MD 5530: reset bit 2
• Check the valve connection.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

310608 Axis %1 drive %2 speed controller at limit

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The speed controller output is lying for an impermissibly long time at its limit (MD 5605: SPEEDCTRL_LIMIT_TIME (speed controller limit time)). The monitoring system is only active when the speed setpoint is below the speed threshold in MD 5606: SPEEDCTRL_LIMIT_THRESHOLD (speed controller limit threshold).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy:
• Is the drive blocked?
• Is the encoder connected? (check the encoder cable)
• Check the shield connection on the encoder cable
• Encoder defective?
• Check the encoder resolution

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- The Uce monitoring circuit has been activated (perform a reset by switching the power supply off and on again).
- Replace the control module.
- Modify MD 5605: SPEEDCTRL_LIMIT_TIME and MD 5606: SPEEDCTRL_LIMIT_THRESHOLD in accordance with the mechanical and dynamic features of the axis.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

310609 **Axis %1 drive %2 encoder cut-off frequency exceeded**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: Actual velocity value exceeds encoder limit frequency fg,max = 650kHz

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy:
- The wrong encoder may be in use.
- Does the number of encoder lines match the setting in MD 5005: ENC_RESOL_MOTOR (encoder resolution for motor measuring system)?
- Is the encoder cable connected correctly?
- Is the encoder cable shield installed flat?
- Replace the encoder.
- Replace the 611D hydraulic module.
- Modify MD 5605: SPEEDCTRL_LIMIT_TIME and MD 5606: SPEEDCTRL_LIMIT_THRESHOLD in accordance with the mechanical and dynamic features of the axis.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

310610 **Axis %1 drive %2 wrong piston position**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The error is triggered if the actual position of the drive is negative.
Cause:
- Incorrect counting direction of actual position on drive side.
- Incorrect piston zero alignment.
- If the drive is referenced and the offset between the piston zero (piston stop at A side) and the machine zero is entered in MD 5040, the piston position in MD 5741 can only indicate positive values (from zero to piston stroke length).

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

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- Channel not ready.

Remedy: The counting direction for the actual position is correct on the drive side if:

1. Pos. setpoint voltage (e.g. function generator) -> cylinder piston travels from A to B. If not: Invert the actuation signal (change MD 5476 bit 0).

2. Cylinder piston travels from A to B -> v_act (MD 5707) > 0. If not: Invert the actual value (change MD 5011 bit 0).

Check the piston zero alignment and correct if necessary:

Set MD 5012 bit 14 and bit 15 to zero, save bootfile, reset NCK, perform a reference point approach and then align the position.

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

310611 **Axis %1 drive %2 pressure sensor failed**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: Power limitation or friction compensation is activated: Modify MD 5241: bit 0 or bit 1 is set and both actual pressure values are less than 2% of the system pressure in MD 5101: WORKING_PRESSURE on performance enable.

Cause: Pressure sensor or connecting cable defective.

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Check the connection of both pressure sensors.

If no pressure sensors are installed:

• Deactivate the force limitation: Modify MD 5241: reset bit 0

• Deactivate friction compensation: Modify MD 5241: reset bit 1

Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

310612 **Axis %1 drive %2 force limitation off**

Parameters: %1 = NC axis number

%2 = Drive number

Definitions: The force limitation is deactivated.

Cause:

The force limitation is deactivated but:

• The NC has defined a force limit or

• Travel to fixed stop is selected.

Reactions:
- Mode group not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

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Remedy: Activate power limitation: Modify MD 5241: Set bit 0.
Program Continuation: Clear alarm with the RESET key in all channels of this mode group. Restart part program.

310701 Axis %1 drive %2 speed controller cycle time invalid

Parameters: %1 = NC axis number
%2 = Drive number
Definitions: In the speed controller cycle drive MD 5001: SPEEDCTRL_CYCLE_TIME an impermissible value has been entered.
Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Permissible: 62.5µs <= T <= 500µs
Program Continuation: Switch control OFF - ON.

310702 Axis %1 drive %2 position controller cycle time invalid

Parameters: %1 = NC axis number
%2 = Drive number
Definitions: The monitor in the 611D module has detected a position controller pulse rate which is beyond the permissible limits.
The conditions for a permissible position controller pulse rate are:
1. Minimum cycle time: 250µs
2. Maximum pulse rate: 4 s
3. The position controller pulse rate must be a multiple of the speed controller cycle given in the drive MD 5001: SPEEDCTRL_CYCLE_TIME.
Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Change the position controller pulse rate on the NC.
Program Continuation: Switch control OFF - ON.

310703 Axis %1 drive %2 monitoring cycle time invalid

Parameters: %1 = NC axis number
%2 = Drive number
Definitions: Monitoring cycle MD 5002: MONITOR_CYCLE_TIME (monitoring cycle) is invalid.
Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.

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- Alarm display.
- NC Stop on alarm.

Remedy: Please refer to the drive functions "FB/DB1" MD 1002.

Program Continuation: Switch control OFF - ON.

310704 **Axis %1 drive %2 speed controller cycle times of axes differ**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The speed controller cycle MD 5001: SPEEDCTRL_CYCLE_TIME must be identical for both axes on 2-axis modules.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Set an identical speed controller cycle MD 5001: SPEEDCTRL_CYCLE_TIME for both axes.

Program Continuation: Switch control OFF - ON.

310705 **Axis %1 drive %2 monitoring cycle times of axes differ**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The monitoring cycle MD 5002: MONITOR_CYCLE_TIME must be identical for both axes on 2-axis modules.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Modify MD 5002: MONITOR_CYCLE_TIME for both axes.

Program Continuation: Switch control OFF - ON.

310706 **Axis %1 drive %2 maximum working speed invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: Because of the high maximum motor speed in the drive MD 5401: DRIVE_MAX_SPEED and the speed controller cycle in MD 5001: SPEEDCTRL_CYCLE_TIME sufficiently high speeds can occur to cause a format overflow.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

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- NC Stop on alarm.

Remedy: Reduce the maximum working speed in MD 5401: DRIVE_MAX_SPEED or set a smaller speed controller cycle in MD 5001: SPEEDCTRL_CYCLE_TIME.

Program Continuation: Switch control OFF - ON.

310707 **Axis %1 drive %2 STS configuration of axes differ**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The configuration of the control block MD 5003: STS_CONFIG (STS configuration) must be identical for both axes on 2-axis modules.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check drive MD 5003: STS_CONFIG (STS configuration) and set the bits for the two axes of the module so that they are the same. (Do not change the default setting - this corresponds to the optimum configuration).

Program Continuation: Switch control OFF - ON.

310708 **Axis %1 drive %2 number of encoder marks of measuring system invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The number of encoder marks of the motor measuring system in the drive MD 5005: ENC_RESOL_MOTOR (number of encoder marks of the motor measuring system) is zero or greater than the maximum input limit.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Match the number of encoder marks of the motor measuring system in drive MD 5005: ENC_RESOL_MOTOR (number of encoder marks of the motor measuring system) to the encoder in use. (Default setting for motor measuring system: (Default setting for motor measuring system: 2048 incr./rev.).

Program Continuation: Switch control OFF - ON.

310709 **Axis %1 drive %2 error in piston diameter or piston rod diameter**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The piston diameter in drive MD 5131: CYLINDER_PISTON_DIAMETER is less than or equal to zero or the piston rod diameter in drive MD 5132: CYLINDER_PISTON_ROD_A_DIAMETER is greater than the piston diameter in drive MD 5131: CYLINDER_PISTON_DIAMETER or the piston rod diameter in drive MD 5133:

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CYLINDER_PISTON_ROD_B_DIAMETER is greater than the piston diameter in drive MD 5131: CYLINDER_PISTON_DIAMETER.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Enter a valid piston diameter in drive MD 5131: CYLINDER_PISTON_DIAMETER (0 < D <= 500mm). or Enter a piston rod diameter in drive MD 5132: CYLINDER_PISTON_ROD_A_DIAMETER which is less than the piston diameter in drive MD 5131: CYLINDER_PISTON_DIAMETER or Enter a piston rod diameter in drive MD 5133: CYLINDER_PISTON_ROD_B_DIAMETER which is less than the piston diameter in drive MD 5131: CYLINDER_PISTON_DIAMETER.

Program Continuation: Switch control OFF - ON.

310710 Axis %1 drive %2 distance-coded scale incorrectly parameterized

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: If a distance-coded scale is selected (MD 5011 bit 7=1) a length measuring system must also be configured (MD 5011 bit 4=1).

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Check and, if necessary, correct MD 5011: ACTUAL_VALUE_CONFIG (actual value sensing configuration).

Program Continuation: Switch control OFF - ON.

310750 Axis %1 drive %2 feedforward gain too high

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The feedforward control gain is calculated from the reciprocal of the gain in drive MD 5435: CONTROLLED_SYSTEM_GAIN.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Increase the speed controller cycle time in MD 5001: SPEEDCTRL_CYCLE_TIME.
Reduce the force controller feedforward factor in MD 5247: FORCE_FFW_WEIGHT.
Increase the gain in MD 5435: CONTROLED_SYSTEM_GAIN.

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Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

310751 **Axis %1 drive %2 proportional gain for speed controller too high**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The P gain of the speed controller is too high:
- Modify MD 5406: SPEEDCTRL_GAIN_A (gain on A-side of cylinder edge)
- or MD 5407: SPEEDCTRL_GAIN (gain for piston adjustment with lowest natural frequency)
- or MD 5408: SPEEDCTRL_GAIN_B (gain on B-side of cylinder edge)

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Enter a smaller value for the P gain of the speed controller:
- Modify MD 5406: SPEEDCTRL_GAIN_A (gain on A-side of cylinder edge)
- or MD 5407: SPEEDCTRL_GAIN (gain for piston adjustment with lowest natural frequency)
- or MD 5408: SPEEDCTRL_GAIN_B (gain on B-side of cylinder edge)

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

310752 **Axis %1 drive %2 integral gain for speed controller invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The integral gain in MD 5409: SPEEDCTRL_INTEGRATOR_TIME cannot be represented.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Modify MD 5409: SPEEDCTRL_INTEGRATOR_TIME.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

310753 **Axis %1 drive %2 D component for speed controller invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The D component of the speed controller is too high:
- Modify MD 5431: SPEEDCTRL_DIFF_TIME_A (gain on A-side of cylinder edge)

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• or MD 5432: SPEEDCTRL_DIFF_TIME (gain for piston adjustment with lowest natural frequency)
• or MD 5433: SPEEDCTRL_DIFF_TIME_B (gain on B-side of cylinder edge)

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Enter a smaller value for the D component of the speed controller:
• Modify MD 5431: SPEEDCTRL_DIFF_TIME_A (gain on A-side of cylinder edge)
• or MD 5432: SPEEDCTRL_DIFF_TIME (gain for piston adjustment with lowest natural frequency)
• or MD 5433: SPEEDCTRL_DIFF_TIME_B (gain on B-side of cylinder edge)

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

310754 **Axis %1 drive %2 friction compensation gradient too high**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: Reduce the friction compensation gradient component MD 5460: FRICTION_COMP_GRADIENT is too high.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Reduce the friction compensation gradient component MD 5460: FRICTION_COMP_GRADIENT.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

310755 **Axis %1 drive %2 area factor too high**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The positive area factor in drive MD 5462 AREA_FACTOR_POS_OUTPUT is too high or the negative area factor in drive MD 5463 AREA_FACTOR_NEG_OUTPUT is too high.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

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Remedy: Select a smaller value for the positive area factor in drive MD 5462 AREA_FACTOR_POS_OUTPUT or select a smaller value for the negative area factor in drive MD 5463 AREA_FACTOR_NEG_OUTPUT.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

310756 **Axis %1 drive %2 controlled system gain is less than or equal to zero**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The controlled system gain in drive MD 5435: CONTROLLED_SYSTEM_GAIN is less than or equal to zero.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Enter a valid controlled system gain in drive MD 5435: CONTROLLED_SYSTEM_GAIN (see model data calculations).

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

310757 **Axis %1 drive %2 blocking frequency > Shannon frequency**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The blocking frequency of a speed setpoint filter or manipulated variable filter is greater than the Shannon sampling frequency from the sampling theorem.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy:
- The blocking frequency in drive MD 5514: SPEED_FILTER_1_SUPPR_FREQ
- or in drive MD 5210: OUTPUT_VCTRL_FIL_1_SUP_FREQ
- or in drive MD 5213: OUTPUT_VCTRL_FIL_2_SUP_FREQ
- or in drive MD 5268: FFW_FCTRL_FIL_1_SUP_FREQ
- or in drive MD 5288: OUTPUT_FIL_1_SUP_FREQ must be less than the reciprocal value of two speed controller cycle times MD 5001: SPEEDCTRL_CYCLE_TIME, i.e. less than 1 / (2 * MD 5001 * 31.25 microsec).

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

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310758 **Axis %1 drive %2 natural frequency > Shannon frequency**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The natural frequency of a speed setpoint filter is greater than the Shannon sampling frequency from the sampling theorem.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: The natural frequency in Hz of a speed setpoint filter must be less than the reciprocal value of two speed controller cycles.
Speed filter:
MD 5520 * 0.01 * MD 5514 < 1 / (2 * MD 5001 * 31.25 microsec)
• BSP natural frequency drive MD 5520: SPEED_FILTER_1_BS_FREQ
• BSP blocking frequency drive MD 5514: SPEED_FILTER_1_SUPPR_FREQ
• Speed controller cycle drive MD 5001: SPEEDCTRL_CYCLE_TIME

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

310759 **Axis %1 drive %2 bandwidth numerator larger than double blocking frequency**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The bandwidth numerator of a speed or manipulated variable setpoint filter is greater than twice the blocking frequency.
This error message is only issued for the general bandstop filter if:
• Speed filter 1:
• MD 5516 > 0.0 or
• MD 5520 <> 100.0
• Manipulated variable filter 1:
• MD 5212 > 0.0
• Manipulated variable filter 2:
• MD 5215 > 0.0

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: The bandwidth numerator must be less than twice the blocking frequency.
Speed filter 1:
• BSP bandwidth numerator drive MD 5516: SPEED_FILTER_1_BW_NUMERATOR
• BSP blocking frequency drive MD 5514: SPEED_FILTER_1_SUPPR_FREQ, MD 5516 <= 2 * MD 5514
Manipulated variable filter 1:

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• BSP bandwidth numerator drive MD 5212: OUTPUT_VCTRL_FIL_1_BW_NUM
• BSP blocking frequency drive MD 5210: OUTPUT_VCTRL_FIL_1_SUP_FREQ, MD 5212 <= 2 * MD 5210

Manipulated variable filter 2:
• BSP bandwidth numerator drive MD 5215: OUTPUT_VCTRL_FIL_2_BW_NUM
• BSP blocking frequency drive MD 5213: OUTPUT_VCTRL_FIL_2_SUP_FREQ, MD 5215 <= 2 * MD 5213

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

310760 Axis %1 drive %2 bandwidth denominator greater than double natural frequency

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The bandwidth denominator of a speed or manipulated variable setpoint filter is greater than twice the natural frequency.
This error message is only issued for the general bandstop filter if:
• Speed filter 1:
• MD 5516 > 0.0 or
• MD 5520 <> 100.0

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: The bandwidth denominator of a speed or manipulated variable setpoint filter must be less than twice the natural frequency.
• Speed filter 1:
• BSP bandwidth drive MD 5515: SPEED_FILTER_1_BANDWIDTH
• BSP blocking frequency drive MD 5514: SPEED_FILTER_1_SUPPR_FREQ
• BSP natural frequency drive MD 5520: SPEED_FILTER_1_BS_FREQ, MD5515 <= 2 * MD 5514 * 0.01 * MD 5520

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

310761 Axis %1 drive %2 proportional gain of force controller too high

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The P gain of the force controller MD 5242: FORCECTRL_GAIN is too high.

