

11 Alarms

11.1 General

The control contains permanently active monitors which detect malfunctions in the NC, interface controller and machine at such an early stage that damage to the workpiece, tool or machine is largely ruled out.

In the event of malfunctions, machining is first interrupted and the drives shut down, the cause of the fault being stored and displayed as an alarm. At the same time the PLC is informed that an NC alarm is present.

Monitors exist for the following:

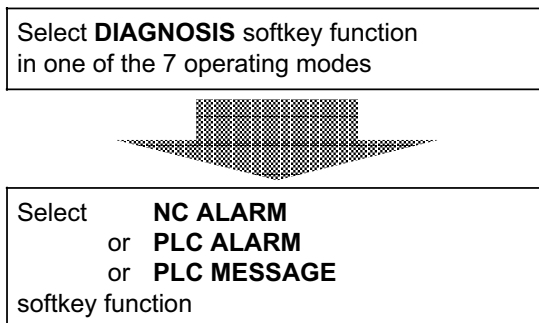
- Read-in
- Format
- Measuring-circuit cables
- Position encoder and drive
- Contour
- Spindle speed
- Enable signals
- Voltage
- Temperature
- Microprocessor
- Serial interfaces
- Data transfer between NC and PLC
- Condition of back-up battery
- System program memory
- User program memory

11.2 Display of all messages and alarms with DIAGNOSIS softkey

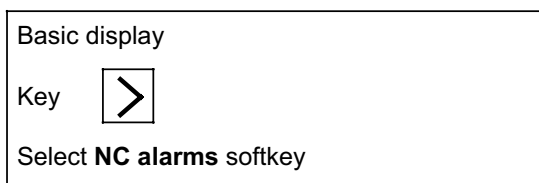
If the monitor responds, this may be due to a number of **different malfunctions simultaneously**.

However, only the **least significant alarm number** is displayed in the alarm line.

An overview of other alarms/messages is provided as follows:



Exception: Overall reset commissioning mode



11.3 Alarm numbers and alarm groups / Clearing alarms

The alarms are broken down into 7 alarm groups (5 NC alarm groups and 2 PLC alarm groups).

NC alarms:







- POWER ON alarms
- RS232C (V.24) alarms
- RESET alarms /axis-specific
- RESET alarms /general
- ERASE alarms

PLC alarms:

- PLC error messages
- PLC operational messages

The texts for the PLC error messages and PLC operational messages are stored in RAM on the CPU. They are input in the installation overall reset mode (see MD no. 5012).

Tabular overview with assignment of alarm number and clear mode:

Alarm number	Alarm group	Alarm cleared only by ...
1 15 40 99	POWER ON alarms	Switching on the control 
16 ... 39	V.24 (RS 232) alarms	<ol style="list-style-type: none"> 1. Calling softkey menu containing the "DATA IN-OUT" function 1) 2. Actuating the "DATA IN-OUT" softkey 3. Actuating the "STOP" softkey
100* 196*	RESET alarms/ axis-specific (* = axis no.)	Actuating the RESET key 
132*	POWER ON alarms/ axis-specific (* = axis no.)	Switching the control off/on 
2000 2999	RESET alarms/general	Actuating the RESET key 
3000 3087	ERASE alarms	Actuating the acknowledgement key 
6000 6063 6100 6163	PLC user alarms PLC error message if no alarm 3 is present	Actuating the acknowledgement key 
7000 7063	PLC operational message	These messages are reset automatically by the PLC program

1) **Additional note:**

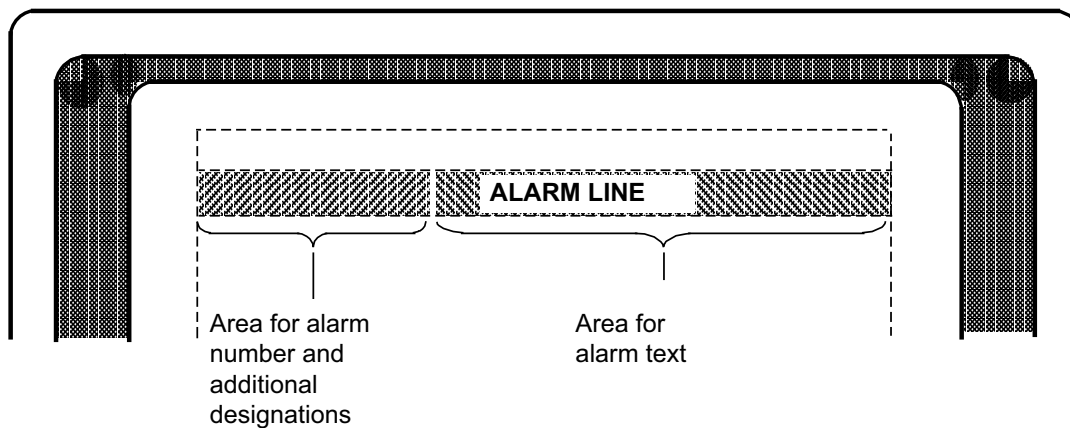
The "DATA IN-OUT" function can be called in the following modes:

- **AUTOMATIC**
- **JOG**
- **REFPOINT**
- **INC1 ... INC 10 000**
- **PRESET**
- **Installation mode**

11.4 Alarm display on screen

Messages from the monitor are displayed on the screen in the "Alarm line".

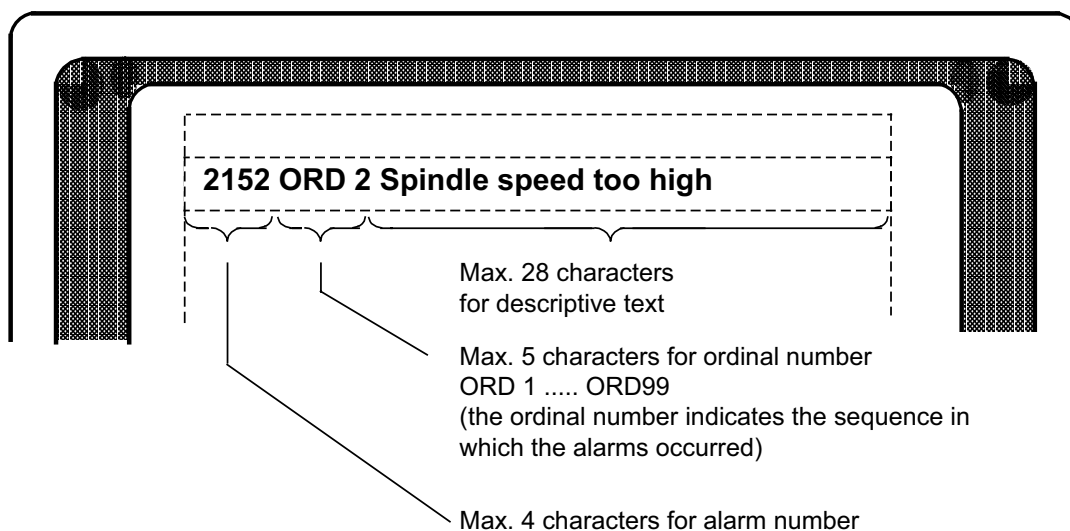
The "Alarm line" is the second line on the screen from the top.



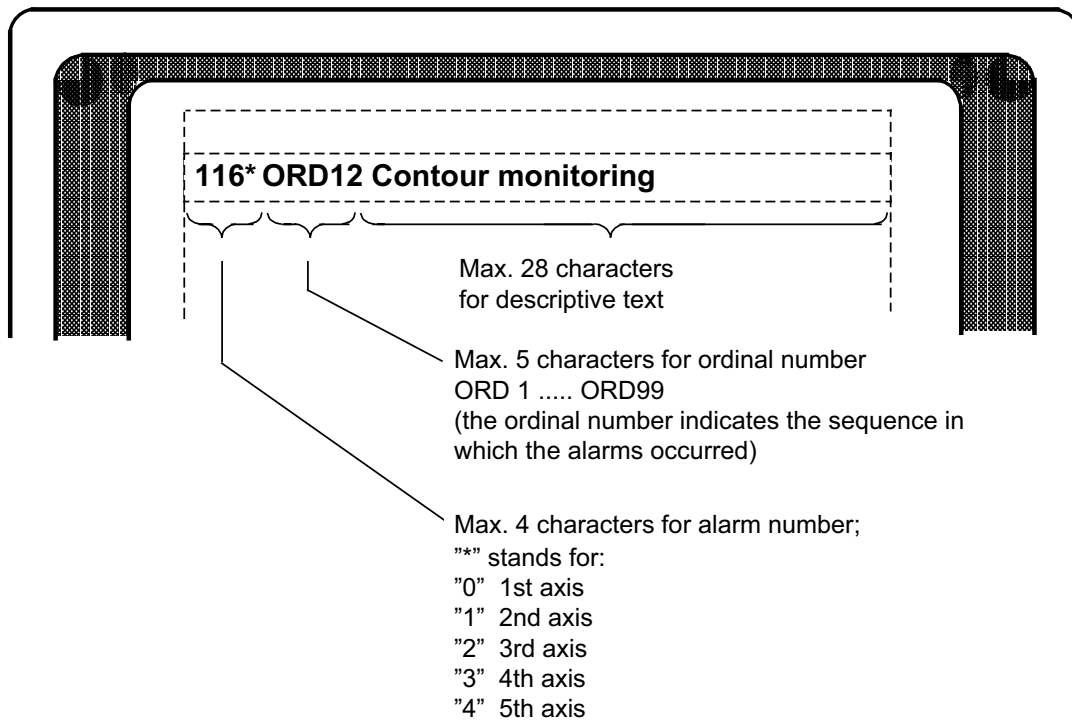
11.5 Display format

There are 4 types of display format:

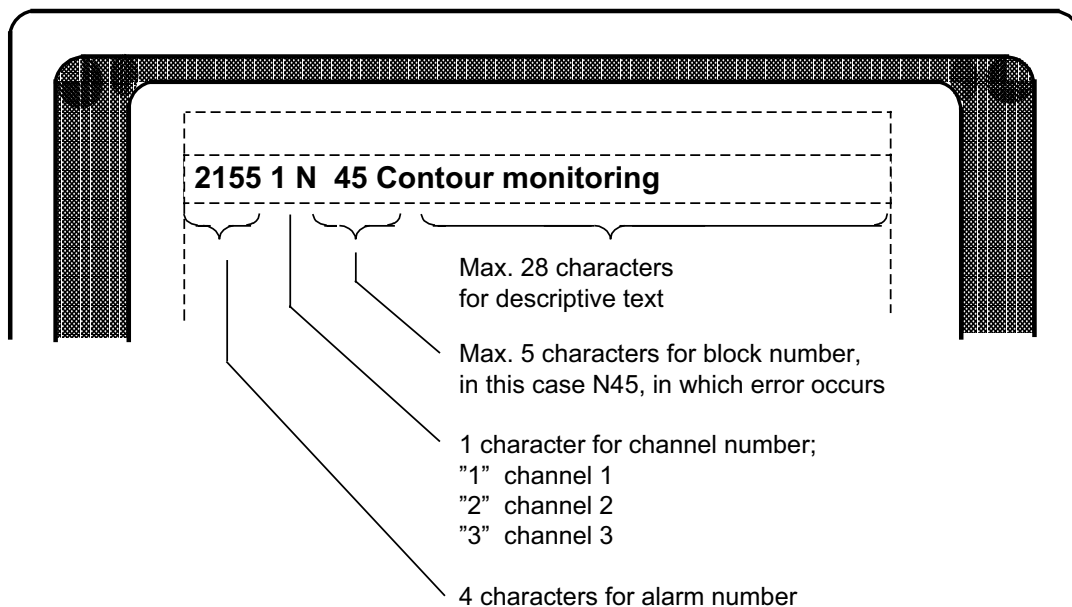
- **Example illustrating display format type A**
Applicable to alarm numbers 0 39 and 2000 2999



- **Example illustrating display format type B**
Applies to alarm numbers 1000 1963



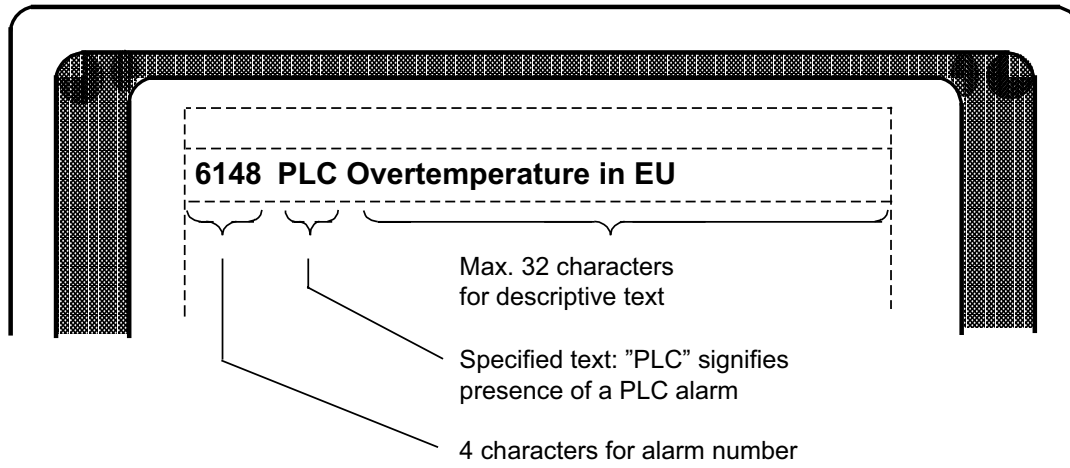
- **Example illustrating display format type C**
Applicable to alarm numbers 2000 2999 (partly) and 3000 3055 (partly)




- **Example illustrating display format type D**

Applicable to alarm numbers 6000 6163 (PLC error messages)

and to alarm numbers 7000 7063 (PLC operational messages)



11.6 Alarm list POWER ON

1	Battery alarm - power supply
Cause: Scan: Explanation: Remedy:	<p>Voltage of back-up battery</p> <ul style="list-style-type: none"> • With POWER ON • Cyclically <p>Replace battery (see Instruction Manual) The battery voltage has dropped to such a level that buffering of the user memories is only guaranteed for a short period.</p> <p>Replace battery (see Instruction Manual).</p> <p>Acknowledge alarm with </p>
Note:	<p>(from power supply unit version 6EV3055-0BC revision "F") Do not switch control off, otherwise data may be lost ! Dispose of all batteries as special waste.</p>

3	PLC stop
Cause: Scan: Effects: Explanation: Remedy:	<p>PLC not ready</p> <p>Cyclically</p> <p>NC START disabled</p> <ul style="list-style-type: none"> • Setpoint 0 output • NC Ready 2 (NCBB2) cancelled • Servo enable cancelled after time in MD 156 has expired • NC/PLC interface rendered inactive • Resetting of all PLC outputs on I/O board <p>Cyclical and interrupt-driven operation of the PLC is interrupted. Travel with the machine is not possible.</p> <p>Using the PG (programmer) read out the cause of interrupt (ISTACK). Evaluate PLC alarm on NC screen.</p>

4	Incorrect unit system
Scan: Effect: Explanation: Remedy:	<ul style="list-style-type: none"> • With POWER ON • After modifying MD • Conversion factor assumed to be 1 • An illegal combination has been selected (conversion factor greater than ten) for the units of the measuring system (position control resolution) and the unit of the input system. • Position control resolution for rotary axis $< 0.5 \cdot 10^{-3}$ degrees and the ordering data option for this is missing. <p>Correct the MD bits then switch the control off and on or include the ordering data option "Position control resolution for rotary axis $< 10^{-3}$ degrees"</p>

5	Too many inp. buffer param.
Scan:	When formatting user program memory with "FORMAT USER M. " softkey.
Explanation:	The input buffer parameters (MIB parameters) require so much space in the user memory that the user program memory is now less than 13 Kbytes.
Remedy:	Correct MD 5 (enter lower value) and reformat user program memory.

7	EPROM error
Scan: Effect:	<ul style="list-style-type: none"> • Cyclically • NC START disabled • Output of setpoint 0 • NC Ready 2 (NCBB2) cancelled • Servo enable cancelled after time in MD 156 has elapsed (servo enable relays drop out)
Explanation:	<ul style="list-style-type: none"> • An error was detected while verifying the check sums.
Remedy:	<ul style="list-style-type: none"> • After switching the control off and on, the screen displays which EPROM submodule is defective (see also Section 4.2.2)

8	Wrong axis/spindle assign.
Scan: Effect:	<ul style="list-style-type: none"> • After modifying MD • NC START disabled • Output of setpoint 0 • NC Ready 2 (NCBB2) cancelled
Explanation:	Illegal assignment entered in MD 200* or MD 400* or MD 461* (e. g. measuring circuit has been assigned to a fictitious axis)
Remedy:	(See Section 8).

9	Memory too small for UMS
Scan: Effect: Explanation:	With POWER ON UMS declared invalid On switching on, the contents of the UMS are checked and an address list then prepared. This address list requires a certain amount of storage space in the RAM area. UMS lists are too large.

10	UMS error
Scan: Effect: Explanation: Remedy:	With POWER ON UMS declared invalid <ul style="list-style-type: none"> • MD 5015 bit 6 = 1 but no UMS inserted • UMS (RAM) not loaded, i.e. empty • Insert UMS • Load UMS (RAM)

11	Wrong UMS identifier
Scan: Effect: Explanation: Remedy:	With POWER ON UMS declared invalid <ul style="list-style-type: none"> • UMS (RAM) not loaded, i.e. empty • Contents of UMS not defined <ul style="list-style-type: none"> a) UMS (RAM) overturned b) UMS (EPROM) empty • Wrong UMS inserted • Error when linking with WS 800 • Insert correct UMS • Reload UMS (RAM)

12	PP memory wrongly formatted
Scan: Effect: Remedy:	With POWER ON <ul style="list-style-type: none"> • Error in RAM area of CPU or memory module • The minimum size of the part program was not reached • module withdrawn • Check MD 12 and depress "CLEAR PARTPR." softkey.

