Diagnostics Guide 12/2004 Edition

sinumerik

SINUMERIK 802D sl
Turning, Milling

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SINUMERIK 802D sl

Diagnostics Guide
Turning, Milling

Valid for

Control	*Software version*
SINUMERIK 802D sl	as of version 1

12/2004 Edition

Alarms 1

Glossary / Abbreviations 2

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SINUMERIK® Documentation

Printing history

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

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

Status code in the "Remarks" column:

A .... New documentation
B .... Unrevised reprint with new Order No.
C .... Revised edition with new status.
If factual changes have been made on the page since the last edition, this is indicated by a new edition coding in the header on that page.

Edition	Order No.	Remarks
12.04	6FC5398-2CP10-0BA0	**A**

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

We have checked the contents of this manual for agreement with the hardware and software described. Since deviations cannot be precluded entirely, we cannot guarantee full agreement. However, the data in this manual is reviewed regularly and any necessary corrections will be included in subsequent editions. Suggestions for improvement are welcomed.

Technical data subject to change

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Preface

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

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

Scope

This manual describes the alarms from the NC kernel (NC) area, PROFIBUS, the cycles and PLC.
Further alarms from the area HMI (Human Machine Interface) can occur. These alarms are displayed on the operator panel in the form of self-explanatory text. They do not constitute part of this Diagnostics Guide.
For special situations in conjunction with the integrated PLC, please refer to the SIMATIC S7-200 documentation.

Sorting

The alarms are sorted in ascending numerical order in the Diagnostics Guide. There are gaps in the sequence.

Safety

Danger

Please check the situation in the plant on the basis of the description of the active alarm(s). Eliminate the causes for the occurrence of the alarms and acknowledge in the manner indicated. Failure to observe this warning will place your machine, workpiece, stored settings and possibly even your own safety at risk.

NC alarms

Table 1_1 Number ranges from alarm numbers

000 000 - 009 999	General alarms	
010 000 - 019 999	Channel alarms	
020 000 - 029 999	Axis/spindle alarms	
030 000 - 099 999	Functional alarms	
060 000 - 064 999	SIEMENS cycle alarms	
065 000 - 069 999	User cycle alarms	

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HMI alarms/ messages

Table 1_2 Number ranges from alarm numbers, continued

100 000 - 100 999	Basic system	HMI0
101 000 - 101 999	Diagnostics	
102 000 - 102 999	Services	
103 000 - 103 999	Machine	
104 000 - 104 999	Parameters	
105 000 - 105 999	Programming	
106 000 - 106 999	Reserve	
107 000 - 107 999	OEM	
110 000 - 110 999		Reserved
120 000 - 120 999		Reserved

PLC alarms/ messages

Table 1_3 Number ranges from alarm numbers, continued

400 000 - 499 999	General alarms	
700 000 - 799 999	User area	

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Alarms 1

Alarms with alarm number 1xxx are system errors that represent **internal error states**. The internal error number provides the developer with important information on the cause and location of the error.

These system error alarms are not described in detail. Should these still occur with controls delivered, please note **the alarm number, the alarm text and the internal system error number** and contact the

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1.1 Overview of NC alarms

2000 PLC sign-of-life monitoring

Explanation	The PLC must give a sign of life within the specified period. An alarm is issued if this does not happen.
Reactions	NC Start disable. NC not ready. NC Stop on alarm. Alarm display. Interface signals are set.
Remedy	This alarm also occurs after a PLC Stop. (PLC Stop with programming tool, PLC Stop from commissioning switch, PLC Stop from alarm) If none of these cases apply, contact the hotline stated at the beginning of the document and state the number of the operating system error.
Program continuation	Switch the control OFF - ON.

2001 PLC has not started up

Explanation	The PLC must give at least one sign of life within the specified period after Power On.
Reactions	NC Start disable. NC not ready NC Stop on alarm Alarm display Interface signals are set
Remedy	Contact the hotline stated at the beginning of the document.
Program continuation	Switch the control OFF - ON.

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

Explanation	A failure has occurred in the power supply to the encoder (5V/24V) or D/A converter (+/-15 V).
Reactions	NC not ready. NC start inhibit in this channel. NC Stop on alarm. NC switches to follow-on mode. Alarm display. Interface signals are set. Re-reference axes in this channel.
Remedy	Please inform the authorized personnel/service department. Check the encoder and cable for short-circuits (the fault must not recur when you remove the cable). Check the voltage supply.
Program continuation	Switch the control OFF - ON.

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2900 Reboot is carried out with a delay

Explanation

This alarm indicates a delayed reboot.

The alarm occurs only when the reboot is carried out by the HMI and the MD 10088 **REBOOT_DELAY_TIME** is set higher than zero.

The alarm can be suppressed with **SUPPRESS_ALARM_MASK** BIT 20.

Reactions

NC switches to follow-up mode.
NC not ready.
Channel not ready.
NC start inhibit in this channel.
Interface signals are set.
Alarm display.
NC Stop on alarm.
The alarm reaction delay is canceled.
All channel-specific alarm reactions delayed on alarm, alarm display.

Remedy

See MD 10088 **REBOOT_DELAY_TIME** and
MD 11410 **SUPPRESS_ALARM_MASK**

Program continuation

Switch the control OFF - ON.

3000 Emergency stop

Explanation

The EMERGENCY STOP request is present at the NC/PLC interface (V 26000000.1).

Reactions

NC Start disable.
NC is not ready.
NC Stop on alarm.
Alarm display.
Interface signals are set.

Remedy

Check that an EMERGENCY STOP cam was not approached and that no EMERGENCY STOP button was pressed. Check PLC user program.

Corrected the cause of EMERGENCY STOP and acknowledge it via the NC/PLC interface (V 26000000.2).

Program continuation

Clear with the RESET key. Restart part program.

4000 Channel %1 machine data %2 contains a gap in the axis assignment

Explanation

%1 = channel number
%2 = string: MD identifier

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

Reactions

Alarm display.
Interface signals are set.
NC not ready.
NC Start disable.
NC Stop on alarm.

Remedy

Please inform the authorized personnel/service department.

Configure MD 20070 **AXCONF_MACHAX_USED** for the axis assignment in the channel without gaps; i.e. with increasing channel indices, a machine axis must be assigned until a zero is entered for the first time (no machine axis).

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All MD with higher indices must then contain a zero (0).

The order of the machine axis numbers is not relevant.

Channel axis index	1. Chan-nel	Machine axis number
0	1	AXCONF_MACHAX_USED [CH1, AX1] = 1
1	2	AXCONF_MACHAX_USED [CH1, AX2] = 2
2	3	AXCONF_MACHAX_USED [CH1, AX3] = 3
3	4	AXCONF_MACHAX_USED [CH1, AX4] = 4
4	5	AXCONF_MACHAX_USED [CH1, AX5] = 5

Assignment of channel axes to machine axes

Program continuation

Switch the control OFF - ON.

4002

Channel %1 machine data %2[%3] contains an axis that is not defined in the channel

Explanation

%1 = channel number
%2 = string: MD identifier
%3 = index: MD array index

Only axes that have been activated in the channel via MD 20070 **AXCONF_MACHAX_USED** [kx]=m may be declared by means of MD 20050 **AXCONF_GEOAX_ASSIGN_TAB [gx]=k**.

gx ... geometry axis index: k ... channel axis number
kx ... channel axis index m ... machine axis No.

MD 20050 **AXCONF_GEOAX_ASSIGN_TAB** (contains channel axis No. k)		MD 20070 **AXCONF_MACHAX_USED** (contains machine axis No. m)	
Geometry axis index	1. Channel	Channel axis index	1. Channel
0	1	0	1
1	2	1	2
2	3	2	3
		3	4
		4	5

Assignment of geometry axes to channel axes

Reactions

Alarm display.
Interface signals are set.
NC not ready.
NC Start disable.
NC Stop on alarm.

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Remedy
Please inform the authorized personnel/service department.
Check and correct MD 20050 **AXCONF_GEOAX_ASSIGN TAB** and MD 20070 **AXCONF_MACHAX_USED**.

MD array MD 20070 **AXCONF_MACHAX_USED**, in which the channel-specific machine axis number to be controlled by this channel is entered. These resulting ”Channel axes” are given a name by MD 20080 **AXCONF_CHANAX_NAME_TAB** and assigned to a geometry axis by MD 20050 **AXCONF_GEOAX_ASSIGN_TAB** by entering the corresponding channel axis in this MD array for each geometry axis.

Program continuation
Switch the control OFF - ON.

4004

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

Explanation
%1 = channel number
%2 = string: MD identifier
%3 = axis index

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

Reactions
Alarm display.
Interface signals are set.
NC not ready.
NC Start disable.
NC Stop on alarm.

Remedy
Correct MD 20050 **AXCONF_GEOAX_ASSIGN_TAB**

Program continuation
Switch the control OFF - ON.

4010

Machine data %1[%2] contains invalid identifier

Explanation
%1 = string: MD identifier
%2 = index: MD array index

When defining names for machine axes, one of the following syntax rules for the identifier to be entered has been violated:

1. The identifier must be an NC address letter (A, B, C, I, J, K, U, V, W, X, Y, Z), possibly with a numerical extension.
2. The identifier must begin with 2 arbitrary capital letters but not with $ (reserved).
3. The identifier must not be a vocabulary word of the NC language (e.g. SPOS).

Reactions
Alarm display.
Interface signals are set.
NC not ready.
NC Start disable.
NC Stop on alarm.

Remedy
Please inform the authorized personnel/service department.
Enter the identifier for user-defined names with correct syntax in the displayed MD.

Machine axes: MD 10000 **AXCONF_MACHAX_NAME_TAB**

Program continuation
Switch the control OFF - ON.

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4011 Channel %1 Machine data %2[%3] contains invalid identifier

Explanation

%1 = channel number
%2 = string: MD identifier
%3 = index: MD array index

When defining names in the channel-specific tables for geometry axes and channel axes, one of the following syntax rules for the identifier to be entered has been violated:

1. The identifier must be an NC address letter (A, B, C, I, J, K, U, V, W, X, Y, Z), possibly with a numerical extension.
2. The identifier must begin with 2 arbitrary capital letters but not with $ (reserved for system variable).
3. The identifier must not be a vocabulary word of the NC language (e.g. SPOS).

Reactions

Alarm display.
Interface signals are set.
NC not ready.
NC Start disable.
NC Stop on alarm.

Remedy

Please inform the authorized personnel/service department.
Enter the identifier for user-defined names with correct syntax in the displayed MD

Geometry axes:	MD 20060 **AXCONF_GEOAX_ASSIGN_TAB**
Channel axes:	MD 10000 **AXCONF_MACHAX_NAME_TAB**

Program continuation

Switch the control OFF - ON.

4012 Machine data %1[%2] contains invalid identifier

Explanation

%1 = string: MD identifier
%2 = index: MD array

The selected identifier is invalid. The following are valid identifiers:

• AX1 - AXn: Machine axis identifiers

Reactions

Alarm display.
Interface signals are set.
NC not ready.
Channel not ready.
NC start inhibit in this channel.
NC stop for alarm.

Remedy

Use the correct identifier.

Program continuation

Switch the control OFF - ON.

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

Explanation

%1 = string: Identifier
%2 = string: MD identifier

To determine the name in the channel-specific tables (arrays) for **machine axes** an identifier already existing in the control has been used.

Reactions

Alarm display.
Interface signals are set.
NC not ready.
NC Start disable.
NC Stop on alarm.

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

Program continuation: Cancel alarm in all channels of this mode group by pressing RESET.

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

Explanation: %1 = channel number
%2 = string: identifier
%3 = string: MD identifier

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

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

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

Program continuation: Switch the control OFF - ON.

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

Explanation: %1 = channel number
%2 = string: MD identifier
%3 = index: MD array index

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

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

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

Program continuation: Switch the control OFF - ON.

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

Explanation
%1 = channel number
%2 = string: MD identifier

According to the axis configuration in MD 20150 **GCODE_RESET_VALUES** or MD 20100 **DIAMETER_AX_DEF**, a facing axis identifier is expected at the specified location.

Reactions
Alarm display
Interface signals are set
NC Stop on alarm
NC not ready
NC start disable

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

Program continuation
Switch the control OFF - ON.

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

Explanation
%1 = channel number
%2 = string: axis identifier
%3 = string: MD identifier

The use of the specified axis identifier in the displayed MD is not consistent the channel's axis configuration stated in the MD 20070 **AXCONF_MACHAX_USED** and MD 20050 **AXCONF_GEOAX_ASSIGN_TAB**.

Reactions
Alarm display.
Interface signals are set.
NC not ready.
NC Start disable.
NC Stop on alarm.

Remedy
Please inform the authorized personnel/service department.
Check and correct the identifier used in the MD 10000 **AXCONF_ MACHAX_NAME_TAB,** MD 20080 **AXCONF_CHANAX_NAME_TAB** and/or MD 20050 **AXCONF_GEOAX_NAME_TAB**.

Program continuation
Switch the control OFF - ON.

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

Explanation
%1 = channel number
%2 = string: MD identifier
%3 = string: MD identifier

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

Reactions
NC not ready.
NC start inhibit in this channel.
Interface signals are set.
Alarm display.
NC Stop on alarm

Remedy
Correct the specified machine data.

Program continuation
Switch the control OFF - ON.

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

Explanation

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

Renaming of an NC code was not possible for one of the following reasons:

- The old identifier does not exist
- The new identifier is within another type range.

NC codes/vocabulary words can be reconfigured per machine data as long as you stay within the type range.

Type 1: "true" G codes:	G02, G17, G33, G64, ...
Type 2: named G codes:	CIP, TRANS, ...
Type 3: addresses which can be set:	X, Y, I, J, K, MEAS

Reactions

Alarm display.
Interface signals are set.
NC not ready.
NC Start disable.
NC Stop on alarm.

Remedy

Please inform the authorized personnel/service department.
Correct MD 10712 **NC_USER_CODE_CONF_NAME_TAB** (protection level 1).

The list must be built up as follows:

Even address:	Identifier to be modified
Following odd address:	New identifier

E.g.: NC_USER_CODE_CONF_NAME_TAB[10] = "ROT"
NC_USER_CODE_CONF_NAME_TAB [11] = " "
deletes the function ROT from the control

Program continuation

Switch the control OFF - ON.

4060 Standard machine data loaded

Explanation

Startup with defaults values by means of:

- Operation (e.g. commissioning switch)
- MD 11200 **INIT_MD**
- Loss of remanent data
- Startup operation with backup data, without saving current data

Reaction

Alarm display

Remedy

After automatically loading the standard MDs, the individual MDs must be entered/loaded in the relevant system.

Program continuation

Clear the alarm with the cancel key. Load specific machine data again.

4062 Backup data loaded

Explanation

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

Reaction

Alarm display

Remedy

Load specific machine data again.

Program continuation

Clear the alarm with the RESET key.

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

Explanation

A possible inconsistency was detected in the buffered memory during power-up.

The buffered memory was initialized with the last backup copy. Changes in the buffered memory, which have been made since the last backup copy update, have been lost. The reason for this procedure is that the backup time is exceeded. Make sure that the required operating time of the control corresponds to the specifications in your Installation & Start-Up Guide.

The current backup copy of the buffered memory has been created by the last internal data backup carried out via the "Save data" softkey on the HMI.

Reactions

Alarm display
Interface signals are set
NC Start disable

Remedy

Restart the control.

Program continuation

4070 Scaling machine data modified

Explanation

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

The conversion is carried out using scaling factors which can be entered (system-specific MD array 10230 **SCALING_FACTORS USER_DEF**[n] (n ... Index number 0 - 10) when the relevant masking bit is set to "1".

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

The following machine data influence the scaling of other MDs:

MD 10220 **SCALING_USER_DEF_MASK**

MD 10230 **SCALING_FACTORS_USER_DEF**

MD 10240 **SCALING_SYSTEM_IS_METRIC**

MD 10250 **SCALING_VALUE_INCH**

MD 30300 **IS_ROT_AX**

After these data are changed, the NC must be restarted. Only then will the input of dependent data be performed correctly.

Reaction

Alarm display.

Remedy

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

Program continuation

Clear the alarm with the cancel key. No further operator action required.

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4071 Check the position of the absolute encoder

Explanation	A machine data that affects the position of an absolute encoder has been changed. Please check the position values.
Reaction	Alarm display.
Remedy	Please inform the authorized personnel/service department.
Program continuation	Clear the alarm with the Cancel key or with NC START.

4075 Machine data %1 (and maybe others) not altered due to missing access authorization %2

Explanation	%1 = string: MD identifier %2 = write-protection level of MD On executing a TOA file, an attempt has been made to write an item of data with a higher protection level than the access authorization currently set in the control. The item of data affected was not written. This alarm is set only when access violation is detected for the first time.
Reaction	Alarm display.
Remedy	Set the required access level per password entry or delete the machine data concerned from the MD file.
Program continuation	Clear the alarm with the cancel key. No further operator action required.

4076 %1 Machine data could not be altered with access authorization %2

Explanation	%1 = number of MD %2 = access authorization set On executing a TOA file, an attempt has been made to write data with a higher protection level than the access authorization currently set in the control. The data affected was not written. This alarm is issued when acknowledging Alarm 4075. It can be cleared only with Power On.
Reaction	Alarm display.
Remedy	Set the required access level by means of keyswitch or password entry or delete the machine data concerned from the MD file program.
Program continuation	Switch the control OFF - ON.

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4077

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

Explanation

%1 = New value of machine data
%2 = Machine data number
%3 = Number of bytes to many requested
%4 = Type of memory

An attempt was made to enter a new value in the specified memory configuration machine data.