Reactions: - NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Enter a smaller value for the P gain of the force controller MD 5242: FORCECTRL_GAIN.

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Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

310762 **Axis %1 drive %2 integral gain for force controller invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The integral gain in MD 5244: FORCECTRL_INTEGRATOR_TIME cannot be represented.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Modify MD 5244: FORCECTRL_INTEGRATOR_TIME.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

310763 **Axis %1 drive %2 D component of force controller invalid**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The D component of the force controller MD 5246: FORCECTRL_DIFF_TIME is too high.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: Enter a smaller value for the D component of the force controller MD 5246: FORCECTRL_DIFF_TIME.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

310764 **Axis %1 drive %2 controlled system gain for force controller is less than or equal to zero**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The controlled system gain for the force controller in drive MD 5240 FORCECONTROLLED_SYSTEM_GAIN is less than or equal to zero.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

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- Channel not ready.

Remedy: Set a valid controlled system gain in drive MD 5240 FORCECONTROLLED_SYSTEM_GAIN (see model data calculations).

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

310771 Axis %1 drive %2 gain in fine area of valve characteristic is less than or equal to zero

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The gradient in the fine area of the valve characteristic is less than or equal to zero.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: The gradient in the fine area is calculated as follows:
• Positive quadrant: (MD 5464 - MD 5480) / (MD 5465 -5481)
• Negative quadrant: (MD 5467 - MD 5483) / (MD 5468 - 5484)
Enter a valid combination in the above drive MD.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

310772 Axis %1 drive %2 gain in rough area of valve characteristic is less than or equal to zero

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The gradient in the coarse area of the valve characteristic is less than or equal to zero.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: The gradient in the coarse area is calculated as follows:
• Positive quadrant: (MD 5485 - MD 5464) / (MD 5486 -5465)
• Negative quadrant: (MD 5487 - MD 5467) / (MD 5488 - 5468)
Enter a valid combination in the above drive MD.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

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310773 **Axis %1 drive %2 gain at end of saturation area of valve characteristic is less than or equal to zero**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The gradient at the end of the saturation area of the valve characteristic is less than or equal to zero. The saturation area is rounded by a parabola. The parabola has a maximum in the saturation area and can therefore not be inverted.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: The gradient at the end of the saturation area is calculated as follows:
- Positive quadrant: 2 * (1.0 - MD 5485) / (1.0 - MD 5486) - (MD 5485 - MD 5464) / (MD 5486 -5465)
- Negative quadrant: 2 * (1.0 - MD 5487) / (1.0 - MD 5488) - (MD 5487 - MD 5467) / (MD 5488 - 5468)

Enter a valid combination in the above drive MD.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

310774 **Axis %1 drive %2 zero area and knee area of valve characteristic overlap**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The zero area and the knee area of the valve characteristic overlap.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: The zero area and the knee area overlap if:
- Positive quadrant: (MD 5481 + MD 5482) > (MD 5465 - 5466)
- Negative quadrant: (MD 5484 + MD 5482) > (MD 5468 - 5466)

Enter a valid combination in the above drive MD.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

310775 **Axis %1 drive %2 knee area and saturation area of valve characteristic overlap**

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The knee area and the saturation area of the valve characteristic overlap.

Reactions:
- NC not ready.
- The NC switches to follow-up mode.
- Channel not ready.

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- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.
- Channel not ready.

Remedy: The knee area and the saturation area overlap if:
• Positive quadrant: (MD 5465 + MD 5466) > MD 5486
• Negative quadrant: (MD 5468 + MD 5466) > MD 5488
Enter a valid combination in the above drive MD.

Program Continuation: Clear alarm with the RESET key in all channels. Restart part program.

311710 Axis %1 drive %2 resolution SSI motor measuring system invalid

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The configuration of the motor measuring system for an SSI encoder is incorrect: MD_5022 $MD_ENC_ABS_RESOL_MOTOR must not be 0.

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Set MD_5022 $MD_ENC_ABS_RESOL_MOTOR to correct value:
• Rotary encoder: Singleturn resolution (increments per revolution).
• Linear encoder: Resolution of an increment (in nanometers).

Program Continuation: Switch control OFF - ON.

311711 Axis %1 drive %2 transmission length SSI motor measuring system invalid

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The configuration of the motor measuring system for an SSI encoder is incorrect: MD_5028 $MD_NO_TRANSMISSION_BITS (SSI frame length) is smaller than the number of all parameterized bits in MD_5021 $MD_ENC_ABS_TURNS_MOTOR (multiturn), MD_5022 $MD_ENC_ABS_RESOL_MOTOR (singleturn) and MD_5027 $MD_ENC_CONFIG bit 14 (alarm bit) and MD_5027 $MD_ENC_CONFIG bit 12 (parity bit).

Reactions:
- Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Set parameters correctly for all associated machine data:
• MD_5028 $MD_NO_TRANSMISSION_BITS (SSI frame length): number of bits in an SSI protocol, including all bits, such as alarm bit/parity bit
• MD_5021 $MD_ENC_ABS_TURNS_MOTOR (ultiturn): number of resolvable revolutions
• MD_5022 $MD_ENC_ABS_RESOL_MOTOR (singleturn): number of increments per revolution

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• MD_5027.Bit 12 $MD_ENC_CONFIG.Bit 12: parity bit
• MD_5027.Bit 14 $MD_ENC_CONFIG.Bit 14: alarm bit
Example:
SSI encoder with 25 bits message frame length, 12 bits multiturn, 12 bits singleturn, one alarm bit:
• $MD_NO_TRANSMISSION_BITS = 25
• $MD_ENC_ABS_TURNS_MOTOR = 4096
• $MD_ENC_ABS_RESOL_MOTOR = 4096
• $MD_ENC_CONFIG.Bit 14 = 1
• $MD_ENC_CONFIG.Bit 12 = 0

Program Continuation: Switch control OFF - ON.

311712 Axis %1 drive %2 multiturn SSI motor measuring system invalid

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: The configuration of a linear SSI motor measuring system is incorrect: A linear measuring system cannot have any multiturn information.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Set MD_5021 $MD_ENC_ABS_TURN_MOTOR (number of representable revolutions) to 0.

Program Continuation: Switch control OFF - ON.

311716 Axis %1 drive %2 SSI measuring system without incremental signals not possible

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: With the present module, it is not possible to use SSI encoders without incremental signals.

Reactions: - Mode group not ready.
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Use newer module.

Program Continuation: Switch control OFF - ON.

311717 Axis %1 drive %2 SSI transmission timeout

Parameters: %1 = NC axis number
%2 = Drive number

Definitions: SSI transmission must be able to finish within one position control cycle. This is not possible with its current parameterization.

Reactions: - Mode group not ready.
- Channel not ready.

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- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.
- NC Stop on alarm.

Remedy: Either increase the position control cycle of the NC or increase the SSI transmission rate (MD_5011 $MD_ACTUAL_VALUE_CONFIG bits 14 and 15).

The following transmission rates are possible: 100 kHz, 500 kHz, 1 MHz and 2 MHz. Caution: It might be possible that the length of the encoder cable does not allow an increase in frequency!

Program Continuation: Switch control OFF - ON.

380001 **Profibus-DP: startup error, reason %1 parameter %2 %3 %4.**

Parameters: %1 = Cause of the error

%2 = Parameter 1

%3 = Parameter 2

%4 = Parameter 3

Definitions: An error occurred during startup of the PROFIBUS DP master.

Overview: Cause of the error, Par 1, Par 2, Par 3:

- 01 = DPM version, DPM version, DPA version, --
- 02 = DPM ramp-up timeout, DPM actual value status, DPM setpoint value status, --
- 03 = DPM ramp-up status, DPM actual value status, DPM setpoint value status, DPM error code
- 04 = DPM ramp-up error, DPM actual value status, DPM setpoint value status, DPM error code
- 05 = DPM-PLL sync error, --, --, --
- 07 = alarm queue too long, Actual number, Setpoint number, --
- 08 = unknown client, Client ID, --, --
- 09 = Client version, Client ID, Client version, DPA version
- 10 = too many clients, Client number, Max. number of clients, --
- 11 = log.basic address used several times; bus no.; slot no.; log.basic address --
- 20 = PB slave address used several times, slave address --
- 21 = PB slave address unknown, slave address, --
- 22 = Erroneous configuration telegram, slave address, error code, --
- 23 = OMI incompatible (data), Version drive, Version CDA --
- 24 = OMI incompatible (driver), Version drive, Version CDA --
- 25 = CPI initialization failed, error code
- 26 = reserved
- 27 = reserved
- 28 = reserved
- 29 = reserviert
- Digit position 1000 of the error cause = number of the affected bus

Clients are the following components of the control system that use the PROFIBUS DP:

Client ID = 1: PLC

Client ID = 2: NCK

The following can be causes:

- Error in contents of SDB-Type-2000
- Corruption of parts of system program
- Hardware defect on NC component

Reactions: - Channel not ready.

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- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Remedy for 1-11

1. Check the control project (especially SDB-Type-2000); check MD 11240 and reload it when using a user-specific SDB.
2. If the error still occurs, back up data and restart the control with the standard values as per the as-delivered condition.
3. In case of correct ramp-up, gradually reload the user data.
4. If the error still occurs during ramp-up with standard values, reboot the system from the PC card or execute a software update.
5. If the error still occurs, replace the hardware.

Remedy for 20-21

1. Check/correct the PROFIBUS addresses of the connected slaves.

Remedy for 22

See SINAMICS warning 1903 for a description of the meaning behind the error codes.

1. Control the SDB
   • Control type and length of the telegram
   • Match slot assignment with P978
2. Evaluate the drive alarms/warnings

Remedy for 23-24

1. Software replacement required

Remedy for 25

1. Change the telegram type
2. Reduce the number of slots
3. Reduce the number of slaves
4. Create a new SDB
5. Software replacement required

If the error is not removed after this procedure, contact the control manufacturer and provide the error text.

Program Continuation: Switch control OFF - ON.

380003 **Profibus-DP: operating error, reason %1, parameter %2 %3 %4.**

Parameters: %1 = Cause of the error
%2 = Parameter 1
%3 = Parameter 2
%4 = Parameter 3

Definitions: An operating error occurred on the PROFIBUS DP in cyclic mode.

Overview: Cause of the error, Par 1, Par 2, Par 3:

- 01 = unknown alarm, alarm class, logical address, --
- 02 = DPM cycle timeout, DPM actual value status, DPM setpoint value status, --
- 03 = DPM cycle status, DPM actual value status, DPM setpoint value status, DPM error code
- 04 = DPM cycle error, DPM actual value status, DPM setpoint value status, DPM error code
- 05 = client not registered, client number, max. number of clients, --
- 06 = synchronisation error, number of sync violation, --, --

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• 07 = spinlock timeout, PLC spinlock, NCK spinlock
• Digit 1000 of the error cause = number of the affected bus

Alarm class: (see alarm 380 060)

The following can be primary causes:

• For error cause 01: Data transfer error on PROFIBUS DP
• For error cause 02, 03, 04: Error in contents of SDB-Type-2000
• For error cause 02, 03, 04, 05, 07: Corruption of parts of system program
• For error cause 06: The PCI bus cycle does not match the expected rate and synchronization is not possible for this reason. The correct PCI bus cycle must be entered.

The error can also be caused by a hardware problem on the MCI module.

Reactions:
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy:
• For error cause 01:
• Check the electrical and fault-related specifications for PROFIBUS DP, assess the cable installation
• Check the terminating resistors of the PROFIBUS connectors (ON setting at end of cable, otherwise OFF setting required)
• Check slave
• For error cause 02, 03, 04:
• Check SDB-Type-2000
• For error cause 02, 03, 04, 05, 07:
• Follow the procedure described for troubleshooting alarm 380 001
• For error cause 06:
• The correct PCI bus cycle must be entered.

If the error cannot be eliminated by this procedure, please make a note of the error text and contact the control system manufacturer.

Program Continuation: Clear alarm with the RESET key. Restart part program

380005 Profibus-DP: bus %3 access conflict, type %1, counter %2

Parameters:
%1 = Conflict type
%2 = Serial number within a conflict sequence
%3 = Number of the affected bus

Definitions: An access conflict occurred on the PROFIBUS DP in cyclic mode: The NCK attempted to write data to the bus or to read from the bus while cyclic data transfer was active. This can lead to data integrity problems.

Type 1: Cyclic transfer has not finished on the PROFIBUS when the NCK attempts to read data.

Type 2: The NCK has not finished writing data when cyclic transfer begins again. Counter %2 contains a serial number starting at 1. A maximum of 10 alarms are output in succession. If no conflicts occur in a DP cycle, the counter is reset and new alarms are output again on the next conflict.

Reactions:
- Alarm display.

Remedy:
• Check the timing again, in particular ensure that the settings in SYSCLOCK_CYCLE_TIME and POSCTRL_CYCLE_DELAY are correct: POSCTRL_CYCLE_DELAY must be larger for type 1. POSCTRL_CYCLE_DELAY must be smaller for type 2.
• If alarm-free operation cannot be achieved with any POSCTRL_CYCLE_DELAY setting, SYSCLOCK_CYCLE_TIME must be increased.

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• If the error cannot be eliminated by this procedure, please make a note of the error text and contact the control system manufacturer.

Program Continuation: Clear alarm with the Delete key or NC START.

380020 **PROFIBUS DP: bus %3 SDB-Type-2000 error %1 for SDB source %2**

Parameters: %1 = Cause of the error

%2 = SDB source

%3 = Number of the affected bus

Definitions: Error in SDB-Type-2000 for PROFIBUS DP configuration.

Error cause:

• 01 = SDB-Type-2000 does not exist in SDB source.

• 02 = SDB-Type-2000 in SDB source too large.

• 03 = SDB-Type-2000 in SDB source cannot be activated.

SDB source:

• 00 = Default SDB (selected by MD 11240 = 0 if no user SDB-Type-2000 is loaded on the control system)

• 01 = Standard SDB1 (selected by MD 11240 = 1)

• 02 = Standard SDB2 (selected by MD 11240 = 2)

• .....

• 100 = SDB stored in battery-backed memory (SRAM)

• 101 = User SDB stored in file system

• 102 = SDB reloaded in SRAM on startup

Reaction: PROFIBUS DP is inactive or operating in accordance with default SDB.

Reactions: - Channel not ready.

- NC Start disable in this channel.

- Interface signals are set.

- Alarm display.

Remedy: • Check MD 11240.

• If SDB source = 100: Reload user SDB in passive file system /_N_IBN_DIR.

