

User Guide's Edition 2003-10

motion control

information system

SINUMERIK 840D/840Di/810D  
MDA Machine/Cell/Plant  
Alarm and Message Evaluations

**SIEMENS**



## Contents

<b>1</b>	<b>Overview .....</b>	<b>1-1</b>
1.1	General Overview .....	1-1
1.2	Definition of Machines and Units .....	1-2
1.3	Definition of Alarms .....	1-2
1.4	Operator Inputs to Screen Forms .....	1-3
1.5	Printing Tables / Exporting Data to Excel .....	1-5
<b>2</b>	<b>General Information on Using the Program.....</b>	<b>2-1</b>
2.1	Information on Using the Mouse .....	2-1
2.2	The Help System .....	2-1
<b>3</b>	<b>Functionality of the User Interfaces .....</b>	<b>3-1</b>
3.1	Starting the User Interface.....	3-1
3.2	Menu Bar.....	3-2
3.3	Buttons in the Tool bar .....	3-3
3.4	Pushbuttons in the Footer .....	3-5
3.5	Starting without Login .....	3-7
3.6	Language Selection.....	3-7
3.7	About .....	3-7
3.8	Display Help .....	3-7
<b>4</b>	<b>Defining Evaluation Filters.....</b>	<b>4-1</b>
4.1	Defining Evaluation Filters .....	4-1
<b>5</b>	<b>Evaluations for Individual Machines .....</b>	<b>5-1</b>
5.1	Current Alarms .....	5-1
5.2	Alarm Log .....	5-3
5.3	Alarm Statistics.....	5-5

<b>6</b>	<b>Evaluations for Evaluation Groups .....</b>	<b>6-1</b>
6.1	Defining Evaluation Groups .....	6-1
6.2	Current Alarms for Evaluation Groups .....	6-3
6.3	Alarm Log for Evaluation Groups .....	6-5
6.4	Alarm Statistics for Evaluation Groups.....	6-7
<b>7</b>	<b>Glossary.....</b>	<b>7-1</b>
<b>8</b>	<b>Index.....</b>	<b>8-1</b>

# 1 Overview

## 1.1 General Overview

### Functions of the User Interface:

The **MDA Alarm and Message Evaluations** user interface provides the following functions:

- Current alarms for individual machines or machine groups  
You can display and analyze the current non-reset alarms and messages for individual machines or defined machine groups.
- Alarm log for individual machines or machine groups  
You can display and analyze the current non-reset alarms and messages for individual machines or defined machine groups.
- Alarm statistics for individual machines or machine groups  
You can display and analyze statistics for alarms and messages for individual machines or defined machine groups.
- Evaluation groups  
You can summarize machines and units in analysis groups. These evaluation groups are used when analyzing "machine groups".
- Alarm filters  
You can define analysis filters for the display of alarm logs and alarm statistics.

This user guide provides an overview of the individual alarm and message diagnosis functions.

### Authorization Groups:

Depending on the user group, you can also deactivate individual functions.

All screen form and function descriptions assume that the default configuration has been installed on a PC with Windows NT 4.0 and display the functions configured at delivery.

## 1.2 Definition of Machines and Units

Machines and units are defined using the customizing facility.

A machine is classified in MDA using the following information:

- PLANT  
The four-digit "PLANT" code is used to classify machines that are all in the same plant or building.
- MACHINE  
Machines can consist of several units. One of the units in the machine is defined as the "Main Unit".
- UNIT  
As well as the main unit, each machine can have several other units representing parts of the machine such as a feeder, a grinding spindle etc.

Each machine and each unit can send an alarm notification.

## 1.3 Definition of Alarms

Alarms can be classified by:

- Alarm group  
Alarms from the same types of machine are summarized into alarm groups.
- Alarm source  
This identifier indicates what subsystem sent the alarm (i.e. MMC, ProAgent/Pro, ...)
- Alarm number  
A unique alarm number for each alarm group and alarm source

All alarms have a an alarm text description in several languages.

## 1.4 Operator Inputs to Screen Forms

You can make inputs to the user interface screen forms using the mouse or just the keyboard.

### Name of the Current Screen Form:

On Windows PCs, the system enters the name of the current screen form in the window's header.

### Keyboard inputs:

Key	Effect
TAB	Moves to the next field in the screen form, including the pushbuttons in the footer
HOME	Moves to the next field in the screen form, but not to the pushbuttons in the footer
TOGGLE	Press the toggle key to select/deselect rows. The toggle key is in the middle of the block of the numeric keypad ("5")

### Date and Time Inputs:

Entering dates and times is very convenient:

Entering a **date** can be done in the following ways:

- Entry in the **locale-specific format**, for example: '28.2.2000' or '2000-2-28'  
In this case the sequence of day, month, year and the separator must be entered exactly the way the date is output by the program.  
You use the format which was specified for the "DAYFORMAT" key in the screen form texts of the active language during configuration.
- **Short format:** '280200' or '28082000'  
The day, month and year are entered without separators.  
The day and month must be entered in two-digit notation and the year can be two or four digits long.  
The first two digits are interpreted as the day, the next two as the month and the remaining digits as the year.  
Two-digit year notation is interpreted as follows:  
00 .. 90 > 2000 .. 2090  
91 .. 99 > 1991 .. 1999
- **Scrolling with the arrow keys:**  
You can move one day forward / backward by pressing the ARROW UP or ARROW DOWN keys.  
You can move one month forward / backward by pressing the Shift + ARROW UP or Shift + ARROW DOWN keys.
- If a date is entered in 'From Time' which comes before the first available record, then 'From Time' defaults to the date of the first record.

You can enter a time range in the alarm log as described above. The time types in the alarm statistics are "Shift", "Day", "Week", "Month" and "Year".

Special rules apply to the time types "Week", "Month" and "Year":

- **'Week':**

- When you enter a day in the "From" field, the first day of the week for the day entered is automatically entered when exiting the field.
- When you enter a day in the "To" field, the last day of the week for the day entered is automatically entered when exiting the field.
- When you press the ARROW UP or ARROW DOWN key to scroll while the "From" field is active, each time the date shifts by one week, the "To" field changes its entry to the last day of that week.
- When you press the Arrow Up or Arrow Down key to scroll while the "To" field is active, shifting the date by one week will not change the entry in the "From" field

- **'Month':**

Possible month field inputs for "January 2000":

"01.00" "01.2000" "0100" "012000"

Using the arrow keys, you can scroll backwards and forwards by one month.

When scrolling in the "From" field, the "To" field displays the same month.

When scrolling in the "To" field, the "From" field remains unchanged.

- **'Year':**

Possible year field inputs for "2000":

"00" "2000"

Using the arrow keys, you can scroll backwards and forwards by one year.

When scrolling in the "From" field, the "To" field displays the same year.

When scrolling in the "To" field, the "From" field remains unchanged.

Entering a **time** can be done in the following ways:

- **Entries with the 'HH:MM' format**, for example:

Short entries are automatically converted:

"7:2" > "07:02"  
 "5" > "05:00"  
 "18" > "18:00"  
 ".4" > "00:04"

- **Entries without separators**, for example: '855', '1205'

If only one or two digits are entered, the number is interpreted as an hour.

If only three or four digits are entered, the last two digits are interpreted as minutes and the previous digits as hours.

"855" > "08:55"  
 "1205" > "12:05"  
 "120" > "01:20"  
 "12" > "12:00"  
 "1" > "01:00"

- **Scrolling with the arrow keys:**

You can move one hour forward / backward by pressing the ARROW UP or ARROW DOWN keys.

You can move one minute forward / backward by pressing the Shift + ARROW UP or Shift + ARROW DOWN keys.

If the "Shift" time type is selected, you can select the shift number in the "Time" fields. Pressing the arrow keys changes the respective shift number.

Additionally, the time range set for one evaluation is automatically transferred to the other evaluations.

### Zooming the Screen Forms:

On Windows PCs, you can resize the screen forms. The system adjusts the graphics, tables and lists to the current size of the screen form.