The change is not made, since it would result in the user memory being deleted. This is because the memory requested exceeded the available capacity.

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

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

"D" stands for dynamic or non-buffered user memory (this is where the LUD variables are stored and the interpolation buffer size is entered, for example). The capacity of this memory type is defined by the current memory expansion and the value in MD18210 **MM_USER_MEM_DYNAMIC**.

"S" stands for static or buffered user memory (typically the part programs but also compensation data, R parameters and tool data). The capacity of this memory type is defined by the current memory expansion and the value in MD 18230 **MM_USER_MEM_BUFFERED**.

Reaction

Alarm display.

Remedy

If the modification was unintentional, simply continue.

The alarm has no negative effects.

The remedy depends on the access authorization and the current memory expansion of the NC.

The intended change is mot possible -> try again with a lower value. Observe how the value of the byte number changes.

Buy more memory? This option depends on the particular model used.

The NC user memory setting may be smaller than possible. The MDs (see above) can be altered using the relevant access authorization.

Program continuation

Clear the alarm with the cancel key. No further operator action required.

4090

Too many faults during power up

Explanation

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

Reactions

Alarm display.

NC Start disable.

Remedy

Set the machine data correctly.

Program continuation

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4110 Factor IPO cycle increased to %1 ms

Explanation
%1 = String (new IPO cycle)

The IPO cycle divisor was set to a value which was not an integral multiple of the position control cycle divisor.

The divisor (MD 10070 IPO_SYSCLOCK_TIME_RATIO) was increased.

IPO_SYSCLOCK_TIME_RATIO has been modified on systems with PROFIBUS DP because of the modified DP cycle in the SDB (MD 10050 SYSCLOCK_CYCLE_TIME).

Reaction
Alarm display.

Remedy
Machine data 10070 IPO_SYSCLOCK_TIME_RATIO has been modified.

Program continuation
Clear the alarm with the RESET key. Restart part program.

4111 Increase PLC cycle to %1 ms

Explanation
The PLC cycle divisor was set to a value which was not an integral multiple of the IPO cycle divisor.
The divisor (MD 10 074 **PLC_IPO_TIME_RATIO**) has been increased.

Reaction
Alarm display.

Remedy
Adapt machine data.

Program continuation
Switch the control OFF - ON.

4112 Servo cycle changed to %1 ms

Explanation
%1 = String (new servo cycle)

MD 10060 POSCTRL_SYSCLOCK_TIME_RATIO has been modified because of the modified DP cycle in SDB1000 (10050 SYSCLOCK_CYCLE_TIME).

Reaction
Alarm display.

Remedy
Machine data 10060 POSCTRL_SYSCLOCK_TIME_RATIO RATIO has been modified.

Program continuation
Clear the alarm with the RESET key. Restart part program.

4113 Sysclock cycle changed to %1 ms

Explanation
%1 = String (new PLC cycle)

MD 10050 SYSCLOCK_CYCLE_TIME has been modified because of the modified DP cycle in the SDB.

Reaction
Alarm display.

Remedy
Machine data 10050 SYSCLOCK_CYCLE_TIME has been modified.

Program continuation
Clear the alarm with the RESET key. Restart part program.

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4114 Error in DP cycle of the SDB

Explanation
%1 = String (new PLC cycle)

The DP cycle in the SDB contains an error and cannot be set.
The default value of MD 10050 SYSCLOCK_CYCLE_TIME is set.

Reaction
Alarm display.

Remedy
Correct the SDB.

Program continuation
Switch the control OFF - ON.

4150 Channel %1 invalid M function subprogram call configured

Explanation
%1 = Channel number

In MD MD 10715 **M_NO_FCT_CYCLE**, an M function that is occupied by the system has been specified for the configuration of the subprogram call and cannot be replaced by a subprogram call (M0 to M5, M17, M19, M30, M40 to M45, M70). When external language is active, M96 to M99 are also blocked

Reactions
Alarm display.
NC Start disable.
Interface signals are set.
NC not ready.
NC Stop on alarm.

Remedy
Configure an M function which is not used by the system (M0 to M5, M17, M19, M30, M40 to M45 and M70) in MD 10715 **M_NO_FCT_CYCLE**.

Program continuation

4152 Illegal configuration of the "Block display with absolute values" function

Explanation
The "Block display with absolute values" function has been illegally parameterized:
- An illegal block length has been set with MD 28400 **MM_ABSBLOCK**:
While ramping up, the machine data will be checked for the following value range:
0, 1, 128 to 512
- An invalid display range has been set with MD 28402 **MM_ABSBLOCK_BUFFER_CONF**[]. While ramping up, the machine data will be checked for the following upper and lower limits:
    0 <= $MC_MM_ABSBLOCK_BUFFER_CONF[0] <= 8
    0 <= $MC_MM_ABSBLOCK_BUFFER_CONF[1] <= (MD 28060 MM_IPO_BUFFER_SIZE + MD 28070 MM_NUM_BLOCKS_IN_PREP).
Alarm 4152 is issued if the limits are violated.

Reactions
Alarm display.
Interface signals are set.
Channel not ready.
NC Stop on alarm.
NC Start disable.

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

Program continuation
Switch the control OFF - ON.

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

Explanation
%1=Channel number

An M function was specified in MD 20094 **SPIND_RIGID_TAPPING_M_NR** to configure the M function number for spindle switchover to axis mode. The M function number is assigned by the system and cannot be used for the switchover (M1 to M5,M17, M30, M40 to M45).

Reactions
Alarm display.
Interface signals are set.
NC not ready.
NC Start disable.
NC Stop on alarm.

Remedy
Configure an M function which is not used by the system (M1 to M5, M17, M30, M40 to M45) in MD 20094 **SPIND_RIGID_TAPPING_M_NR**.

Program continuation

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

Explanation
%1 = channel number

In machine data 22254 **AUXFU_ASSOC_M0_VALUE** or 22256 **AUXFU_ASSOC_M1_VALUE**, a number has been specified for the configuration of a new predefined M function which is occupied by the system, and cannot be used for an assignment. (M0 to M5, M17, M30, M40 to M45).

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

Remedy
Configure an M function in machine data 22254 **AUXFU_ASSOC_M0_VALUE** or 22256 **AUXFU_ASSOC_M1_VALUE** which is not occupied by the system (M1 to M5, M17, M30, M40 to M45).

Program continuation
Switch the control OFF - ON.

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

Explanation
%1 = channel number
%2 = machine data identifier
%3 = if necessary, MD index

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

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

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

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

4183

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

Explanation:
%1 = channel number.
%2 = M auxiliary function number.
%3 = machine data identifier.
%4 = machine data identifier.

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

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

Remedy: Check the specified machine data and create a unique assignment of M auxiliary function numbers.

Program continuation: Switch the control OFF - ON.

4184

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

Explanation:
%1 = channel number
%2 = machine data identifier
%3 = if necessary, MD index

In the specified machine data, a predefined auxiliary function has been illegally configured.

The value set by the user has been reset to the default value by the system.

Reactions:
Channel not ready.
NC start inhibit in this channel.
Interface signals are set.
Alarm display.
NC Stop on alarm.

Remedy: Configure a valid value in the specified machine data.

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

4185

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

Explanation:
%1 = channel number.
%2 = type of auxiliary function.
%3 = extension.
%4 = auxiliary function value.

An auxiliary function has been illegally configured.

Predefined auxiliary functions cannot be reconfigured by user-defined auxiliary functions.

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Reactions	Channel not ready NC start inhibit in this channel Interface signals are set Alarm display NC stop for alarm
Remedy	Reconfigure the auxiliary function.
Program continuation	Clear the alarm with the RESET key. Restart part program.

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

Explanation	%1 = channel number %2 = axis name The geometry axes represent a Cartesian coordinate system and therefore the declaration of a geometry axis as rotary axis leads to a definition conflict.
Reactions	NC not ready. NC Stop on alarm. Alarm display. Interface signals are set.
Remedy	Please inform the authorized personnel/service department. Remove rotary axis declaration for this machine axis. For this purpose, the geometry axis index for the displayed geometry axis must be determined by means of the machine data array 20060 **AXCONF_GEOAX_NAME_TAB**. The channel axis number is stored with the same index in the MD array 20050 **AXCONF_GEOAX_ASSIGN_TAB**. The channel axis number minus 1 provides the channel axis index under which the machine axis number is found in the MD array 20070 **AXCONF_MACHAX_USED**.
Program continuation	Switch the control OFF - ON.

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

Explanation	%1 = channel number %2 = axis name, spindle number If a machine axis is to be operated as a spindle, this machine axis must be declared as a rotary axis.
Reactions	NC not ready. NC Stop on alarm. Alarm display. Interface signals are set.
Remedy	Please inform the authorized personnel/service department. Set rotary axis declaration for this machine axis in the axis-specific MD 30300 **IS_ROT_AX**.
Program continuation	Switch the control OFF - ON.

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

Explanation
%1 = channel number
%2 = axis name, spindle number

The spindle functionality requires a modulo axis (positions in [deg]).

Reactions
NC not ready.
NC Stop on alarm.
Alarm display.
Interface signals are set.

Remedy
Please inform the authorized personnel/service department.
Set MD 30310 **ROT_IS_MODULO**.

Program continuation
Switch the control OFF - ON.

4220 Channel %1 spindle %2 declared repeatedly

Explanation
%1 = channel number
%2 = axis name, spindle number

The spindle number exists more than once in the channel.

Reactions
Alarm display.
Interface signals are set.
NC not ready.
NC Start disable.
NC Stop on alarm.

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

Program continuation
Switch the control OFF - ON.

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

Explanation
%1 = channel number
%2 = axis name, axis number

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

Reactions
NC not ready.
NC Stop on alarm.
Alarm display.
Interface signals are set.

Remedy
Please inform the authorized personnel/service department.
Set MD 30300 **IS_ROT_AX**.

Program continuation
Switch the control OFF - ON.

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

Explanation: %1 = channel number

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

Reaction: Alarm display.

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

Program continuation: Clear the alarm with the cancel key. No further operator action required.

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

Explanation: %1 = Program position

The settings for the interpolation and position control cycle were modified before the last power-up such that too little computing time is now available for the requisite cyclic task.

The alarm occurs immediately after power-up if too little runtime is available even when the axes are stationary and the NC program has not started. However, task overflow can occur only when computation-intensive NC functions are called during program execution.

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

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

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

Program continuation: Switch the control OFF - ON.

4260 Machine data %1 illegal

Explanation: %1 = String: MD identifier

The selected cam pair was not activated by MD 10450 **SW_CAM_ASSIGN_TAB** or more than one cam pair has been selected.

Reactions: Alarm display.
Interface signals are set.
NC start inhibit in this channel.
NC stop on alarm.

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

Program continuation: Switch the control OFF - ON.

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

Explanation

%1 = string: MD identifier
%2 = index

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

Reactions

Alarm display.
Interface signals are set.
NC not ready.
Channel not ready.
NC start inhibit in this channel.
NC stop on alarm.

Remedy

Please inform the authorized personnel/service department. Correct machine data.
Active required inputs/outputs via MD:

• MD 10350 **FASTIO_DIG_NUM_INPUTS**

• MD 10360 **FASTIO_DIG_NUM_OUTPUTS**

• MD 10300 **FASTIO_ANA_NUM_INPUTS**

• MD 10310 **FASTIO_ANA_NUM_OUTPUTS**

Activation of fast inputs/outputs does not require the corresponding hardware configuration to be available at the control. All functions using fast inputs/outputs can also be made use of by the PLC specification/modification defined in the VDI interface, if the response time requirements are reduced accordingly.

Activated inputs/outputs increase the computation time requirement of the interpolation cycle because the PLC manipulation signals are handled cyclically. Note: Deactivate any inputs/outputs not in use.

Program continuation

Switch the control OFF - ON.

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

Explanation

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

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

Reactions

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

Remedy

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

Program continuation

Switch the control OFF - ON.

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4300 Declaration in MD %1 is not allowed for geometry axis/spindle %2

Explanation
%1 = string: MD identifier
%2 = axis name, spindle number

Geometry axes and spindles cannot be operated as concurrent positioning axes.

Reactions
NC not ready.
NC stop on alarm.
NC start inhibit in this channel.
Alarm display.
Interface signals are set.

Remedy
Please inform the authorized personnel/service department. Reset MD 30450 IS_CONCURRENT_POS_AX for the axis concerned.

Program continuation
Switch the control OFF - ON.

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

Explanation
%1 = string: MD identifier
%2 = index in MD array

The MD values must be written in the array in ascending order.

Reactions
NC not ready.
NC Stop on alarm.
NC start inhibit.
Alarm display.
Interface signals are set.

Remedy
Correct the MD

Program continuation
Clear the alarm with the RESET key. Restart part program.

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

Explanation
%1 = string: Axis identifier
%2 = string: MD identifier
%3 = string: Bit
%4 = string: MD identifier

The functions declared by the machine data specified cannot be activated at the same time for one axis.

Reactions
Channel not ready.
NC start inhibit in this channel.
Interface signals are set.
Alarm display.

NC Stop on alarm.

Remedy
Deactivate one of the functions.

Program continuation
Switch the control OFF - ON.

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

Explanation
%1 = channel number
%2 = transformation number

An invalid, i.e. undefined, number was entered in one of the machine data 24100 **TRAFO_TYPE_1**.
This alarm occurs only if a certain type of transformation is not possible in the specified control type.

Reactions
Alarm display
Interface signals are set
NC Stop on alarm
Channel not ready
NC start disable

Remedy
Valid transformation type entered

Program continuation
Switch the control OFF - ON.

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

Explanation
%1 = channel number

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

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

Remedy
Set valid machine data

Program continuation
Clear the alarm with the RESET key. Restart part program.

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

Explanation
%1 = channel number
%2 = name of machine data
%2 = transformation number

Machine data TRAFO_GEOAX_ASSIGN_TAB_1/2 contains an invalid entry.

The following causes for the error are possible:
- The entry references a channel axis that does not exist.
- The entry is zero (no axis) but the transformation needs the relevant axis as a channel axis.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Stop on alarm at end of block.

Remedy
Correct the entry in TRAFO_GEOAX_ASSIGN_TAB_1/2 or TRAFO_AXES_IN_1/2.

Program continuation
Clear the alarm with the RESET key. Restart part program.

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

Explanation
%1 = channel number
%2 = name of the machine data
%3 = transformation number

Machine data TRAFO_AXIS_IN_1/2 contains an invalid entry.

The following causes for the error are possible:
- The entry references a channel axis which does not exist.
- The entry is zero (no axis) but the transformation needs the relevant axis as a channel axis.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Stop on alarm at end of block.

Remedy
Correct the entry in TRAFO_AXES_IN_1/2.

Program continuation
Clear the alarm with the RESET key. Restart part program.

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

Explanation
%1 = channel number
%2 = string: Axis identifier
%3 = string: MD identifier
%4 = string: MD identifier

MD 32410 **JOG_AND_POS_JERK_ENABLE** (jerk limitation) and MD 35240 **ACCEL_TYPE_DRIVE** (acceleration reduction) have been defined as the initial setting for an axis.

However, the two functions cannot be activated at the same time for one axis.

Reactions
Alarm display.
Interface signals are set.
Channel not ready.
NC start inhibit in this channel.
NC stop on alarm.

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

Program continuation
Switch the control OFF - ON.

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

Explanation
An MD has been altered that configures the buffered memory. If the NC powers up with the altered data, this will lead to reorganization of the buffered memory and thus to the loss of all buffered user data (part programs, tool data, GUD, leadscrew error compensation, ...).

Reaction
Alarm display.

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

Program continuation
Clear the alarm with the cancel key. No further operator action required.

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4402

%1 causes the machine data to be reset

Explanation

%1 = machine data

If this machine data is set, the current values of the machine data are overwritten with the pre-set values on next power up. Under certain circumstances, this can result in loss of data (also in the backed-up memory).

Reaction

Alarm display.

Remedy

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

Program continuation

Clear the alarm with the cancel key. No further operator action required.

4502

Channel %1 Anachronism: %2(%3) -> %4

Explanation

%1 = channel number
%2 = string: MD identifier
%3 = string: MD identifier
%4 = string: MD identifier

Previously, in MD 20110 **RESET_MODE_MASK** Bit4 and Bit5, the reset behavior of the 6th or 8th G group was determined. This setting is now made in MD 20152 **GCODE_RESET_MODE**.

In order to ensure compatible handling of "old" data backups, the "old" values are taken from MD 20110 **RESET_MODE_MASK** and entered in MD 20152 **GCODE_RESET_MODE**.

Reaction

Alarm display.

Program continuation

Clear the alarm with the cancel key. No further operator action required.

5000

Unable to execute communication request

Explanation

The communication request (data exchange between NC and HMI, for example: load an NC part program) cannot be executed due lack of memory. Cause: too many parallel communication requests

Reaction

Alarm display.

Remedy

No remedy possible – the operation that produced to alarm must be repeated. Clear the alarm display with Cancel.

Program continuation

Clear the alarm with the cancel key. No further operator action required.

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6000 Memory reorganized using standard machine data

Explanation

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

Reactions

Alarm display.
Interface signals are set.
NC Start disable.
NC Stop on alarm.

Remedy

Redefine the NC memory structure!

A specific MD for NC user memory allocation cannot be given as the cause of the alarm. Therefore, the MD initiating the alarm must be determined on the basis of the default values in the machine data by changing the user-specific memory structure step by step.

Usually, not just one MD has been chosen too large and therefore it is advisable to reduce the memory area by a certain proportion in several MDs.