• If SDB source = 101: Check backup batteries.

• If SDB source = 102: Follow the procedure described for troubleshooting alarm 380 001.

• If alarm 380 021 is also signaled, please follow the instructions provided for this alarm.

If the error cannot be eliminated by this procedure, please make a note of the error text and contact the control system manufacturer.

Program Continuation: Switch control OFF - ON.

380021 **Profibus-DP: default SDB-Type-2000 was loaded**

Definitions: No user-specific SDB-Type-2000 exists. The default SDB was loaded during startup. Without process peripherals, the NC is reasy for a start-up. The alarm is triggered the first time the NC is switched on or once if the SDB stored in the supported RAM is lost.

Reactions: - Alarm display.

Remedy: Create the user-specific SDB-Type-2000 and load it on the control system, or select and activate it via MD 11240 standard SDB. Restart the NC. If the error occurs the next time the NC is switched on, the SDB which was loaded contains an error and must be created again.

Program Continuation: Clear alarm with the Delete key or NC START.

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380022 **PROFIBUS DP: configuration of DP master bus %1 has been changed**

Parameters: %1 = Number of the affected bus

Definitions: The PROFIBUS configuration on the DP master was changed during operation, e.g. by downloading a new hardware configuration via Step7. Since it is possible that the cycle data have changed, operation cannot be continued and a warm start is required.

If the DP master functionality is within the PLC (as on the 840Di), the PLC will have been stopped for the download and alarm 2000 (PLC sign-of-life) output.

Reactions: - Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: NCK restart

If the error cannot be eliminated by this procedure, please make a note of the error text and contact the control system manufacturer.

Program Continuation: Switch control OFF - ON.

380040 **PROFIBUS DP: bus %3, configuration error %1, parameter %2**

Parameters: %1 = Cause of the error

%2 = Parameter

%3 = Number of the affected bus

Definitions: The PROFIBUS DP was not generated in SDB1000 in accordance with the configuration specifications of the NC in use.

Overview: Cause of the error, Par 1:

• 01 = SDB contains slave without diagnostics slot, Slave address
• 02 = SDB contains too many slot entries, Identifier
• 03 = SDB contains no equidistance data, No fct.

• 20 = SDB contains too many slaves, number of slaves.
• 21 = SDB missing or contains invalid data, error code.
• 22 = SDB configuration data erroneous, slave address, error code
• 23 = reserved
• 24 = reserved
• 25 = reserved
• 26 = reserved
• 27 = reserved
• 28 = reserved
• 29 = reserved

Reactions: - Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Check that the corresponding SDB
• contains a diagnostic slot for every slave and
• contains only slave entries relevant to the application.

In general, it is possible to include a superset of slaves in the SDB that are partially relevant for different end versions of the product. However, this overloads the NC memory and runtime capacity and should therefore be avoided in general.

If this alarm occurs, it is necessary to reduce the SDB to a minimum.

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If the code for the error cause is 03, check that equidistance is activated in the SDB (using STEP7 HW config).

If the alarm continues to occur, please make a note of the error text and contact the control system manufacturer.

Program Continuation: Switch control OFF - ON.

380050 **Profibus-DP: multiple assignment of inputs on address %1**

Parameters: %1 = Logical address

Definitions: Multiple assignments of input data have been detected in the logical address space. Logical address: Base address of the address area defined several times

Reactions:
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: The address partitioning should be checked as follows:

Check for multiple assignments in the following machine data:

• MD 13050[1] - MD 13050[n]: n = highest axis index on control system

• MD 12970, 12971: PLC address area for digital inputs

• MD 12978, 12979: PLC address area for analog inputs

If no inconsistencies can be found in the parameters, compare the machine data with the configuration in SDB-Type-2000. In particular, check that the lengths configured for the individual slots do not result in area overlaps. When you find the cause of the error, change the machine data and/or SDB.

Program Continuation: Switch control OFF - ON.

380051 **Profibus-DP: multiple assignment of outputs on address %1**

Parameters: %1 = Logical address

Definitions: Multiple assignments of input data have been detected in the logical address space. Logical address: Base address of the address area defined several times

Reactions:
- Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: The address partitioning should be checked as follows:

Check for multiple assignments in the following machine data:

• MD 13050[1] - MD 13050[n]: n = highest axis index on control system

• MD 12974, 12975: PLC address area for digital outputs

• MD 12982, 12983: PLC address area for analog outputs

If no inconsistencies can be found in the parameters, compare the machine data with the configuration in SDB-Type-2000. In particular, check that the lengths configured for the individual slots do not result in area overlaps. When you find the cause of the error, change the machine data and/or SDB.

Program Continuation: Switch control OFF - ON.

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380060 **Profibus-DP: alarm %1 on logical address %2 from unassigned station**

Parameters: %1 = Alarm class
%2 = Logical address

Definitions: SDB-Type-2000 contains a slave which is not assigned in the NC via the MD parameters (see the help for alarm 380 050/051). The slave is also connected to the PROFIBUS DP. An alarm has been triggered by a slave of this type.
Alarm class:
• 01 = Station return (or arrival)
• 02 = Station failure
Operation with the NC is not possible.

Reactions: - Alarm display.

Remedy: • Enter machine data or
• Modify SDB or
• Disconnect the slave from PROFIBUS DP or
• Acknowledge the alarm.

Program Continuation: Clear alarm with the Delete key or NC START.

380070 **Profibus DP: no input slot available for base address %1 (length %2)**

Parameters: %1 = Logical base address of the requested area
%2 = Size of the area in bytes

Definitions: An incorrect logical base address was specified for a digital or analog input. Either no slot has been configured for this base address or the requested area extends beyond the end of the slot.
Length=1 indicates a digital input.
Length=2 indicates a analog input.

Reactions: - Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Enter correct base addresses in the machine data:
• For length=1: Correct machine data MN_HW_ASSIGN_DIG_FASTIN.
• For length=2: Correct machine data MN_HW_ASSIGN_ANA_FASTIN.
• NCK restart
If the error cannot be eliminated by this procedure, please make a note of the error text and contact the control system manufacturer.

Program Continuation: Switch control OFF - ON.

380071 **Profibus DP: no output slot available for base address %1 (size %2)**

Parameters: %1 = Logical base address of the requested area
%2 = Size of the area in bytes

Definitions: An incorrect logical base address was specified for a digital or analog input. Either no slot has been configured for this base address or the requested area extends beyond the end of the slot.
For length =1 it is a digital output,
For length =2 it is an analog output.

Reactions: - Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

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Remedy: Enter correct base addresses in the machine data:
- For length=1: Correct machine data MN_HW_ASSIGN_DIG_FASTOUT.
- For length=2: Correct machine data MN_HW_ASSIGN_ANA_FASTOUT.
- NCK restart

If the error cannot be eliminated by this procedure, please make a note of the error text and contact the control system manufacturer.

Program Continuation: Switch control OFF - ON.

380072 **Profibus DP: output slot for base address %1 (size %2) not allowed**

Parameters: %1 = Logical base address of the requested area
%2 = Size of the area in bytes

Definitions: An incorrect logical base address was set for a digital or analog output, the area is resides in the access range of the PLC (PIQ, base addresses < 256).
For length =1 it is a digital output,
For length =2 it is an analog output.

Reactions: - Channel not ready.
- NC Start disable in this channel.
- Interface signals are set.
- Alarm display.

Remedy: Only use addresses >= 256 for output slots.
Enter correct base addresses in the machine data:
- For length=1: Correct machine data MN_HW_ASSIGN_DIG_FASTOUT.
- For length=2: Correct machine data MN_HW_ASSIGN_ANA_FASTOUT.
- NCK restart

If the error cannot be eliminated by this procedure, please make a note of the error text and contact the control system manufacturer.

Program Continuation: Switch control OFF - ON.

380075 **PROFIBUS DP: DP I/O failure bus %2 slave %1**

Parameters: %1 = Slave address
%2 = Number of the affected bus

Definitions: Failure of a PROFIBUS slot used by the NCK for digital or analog I/O.

Reactions: - Alarm display.

Remedy: Check that the PROFIBUS slave is operating correctly (all slaves must be included in the bus, green LED).

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

380500 **Profibus-DP: fault on drive %1, code %2, value %3, time %4**

Parameters: %1 = Axis
%2 = Fault code of drive (P824)
%3 = Fault value of drive (P826)
%4 = Fault time of drive (P948/P825)

Definitions: Contents of fault memory of assigned drive.

Reactions: - Alarm display.

Remedy: See drive documentation for fault codes/fault values.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

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380501 **PROFIBUS DP: fault on bus,slave,DO-Id %1, code %2, value %3, time %4**

Parameters: %1 = 8 bit bus number, 8 bit slave number, 16 bit DO-Id
%2 = Fault code of drive (P947)
%3 = Fault value of the drive (P949)
%4 = Fault time of the drive (P948)

Definitions: Contents of the fault memory of the assigned slave.

Reactions: - Alarm display.

Remedy: See drive documentation for fault codes/fault values.

Program Continuation: Alarm display showing cause of alarm disappears. No further operator action necessary.

380502 **PROFIBUS DP: bus %1, slave %2 configuration changed**

Parameters: %1 = Bus number
%2 = Slave address

Definitions: The PB bus configuration has changed.
Causes:
• Initial start-up
• New PB slave recognized on the bus

Reactions: - Interface signals are set.
- Alarm display.

Remedy: In order to operate the bus with the new configuration, an additional restart will be required.

Program Continuation: Switch control OFF - ON.

380503 **PROFIBUS DP: bus %1 configuration changed**

Parameters: %1 = Bus number

Definitions: A new SDB2000 with a modified configuration was provided.
The new settings will be activated only at the next ramp-up of PROFIBUS.

Reactions: - Interface signals are set.
- Alarm display.

Remedy: In order to operate the bus with the new configuration, an additional restart will be required.

Program Continuation: Switch control OFF - ON.

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2.1 PLC alarms

400102 **Delete DB 2 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400103 **Delete DB 3 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400106 **Delete DB 6 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400109 **Delete DB 9 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400111 **Delete DB 11 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400120 **Delete DB 20 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

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Program Continuation: Internal

400121 **Delete DB 21 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400122 **Delete DB 22 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400123 **Delete DB 23 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400124 **Delete DB 24 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400125 **Delete DB 25 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400126 **Delete DB 26 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

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400127 **Delete DB 27 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400128 **Delete DB 28 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400129 **Delete DB 29 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400130 **Delete DB 30 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400131 **Delete DB 31 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400132 **Delete DB 32 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400133 **Delete DB 33 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

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Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.
Program Continuation: Internal

400134 **Delete DB 34 in the PLC and restart**
Definitions: The DB created by the basic program and the existing DB differ in size.
Reactions: - Alarm display.
Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.
Program Continuation: Internal

400135 **Delete DB 35 in the PLC and restart**
Definitions: The DB created by the basic program and the existing DB differ in size.
Reactions: - Alarm display.
Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.
Program Continuation: Internal

400136 **Delete DB 36 in the PLC and restart**
Definitions: The DB created by the basic program and the existing DB differ in size.
Reactions: - Alarm display.
Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.
Program Continuation: Internal

400137 **Delete DB 37 in the PLC and restart**
Definitions: The DB created by the basic program and the existing DB differ in size.
Reactions: - Alarm display.
Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.
Program Continuation: Internal

400138 **Delete DB 38 in the PLC and restart**
Definitions: The DB created by the basic program and the existing DB differ in size.
Reactions: - Alarm display.
Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.
Program Continuation: Internal

400139 **Delete DB 39 in the PLC and restart**
Definitions: The DB created by the basic program and the existing DB differ in size.
Reactions: - Alarm display.
Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.
Program Continuation: Internal

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400140 **Delete DB 40 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400141 **Delete DB 41 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400142 **Delete DB 42 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400143 **Delete DB 43 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400144 **Delete DB 44 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400145 **Delete DB 45 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400146 **Delete DB 46 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

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Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.
Program Continuation: Internal

400147 Delete DB 47 in the PLC and restart
Definitions: The DB created by the basic program and the existing DB differ in size.
Reactions: - Alarm display.
Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.
Program Continuation: Internal

400148 Delete DB 48 in the PLC and restart
Definitions: The DB created by the basic program and the existing DB differ in size.
Reactions: - Alarm display.
Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.
Program Continuation: Internal

400149 Delete DB 49 in the PLC and restart
Definitions: The DB created by the basic program and the existing DB differ in size.
Reactions: - Alarm display.
Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.
Program Continuation: Internal

400150 Delete DB 50 in the PLC and restart
Definitions: The DB created by the basic program and the existing DB differ in size.
Reactions: - Alarm display.
Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.
Program Continuation: Internal

400151 Delete DB 51 in the PLC and restart
Definitions: The DB created by the basic program and the existing DB differ in size.
Reactions: - Alarm display.
Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.
Program Continuation: Internal

400152 Delete DB 52 in the PLC and restart
Definitions: The DB created by the basic program and the existing DB differ in size.
Reactions: - Alarm display.
Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.
Program Continuation: Internal

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400153 **Delete DB 53 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400154 **Delete DB 54 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400155 **Delete DB 55 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400156 **Delete DB 56 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400157 **Delete DB 57 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400158 **Delete DB 58 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400159 **Delete DB 59 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

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Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.
Program Continuation: Internal

400160 **Delete DB 60 in the PLC and restart**
Definitions: The DB created by the basic program and the existing DB differ in size.
Reactions: - Alarm display.
Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.
Program Continuation: Internal

400161 **Delete DB 61 in the PLC and restart**
Definitions: The DB created by the basic program and the existing DB differ in size.
Reactions: - Alarm display.
Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.
Program Continuation: Internal

400171 **Delete DB 71 in the PLC and restart**
Definitions: The DB created by the basic program and the existing DB differ in size.
Reactions: - Alarm display.
Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.
Program Continuation: Internal

400172 **Delete DB 72 in the PLC and restart**
Definitions: --
Reactions: - Alarm display.
Remedy: See the machine manufacturer's information.
Program Continuation: Internal

400173 **Delete DB 73 in the PLC and restart**
Definitions: The DB created by the basic program and the existing DB differ in size.
Reactions: - Alarm display.
Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.
Program Continuation: Internal

400174 **Delete DB 74 in the PLC and restart**
Definitions: The DB created by the basic program and the existing DB differ in size.
Reactions: - Alarm display.
Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.
Program Continuation: Internal

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400176 **Delete DB 76 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400177 **Delete DB 77 in the PLC and restart**

Definitions: The DB created by the basic program and the existing DB differ in size.

Reactions: - Alarm display.

Remedy: Displayed DB must be deleted via STEP7. Possibly max. program size of the user program exceeded.

Program Continuation: Internal

400201 **PLC STOP due to DB loading in the RUN state: DB%Z**

Parameters: %Z = Data block

Definitions: An existing DB was reloaded in the RUN state.

Reactions: - Alarm display.

Remedy: Restart required.

Program Continuation: Switch control OFF - ON.

400202 **Access error**

Definitions: The data could not be accessed

Reactions: - Alarm display.

Remedy: System error

Program Continuation: Switch control OFF - ON.

400250 **NCK sign-of-life monitoring**

Definitions: NCK has not contacted the PLC during cyclic operation. Timer of FB1 parameter NCCyclTimeout was executed without retrigger.