## 1.5 Printing Tables / Exporting Data to Excel

The user interface provides two printing modes:

- *Simple printout:*  
Simple hardcopy of current screen
- *Extended printout:*  
Printout of hardcopy, data in tabular format and export of screen data to Excel

It is possible to switch between the two modes by configuring the general parameters ( Customizing (User) > General parameters > ALARM\_GUI > PRINT\_FLAG ):

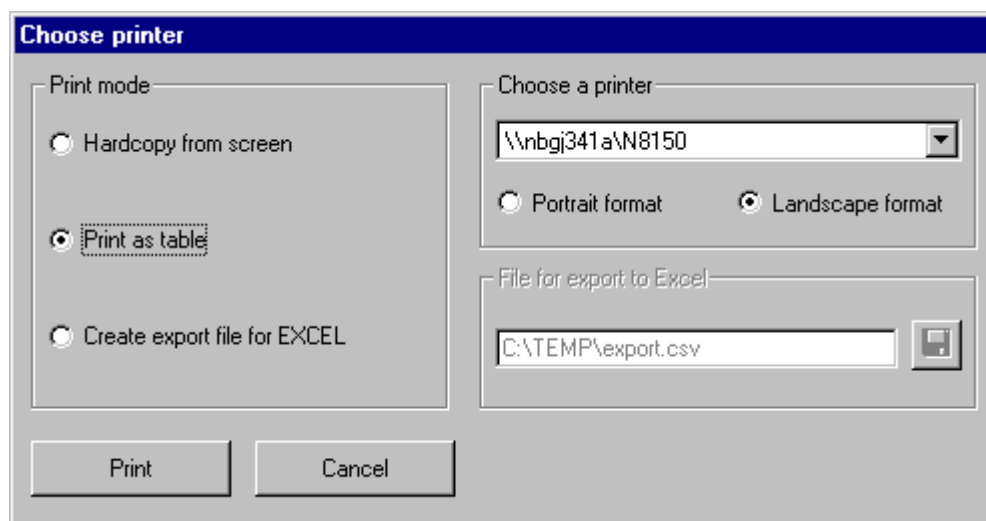
- Parameter value = 0 - Simple printout
- Parameter value = 1 - Extended printout

### Simple Printout „Hardcopy from Screen“:

If the printout is started here, a hardcopy of the current screen is sent to the computer's default printer in the form of a diagram.

### Extended Printout „Print as table“ / „Create export file for EXCEL“:

When the extended printout is selected a dialog box is first displayed.



There are three ways to print out from the system.

- *Hardcopy (screen shot):*  
A printout is generated containing the exact contents of the current screen form. List entries not visible in the current screen form will not be visible in the printout either.
- *Tabular printout (List printout):*  
The complete contents of the table currently displayed on the screen form are printed out as a list. That portion of the list not visible on the screen is also printed out.
- *Exporting data to Excel:*  
The data of most screen forms can be exported to a file: The data is stored as a "csv" file and can be written directly to Excel from this format.



## 2 General Information on Using the Program

### 2.1 Information on Using the Mouse

All the information on using the right and left mouse buttons refers to the standard mouse settings for right-handed people that are made in the Windows control panel. If your Control Panel settings for the mouse buttons are for a left-handed person, you should bear this in mind when making the described inputs.

### 2.2 The Help System

In the MDA applications, you have a help system available that you can use at any point while working with the programs. To call the help system, simply press the F1 function key on the top row of the keyboard.

The help system is context-sensitive, i.e. you are always provided with help that is relevant to the screen form in which you are currently working. When you press the F1 function key to start the help system, it always provides an explanation to the screen form where you are located at the time.

Single-clicking terms that are highlighted in green takes you to the desired topic; single-clicking the **Back** pushbutton takes you back to the topic that was displayed previously. The **Back** pushbutton is located at the top of the window under the menu bar.



### 3 Functionality of the User Interfaces

#### 3.1 Starting the User Interface

The user interface can be started as follows:

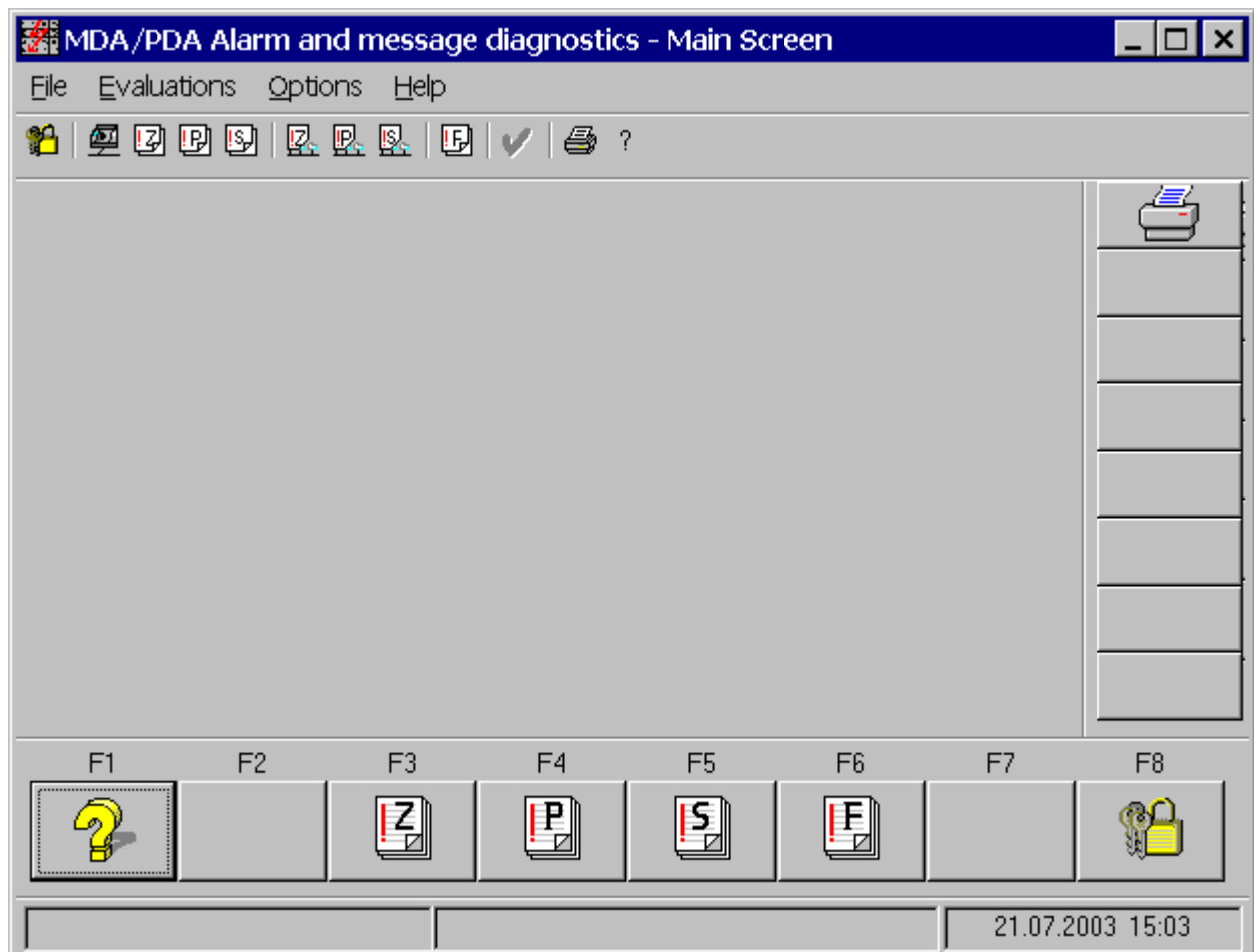
- Click on the 'Start' button in the taskbar and then select 'Programs > MDA > Alarms and Messages' from the menu.

After starting the user interface, the system displays the login screen. When you enter a valid user name and password, the system displays the screen form defined as the main screen during configuration.

If you specified at configuration that the system is to start without a login screen, the user name that you entered during configuration is used and the system immediately displays the main screen configured.

Depending on the configuration, the user interface will appear either with a toolbar or with function keys in the footer and on the right-hand edge.

At delivery the main screen is configured as the start screen:



You can use the menu bar, the pushbuttons in the toolbar or footer to select screen forms for display.

The functions that you have available depend on the configured user group.

The message line at the bottom edge of the screen form shows hints and messages.



### 3.3 Buttons in the Tool bar

You will find small pushbutton icons in the upper section of the screen forms directly below the menu bar. The individual pushbuttons are more closely described by a pop-up tool tip text as soon as the mouse pointer pauses over the pushbutton. The tool tip shows you the actions that are triggered by the individual pushbuttons.

#### Operating the Pushbuttons:

You can also use the mouse to operate the pushbuttons.













#### Appearance and Labeling of the Pushbuttons:






The pushbuttons are displayed using icons. Modifying the configuration allows a different icon to be displayed

#### Configuring the Pushbuttons in Screen Forms:

Every screen form has specific functions for the pushbuttons that must be available, e.g. the "OK" function to display values. It is possible to configure which pushbuttons and functions are available in each screen form.