Program continuation

Clear the alarm with the RESET key. Restart part program.

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

Explanation

%1 = channel number
%2 = string (module name)
%3 = internal error ID

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

Error number	Explanation
1	No memory space available
2	Maximum number of possible symbols exceeded
3	Index 1 lies outside valid range of values
4	Name in channel already exists
5	Name in NC already exists

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

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

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_N_NC_OPT - System-internal: Option data, NC global
_N_NC_SEA - System-internal: Setting data, NC global
_N_NC_TEA - System-internal: Machine data, NC global
_N_NC_CEA - System-internal: 'cross error compensation'
_N_NC_PRO - System-internal: Protection zones, NC global
_N_NC_GD1 - User: 1st GUD block defined by _SGUD_DEF, NC global
_N_NC_GD2 - User: 2nd GUD block defined by _N_MGUD_DEF, NC global
_N_NC_GD3 - User: 3rd GUD block defined by _N_UGUD_DEF, NC global
_N_NC_GD4 - User: 4th GUD block defined by _N_GUD4_DEF, NC global
_N_NC_GD5 - User: 5th GUD block defined by _N_GUD5_DEF, NC global
_N_NC_GD6 - User: 6th GUD block defined by _N_GUD6_DEF, NC global
_N_NC_GD7 - User: 7th GUD block defined by _N_GUD7_DEF, NC global
_N_NC_GD8 - User: 8th GUD block defined by _N_GUD8_DEF, NC global
_N_NC_GD9 - User: 9th GUD block defined by _N_GUD9_DEF, NC global
_N_NC_MAC - User: Macro definitions
_N_NC_FUN - User: Cycle programs

_N_CHc_OPT - System-internal: Option data, channel-specific

_N_CHc_SEA - System-internal: Setting data, channel-specific
_N_CHc_SEA - System-internal: Machine data, channel-specific
_N_CHc_PRO - System-internal: Protection zones, channel-specific
_N_CHc_UFR - System-internal: Frames, channel-specific
_N_CHc_RPA - System-internal: Arithmetic parameters, channel-specific
_N_CHc_GD1 - User: 1st GUD block defined by _N_SGUD_DEF, channel-specific
_N_CHc_GD2 - User: 2nd GUD block defined by _N_MGUD_DEF, channel-specific
_N_CHc_GD3 - User: 3rd GUD block defined by _N_UGUD_DEF, channel-specific
_N_CHc_GD4 - User: 4th GUD block defined by _N_GUD4_DEF, channel-specific
_N_CHc_GD5 - User: 5th GUD block defined by _N_GUD5_DEF, channel-specific
_N_CHc_GD6 - User: 6th GUD block defined by _N_GUD6_DEF, channel-specific
_N_CHc_GD7 - User: 7th GUD block defined by _N_GUD7_DEF, channel-specific
_N_CHc_GD8 - User: 8th GUD block defined by _N_GUD8_DEF, channel-specific
_N_CHc_GD9 - User: 9th GUD block defined by _N_GUD9_DEF, channel-specific

_N_AXa_OPT - System-internal: option data, axial

_N_AXa_SEA - System-internal: setting data, axial
_N_AXa_TEA - System-internal: machine data, axial
_N_AXa_EEC - System-internal: leadscrew error compensation data, axial
_N_AXa_QEC - System-internal: quadrant error compensation data, axial

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_N_TOt_TOC - System-internal: tool holder data, TOA-specific
_N_TOt_TOA - System-internal: tool data, TOA-specific
_N_TOt_TMA - System-internal: magazine data, TOA-specific

c = Channel number
a = Machine axis number
t = TOA unit number

Reactions

There are further internal system data blocks with identifier.

Alarm display.
Interface signals are set.
NC not ready.
NC Start disable.
NC Stop on alarm.

Remedy

Correct the machine data or undo the change.

Please inform the authorized personnel/service department.

- There are two determining machine data for cycle programs:
  MD 18170 **MM_NUM_MAX_FUNC_NAMES** = max. number of all Cycle programs
  Error number = 2 shows that this value is too small
  MD 18180 **MM_NUM_MAX_FUNC_PARAM** = max. number of all parameters defined in the cycle programs
  Error number = 2 shows that this value is too small

  (If this MD is modified, the memory backup is retained)

- The following applies to macro definitions:
  MD 18160 **MM_NUM_USER_MACROS** = max. number of all Macro definitions
  Error number = 2 shows that this value is too small

  (If this MD is modified, the memory backup is retained)

- The following applies to GUD variables:
  MD 18118 **MM_NUM_GUD_MODULES** = max. number of all GUD data blocks per area (NC/channel)
  (if GD1, GD2, GD3, GD9 are defined, the value must be 9
  MD 4 **MM_NUM_ GUD_NAMES_NCK** = max. number of all global GUD variables
  Error number = 2 shows that this value is too small
  MD 18130 **MM_NUM_GUD_NAMES_CHAN** = max. number of all Channel-specific GUD variables in the channel
  Error number = 2 shows that this value is too small
  MD 18150 **MM_GUD_VALUES_MEM** = max. memory values all GUD variables together
  Error number = 1 shows that this value is too small

Switch the control OFF - ON.

Program continuation

Clear the alarm with the RESET key. Restart part program.

6020

Machine data have been altered - now memory is reorganized

Explanation

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

Reaction

Alarm display.

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Remedy No remedial action is required. Any user data that are required must be input again.

Program continuation Clear the alarm with the RESET key. Restart part program.

6030 Limit of user memory has been adapted

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

Reaction Alarm display.

Remedy No remedial action is required. The new maximum permissible value can be read from the reduced machine data.

Program continuation Clear the alarm with the RESET key. Restart part program.

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

Explanation %1 = free memory defined for the control model in KB
%2 = actual maximum amount of free memory in KB
%3 = type of memory, "D" = non-buffered, "S" = buffered

The alarm can only occur after a 'cold start' (=NCK start-up with standard machine data). The alarm is only a notice. There is no interference with any NCK functions. It shows that the NCK has less free user memory available than specified by Siemens for this control variant. The value of the actually available free user memory can also be taken from the machine data 18050 INFO_FREE_MEM_DYNAMIC, 18060 INFO_FREE_MEMS_STATIC.

Siemens supplies NCK with default settings that, depending on the model, have certain (free) memory space available for the specific settings of the actual applications. The original factory setting of NCK systems is thus that the alarm does not occur with a cold start.

Reaction Alarm display.

Remedy The cause of this message may be that the NCK is running on hardware that is not intended for this NCK version (i.e. it has insufficient memory).

If the application runs properly with the remaining free user memory (i.e. can be started up without any errors), the message can simply be ignored.

Program continuation Clear the alarm with the RESET key.

6410 TO unit %1 tool "%2" / duplo no. %3 has reached prewarning limit with D = %4

Explanation %1 = TO unit
%2 = Tool identifier (name)
%3 = Duplo number
%4 = D number

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Tool monitoring:
This message informs that the specified D offset has reached its prewarning limit for a time- or quantity-monitored tool.
If possible, the D number is displayed; if not, value 0 is assigned to the 4th parameter.

The actual type of tool monitoring is a tool property (see $TC TP9).

If replacement tools are not being used,

the duplo number specified has no meaning.

The alarm is triggered through the MMC or PLC (=OPI interface). The channel context is not defined. The TO unit is specified for this reason.

Reactions: Alarm display.
Interface signals are set.

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

Program continuation: Clear the alarm with the cancel key. No further operator action required.

6411

Channel %1 tool "%2" / duplo no. %3 has reached prewarning limit with D = %4

Explanation: %1 = TO unit
%2 = Tool identifier (name).
%3 = Duplo number
%4 = D number

Tool monitoring:
This message informs that the specified D offset has reached its prewarning limit for a time- or quantity-monitored tool.
If possible, the D number is displayed; if not, value 0 is assigned to the 4th parameter.

The actual type of tool monitoring is a tool property (see $TC TP9).

If replacement tools are not being used,

the duplo number specified has no meaning.

The alarm originates during NC program execution.

Reactions: Alarm display.
Interface signals are set.

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

Program continuation: Clear the alarm with the cancel key. No further operator action required.

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6412

TO unit %1 tool "%2" / duplo no. %3 has reached monitoring limit with D = %4

Explanation

%1 = TO unit
%2 = Tool identifier (name)
%3 = Duplo number
%4 = D number

Tool monitoring:
This message informs that the specified D offset has reached its monitoring limit for a time- or quantity-monitored tool.
If possible, the D number is displayed; if not, value 0 is assigned to the 4th parameter.

The actual type of tool monitoring is a tool property (see $TC TP9).

If replacement tools are not being used, the duplo number specified has no meaning.

The alarm is triggered through the MMC or PLC (=OPI interface). The channel context is not defined. The TO unit is specified for this reason.

Reactions

Alarm display.
Interface signals are set.

Remedy

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

Program continuation

Clear the alarm with the cancel key. No further operator action required.

6413

Channel %1 tool %2 / duplo no. %3 has reached monitoring limit with D = %4

Explanation

%1 = TO unit
%2 = Tool identifier (name)
%3 = Duplo number
%4 = D number

Tool monitoring:

This message informs that the specified D offset has reached its monitoring limit for a time- or quantity-monitored tool.
If possible, the D number is displayed; if not, value 0 is assigned to the 4th parameter.
The actual type of tool monitoring is a tool property (see $TC TP9).
If replacement tools are not being used, the duplo number specified has no meaning.

The alarm originates during NC program execution.

Reactions

Alarm display.
Interface signals are set.

Remedy

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

Program continuation

Clear the alarm with the cancel key. No further operator action required.

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6430 Workpiece counter: Table of monitored cutting edges overflowed

Explanation
No further entry of cutting edges possible in the workpiece counter table.
As many cutting edges can be noted for the workpiece counter as are possible in total in the NCK.
This means that if for each tool each cutting edge is used precisely once for a workpiece then the limit is reached.
If several workpieces are made on several tool holders/spindles simultaneously, it is possible to note MD18100 **MM_NUM_CUTTING_EDGES_IN_TOA** cutting edges for the workpiece counter for all of the workpieces.
If this alarm occurs, it means that cutting edges used subsequently are no longer quantity monitored until the table has been emptied again, e.g. by means of the NC language command SETPIECE or by the relevant job from MMC, PLC (PI service).

Reactions
Alarm display.
Interface signals are set.
NC Start disable.

Remedy
- Have you forgotten to decrement the workpiece counter?
  Then program SETPIECE in the part program or in the PLC program, insert the command correctly.
- If the part program or the PLC is correct, then more memory should be set for the tool cutting edges via machine data 18100 MM_NUM_CUTTING_EDGES_IN_TOA (only people with proper access rights can do this!).

Program continuation
Clear the alarm with the cancel key. No further operator action required.

6431 Function not allowed. Tool management/monitoring is not active

Explanation
Occurs when a data management function is called which is not available because ToolMan is deactivated. For example, the language commands GETT, SETPIECE, GETSELT, NEWT, DELT.

Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy
- Please inform the authorized personnel/service department.
- Make sure of how the NC is supposed to be configured! Is tool management or tool monitoring needed but not activated?
- Are you using a part program that is meant for a numerical control with tool management/tool monitoring? And now this part program is started on the numerical control without tool management/tool monitoring This does not work. Either run the part program on the appropriate NC control or edit the part program.
- Activate tool management/tool monitoring by setting the appropriate machine data.
  See MD 18080 MM_TOOL_MANAGEMENT_MASK,
  MD 20310 TOOL_MANAGEMENT_MASK.
- Check that the necessary option is set.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

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6432 Function cannot executed. No tool assigned to spindle. Channel %1

Explanation	%1=Channel number If an attempt is made to perform an operation in the part program that requires a tool to be assigned to the tool holder/spindle. This can be the quantity monitoring function, for example.
Reactions	Alarm display. Interface signals are set.
Remedy	• Select another function, another spindle/spindle, position tool on spindle/spindle.
Program continuation	Clear the alarm with the Cancel key or with NC START

6500 NC memory full

Explanation	Too many part programs have been unloaded. The task cannot be executed. During first start-up the files in the NC file system (part of the NC memory) may be affected, for example initialization files, NC programs, etc.
Reaction	Alarm display.
Remedy	Delete or empty files (e.g. part programs).
Program continuation	Clear the alarm with the cancel key. No further operator action required.

6510 Too many part programs in the NC memory

Explanation	The number of files in the NC file system (part of the NC memory) has reached the maximum number possible.
Reaction	Alarm display.
Remedy	Delete or empty files (e.g. part programs).
Program continuation	Clear the alarm with the cancel key. No further operator action required.

6530 Too many files in directory

Explanation	The number of files in one directory of the NC has reached the maximum limit.
Reaction	Alarm display.
Remedy	Delete or empty files (e.g. part programs) in the subdirectory affected.
Program continuation	Clear the alarm with the cancel key. No further operator action required.

6540 Too many directories in the NC memory

Explanation	The number of directories in the NC file system (part of the NC memory) has reached the maximum number possible.
Reaction	Alarm display.
Remedy	Delete or empty directories (e.g. workpiece) that are not required.
Program continuation	Clear the alarm with the cancel key. No further operator action required.

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6550 Too many subdirectories

Explanation	The number of subdirectories in a directory of the NC has reached the maximum limit.
Reaction	Alarm display.
Remedy	Please inform the authorized personnel/service department. Delete or empty subdirectories in the respective directory, or
Program continuation	Clear the alarm with the cancel key. No further operator action required.

6560 Data format not allowed

Explanation	Illegal data have been entered in an NC file, e.g. binary data loaded as an ASCII file.
Reaction	Alarm display.
Remedy	Mark the file as binary data (e. g. extension: .BIN).
Program continuation	Clear the alarm with the cancel key. No further operator action required.

6570 NC memory full

Explanation	The NC card file system of the NC is full. The task cannot be executed. Too many system files were created in the DRAM.
Reaction	Alarm display.
Remedy	Start fewer "Execute from external" processes.
Program continuation	

6580 NC memory full

Explanation	The NC card file system of the NCK is full. The task cannot be executed. To many files have been loaded
Reaction	Alarm display.
Remedy	Delete or empty files (e.g. part programs).
Program continuation	Clear the alarm with the Cancel key or with NC START.

6600 NC card memory is full

Explanation	The NC card file system of the NC is full. No more data can be stored on the NC card.
Reaction	Alarm display.
Remedy	Delete the data on the PCMCIA card.
Program continuation	Clear the alarm with the cancel key. No further operator action required.

6610 Too many files open on NC card

Explanation	Too many files accessed simultaneously on the NC card
Reaction	Alarm display.
Remedy	Repeat the action later.
Program continuation	Clear the alarm with the cancel key. No further operator action required.

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6620 NC card has incorrect format

Explanation	The NC card cannot be accessed because the format is incorrect.
Reaction	Alarm display.
Remedy	Replace the NC card.
Program continuation	Clear the alarm with the cancel key. No further operator action required.

6630 NC card hardware is defective

Explanation	The NC card cannot be accessed because the card is defective.
Reaction	Alarm display.
Remedy	Replace the PCMCIA card.
Program continuation	Clear the alarm with the cancel key. No further operator action required.

6640 NC card is not inserted

Explanation	The NC card cannot be accessed because the card is not plugged in.
Reaction	Alarm display.
Remedy	Plug in the NC card.
Program continuation	Clear the alarm with the cancel key. No further operator action required.

6650 Write protection of NC card is active

Explanation	The NC card cannot be accessed because the write protection is active.
Reaction	Alarm display.
Remedy	Deactivate the write protection.
Program continuation	Clear the alarm with the cancel key. No further operator action required.

6660 'Flash File System' option is not set

Explanation	The NC card cannot be accessed because the option is not enabled.
Reaction	Alarm display.
Remedy	Buy option.
Program continuation	Clear the alarm with the cancel key. No further operator action required.

6670 NC card read active

Explanation	The alarm is active while the contents of the NC card are being read out. The FFS cannot be accessed during this period.
Reaction	Alarm display.
Remedy	Wait until the read-out procedure is terminated
Program continuation	Alarm display disappears with alarm cause. No further operator action required.

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6671 NC card write active

Explanation
The alarm is active while the contents of the NC card are being written.

The Flash File System cannot be accessed during this period.
If a Power Off occurs while the alarm is present, the contents of the NC will be destroyed!

Reaction
Alarm display.

Remedy
Wait until the write procedure is terminated.

Program continuation
Alarm display disappears with alarm cause. No further operator action required.

6693 File %1 lost

Explanation
%1 = file name

Due to a power failure, a file change could not be terminated properly. The file is lost.

Reactions
Alarm display.
Interface signals are set.
NC not ready.
NC Start disable.

Remedy
Import the file again.

Program continuation
Power-down the control and power-up again.

6698 Unknown NC card (%1/%2). Write not possible

Explanation
The NC card cannot be accessed because a valid write algorithm is not available for the flash memory.

Reaction
Alarm display.

Remedy
Use a compatible NC card or enter the new manufacturer code/device code in MD 11700 **PERMISSIVE_FLASH_TAB** after consultation with SIEMENS.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

7500 Block %1 invalid protection level for command %2 (current protection level: %3 prog.: %4)

Explanation
%1 = block number
%2 = programmed command
%3 = current protection level of command
%4 = programmed protection level of command

During assignment of a protection level to a part program command using the REDEF command,

- an non-permitted part program command was programmed
- a protection level was programmed with a logically smaller number (higher value) that the protection level that currently applies to this command.