13	RAM error on CPU
Scan: Effect: Remedy:	<ul style="list-style-type: none">• With POWER ON• Error in RAM area of module• Format user memory and clear part program in installation overall reset mode• Replace module

14	RAM error on memory module
Scan: Effect: Remedy:	<ul style="list-style-type: none">• With POWER ON• Error in RAM area of module• Format user memory and clear part program in installation overall reset mode• Replace module


11.7 RS232C (V.24) Alarms

16	Parity error RS232C (V.24)
Effect:	<ul style="list-style-type: none"> • RS232C (V.24) transmission interrupted • Last block declared invalid
Explanation:	<p>The alarm can only be activated when the setting data "with parity bit" is set. The parity of the started character (8 data and 1 parity) is incorrect.</p> <p>The alarm has no connection with the RS232C (V.24) character parity error</p>
Remedy:	<p>for ISO or EIA tape (Alarm 23)</p> <ul style="list-style-type: none"> • Check SD bits 5011, 5013, 5019, 5021 • Test external device

17	Overflow error RS232C (V.24)
Effect:	<ul style="list-style-type: none"> • RS232C (V.24) transmission interrupted • Last block declared invalid
Explanation:	<p>The external device has transmitted a new character although the NC has not yet processed the old character.</p>
Remedy:	<ul style="list-style-type: none"> • Check SD bits 5011, 5013, 5019, 5021 • Test external device • Line-controlled or character-controlled transmission • Reduce baudrate

18	Frame error RS232C (V.24)
Effect:	<ul style="list-style-type: none"> • RS232C (V.24) transmission interrupted • Last block declared invalid
Explanation:	<ul style="list-style-type: none"> • The number of stop bits is incorrect • Wrong baud rate • Number of data bits is wrong
Remedy:	<ul style="list-style-type: none"> • Check SD bits 5011, 5013, 5019, 5021 • Test external device • Number of data bits: 7 data + 1 parity

19	I/O device not ready RS232C (V.24)
Effect: Explanation: Remedy:	<ul style="list-style-type: none"> • No files are read in • Low-level DSR signal from external device • Activate external device • Do not use DSR

20	PLC-alarm-mem. not formatted
Effect: Explanation: Remedy:	<ul style="list-style-type: none"> • No PLC alarm texts read in • The memory for PLC alarm texts was not set up properly (formatted). <p>Sequence:</p> <ol style="list-style-type: none"> a. Set NC MD 5012 bit 7 b. Key  + NC ON c. "NC DATA" softkey d. "FORMAT AL-TEXT" softkey e. RECALL key f. Read in data once more in installation overall reset mode

22	Time monitoring RS232C (V.24)
Explanation: Remedy:	<ul style="list-style-type: none"> • The NC cannot output any characters for 60 seconds <ul style="list-style-type: none"> – External device blocks CTS (clear to send) signal for more than 60 s – When control signals (DC1- DC4) are used, the external device does not transmit DC1 within 60 s • The NC has not received any characters for 60 seconds • Check external device and switch on • Check and insert cable • Set SD 5017/5025 bit 0

23	Char. parity error RS232C (V.24)
Cause:	Tape dirty or damaged
Effect:	<ul style="list-style-type: none"> • RS232C (V.24) transmission interrupted • Last block declared invalid
Explanation:	Depending on the definition of program start "%" or "EOB", the NC automatically specifies ISO or EIA code and thus character parity after this character has been received. When the subsequent characters were checked, it was found that one character did not have the specified parity.
Remedy:	Check tape

24	Invalid EIA char. RS232C (V.24)
Effect:	<ul style="list-style-type: none"> • Data transmission interrupted • Last block declared invalid
Explanation:	An EIA character with correct parity has been read in but the character is not defined in EIA code.
Remedy:	Check tape: Setting data 5026 (EIA code for "@"), Setting data 5027 (EIA code for ":") and Setting data 5029 (EIA code for "=") should be checked.

26	Block > 120 characters RS232C (V.24)
Cause:	The entered part program block has more than 120 characters. Only characters actually stored are counted (no blanks, no CR, . .).
Effects:	<ul style="list-style-type: none"> • Data transmission interrupted • Last block not stored
Remedy:	Split block into two or more blocks

27	Data input disabled RS232C (V.24)
Cause:	One of the following was read in in normal mode: <ul style="list-style-type: none"> • NC/PLC-MD without active password • PLC program (PCP), PLC alarm texts (only possible in overall reset mode)
Effect:	In overall reset mode PLC alarm texts were read in and NC MD 5012.7=0. No data stored.
Remedy:	Correct the conditions.

28	Circ. buffer overflow RS232C (V.24)
Effect:	<ul style="list-style-type: none"> • RS232C (V.24) transmission interrupted • Last blocks declared invalid
Explanation:	<p>The signalling rate is so high that the number of characters read in exceeds the number that can be processed by the NC.</p> <p>When the program is re-transmitted, the defective program must first be erased.</p> <ul style="list-style-type: none"> • RTS signal has no effect at input device (RTS initiates input device STOP) • Signalling rate (baud rate) too high

29	Block> 254 char. RS232C (V.24)
Cause:	The block read in has more than 254 characters. All input characters (e.g. blanks) are also included.
Effect:	<ul style="list-style-type: none"> • RS232C (V.24) transmission interrupted • Last block not stored
Remedy:	Split block into two or more blocks.

30	PP memory overflow RS232C (V.24)
Cause:	The maximum storage area for the part program is occupied.
Effects:	<ul style="list-style-type: none"> • Data transmission interrupted • Last block not stored
Remedy:	Erase old programs and reorganize memory.

31	No free PP number RS232C (V.24)
Cause:	The maximum number of programs specified by means of machine data has been reached.
Remedy:	<ul style="list-style-type: none"> • Erase old programs and reorganize memory • Modify MD 8 and reformat part program memory Sequence: <ol style="list-style-type: none"> a. "SET UP OVERALL RESET" mode b. "FORMAT USER MEM." softkey c. "CLEAR PARTPR." softkey Old programs are then deleted!!

32	Data format error RS232C (V.24)
Cause:	<ul style="list-style-type: none"> • Permissible number of decades after an address is incorrect • Decimal point in wrong position • Part programs or subroutines are not correctly defined or terminated (observe pre-header!) • NC expects a "=" character, but this character is not defined in EIA code
Effect:	Data transmission interrupted Last block not stored
Remedy:	Check data to be read in

33	Different programs same number RS232C (V.24)
Cause:	Read-in and stored programs not identical for same program number Wrong program number in BTR mode.
Effect:	No data stored
Remedy:	Delete old program or rename old program with "RENAME"
Explanation:	If an existing program with the same program number is read in again, the two programs are compared. If they differ, Alarm 33 is activated. If in BTR mode a program number 0 is preselected in the NC and a program with another program number is offered from outside via the serial interface, then Alarm 33 is given.

34	Operator error RS232C (V.24)
Cause:	Data transmission initiated at the NC and the PLC issues a second start signal
Effect:	No data read in
Remedy:	Stop data input and restart

35	Reader error RS232C (V.24)
Cause:	Error message from Siemens tape reader
Scan:	<ul style="list-style-type: none">• Only if the setting data for the Siemens reader have been set Data transmission interrupted
Effect:	Last block not stored
Remedy:	<ul style="list-style-type: none">• Restart data transmission• Replace Siemens reader if error recurs

36	BTR aborted by computer
Cause:	Message frame with error detection received from BTR device
Remedy:	Restart

POWER ON alarms

40	Wrong data in MD 576*
Cause: Effect: Remedy:	Wrong data in MD 576* bit 7, 6, 5 NC START disabled Activate option or check MD 576*

41	Error absolute submodule
Cause: Explanation:	Error when using a SIPOS absolute submodule The type of error can be seen from the line "Status absolute submodule" in the "Service data axis" display. The error number is displayed. The significance of the error number can be seen from the documentation on the SIPOS absolute encoder submodule.

48	PLC alarm texts from UMS not allowed
Scan: Effect: Explanation: Remedy:	<ul style="list-style-type: none"> • With POWER ON UMS declared invalid If the PLC alarm texts are not read in from tape (NC MD 5012 bit 7) but instead are configured using the WS800 programming workstation, the texts are transferred to the UMS together with cycles, displays and menus. On checking the inventory of the UMS, the control has established the presence of both PLC alarm texts from tape and alarm texts in the UMS. <ul style="list-style-type: none"> • Reset NC MD 5012 bit 7 • Check UMS and re-configure if necessary using WS800

87	Illegal software limit switch
Cause: Effect: Comment:	An illegal value has been entered in the machine data for software limit switch MD 224*, 228*, 232*, 236*) or prelimit switch (MD 376*). <ul style="list-style-type: none"> • Removal of NC-READY2 • Locking of NC START The check is performed effectively after POWER ON, independently of NC MD 560* bit 5 "Working area limitation, Software limit switch".

11.8 Axis-specific RESET alarms

104*	DAC limit reached
Scan:	Cyclically
Effect:	No direct effect. The error enters the following error Alarm 156*
Explanation:	Setpoint at DAC is higher than input in MD 268* (max. DAC setpoint). No further increase in setpoint possible!
Remedy:	<ul style="list-style-type: none"> • Operate at lower speed • Check actual values (pulse generator) • Check MD 268* • Check drive actuator (tachogenerator compensation at Vmax.) • Check MD 364* and MD 368* (var. increment weighting)

108*	Actual value difference overflow
Scan:	With each axis movement (including in follow-up mode)
Effect:	<ul style="list-style-type: none"> • NC START disabled • Setpoint 0 • NC Ready 2 cancelled • Servo enable cancelled after time in MD 156 has expired • Follow-up mode • Actual machine value is lost (wrong position)
Explanation:	<ul style="list-style-type: none"> • With high-speed axis travel the register has overflowed in the event of an error. The reference point was lost in the process.
Remedy:	<ul style="list-style-type: none"> • Reduce maximum speed. (Depending on MD 364* and 368*) • Check MD for variable increment weighting (MD 364* and MD 368*).