The following list contains all the available functions with the supplied icons. You can overwrite the icons with plant-specific ones.

Icon	Label	Function
	OK	Fills the current screen form with data. Saves changes.
	Discard changes	Discards changes and displays the screen with the original data.
	Main Screen	Returns you to the main screen.
	Back one Screen	Returns you to the previously displayed screen.
	Delete filter section	Deletes filter section in the current evaluation filter
	Delete filter	Deletes the current evaluation filter
	Evaluation group	Definition of evaluation groups
	Print screen form	Displays print dialog
	Current alarms	Displays the current alarms screen
	Log	Screen for displaying alarm logs for individual machines
	Statistics	Screen for displaying alarm statistics for individual machines
	Current alarms eval. grp.	Screen displays the current alarms of an evaluation group

	Log eval. grp.	Screen for displaying alarm logs for individual machines
	Statistics eval. grp.	Screen for displaying alarm statistics for individual machines
	Alarm filter definitions	Screen for creating and displaying evaluation filters
	Login	Displays login screen to switch user authorization
	Help texts	Displays the online help



### 3.4 Pushbuttons in the Footer

It is possible to configure the user interface so that pushbuttons are displayed in the footer and on the right-hand edge.

#### Operating the Pushbuttons:

- You can also use the mouse to operate the pushbuttons.
- A function key is assigned to each pushbutton. Pressing the function key triggers the operation.  
In additional screen forms (i.e.: Definition of evaluation groups) you can only select pushbuttons using the mouse.











#### Appearance and Labeling of the Pushbuttons:










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#### Configuring the Pushbuttons in Screen Forms:

Every screen form has specific functions for the pushbuttons that must be available, e.g. the "OK" function to display values. It is possible to configure which pushbuttons and functions are available in each screen form.

The following list contains all the available functions with the supplied icons. You can overwrite the icons with plant-specific ones.

Icon	Label	Function
	OK	Saves changes.
	Discard changes	Discards changes and displays the screen with the original data.
	Main Screen	Returns you to the main screen
	Back one Screen	Goes back to the previous screen.
	Select all	Selects all options
	Delete section	Deletes the selected section in the current selection window
	Delete filter section	Deletes filter section in the current evaluation filter
	Delete filter	Deletes the current evaluation filter
	Evaluation group	Definition of evaluation groups
	Print screen form	Displays print dialog

	Current alarms	Displays the current alarms screen
	Log	Screen for displaying alarm logs for individual machines
	Statistics	Screen for displaying alarm statistics for individual machines
	Current alarms eval. grp.	Screen displays the current alarms of an evaluation group
	Log eval. grp.	Screen for displaying alarm logs for individual machines
	Statistics eval. grp.	Screen for displaying alarm statistics for individual machines.
	Alarm filter definitions	Screen for creating and displaying evaluation filters
	Login	Displays login screen to switch user authorization
	Help texts	Displays the online help

### 3.5 Starting without Login

By means of configuration, you can set up the user interface such that it starts without your needing to log in.

By making the following entries in

`General settings > ALARM_GUI`

You can specify whether the system is to display the login screen at start-up or what user to choose by automatic login:

- `LOGIN_ACTIV`            0    - No login screen is displayed at start-up  
                                 1    - Login screen is displayed at start-up
- `LOGIN_CLASS`            User class that is used if the system starts up without a login screen.  
                                 This entry is only used if the parameter "`LOGIN_ACTIV = 0`" is set.
- `START_MASK`            This entry specifies what mask is displayed first (after the login) when starting the user interface.

Even if you started the user interface without a login screen, it is possible to log in under another user class at any time by selecting "**File > Login screen**" or the "Login screen" pushbutton. When you have done this, the system uses the settings and authorizations of this user class.

### 3.6 Language Selection

The texts of the screen forms can be displayed in various languages.

You change languages using the "**Options > Language**" menu item.

### 3.7 About

The "**Help > About**" menu item displays a window containing the version number of the user interface.

### 3.8 Display Help

Calls the user interface's help screen.



## 4 Defining Evaluation Filters

### 4.1 Defining Evaluation Filters

	Activation	Text	Icon
	Button	Alarm filter definitions	
	Toolbar		
	Menu bar	Evaluations > Alarm filter	

This screen form allows the user to create, modify or delete evaluation filters for alarm logs and statistics.

Parameter	Value
Parameters 1	LGH*
Parameters 2	*
Parameters 3	200
Parameters 4	*
Parameters 5	*
Parameters 6	*
Parameters 7	*
Parameters 8	*

### Default Setting of the Screen Form:

The following values are set as a default when the screen form is displayed:

- **Filter name:**  
The default evaluation filter configured. If no filter has been defined, the field remains empty.
- **Total duration:**  
Value from the filter definition. If no filter has been defined, the field remains empty.
- **Working time duration:**  
Value from the filter definition. If no filter has been defined, the field remains empty.
- **Minimum frequency:**  
Value from the filter definition. If no filter has been defined, the field remains empty.
- **Sorting:**  
Sorting order for the filter. If no filter is defined, then the alarm number is the default sorting criterion.
- **Alarm text:**  
Value from the filter definition. If no filter has been defined, the field remains empty.

"Filters for number ranges" tab:

- **Alarm group:**  
First alarm group of the displayed filter definition. In no filter is defined, the first defined alarm group is the default.
- **Alarm number list:**  
List with number ranges for the current filter. If no filter has been defined, the field remains empty.
- **Input line for list:**  
Data from the first list line

"Filters for alarm parameters" tab:

- **Default for the selection of alarms by alarm parameter values.** Parameters which do not have a default are assigned "\*".

### Meanings of the Individual Screen Form Fields:

- **Filter name:**  
Name of the evaluation filter. The filter is written to the database with this user-defined name. The filter can also be used with this name on separate screen forms. All previously defined filters are displayed in the selection list.  
You can modify or delete a filter after selecting it. To create a new filter, enter the name of the new filter in this field.
- **Total duration:**  
You can invoke a filter based on the minimum duration of an alarm. Only those alarms are displayed in the log and statistics screen forms whose total duration are at least equal to the entry

in this field.

If the field is left empty, then there is no filter applied for minimum duration.

- **Working time duration:**

You can apply a filter based on the minimum working time duration of an alarm. Otherwise, the same conditions apply as described in "Total duration".

- **Minimum frequency:**

Only those alarms are displayed in the alarm statistics which have occurred as frequently as specified here for the period selected.

If the field is left empty, then there is no filter applied for minimum frequency.

- **Sorting:**

Sorting order for the filter. In order to specify a sorting criterion for the current filter, choose one of the following criteria from the selection list:

- Alarm number
- Length of alarm
- Alarm start time
- Frequency of alarms

- **Alarm text:**

Each alarm is assigned an alarm text. You can enter a filter in the alarm text field. While filtering for text strings, wildcards may be used in the input field. The wildcard symbol is "\*".

Example: In order to return all alarms containing the word "alarm", enter the string "\*\*alarm\*" in the filter field.

"Filters for number ranges" tab:

- **Alarm group:**

A number range can be defined for each alarm group whose alarms are to be displayed or excluded.

If no number ranges are defined in the table, then all alarm number instances are displayed in the evaluation screen forms.

All existing alarm groups are displayed in the "Alarm group" selection list.

- **Alarm number table:**

This list displays the number ranges.

Contents of the list:

Source:	Contains the source of the alarm
Starting with number:	Start of the selected number range.
Ending with number:	End of the selected number range.
Display:	Indication whether the number range is to be displayed or excluded
Comment:	The comment is written to the database, but has no effect on the use of the filter.

The list is only for output and cannot have any data added or modified. It only allows individual rows to be selected.

- **Entry line for the list:**

The input line of the list displays the data from the table row currently selected and is editable.

If the last (empty) row of the table is selected, then you can create a new row in the table.


"Filters for alarm parameters" tab:

- **Parameter 1.. 8:**

The alarm messages can have up to eight parameters which can be inserted into the alarm message. These parameter field allow the alarms to be selected by a parameter value.


## Operator Inputs in the Screen Form

**Creating a new Filter Definition:**


You can create a new filter by entering a new filter name in the "Filter Name" field. After entering further data, press "Apply filters"  to save them to the database.

**Modifying a Filter Definition:**

To modify filter data, select the filter to be modified in the "Filter Name" field. Enter the data to be modified and press "Apply filter" to save your work.

As soon as you have made the first changes in the screen form, it is no longer possible to select a new filter. If you do not want to apply the changes, or if you want to modify a different filter, press "Discard changes"  to revert to the earlier version.