Reactions: - Alarm display.

Remedy: NCK restart, do not use timer T0 through T9 in the user program.

Program Continuation: Internal

400251 **NCK has not started up**

Definitions: NCK has not contacted the PLC.

NCK has not ramped up.

Acknowledgement error during ramp-up: the time limit entered in OB1 / FB1 under parameter address MCP1Cycl or MCP2Cycl has been exceeded.

Reactions: - Alarm display.

Remedy: Enter the default values in FB1 correctly.

General NCK reset and restart, do not use timer T0 through T9 in the user program.

Increase the time values in FB1.

Program Continuation: Internal

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400252 **Error in internal communication with NCK**

Definitions: An error has occured during data transmission between the PLC and the NCK (FM-NC only).

Reactions: - Alarm display.

Remedy: NCK restart

Program Continuation: Internal

400253 **PLC STOP because of SPL system error**

Definitions: After the interruption of the communication between the NCK and the PLC with regard to the SPL data cross-check, the PLC was switched to STOP with a delay of 5 s.

Reactions: - Alarm display.

Remedy: Do no longer start SPL. Check the system components (PLC must be provided with the correct version of FB15 and with DB18).

Program Continuation: Switch control OFF - ON.

400255 **Sign of life monitoring NCK2**

Definitions: NCK2 has not contacted the PLC during cyclic operation. Timer of FB1 parameter NCCyclTimeout was executed without retrigger. (FM-NC only).

Reactions: - Alarm display.

Remedy: NCK restart

Program Continuation: Internal

400256 **NCK2 has not run up**

Definitions: NCK2 has not run up. NCK has not contacted the PLC. Timer of FB1 parameter NCRunupTimeout has expired. (FM-NC only).

Reactions: - Alarm display.

Remedy: General NCK reset and restart.

Program Continuation: Internal

400257 **Error in internal communication with NCK2**

Definitions: An error has occured during data transmission between the PLC and the NCK. (FM-NC only)

Reactions: - Alarm display.

Remedy: NCK restart

Program Continuation: Internal

400260 **Failure of machine control panel 1**

Definitions: Machine control panel (MCP) at machine control panel interface 1 has failed. Timer of FB1 parameter MCP1Timeout has expired.

Reactions: - Alarm display.

Remedy: Check the connection with the MCP. Do not use timer T0 through T9 in the user program. Increase the value of timer parameter MCP1Timeout. Set MCP1Cycl to the default value.

Program Continuation: Internal

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400261 **Failure of machine control panel 2**

Definitions: Machine control panel (MCP) at machine control panel interface 2 has failed. Timer of FB1 parameter MCP2Timeout has expired.

Reactions: - Alarm display.

Remedy: Check the connection with the MCP. Do not use timer T0 through T9 in the user program. Increase the value of timer parameter MCP2Timeout. Set MCP2Cycl to the default value.

Program Continuation: Internal

400262 **Failure of handheld unit**

Definitions: Handheld unit (HHU) at handheld unit interface has failed. Timer of FB1 parameter HHUTimeout has expired.

Reactions: - Alarm display.

Remedy: Check the connection with the HHU. Do not use timer T0 through T9 in the user program. Increase the value of timer parameter HHU1Timeout. Set HHUCycl to the default value.

Program Continuation: Internal

400264 **Pointer parameter machine control panel 1 incorrect**

Definitions: A pointer is incorrect in the MCP1 parameter range.

Reactions: - Alarm display.

Remedy: Correct the PLC configuration in the FB1 parameters.

Program Continuation: Switch control OFF - ON.

400265 **Pointer parameter machine control panel 2 incorrect**

Definitions: A pointer is incorrect in the MCP 2 parameter range.

Reactions: - Alarm display.

Remedy: Correct the PLC configuration in the FB1 parameters.

Program Continuation: Switch control OFF - ON.

400266 **Pointer parameter handheld unit incorrect**

Definitions: A pointer is incorrect in the HHU parameter range.

Reactions: - Alarm display.

Remedy: Correct the PLC configuration in the FB1 parameters.

Program Continuation: Switch control OFF - ON.

400267 **Access error**

Definitions: MCP or HHU data could not be accessed

Reactions: - Alarm display.

Remedy: Check the MCP or HHU parameters of the FB1.

Program Continuation: Switch control OFF - ON.

400268 **Error in internal communication with machine control panel 1**

Definitions: Communication error between CP and PLC, internal error number: %Z

Reactions: - Alarm display.

Remedy: Check MCP parameter of FB1, MCP1Stop, switch TRUE->FALSE

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Program Continuation: Switch control OFF - ON.

400269 **Error in internal communication with machine control panel 2**

Definitions: Communication error between CP and PLC, internal error number: %Z

Reactions: - Alarm display.

Remedy: Check MCP parameter of FB1, MCP2Stop, switch TRUE->FALSE

Program Continuation: Switch control OFF - ON.

400270 **Error in internal communication with handheld unit**

Definitions: Communication error between CP and PLC, internal error number: %Z

Reactions: - Alarm display.

Remedy: Check HHU parameter of FB1, HHUStop, switch TRUE->FALSE

Program Continuation: Switch control OFF - ON.

400601 **Configuration loading points incorrect**

Definitions: The PLC configuration in the DB4 does not match the NC configuration

Reactions: - Alarm display.

Remedy: Correct tool management start-up

Program Continuation: Switch control OFF - ON.

400602 **Spindle configuration incorrect**

Definitions: The PLC configuration in the DB4 does not match the NC configuration

Reactions: - Alarm display.

Remedy: Correct tool management start-up

Program Continuation: Switch control OFF - ON.

400603 **Revolver configuration incorrect**

Definitions: The PLC configuration in the DB4 does not match the NC configuration

Reactions: - Alarm display.

Remedy: Correct tool management start-up

Program Continuation: Switch control OFF - ON.

400604 **Set change with M06 in the machine data**

Definitions: With the magazine type used (box magazine, chain), changing is possible only with M06. If necessary, also check for impermissible settings at revolver magazines.

Reactions: - Alarm display.

Remedy: Set the value in the channel-specific machine data TOOL_CHANGE_MODE (MD 22550) to 1.

Program Continuation: Internal

400902 **Parameter ChanNo impermissible in FC 9**

Definitions: The parameterized channel does not exist.

Reactions: - Alarm display.

Remedy: Correct the parameter.

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Program Continuation: Switch control OFF - ON.

400903 **Parameter IntNo impermissible in FC 9**

Definitions: The parameterized interrupt does not exist.
Reactions: - Alarm display.
Remedy: Correct the parameter.
Program Continuation: Switch control OFF - ON.

401003 **FC 10 system error 0x8083**

Definitions: System error SFC52 has occurred.
Reactions: - Alarm display.
Remedy: Restart, contact the Siemens AG A&D MC Hotline with the error text.
Program Continuation: Switch control OFF - ON.

401004 **FC 10 system error 0x8084**

Definitions: System error SFC52 has occurred.
Reactions: - Alarm display.
Remedy: Restart, contact the Siemens AG A&D MC Hotline with the error text.
Program Continuation: Switch control OFF - ON.

401005 **FC 10 system error 0x8085**

Definitions: System error SFC52 has occurred.
Reactions: - Alarm display.
Remedy: Restart, contact the Siemens AG A&D MC Hotline with the error text.
Program Continuation: Switch control OFF - ON.

401006 **FC 10 system error 0x8086**

Definitions: System error SFC52 has occurred.
Reactions: - Alarm display.
Remedy: Restart, contact the Siemens AG A&D MC Hotline with the error text.
Program Continuation: Switch control OFF - ON.

401007 **FC 10 system error 0x8087**

Definitions: System error SFC52 has occurred.
Reactions: - Alarm display.
Remedy: Restart, contact the Siemens AG A&D MC Hotline with the error text.
Program Continuation: Switch control OFF - ON.

401502 **Impermissible axis no. parameter in FC 15**

Definitions: The parameterized axis does not exist.
Reactions: - Alarm display.
Remedy: Correct the parameter.
Program Continuation: Switch control OFF - ON.

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401602 **Impermissible axis no. parameter in FC 16**

Definitions: The parameterized axis does not exist.
Reactions: - Alarm display.
Remedy: Correct the parameter.
Program Continuation: Switch control OFF - ON.

401702 **Impermissible spindle IF no. parameter in FC 17**

Definitions: The parameterized spindle does not exist.
Reactions: - Alarm display.
Remedy: Correct the parameter.
Program Continuation: Switch control OFF - ON.

401805 **Impermissible axis no. parameter in FC 18**

Definitions: The parameterized axis / spindle does not exist.
Reactions: - Alarm display.
Remedy: Correct the parameter.
Program Continuation: Switch control OFF - ON.

401901 **Parameter BAGNo impermissible in FC19**

Definitions: The parameterized mode group, channel does not exist.
Reactions: - Alarm display.
Remedy: Correct the parameter.
Program Continuation: Switch control OFF - ON.

401902 **Parameter ChanNo impermissible in FC19.**

Definitions: The parameterized channel does not exist.
Reactions: - Alarm display.
Remedy: Correct the parameter.
Program Continuation: Switch control OFF - ON.

402401 **Parameter BAGNo impermissible in FC24**

Definitions: The parameterized mode group, channel does not exist.
Reactions: - Alarm display.
Remedy: Correct the parameter.
Program Continuation: Switch control OFF - ON.

402402 **Parameter ChanNo impermissible in FC24.**

Definitions: The parameterized mode group, channel does not exist.
Reactions: - Alarm display.
Remedy: Correct the parameter.
Program Continuation: Switch control OFF - ON.

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402501 **Parameter BAGNo impermissible in FC25**

Definitions: The parameterized mode group, channel does not exist.

Reactions: - Alarm display.

Remedy: Correct the parameter.

Program Continuation: Switch control OFF - ON.

402502 **Parameter ChanNo impermissible in FC25.**

Definitions: The parameterized mode group, channel does not exist.

Reactions: - Alarm display.

Remedy: Correct the parameter.

Program Continuation: Switch control OFF - ON.

402601 **Parameter BAGNo impermissible in FC26**

Definitions: The parameterized mode group, channel does not exist.

Reactions: - Alarm display.

Remedy: Correct the parameter.

Program Continuation: Switch control OFF - ON.

402602 **Parameter ChanNo impermissible in FC26**

Definitions: The parameterized mode group, channel does not exist.

Reactions: - Alarm display.

Remedy: Correct the parameter.

Program Continuation: Switch control OFF - ON.

410141 **TM: Too many loading points**

Definitions: The PLC configuration in the DB4 has more than 32 loading points

Reactions: - Alarm display.

Remedy: Correct tool management start-up

Program Continuation: Switch control OFF - ON.

410142 **TM: Too many toolholders**

Definitions: The PLC configuration in the DB4 has more than 32 toolholders

Reactions: - Alarm display.

Remedy: Correct tool management start-up

Program Continuation: Switch control OFF - ON.

410143 **TM: Too many revolvers**

Definitions: The PLC configuration in the DB4 has more than 32 revolvers

Reactions: - Alarm display.

Remedy: Correct tool management start-up

Program Continuation: Switch control OFF - ON.

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410150 **Area in M group decoder list is too large**

Definitions: Number of M groups in PLC too large.
Reactions: - Alarm display.
Remedy: Reduce the number of groups
Program Continuation: Internal

410151 **Magazine data for tool management missing in the PLC**

Definitions: Magazine data are not available in the PLC. The start-up has not been completed, although the option TOOLMAN has been activated.
Reactions: - Alarm display.
Remedy: Softkey Create PLC Data must be pressed during TOOLMAN start-up via MMC 103. Data in data block DB4 must be set from DBB64 in MMC 100.
Program Continuation: Internal

410160 **PROFIBUS configuration is too large for DP1**

Definitions: Internal data area is too large for PROFIBUS configuration.
Reactions: - Alarm display.
Remedy: Define and load a smaller PROFIBUS configuration
Program Continuation: Internal

410900 **M:N: call waiting was not continued**

Definitions: The switchover sequence started was not completed
Reactions: - Alarm display.
Remedy: Reactuate channel menu on HMI
Program Continuation: Internal

410901 **M:N: HMI 1 does not respond to displacement**

Definitions: The HMI that is to be switched over does not respond
Reactions: - Alarm display.
Remedy: Reactuate channel menu on HMI
Program Continuation: Internal

410902 **M:N: HMI 1 does not go offline**

Definitions: The HMI that is to be switched over does not respond
Reactions: - Alarm display.
Remedy: Reactuate channel menu on HMI
Program Continuation: Internal

410903 **M:N: HMI 2 does not respond to displacement**

Definitions: The HMI that is to be switched over does not respond
Reactions: - Alarm display.
Remedy: Reactuate channel menu on HMI
Program Continuation: Internal

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410904 **M:N: HMI 2 does not go offlin**

Definitions: The HMI that is to be switched over does not respond
Reactions: - Alarm display.
Remedy: Reactuate channel menu on HMI
Program Continuation: Internal

410905 **M:N: No HMI link to assigned interface**

Definitions: The HMI to be switched over is not connecting to the NC
Reactions: - Alarm display.
Remedy: Reactuate channel menu on HMI
Program Continuation: Internal

410906 **M:N: No sign of life of an HMI**

Definitions: Link to NC disconnected
Reactions: - Alarm display.
Remedy: Check connection to HMI
Program Continuation: Internal

411101 **Impermissible Parameter Axis in FB11**

Definitions: Axis parameter not within the permissible range.
Reactions: - Alarm display.
Remedy: Use permissible axis number.
Program Continuation: Internal

411501 **Incorrect version of FB 15, > general reset, do not transmit FB 15 from project**

Definitions: FB 15 does not match the basic program used.
Reactions: - Alarm display.
Remedy: General PLC reset. Use correct version of the basic program.
Program Continuation: Internal

411502 **Incorrect basic PLC program version**

Definitions: FB 15 does not match the basic program used.
Reactions: - Alarm display.
Remedy: Load the basic program that matches the NCK version.
Program Continuation: Internal

428201 **Diagnostic alarm**

Definitions: OB82 or OB86 has been triggered.
Reactions: - Alarm display.
Remedy: Rectify the cause of the error displayed
Program Continuation: Switch control OFF - ON.

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428601 **Module failure of the expansion unit**

Definitions: OB82 or OB86 has been triggered.
Reactions: - Alarm display.
Remedy: Rectify the cause of the error displayed
Program Continuation: Switch control OFF - ON.

428602 **Recurrence of module failure of the expansion unit**

Definitions: OB82 or OB86 has been triggered.
Reactions: - Alarm display.
Remedy: Rectify the cause of the error displayed
Program Continuation: Switch control OFF - ON.

428603 **Module failure of the DP master**

Definitions: OB82 or OB86 has been triggered.
Reactions: - Alarm display.
Remedy: Rectify the cause of the error displayed
Program Continuation: Switch control OFF - ON.

428604 **Failure of a DP slave**

Definitions: OB82 or OB86 has been triggered.
Reactions: - Alarm display.
Remedy: Rectify the cause of the error displayed
Program Continuation: Switch control OFF - ON.