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- the relevant definition file does not possess sufficient write protection. The write protection for the file must be at least as high as the highest protection level that is assigned to part program command in his definition file.

Reaction: Alarm display.

Remedy: Correct the definition files /_N_DEF_DIR/_N_MACCESS_DEF or /_N_DEF_DIR/_N_UACCESS_DEF. The language commands that are permissible for the relevant system configuration are given in the Siemens Programming Guide or in the Manufacturer's documentation.

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

8000

Channel %1 option 'user interrupt programs' not set

Explanation: %1 = channel number

The signals of NCK inputs are required in order to activate the interrupt routines and rapid lift from contour. This function is not included.

Reactions: Alarm display.
Interface signals are set.
Interpreter stop.
NC start inhibit in this channel.

Remedy: Do not use fast interrupt inputs!

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

8010

Option 'activation of more than %1 axes' not set

Explanation: %1 = number of axes

More machine axes have been defined through MD 20070 **AXCONF_MACHAX_USED** than are allowed in the system.

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

Remedy: Please inform the authorized personnel/service department. The sum of all axes that have been configured through the channel-specific MD 20070 **AXCONF_MACHAX_USED**, must not exceed the maximum number of axes.

Program continuation: Switch the control OFF - ON.

8030

Channel %1 block %2 option 'interpolation of more than 4 axes' not set

Explanation: %1 = channel number
%2 = block number, label

The option for the number of interpolating axes does not correspond to the number of axes programmed in the interpolation group.

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Reactions	Alarm display. Interface signals are set. NC start inhibit in this channel. Interpreter stop.
Remedy	Only so many axes can be programmed in the part program as correspond to the configuration of the control.
Program continuation	Clear the alarm with the RESET key. Restart part program.

8037

Option 'APC activation' not set

Explanation	The function 'Advanced Positioning Control' (APC) was activated in the control although the relevant option has been set.
Reactions	Alarm display. Interface signals are set. NC Start disable. NC Stop on alarm. NC not ready.
Remedy	Deactivate the function 'Advanced Positioning Control' (APC) in the drive.
Program continuation	Switch the control OFF - ON.

8040

MD %1 reset, corresponding option is not set

Explanation	%1 = String: MD identifier A machine data has been set that is locked via an option.
Reaction	Alarm display
Remedy	Please inform the authorized personnel/service department. For retrofitting the option, please refer to your machine manufacturer or to a sales representative of SIEMENS AG, A&D MC.
Program continuation	Clear the alarm with the cancel key. No further operator action required.

8041

Axis %1: MD %2 reset, corresponding option not sufficient

Explanation	%1 = axis number %2 = string: MD identifier All of the axes selected in the machine data of the assigned option are used. The functions that belong to the option have been selected for too many axes in the specified axial machine data.
Reactions	Alarm display. Interface signals are set. NC Start disable. NC Stop on alarm. NC not ready. Under certain circumstances switchable channel-wide via MD.
Program continuation	Switch the control OFF - ON.

8044

Option for IPO cycle time %1 ms not set

Explanation	%1 = illegal IPO cycle The option for activation of an IPO cycle time of %1 ms has not been set.

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Option - Permiss. IPO cycle time:

• Option-free >= 8 ms

• 1st step >= 6 ms

• 2nd step >= 4 ms

• 3rd step >= 2 ms

• 4th step < 2 ms

Reactions: Alarm display.
Interface signals are set.
NC start inhibit in this channel.
Interpreter stop.

Remedy:
• Buy option

• Increase IPO cycle time (e.g. via MD IPO_SYSCLOCK_TIME_RATIO)

Program continuation: Switch the control OFF - ON.

8080 %1 options are activated without setting the license key

Explanation: %1 = Number of non-licensed options

Options were activated but no license key set to prove that they were purchased.

Reactions: Alarm display.
Interface signals are set.
NC start inhibit in this channel.

Remedy: Generate license key via Internet and enter.
Take back option.

Program continuation: Clear the alarm with the Cancel key or with NC START.

8081 %1 options are activated that are not licensed by the license key

Explanation: %1 = Number of non-licensed options

Options were activated, that are not licensed by the license key entered.

Reaction: Alarm display.

Remedy: Generate license key via Internet and enter.

Program continuation: Clear the alarm with the Cancel key or with NC START.

8082 The license key was entered three times, Power On required before next try

Explanation: The license can be entered three times max (correctly or incorrectly).

Reactions: Alarm display.
Interface signals are set.
NC start inhibit in this channel.

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Remedy: Execute NCK Power On and enter the license key (correctly).
Take back option.

Program continuation: Clear the alarm with the Cancel key or with NC START.

8100

Channel %1 block %2: Function not available

Explanation: %1 = channel number
%2 = block number, label

Impossible due to embargo regulations:

• 1. Synchronized actions: Writing of feed, override and axial offsets ($AA_VC, $AC_VC, $AA_OVR, $AA_VC and $AA_OFF) from synchronous actions as well as Continuous Dressing can be programmed only once in a block.

• 2. Extended measurement: 'Cyclic measurement' (MEAC) and 'Measurement from synchronous action' is not possible.

• 3. Axis interpolation: The number of axes interpolating with one another must not exceed 4 (this also includes synchronous coupling of axes via synchronous actions

Reactions: Alarm display.
Interface signals are set.
NC stop on alarm.
Interpreter stop.
NC start inhibit in this channel.

Remedy: Modify part program.

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

10203

Channel %1 NC start without reference point

Explanation: %1 = channel number

NC start has been activated in the MDA or AUTOMATIC mode and at least one axis that needs to be referenced has not reached its reference point.

Reaction: Alarm display.

Remedy: The start of referencing can be enabled channel-specific or axis-specific.

1. **Channel-specific reference point approach:** The rising edge of the interface signal "activate referencing" (V 32000001.0) starts an automatic sequence which starts the axes of the channel in the same sequence as specified in the axis-specific MD 34 110 **REFP_CYCLE_NR** (axis sequence channel-specific referencing).
   - **-1:** The axis does not participate in channel-specific referencing but must be referenced for the NC Start.
   - **0:** The axis does not participate in channel-specific referencing but does not have to be referenced for the NC Start.
   - **1-4:** Starting sequence for the channel-specific referencing (simultaneous start with same number).
2. **Axis-specific referencing:** Press direction button that corresponds to the direction of approach in the axis-specific MD 34 010 **REFP_CAM_DIR_IS_MINUS** (approach reference point in minus direction).

Program continuation: Cancel the alarm with NC START and continue machining.

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10208 Channel %1 continue program with NC start

Explanation
%1 = channel number

After block search with calculation, the control is in the desired state.
The program can now be started with NC Start or the state can be changed for the time being with overstore/jog.

Reactions
Alarm display.
NC Stop on alarm.

Remedy
Press NC Start

Program continuation
Cancel the alarm with NC START and continue machining.

10225 Channel %1: Command % 2 rejected

Explanation
%1 = channel number
%2 = string (event name)

The channel contains a command that cannot be executed.

Reaction
Alarm display.

Remedy
Press RESET

Program continuation
Clear the alarm with the cancel key. No further operator action required.

10299 Channel %1 Auto-Repos function is not enabled

Explanation
%1 = channel number

The Auto-Repos function (operating mode) was selected in the channel but is not implemented.

Reaction
Alarm display.

Remedy
This message is purely informational.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

10600 Channel %1 block %2 auxiliary function during thread cutting active

Explanation
%1 = channel number
%2 = block number, label

An auxiliary function output is programmed in a thread cutting block.

Reaction
Alarm display.

Remedy
Consequential errors can occur if the machining path of the thread block is too short and further blocks (thread blocks) follow in which no machining stop may occur.

Possible remedies:

• Program a longer path and/or a lower traversing rate.

• Output auxiliary function in another block (program section).

Program continuation
Clear the alarm with the Cancel key or with NC START.

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10601 Channel %1 block %2 zero velocity at block end point during thread cutting

Explanation
%1 = channel number
%2 = block number, label

This alarm occurs only when several blocks with G33 follow in succession. The block end velocity in the specified block is zero although a further velocity block follows. Possible causes could be:

- G09
- Auxiliary function after motion
- Auxiliary function output before the motion of the following block

Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
NC start disable.

Remedy
Modify the NC part program by removing any programmed "Stop at end of block" G09.

Modify general MD 11110 **AUXFU_GROUP_SPEC [n]** for selecting the output time of an auxiliary function group by changing "Auxiliary function output before/after the movement" to "Auxiliary function output during the movement".

Bit 5 = 1: Auxiliary function output **before** the motion
Bit 6 = 1: Auxiliary function output **during** the motion
Bit 7 = 1: Auxiliary function output **after** the motion

Program continuation
Clear the alarm with the RESET key. Restart part program.

10604 Channel %1 block %2 thread lead increase too high

Explanation
%1 = channel number
%2 = block number, label

The thread lead increase cause axis overload.

A spindle override of 100% is assumed during verification.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.
NC start disable.

Remedy
Reduce the spindle speed, thread lead increase or path length in the part program.

Program continuation
Cancel the alarm with NC START and continue the program.

10605 Channel %1 block %2 thread lead decrease too high

Explanation
%1 = channel number
%2 = block number, label

The thread lead decrease is causing an axis standstill in the thread block.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.
NC start disable.

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Remedy Reduce the thread lead decrease or path length in the part program.

Program continuation Cancel the alarm with NC START and continue the program.

10607 Channel %1 block %2 thread with frame not executable

Explanation %1 = channel number
%2 = block number, label

The current frame is corrupting the reference between the thread length and the thread lead.

Reactions Alarm display.
Interface signals are set.
NC Stop on alarm at end of block.
NC Start disable.

Remedy Perform thread cutting with G33, G34, G35 without frame
Use G63 or G331/G332.

Program continuation Clear the alarm by means of the RESET key and restart the part program.

10610 Channel %1 axis %2 not stopped

Explanation %1 = channel number
%2 = block number, label

An axis/spindle has been positioned over several NC blocks using the POSA/SPOSA instruction. The programmed target position had not yet been reached ("exact stop fine" window) when the axis/spindle was reprogrammed.

Example:

N100 POSA[U]=100

:

N125 X... Y... U... ; e.g.: U axis still travels from N100!

Reactions NC start inhibit in this channel.
NC stop for alarm.
Alarm display.
Interface signals are set.

Remedy Check and correct the part program (analyze whether motion beyond block boundaries is appropriate here). Prevent block change by means of the vocabulary word WAITP until the positioning axes have also reached their target position.

Example:

```
N100 POSA[U]=100
:
N125 WAITP[U]
N130 X... Y... U...
```

Program continuation Clear the alarm with the RESET key. Restart part program.

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10620 Channel %1 block %3 axis %2 at software limit switch %4

Explanation

%1 = channel number
%2 = axis name, spindle number
%3 = block number, label
%4 = string

During the traversing motion, the system detected that the software limit switch would be crossed in the direction indicated. Unable to detect overstepping of the traversing area because a motion overlay was made by the **handwheel**.

Reactions

Alarm display.
Interface signals are set.
NC Start disable.

Remedy

The following remedies apply, depending on the cause:

1. Handwheel override Cancel the motion overlay and avoid this or keep it smaller when the program is repeated.
2. Check the transformation of the preset/programmed zero offsets (current frame). If the values are correct, the tool holder (fixture) must be moved in order to avoid triggering the same alarm when the program is repeated, which would again cause the program to be aborted.

Program continuation

Clear the alarm with the RESET key. Restart part program.

10621 Channel %1 axis %2 rests on software limit switch %3

Explanation

%1 = channel number
%2 = axis name, spindle number
%3 = string

The specified axis is already stationary at the displayed software limit.

Reaction

Alarm display.

Remedy

The machine data:
MD 36110 **POS_LIMIT_PLUS/**MD 36130 **POS_LIMIT_PLUS2** and MD 36100 **POS_LIMIT_MINUS/**MD 36120 **POS_LIMIT_MINUS2** must be checked for the software limit switches.

Check the axis-specific interface signals: "2. Check whether 2nd software limit switch is selected with 2nd software limit switch "Plus" (V 380x1000.3) and 2nd software limit switch "Minus" (V 380x1000.2).

Program continuation

Alarm display disappears with alarm cause. No further operator action required.

10630 Channel %1 block %2 axis %3 at working area limit %4

Explanation

%1 = channel number
%2 = block number, label
%3 = axis, spindle number
%4 = string (+ or -)

The specified axis violates the working area limitation. This is recognized only in the main run either because the minimum axis values could not be measured before the transformation or because there is a motion overlay.

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Reactions	Alarm display. Interface signals are set. NC Stop on alarm at end of block. NC Start disable.
Remedy	Program a different motion or do not perform a motion overlay.
Program continuation	Clear the alarm with the RESET key. Restart part program.

10631

Channel %1 axis %2 rests at working area limit %3

Explanation	%1 = channel number %2 = axis, spindle %3 = string (+ or -) The specified axis reaches the positive working area limitation in JOG mode.
Reaction	Alarm display.
Remedy	Setting data: Check SD 43420 **WORKAREA_LIMIT_PLUS** and SD 43430 **WORKAREA_LIMIT_MINUS** for work area limitation.
Program continuation	Alarm display disappears with alarm cause. No further operator action required.

10720

Channel %1 block %3 axis %2 software limit switch %4

Explanation	%1 = channel number %2 = axis name, spindle number %3 = block number, label %4 = string (+ or -) For the axis, the programmed path violates the currently valid software limit switch. (The 2nd software limit switch is selected with interface signal "2nd software limit switch Plus/Minus" in V 380x1000.2 and 0.3). The alarm is activated when preparing the part program block.
Reactions	Alarm display. Interface signals are set. NC Start disable.
Remedy	Check the **position** of the axis as specified in the part program. Check MD 36110 **POS_LIMIT_MINUS**/MD 36130 **POS_LIMIT_MINUS2** and MD 36100 **POS_LIMIT_PLUS**/MD 36120 **POS_LIMIT_PLUS2** for the software limit switches. Check the axis-specific **interface signals**: "2. Check whether 2nd software limit switch is selected with software limit switch "Plus/Minus" (V 380x1000.2 and .3). Check currently active **zero offsets** via the current frame.
Program continuation	Clear the alarm with the RESET key. Restart part program.

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10721 Channel %1 block %3 axis %2 software limit switch %4

Explanation

%1 = channel number
%2 = axis name, spindle number
%3 = block number, label
%4 = string (+ or -)

The planned motion violates the software limit switch for the axis. The alarm is activated during the preparation of approach or rest blocks at REPOS.

Reactions

Local alarm reaction.
Interface signals are set.
Alarm display.

Remedy

Check in the NC program and current positions. Check whether 2nd software limit switch is selected with axis-specific interface signal "2nd software limit switch Plus/Minus" (V 380x1000.2 and .3).

Check currently active zero offsets via the current frame.

Check the machine data for the software limit switch (36100 POS_LIMIT_MINUS / 36120 POS_LIMIT_MINUS2 or 36110 POS_LIMIT_PLUS / 36130 POS_LIMIT_PLUS2).

Interrupt the NC program via NC reset.

Program continuation

Clear the alarm with the RESET key. Restart part program.

10730 Channel %1 block %3 axis %2 working area limitation %4

Explanation

%1 = channel number
%2 = axis name, spindle number
%3 = block number, label
%4 = string (+ or -)

This alarm is generated if it is determined during block preparation that the programmed path of the axis will result in exceeding the working area limitation.

Reactions

Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Start disable.

Remedy

a) Check the **NC program** for correct position data.

b) Check **zero offsets** (current frame)

c) Correct **work area limitation** with G25 or

d) Correct **work area limitation** via setting data or

e) Deactivate **working area limitation** via SD 43410 **WORKAREA_MINUS_ENABLE=FALSE**

Program continuation

Cancel the alarm with NC START and continue the program.

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10731 Channel %1 block %3 axis %2 working area limitation %4

Explanation
%1 = channel number
%2 = axis name, spindle number
%3 = block number, label
%4 = string (+ or -)

For the axis, the planned motion violates the working area limit. The alarm is activated during the preparation of approach or rest blocks at REPOS.

Reactions
Local alarm reaction
Interface signals are set
Alarm display

Remedy
Abort part program with reset.

Program continuation
Clear the alarm with the RESET key. Restart part program.

10740 Channel %1 block %2 too many empty blocks in SAR programming

Explanation
%1 = channel number
%2 = block number, label

No more than 5 blocks may be programmed between the SAR block and the block which defines the approach or retraction tangent.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Start disable.
NC Stop on alarm at end of block.

Remedy
Modify part program.

Program continuation
Cancel the alarm with NC START and continue the program.

10741 Channel %1 block %2 direction reversal with SAR infeed motion

Explanation
%1 = channel number
%2 = block number, label

A safety distance which has been programmed is located perpendicular to the machining plane and not between the start and end point of the SAR contour.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Start disable.
NC Stop on alarm at end of block.

Remedy
Modify part program.

Program continuation
Cancel the alarm with NC START and continue the program.

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10742 Channel %1 block %2 SAR distance invalid or not programmed

Explanation

%1 = channel number
%2 = block number, label

Possible causes:
In a SAR block, the parameter DISR has not been specified or its value is less than or equal to 0.

During approach or retraction with circle and active tool radius, the radius of the internally generated SAR contour is negative. The internally generated SAR contour is a circle with a radius which, when offset with the current offset radius (sum of tool radius and offset value OFFN), yields the tool center point path with the programmed radius DISR.

Reactions

Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Start disable.
NC Stop on alarm at end of block.

Remedy

Modify part program

Program continuation

Cancel the alarm with NC START and continue the program.