**Deleting a Complete Filter:**

By pressing the "Delete filter"  button, you can delete the filter from the database. Discarding or modifying is no longer possible after selecting this function, i.e. the filter can not be recovered.

**Adding Number Ranges:**

An evaluation filter can contain several numbers and/or number ranges which may be used when filtering data.

To add a new number range, select the last row in the output table. This row is empty. Enter the desired data in the input line below the table. Be aware of the following: Source:

This field can only have one of the values from the selection list entered.

- **Source:**  
Choose a value from the list.
- **Starting with number:**  
Enter the lowest value of the desired number range. If you want to filter for a certain number, enter this number here.
- **Ending with number:**  
Enter the highest value of the desired number range. If you want to filter for a certain number, enter this number here.
- **Display:**  
Here you can select whether the number range chosen is to be displayed ("Yes") or whether alarm numbers within the number range are to be suppressed.
- **Comment:**  
You can take notes as a comment entry here. The comment is saved to the database, but is disregarded during evaluation for alarm logs and alarm statistics.


**Filtering Features for Alarm Parameters:**

You can select alarm parameters by individual values or by using wildcards. The following applies:

"\*" and "%" stand for any number of characters.


"?" stand for any single character.

The ' and " characters are not allowed in the parameter field.

Press the "Apply filter"  button to transfer the data to the database.


**Changing Number Ranges:**

To modify an entry in the number range table, click the appropriate line in the table. The data is transferred to the input line below the table. You can edit the data there.

Press the "Apply filter"  button to transfer the data to the database.


**Deleting Number Ranges:**



To delete an entry in the number range table, click the appropriate line in the table

Press the "Delete row"  button to delete the row from the table.




However, the data is still in the database.

Pressing the "Apply filter"  will permanently delete the data in the database.

If any changes have been made in the screen form, then you can only exit the screen form after the data has been written to the database , or when all changes have been discarded .

#### **Printing out the Log Data / Creating an Export File:**

Press the "Print"  button to make a screen shot and a list of the data contained in the table as well as to export to Excel.

For a description of the various print parameters, see "Printing Tables / Exporting Data to Excel" on page 1-5.

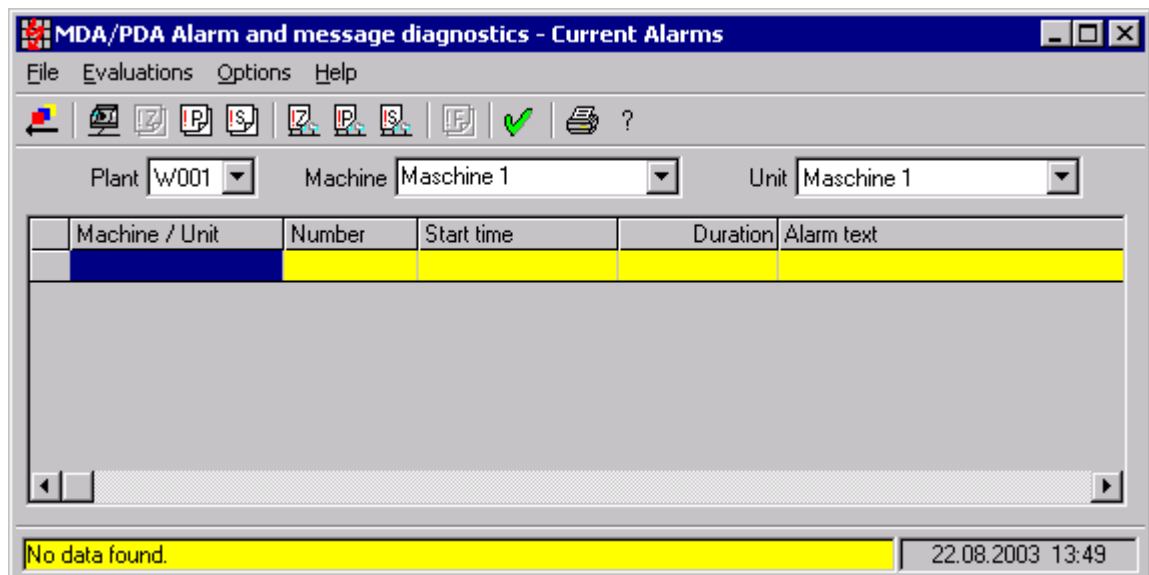


## 5 Evaluations for Individual Machines

### 5.1 Current Alarms

	Activation	Text	Icon
☞	Button	Current alarms	
☞	Toolbar		
☞	Menu bar	Evaluations > Current alarms	

This screen allows you to display the current non-reset alarms for individual machines and units.



#### Default Setting of the Screen Form:

The following values are set as a default when the screen form is displayed:

- Plant, machine, unit:  
Pre-configured machine and unit. If no values are pre-configured, then Plant is given the value of the first plant in the work center master data (alphabetically) and Machine and Unit are given the "\*" value.
- List of alarms:  
The list is empty.

#### Operator Inputs in the Screen Form:

Using the selection lists "Plant", "Machine" and "Unit" you can switch to another machine or another unit. You can also select "\*" for "Machine" and "Unit". In this case all plant log data for all machines or units are displayed.


After selecting the machine(s) of your choice, press "OK" to display the current non-reset alarms from the table.

**Contents of the Table:**


You can scroll either horizontally or vertically, as required.

If you select a different machine, the table is deleted. Press "OK" or Return to generate the table with the current data specified.

**Updating Data:**






The data in the table is not automatically updated. To view the most current data, you must first press "OK" 

**Printing out the Log Data / Creating an Export File:**

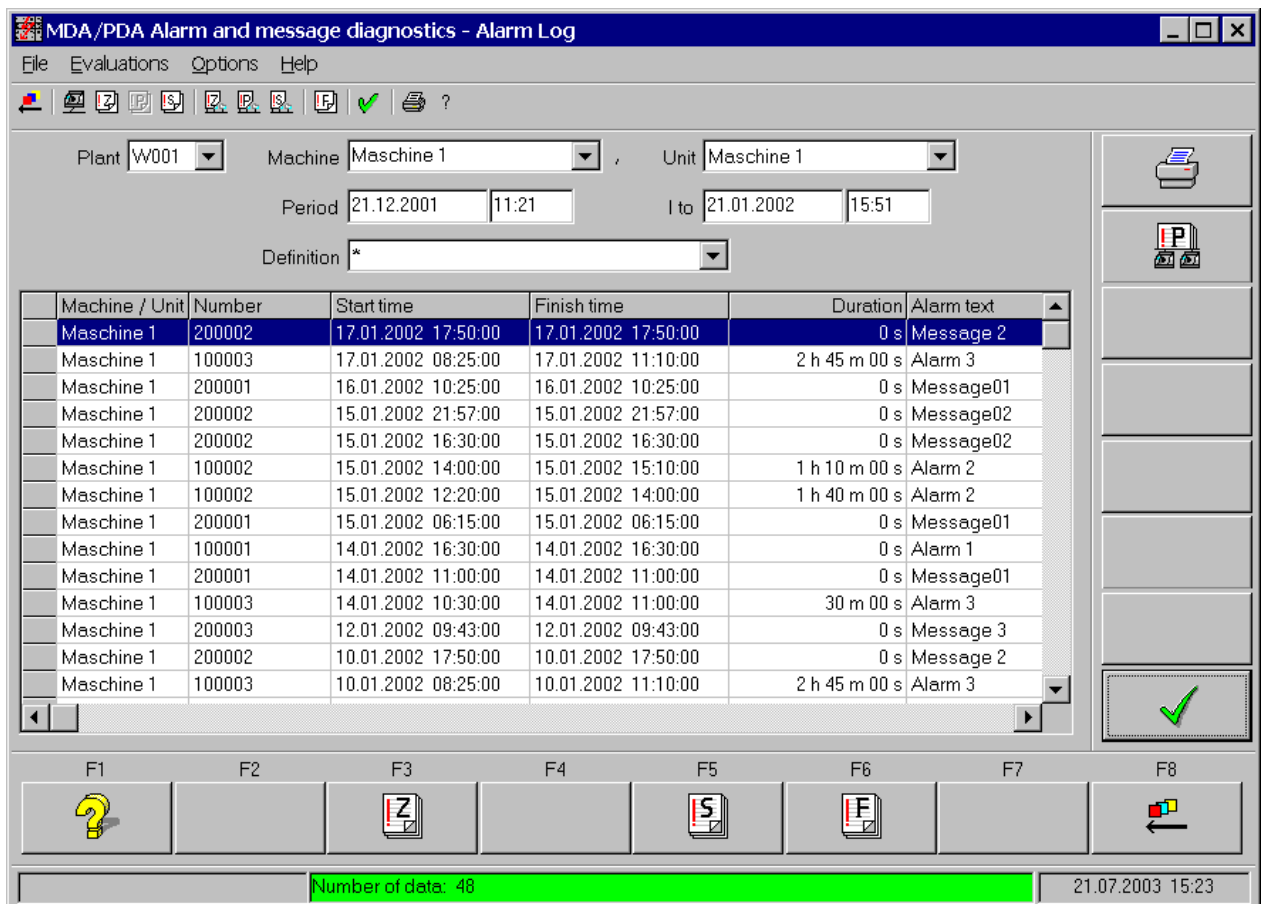
Press the "Print"  button to make a screen shot and a list of the data contained in the table as well as to export to Excel.