428605 **Fault in a DP slave**

Definitions: OB82 or OB86 has been triggered.
Reactions: - Alarm display.
Remedy: Rectify the cause of the error displayed
Program Continuation: Switch control OFF - ON.

428606 **Expansion unit recurrence, parameterization error**

Definitions: OB82 or OB86 has been triggered.
Reactions: - Alarm display.
Remedy: Rectify the cause of the error displayed
Program Continuation: Switch control OFF - ON.

428607 **DP slave recurrence, parameterization error**

Definitions: OB82 or OB86 has been triggered.
Reactions: - Alarm display.
Remedy: Rectify the cause of the error displayed
Program Continuation: Switch control OFF - ON.

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428608 **DP slave recurrence, discrepancy between preset and actual configurations**

Definitions: OB82 or OB86 has been triggered.
Reactions: - Alarm display.
Remedy: Rectify the cause of the error displayed
Program Continuation: Switch control OFF - ON.

800000 **Error: HiGraph group no. %A graph no. %N status %Z**

Definitions: -
Reactions: - Alarm display.
Remedy: -
Program Continuation: Internal

810001 **Error OB event, error analysis via STEP7 required**

Definitions: Reduced PLC error message. STEP7 is required for exact analysis.
Reactions: - Alarm display.
Remedy: Diagnose with STEP7.
Program Continuation: Internal

810002 **Synchronous error, error analysis via STEP7 required**

Definitions: Reduced PLC error message. STEP7 is required for exact analysis.
Reactions: - Alarm display.
Remedy: Diagnose with STEP7.
Program Continuation: Internal

810003 **Asynchronous error, error analysis via STEP7 required**

Definitions: Reduced PLC error message. STEP7 is required for exact analysis.
Reactions: - Alarm display.
Remedy: Diagnose with STEP7.
Program Continuation: Internal

810004 **Stop/abort event, error analysis via STEP7 required**

Definitions: Reduced PLC error message. STEP7 is required for exact analysis.
Reactions: - Alarm display.
Remedy: Diagnose with STEP7.
Program Continuation: Internal

810005 **Operational state sequence event, error analysis via STEP7 required**

Definitions: Reduced PLC error message. STEP7 is required for exact analysis.
Reactions: - Alarm display.
Remedy: Diagnose with STEP7.
Program Continuation: Internal

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810006 **Error communication event, error analysis via STEP7 required**

Definitions: Reduced PLC error message. STEP7 is required for exact analysis.
Reactions: - Alarm display.
Remedy: Diagnose with STEP7.
Program Continuation: Internal

810007 **Error H/F system event, error analysis via STEP7 required**

Definitions: Reduced PLC error message. STEP7 is required for exact analysis.
Reactions: - Alarm display.
Remedy: Diagnose with STEP7.
Program Continuation: Internal

810008 **Error diagnostics data from modules, error analysis via STEP7 required**

Definitions: Reduced PLC error message. STEP7 is required for exact analysis.
Reactions: - Alarm display.
Remedy: Alarm display, PLC Stop if required.
Program Continuation: Internal

810009 **User diagnostics event, error analysis via STEP7 required**

Definitions: Reduced PLC error message. STEP7 is required for exact analysis.
Reactions: - Alarm display.
Remedy: Diagnose with STEP7.
Program Continuation: Internal

830000 **Message: HiGraph group no. %A graph no. %N status %Z**

Definitions: -
Reactions: - Alarm display.
Remedy: -
Program Continuation: Internal

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List of Action Numbers 3

The following list describes the actions stated in the alarm texts under "Action %.." according to their numbers.

No. 1

Explanation	Run Init phase (tasks are initialized after power on).
Not allowed if	-
Remedy	-

No. 2

Explanation	Perform reset (VDI signal: Reset, mode group reset or after power on).
Not allowed if	-
Remedy	-

No. 3

Explanation	Activate Reset Init blocks (VDI signal: Reset).
Not allowed if	-
Remedy	-

No. 4

Explanation	Perform reset, end of program has been detected (NC block with M30).
Not allowed if	-
Remedy	-

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No. 5

Explanation: Change the mode to the MDI or AUTOMATIC program operating mode (VDI signal: Mode group).

Not allowed if:
1. The channel is active (program running, block search, loading machine data)
2. The other program operating mode has already been started.
3. A channel has exited the mode group due to an interrupt.
4. Overstore or digitizing has been selected.

Remedy:
- Abort the program (Reset key)
- Abort the program with the Reset key or stop the program (not with block search, loading MD)
- Abort the program with the Reset key or wait until the interrupt is terminated.
- Deactivate overstore/digitizing.

No. 6

Explanation: Automatic change from an internal mode to the mode set externally (with TEACH_IN, an attempt is made after every stop to change from the internal mode "AUTOMATIC, MDI" to TEACH_IN).

Not allowed if: -

Remedy: -

No. 7

Explanation: Change the mode to a manual mode
(VDI signal (mode group): JOG, TEACH_IN, REF).

Not allowed if:
1. Nesting depth too great:
   The current processing operation can be interrupted by various events (e.g. interrupt). Depending on the event, ASUBs are activated.
   These ASUBs can be interrupted in the same manner as the user program. Unlimited nesting depth is not possible for ASUBs due to memory limitations. Example: An interrupt interrupts the current program processing. Further interrupts of higher priority interrupt processing of the previously activated asynchronous subroutines.
2. The channel is active (program running, block search, loading machine data).
3. A channel has exited the mode group due to an interrupt.
4. Overstore or digitizing has been selected.

Remedy:
- Abort the program with the Reset key
- Abort the program with the Reset key or stop the program (not with block search, loading MD)
- Abort the program with the Reset key or wait until the interrupt is terminated.
- Deactivate overstore/digitizing.

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No. 8

Explanation	Activate overstore (PI command).
Not allowed if	-
Remedy	-

No. 9

Explanation	Activate overstore (PI command).
Not allowed if	-
Remedy	-

No. 10

Explanation	Perform user interrupt "ASUB" (VDI signal: Digital-analog interface, ASUB interface).
Not allowed if	1. the channel is active due to block search or loading machine data 2. the channel is stopped and the asynchronous subroutine "ASUP_START_MASK" must be started and the current block cannot be reorganized. 3. digitizing has been selected. 4. reference point approach has not been performed yet. 5. the active block, after which deceleration takes place, cannot be reorganized (occurs when deceleration takes place over several blocks).
Remedy	– Wait until the block search or loading MD is completed, or abort program (Reset key) – Activate a block change until the NC block can be reorganized. – Deactivate digitizing – Perform reference point approach or ignore this state via the MD "ASUP_START_MASK". – Abort program

No. 11

Explanation	Perform "ASUB" user interrupt with rapid retraction (VDI signal: Digital-analog interface).
Not allowed if	See 10
Remedy	-

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No. 12

Explanation	Perform a user interrupt at the end of the block (VDI signal: ASUB interface, digital-analog interface).
Not allowed if	See 10
Remedy	-

No. 13

Explanation	Perform a rapid retraction (VDI signal: Digital-analog interface and ASUB interface, for further actions see 10, 11, 12, 85, 86).
Not allowed if	-
Remedy	-

No. 14

Explanation	Move tool - only with tool management (PI command).
Not allowed if	-
Remedy	-

No. 15

Explanation	Perform deletion of distance-to-go or axis synchronization (VDI signal: deletion of distance-to-go or follow-up mode) (follow-up mode: e.g. on activation of axis motion).
Not allowed if	1. nesting depth too great 2. the active block, after which deceleration takes place, cannot be reorganized (occurs when deceleration takes place over several blocks).
Remedy	Abort program

No. 16

Explanation	Abort repetition of subroutine (VDI signal: Delete number of subroutine repetitions).
Not allowed if	1. Nesting depth too great 2. the active block, after which deceleration takes place, cannot be reorganized (occurs when deceleration takes place over several blocks).
Remedy	Abort program

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No. 17

Explanation	Abort subroutine processing (VDI signal: Program level abort).
Not allowed if	1. Nesting depth too great 2. the active block, after which deceleration takes place, cannot be reorganized (occurs when deceleration takes place over several blocks).
Remedy	Abort program

No. 18

Explanation	Activate single block (VDI signal: Activate single block).
Not allowed if	-
Remedy	-

No. 19

Explanation	Deactivation of single block (VDI signal: Activate single block).
Not allowed if	-
Remedy	-

No. 20

Explanation	Activate main run single block (OPI variable and VDI signal: Activate single block).
Not allowed if	-
Remedy	-

No. 21

Explanation	Activate decoding single block (OPI variable and VDI signal: Activate single block).
Not allowed if	1. Nesting depth too great 2. The active block, after which deceleration takes place, cannot be reorganized (occurs when deceleration takes place over several blocks).
Remedy	– Wait until the preceding asynchronous subroutine is terminated or abort the program – Abort program

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No. 22

Explanation	Activate main run single block (OPI variable and VDI signal: Activate single block
Not allowed if	-
Remedy	-

No. 23

Explanation	Activate traversing single block (OPI variable and VDI signal: Activate single block)
Not allowed if	-
Remedy	-

No. 24

Explanation	Start program processing (VDI signal: NC Start).
Not allowed if	Program status active. An alarm reaction is pending which prevents a start or forces braking. Reference point approach has not been performed yet.
Remedy	– Execute condition for clearing alarm – Reference point approach

No. 25

Explanation	Start program processing (channel communication, NC block: Start).
Not allowed if	1. Program status active. 2. An alarm reaction is pending which prevents a start or forces braking. 3. Reference point approach has not been performed yet. 4. An incorrect operating mode has been selected. (only Automatic).
Remedy	– Protect Start with WAITE – Execute condition for clearing alarm. – Reference point approach – Select program operating mode

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No. 26

Explanation	Start continuation of program processing (VDI signal: NC Start).
Not allowed if	1. Program status active. 2. An alarm reaction is pending which prevents a start or forces braking. 3. Reference point approach has not been performed yet.
Remedy	– Execute condition for clearing alarm. – Reference point approach

No. 27

Explanation	Start continuation of the selected process (JOG, reference point or digitizing) (VDI signal: NC Start).
Not allowed if	1. Jog motion active 2. An alarm reaction is pending which prevents a start or forces braking.
Remedy	Execute condition for clearing alarm.

No. 28

Explanation	Start processing in the digitizing submode (VDI signal: NC Start).
Not allowed if	1. Jog motion active 2. An alarm reaction is pending which prevents a start or forces braking. 3. Reference point approach has not been performed yet.
Remedy	– Execute condition for clearing alarm. – Reference point approach

No. 29

Explanation	Stop all axes (VDI signal: Stop All or with Reset key)
Not allowed if	-
Remedy	-

No. 30

Explanation	Perform a program stop (NC block: M0)
Not allowed if	-
Remedy	-

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No. 31

Explanation	Stop the JOG motion (VDI signal: NC Stop)
Not allowed if	-
Remedy	-

No. 32

Explanation	Stop digitizing processing (VDI signal: NC Stop).
Not allowed if	-
Remedy	-

No. 33

Explanation	Start selected processing (VDI signal: NC Start).
Not allowed if	Process change active (operating mode change, activate/deactivate digitizing/overstore) An alarm reaction is pending which prevents a start or forces braking. A process is running (NC program, block search, loading machine data)
Remedy	Execute condition for clearing alarm

No. 34

Explanation	Stop the active processing (VDI signal: NC Stop).
Not allowed if	-
Remedy	-

No. 35

Explanation	Start machine data processing (INI file is already in the NCK) (PI command).
Not allowed if	-
Remedy	-

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No. 36

Explanation	Start machine-data processing (INI file is located externally, e.g., on MMC) (PI command).
Not allowed if	-
Remedy	-

No. 37

Explanation	Stop because of mode group single block. VDI signal, single type A (only executable blocks), after stop in another channel in this mode group.
Not allowed if	-
Remedy	-

No. 38

Explanation	Stop because of mode group single block. VDI signal, single type B (any blocks), after stop at end of block in another channel in this mode group.
Not allowed if	-
Remedy	-

No. 39

Explanation	Stop because end of overstore buffer "_N_OSTOREXX_SYF" has been reached.
Not allowed if	-
Remedy	-

No. 40

Explanation	Start preprocessing (NC block: Stopre)
Not allowed if	-
Remedy	-

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No. 40

Explanation	Stop processing at block end (NC block: M00/M01).
Not allowed if	-
Remedy	-

No. 41

Explanation	Stop processing at block end (NC block: M00/M01).
Not allowed if	-
Remedy	-

No. 42

Explanation	Stop processing at block end (alarm, VDI signal: NC Stop at block limit).
Not allowed if	-
Remedy	-

No. 43

Explanation	Stop at end of ASUB, if start was performed from "stopped".
Not allowed if	-
Remedy	-

No. 44

Explanation	Activate program (PI command)
Not allowed if	-
Remedy	-

No. 45

Explanation	Activate the program which is still external (PI command)
Not allowed if	-
Remedy	-

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No. 46

Explanation	Program selection from another channel (channel communication, NC block: INIT).
Not allowed if	-
Remedy	-

No. 47

Explanation	Save definition of an ASUB, which can be activated (PI command)
Not allowed if	-
Remedy	-

No. 48

Explanation	Sets all machine data with the attribute (NEW_CONF) to active (PI command)
Not allowed if	-
Remedy	-

No. 49

Explanation	Clear all alarms with the clear condition CANCELCLEAR (PI command, Acknowledge Alarm key).
Not allowed if	-
Remedy	-

No. 50

Explanation	Continue block search (NC block, Stopre)
Not allowed if	-
Remedy	-

No. 51

Explanation	Start block search.(PI command)
Not allowed if	-
Remedy	-

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No. 52

Explanation	Continue block search (PI command)
Not allowed if	-
Remedy	-

No. 53

Explanation	Activate digitizing (PI command)
Not allowed if	-
Remedy	-

No. 54

Explanation	Deactivate digitizing (PI command)
Not allowed if	-
Remedy	-

No. 55

Explanation	Switch on function generator (PI command)
Not allowed if	-
Remedy	-

No. 56

Explanation	Switch off function generator (PI command)
Not allowed if	-
Remedy	-

No. 57

Explanation	Wait for a program marker (channel communication, NC block: WAITM).
Not allowed if	-
Remedy	-

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No. 58

Explanation	Wait for end of program (channel communication, NC block: WAITE).
Not allowed if	-
Remedy	-

No. 59

Explanation	Program selection from another channel, synchronously (channel communication, NC block: INIT + SYNC).
Not allowed if	-
Remedy	-

No. 60

Explanation	Wait until acknowledgement from MMC (NC block, MMC_CMD)
Not allowed if	-
Remedy	-

No. 61

Explanation	Activate the skip-block function (VDI signal: Skip block).
Not allowed if	Nesting depth too great.
Remedy	– Wait until the preceding ASUB is complete or – Abort program

No. 62

Explanation	Deactivate the skip-block function (VDI signal: Skip block).
Not allowed if	Nesting depth too great.
Remedy	– Wait until the preceding ASUB is complete or – Abort program

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No. 63

Explanation	Activate test run (VDI signal: Rapid traverse override)
Not allowed if	1. Nesting depth too great 2. the active block, after which deceleration takes place, cannot be reorganized (occurs when deceleration takes place over several blocks).
Remedy	– Wait until the preceding ASUB is complete or abort the program. – Abort program

No. 64

Explanation	Deactivate test run (VDI signal: Rapid traverse override)
Not allowed if	1. Nesting depth too great 2. the active block, after which deceleration takes place, cannot be reorganized (occurs when deceleration takes place over several blocks).
Remedy	– Wait until the preceding ASUB is complete or abort the program. – Abort program

No. 65

Explanation	Activate read-in disable for main run block (VDI signal: Read-in disable).
Not allowed if	-
Remedy	-

No. 66

Explanation	Deactivate read-in disable for main run block (VDI signal: Read-in disable).
Not allowed if	-
Remedy	-

No. 67

Explanation	Stop at block end (alarm)
Not allowed if	-
Remedy	-

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No. 68

Explanation	Stop all axes (alarm)
Not allowed if	-
Remedy	-

No. 69

Explanation	Activate program test (VDI signal: Program test).
Not allowed if	Tool management is active. The NCK channel is in a state other than "ready".
Remedy	Backing up tool data Abort the program or process with the Reset key or wait for end of program.