10743 Channel %1 block %2 SAR programmed several times

Explanation

%1 = channel number
%2 = block number, label

An attempt has been made to activate a SAR motion before a previously activated SAR motion was terminated.

Reactions

Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Start disable.
NC Stop on alarm at end of block.

Remedy

Modify part program.

Program continuation

Cancel the alarm with NC START and continue the program.

10744 Channel %1 block %2 no valid SAR direction defined

Explanation

%1 = channel number
%2 = block number, label

The tangent direction for smooth approach or retraction is not defined.

Possible causes:
In the program, no further block with travel information follows the approach block.

Before a retraction block, no block with travel information has been programmed in a program.

The tangent to be used for SAR motion is vertical to the current machining plane.

Reactions

Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Start disable.
NC Stop on alarm at end of block.

Remedy

Modify part program.

Program continuation

Cancel the alarm with NC START and continue the program.

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10745 Channel %1 block %2 SAR end position not clear

Explanation
%1 = channel number
%2 = block number, label

In the SAR block and in the following block, the position has been programmed perpendicular to the machining direction. In the SAR block, no position has been indicated in the machining plane.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Start disable.
NC Stop on alarm at end of block.

Remedy
Modify part program.
Either remove the position data for the infeed axis from the SAR block or the following block, or program a position in the machining plane in the SAR block as well.

Program continuation
Cancel the alarm with NC START and continue the program.

10746 Channel %1 block %2 block search stop for SAR

Explanation
%1 = channel number
%2 = block number, label

A block search stop has been inserted between a SAR approach block and the following block defining the tangent direction or between a SAR approach block and the following block defining the end position.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Start disable.
NC Stop on alarm at end of block.

Remedy
Modify part program.

Program continuation
Cancel the alarm with NC START and continue the program.

10747 Channel %1 block %2 retraction direction not defined for SAR

Explanation
%1 = channel number
%2 = block number, label

In a SAR retraction block with quarter circle or semi-circle (G248 or G348), the end point in the machining plane was not programmed, and either G143 or G140 without tool radius compensation is active.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Start disable.
NC Stop on alarm at end of block.

Remedy
Modify part program.
The following modifications are possible:

- Indicate end point in the machining plane in the SAR block.
- Activate tool radius compensation (effective for G140 only, not for G143).
- State retraction side explicitly with G141 or G142.
- Perform retraction with a straight line instead of a circle.

Program continuation
Cancel the alarm with NC START and continue the program.

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10748 Channel %1 block %2 illegal retraction plane for SAR

Explanation
%1 = channel number
%2 = block number, label

By means of DISRP a position of the retraction plane has been programmed which is not situated between the safety distance (DISCL) and the starting point (during approach) and/or end point (during retraction) of the SAR movement.

Reactions
Compensation block with reorganization.
Local alarm reaction.
Interface signals are set.
Alarm display.
NC Stop on alarm at end of block.

Remedy
Modify part program

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

10750 Channel %1 block %2 tool radius compensation activated without tool number

Explanation
%1 = channel number
%2 = block number, label

A tool T... must be selected so that the control can make allowance for the associated compensation values.

A correction data block (D1) containing the correction values (parameter P1 - P25) is automatically assigned to each tool (T number). Up to 9 correction data blocks can be assigned to a tool by specifying the required data block with the D number (D1 - D9).

The tool radius compensation (TRC) is allowed for if function G41 or G42 is programmed. The correction values are contained in parameter P6 (geometry value) and P15 (wear value) of the active correction data block Dx.

Reactions
Alarm display.
Interface signals are set.
Compensation block with reorganization.
NC Start disable.
NC Stop on alarm.

Remedy
Before calling the TRC with G41/G42, program a tool number under the address T...

Program continuation
Clear the alarm with the RESET key. Restart part program.

10751 Channel %1 block %2 danger of collision due to tool radius compensation

Explanation
%1 = channel number
%2 = block number, label

The "Bottleneck detection" (calculation of intersection for the following compensated traversing blocks) has not been able to calculate a point of intersection for the reviewed number of traversing blocks. So it may be that one of the equidistant paths violates the workpiece contour.

Reactions
Alarm display.
Interface signals are set.
Compensation block with reorganization.
NC Start disable.
NC Stop on alarm.

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Remedy: Check the part program and modify the programming if possible such that inside corners with smaller paths than the correction value are avoided. (Outside corners are not critical, since the equidistants are extended or added to always obtain an intersection point).

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

10752 Channel %1 block %2 overflow of local block buffer with tool radius compensation

Explanation: %1 = channel number
%2 = block number, label

The tool radius compensation must buffer a varying number of intermediate blocks, in order to calculate the equidistant tool path for each NC block. The size of the buffer cannot be determined by simple means. It depends on the number of blocks without traversing information in the compensation plane and the number of contour elements added.

The size of the buffer is fixed by the system and cannot be changed via the MDs.

Reactions: Alarm display.
Interface signals are set.
Compensation block with reorganization.
NC Start disable.
NC Stop on alarm.

Remedy: Reduce the size of the buffer that has been assigned by modifying the NC program. By avoiding:

- Blocks without traversing information in the compensation plane.
- Blocks with contour elements having a variable curvature (e.g. ellipses) and with curvature radii that are smaller than the compensation radius. (such blocks are divided up into several subblocks).

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

10753 Channel %1 block %2 selection of the tool radius compensation only possible in linear block

Explanation: %1 = channel number
%2 = block number, label

Selection of tool radius compensation with G41/G42 may only be performed in blocks where the G function G00 (rapid traverse) or G01 (feed) is active.
In the block with G41/G42, at least one axis in the plane G17 to G19 must be written. It is always advisable to write both axes because, as a rule, both axes are traversed when selecting the compensation.

Reactions: Alarm display.
Interface signals are set.
Compensation block with reorganization.
NC Start disable.
NC Stop on alarm.

Remedy: Correct the NC program and put the compensation selection in a block with linear interpolation.

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

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10754 Channel %1 block %2 deselection of the tool radius compensation only possible in linear block

Explanation
%1 = channel number
%2 = block number, label

Deselection of tool radius compensation with G40 can only be performed in blocks where the G function G00 (rapid traverse) or G01 (feed) is active.
In the block with G40, at least one axis in the plane G17 to G19 must be written.
It is always advisable to write both axes because, as a rule, both axes are traversed when deselecting the compensation.

Reactions
Alarm display.
Interface signals are set.
Compensation block with reorganization.
NC Start disable.
NC Stop on alarm.

Remedy
Correct the NC program and put the compensation selection in a block with linear interpolation.

Program continuation
Clear the alarm with the RESET key. Restart part program.

10755 Channel %1 block %2 selection of the tool radius compensation via KONT not possible at the current starting point

Explanation
%1 = channel number
%2 = block number, label

When activating the cutter radius compensation with **KONT** the starting point of the approach block is within the compensation circle and therefore already violates the contour.

If the cutter radius compensation is selected with G41/G42, the approach **behavior** (NORM or KONT) determines the compensation movement if the present actual position is **behind** the contour. With KONT, a circle is drawn with the cutter radius around the programmed initial point (= end point of the approach block). The tangent that passes through the current actual position and does not violate the contour is the approach movement.

If the start point is within the compensation circle around the target point, no tangent passes through this point.

Reactions
Alarm display.
Interface signals are set.
Compensation block with reorganization.
NC Start disable.
NC Stop on alarm.

Remedy
Place selection of the CRC such that the starting point of the approach movements comes to rest outside of the correction circle around the target point (programmed traversing movements compensation radius). The following options are available:

- Select in the previous block
- Add intermediate block
- Select approach behavior NORM

Program continuation
Clear the alarm with the RESET key. Restart part program.

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10756

Channel %1 block %2 deselection of the tool radius compensation via KONT not possible at the programmed end point

Explanation

%1 = channel number
%2 = block number, label

On deselection of the cutter radius compensation, the programmed end point is within the compensation circle. If this point were in fact to be approached without compensation, there would be a contour violation.

If the cutter radius compensation is deselected via G40, the approach behavior (NORM or KONT) determines the compensation movement if the programmed end point is **behind** the contour. With KONT, a circle is drawn with the cutter radius about the last point at which the compensation is still active. The tangent passing through the programmed end position and not violating the contour is the retraction movement.

If the start point is within the compensation circle around the target point, no tangent passes through this point.

Reactions

Alarm display.
Interface signals are set.
Compensation block with reorganization.
NC Start disable.
NC Stop on alarm.

Remedy

Place deselection of the CRC such that the programmed end point comes to rest outside the compensation circle around the last active compensation point. The following options are available:

- Deselection in the next block
- Add intermediate block
- Select retraction behavior NORM

Program continuation

Clear the alarm with the RESET key. Restart part program.

10757

Channel %1 block %2 changing the compensation plane while tool radius compensation is active not possible

Explanation

%1 = channel number
%2 = block number, label

In order to change the compensation plane (G17, G18 or G19) it is first necessary to deselect the cutter radius compensation with G40.

Reactions

Local alarm reaction
Alarm display
Interface signals are set
Compensation block with reorganization
NC Stop on alarm at end block end

Remedy

Insert an intermediate block in the part program using the correction deselection. After the plane change, the cutter radius compensation is to be selected in an approach block with linear interpolation.

Program continuation

Clear the alarm with NC START or the RESET key and continue the program.

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10758 Channel %1 block %2 curvature radius with variable compensation value too small

Explanation
%1 = channel number
%2 = block number, label

The current cutter radius compensation (the cutter used) is too large for the programmed path radius.

In a block with variable tool radius compensation, a compensation must be possible either anywhere or nowhere on the contour with the smallest **and** the largest compensation value from the programmed range. There must be no point on the contour in which the curvature radius is within the variable compensation range.

If the compensation value varies its sign within a block, both sides of the contour are checked, otherwise only the compensation side.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Start disable.
NC Stop on alarm at end of block.

Remedy
Use smaller cutters or allow for a part of the cutter radius at the time of contour programming.

Program continuation
Cancel the alarm with NC Start and continue program.

10760 Channel %1 block %2 helical axis is not parallel to tool orientation

Explanation
%1 = channel number
%2 = block number, label

With active tool radius compensation a helix is only permissible if the helix axis is parallel to the tool, i.e. the circle plane and the compensation plane must be identical.

Reactions
Local alarm reaction.
Alarm display.
Interface signals are set.
Compensation block with reorganization.
NC Stop on alarm at end block end.

Remedy
Orient helix axis perpendicular to the machining plane.

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

10761 Channel %1 block %2 tool radius compensation for ellipse with more than one revolution not possible

Explanation
%1 = channel number
%2 = block number, label

When machining the inside of an ellipse, in parts of the ellipse the curvature radii are greater than or smaller than the cutter radius compensation.

In ellipses, in this case the block would be split up into 4 subblocks with curvature radii that are greater than and less than the compensation radius. Over several revolutions, there would be a tremendous increase in the amount of calculation required by the unlimited number of resulting subblocks, and therefore this situation is rejected by the error message.

If compensation is possible everywhere or nowhere on the ellipse, then ellipses are also permissible that cover more than one full revolution.

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Reactions
Local alarm reaction.
Alarm display.
Interface signals are set.
Compensation block with reorganization.
NC Stop on alarm at **end** block end.

Remedy
Use cutter with smaller radius or program motion block on blocks with no more than one revolution.

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

10762

Channel %1 block %2 too many empty blocks between two traversing blocks with active tool radius compensation

Explanation
%1 = channel number
%2 = block number, label

The maximum number of empty blocks is limited.

Reactions
Alarm display.
Interface signals are set.
Compensation block with reorganization.
NC Start disable.
NC Stop on alarm.

Remedy
1. Modify part program:
2. Check whether SBL2 has been selected. With SBL2, a block is generated from each part program line which can lead to exceeding the maximum permissible number of empty blocks between two traversing blocks.

Program continuation
Clear the alarm with the RESET key. Restart part program.

10763

Channel %1 block %2 path component of the block in the compensation plane becomes zero

Explanation
%1 = channel number
%2 = block number, label

Due to the collision monitoring with active tool radius compensation, the path component of the block in the compensation plane becomes zero. If the original block contains no motion information perpendicular to the compensation plane, it means that this block is excluded.

Reaction
Alarm display.

Remedy
- The behavior is correct at narrow locations that cannot be machined with the active tool.
- Modify part program.
- Use tool with smaller radius if necessary.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

10764

Channel %1 block %2 discontinuous path with active tool radius compensation

Explanation
%1 = channel number
%2 = block number, label

This alarm occurs when, with active tool radius compensation, the starting point used for calculating the compensation is not identical to the end point of the preceding block.

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Reactions	Alarm display. Interface signals are set. Compensation block with reorganization. NC Start disable. NC Stop on alarm.
Remedy	Modify part program.
Program continuation	Clear the alarm with the RESET key. Restart part program.

10765 Channel %1 block %2 3D tool radius compensation not possible

Explanation	%1 = channel number %2 = block number, label This alarm occurs when an attempt is made to activate the 3D tool radius compensation even though the option required for this is not fitted in the control.
Reactions	Local alarm reaction. Alarm display. Interface signals are set. Compensation block with reorganization. NC Stop on alarm at end of block.
Remedy	The option cannot be activated by altering machine data because the necessary code is not physically available.
Program continuation	Clear the alarm with NC START or the RESET key and continue the program.

10776 Channel %1 block%2 axis %3 must be geometry axis if tool radius compensation is active

Explanation	%1 = channel number %2 = block number, label %3 = axis name This alarm occurs when an axis that is required for tool radius compensation is not a geometry axis.
Reactions	Alarm display. Interface signals are set. Correction block with reorganization. NC Start disable. NC Stop on alarm at end of block.
Remedy	Modify part program.
Program continuation	Cancel the alarm with NC START and continue the program.

10777 Channel %1 block %2 tool radius compensation: Too many blocks with suppression of compensation

Explanation	%1 = channel number %2 = block number, label The maximum permissible number of blocks with active suppression of compensation for tool radius compensation is limited.
Reactions	Alarm display. Interface signals are set. Compensation block with reorganization. NC Start disable. NC Stop on alarm at end of block.

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Remedy
- Modify part program.
- Check whether SBL2 has been selected. With SBL2, a block is generated from each part program line which can lead to exceeding the maximum permissible number of empty blocks between two traversing blocks.

Program continuation: Cancel the alarm with NC START and continue machining.

10778

Channel %1 block %2 preprocessing stop with active tool radius compensation

Explanation: %1 = channel number
%2 = block number, label

If a preprocessing stop is detected with active tool radius compensation (either programmed by the user or generated internally), then this warning is issued because in this situation machine movements which were not intended by the user can occur (termination of radius compensation and new approach). To continue machining, activate the CANCEL key and perform a restart.

Reaction: Alarm display.

Remedy
- Continue machining with CANCEL and Start.
- Modify part program.

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

10780

Channel %1 block %2 preprocessing stop with active tool radius compensation

Explanation: %1 = channel number
%2 = block number, label

If a preprocessing stop is detected with active tool radius compensation (either programmed by the user or generated internally), then this warning is issued because in this situation machine movements which were not intended by the user can occur (termination of radius compensation and new approach).

To continue machining, activate the CANCEL key and perform a restart.

Reactions: Alarm display.
NC Stop on alarm at end of block.

Remedy
- Continue machining with CANCEL and Start.
- Modify part program.

Program continuation: Clear the alarm with the cancel key. No further operator action required.

10784

Channel %1 block %2 illegal for tool for tool compensation with limiting surfaces

Explanation: %1 = channel number
%2 = block number, label

When activating the tool radius compensation with constraint surface, an illegal tool type is active.

Only cutting tools of the tool types 1 to 399 are admitted with the following exceptions:

• 111 ball end milling cutter

• 155 Bevel cutter

• 156 Bevel cutter

• 157 Bevel cutter

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Reactions	Local alarm reaction. Alarm display. Interface signals are set. Compensation block with reorganization. NC Stop on alarm at end of block.
Remedy	Use a different tool.
Program continuation	Clear the alarm with NC START or the RESET key and continue the program.

10790 Channel %1 block %2 plane change during linear programming with angles

Explanation	%1 = channel number %2 = block number, label The active plane was changed between the first and second subblock when programming two straight lines with angle parameters.
Reactions	Alarm display. Interface signals are set. NC Stop on alarm. Under certain circumstances with channel-wide switchover via MD The NC switches to follow-up mode
Remedy	Modify part program
Program continuation	Cancel the alarm with NC START and continue the program.

10791 Channel %1 block %2 invalid angle during linear programming

Explanation	%1 = channel number %2 = block number, label No intermediate point was found when programming a contour consisting of two straight lines and an angle specification.
Reactions	Alarm display. Interface signals are set. NC Stop on alarm. Under certain circumstances with channel-wide switchover via MD. The NC switches to follow-up mode.
Remedy	Modify part program.
Program continuation	Cancel the alarm with NC START and continue the program.

10792 Channel %1 block %2 illegal interpolation type during linear programming with angles

Explanation	%1 = channel number %2 = block number, label Only spline or linear interpolation is permitted for programming two straight lines with angle specification. Circular or polynomial interpolation is not allowed.
Reactions	Alarm display. Interface signals are set. NC Stop on alarm. Under certain circumstances with channel-wide switchover via MD. The NC switches to follow-up mode.
Remedy	Modify part program.
Program continuation	Cancel the alarm with NC START and continue the program.

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10793 Channel %1 block %2 second block missing during linear programming with angles

Explanation
%1 = channel number
%2 = block number, label

The second block is missing during programming of two straight lines with angle specification. This situation only occurs if the first subblock is also the last block of a program, or if the first subblock is followed by a block with a preprocessor stop.