For a description of the various print parameters, see "Printing Tables / Exporting Data to Excel" on page 1-5.

### 5.2 Alarm Log

	Activation	Text	Icon
	Button	Log	
	Toolbar		
	Menu bar	Evaluations > Alarm log	

This screen allows you to display the contents of the alarm log for individual machines and units.



#### Default Setting of the Screen Form:

The following values are set as a default when the screen form is displayed:

- Plant, machine, unit:  
Pre-configured machine and unit. If no values are pre-configured, then Plant is given the value of the first plant in the work center master data (alphabetically) and Machine and Unit are given the "\*" value.
- Period:  
When the screen form is first displayed after starting the program, the time period is for the current date, otherwise it is for the period last selected.


- Definition:  
When the screen form is first displayed, the standard filter configured is displayed—otherwise "\*" is displayed.  
When the screen form is displayed a second time, the most recently selected evaluation filter is displayed.
- Log data list:  
The list is empty.

### Operator Inputs in the Screen Form:

Using the selection lists "Plant", "Machine" and "Unit" you can switch to another machine or another unit. You can also select "\*" for "Machine" and "Unit". In this case all plant log data for all machines or units are displayed.

In the "Definition" field, a previously defined selection filter can be entered by using a selection list. Only the data from the log is returned which matches the selection filter conditions. If the "Definition" field contains the value "\*", then no selection filter is applied.

For a description of the various date field inputs, see "Operator Inputs to Screen Forms" on page 1-3.

After selecting the machine(s) and time period(s) of your choice as well as any evaluation filter possibly needed, press "OK"  to display the log data in the table.

Depending on the size of the log, this may take a number of seconds.


### Contents of the Table:

The table will display the alarm log data which matches the selection criteria. You can also use the selection filter to sort the data.


You can scroll either horizontally or vertically, as required.

If you select a different machine or change the time period, the table is deleted. Press "OK" or Return to generate the table with the current data specified.

### Updating Data:


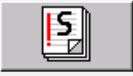



The data in the table is not automatically updated. To view the most current data, you must first press "OK" .

### Printing out the Log Data / Creating an Export File:

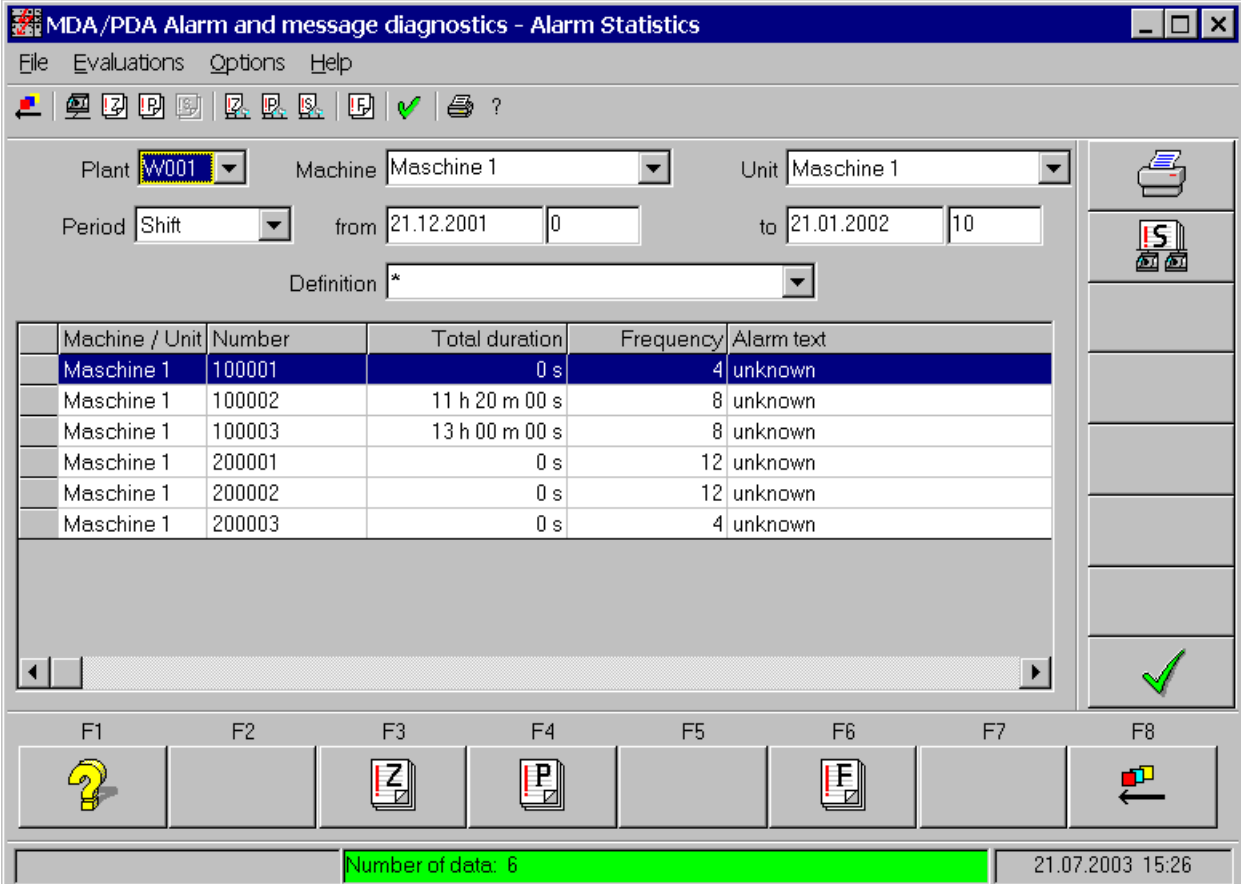
Press the "Print"  button to make a screen shot and a list of the data contained in the table as well as to export to Excel.

For a description of the various print parameters, see "Printing Tables / Exporting Data to Excel" on page 1-5.

### 5.3 Alarm Statistics

	Activation	Text	Icon
	Button	Statistics	
	Toolbar		
	Menu bar	Evaluations > Alarm statistics	

This screen allows you to display the contents of the alarm log for individual machines and units.



MDA/PDA Alarm and message diagnostics - Alarm Statistics






File Evaluations Options Help

Plant  Machine  Unit

Period  from   to

Definition

Machine / Unit	Number	Total duration	Frequency	Alarm text
Maschine 1	100001	0 s	4	unknown
Maschine 1	100002	11 h 20 m 00 s	8	unknown
Maschine 1	100003	13 h 00 m 00 s	8	unknown
Maschine 1	200001	0 s	12	unknown
Maschine 1	200002	0 s	12	unknown
Maschine 1	200003	0 s	4	unknown

F1  F2 F3  F4  F5 F6  F7 F8 

Number of data: 6 21.07.2003 15:26

#### Default Setting of the Screen Form:

The following values are set as a default when the screen form is displayed:

- Plant, machine, unit:  
Pre-configured machine and unit. If no values are pre-configured, then Plant is given the value of the first plant in the work center master data (alphabetically) and Machine and Unit are given the "\*" value.
- Period:

When the screen form is first called after starting the program, "Shift" is displayed, otherwise the period last selected is displayed.

- **Definition:**  
When the screen form is first displayed, the standard filter configured is displayed—otherwise "\*" is displayed.  
When the screen form is displayed a second time, the most recently selected evaluation filter is displayed.
- **List of statistical data:**  
The list is empty.

### Operator Inputs in the Screen Form:

Using the selection lists "Plant", "Machine" and "Unit" you can switch to another machine or another unit. You can also select "\*" for "Machine" and "Unit". In this case all plant log data for all machines or units are displayed.