No. 70

Explanation	Deactivate program test (VDI signal: Program test).
Not allowed if	The NCK channel is in a state other than "ready".
Remedy	Abort the program or process with the Reset key or wait for end of program.

No. 71

Explanation	Stop at the end of block preparation (alarm)
Not allowed if	-
Remedy	-

No. 72

Explanation	Stop at the end of block preparation with subsequent reorganization of block processing (alarm)
Not allowed if	Nesting depth too great.
Remedy	Wait until the preceding ASUB is complete or abort the program.

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No. 73

Explanation	Conditional stop at block end. If, after continuation by means of an NC Start, there is still a reason to stop "Stop at block end", the program stops again.
Not allowed if	-
Remedy	-

No. 74

Explanation	Conditional stop at block end. (Despite the start, the interpreter or the preprocessing does not manage to put a block in main run)
Not allowed if	-
Remedy	-

No. 75

Explanation	Stop preprocessing (alarm)
Not allowed if	-
Remedy	-

No. 76

Explanation	Retraction with G33 and Stop
Not allowed if	-
Remedy	-

No. 77

Explanation	Conditional wait for program marker (NC block: WAITMC).
Not allowed if	-
Remedy	-

No. 78

Explanation	Set marker (NC block: SETM).
Not allowed if	-
Remedy	-

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No. 79

Explanation	Clear marker (NC_block: CLEARM).
Not allowed if	-
Remedy	-

No. 80

Explanation	Selection of an NC block (PI command)
Not allowed if	-
Remedy	-

No. 81

Explanation	Disable the NC program which is currently being processed for editing (PI command)
Not allowed if	-
Remedy	-

No. 82

Explanation	Start a program in the TEACH IN submode (VDI signal: NC Start).
Not allowed if	See 33 and 5
Remedy	-

No. 83

Explanation	Start a program in the TEACH IN submode (VDI signal: NC Start).
Not allowed if	See 33 and 5
Remedy	-

No. 84

Explanation	Reorganize block processing
Not allowed if	-
Remedy	-

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No. 85

Explanation	Activate an "ASUB" user interrupt in a manual mode (VDI signal: ASUB interface, digital-analog interface).
Not allowed if	See 10
Remedy	-

No. 86

Explanation	Activate an "ASUB" user interrupt. Is only executed if the channel is in the READY status (VDI signal: ASUB interface, digital-analog interface).
Not allowed if	See 10
Remedy	-

No. 87

Explanation	Perform an "ASUB" user interrupt (VDI signal: ASUB interface, digital-analog interface; for further actions see 10, 11, 12, 85, 86)
Not allowed if	-
Remedy	-

No. 88

Explanation	Start program processing (VDI signal: Mode group stop).
Not allowed if	-
Remedy	-

No. 89

Explanation	Activate all machine data with the attribute (NEW_CONF) (NC_block: NEW_CONF).
Not allowed if	-
Remedy	-

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No. 90

Explanation	Activate all machine data with the attribute (NEW_CONF) (NC_block: NEW_CONF with block search).
Not allowed if	-
Remedy	-

No. 91

Explanation	Start continuation of interpreter processing (internal preprocessing stop)
Not allowed if	-
Remedy	-

No. 92

Explanation	Save interlock for data.
Not allowed if	The channel is not in the "stopped" state.
Remedy	-

No. 93

Explanation	Activate user data, e.g., via MMC; newly modified tool lengths become active immediately in the running program
Not allowed if	1. The channel is not in the "stopped" state. 2. The channel is stopped and the current block cannot be reorganized.
Remedy	– Press the Stop/Single-Block/Reset/StopAtEnd (Automatic) key. – Activate a block change until the NC block can be reorganized.

No. 94

Explanation	Write the user PLC version to the version file.
Not allowed if	-
Remedy	-

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No. 95

Explanation	Switch measuring systems (PI command).
Not allowed if	-
Remedy	-

No. 96

Explanation	Shut down system (VDI signal).
Not allowed if	-
Remedy	-

No. 97

Explanation	Activate block search PI (program invocation) in mode 5. This mode simulates the block search, in which the program under "Program test operation" is processed as far as the target of the block search.
Not allowed if	-
Remedy	-

No. 98

Explanation	Extended stop and retract
Not allowed if	-
Remedy	-

No. 99

Explanation	Block search (general) is currently being activated (negative acknowledgement may be output for PI service).
Not allowed if	-
Remedy	-

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No. 100

Explanation	Integrated block search, i.e., a block search is restarted on a stopped program.
Not allowed if	-
Remedy	-

No. 101

Explanation	External zero offset is activated via the PLC. Movement is stopped, a Reorg is performed, the interpreter is switched over and then selected using REPOS and continued automatically.
Not allowed if	1. The channel is not in AUTO or MDI 2. The channel is stopped and the current block cannot be reorganized.
Remedy	– Select Auto or MDI – Activate a block change until the NC block can be reorganized.

No. 102

Explanation	Single block type 3 is activated. With single block type 3, a stop is performed at all main blocks. Unlike single block type 1, the part program command SBLOF is ignored.
Not allowed if	-
Remedy	-

No. 103

Explanation	Stopping of a single axis movement (VDI signal)
Not allowed if	The axis is not controlled by the PLC (exception old reaction with oscillation axis).
Remedy	-

No. 104

Explanation	Stopping of a single axis movement by an alarm
Not allowed if	the axis is not controlled by the PLC. (exception old reaction with oscillation axis).
Remedy	-

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No. 105

Explanation	Continuation of a single-axis movement (VDI signal).
Not allowed if	The axis has not been stopped previously. Not for all axis types at present.
Remedy	-

No. 106

Explanation	Interruption of a single-axis movement (VDI signal).
Not allowed if	the axis is not controlled by the PLC. Not for all axis types at present.
Remedy	-

No. 107

Explanation	Deletion of distance-to-go of a single-axis movement (VDI signal).
Not allowed if	the axis is not controlled by the PLC. Not for all axis types at present.
Remedy	-

No. 108

Explanation	Activation: Axis is now controlled by the PLC (VDI signal).
Not allowed if	the axis is not controlled by the PLC. Not for all axis types at present.
Remedy	-

No. 109

Explanation	Deactivate: Axis is now controlled by the PLC (VDI signal).
Not allowed if	the axis is not controlled by the PLC. Not for all axis types at present.
Remedy	-

No. 115

Explanation	The event is triggered by the positive PLC edge of the "Repos-Mode-Edge" signal.
Not allowed if	The channel is active (program running, block search, loading machine data).
Remedy	Abort the program with the Reset key or stop the program (not with block search, loading machine data).

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No. 116

Explanation	Activate tool-management commands (Ch. VDI signal).
Not allowed if	The NCK channel is in a state other than "ready".
Remedy	Abort the program or process with the Reset key or wait for end of program.

No. 117

Explanation	Deactivate tool-management commands (Ch. VDI signal).
Not allowed if	The NCK channel is in a state other than "ready".
Remedy	Abort the program or process with the Reset key or wait for end of program.

No. 118

Explanation	Selection of desired safety limitations (SGE) (always allowed).
Not allowed if	-
Remedy	-

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Error Codes of Alarm 300500

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After the error codes 1 listed below an error code 2 may be specified. This must be interpreted as the hexadecimal number of the terminal block/module.

Error code	**0001H**
Error text	Error in P:-RAM
Extension 1	-
Extension 2	Incorrect address
Explanation	When the program memory was being tested during power-up, it was detected that the written bitmap could not be read back. Cause: Hardware error on control module. Error only occurs with drive software V1.x (EPROM version). The error has been replaced by system errors F034 and F035 in subsequent download versions.
Remedy	Replace the control module

Error code	**0002H**
Error text	Error in X: or Y:-RAM
Extension 1	-
Extension 2	Incorrect address
Explanation	When the data memory was being tested during power-up, it was detected that the written bitmap could not be read back. Cause: Hardware error on control module.
Remedy	Replace the control module

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Error code **0003H**

Error text Computing time overrun

Extension 1
1 = Bit 0 : Level 3 time slice (MONCYC) (MD 1300)
2 = Bit 1 : 4 msec time slice
4 = Bit 2 : 1 msec time slice
8 = Bit 3 : PC time slice
10 = Bit 4 : SC time slice (MD 1001)
20 = Bit 5 : IC time slice (MD 1000)
40 = Bit 6 : SI time slice (MD 1300)
A0 = Startup, synchronization
B0 = Background computing time

Extension 2 -

Explanation The computing time of the drive processor is no longer sufficient for the selected functions in the specified cycle times. This error normally only occurs in conjunction with startup functions in the case of default values (FFT measurement, step response).
SINUMERIK Safety Integrated: Monitoring cycle too short.

Remedy
- Deactivate emergency retraction (MD 1636).
- Switch off feedforward control (MD 1004.0).
- Deactivate MIN-MAX memory (MD 1650.0).
- Reduce the number of DAC output channels (max. 1 channel).
- Deactivate variable signaling function (MD 1620.0).
- Deactivate encoder phase error compensation (MD 1011.1).
- Increase the position control cycle time on the NC.
- Increase the time slice during which the system error occurred or
- Increase lower-level time slices.
- Deselect functions, which are no longer required.
- Use performance instead of standard control module.

Error code **0004H**

Error text Servo sign-of-life monitoring not updated.

Extension 1 -

Extension 2 -

Explanation Upon servo enable, the NC must update the sign-of-life monitoring in each position control cycle. In case of error, sign-of-life monitoring has not been updated for at least two consecutive position control cycles.

Causes: NC failure, communication failure on the drive bus. Hardware error on drive module or hardware error on NC CPU if error occurs sporadically at intervals of several hours.

Remedy Check cable connections, perform remedial measures (check shielding or ground connection). Replace the NC hardware, replace the control module. Replace the NC CPU with the "VB" version, replace the control module.

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Error code	**0005H**
Error text	Error in state switch cabinet
Extension 1	1A : DS <> 1 with CS = 0 (DS = defined/specified state, CS = current/actual state) 2A : DS <> 1, 2, 3, 4, 5 2B : DS-CS <> 0, 1 2C : DS = 3 on PO parameterization error 3A : DS <> 1, 2, 3, 4, 5 3B : DS-CS <> 0, 1
Extension 2	-
Explanation	The power-up of the drive modules is grouped into 5 states (steps). The states are specified consecutively by the NC and acknowledged by the drive. An error occurs when an invalid specified state is detected in the drive.
Remedy	Check cable connections, perform remedial measures (check shielding or ground connection). Replace the control module, replace the NC hardware.

Error code	**0006H**
Error text	Background loop exited.
Extension 1	-
Extension 2	-
Explanation	The infinite loop for processing communication has been exited. The cause is probably a hardware error on the control module.
Remedy	Replace the control module

Error code	**0007H**
Error text	Synchronization failed
Extension 1	-
Extension 2	-
Explanation	An illegal state was read by the hardware during the cycle synchronization of the NC and the drive. Synchronization could not be performed.
Remedy	Replace the control module

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Error code	**0010H**
Error text	Stack overrun
Extension 1	1 = Hardware underflow 2 = Hardware overflow 3 = Software underflow 4 = Software overflow
Extension 2	-
Explanation	The limits of the internal processor hardware stack or of software stack in the data memory have been violated. The cause is probably a hardware error on the control module.
Remedy	Reload drive software. Replace the control module.

Error code	**0011H**
Error text	NMI due to watchdog
Extension 1	Opcode address
Extension 2	-
Explanation	The watchdog on the control module has timed out. The cause is a hardware error in the time base on the control module.
Remedy	Replace the control module.

Error code	**0012H**
Error text	NMI due to clock cycle failure
Extension 1	-
Extension 2	-
Explanation	The NC basic cycle, which is generated on the NC and transferred to the drive via the drive bus cable, has failed. Possible causes: NCK reset, EMC interference, NC hardware error, cable break on the drive bus, hardware error on the control module.
Remedy	Check the drive bus cable and cable connections, perform remedial measures (check shielding or ground connection). Replace the NC hardware, replace the control module.

Error code	**0013H**
Error text	Clock cycle came too early
Extension 1	-

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Extension 2	-
Explanation	The NC basic cycle which is generated on the NC and transferred to the drive via the drive bus cable has supplied a pulse which does not match the clock timing. Possible causes: EMC interference on drive bus, NC hardware error, hardware error on the control module.
Remedy	Check the drive bus cable and cable connections, perform remedial measures (check shielding or ground connection). Replace the NC hardware, replace the control module.

Error code	**0014H**
Error text	Illegal Opcode, Trace, SWI, NMI (DSP)
Extension 1	Incorrect address
Extension 2	-
Explanation	The processor has detected an illegal command in the program memory.
Remedy	Replace the control module.

Error code	**0015H**
Error text	Error in checksum test
Extension 1	-
Extension 2	As of Version 4.0: Segment of the faulty code / data area, whereby: 0: P: memory 1: X: memory 2: Y: memory
Explanation	A difference has been detected between the setpoint and actual checksums during continuous testing of the checksum. The cause is probably a hardware error on the control module.
Remedy	Replace the control module.

Error code	**0016H**
Error text	SSI interrupt
Extension 1	-
Extension 2	-
Explanation	An illegal processor interrupt has occurred. The cause is probably a hardware error on the control module.
Remedy	Check the drive bus cable and cable connections. Replace the control module.

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Error code	**0017H**
Error text	SCI interrupt
Extension 1	-
Extension 2	-
Explanation	An illegal processor interrupt has occurred. The cause is probably a hardware error on the control module.
Remedy	Check the drive bus cable and cable connections. Replace the control module.

Error code	**0018H**
Error text	HOST interrupt
Extension 1	-
Extension 2	-
Explanation	An illegal processor interrupt has occurred. The cause is probably a hardware error on the control module.
Remedy	Check the drive bus cable and cable connections. Replace the control module.

Error code	**0019H**
Error text	DSP-NMI (10 V at pin IRQB of the DPS)
Extension 1	-
Extension 2	-
Explanation	An illegal processor interrupt has occurred. The cause is probably a hardware error on the control module.
Remedy	Check the drive bus cable and cable connections. Replace the control module.

