This includes the following deliverables:

- Activation of the user alarms 700000 to 700247 and the extended user alarms 701000 to 701999.

  Note

  The use of the extended PLC user alarms 701000 to 701999 is subject to the following preconditions:

  - Compatibility mode must be deactivated.
  - The data block DB9913 must be contained in the PLC project (i.e. DB9913 was selected in the PLC Programming Tool under "Libraries" > "Special data blocks" and transferred with Copy & Paste / double-click to the PLC project).

- The user alarms 700000 to 700247 and 701000 to 701247 can be given an additional numeric parameter.
- Deactivation and acknowledgment of the user alarms.
- Evaluation of the system responses initiated by the user alarms.

The firmware evaluates the signals that have been entered and sends these as coming and going alarms and messages to the HMI where they are displayed. The HMI manages the error texts.

8.3.2 Activation interface of the user alarms

Each user alarm is activated using its assigned activation bit. These bits are set in the **activation interface**.

A new user alarm is activated with a 0/1 edge of the particular bit.

Activation interface for alarms 700000 to 700247

DB1600	**Alarm activation [r/w] (PLC → HMI)**							
Byte	**Bit 7**	**Bit 6**	**Bit 5**	**Bit 4**	**Bit 3**	**Bit 2**	**Bit 1**	**Bit 0**
	Activation of alarm no.							
DBB0	700007	700006	700005	700004	700003	700002	700001	700000
	Activation of alarm no.							
DBB1	700015	700014	700013	700012	700011	700010	700009	700008
	Activation of alarm no.							
DBB2	700023	700022	700021	700020	700019	700018	700017	700016
	Activation of alarm no.							
DBB3	700031	700030	700029	700028	700027	700026	700025	700024
	Activation of alarm no.							
DBB4	700039	700038	700037	700036	700035	700034	700033	700032
	Activation of alarm no.							
DBB5	700047	700046	700045	700044	700043	700042	700041	700040
...	....							

DB1600	Alarm activation [r/w] (PLC → HMI)							
	Activation of alarm no.							
DBB30	700247	700246	700245	700244	700243	700242	700241	700240

Activation interface for alarms 701000 to 701999

DB1600	Alarm activation [r/w] (PLC → HMI)							
Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
	Activation of alarm no.							
DBB4000	701007	701006	701005	701004	701003	701002	701001	701000
	Activation of alarm no.							
DBB4001	701015	701014	701013	701012	701011	701010	701009	701008
	Activation of alarm no.							
DBB4002	701023	701022	701021	701020	701019	701018	701017	701016
	Activation of alarm no.							
DBB4003	701031	701030	701029	701028	701027	701026	701025	701024
	Activation of alarm no.							
DBB4004	701039	701038	701037	701036	701035	701034	701033	701032
	Activation of alarm no.							
DBB4005	701047	701046	701045	701044	701043	701042	701041	701040
...	....							
	Activation of alarm no.							
DBB4124	701999	701998	701997	701996	701005	701994	701993	701992

8.3.3 Variables interface of the user alarms

The user alarms 700000 to 700247 and 701000 to 701247 can be given a variable as parameter. A double word is reserved for each in the **variable interface**. As a consequence, valid offsets must be divisible by 4.

Variable interface for alarms 700000 to 700247

DB1600	Variable for alarm [r32/w32] (PLC → HMI)							
Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
DBD1000	Variable for alarm 700000							
DBD1004	Variable for alarm 700001							
DBD1008	Variable for alarm 700002							
	...							
DBD1980	Variable for alarm 700245							
DBD1984	Variable for alarm 700246							
DBD1988	Variable for alarm 700247							

Variable interface for alarms 701000 to 701247

DB1600	Variable for alarm [r32/w32] (PLC → HMI)							
Byte	**Bit 7**	**Bit 6**	**Bit 5**	**Bit 4**	**Bit 3**	**Bit 2**	**Bit 1**	**Bit 0**
DBD5000	Variable for alarm 701000							
DBD5004	Variable for alarm 701001							
DBD5008	Variable for alarm 701002							
	...							
DBD5980	Variable for alarm 701245							
DBD5984	Variable for alarm 701246							
DBD5988	Variable for alarm 701247							

8.3.4 Configuring user alarms

The following attributes can be specified for each alarm:

- Alarm response: How the control system responds when an error occurs.
- Cancel criterion: What must be done to cancel the alarm again or acknowledge it. The cancel criterion simultaneously defines the alarm type and priority.
- Channel assignment The channel to which the alarm is assigned.

User alarms 700000 to 700247

User alarms 700000 to 700247 are configured via machine data.

Alarm response and cancel criterion

The specification of the alarm reactions and the cancel criterion are coded as bits in the machine data:

MD14516 $MN_USER_DATA_PLC_ALARM [x] = <Alarm response and cancel criterion>

with x = user alarm number - 700000; value range: 0 ≤ x ≤ 247

<Alarm response and cancel criterion>	
Bit	**Meaning**
Alarm responses	
0	NC Start disable
1	Read-in disable
2	Feed disable for all axes
3	Emergency stop
4	PLC STOP
5	Alarm log
Cancel criteria	
6	Interrupt with DB1600 DBX3000.0