In the "Definition" field, a previously defined selection filter can be entered by using a selection list. Only the data from the statistics is returned which matches the selection filter conditions. If the "Definition" field contains the value "\*", then no selection filter is applied.


### Time Types:

The alarm statistics are saved at various compression levels.

- **'Shift'** - Compression of shifts  
For each shift, the overall time balance for alarms by unit and alarm number is displayed.
- **'Day'** - Compression of days  
For each day, the overall time balance for the alarms by unit and alarm number is displayed.
- **'Week'** - Compression of weeks  
For each week, the overall time balance for alarms by unit and alarm number is displayed.
- **'Month'** - Compression of months  
For each month, the overall time balance for alarms by unit and alarm number is displayed.
- **'Year'** - Compression of years  
For each year, the overall time balance for alarms by unit and alarm number is displayed.

You can choose an area to be compressed ("Shift", "Day", "Week", "Month", "Year") from the "Period" selection list.

For a description of the various date field inputs, see "Operator Inputs to Screen Forms" on page 1-3.

After selecting the machine(s) and time period(s) of your choice, as well as any evaluation filter possibly needed, press "OK"  to display the log data in the table.


Depending on the volume of statistical data, this may take a number of seconds.

### Contents of the Table:

The table will display the various statistical table data which matches the selection criteria. You can also use the selection filter to sort the data.


The table does not contain every single alarm, but instead the overall time and the frequency within the compression period selected.

You can scroll in the table either horizontally or vertically, as required.


If you select a different machine or change the time period, the table is deleted. Press "OK"  or Return to generate the table with the current data specified.



**Updating Data:**

The data in the table is not automatically updated. To view the most current data, you must press "OK"  again.

**Printing out the Log Data / Creating an Export File:**






Press the "Print"  button to make a screen shot and a list of the data contained in the table as well as to export to Excel.

For a description of the various print parameters, see "Printing Tables / Exporting Data to Excel" on page 1-5.

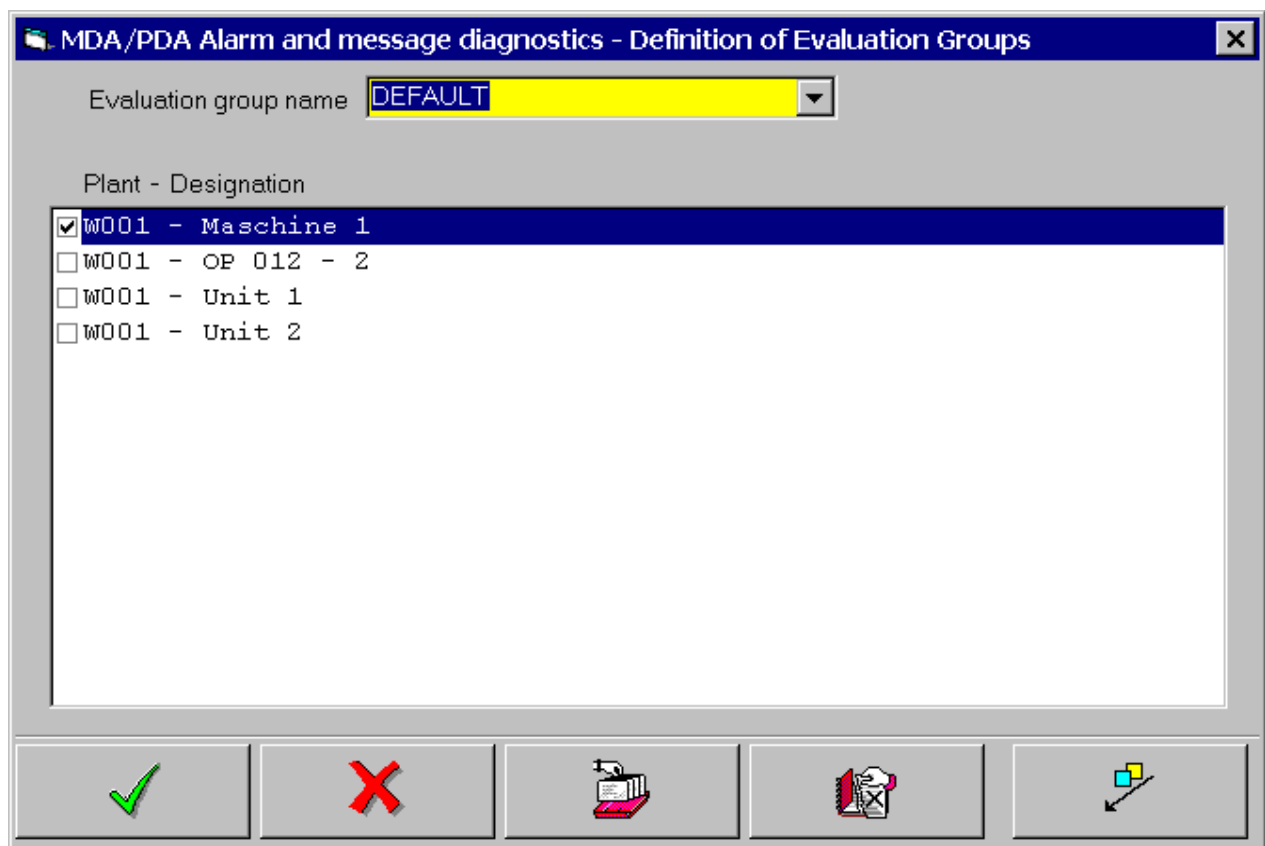


## 6 Evaluations for Evaluation Groups

### 6.1 Defining Evaluation Groups

	Activation	Text	Icon
	Button	Evaluation group	
	Toolbar		
	Menu bar	Evaluations > Evaluation groups	

Machines and units can be combined in evaluation groups for the purpose of evaluation.



#### Screen Presettings:

When it is displayed the screen contains the following values:

- Name of evaluation group: currently used evaluation group
- List of machines and units:  
All defined machines and units.  
Machines/units belonging to the evaluation group have a check mark.

**Screen operations:**






If the number of machines/units for an evaluation group is modified, the screen cannot be exited or another evaluation group selected until the changes have been saved by pressing "OK" or discarded by pressing "Cancel".

Individual machines/units can be selected/deselected in the list as follows:

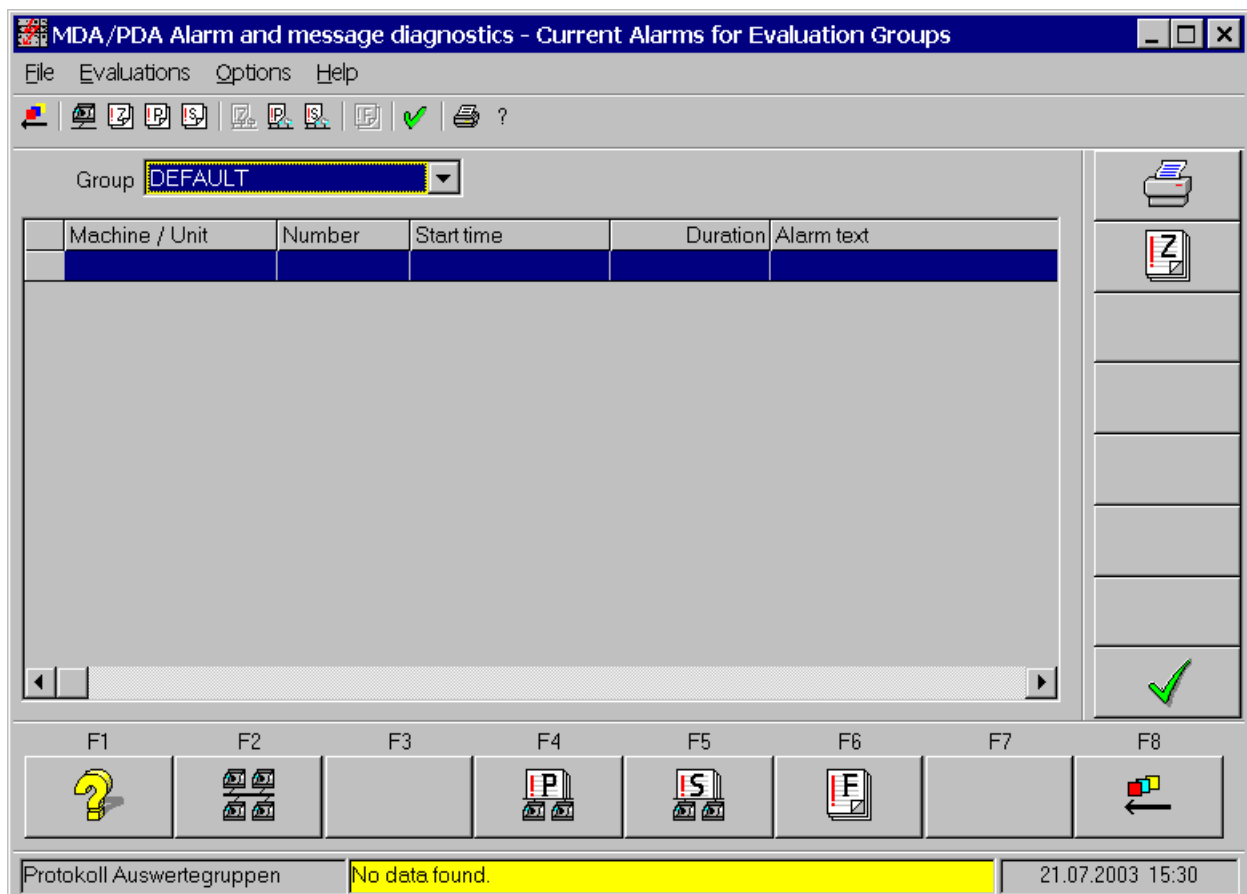
- ☞ By clicking the mouse on the box to the left of the machines/units.
- ☞ By clicking on the line containing the currently selected machine/unit.
- ☞ By selecting a machine/unit by clicking on it using the mouse or using the 'up'/'down' cursor keys and pressing the space bar.
- ☞ Not on Windows PC: The tick next to the currently selected machine/unit in the list is enabled/removed by clicking on the "Select Line" button.