112*	Clamping monitoring
Cause:	<ul style="list-style-type: none"> • Incorrect position feedback polarity • Mechanically clamped axis forced out of position • Fault at control device (actuator), tacho-generator, motor, mechanical components or NC measuring-circuit hardware
Scan:	<ul style="list-style-type: none"> • At rest • During clamping • During deceleration
Effect:	<ul style="list-style-type: none"> • NC START disabled • Setpoint 0 • Servo enable cancelled after time in MD 156 has expired • Follow-up mode
Explanation:	<ul style="list-style-type: none"> • During positioning the following error could not be reduced more rapidly than the time input in MD 156 • During clamping the limit specified in MD 212* was exceeded
Remedy:	<ul style="list-style-type: none"> • MD212* (clamping tolerance) must be greater than MD 204* (exact stop limit coarse). • MD156 (servo enable cutoff delay) must be such that the following error can be suppressed within this time

116*	Contour monitoring
Scan:	<ul style="list-style-type: none"> • During processing in automatic mode but not: during acceleration during deceleration at speeds less than in MD 336* (contour speed)
Effect:	<ul style="list-style-type: none"> • NC START disabled • Setpoint 0 • Servo enable cancelled after time in MD 156 has expired • Follow-up mode
Explanation:	<ul style="list-style-type: none"> • Tolerance band MD 332* exceeded at a speed greater than in MD 336* • During acceleration or braking the axis has not reached the new speed within the time specified by the servo gain factor
Remedy:	<ul style="list-style-type: none"> • Increase tolerance band MD 332* • Check servo gain factor • Check optimization of speed controller • Check drive actuator

132*	Control loop hardware (POWER ON required)
Scan: Effect: Explanation: Remedy:	<ul style="list-style-type: none"> • Cyclically • NC START disabled • Setpoint relay drops out • NC Ready 2 cancelled • Servo enable cancelled after time in MD 156 has expired • Follow-up mode <p>Measuring-circuit differential signals</p> <ul style="list-style-type: none"> • are not in phase • are short-circuited to frame • are missing altogether <ul style="list-style-type: none"> • Check whether measuring-circuit connector has been inserted • By connecting measuring-circuit short-circuit connector, it is possible to check whether the measuring-circuit module is in order • Check differential signals using oscilloscope • Replace encoders (See Section 7 for characteristics of measuring-circuit differential signals)

136*	Meas. system dirty
Scan: Effect: Explanation: Remedy:	<p>Cyclically</p> <p>NC START disabled. The active program is fully executed.</p> <p>In measuring systems with contamination signal (e.g. EXE) an error is signalled by the measuring system to the NC.</p> <p>Check measuring system</p>

148*	+ Software limit switch
152*	- Software limit switch
Scan: Effect: Explanation: Remedy:	<p>With each axis movement</p> <ul style="list-style-type: none"> • NC START disabled • Setpoint 0 <p>Alarm is only active after reference point approach</p> <ul style="list-style-type: none"> • Software limit switch 1 or 2 approached, depending on PLC interface signal "2nd software limit switch active" • Move away from limit switch in reverse direction • Check MD 224*, 228*, 232*, 236*

156*	Set speed too high
Scan: Effect:	<ul style="list-style-type: none"> • Cyclically • NC START disabled • Setpoint 0 • Servo enable cancelled after time in MD 156 has expired • Follow-up mode
Explanation:	Set speed output in control is higher than specified in MD 264*
Remedy:	<ul style="list-style-type: none"> • Motor could not follow set speed input • Check whether value in MD 264* is greater than in MD 268* • Check drive • Check measuring system • Earthing neutral point at NC ? • Check drive actuator • Check direction of position control (setpoint/actual value inverted?)

160*	Drift too high
Scan: Effect:	<ul style="list-style-type: none"> • Cyclically • NC START disabled • Green LED "Position not yet reached" lights up • No traversing movement possible
Explanation:	The drift to be compensated by the NC has exceeded approx. 500 mV.
Remedy:	<ul style="list-style-type: none"> • Perform drift compensation in MD 272* (see also Section 8) Operator input: <ul style="list-style-type: none"> – Select MD 272* – Depress EDIT key • Check whether drift was adjusted correctly at drive unit • Check drive actuator • Check earthing

168*	Servo enable trav. axis
Scan: Effect:	<p>With each axis movement</p> <ul style="list-style-type: none"> • NC START disabled • Setpoint 0 • Servo enable cancelled after time in MD 156 has expired • Follow-up mode
Explanation:	Axis-specific servo enable cancelled by PLC user program during traversing movement
Remedy:	<ul style="list-style-type: none"> • Check PLC program

172*	+ Working area limit
176*	- Working area limit
Scan:	During processing in automatic mode During axis traversing in JOG, INC and REPOS mode
Effect:	<ul style="list-style-type: none"> • NC START disabled • Setpoint 0
Explanation:	Working area limitation in the setting data has been reached.
Remedy:	<ul style="list-style-type: none"> • Check working limitation in setting data (select using "Setting Data" and "Common Axial" soft keys) • Check program
Note:	<ul style="list-style-type: none"> • Working area limitation in JOG mode only active when NC MD 5003 bit 6 is set

180*	Axis in several channels
Cause:	During simultaneous processing of two programs in different channels, one axis has been programmed in both programs (channels) such that a traversing movement for the axis in question is output by both programs.
Effect:	<ul style="list-style-type: none"> • NC START disabled • Setpoint 0
Remedy:	Check both programs

184*	Stop behind reference point
Scan:	During approach to reference point
Effect:	<ul style="list-style-type: none"> • NC START disabled • Setpoint 0 • Reference point not reached
Explanation:	During approach to the reference point the axis was stopped between the reference cam and zero mark of the measuring system.
Remedy:	Repeat approach to reference point

196*	Follow-up/park for axis
Explanation:	<ul style="list-style-type: none"> • The interface signal PARK for the axis is active • Changeover from spindle mode to rotary axis mode has not yet taken place

11.9 General RESET alarms

2000	Emergency stop
Scan: Effect:	Cyclically <ul style="list-style-type: none"> • NC START disabled • Setpoint 0 • Servo enable cancelled after time in MD 156 has expired • Follow-up mode
Significance: Remedy:	PLC outputs "EMERGENCY STOP" signal to NC. <ul style="list-style-type: none"> • Check with PLC-STATUS whether Q 78.1 = 0 • Check whether EMERGENCY STOP cam approached or EMERGENCY STOP pushbutton actuated • Check PLC program
Caution:	According to legal requirements the EMERGENCY STOP status must be selected not only by the control (software) but also by the hardware (using relays).

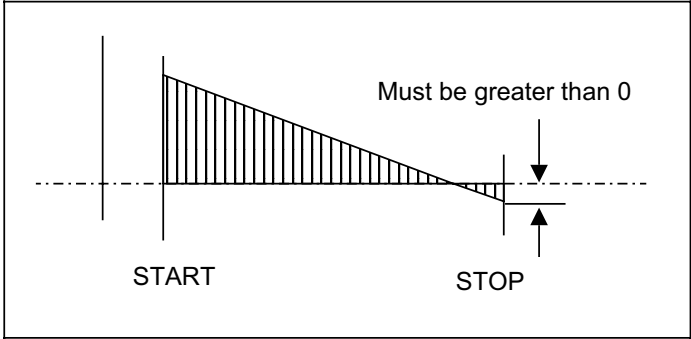
2030	Wrong path increment
Cause:	<ul style="list-style-type: none"> • Set part position too large with spline. Incorrect spline coefficient K, path line I or axis position • Axis offset not carried out before spline selection

2031	Eval. factor too high/low MD 388*
Scan: Effect:	On every axis movement <ul style="list-style-type: none"> • NC START disabled • Setpoint 0 • Stop in processing
Remedy:	Check MD 388*

2032	Stop during threading
Effect: Explanation:	<ul style="list-style-type: none"> • Setpoint 0 • NC Start disabled • Stoppage has occurred in feedrate per revolution during thread cutting, resulting in destruction of the thread. • Axis-specific feed enable was cancelled during "G33 active"

2034	Speed reduction area
Explanation:	The software pre-limit switch has been overrun and the axes braked to reduction speed.
Remedy:	<ul style="list-style-type: none"> • Check program • MD0 - Pre-limit switch • MD1 - Speed behind pre-limit switch (reduction speed)

2035	Feed limitation
Cause:	An axis speed was specified which was larger than the maximum axis speed (MD 280*)
Effect:	Speed is reduced to maximum speed
Explanation:	<ul style="list-style-type: none"> • The programmed speed is greater than the tool path feedrate resulting from the maximum speeds of the axes. • During thread cutting G33 a spindle speed and a thread pitch were programmed which would lead to an axis speed greater than the maximum axis speed (MD 280*). • One of the following data is greater than the maximum speed <ul style="list-style-type: none"> • conventional feed (JOG) • conventional rapid traverse (JOG) • incremental speed • reference point approach speed

2036	G35 thread lead decr. error
Scan:	During thread cutting.
Significance:	The lead decrease in the thread is so great that a diameter of 0 or less would result at the end of the thread.
	
Remedy:	Program smaller lead decrease or shorter thread.

2037	Prog. S value too high
Explanation:	Programmed, overstored spindle speed "S" exceeds "16 000". Enter slower spindle speed (S value limited in control to "16 000").

2038	Path feed too great
Explanation:	<ul style="list-style-type: none"> • The value entered in the machine data "Max. velocity" exceeds the permitted value range. • The programmed path of velocity results in an axial velocity which is outside of the value range. <p>The axis number is displayed after N.</p>
Effect:	Blocking of NC Start and dropping out of setpoint relay.
Remedy:	Check the MD "Max. velocity". Observe the value range.

2039	Reference point not reached
Scan:	• In AUTOMATIC/MDI mode after NC START
Effect:	• NC START disabled
Significance:	The reference point was not approached in all defined axes
Remedy:	<ul style="list-style-type: none"> • Approach reference point in axes concerned. • Set NC MD 5004 bit 3 (NC START without reference point). <p>Caution: No software limit switches active.</p> <ul style="list-style-type: none"> • Set NC MD 560* bit 4. <p>Approach to reference point can then be suppressed for one or more special axes on an axis-specific basis.</p> <p>Caution: No software limit switches active in these axes.</p>

2040	Block not in memory
Effect:	• NC START disabled
Explanation:	<ul style="list-style-type: none"> • The block number sought in block search is not available in the program. • With a jump in the program, the programmed block number could not be found in the specified direction.