Reactions
Alarm display.
Interface signals are set.
NC Stop on alarm.
Under certain circumstances with channel-wide switchover via MD.
The NC switches to follow-up mode.

Remedy
Modify part program.

Program continuation
Cancel the alarm with NC START and continue the program.

10794 Channel %1 block %2 angle specification missing in second block during linear interpolation with angles

Explanation
%1 = channel number
%2 = block number, label

The angle is missing from the second block during programming of two straight lines with angle specification.
This error can only occur if an angle was programmed in the preceding block, but no axis of the active plane was programmed in that block.
The cause of the error may therefore also have been the intention to program a single straight line with an angle in the previous block. In this case, exactly one axis of the active plane must be programmed.

Reactions
Alarm display.
Interface signals are set.
NC Stop on alarm.
Under certain circumstances with channel-wide switchover via MD.
The NC switches to follow-up mode.

Remedy
Modify part program.

Program continuation
Cancel the alarm with NC START and continue the program.

10795 Channel %1 block %2 end point specification during angle programming contradictory

Explanation
%1 = channel number
%2 = block number, label

During programming of a straight line, both positions of the active plane and an angle were specified (the position of the end point is over-specified), or the position of the programmed coordinate cannot be reached with the specified angle. If a contour consisting of two straight lines is to be programmed with angles, it is possible to specify the two axis positions of the plane and an angle in the second block. The error can also occur if, due to a programming error, the preceding block cannot be interpreted as the first subblock of such a contour. A block is interpreted as the first block of a two-block contour if an angle, but not an axis of the active plane, was programmed, and if the block is not already the second block of a contour.

Reactions
Alarm display.
Interface signals are set.
NC Stop on alarm.
Under certain circumstances with channel-wide switchover via MD.
The NC switches to follow-up mode.

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Remedy Modify part program.

Program continuation Cancel the alarm with NC START and continue the program.

10800 Channel %1 block %3 axis %2 is not a geometry axis

Explanation %1 = channel number
%2 = axis name, label
%3 = block number, label

With an active transformation or a frame with a rotation component the geometry axes are needed for block preparation. If a geometry axis has previously been traversed as positioning axis, it retains its status of "positioning axis" until it is again programmed as a geometry axis.

Because of the POSA motion beyond block boundaries, it is not possible to identify in the preprocessing run whether the axis has already reached its target position when the block is executed. This is, however, an unconditional requirement for calculating the ROT component of the frame or of the transformation.

If geometry axes are used as positioning axes, then:

1. No rotation may be specified in the current overall frame.

2. No transformation may be selected.

Reactions Alarm display.
Interface signals are set.
Local alarm reaction.
Compensation block with reorganization.

Remedy After selecting transformation or frame, reprogram the geometry axis now operating as positioning axis (e.g. with WAITP) in order to revert the status to "geometry axis".

Program continuation Clear the alarm with NC START or the RESET key and continue the program.

10810 Channel %1 block %2 master spindle not defined

Explanation %1 = channel number
%2 = block number, label

The function "Revolutional feedrate" (with G95 or G96), or "Rigid tapping" (with G331/G332) has been programmed, although no master spindle is defined from which the speed could be derived.

For the definition the MD 20090 **SPIND_DEF_MASTER_SPIND** is available for the default or the vocabulary word **SETMS** in the part program, thus allowing each spindle of the channel to be redefined as master spindle.

Reactions Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Start disable.

Remedy Pre-set master spindle with MD 20090 **SPIND_DEF_MASTER_SPIND[n]=m** (n ... channel index, m ... spindle No.) or define with an identifier in the NC part program before a G function that requires a master spindle is programmed.

The machine axis to drive the spindle must have a spindle number assigned in MD 35000 **SPIND_ASSIGN_TO_MACHAX[n]=m** (n ... machine axis index, m ... spindle No.). Furthermore, it must be assigned to a channel (channel index 1 or 2) via MD 20070 **AXCONF_MACHAX_USED[n]=m** (n ... channel axis index, m ... machine axis index).

Program continuation Cancel the alarm with NC START and continue the program.

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10820 Channel %1 rotary axis/spindle %2 not defined

Explanation
%1 = channel number
%2 = axis name, spindle number

Revolutional feed has been programmed for contouring and synchronous axes or for an axis/spindle. However, the rotary axis/spindle from which the feed is to be deduced is not available.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Start disable.

Remedy
Correct part program or set the SD 43300 **ASSIGN_FEED_PER_REV_SOURCE** correctly.

Program continuation
Cancel the alarm with NC START and continue the program.

10860 Channel %1 block %2 feedrate not programmed

Explanation
%1 = channel number
%2 = block number, label

In the displayed block, an interpolation type other than G00 (rapid traverse) is active. The F value has not been programmed.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Start disable.

Remedy
Program feedrate in accordance with the interpolation type.

- **G93:** The feedrate is specified as a time-reciprocal value under address **F** in [1/min].
- **G94** and **G97:** The feedrate is programmed under address **F** in [mm/min] or [m/min].
- **G95:** The feedrate is programmed as revolutional feedrate under address **F** in [mm/revolution].
- **G96:** The feedrate is programmed as cutting rate under address **S** in [m/min]. It is derived from the current **spindle speed**.

Program continuation
Clear the alarm with the RESET key. Restart part program.

10861 Channel %1 block %3 velocity of positioning axis %2 is zero

Explanation
%1 = channel number
%2 = axis
%3 = block number, label

No axis velocity has been programmed and the positioning velocity set in the machine data is zero.

Reactions
Alarm display.
Interface signals are set.
Local alarm reaction.
Compensation block with reorganization.

Remedy
Please inform the authorized personnel/service department. Enter a different velocity in machine data 32060 MA_POS_AX_VELO.

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

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10862 Channel %1 block %2 master spindle also used as path axis

Explanation
%1 = channel number
%2 = block number, label

A contour has been programmed that also includes the master spindle as contouring axis.
However, the velocity of the contour is derived from the rotational speed of the master spindle (e.g. G95).

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Start disable.

Remedy
Change the program so it cannot reference itself.

Program continuation
Cancel the alarm with NC START and continue the program.

10870 Channel %1 block %2 facing axis not defined

Explanation
%1 = channel number
%2 = block number, label

When constant cutting speed is activated via the **G96** function, the spindle speed is controlled through the position of the facing axis such that the cutting speed programmed under S [mm/min] is applied at the tool tip.

In MD 20100 **DIAMETER_AX_DEF[n,m]=x** (n ... channel index, m ... spindle index, x ... axis name), the name of the face axis [String] can be specified for each of the 5 spindles and it is used for speed calculation.

$$S\,[1/\text{min}] = \frac{S_{G96}[\text{m/min}] \cdot 1000}{D_{\text{Face axis}}[\text{mm}] \cdot \pi}$$

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Start disable.

Remedy
Enter the name of the facing axis in MD 20100 **DIAMETER_AX_DEF** for the spindles used.

Program continuation
Clear the alarm with the RESET key. Restart part program.

10880 Channel %1 block %2 too many empty blocks between two traversing blocks when inserting chamfers or radii

Explanation
%1 = channel number
%2 = block number, label

Between 2 blocks containing the contour elements and to be joined with a chamfer or a radius **(CHF, RND)**, too many dummy blocks have been programmed without contour information.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Start disable.

Remedy
Modify the **part program** so that the maximum permissible number of empty blocks is not exceeded.

Program continuation
Clear the alarm with the RESET key. Restart part program.

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10881 Channel %1 block %2 overflow of local block buffer when inserting chamfers or radii

Explanation
%1 = channel number
%2 = block number, label

Between 2 blocks containing the contour elements and to be joined with a chamfer or a radius **(CHF, RND)**, so many dummy blocks have been programmed without contour information that the internal buffer is too small.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Start disable.

Remedy
Modify the part program so that number of empty blocks is reduced.

Program continuation
Cancel the alarm with NC START and continue the program.

10882 Channel %1 block %2 activation of chamfers or radii (non-modal) without traversing movement in the block

Explanation
%1 = channel number
%2 = block number, label

No chamfer or radius has been inserted between 2 linear or circle contours (edge breaking) because:

- There is no straight line or circle contour in the plane.
- There is a movement outside of the plane.
- A plane change has taken place.
- The maximum permissible number of empty blocks with traversing information (dummy blocks) has been exceeded.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Start disable.

Remedy
Correct the part program according to the error described above.

Program continuation
Clear the alarm with the RESET key. Restart part program.

10883 Channel %1 block %2 chamfer or fillet has to be reduced

Explanation
%1 = channel number
%2 = block number, label

This alarm is output, if at least one of the relevant blocks when inserting chamfers or radii is so short, that the contour element to be inserted must be reduced against its originally programmed value. The alarm occurs only if bit 4 is set in the machine data MD 11411 **ENABLE_ALARM_MASK**. Otherwise, the chamfer or radius is adapted without an alarm being output.

Reactions
Alarm display.
Interface signals are set.
NC Stop on alarm at end of block.

Remedy
Modify NC program of continue program without modifications after CANCEL and Start or with Start alone.

Program continuation
Clear the alarm with the Delete key. No further operator action required.

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10900 Channel %1 block %2 no S value programmed for constant cutting speed

Explanation
%1 = channel number
%2 = block number, label

If G96 is active, the constant cutting speed under address S is missing.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.
NC Start disable.

Remedy
Program constant cutting speed under S in [m/min] or deselect the function G96. For example, with G97 the previous feed is retained but the spindle continues to rotate at the current speed.

Program continuation
Cancel the alarm with NC START and continue the program.

10910 Channel %1 block %2 excessive velocity of one path axis

Explanation
%1 = channel number
%2 = block number, label

With active transformation, an excessive increase in velocity occurs in one or several axes, e.g. because the path passes close by the pole.

Reaction
Alarm display.

Remedy
Divide the NC block into several blocks (e.g. 3) so that the path section with the excess is as small as possible and therefore of short duration. The other blocks are then traversed at the programmed velocity.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

10911 Channel %1 block %2 transformation does not allow to traverse the pole

Explanation
%1 = channel number
%2 = block number, label

The given curve passes through the pole of the transformation.

Reactions
Alarm display.
Interface signals are set.
NC Start disable.

Remedy
Modify part program.

Program continuation
Clear the alarm with the RESET key. Restart part program.

10912 Channel %1 block %2 preprocessing and main run might not be synchronized

Explanation
%1 = channel number
%2 = block number, label

The specified curve cannot be pre-calculated reliably. The reason for this is either that the axes involved in the transformation are traversed as positioning axes or that a transformation pole is circumnavigated too frequently by the curve.

The velocity check is performed starting from this block in the main run. It is more conservative than with anticipated calculation. The LookAhead function is deactivated. If it is not possible to take over the velocity check into the main run, part program processing is aborted.

Reaction
Alarm display.

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Remedy
No action is usually necessary. The velocity control operates more effectively, however, if the part program is modified.

• If a transformation pole is circumnavigated several times by the curve, it helps to split up the block into smaller parts.

• If a positioning axis is the cause, you should check whether the axis can be traversed as a path axis. The LookAhead function remains deactivated until preprocessing can be based on defined conditions again (e.g. as a result of change from JOG->AUTO, tool or tool edge change).

Program continuation
Clear the alarm with the Cancel key or with NC START.

10913 Channel %1 block %2 negative feed profile is ignored

Explanation
%1 = channel number
%2 = block number, label

The given feed profile is in part negative. However, negative path feed is not allowed. The feed profile is ignored. The specified feed block end value is taken when traversing over the entire block.

Reactions
Local alarm reaction.
Alarm display.

Remedy
No action is usually necessary. The alarm message indicates an error in the programming, however, and this should be corrected.

Program continuation
Clear the alarm with the Cancel key or with NC START.

10914 Movement not possible while transformation active - in channel %1, block %2

Explanation
%1 = channel number
%2 = block number, label

The machine kinematics does not allow the specified motion. Transformation-dependent causes could be:
TRANSMIT:
A (circular) area exists around the pole, where positioning is not possible. The area is caused by the fact that the tool reference point cannot be traversed as far as into the pole.

The area is defined by:
- The machine data ($MC_TRANSMIT_BASE_TOOL..)
- The active tool length compensation (see $TC_DP..).
  - Incorporation of the tool length compensation depends on the selected working plane (see G17,..).
- The machine stops before the faulty block.

Reactions
Alarm display.
Interface signals are set.
NC Start disable.

Remedy
Modify the part program.
Modify an incorrectly specified tool length compensation.

Program continuation
Clear the alarm with the Reset key. Restart part program.

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10930 Channel %1 block %2 interpolation type not allowed in stock removal contour

Explanation
%1 = channel number
%2 = block number, label

The contour of the stock removal cycle (CYCLE 95) contains different path commands than: G00, G01, G02, G03, CIP or CT. The contour program may only contain contour elements that derive from these path conditions (i.e. no thread blocks, no spline blocks, etc.).

Reactions
Alarm display.
Interface signals are set.
NC Start disable.

Remedy
Only program path elements that consist of straight lines or circles as a stock removal contour.

Program continuation
Clear the alarm with the RESET key. Restart part program.

10931 Channel %1 block %2 incorrect stock removal contour

Explanation
%1 = channel number
%2 = block number, label

The contour of the stock removal cycle (CYCLE 95) contains different path commands than:

- Full circle
- Overlapping contour elements
- Wrong start position

Reactions
Alarm display.
Interface signals are set.
NC Start disable.

Remedy
The above errors must be corrected in the program for the stock removal contour.

Program continuation
Clear the alarm with the RESET key. Restart part program.

10932 Channel %1 block %2 preparation of contour has been restarted

Explanation
%1 = channel number
%2 = block number, label

The stock removal cycle CYCLE 95 was interrupted during a preparatory phase of the stock removal contour.

Reactions
Alarm display.
Interface signals are set.
NC Start disable.

Remedy
No interruptions are permitted during contour preparation in the stock removal cycle CYCLE 95.

Program continuation
Clear the alarm with the RESET key. Restart part program.

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10933

Channel %1 block %2 contour program does not contain enough contour blocks

Explanation

%1 = channel number
%2 = block number, label

The program in which the stock removal contour is programmed contains fewer than 3 blocks with motions in both axes in the machining plane. The cutting cycle (CYCLE 95) has been aborted.

Reactions

Alarm display.
Interface signals are set.
NC Start disable.

Remedy

Increase the size of the program with the stock removal contour to include at least 3 NC blocks with movements in both axes of the current machining plane.

Program continuation

Clear the alarm with the RESET key. Restart part program.

10934

Channel %1 block %2 array for contour segmentation is set too small

Explanation

%1 = channel number
%2 = block number, label

The program in which the stock removal contour is programmed contains too many blocks with motions in both axes in the machining plane (CYCLE 95).

Reactions

Alarm display.
Interface signals are set.
NC Start disable.

Remedy

The number of blocks in the contour program must be reduced. You should check the distribution of the contour over several programs.

Program continuation

Clear the alarm with the RESET key. Restart part program.

10962

Channel %1 block %2 function %3 not possible with path correction

Explanation

%1 = channel number
%2 = block number, label
%3 = function name

With this software release, the specified function can not yet be used together with tool radius compensation. Please modify the part program or obtain a higher software version.

Reactions

Local alarm reaction.
Alarm display.
Interface signals are set.
Compensation block with reorganization.
NC Stop on alarm at end of block.

Remedy

Modify part program.

12000

Channel %1 block %2 address %3 programmed repeatedly

Explanation

%1 = channel number
%2 = block number, label
%3 = source string of address

Most addresses (address types) may only be programmed **once** in an NC block, so that the block information remains unambiguous (e.g. X... T... F... etc. - Exception: G and M functions).

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Reactions
Alarm display.
Interface signals are set.
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECTION. The correction pointer positions on the incorrect block.

- Remove from the NC program addresses that occur more than once (except for those where multiple value assignments are allowed).
- Check whether the address (e.g. the axis name) is specified via a user-defined variable (this may not be easy to see if allocation of the axis name to the variable is performed in the program through computational operations only).

Program continuation
Cancel the alarm with NC START and continue machining.

12010 Channel %1 block %2 address %3 address type programmed too often

Explanation
%1 = channel number
%2 = block number, label
%3 = source string of address

For each address type, it is defined internally how often it may occur in an NC block (for instance, all axes together form **one** address type for which a block limit also applies).

Reactions
Alarm display.
Interface signals are set.
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECTION. The correction pointer positions on the incorrect block.

The program information must be split up over several blocks (but make sure that the functions are of the non-modal type!).

Program continuation
Cancel the alarm with NC START and continue machining.

12020 Channel %1 block %2 illegal address modification

Explanation
%1 = channel number
%2 = block number, label

Valid address types are ‚IC', ‚AC', ‚DC', ‚ACN', ‚ACP'. Not each of these address modifications can be used for each address type. The Programming Guide specifies which of these can be used for the various address types. If this address modification is applied to address types that are not allowed, then the alarm is generated, e.g.:

N10 G02 X50 Y60 **I=DC(20)** J30 F100
; Interpolation parameters with DC.

Reactions
Alarm display.
Interface signals are set.
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Apply non-modal address modifications only for permissible addresses, in accordance with the Programming Guide.

Program continuation
Cancel the alarm with NC START and continue machining.

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12040 Channel %1 block %2 expression %3 is not of data type 'AXIS'

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Source string in the block

Some vocabulary words require that the data in their parameters be written in variables of the type "AXIS". For example, in the vocabulary word POS the axis identifier must be specified in the parenthesized expression, and it must be defined as a variable of the AXIS type. With the following vocabulary words only parameters of the AXIS type are possible:

AX[..], FA[..], FD[..], FL[..], IP[..], OVRA[..], PO[..], POS[..], POSA[..]