By clicking on the Toggle button. On the SINUMERIK the key is in the center of the cursor keys, and on the PC it is in the center of the numeric keypad (key "5", with NUMLOCK off).

## 6.2 Current Alarms for Evaluation Groups

	Activation	Text	Icon
	Button	Current alarms eval. grp.	
	Toolbar		
	Menu bar	Evaluations > Current alarms for evaluation groups	

This screen allows you to display the current non-reset alarms for evaluation groups.



### Default Setting of the Screen Form:

The following values are set as a default when the screen form is displayed:

- Group:  
Preset evaluation groups
- List of alarms:  
The list is empty.

### Operator Inputs in the Screen Form:

Using the selection list "Group", you can switch to another evaluation group.


Press the "OK" button to save the current non-reset alarms in the table.

**Contents of the Table:**


You can scroll either horizontally or vertically, as required.

If you select a different evaluation group, the table is deleted. Press "OK" or Return to generate the table with the current default data specified.

**Updating Data:**






The data in the table is not automatically updated. To view the most current data, you must press "OK"  again.

**Printing out the Log Data / Creating an Export File:**

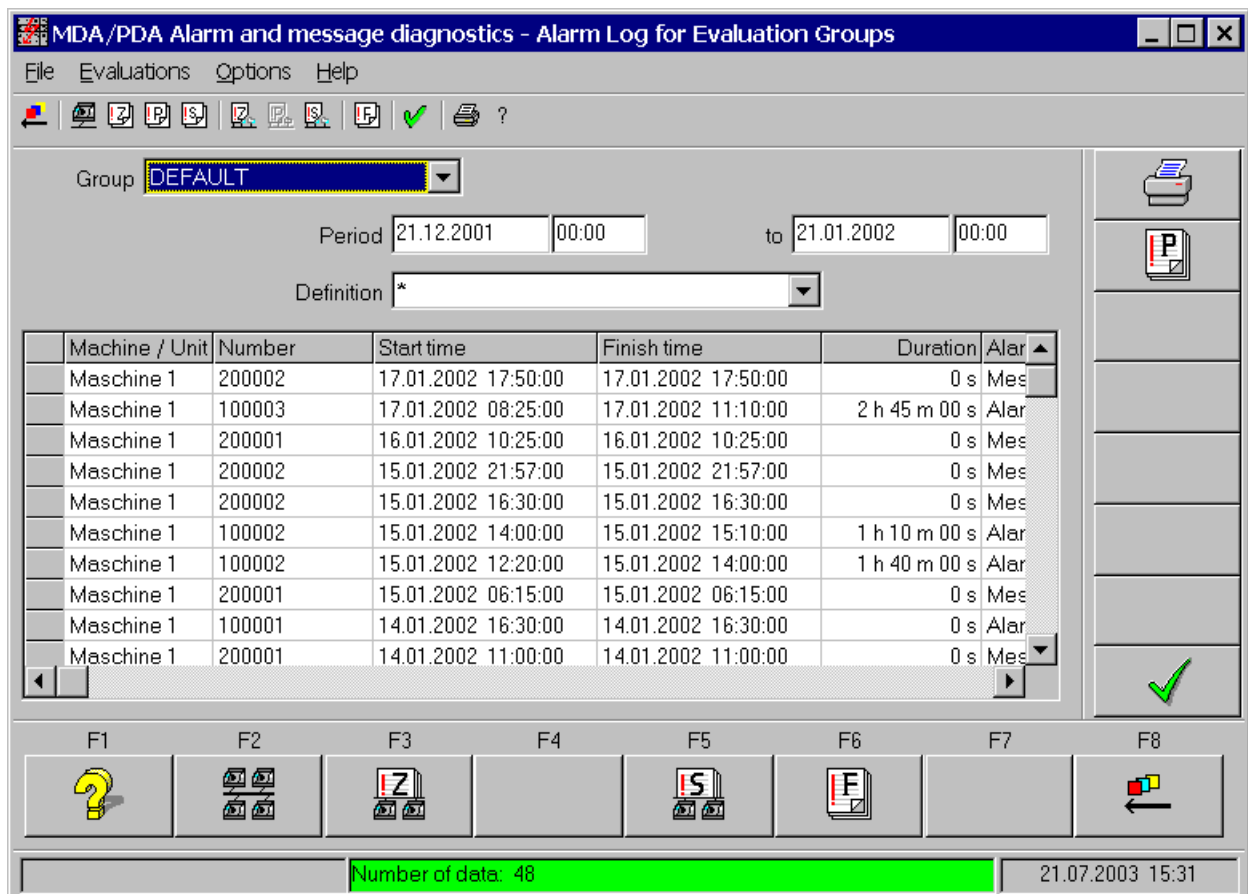
Press the "Print"  button to make a screen shot and a list of the data contained in the table as well as to export to Excel.

For a description of the various print parameters, see "Printing Tables / Exporting Data to Excel" on page 1-5.

### 6.3 Alarm Log for Evaluation Groups

	Activation	Text	Icon
	Button	Log eval. grp.	
	Toolbar		
	Menu bar	Evaluations > Alarm log for evaluation groups	

This screen form displays the alarms with start and finish times for units of an evaluation group over a user-defined period.



#### Default Setting of the Screen Form:

The following values are set as a default when the screen form is displayed:

- Group:  
The evaluation group currently being used
- Period:  
When the screen form is first displayed after starting the program, the time period is for the current date, otherwise it is for the period last selected.
- Definition:

When the screen form is first displayed, the standard filter configured is displayed—otherwise “\*” is displayed.

When the screen form is displayed a second time, the most recently selected evaluation filter is displayed.


- Log data list:  
The list is empty.

### Operator Inputs in the Screen Form:

In the screen form, you can

- Use the selection lists to choose an evaluation group and a evaluation filter and
- Specify a time period.

For a description of the various date field inputs, see “Operator Inputs to Screen Forms” on page 1-3.

After selecting the evaluation group and period of your choice as well as any evaluation filter possibly needed, click “OK”  to display the log data in the table.

Depending on the size of the log, this may take a number of seconds.


### Contents of the Table:

The table will display the alarm log data which matches the selection criteria. You can also use the selection filter to sort the data.


You can scroll either horizontally or vertically, as required.

If you select a different machine group or change the time period, the table is deleted. Press “OK” to generate the table with the current default data specified.

### Updating Data:

The data in the table is not automatically updated. To view the most current data, you must press “OK”  again.






### Printing out the Log Data / Creating an Export File:

Press the “Print”  button to make a screen shot and a list of the data contained in the table as well as to export to Excel.