2041	Program not in memory
Effect:	• NC START disabled
Explanation:	<ul style="list-style-type: none"> • Preselected program is not available in memory • Subroutine called in program is not available in memory
Remedy:	• Preselect correct program, check program overview

2042	Parity error in memory
Scan: Explanation: Effect: Remedy:	<ul style="list-style-type: none"> • During processing in automatic mode One or more characters are deleted in the memory, so they can longer be recognized (these characters are output as "?") NC START disabled • Correct program in EDITOR or, if necessary, delete complete block and re-input • With a large number of "?" the complete memory may have been erased; in this case check the battery and reformat the part program memory

2043	Progr. error on transform.
Explanation:	<ul style="list-style-type: none"> • Programming of real axes of the transformation group when transformation has been selected. • Programming of fictitious axes when transformation has been deselected. • Programming traversing movements in the selection block

2046	Block > 120 characters
Scan Effect: Explanation: Remedy:	<ul style="list-style-type: none"> • During processing in automatic mode • NC START disabled "LF" is inverted in the memory producing a block of more than 120 characters. Insert "LF" or delete complete block

2047	Option not available
Effect: Explanation: Remedy:	<ul style="list-style-type: none"> • NC START disabled The programmed function is not included in the control's function set. Correct program, check MD

2048	Circle end point error
Effect:	<ul style="list-style-type: none"> • NC START disabled • Programmed circle end point not on circle • End point is further away by more than the input limit in MD • No geometry in first block of contour subroutine with L95 stock removal cycle
Remedy:	Correct program

2056	Travel thru transf. center
Explanation:	<ul style="list-style-type: none"> • Radius axis (linear axis) tends to travel to the zero point of fictitious coordinate system on the programmed path
Remedy:	<ul style="list-style-type: none"> • Change cutter radius • Program different path motion

2057	Opt. thread/rev. not available
Significance:	<ul style="list-style-type: none"> • A thread has been programmed with G33, G34, G35 although this function is not implemented in the control • Feedrate per revolution G95 has been programmed
Remedy:	<ul style="list-style-type: none"> • Correct program • Check MD

2058	3D option not available
Explanation:	<ul style="list-style-type: none"> • 3 axes programmed simultaneously • Programmed block results in movement of 3 axes
Remedy:	<ul style="list-style-type: none"> • Correct program, check MD

2059	G92 Program error
Explanation:	<ul style="list-style-type: none"> • Use of an illegal address character G92 is only allowed with address "S" (programmed spindle speed limitation for G96) or "P" (cylindrical interpolation).

2060	TO, ZO Program error
Significance:	<ul style="list-style-type: none"> • Unavailable tool offset number selected • Selected zero offset or tool offset value too large • Type (P1) of tool offset called defined with 0

2061	General program error
Effect: Remedy:	NC START disabled <ul style="list-style-type: none"> • Contour calculation not possible • Incorrect machine data for axis duplication function

2062	Feed missing/not prog.
Cause:	<ul style="list-style-type: none"> • No F value programmed • F value too small (machine data) • Programmed feedrate per revolution G95 greater than 50 mm/rev
Remedy:	<ul style="list-style-type: none"> • No feedrate per revolution programmed • With G98, traversing path=0 for the rotary axis or the feedrate value has been omitted. Program feed correctly

2063	Thread lead too high
Effect: Explanation:	NC START disabled Thread pitch of more than 400 mm/revolution (16 inches per revolution) programmed.
Remedy:	<ul style="list-style-type: none"> • Program smaller thread pitch • Possibly run program on a machine with SINUMERIK 850 (max. speed 2000 mm/revolution)

2064	Program error round axis
Scan:	During processing in automatic/MDI mode
Explanation:	In the case of rounding to half or full degrees with a rotary axis, the control monitors the programmed positions to ensure that rounding has been correctly performed.
Effect:	<ul style="list-style-type: none"> • NC START disabled • Programmed travel in block is not processed
Remedy:	<ul style="list-style-type: none"> • Program correct position in rotary axis • Check MD 560* bits 2 and 3
Note:	In manual modes JOG, INC the control rounds automatically to valid values; in AUTOMATIC or MDI mode it only monitors the programmed positions and does not round automatically.

2065	Pos. behind SW overtravel
Scan:	During processing in automatic/MDI mode
Effect:	<ul style="list-style-type: none"> • NC START disabled • Programmed travel is not processed
Explanation:	Programmed end position of block is behind software limit switch.
Remedy:	<ul style="list-style-type: none"> • Check program, tool offset and zero offset • Check MD224*, 228*, 232*, 236* as a function of PLC interface signal "2nd software limit switch active"

2066	Thread lead incr./decr.
Scan:	During processing in AUTOMATIC/MDI mode
Effect:	NC START disabled
Explanation:	Thread or pitch increase or decrease of more than 16 mm per revolution (0.6 inch/revolution) programmed.
Remedy:	Program smaller thread lead increase/decrease

2067	Max. speed = 0
Scan:	During processing in AUTOMATIC/MDI mode
Effect:	NC START disabled
Explanation:	The maximum speed of the axis programmed in the block is ZERO.
Remedy:	Check MD 280*

2068	Pos. behind working area
Scan: Effect:	During processing in AUTOMATIC/MDI <ul style="list-style-type: none"> • NC START disabled • Programmed travel not processed
Explanation:	Programmed end position of block is behind working area limitation in one or more axes.
Remedy:	<ul style="list-style-type: none"> • Check working area limitation (positive and negative) • Modify working area limitation by means of G25/G26 in program

2072	Incorrect input value (contour definition)
Explanation:	Value input not calculable for contour definition calculation.

2073	No intersection point (contour definition)
Explanation:	No intersection is obtained with programmed values when calculating contour definition.

2074	Incorrect angle value (contour definition)
Explanation:	<ul style="list-style-type: none"> • Angle 360° programmed • Angle value not practical for defined contour

2075	Incorrect radius value (contour definition)
Explanation:	<ul style="list-style-type: none"> • Radius too large • Radius not permitted with defined contour

2076	Incorrect G02/G03 (contour definition)
Explanation:	Circle direction not possible with defined contour

2077	Incorrect block sequence (contour definition)
Explanation:	Several blocks are required for calculating contour definition: <ul style="list-style-type: none"> • Block sequence incorrect • Data not sufficient (under-determined) <p>Example: N10...B15 LF N20...G3 I20 LF</p>

2078	Incorrect input parameter (contour definition)
Explanation:	<ul style="list-style-type: none"> • Programmed parameter sequence not allowed • Parameter sequence incomplete for defined contour <p>Example: N10...X60 B15 LF (Z axis missing) N20...X90 B10 LF</p>

2081	CRC/TNRC not allowed
Explanation:	With cutter/tool nose radius compensation (CRC/TNRC, G41/G42) selected, the following functions must not be programmed: G33, G34, G35, G58, G59, G92, M19 S...
Remedy:	<ul style="list-style-type: none"> • Cancel CRC/TNRC with G40 or program D0

2082	CRC plane not determinable
Significance:	Axes of selected CRC plane do not exist.
Remedy:	<ul style="list-style-type: none"> • Check MD 548*, 550*, 552* • Select correct plane with G16

2087	Coord. rotation n. allowed
Explanation:	When coordinate rotation has been programmed in the NC program a circular motion is to be performed immediately after changing the overall rotating angle.
Remedy:	Check NC program

2088	Battery alarm abs. submod. 1
Cause:	Battery voltage too low Battery test every 10 minutes
Remedy:	Replace battery submodule on absolute submodule 1 with control under power.

2089	Battery alarm abs. submod. 2
Cause:	Battery voltage too low Battery test every 10 minutes
Remedy:	Replace battery submodule on absolute submodule 2 with control under power.

2152	Spindle speed too high
Scan:	• Only when MD 5200 bit 2 is set (pulse generator available)
Explanation:	• The spindle actual speed has exceeded the tolerance defined by the machine data.
Effect:	<ul style="list-style-type: none"> • Setpoint for all axes set to "0" • Servo enable of the axes is cancelled when the delay in MD 156 has elapsed. • Follow-up mode for all axes is given ("Axis in position control" is removed) • Spindle is halted (setpoint 0)
Remedy:	<ul style="list-style-type: none"> • Program smaller S value • Check MD 403*-410* (max. spindle speed for first to eighth gear speed) • MD 445* (tolerance band of the max. spindle speed) • MD 451* (max. spindle speed) • Gear speed correctly selected by the PLC? • G 92 S... incorrectly programmed for v constant (G96)

2153	Control loop spindle - HW
Scan: Effect: Explanation: Remedy: Note:	<p>Cyclically</p> <ul style="list-style-type: none"> • NC START disabled Setpoint 0 • NC Ready 2 cancelled • Spindle servo enable cancelled after time in MD 4470 has expired <p>As for Alarm 132*</p> <p>As for Alarm 132*</p> <p>Axis measuring-circuit alarms which occur after the alarm in the order control loop - spindle - hardware are recognized but not displayed.</p>

2154	Spindle meas. system dirty
Scan: Explanation: Effect: Remedy:	<p>Cyclically</p> <p>In measuring systems with a contamination signal, the measuring system has signalled an error to the NC.</p> <p>NC START disabled</p> <p>Check measuring system</p>

2155	Option M19 not available
Scan: Effect: Explanation: Remedy:	<ul style="list-style-type: none"> • During processing in AUTOMATIC/MDI mode NC START disabled <p>"M19 S..." programmed in part program although this function is not available.</p> <ul style="list-style-type: none"> • Correct program • Retrofit option "M19"

2160	Scale factor not allowed
Effect: Significance: Remedy:	<p>Machining halted</p> <p>Range of values from 0.000 01 to 99,999 99 exceeded</p> <p>Check NC program block with G51 P..</p>

2161	Scale change not allowed
Effect: Significance: Remedy:	Machining halted Scale change not allowed in NC program Check NC program with G51 X.. Y.. Z.. U.. P

2171	Approach not possible
Explanation: Remedy:	The control supplements no more than one axis in the programmed plane. Approach is not possible when two axes in the programmed plane are to be supplemented. <ul style="list-style-type: none"> • Check NC program for complete axis programming in approach block. • Programming of cancellation block immediately after selection block not allowed (no tangent can be calculated).