Error code	**001BH**
Error text	Actual current measurement starting.
Extension 1	0 : Deviation from current 0 1 : Module selection does not match the existing hardware (V 2.6 and higher).

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Extension 2	NC drive number
Explanation	When the actual current measuring is starting up and during cyclical operation with a pulse disable, current 0 is expected as the system ensures that no currents can flow. Deviation from current 0: The hardware for actual current measurement may be defective. Module selection does not match the existing hardware: If a single-axis power section has been addressed as a two-axis power section by the module selection (software parameterization of power section), this system error is output via actual current measurement because a current > 0 is measured.
Remedy	Deviation from current 0: Replace the control module. Check the cable connections. Module selection does not match the existing hardware: – Change software parameterization of power section (two-axis power section -> single-axis power section). – 2. Define axis as inactive or use a two-axis power section.

Error code	**0020H**
Error text	Second axis defined as single-axis module by SERVO.
Extension 1	-
Extension 2	-
Explanation	The NC has attempted to activate the second axis on a single-axis module. Possible communication failures on the drive bus or control module defective.
Remedy	Replace the control module. Check cable connections, perform remedial measures (check shielding or ground connection).

Error code	**0021H**
Error text	Two active axes: At least one is defined as single-axis module by SERVO
Extension 1	-
Extension 2	-
Explanation	The NC has attempted to activate the second axis on a single-axis module, possible communication failures on the drive bus or control module defective.
Remedy	Replace the control module. Check cable connections, perform remedial measures (check shielding or ground connection).

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Error code	**0022H**
Error text	PCU-ASIC for motor measurement systems missing for at least one axis.
Extension 1	-
Extension 2	-
Explanation	The motor measuring system is either not fitted or is defective for at least one axis of the drive module. As the configuration of the measuring systems is detected by the NC and communicated to the drive, communication failures on the drive bus can also cause this error.
Remedy	Replace the control module. Check cable connections, perform remedial measures (check shielding or ground connection).

Error code	**0023H**
Error text	Incorrect IPU_submodule is plugged into the motor measurement system.
Extension 1	Read K1C register of the relevant PCU ASIC.
Extension 2	NC drive number
Explanation	The motor measuring system has a motor encoder with a voltage output. A corresponding IPU submodule with a voltage input is required. An unexpected submodule has been detected.
Remedy	Replace the control module. Check cable connections, perform remedial measures (check shielding or ground connection).

Error code	**0024H**
Error text	Illegal physical axis number
Extension 1	Read K1C register of the relevant PCU ASIC.
Extension 2	NC drive number
Explanation	An illegal internal axis number was detected during software processing (only 0 or 1 is permitted in the case of 2-axis modules). Possible causes: Defective control module, EMC interference
Remedy	Replace the control module. Check cable connections, perform remedial measures (check shielding or ground connection).

Error code	**0025H**
Error text	Illegal physical axis number
Extension 1	-

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Extension 2	-
Explanation	An illegal internal physical axis number was detected during software processing. Possible causes: Defective control module, EMC interference
Remedy	Replace the control module. Check cable connections, perform remedial measures (check shielding or ground connection).

Error code	**0026H**
Error text	Servo declared FSD as MSD.
Extension 1	-
Extension 2	NC drive number
Explanation	The NC is attempting to register an FDD module as an MSD. Possible communication failures on the drive bus or control module defective.
Remedy	Replace the control module. Check the cable connections. Perform remedial measures (check shielding or ground connection).

Error code	**0027H**
Error text	Servo declared MSD as FDD.
Extension 1	-
Extension 2	NC drive number
Explanation	The NC is attempting to register an MSD module as an FDD. Possible communication failures on the drive bus or control module defective.
Remedy	Replace the control module. Check cable connections, perform remedial measures (check shielding or ground connection).

Error code	**0028H**
Error text	Incorrect IPU_submodule plugged into direct measurement system.
Extension 1	Read K1C register of the relevant PCU ASIC.
Extension 2	NC drive number
Explanation	Only certain submodules are permitted for the direct measurement system. An illegal submodule has been detected.
Remedy	Replace the control module. Check cable connections, perform remedial measures (check shielding or ground connection).

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Error code	**0030H**
Error text	Errors in interpreter that can no longer be handled through the STF protocol.
Extension 1	0x01 ;Unsupported ROSCTR 0x02 ;Illegal ROSCTR 0x03 ;Job management "defective" 0x04 ;Incorrect PDUREF on acknowledgement 0x05 ;Acknowledgement not permitted at this time 0x06 ;Acknowledgement is not supported 0x07 ;Illegal PROTID 0x08 ;Illegal PARLG (uneven) 0x09 ;Buffer management "defective" 0x0A ;Illegal PI identifier (internal) 0x0A ;Illegal PI identifier (internal) 0x0B ;Illegal internal state of PI restart 0x0C ;Sequential circuit in WRITEDATA "defective" 0x0D ;Illegal parameter on REFRESH_PIZUST
Extension 2	NC drive number
Explanation	Either irrecoverable communications errors were detected on the drive bus or the drive software is no longer consistent. The cause is either a faulty drive bus interface or a hardware error on the control module.
Remedy	Check the drive bus cable and cable connections, perform remedial measures (check shielding or ground connection). Replace the control module.

Error code	**0031H**
Error text	Error in STF initialization
Extension 1	0x40 ;Illegal PDU length 0x41 ;Axes differ in terms of PDU length 0x42 ;PDU length is not a word multiple 0x43 ;Axes differ in terms of NC type.
Extension 2	-
Explanation	The NC has transferred illegal key data for communication via the drive bus. The cause is probably either faults on the drive bus or a defective control module.
Remedy	Replace the control module. Check cable connections, perform remedial measures (check shielding or ground connection).

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Error code	**0032H**
Error text	Errors in transport that can no longer be handled through the Transp. Abbr.
Extension 1	0x20 ;Job management "defective" 0x21 ;Illegal state in RESET_TRANSPO 0x22 ;Checksum incorrect more than 3 times 0x23 ;Receive PDU too long 0x24 ;State 6XX-Abort illegal
Extension 2	NC drive number
Explanation	Either irrecoverable communications errors were detected on the drive bus or the drive software is no longer consistent. The cause is either a faulty drive bus interface or a hardware error on the control module.
Remedy	Check the drive bus cable and cable connections, perform remedial measures (check shielding or ground connection). Replace the control module.

Error code	**0033H**
Error text	Error in the internal data, e.g., error in the element/module lists (incorrect formats, etc.)
Extension 1	0x51 ;Incorrect data format in element list 0x52 ;Incorrect conversion group specified in Refresh
Extension 2	-
Explanation	The drive software is no longer consistent. The cause is probably a hardware error on the control module.
Remedy	Reload drive software. Replace the control module.

Error code	**0034H**
Error text	Error in software boot section 1
Extension 1	0 or incorrect address
Extension 2	0x60 ;Illegal SERVO reaction on STF handshake 0x61 ;Error during RAM check 0x62 ;Transport checksum does not correspond to that of the SERVO.
Explanation	Errors were detected on loading the drive software. The cause is either faults during the transfer via the drive bus or a defective control module.
Remedy	Check the drive bus cable and cable connections, perform remedial measures (check shielding or ground connection), replace control module.

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Error code	**0035H**
Error text	Error in software boot section 2
Extension 1	0 or incorrect address
Extension 2	0x60 ;Illegal SERVO reaction on STF handshake 0x61 ;Error during RAM check 0x62 ;Transport checksum does not correspond to that of the SERVO.
Explanation	Errors were detected on loading the drive software. The cause is either faults during the transfer via the drive bus or a defective control module.
Remedy	Check the drive bus cable and cable connections, perform remedial measures (check shielding or ground connection), replace control module.

Error code	**0040H**
Error text	Incorrect number of specified current state filters
Extension 1	-
Extension 2	-
Explanation	An illegal number of current setpoint filters (> 4) has been entered.
Remedy	Correct number of current setpoint filters (MD 1200)

Error code	**0041H**
Error text	Incorrect number of specified rotation speed state filters
Extension 1	-
Extension 2	-
Explanation	An illegal number of speed setpoint filters (> 2) has been entered.
Remedy	Correct the number of speed setpoint filters (MD 1500).

Error code	**0044H**
Error text	Difference GROBSYNC/FEINSYNC too great.
Extension 1	-

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Extension 2	NC drive number
Explanation	Rotor position synchronization contains an error (drive software 2.5 only). The difference between the first part of rotor position synchronization (coarse synchronization) and the second part (fine synchronization to the active encoder zero marker) is greater than 45 electrical. An excessive difference can occur due to: – Incorrect encoder alignment – EMC problems on the zero marker signal – Excessive voltage level of C/D track
Remedy	– Check encoder alignment and EMC measures. – New startup – Check MODE – Replacing the motor

Error code	**0045H**
Error text	BERO was selected with FEINSYNC.
Extension 1	-
Extension 2	NC drive number
Explanation	The NC has entered either an encoder with distance-coded reference point markers or a BERO proximity switch in register $1D of the motor measuring system of the PCU ASIC. This is not allowed during fine synchronization, which is activated by power-up, by zero monitoring errors or by deselection of the parking axis.
Remedy	The NC/PLC is not allowed to enter an encoder with distance-coded reference point markers or a BERO proximity switch in register $1D of the motor measuring system of the PCU ASIC following power-up, zero monitoring errors or deselection of the parking axis.

Error code	**0046H**
Error text	The NC attempted a drive power-up without loading the drive software. Ramp-up was interrupted.
Extension 1	-
Extension 2	-
Explanation	With drive software 4.02 and higher a drive power-up is only possible when the drive software is being loaded.
Remedy	Reload drive software.

Error code	**0047H**
Error text	System tried to run two axes with HSA at performance 1 or STandard.
Extension 1	-

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Extension 2	-
Explanation	Performance 1 and standard cannot run two axes with HSA.
Remedy	Only one HSA axis may be active.

Error code	**0048H**
Error text	Unexpected measurement system configuration
Extension 1	-
Extension 2	-
Explanation	The PCU extension for direct or indirect measurement systems is incomplete.
Remedy	Check module.

Error code	**0049H**
Error text	A CCU3 axis was defined as a single-axis model.
Extension 1	-
Extension 2	-
Explanation	-
Remedy	-

Error code	**0050H**
Error text	Module not supported by drive software.
Extension 1	-
Extension 2	-
Explanation	The drive software cannot be run on this module.
Remedy	Load the drive software for the module or plug in the correct module for the drive software.

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Names COMPBLOCKWITHREORG

Effect Block preparation has detected an error, which can be rectified by modifying the program. Reorganization is performed after a program modification.

– Correction block with reorganization.

Names COMPENSATIONBLOCK

Effect Block preparation has detected an error, which can be rectified by modifying the program.

– Correction block

Names FOLLOWUP

Effect Follow-up of axes

– NC switches to follow-up mode

Names INTERPRETER STOP

Effect Program execution is aborted after all the prepared blocks (interpolator buffer) have been processed.

– Interpreter stop

Names LOCALREACTION

Effect – Local alarm response

Names NOALARMREACTION

Effect – No alarm reaction

Names NOREADY | NCKREACTIONVIEW

Effect NCK ready off: Active rapid deceleration (i.e. with maximum braking current) of all drives Clearing of servo enable for all NC axes Release of NC ready relay

– NC not ready

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Names NOREADY | BAGREACTIONVIEW

Effect Mode group ready off: Active rapid deceleration (i.e. with maximum braking current) of the drives in this mode group Clearing of servo enable for the NC axes concerned.

– Mode group not ready

Names NOREADY

Effect Channel ready off: Active rapid deceleration (i.e. with maximum braking current) of the drives in this channel Clearing of servo enable for the NC axes concerned.

– Channel not ready

Names NONCSTART

Effect It is not possible to start a program in this channel.

– NC start inhibit in this channel

Names NOREFMARK

Effect The axes in this channel have to be rereferenced.

– Rereference axes in this channel.

Names SETVDI

Effect VDI interface signal alarm is set.

– Interface signals are set

Names SHOWALARM

Effect Alarm is displayed on MMC.

Alarm display

Names STOPBYALARM

Effect Ramp stop of all channel axes.

– NC stop for alarm

Names STOPATENDBYALARM

Effect Stop at end of block.

– NC Stop on alarm at end of block

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Names SHOWALARMAUTO

Effect The alarm is displayed whenever bit 0 of machine data ENABLE_ALARM_MASK is set. The reaction should be set whenever an alarm should only occur during automatic mode without manual operation by the user.

– Alarm reaction in automatic mode

Names SHOWWARNING

Effect The alarm is displayed whenever bit 1 of machine data ENABLE_ALARM_MASK is set. It is designed for warnings which should normally be suppressed.

– Alarm view

Names ALLBAGS_NOREADY

Effect The Ready is canceled in all mode groups. The reaction thus corresponds to an NCK-REACTIONVIEW|NOREADY, the difference being that the NC READY relay is not canceled and the corresponding VDI bit is not set. This is desirable in the event of an emergency stop for example.

– Mode group not ready

Names DELAY_ALARM_REACTION

Effect If this alarm reaction is configured in the alarm handler, all alarm reactions for alarms, which occur at this point, are buffered channel-specifically and are, therefore, not active. The alarms are displayed on the MMC. Mode group and NC-wide reactions are transferred. The reaction is cleared by activating the clearDelayReaction call or by an alarm, which has configured NO_DELAY_ALARM_REACTION. This activates all the delayed alarm reactions.

– All channel-specific alarm reactions delayed on alarm, alarm display

Names NO_DELAY_ALARM_REACTION

Effect The DELAY_ALARM_REACTION state is canceled.

– The alarm reaction delay is canceled.

Names ONE_IPO_CLOCK_DELAY_ALARM_REACTION

Effect All alarm reactions are delayed by one cycle when an alarm is output. This functionality became necessary as part of ESR development.

– All alarm reactions are delayed by one IPO cycle on alarm.

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5.1 Cancel criteria for alarms

Names CANCELCLEAR

Effect The alarm is cleared by pressing the Cancel key in any channel. It is also cleared by the Start part program key.

– Clear the alarm with the Clear key or with NC START

Names CLEARHIMSELF

Effect Self-clearing alarm. The alarm is cleared not by an operator action but explicitly by a "clearAlarm" in programmed the NCK source code.

– Alarm display disappears with alarm cause. No further operator action necessary.

Names NCSTARTCLEAR

Effect The alarm is cleared by starting a program in the channel, in which the alarm occurred. The alarm is also cleared by an NC reset.

– Clear the alarm with NC START or the RESET key and continue the program.

Names POWERONCLEAR

Effect The alarm is canceled by turning off / turning on the control system (POWER ON).

– Switch the control OFF - ON.

Names RESETCLEAR

Effect The alarm is cleared by pressing the Reset key in the channel in which the alarm occurred.

– Clear alarm with the RESET key. Restart part program.

Names BAGRESETCLEAR

Effect The alarm is cleared by a "BAGRESETCLEAR" command or by carrying out a reset in all channels of this mode group.

– Press the RESET key to clear the alarm in all channels of this mode group. Restart part program.