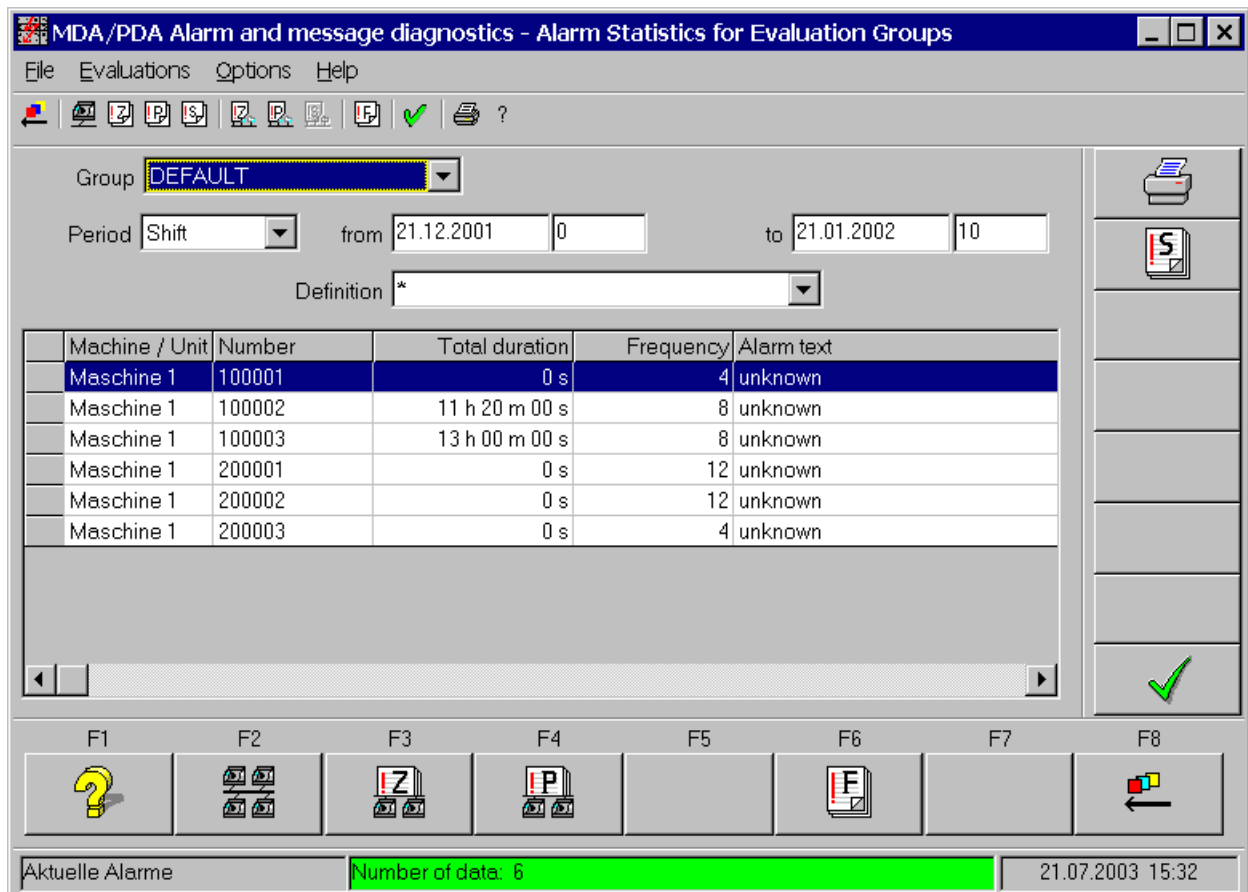
For a description of the various print parameters, see “Printing Tables / Exporting Data to Excel” on page 1-5.



### 6.4 Alarm Statistics for Evaluation Groups

	Activation	Text	Icon
	Button	Statistics eval. grp.	
	Toolbar		
	Menu bar	Evaluations > Alarm statistics for evaluation groups	

This screen allows you to display the contents of the alarm statistics for individual machines and units.



#### Default Setting of the Screen Form:

The following values are set as a default when the screen form is displayed:

- Group:  
The evaluation group currently being used
- Period:  
When the screen form is first called after starting the program, "Shift" is displayed, otherwise the period last selected is displayed.
- Definition:

When the screen form is first displayed, the standard filter configured is displayed—otherwise “\*” is displayed.

When the screen form is displayed a second time, the most recently selected evaluation filter is displayed.

- List of statistical data:  
The list is empty.

### Operator Inputs in the Screen Form:

In the screen form, you can

- Use the selection lists to choose an evaluation group and an evaluation filter and
- Specify a time period.


### Time Types:

The alarm statistics are saved at various compression levels.

- **‘Shift’** - Compression of shifts  
For each shift, a time balance for alarms for each unit and alarm number is displayed.
- **‘Day’** - Compression of days  
For each day, a time balance of alarms by unit and alarm number is displayed.
- **‘Week’** - Compression of weeks  
For each week, a time balance of alarms by unit and alarm is displayed.
- **‘Month’** - Compression of months  
For each month, a time balance of alarms by unit and alarm number is displayed.
- **‘Year’** - Compression of years  
For each year, a time balance of alarms by unit and alarm number is displayed.

You can choose an area to be compressed (“Shift”, “Day”, “Week”, “Month”, “Year”) from the “Period” selection list.

For a description of the various date field inputs, see “Operator Inputs to Screen Forms” on page 1-3.

After selecting the machine(s) and time period(s) of your choice as well as any evaluation filter possibly needed, press “OK”  to display the log data from the table.

Depending on the volume of statistical data, this may take a number of seconds.

### Contents of the Table:


The table will display the various statistics table data matching the selection criteria. You can also use the selection filter to sort the data.

The table now no longer contains every single alarm, but instead displays the total duration and frequency for the compression period selected, broken down by each unit from the selected machine group.


You can scroll in the table either horizontally or vertically, as required.

If you select a different machine group or change the time period, the table is deleted. Press “OK” or Return to generate the table with the current default data specified.

### Updating Data:

The data in the table is not automatically updated. To view the most current data, you must press “OK”  again.

**Printing out the Log Data / Creating an Export File:**

Press the "Print"  button to make a screen shot and a list of the data contained in the table as well as to export to Excel.

For a description of the various print parameters, see "Printing Tables / Exporting Data to Excel" on page 1-5.



## 7 Glossary

### Alarm

Alarms and messages are disturbances or operation statuses reported by the machines. They are logged in the database and compressed to statistics.

### Configuration

All the settings are stored in a configuration database and can be customized by means of the configuration interface.

### Evaluation filter

To evaluate certain alarms, a filter can be created for the evaluation definition. Applying this filter allows you to have alarms evaluated by "minimum duration", "minimum frequency" and/or by certain number ranges. You can also specify the sorting order and filter by plain text strings.

### Hardcopy

A printout of the current contents of the screen.

### Log

The "Alarm log" contains the alarms and messages with their start and end times.

### Main screen

A screen form from which you can go to all the other screen forms. The main screen does not include any functions.

### MDA

Short-cut for "Machine Data Acquisition" .

### Menu bar

The menu bar at the top of the window provides all the functions of the user interface.

### Message line

The message line is at the bottom edge of the screen form.

The background color shows the type of message:

Green - Information

Yellow - User error, warnings

Red - System error, serious error. There is usually more information in the system logbook.

### Pushbutton

The system displays pushbuttons in the footer of screen forms or in the button bar below the menu items. You activate pushbuttons using either the function keys or the mouse.

### Start screen

The screen form that is displayed after start-up or directly after the login screen in cases where login is required. You can change the start screen during configuration.

### Time types

The time types in the alarm statistics are "Shift", "Day", "Week", "Month" and "Year". Condensed data is displayed for these time types.

### **User group**

The user group specifies which screen forms and functions are available to users. User groups are managed using the configuration interface. You can change the user group by means of the login screen.

## 8 Index

### A

Alarm log 1-1, 1-3, 3-2-3-4, 3-6, 5-3, 6-5  
Alarm statistics 1-1, 1-3, 3-2-3-3, 3-6, 5-5, 6-7  
Authorization groups 1-1

### D

Date and time inputs 1-3

### F

footer 1-3, 3-1-3-2

### H

help system 2-1

### K

Keyboard inputs 1-3

### L

Language selection 3-7

### M

main screen 3-1, 3-3, 3-5  
Making printouts 1-5, 4-5, 5-2, 5-4, 5-7, 6-4, 6-6,  
6-9  
menu bar 2-1, 3-1-3-3  
Menüleiste 6-1, 6-3, 6-7

### S

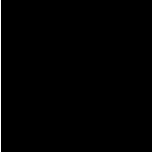
start screen 3-1  
Starting without login 3-7  
Symbolleiste 6-1, 6-3, 6-5, 6-7

### T

time types 1-3, 5-6, 6-8

### V

version number 3-2, 3-7



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