2172	Retract not possible
Explanation: Remedy:	See Alarm 2171 <ul style="list-style-type: none"> • Check NC program for complete axis programming in approach block. • An approach movement must be programmed with G48 progr. cancel movement (retract as for approach).

2173	Wrong appr./retract plane
Explanation: Remedy:	The select/cancel movements for the smooth approach/retract function are plane-related to the selected plane G16, G17, G18, G19. Check NC program as to whether a change of plane is programmed in the block after selection or in the cancellation block.

2183	N564* AXIS IS NOT A ROTARY AXIS
Explanation:	Changeover to rotary axis although this axis has not been declared as rotary axis. The relevant machine data is specified after N.

2184	M function for C axis invalid
Explanation:	M functions reserved by the NC have been used for selecting/deselecting the rotary axis mode (e.g. M01)

2189	Transformation undefined
Explanation:	<ul style="list-style-type: none"> • Transformation type not defined • Option bit not set • Transformation axes defined several times or incorrectly

2190	Transformation axes assigned
Explanation:	For transformation selection one of the real axes of the transformation grouping is programmed in another channel.

2191	Transformation in zero
Explanation: Remedy:	1st real axis located in zero for transformation selection Remove axis from zero in JOG, INC mode

2192	Axis doubling active
Cause:	PLC signals QB 81.2 or 81.3 changed outside "Reset state". Travel key activated in "jog mode" without Automatic interrupted and QB81.2 and 81.3 and MD 5019.0 set. Axis duplication active and axial PLC signals (Servo enable, Feedrate enable, Mirror, Follow-up mode, Axis disable) not identical for both axes.
Effect:	PLC signals QB 81.2 and 81.3 both equal to zero, but option bit set. NC start disabled
Remedy:	Set PLC signals correctly

2193	No additional axes possible
Cause:	This occurs only at NC Start after block search in the target block when the MD "Add axis after block search" have been set: <ul style="list-style-type: none">• axes are to be added in G36 blocks• axes are to be added in G98 blocks without axis traverse motion.
Abhilfe:	Do not perform block search on this block.

2194	G36 position rotary axis missing
Cause:	Occurs only if a G68 is to be generated for the rotary axis in a G36 block when MD 572* bit 2=1.
Remedy:	<ul style="list-style-type: none">• Program the rotary axis first of all with G0 or G01 (e.g. G0 91 C=0).• Select target block in such a way that no G36 is active in the target block and that the rotary axis is already programmed before the G36 block.

11.10 RESET alarms spindle-specific

225*	Spindle speed too high
Scan: Explanation: Remedy:	<p>Only when NC MD 520* bit 2 is set (encoder available) The actual spindle speed is greater than that set in the machine data or in the setting data.</p> <ul style="list-style-type: none"> • Program smaller S value • NC MD 403* to 410* (max. spindle speed for 1st to 8th gear stage) • NC-MD 445* (tolerance band of max. spindle speed) • NC-MD 451* (max. spindle speed) • Check gear stage of PLC • Check G92 S ... for "v=constant" • Check setting data for spindle speed limitation • Program G26 S ...

226*	Control loop spindle hardware (POWER ON ALARM)
Scan: Effect: Explanation: Remedy:	<p>Cyclically</p> <ul style="list-style-type: none"> • Locking of "NC START" • Drop-out of setpoint relay, setpoint 0 • Removal of NC Ready2 • Controller enable of the spindle is removed after expiry of time in MD 447* <ul style="list-style-type: none"> • As for alarm 132* • As for alarm 132*

227*	Contamination measuring system (spindle)
Remedy: Effect: Explanation: Remedy:	<p>Cyclically Locking of "NC Start"</p> <p>In measuring systems with contamination signal, an error has been signalled from the measuring system to the NC.</p> <p>Check the measuring system.</p>

228*	Option M 19 missing
Scan: Effect: Remedy:	<p>The interface signal "M 19 from PLC" is on although this function is not implemented in the control.</p> <p>Locking of "NC START"</p> <ul style="list-style-type: none"> • Check program • Check NC MD • Retrofit option E42

11.11 Alarm list ACKNOWLEDGE

3000	General program error
Explanation:	A general programming error which cannot be precisely defined has been made in a block in the program. Example: <ul style="list-style-type: none"> • The programmed axis is not available at the machine. • Incorrect interpolation parameters programmed. • Axis duplication option active and D number in part program greater than 49. • Spindle was programmed in rotary axis mode.
Remedy:	Check defective block in "Correction Block" Cursor is set in front of incorrect word if possible. Number of the defective block is behind the alarm no. in the alarm line.

3001	Geometry parameters >5
Explanation:	More than 5 geometry parameters such as axes, interpolation parameters, radii, angles etc. have been programmed in the block.
Remedy:	As for Alarm 3000

3002	Polar/radius error
Explanation:	No programming in block with polar/radius programming for: <ul style="list-style-type: none"> • Angle • Radius • Centre point coordinates
Remedy:	As for Alarm 3000

3003	Invalid address
Explanation:	<ul style="list-style-type: none"> • The address programmed is not defined in the machine data. • The axis names for basic setting plane (MD 548*, 550*, 552*) do not correspond to the defined axis designations (MD 568*) • Axis duplication option active and tool system 2 axes programmed in part program.
Remedy:	MD 108*...MD 118* are not correctly assigned The MDs for I, J, K parameters (MD 304*) contain a number not equal to 0, 1, 2 or 3. <ul style="list-style-type: none"> • As for Alarm 3000 • Correct machine data

3004	CL800 error
Explanation:	<ul style="list-style-type: none"> • @ function not available • Incorrect address after @ • Number of addresses after @ incorrect • Value in K, R or P not permissible • Number of decades excessive • No decimal point allowed • Jump address incorrectly defined • System memory (NC MD, PLC MD, TO, ...) not available • Bit number excessive • Sine or cosine angle incorrectly stated • MD write @ inhibited MD 5012.2=1
Remedy:	<ul style="list-style-type: none"> • @ as per Programming Guide • Only addresses allowed are K, R and P • Jump addresses forwards with "+" backwards with "- " • Check validity of values in stated addresses • If necessary select decoding single block (DEC-SBL) and re-check program
3005	Contour definition error
Explanation:	Coordinates in blueprint programming have been defined such that no intersection is produced.
Remedy:	As for Alarm 3000
3006	Wrong block structure
Explanation:	<ul style="list-style-type: none"> • More than 3 M functions programmed in block • More than 1 S function programmed in block • More than 1 T function programmed in block • More than 1 H function programmed in block • More than 4 auxiliary functions programmed in block • More than 3 axes with G00/G01 programmed in block • More than 2 axes with G02/G03 programmed in block • G04 programmed with addresses other than "X" or "F" • M19 programmed with addresses other than "S" • Incorrect or no interpolation parameter for G02/G03 (MD 304*) • G92P... not alone in block • G74 not alone in block • Spline interpolation not allowed • G98 active without G0, G1 or G36 • Contour elements are traversed with G98 feed • In the G36 block there is no thread lead or the thread lead is not assigned through MD 304* to the infeed axis • In a G98 or G36 block, TRANSMIT/cylindrical interpolation is active with the same rotary axis • Wrong number of rotary axes with G98 • Wrong number of axes with G36 • Radius, angle or L or P have been programmed in a G35 block • Because of the thread lead and the distance to go for the infeed axis, the distance to go in the rotary axis is too great with G36.
Remedy:	As for Alarm 3000

3007	Wrong setting data program
Explanation:	<ul style="list-style-type: none"> • G25 / G26 programmed • G92 programmed with an address other than "S" or "P" • M19 programmed with an address other than "S"
Remedy:	As for Alarm 3000

3008	Subroutine error
Explanation:	<ul style="list-style-type: none"> • M30 programmed as program end • M17 missing at program end • 5th nesting depth activated (only 4 subroutine levels possible with SINUMERIK 810) • M17 programmed in main program
Remedy:	As for Alarm 3000

3009	Program disabled
Explanation:	L0 preselected in AUTOMATIC display (is prohibited)

3010	Intersection error
Significance:	<p>This error may occur in conjunction with stock removal cycle L95 if:</p> <ul style="list-style-type: none"> • Contour program programmed without G0, G1, G2, G3 • @ 714 programmed in contour program • Incorrect plane in contour program • No intersection found • More than quarter circle programmed in contour program • No geometry in first block of contour program of L95 stock removal cycle
Remedy:	As for Alarm 3000

3011	Number of axes > 2 / axes twice
Explanation:	<ul style="list-style-type: none"> • An axis has been programmed twice in the same block. • More axes have been programmed than are available at the machine
Remedy:	As for Alarm 3000

3012	Block not in memory
Explanation:	<ul style="list-style-type: none"> • Program not terminated with M02 / M30 / M17. • Block number stated in the jump (@ 100, 11x, 12x, 13x) was not found in the specified direction.
Remedy:	As for Alarm 3000