Names NCKRESETCLEAR

Effect The alarm is cleared by an "NCKRESETCLEAR" command or by carrying out a reset in all channels.

– Clear alarm in all channels with the RESET key. Restart part program.

Names NOCLEAR

Effect The clear information is only required for the internal pseudo alarm number EXBSAL_NOMOREALARMS.

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5.2 System reactions on SINAMICS alarms

The errors and states detected by the individual components of the drive system are indicated by alarms.

These alarms are categorized into faults and warnings.

General information on faults (alarms)

The following happens when a fault occurs:

- The appropriate fault action is triggered.
- Status signal ZSW1.3 is set.
- The fault is entered in the fault buffer.

Clearing of a fault:

- Clear the cause of the fault
- Acknowledge the fault

General information on warnings (alarms)

The following happens when a warning occurs:

- Status signal ZSW1.7 is set.
- The warning is entered in the warning buffer.

Clearing of a warning:

- Warnings are self-acknowledging, i.e. if the cause has been removed, the warnings reset themselves automatically.

"Reaction" to faults (alarms)

The standard fault reaction specifies the reaction in the event of a fault.
For an overview of parameters and function block diagram, please refer to the following publication:

LIS1, Lists 1

Definition of fault reactions

Description	NONE
Reaction	None
Description	No reaction when a fault occurs

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Description OFF1

Reaction Brake along the ramp generator deceleration ramp followed by pulse disable

Description Closed-loop speed control (p1300 = 20, 21)

- n_set=0 is input immediately to brake the drive along the deceleration ramp (p1121).
- When zero speed is detected, the motor holding brake (if parameterized) is closed (p1215). The pulses are suppressed when the brake application time (p1217) expires. Zero speed is detected if the actual speed drops below the threshold (p1226) or if the monitoring time (p1227) started when speed setpoint <= speed threshold (p1226) has expired.

Closed-loop torque control (p1300 = 23)

- The following applies to closed-loop torque control mode: Reaction as for OFF2
- On switchover to closed-loop torque control mode (p1501):
  There is no special braking reaction.
  If the actual speed drops below the speed threshold (p1226), the motor holding brake will be closed if one is parameterized. The pulses are suppressed when the brake application time (p1217) expires.

Description OFF2

Reaction Internal/external pulse disable

Description Closed-loop speed and torque control

- Instantaneous pulse suppression, the drive "coasts" to a standstill.
- The motor holding brake (if parameterized) is closed immediately.
- Power-on disable is activated.

Description OFF3

Reaction Brake along the OFF3 deceleration ramp followed by pulse disable

Description Closed-loop speed control (p1300 = 20, 21)

- n_set=0 is input immediately to brake the drive along the OFF3 deceleration ramp (p1135).
- When zero speed is detected, the motor holding brake (if parameterized) is closed. Pulses are suppressed when the brake application time (p1217) expires.
  Zero speed is detected if the actual speed drops below the threshold in p1226 or if the monitoring time (p1227) started when speed setpoint <= speed threshold (p1226) has expired.
- Power-on disable is activated.

Closed-loop torque control (p1300 = 23)

- Switchover to speed-controlled operation and other reactions as described for speed-controlled operation

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Description STOP1

Reaction -

Description Available soon

Description STOP2

Reaction n_set = 0

Description
- n_set=0 is input immediately to brake the drive along the OFF3 deceleration ramp (p1135).
- The drive remains in closed-loop speed control mode.

Description DCBRAKE

Reaction -

Description Available soon

Description ENCODER

Reaction Internal/external pulse disable (p0491)

Description The fault reaction ENCODER is applied as a function of the setting in p0491.
Factory setting:
p0491=0 --> Encoder fault results in OFF2

Acknowledging faults (alarms)

Indicates the standard acknowledgement of the fault after removal of the cause. For an overview of parameters and function block diagram, please refer to the following publication:

LIS1, Lists 1

Description POWER ON

Description
- The fault is acknowledged by a POWER ON process (switch drive unit off and on again).

Note:

If this action has not eliminated the fault cause, the fault is displayed again immediately after power up.

Description IMMEDIATELY

Description After correction of the fault, the alarm can be cleared by pressing the RESET key:
-

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parameter "pxxxx"

With some alarms, reference is made to a SINAMICS parameter in the fields "cause" and "remedy".

The parameter number consists of a "p" or "r", followed by a 4-digit number (xxxx) and the index (optional), e.g. p0918[0...3].

A detailed description of the SINAMICS parameters is provided in the following publication:

LIS1, Parameter Manual 1 (brief description)

SINAMICS_S List Manual (detailed description)

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Appendix A

A.1 Abbreviations

ASCII	American Standard Code for Information Interchange
AV	Job planning
BA	Operating mode
BB	Ready to run
BCD	Binary Coded Decimals: Decimals encrypted in binary code
CNC	Computerized Numerical Control
CP	Communications Processor
CPU	Central Processing Unit
CR	Carriage Return
CRC	Cutter Radius Compensation
CSB	Central Service Board: PLC module
CTS	Clear To Send: Signal from serial data interfaces
DAC	Digital-to-Analog Converter
DB	Data Block
DIN	German standard
DIO	Data Input/Output: Data transfer display
DRF	Differential Resolver Function: Handwheel jog
DRY	Dry Run: Dry run feedrate
DSB	Decoding Single Block
DSR	Data Send Ready: Signal from serial data interfaces indicating that they are ready to send
DW	Data Word
EIA code	Special punched tape code, number of holes per character always odd
EPROM	Erasable Programmable Read Only Memory
ETC	ETC Key: Expansion of the softkey bar in the same menu
FDB	Product database
FDD	Feed Drive (spindle)
FIFO	First In First Out: Memory, which works without address specification where data are read in the same order, in which they were stored.

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FM	Function Module
FM-NC	Function Module Numerical Control
FRA	Frame block
FRAME	Coordinate conversion with the components zero (work) offset, rotation, scaling, mirroring
FST	Feed Stop
GUD	Global User Data
HD	Hard Disk
HHU	Handheld unit
HMS	High-resolution Measuring System
HW	Hardware
I	Input
IM	Interface Module
IM S/R	Interface Module (S=send/R=receive): Interface module for transmitting and receiving data
INC	Increment
I/RF	Infeed/Regenerative Feedback unit
ISO code	Special punched tape code, number of holes per character always even
K1...K4	Channel 1 to channel 4
KUE	Gear ratio
Kv	Servo gain factor
LAD	Ladder diagram
LCD	Liquid Crystal Display: Opto-electronic display with liquid crystals
LEC	Leadscrew Error Compensation
LED	Light Emitting Diode
LUD	Local User Data
MB	MegaByte
MC	Measuring Circuit
MCP	Machine Control Panel
MD	Machine Data
MDI	Manual Data Input
MLFB	Machine-readable product designation
MMC	Man-Machine Communication: User interface on numerical control systems for operator control, programming and simulation
Mode group	Mode groups
MPF	Main Program File: NC part program (main program)
MPI	Multi-Point Interface
MSD	Main Spindle Drive

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NC	Numerical Control
NCK	Numerical Control Kernel: NC kernel with block preparation, travel range, etc.
NCU	Numerical Control Unit
NURBS	Non-Uniform Rational B Spline
O	Output
OEM	Original Equipment Manufacturer
OP	Operator Panel
OPI	Operator Panel Interface: Interface for connection to the operator panel
PC	Personal Computer
PCMCIA	Personal Computer Memory Card International Association: Interface standard
PG	Programming device
PLC	Programmable Logic Control
PRT	Program test
RAM	Random Access Memory (can be read and written)
RISC	Reduced Instruction Set Computer: Type of processor with small instruction set and ability to process instructions at high speed
ROV	Rapid Override
RPA	R Parameter Active: Memory area on the NCK for R parameter numbers
RTS	Request To Send: Activate transmitter, control signal from serial data interfaces
SBL	Single Block
SD	Setting Data
SEA	Setting Data Active: Memory area for setting data on the NCK
SKP	SKiP: Skip block
SM	Signal Module
SPF	SubProgram File: Subroutine
SSI	Serial Synchronous Interface
SW	Software
T	Tool
TEA	Testing Data Active: Refers to machine data
TNRC	Tool Nose Radius Compensation
TO	Tool Offset Tool Offset
TOA	Tool Offset Active: Memory area for tool offsets
TRANSMIT	TRANSform Milling Into Turning: Coordinate conversion on turning machines for milling operations
UI	User interface
ZO	Zero Offset
ZOA	Zero Offset Active: Memory area

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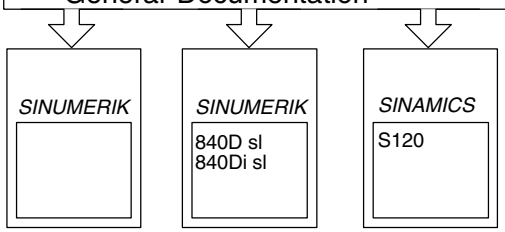

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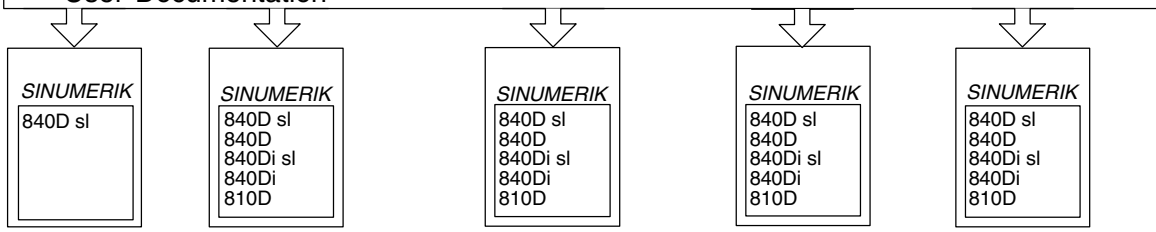

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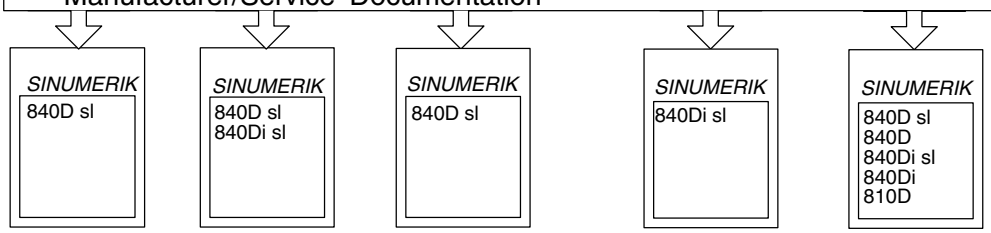

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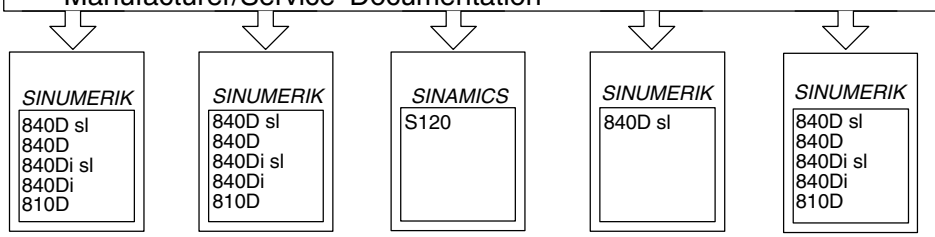

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– Special Functions

Description of Functions
– Synchronized Actions
– Iso Dialects

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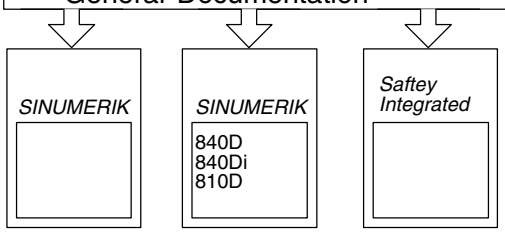

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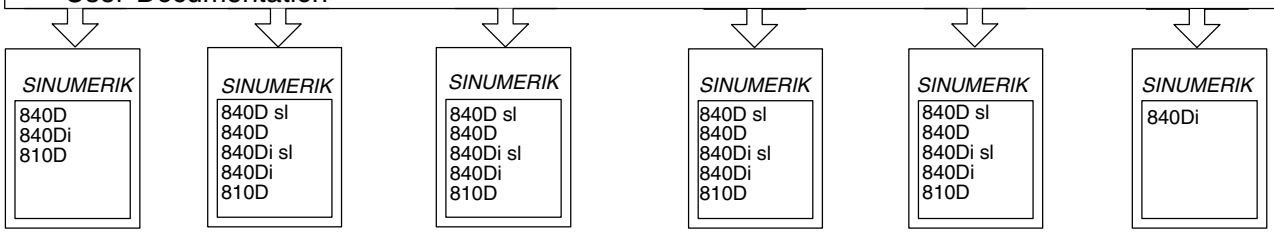

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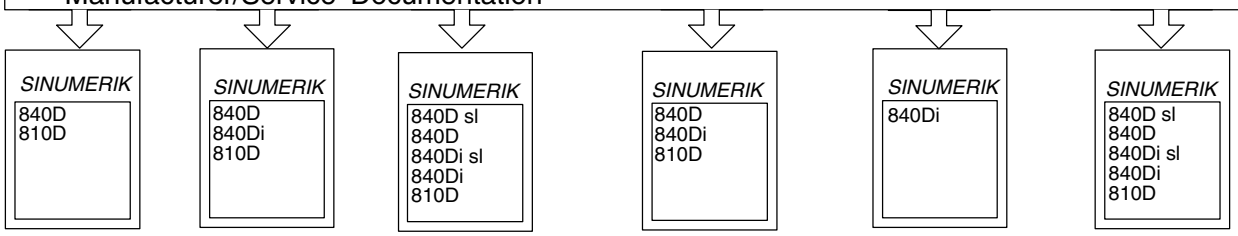

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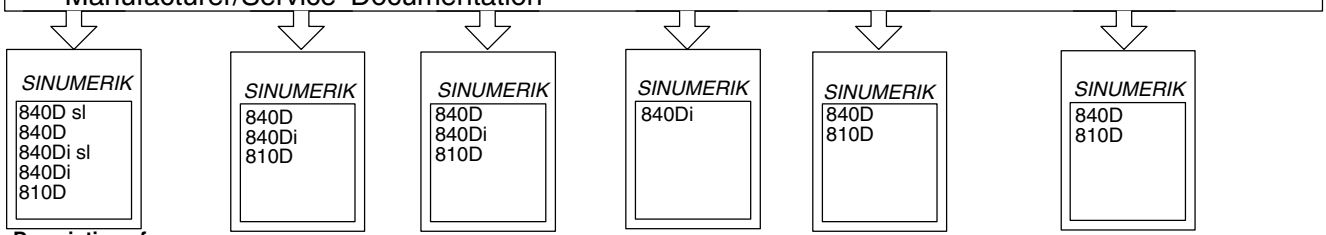

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– **Hydraulics Module**
– **Analog Module**

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– **@Event**

Description of Functions
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Configuring
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– **HMI Embedded**

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– Tool Data Inform. Sys.
– NC Data Management
– NC Data Transfer
– Tool Data Communication

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