3013	Simulation disabled
Explanation:	With the machine data set accordingly, graphic simulation (for checking the part program) is only possible if no program is being processed simultaneously at the machine (depending on MD 5007, bit 4).
Remedy:	<ul style="list-style-type: none"> • Interrupt the part program at a suitable point using the RESET key • Process the part program up to the end, then simulate

3016	External data input error
Effect:	Data transfer interrupted.
Explanation:	With external data input from the PLC to the NC: <ul style="list-style-type: none"> • Code is incorrect • Value excessive • Dimensional identifier impermissible • Option not available
Remedy:	<ul style="list-style-type: none"> • Check PLC program • Check NC MD, PLC MD

3017	Part program no. occurs twice
Scan:	With "POWER ON RESET" (switching on of control)
Effect:	NC START disabled
Explanation:	The EPROM card for the cycles has a part program in duplicate
Remedy:	Check UMS

3018	Distance from contour too great
Scan:	After NC start (automatic)
Effect:	<ul style="list-style-type: none"> • Stop in processing
Explanation:	The distance from the circle contour (MD 9) is too large after repositioning
Remedy:	Note MD 9, move closer to the contour

3019	Option RS 232 not available
Explanation:	The second RS 232 C (V.24) interface has been activated by the PLC or using the soft key without the option being available.
Remedy:	<ul style="list-style-type: none"> • Transmit data via the first RS 232C interface • Retrofit option C62 (second RS 232C interface)

3020	Option not available
Explanation:	A function has been programmed which is not available in the control.
Remedy:	<ul style="list-style-type: none"> • As for Alarm 3000 • Retrofit option

3021	CRC/TNRC contour error
Scan:	<ul style="list-style-type: none"> • With CRC/TNRC selected
	NOT: <ul style="list-style-type: none"> • in selection block • in cancellation block
Explanation:	Correction calculation produces a traversing movement opposing the programmed movement.

3024	Display description not available
Explanation:	A configured softkey has been used to skip to a display which is not available in the user memory submodule or system memory.
Remedy:	<ul style="list-style-type: none"> • Check display number • Check softkey function

3025	Display description error
Explanation:	<ul style="list-style-type: none"> • A display with graphics has been configured but the control does not have the "Graphics" option. • The selected display has too many variables or fields. • A display type not known to the control has been configured.
Remedy:	<ul style="list-style-type: none"> • Check display with programming workstation • Retrofit "Graphics" option if necessary

3026	Graphics / text too volum.
Explanation:	<ul style="list-style-type: none"> • Configuring error in selected display • Sum of graphics and text elements too large
Remedy:	<ul style="list-style-type: none"> • Check display with programming workstation • Split contents over 2 displays if necessary

3027	Graphics command too volum.
Explanation:	Sum of graphics commands in selected display too large.
Note:	This alarm activates Alarm 3026.
Remedy:	<ul style="list-style-type: none"> • As for Alarm 3026

3028	Too many fields / variables
Explanation:	<ul style="list-style-type: none"> Configuring error in selected display. The number of fields or variables is limited in view of the specific length of the transfer buffer. A maximum number of fields/variables cannot be stated since the fields/variables can have different formats and positions.
Remedy:	<ul style="list-style-type: none"> Check display with programming workstation Reduce number of fields/variables Split contents over 2 displays if necessary

3029	Graphics option not available
Explanation:	Graphics elements have been configured in the selected display although NC MD 5015 bit 2 "Graphics" is not available in the control.
Remedy:	<ul style="list-style-type: none"> Set bit 2 of NC MD 5015 Configure displays without graphics elements

3030	Cursor memory not available
Explanation:	The cursor memory configured in the selected display is not correct (number not permitted or too large).
Remedy:	Re-determine cursor memory with programming workstation.
Note:	<ul style="list-style-type: none"> The function of the cursor memory is to place the cursor at its original position when the display is called once more.

3032	Too many fields / variables (DIS GGS)
Note:	As for Alarm 3028

3033	Display text not available
Explanation:	An error has occurred during linking with the programming workstation.
Remedy:	Check link list and re-link with programming workstation (watch for link errors!).

3034	Text not available
Explanation:	The followings texts have been incorrectly linked or not linked at all in the selected display: <ul style="list-style-type: none"> • Menu texts • Dialog texts • Mode texts • Alarm texts etc.
Remedy:	Check display using programming workstation

3040	Fields / var. not displayable
Explanation:	<ul style="list-style-type: none"> • Field/variable incorrectly configured or not configured • Field/variable configured with inadequate number of positions • Field/variable overflow (range of values exceeded)
Remedy:	Check field/variable using programming workstation; if necessary delete and re-input.
Note:	If the error occurs in the Siemens standard displays, the range of values has been exceeded.

3041	Too many fields / variables (DID DIS)
Explanation:	As for Alarm 3028

3042	Display description error
Explanation:	An error has been determined in the display description which cannot be accurately assigned, e.g. a non-existent field has been configured (NC MD for 5th axis).
Remedy:	Check display using programming workstation, graphics not available

3043	Display description error
Explanation:	As for Alarm 3024
Remedy:	As for Alarm 3042

3046	Variable error
Explanation: Remedy:	A variable has been selected which cannot be represented in control. Check display using programming workstation; re-input variable if necessary

3048	Wrong workpiece definition
Explanation: Remedy:	Minimum and maximum values have been reversed when defining the workpiece. Example: Xmin. = 100 Xmax. = 50 Check workpiece definition for valid values.

3049	Wrong simulation area
Explanation: Remedy:	No values or incorrect values have been input when defining the simulation area. <ul style="list-style-type: none"> • Check values for simulation area (all levels). • Simulation may only be restarted after depressing RESET and the ACKNOWLEDGE ALARM key.

3050	Incorrect input
Explanation:	Simulation data incorrect/not defined.

3063	Data block not available
Explanation: Remedy:	In PLC STATUS a DB No. was selected, which is not available. Select or create correct DB.

3081	CRC not selected on approach
Explanation:	The function "soft contour approach and retract" is only possible when cutter radius compensation has been selected. G41/ G42 D0 is then considered to have been selected.
Remedy:	Select CRC

3082	Feed missing/not prog.
Explanation:	When simulating a part program: <ul style="list-style-type: none"> • No feedrate F programmed • F value too small (MD) • Wrong feed type in G36 block
Remedy:	Programm feedrate correctly

3083	Feed limit fictitious axis
Explanation:	The feedrate is reduced block by block if necessary to ensure that the rotary axis is not moved faster than specified in MD 280* when the Transmit function is active. Alarm ist not actuated when rapid reverse ist programmed in the part program (G00, G10)
Remedy:	Programm smaller feedrate or select other cutter radius

3084	Wrong data in DB 39
Explanation:	<ul style="list-style-type: none"> • R parameter no. not within permissible range • Incorrect assingment axis /cam parameter
Remedy:	Correct DB 39 values and specify value transfer

3087	Transformationsdaten-Fehler
Erläuterung:	Fehlerhafter Inhalt in Transformationsmaschinendatum (wird nur bei Neustart gemeldet). Der Alarm ist satzbezogen. Die Nummer des fehlerhaften Maschinendatums wird an Stelle der Satznummer angegeben.

3200	e.g. 1N5 illegal working area limitation
Explanation:	N5 = axis number 5 (a number from 1 to 7 is possible) 1 =min. working area limitation 2=max. working area limitation This alarm is issued when the entry for working area limitation is beyond the permitted values. Together with this alarm, the values are limited to the maximum possible. This alarm simply indicates that this limitation has taken place.

3201	Spindle not synchronized
Explanation:	Initiation of C axis mode without the spindle being synchronized. This can occur if the spindle has not been rotated after POWER ON.
Remedy:	Rotate spindle.

3202	M19 still active
Explanation:	Initiation of rotary axis mode although M19 is still active.
Remedy:	Terminate M19.

6000 : 6063	PLC user alarm
Explanation: Remedy:	Initiation bit was set in the PLC user program Check PLC program or machine function

6100	Signal converter missing
Cause: Effect: Remedy:	Load or transfer command to unavailable peripheral device (I/Os), e.g. L PB, T PB PLC STOP Check peripheral address or STEP 5 program

6101	Illegal MC 5 code
Cause: Effect: Remedy:	STEP-5 instruction cannot be interpreted PLC STOP Check or reload PLC program Evaluate ISTACK

6102	Illegal MC 5 parameter
Cause: Effect: Remedy:	Illegal parameter type (I, Q, F, C, T) or illegal parameter value PLC STOP Check PLC program Evaluate ISTACK

6103	Transfer to missing DB
Cause:	L DW or T DW without prior "opening" (A DB ...) of a data block
Effect:	PLC STOP
Remedy:	Check PLC program

6104	Substitution error
Cause:	Parameterization error in BMW or BDW command
Effect:	PLC STOP
Remedy:	Correct PLC program

6105	Missing MC 5 block
Cause:	Unavailable block in control called (OB, PB, SB, FB).
Effect:	PLC STOP
Explanation:	OB2 not available, for example
Remedy:	Enter missing block

6106	DB missing
Cause:	Unavailable data block in control called
Effect:	PLC STOP
Remedy:	Enter missing DB

6107	Illegal segment LIR / TIR
Cause:	LIR: Segment No. 0-A allowed TIR: Segment No. 0-6 allowed
Effect:	PLC STOP
Explanation:	Programming Guide LIR/TIR
Remedy:	Correct program

6108	Illegal segment block transfer TNB / TNW
Cause:	Source : Segment No. 0-A allowed
Effect:	Destination : Segment No. 0-6 allowed
Explanation:	PLC STOP
Remedy:	See Programming Guide TNB / TNW
	Correct program

6109	Overflow - BSTACK
Cause:	Nesting depth of more than 12
Effect:	PLC STOP
Explanation:	When a block calls itself, for example
Remedy:	Correct program

6110	Overflow - ISTACK
Cause:	More than two ISTACK entries
Effect:	PLC STOP
Explanation:	Cyclic program (OB1) interrupted by interrupt handler (OB2) and interrupt handler interrupts itself
Remedy:	See processing delay OB2, Alarm 6162.

6111	MC 5 instruction STS
Cause:	STS instruction programmed in FB
Effect:	PLC STOP
Explanation:	Immediate termination of STEP 5 program processing

6112	MC 5 - command STP
Cause: Effect: Explanation:	STP instruction programmed PLC STOP PLC STOP after termination of STEP 5 program processing

6113	Illegal MC 5 timer / counter
Cause: Effect: Remedy:	STEP 5 timer or counter not available or not enabled via MD. Time with a constant of 10 ms progr. PLC STOP. <ul style="list-style-type: none"> • Correct program, correct time constant (100 ms, 1 s, 10 s) • Change PLC MD 6

6114	Function macro
Cause: Effect: Remedy:	Error in use of a function block (basic program) PLC STOP See Programming Guide, Function Macros Evaluate ISTACK (error number in ACCU 2)

6115	System commands disabled
Cause: Effect: Remedy:	Programmed command LIR, TIR, TNB, TNW PLC STOP Set PLC MD 2003 bit 4

6116	MD 0000: Alarm byte No.
Cause: Effect: Remedy:	PLC MD 0 set greater than 31 PLC STOP Correct MD

6117	MD 0001: CPU load
Cause: Effect: Remedy:	PLC MD 1 greater than 20 % PLC STOP Correct MD

6118	MD 0003: Alarm runtime
Cause: Effect: Remedy:	PLC MD 3 greater than 2500 μ s PLC STOP Correct MD

6119	MD 0005: Cycle time
Cause: Effect: Remedy:	PLC MD 5 greater than 320 ms PLC STOP Correct MD

6121	MD 0006: Last MC 5 time
Cause: Effect: Remedy:	PLC MD 6 greater than 31 PLC STOP Correct MD

6122	This arrangement n. permitted
Cause: Remedy:	A wrong coupling area position (0) was set at the link module master PLC by DIP-FIX (S6). Set DIP-FIX (S6) properly

6123	Illegal servo sampling time
Cause: Effect: Remedy:	NC MD 155 greater than 5 PLC STOP Correct MD

6124	Gap in MC 5 memory
Cause: Effect: Remedy:	Legal and illegal blocks do not follow on smoothly PLC STOP Overall reset and reload PLC program

6125	Inputs assigned twice
Cause: Effect: Remedy: Explanation:	Same address for central and distributed inputs PLC STOP Check addressing for input modules Address central I/O device before distributed device

6126	Outputs assigned twice
Cause: Effect: Remedy: Explanation:	Same address for central and distributed outputs PLC STOP Check addressing for output modules Address central I/O device before distributed device

6127	Alarm byte missing
Cause: Effect: Remedy:	Selected interrupt input byte not available in hardware PLC STOP <ul style="list-style-type: none"> • Change PLC MD 0 • Adjust address decoding for interrupt byte

6128	Wrong I/O jumpering
Cause: Effect: Remedy:	Same address for central and distributed I/O device PLC STOP Change address decoding

6130	Synch. error basic program
Cause: Effect: Remedy:	Synchronization pattern for assembler function blocks no longer correct PLC STOP PLC OVERALL RESET, reload PLC program if necessary

6131	Synch. error MC 5 program
Cause: Effect: Remedy:	Synchronization pattern for STEP 5 program blocks no longer correct PLC STOP PLC OVERALL RESET, reload PLC program

6132	Synch. error MC 5 data
Cause: Effect: Remedy:	Synchronization pattern for STEP 5 data blocks no longer correct PLC STOP PLC OVERALL RESET, reload PLC program

6133	Illegal block basic program
Effect: Remedy:	PLC STOP Replace system software

6134	Illegal block MC 5 program
Effect: Remedy:	PLC STOP PLC OVERALL RESET, reload PLC program

6135	Illegal block MC 5 data
Effect: Remedy:	PLC STOP PLC OVERALL RESET, reload PLC program

6136	Sumcheck error MC 5 block
Effect: Remedy:	PLC STOP PLC OVERALL RESET, reload PLC program

6137	Sumcheck error basic program
Effect: Remedy:	PLC STOP Replace system software

6138	No response from EU
Cause: Effect: Explanation: Remedy:	<ul style="list-style-type: none"> • No operating voltage at EU • Cable to EU not connected or defective POWER ON : PLC STOP, control ramps up automatically after fault has been rectified Cyclic : PLC STOP, as a function of PLC-MD 2003 bit 2 May also occur in the event of major interference Check cable, address setting EU No. = 0; +24V supply voltage OK?

6139	EU transmission error
Cause: Effect: Remedy:	Incorrect protocol between EU and central controller (NC). See 6138 Check cable; observe installation instructions for fibre-optics cables; shielding (interference)

6140	Impermissible warm restart
Cause: Effect: Remedy:	Problems in operating system after voltage dip PLC STOP Start control with cold restart

6143	Decoding DB not available
Cause: Effect: Remedy:	DB 80 missing PLC STOP Input DB 80

6144	Decoding DB not modulo 6
Cause: Effect: Remedy:	DB 80 must have 3 DWs per extended M function PLC STOP Number of DWs in DB must be a multiple of 3 (3 DWs, 6 DWs, 12 DWs etc.)

6145	Wrong number of decoding units
Cause: Effect: Remedy:	Possible number of decoding units 2, 4, 8, 16, 32 PLC STOP Number of M functions entered in DB must be 2, 4, 8, 16 or 32

6146	Decoding DB too short
Cause: Effect: Remedy:	DB 80 not set up over full length (DW 0 - 95) PLC STOP Set up DB 80 in start-up procedure or input subsequently

6147	Distributed I/Os changed
Cause: Effect: Explanation:	Module(s) withdrawn or inserted in cyclic operation PLC STOP dependent on PLC MD 2003 bit 2 (Intended for installation)

6148	Overtemperature in EU
Cause: Effect: Explanation: Remedy:	Temperature rise in EU, fan breaks down PLC message 6148 displayed Monitor on CC interface module 6FX1132-1BA01 module Check fan

6149	Stop via softkey PG
Cause: Effect: Remedy:	Stop command via PG PLC STOP <ul style="list-style-type: none"> • PLC Start via PG • POWER ON

6150	Timeout: MC5 user
Cause: Effect: Remedy:	PLC STOP (S5 prog.) Evaluate fine coding of errors, see Programming Guide

6151	Timeout: Link memory
Cause: Effect: Remedy:	PLC STOP Only when master PLC link is used (not currently implemented) Check hardware

6152	Timeout: LIR / TIR
Cause: Effect: Explanation: Remedy:	Unavailable addresses accessed PLC STOP See Programming Guide Check segment and offset address. Hardware available?

6153	Timeout: TNB / TNW
Cause: Effect: Explanation: Remedy:	Programming error or incorrect use of TNB/TNW PLC STOP See Programming Guide Check reliability of source and destination addresses Addresses available

6154	Timeout: LPB / LPW / TPB / TPW
Cause: Effect: Remedy:	Load/transfer command to faulted I/O device PLC STOP Check I/O device or replace modules

6155	Timeout substitution command
Effect: Remedy:	PLC STOP Check PLC program

6156	Timeout not interpretable
Cause: Effect: Remedy:	No acknowledgement (Timeout) not definable by system program PLC STOP Evaluate fine error diagnostics PLC OVERALL RESET, reload PLC program

6157	Timeout: JU FB /JC FB
Cause: Effect: Remedy:	Unavailable addresses accessed in resident function macros PLC STOP Check hardware

6158	Timeout with I / O transfer
Cause: Effect: Explanation: Remedy:	Central I/O device no longer signalling PLC STOP All I/O modules detected on start-up (If the no. of I/O modules changes in cyclic operation this alarm appears) No alarm on failure of +24 V supply! Check bus connections to I/O submodules

6159	Time exceeded STEP 5
Cause: Effect: Explanation: Remedy:	Maximum runtime in PLC MD 1 exceeded PLC STOP, dependent on PLC MD 2003 bit 1 Evaluate diagnostic DB <ul style="list-style-type: none"> • Increase MD 1 CPU load increases • Set MD 2003 bit 6 cycle time increases • Time-optimize PLC program

6160	Runtime exceeded OB2
Cause: Effect: Explanation: Remedy:	Maximum runtime in PLC MD 3 exceeded PLC STOP, dependent on PLC MD 2003 bit 0 Evaluate diagnostic DB <ul style="list-style-type: none"> • Increase MD 3 • Time-optimize OB2

6161	Cycle time exceeded
Cause: Effect: Remedy:	Maximum runtime in PLC MD 5 exceeded PLC STOP <ul style="list-style-type: none"> • Increase MD 5 • Time-optimize PLC program

6162	Processing time delay OB2
Cause: Effect: Explanation: Remedy:	The alarm program interrupted itself. PLC STOP, dependent on PLC MD 2003 Bit 0. Evaluate diagnostic DB. Time-optimize OB2, i.e. reduce active processing time of interrupt handler

6163	Host PLC failure
	(available soon)

7000	PLC user messages
7063	
Cause:	Initiation bit was set in the PLC user program