Example:

N5 DEF INT ZUSTELL=Z1 incorrect, this does not specify an axis identifier but the number “26 161”

N5 DEF AXIS ZUSTELL=Z1 correct

:

N10 POS[ZUSTELL]=120 FA[ZUSTELL]=1000

Reactions

Alarm display
Interface signals are set
Correction block

Remedy

Key: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Correct the part program in accordance with the instructions given in the Programming Guide.

Program continuation

Clear the alarm with NC START or the RESET key and continue the program.

12050 Channel %1 block %2 DIN address %3 not configured

Explanation

%1 = Channel number
%2 = Block number, label
%3 = NC address in the source text block

The name of the NC address (e.g. X, U, X1) is not defined in the control.

Reactions

Alarm display
Interface signals are set
Correction block.

Remedy

Study the Programming Guide and the machine data with respect to the addresses actually configured and their significance and correct the NC block accordingly.

Program continuation

Use NC START to clear the alarm and continue the machining.

12060 Channel %1 block %2 same G group programmed repeatedly

Explanation

%1 = Channel number
%2 = Block number, label

The G functions that can be used in the part program are divided into groups that are **syntax defining** or **non-syntax defining**. Only one **G function** may be programmed from each G group. The functions within a group are mutually preclusive.

The alarm refers only to the non-syntax defining G functions. If several G functions from these groups are called in one NC block, the **last of these** in a group is active in each case (the previous ones are ignored).

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G FUNCTIONS:

Syntax defining G functions	Non-syntax defining G functions
1st to 4th G group	**5th to nth G group**

Assignment of the G groups

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

No remedy is required: You should, however, check whether the G function last programmed really is the one required.

Program continuation
Use NC START to clear the alarm and continue the machining.

12070

Channel %1 block %2 too many syntax-defining G functions

Explanation
%1 = Channel number
%2 = Block number, label

Syntax defining G functions determine the structure of the part program block and the addresses contained in it. **Only one** syntax defining G function may be programmed in each NC block. The G functions in the 1st to 4th G group are syntax defining.

Reactions
Alarm display.
Interface signals are set.
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Analyze NC block and distribute the G functions over several NC blocks.

Program continuation
Use NC START to clear the alarm and continue the machining.

12080

Channel %1 block %2 syntax error in text %3

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Source text area

At the text position shown, the grammar in the block is incorrect. Because there are too many possible error possibilities, the precise error case cannot be given.

Example 1:
N10 IF GOTOF ... ; The jump condition is missing!

Example 2:
N10 R-50 =12 ; Incorrect arithmetic parameter number

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Analyze the block and correct it in accordance with the syntax rules given in the Programming Guide.

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Program continuation Use NC START to clear the alarm and continue the machining.

12090 Channel %1 block %2 unexpected parameter %3

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Invalid parameter in the text

The programmed function has been predefined; no parameters are allowed in its call. The first unexpected parameter is displayed.

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Program function without parameter transfer.

Program continuation Use NC START to clear the alarm and continue the machining.

12100 Channel %1 block %2 number of passes %3 not permissible

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Number of passes

The subroutines called with **MCALL** are modal, i.e. after each block with positional information a routine run is automatically performed once. For this reason, programming of the number of passes under address P is not allowed.

The modal call is effective until another MCALL is programmed, either with a new subroutine name or without (delete function).

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Program the subroutine call MCALL without number of passes.

Program continuation Use NC START to clear the alarm and continue the machining.

12110 Channel %1 block %2 block syntax cannot be interpreted

Explanation
%1 = Channel number
%2 = Block number, label

The addresses programmed in the block are not permitted with the valid syntax-determining G function.

Example:
G1 I10 X20 Y30 F1000;
No interpolation parameter may be programmed in the linear block.

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

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Check the block structure and correct in accordance with the programming requirements.

Program continuation: Use NC START to clear the alarm and continue the machining.

12120 Channel %1 block %2 G function not separately programmed

Explanation:
%1 = Channel number
%2 = Block number, label

The G function programmed in this block must be alone in the block. No general addresses or synchronous actions may occur in the same block. These G functions are:

G25, G26	Working area, spindle speed limitation
G110, G111, G112	Pole programming with polar coordinates

Example:
G4 F1000 M100: no M function allowed in the G4 block.

Reactions:
Alarm display
Interface signals are set
Correction block.

Remedy: Program G function by itself in the block.

Program continuation: Use NC START to clear the alarm and continue the machining.

12140 Channel %1 block %2 functionality %3 not implemented

Explanation:
%1 = Channel number
%2 = Block number, label
%3 = Software construction in the source text

In the full configuration of the control functions are possible that are not yet implemented in the current version.

Reactions:
Alarm display
Interface signals are set
Correction block.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

The displayed function must be removed from the program.

Program continuation: Use NC START to clear the alarm and continue the machining.

12150 Channel %1 block %2 operation %3 not compatible with data type

Explanation:
%1 = Channel number
%2 = Block number, label
%3 = String (violating operator)

The data types are not compatible with the required operation (within an arithmetic expression or in a value assignment).

Reactions:
Alarm display
Interface signals are set
Correction block.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Change the definition of the used variables so that the required operations can be performed.

Program continuation: Use NC START to clear the alarm and continue the machining.

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12160 Channel %1 block %2 range of values exceeded

Explanation

%1 = Channel number
%2 = Block number, label

The programmed constant or the variable exceeds the value range that has previously been established by the definition of data type.

Reactions

Alarm display
Interface signals are set
Correction block.

Remedy

Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Correct value of the constant or adapt data type. If the value for an integer constant is too great, it can be specified as real constant by adding a decimal point.

Example:
R1 = 9 876 543 210 change to: R1 = 9 876 543 210.

Program continuation

Use NC START to clear the alarm and continue the machining.

12170 Channel %1 block %2 identifier %3 defined repeatedly

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Symbol in the block

The symbol shown in the error message has already been defined in the active part program.

Note that user-defined identifiers may occur more than once if the multiple definition occurs in other (sub)programs, i.e. local variables may be redefined with the same name if the program has been exited (subprograms) or has already been concluded.
This applies both to user-defined symbols (labels, variables) and to machine data (axes, DIN addresses and G functions).

Reactions

Alarm display
Interface signals are set
Correction block.

Remedy

The symbol already known to data management is displayed. This symbol must be looked for in the definition part of the current program using the program editor. The 1st or 2nd symbol must be given a different name.

Program continuation

Use NC START to clear the alarm and continue the machining.

12180 Channel %1 block %2 illegal chaining of operators %3

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Chained operators

Operator chaining means the writing in sequence of binary and unary operators without using any form of parentheses.

Example:
N10 R1=R2-(-R3) ; Correct notation
N10 R1=R2--R3 ; Error!

Reactions

Alarm display
Interface signals are set
Correction block.

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Remedy: Formulate the expression correctly and unambiguously making use of parentheses. This improves clarity and readability of the program.

Program continuation: Use NC START to clear the alarm and continue the machining.

12190 Channel %1 block %2 variable of type ARRAY has too many dimensions

Explanation: %1 = Channel number
%2 = Block number, label

Array with variables of type STRING may be no more than 1-dimensional, and with all other variables no more than 2-dimensional.

Reactions: Alarm display
Interface signals are set
Correction block.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. Correct the definition of the array, for multi-dimensional arrays, possibly define a second 2-dimensional array and operate with the same array index.

Program continuation: Clear the alarm with NC START or the RESET key and continue the program.

12200 Channel %1 block %2 symbol %3 cannot be created

Explanation: %1 = Channel number
%2 = Block number, label
%3 = Symbol in the source block

The symbol to be created with the DEF instruction cannot be created because:

- it has already been defined (e.g. as variable or function)
- the internal memory location is no longer sufficient (e.g. with large arrays)

Reactions: Alarm display
Interface signals are set
Correction block.

Remedy: Perform the following tests:

- Check with the text editor whether the name to be allocated in the active program cycle (main program and called subprograms) has already been used.
- Estimate the memory requirements for the symbols already defined and reduce these if necessary by using fewer global and more local variables.

Program continuation: Use NC START to clear the alarm and continue the machining.

12210 Channel %1 block %2 string %3 too long

Explanation: %1 = Channel number
%2 = Block number, label

In the definition of a variable of type STRING, it has been attempted to initialize more than 100 characters. In an allocation, it has been found that the string does not fit in the given variable.

Reactions: Alarm display
Interface signals are set
Correction block.

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Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. Select shorter string or divide up the character string into 2 strings. Define a larger string variable.

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

12220

Channel %1 block %2 binary constant %3 in string too long

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Binary constant

When initializing or allocating the value of a variable of type STRING more than 8 bits have been found as binary constant. DEF STRING[8] OTTO = "ABC'H55"B000011111'DEF"

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. In the window for the alarm message, the first characters of the binary constant are always displayed although the surplus bit might not be located until further on. Therefore, the complete binary constant must always be checked for an incorrect value.

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

12230

Channel %1 block %2 hexadecimal constant %3 in string too long

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Hexadecimal constant

A string can also contain bytes that do not correspond to a character that can be entered or one that is available on a keyboard with a minimized number of keys. These characters can be input as binary or hexadecimal constants. They may occupy up to 1 byte each only - therefore be < 256, e.g.

N10 DEF STRING[2] OTTO=" 'HCA' 'HFE' "

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. In the window for the alarm message, the first characters of the binary constant are always displayed although the surplus bit might not be located until further on. Therefore, the complete hexadecimal constant must always be checked for an incorrect value.

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

12260

Channel %1 block %2 too many initialization values specified %3

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Source string

In the initialization of an array (array definition and value assignments to individual array elements) there are more initialization values than array elements.

Example:
N10 DEF INT OTTO[2,3]=(..., ..., {more than 6 values})

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Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Check the NC program to establish whether:

1. During array definition the number of array elements (n,m) was indicated correctly (DEF INT FIELDNAME[n,m] e.g. an array with 2 lines and 3 columns: n=2, m=3).
2. During initialization the value assignments have been made correctly (values of the individual field elements separated by **comma**, **decimal point** for variables of the type REAL).

Program continuation
Use NC START to clear the alarm and continue the machining.

12261

Channel %1 block %2 initialization of %3 not allowed

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Source string

Frame type variables cannot be initialized in the definition. DEF FRAME LOCFRAME = CTRANS(X,200).

Equally, no default values can be programmed for axes in the program run when initializing fields by SET.

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Perform initialization in separate block in the execution part of the program:
DEF FRAME LOCFRAME LOCFRAME = CTRANS(X,200)

When using for axis variables:
Replace DEF AXIS AXIS_VAR [10] AXIS_VAR [5] = SET (X, , Y) by:
DEF AXIS AXIS_VAR [10] AXIS_VAR [5] = X AXIS_VAR [7] = Y

Program continuation
Use NC START to clear the alarm and continue the machining.
Clear the START alarm and continue the machining.

12270

Channel %1 block %2 macro identifier %3 already defined

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Source string macro name

The name of the macro to be selected by the instruction DEFINE is already defined in the control as: macro name, vocabulary word, variable, configured identifier.

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. Select DEFINE instruction with another macro name.

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

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12280 Channel %1 block %2 maximum macro length %3 exceeded

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Source string

The string of instructions on the right side of the macro is limited to 256 characters. If an attempt is made to define a longer character string under one macro (possible only through RS-232 input of NC blocks, because communication between operator panel and NCK is limited to a block length of 242 characters), an alarm is displayed.

Reactions

Alarm display
Interface signals are set
Correction block.

Remedy

Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. Divide the functions defined under the macro into 2 macros.

Program continuation

Clear the alarm with NC START or the RESET key and continue the program.

12290 Channel %1 block %2 arithmetic variable % 3 not defined

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Source string arithmetic variable

Only the R parameters are predefined as arithmetic variables. All other arithmetic variables must be defined with the DEF instruction before being used. The number of arithmetic parameters is defined via machine data. The names must be unique and may not even appear in the control (exception: local variable).

Reactions

Alarm display
Interface signals are set
Correction block.

Remedy

Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Define the required variable in the definition part of the program (possibly in the calling program if it is to be a global variable).

Program continuation

Use NC START to clear the alarm and continue the machining.

12300 Channel %1 block %2 call-by-reference parameter missing on subroutine call %3

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Source string

In the subroutine definition, a formal **REF parameter (call-by-reference parameter)** has been specified with no actual parameter assigned to it.

The assignment takes place in the subroutine call on the basis of the position of the variable name and not on the basis of the name!

Example:
Subroutine: (2 call-by-value parameters X and Y,
1 call-by-reference parameter Z)

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```
PROC XYZ (INT X, INT Y, VAR INT Z)
:
M17
ENDPROC
```

Main program:

```
N10 DEF INT X
N11 DEF INT Y
N11 DEF INT Z
:
N50 XYZ (X, Y)   ;REF parameter Z missing
or
N50 XYZ (X, Z)   ; REF parameter Y missing!
```

Reactions: Alarm display
Interface signals are set
Correction block.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Assign a variable to all REF parameters (call-by-reference parameters) of the subroutine when calling. No variable must be assigned to "normal" formal parameters (call-by-value parameters), as these are defaulted with 0.

Program continuation: Use NC START to clear the alarm and continue the machining.

12310

Channel %1 block %2 axis parameter missing on procedure call %3

Explanation: %1 = Channel number
%2 = Block number, label
%3 = Source string

When calling the subroutine, an AXIS parameter is missing which, according to the EXTERN declaration, should be present. With the EXTERN instruction, user-defined subroutines (procedures) are made "known" that have a parameter transfer. Procedures with passed parameters do not require any EXTERN declaration.

Example:

Subroutine XYZ (with the formal parameters):
PROC XYZ (INT X, VAR INT Y, AXIS A, AXIS B)

EXTERN instruction (with variable types):
EXTERN XYZ (INT, VAR INT, AXIS, AXIS)

Subroutine call (with the actual parameters):
N10 XYZ (, Y1, R_TABLE)

Variable X initialized with the value 0
Variable Y is assigned the value of variable Y1 and returns the result after the subroutine pass back to the calling program
Variable A is supplied with the axis in R_TISCH
Variable B omitted!

Reactions: Alarm display
Interface signals are set
Correction block.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. Program the missing AXIS parameter in the call.

Program continuation: Clear the alarm with NC START or the RESET key and continue the program.

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12320

Channel %1 block %2 parameter %3 is no variable

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Source string

A constant or the result of a mathematical expression has been assigned to a REF parameter instead of a variable at the time of the subroutine call, even though only variable identifiers are allowed.

Examples:
N10 XYZ (NAME_1, **10,** OTTO) or
N10 XYZ (NAME_1, **5 + ANNA,** OTTO)

Reactions

Alarm display
Interface signals are set
Correction block.

Remedy

Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Remove the constant or the mathematical expression from the NC block.

Program continuation

Use NC START to clear the alarm and continue the machining.

12330

Channel %1 block %2 type of parameter %3 incorrect

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Source string

When calling a procedure (a subroutine) it is found that the type of the actual parameter cannot be converted into the type of the formal parameter. There are two possible cases:

- **Call-by-reference parameter:** Actual parameter and formal parameter must be of precisely the same type, e.g. STRING, STRING.
- **Call-by-value parameter:** The actual parameter and the formal parameter could in principle be different if a conversion would always be possible. In the present case, however, the types are generally not compatible, e.g. STRING → REAL.

to from	REAL	INT	BOOL	CHAR	STRING	AXIS	FRAME
REAL	yes	yes*	yes[1)]	yes*	-	-	-
INT	yes	yes	yes[1)]	if value 0 ...255	-	-	-
BOOL	yes	yes	yes	yes	-	-	-
CHAR	yes	yes	yes[1)]	yes	yes	-	-
STRING	-	-	yes[2)]	If only 1 character	yes	-	-
AXIS	-	-	-	-	-	yes	-
FRAME	-	-	-	-	-	-	yes

Table Type conversion

[1)] Value <> 0 is equivalent to TRUE; value == 0 is equivalent to FALSE.
[2)] String length 0 => FALSE, otherwise TRUE
*) At type conversion from REAL to INT fractional values that are >= 0.5 are rounded up, others are rounded down.

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Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Check the transfer parameters of the subroutine call and according to the use, define as call-by-value or call-by-reference parameters.

Program continuation
Use NC START to clear the alarm and continue the machining.

12340

Channel %1 block %2 number of parameters too high %3

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Source string

When calling a function or a procedure (predefined or user-defined) more parameters were transferred than defined.

Predefined functions and procedures:
The number of parameters has been set permanently in the NC.

User-defined functions and procedures:
The number of parameters is established by type and name in the definition.

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Check whether the correct procedure/function has been called. Program the number of parameters in accordance with the procedure/function.

Program continuation
Use NC START to clear the alarm and continue the machining.

12350

Channel %1 block %2 parameter %3 no longer possible

Explanation:
%1 = Channel number
%2 = Block number, label
%3 = Source string

An attempt has been made to transfer actual parameters although axis parameters located before them have not been assigned. For procedure or function calls, assignment of parameters that are no longer required can be omitted, if subsequently no further parameters are to be transferred. Example: N10 FGROUP(X, Y, Z, A, B) ; max. 8 axes possible The following call-by-value parameters would then be initialized with zero because the space-dependent assignment has been lost on account of the omitted axis parameters. Axes that can be omitted and following parameters do not occur in the predefined procedures and functions.

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. In predefined procedures and functions either remove the following parameters or transfer any preceding axis parameters. In user-defined procedures and functions, parameter transfer must be programmed in accordance with the instructions given in the machine manufacturer's programming guide.

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

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12360 Channel %1 block %2 dimension of parameter %3 incorrect

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Source string

Check the following possible errors:

1. The current parameter is an array, but the formal parameter is a variable
2. The current parameter is a variable, but the formal parameter is an array
3. The current and formal parameters are arrays, but not with the dimensions to be defined.

Reactions

Alarm display
Interface signals are set
Correction block.

Remedy

Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Correct the NC part program in accordance with the cause of error as listed above.

Program continuation

Use NC START to clear the alarm and continue the machining.

12370 Channel %1 block %2 range of values %3 not permissible

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Source string

A variable has been initialized with a value range outside an initialization block. The definition of program-global variables is allowed only in special initialization blocks. These variables can be initialized with a value range.

Reactions

Alarm display
Interface signals are set
Correction block.

Remedy

Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. Remove the value range specification (begins with the vocabulary word OF) or define the variable as a global variable in the initialization block and initialize it with a value range.

Program continuation

Clear the alarm with NC START or the RESET key and continue the program.

12380 Channel %1 block %2 maximum memory capacity reached

Explanation

%1 = Channel number
%2 = Block number, label

The data definitions in this block cannot be processed because the maximum available memory for creating the data has been filled, or because the data block cannot accommodate any further data.
The alarm can also occur if several subroutine calls are executed in sequence and no block with an effect on the machine is generated (motion, dwell, M function).

Reactions

Alarm display
Interface signals are set
Correction block.

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Remedy
Please inform the authorized personnel/service department.
Reduce the number of variables, reduce the size of arrays, or increase the capacity of the data management system.

Program continuation
Use NC START to clear the alarm and continue the machining.

12390

Channel %1 block %2 initialization value %3 cannot be converted

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Source string

During initialization, a value has been assigned to a variable that does not correspond to the type of the variable, nor can it be converted to the data type of the variable.

Summary of the type conversions:

to from	REAL	INT	BOOL	CHAR	STRING
REAL	no	yes[1)]	yes	yes[2)]	-
INT	yes	no	yes	yes[2)]	-
BOOL	yes	yes	no	yes	-
CHAR	yes	yes	yes	no	yes
STRING	-	-	yes	yes[3)]	no

[1)] Value <> 0 is equivalent to TRUE; value == 0 is equivalent to FALSE.
[2)] String length 0 => FALSE, otherwise TRUE
[3)] If only one character.

It is not possible to convert from type AXIS and FRAME nor into type AXIS and FRAME.

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. Define variable type such that the initialization value can be assigned, or select the initialization value appropriate for the variable definition.

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

12400

Channel %1 block %2 field %3 element does not exist

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Source string

The following causes are possible:
- Invalid index list; an axis index is missing
- Array index does not match the definition of the variable
- An attempt has been made, different to the standard access, to access a variable for the array initialization using SET or REP.
  Access to a single character or omitted indices are not possible.

A nonexistent element was addressed on initializing this array.

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

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- **Array initialization:** Check the array index of the addressed element. The 1st array element is given the index [0,0], the 2nd array element [0,1] etc. The right array index (column index) is incremented first.

In the 2nd row, the 4th element is also addressed with the index [1,3] (the indices start at zero).

- **Array definition:** Check the array size. The 1st number indicates the number of elements in the 1st dimension (number of rows), the 2nd number indicates the number of elements in the 2nd dimension (number of columns).

An array with 2 rows and 3 columns must be defined by specifying [2,3].

Program continuation: Use NC START to clear the alarm and continue the machining.

12410

Channel %1 block %2 incorrect index type for %3

Explanation:
%1 = Channel number
%2 = Block number, label
%3 = Source string

In assigning a value to an element of an array variable, the array index was specified in a way that is not allowed.

Only the following are allowed as array index (in square brackets):

- **Axis identifier**, provided the array variable was defined as data type FRAME.
- **Integer values** for all other data types.

Reactions:
Alarm display
Interface signals are set
Correction block.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Correct indices of the array element with respect to variable definition or define the array variable differently.

Program continuation: Use NC START to clear the alarm and continue the machining.

12420

Channel %1 block %2 identifier %3 too long

Explanation:
%1 = Channel number
%2 = Block number, label

The symbol to be defined or the specified jump target has a name which is longer than the 32 characters allowed.

Reactions:
Alarm display
Interface signals are set
Correction block.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

The symbol to be created or the target of program jumps (label) must conform to the system specifications, that means the name must begin with 2 letters (but the 1st sign must not be "§") and may be up to a maximum of 32 characters.

Program continuation: Use NC START to clear the alarm and continue the machining.

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12430 Channel %1 block %2 specified index is invalid

Explanation
%1 = Channel number
%2 = Block number, label

In specifying an array index (in the array definition) an index was used that is outside the permissible range.

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Specify array index within the permissible range.
Value range per array dimension: 1 - 32 767.

Program continuation
Use NC START to clear the alarm and continue the machining.

12440 Channel %1 block %2 maximum number of formal arguments exceeded

Explanation
%1 = Channel number
%2 = Block number, label

In the definition of a procedure (a subroutine) or in an EXTERN instruction, more than 127 formal parameters have been specified.

Example:
PROC ABC (FORMPARA1, FORMPARA2, ...

... FORMPARA127, **FORMPARA128**, ...)

EXTERN ABC (FORMPARA1, FORMPARA2, ...

... FORMPARA127, **FORMPARA128**, ...)

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Check whether all parameters need to be specified. If so, the formal parameters can be reduced by using global variables or R parameters, or by grouping together parameters of the same type to form an array and transfer them in this form.

Program continuation
Use NC START to clear the alarm and continue the machining.

12450 Channel %1 block %2 label defined twice

Explanation
%1 = Channel number
%2 = Block number, label

The label of this block already exists.

If the NC program is compiled off-line, the complete program will be compiled block for block. During this procedure all multiple labels are recognized; this is not always the case with **on-line compilation**. (Only the actual program run is compiled here, i.e. program branches that are not passed through in this run are disregarded and could therefore contain programming errors).

Reactions
Alarm display
Interface signals are set
Correction block.

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Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer is positioned on the block where the displayed label occurs for the second time.

Use the editor to search the part program where this label occurs for the first time, and change one of the names.

Program continuation
Use NC START to clear the alarm and continue the machining.

12460

Channel %1 block %2 maximum number of symbols exceeded with %3

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Source string

The max. number of variable definitions, cycle programs and/or cycle parameters that the controller's data management system is able to handle has been exceeded.
If this alarm occurs in conjunction with alarm 15175 (cycles were loaded again), not enough memory is available. This situation can be remedied by modifying the machine data.
If this alarm occurs in conjunction with alarm 15180 (initial.ini download failed), then this alarm shows the name of the block causing the error.
(For a list of names and their meaning -> please refer to alarm 6010)

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Please inform the authorized personnel/service department.
Reduce the symbols in the block (possibly by using the array technique or by using R parameters), or adapt the machine data (if you have access rights).

GUD data blocks can only cause errors as part of the 'initial.ini download' process.

Cycle program definitions will be reloaded for each Power On/NC-RESET. Thus, the modules can cause errors only in conjunction with this action.
See also the explanations for alarm 6010.

Program continuation
Use NC START to clear the alarm and continue the machining.

12470

Channel %1 block %2 G function %3 is unknown

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Source string

In the displayed block, a non-defined G function has been programmed.

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

You should decide on the basis of the machine manufacturer's programming guide whether or not the displayed G function exists or is available, or whether a standard G function has been reconfigured.

Remove G function from the part program or program function call in accordance with the machine manufacturer's programming guide.

Program continuation
Use NC START to clear the alarm and continue the machining.

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12475 Channel %1 block %2 invalid G function number %3 programmed

Explanation

%1 = Channel number.
%2 = Block number, label.
%3 = G code number.

A non-allowed G function number (parameter 3) has been programmed for a G group with indirect G code programming.
Only the G function numbers indicated in the Programming Guide "Fundamentals", Section 12.3 "List of G functions/Path conditions" are allowed.

Reactions

Alarm display
Interface signals are set
Correction block with reorganization.

Remedy

Modify part program.

Program continuation

Use NC START to clear the alarm and continue the machining.

12480 Channel %1 block %2 subroutine %3 already defined

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Source string

The name used in the PROC or EXTERN instruction has already been defined in another call description (e.g. for cycles).

Example:
EXTERN **CYCLE85** (VAR TYP1, VAR TYP2, ...)

Reactions

Alarm display
Interface signals are set
Correction block.

Remedy

Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

A program name must be selected that has not yet been used as identifier. (Theoretically, the parameter declaration of the EXTERN instruction could also be adapted to the existing subroutine in order to avoid the alarm output. However, it would have been defined identically twice).

Program continuation

Use NC START to clear the alarm and continue the machining.

12490 Channel %1 block %2 access permission level %3 is not valid

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Source string

The required access authorization has not been set. The required protection level lies outside the permitted value range.

Reactions

Alarm display
Interface signals are set
Correction block.

Remedy

Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

- Using the operator panel, set the current protection level to at least the same level as that of the variable with the highest level
- Program protection level within the permissible value range
- Only program new protection levels that are lower than the old values

Program continuation

Use NC START to clear the alarm and continue the machining.

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12500 Channel %1 block %2 in this module %3 is not possible

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Source string

The displayed vocabulary word may not be used in this type of block and at this location (all files in the NC are designated as blocks).

Block types:

Program block

Contains a main program or subroutine

Data Block

Contains macro or variable definitions and possibly an M, H or E function

Initialization block

Contains only selected language elements for the data initialization

Reactions

Alarm display
Interface signals are set
Correction block.

Remedy

Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Remove the displayed language elements (vocabulary word) with its parameters from this block and insert in the block provided for this purpose.

Program continuation

Use NC START to clear the alarm and continue the machining.

12510 Channel %1 block %2 too many machine data %3

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Source symbol

In the part program, in the machine data file (..._TEA) and in the initialization file (..._INI), no more than 2 machine data may be used per block.

Example:

```
N ...
N 100 $MN_OVR_FACTOR_FEEDRATE [10] = 15,
$MN_OVR_FACTOR_FEEDRATE [11] = 20
N ...
```

Reactions

Alarm display
Interface signals are set
Correction block.

Remedy

Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Divide up the part program block into several blocks.

If necessary, use the local variable for storing intermediate results.

Program continuation

Clear the alarm with NC START or the RESET key and continue the program.

12520 Channel %1 block %2 too many tool parameters %3

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Source symbol

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In the part program, in the tool offset file (..._TOA) and in the initialization file (..._INI), no more than 5 tool offset parameters may be used per block.

Example:
```
N ...
N 100      $TC_DP1 [5,1] = 130, $TC_DP3 [5,1] = 150.123,
           $TC_DP4 [5,1] = 223.4, $TC_DP5 [5,1] = 200.12,
           $TC_DP6 [5,1] = 55.02
N ...
```

Reactions: Alarm display
Interface signals are set
Correction block.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

- Divide up the part program block into several blocks.
- If necessary, use the local variable for storing intermediate results.

Program continuation: Use NC START to clear the alarm and continue the machining.

12530 Channel %1 block %2 invalid index for %3

Explanation: %1 = Channel number
%2 = Block number, label
%3 = Source string

In macro definitions, an attempt was made to define a G function with more than 3 decades or an M function with more than 2 decades as identifier of the macro.

Example

```
DEFINE G4444 AS G01 G91 G1234
DEFINE M333 AS M03 M50 M99
M17
```

Reactions: Alarm display
Interface signals are set
Correction block.

Remedy: Key: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. Modify the macro definition in accordance with the Programming Guide.

Program continuation: Clear the alarm with NC START or the RESET key and continue the program.

12540 Channel %1 block %2 Block is too long or too complex

Explanation: %1 = Channel number
%2 = Block number, label

The maximum internal block length after translator processing must not exceed 200 characters.

Reactions: Alarm display
Interface signals are set
Correction block.

Remedy: Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Divide up the program block into several subblocks.

Program continuation: Use NC START to clear the alarm and continue the machining.

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12550 Channel %1 block %2 name %3 not defined or option not installed

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Source symbol

The identifier displayed has not been defined before being used.

Reactions

Alarm display
Interface signals are set
Correction block.

Remedy

Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

- Correct the used name (typing error)
- Check the definition of variables and subroutines
- Check the options.

Program continuation

Use NC START to clear the alarm and continue the machining.

12552 Channel %1 block %2 tool/magazine OEM parameter not defined. Option not set. Option not set.

Explanation

%1 = Channel number
%2 = Block number, label

The programmed $TC_... Cx system variable is not known in the control.

Reactions

Correction block with reorganization
Interface signals are set
Alarm display.

Remedy

Correct the name used (writing error)

- $TC_DPCx, $TC_TPCx, $TC_MOPCx, $TC_MAPCx, $TC_MPPCx, $TC_DPCSx, $TC_TPCSx, $TC_MOPCSx, $TC_MAPCSx, $TC_MPPCSx; with x=1,...10
- These are the OEM parameters of the tools and magazines, the corresponding machine data value is set to < 10, or the option 'TM OEM parameters' has not been set.

Program continuation

Clear the alarm with NC START or the RESET key and continue the program.

12553 Channel %1 block %2 identifier %3 is not active

Explanation:

%1 = Channel number
%2 = Block number, label
%3 = Source symbol

The NC function that belongs to this language command is not active. Although the name of the language command is known, the use of this language command in any program is rejected with this alarm.

Reactions

Alarm display
Interface signals are set
Correction block.

Remedy

Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

• Correct the name used (typing error)

• Activate the NC function.

Program continuation

Clear the alarm with NC START or the RESET key and continue the program.

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12555 Channel %1 block %2 function not available (identifier %3)

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Detailed identification

The identifier is not defined for this system.

Reactions

Alarm display
Interface signals are set
Correction block.

Remedy

Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

- Correct the name used (typing error)
- For low-level functions, use a more advanced software system
- Check definitions of variables, subroutines and macros
- Declare subroutine with EXTERN, load subroutine to SPF-Dir
- Check interface definition of subroutine

Program continuation

Clear the alarm with NC START or the RESET key and continue the program.

12556 Channel %1 block %2 identifier %3 is already known

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Source symbol

The name of the symbol to be created belongs to the scope of the NC language and thus already known. Although the NC function is not active, this name can no longer be used for GUDs, macros and PROC definitions.

Reactions

Alarm display
Interface signals are set
Correction block.

Remedy

Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block.

Correct the name used (typing error).

Program continuation

Clear the alarm with NC START or the RESET key and continue the program.

Program continuation

Switch the control OFF - ON.

12560 Channel %1 block %2 programmed value %3 exceeds allowed limits

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Source string

In a value assignment, the permissible value range of the data type has been exceeded.

Reactions

Alarm display
Interface signals are set
Correction block.

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Remedy	Press the NC Stop key and select the function "Correction block" with the softkey PROGRAM CORRECT. The correction pointer positions on the incorrect block. Assign value within the value range of the various data types, or if necessary use another type in order to increase the size of the value range.
Program continuation	Use NC START to clear the alarm and continue the machining.

12590 Channel %1 block %2 global user data cannot be created

Explanation	%1 = Channel number %2 = Block number, label The number of global user data blocks are defined in the machine data. In the directory _N_DEF_DIR there is a file with definitions for global user data the block number of which is greater than the number of blocks given in the MD.
Reactions	Alarm display Interface signals are set Correction block.
Remedy	Please inform the authorized personnel/service department.
Program continuation	Use NC START to clear the alarm and continue the machining.

12600 Channel %1 block %2 invalid line checksum

Explanation	%1 = Channel number %2 = Block number On processing an INI file or when executing a TEA file, an invalid line checksum has been detected.
Reactions	Alarm display Interface signals are set Interpreter stop NC Start inhibited.
Remedy	Correct INI file or correct MD and create new INI file (via "upload").
Program continuation	Switch the control OFF - ON.

12610 Channel %1 block %2 accessing single character with call-by-reference parameter not possible %3

Explanation	%1 = Channel number %2 = Block number, label %3 = Source string An attempt has been made to use a single character access for a call-by-reference parameter.
Reactions	Alarm display Interface signals are set Correction block.
Remedy	Temporarily store single characters in user-defined CHAR variable and transfer this.
Program continuation	Clear the alarm with NC START or the RESET key and continue the program.

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12620 Channel %1 block %2 accessing this variable as single character not possible

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Source string

The variable is not a user-defined variable. The single character access is only allowed for user-defined variables (LUD/GUD).

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Temporarily store variable in user-defined STRING, process this and put back into storage.

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

12630 Channel %1 block %2 skip ID/label in control structure not allowed

Explanation
%1 = Channel number
%2 = Block number

Blocks with control structures (FOR, ENDIF, etc.) cannot be concealed and must not contain any labels.

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Modify part program:
Reproduce skip ID via an IF query. Write the label alone in the block before the control structure block.

Program continuation
Use NC START to clear the alarm and continue the machining.

12640 Channel %1 block %2 invalid nesting of control structures

Explanation
%1 = Channel number
%2 = Block number

Error in program run: Opened control structures (IF-ELSE-ENDIF, LOOP-ENDLOOP etc.) are not terminated or there is no beginning of loop for the programmed end of loop.

Example:
LOOP ENDIF ENDLOOP

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Correct part program in such a way that all opened control structures are also terminated.

Program continuation
Clear the alarm with the RESET key. Restart part program.

12641 Channel %1 block %2 maximum nesting depth of control structures exceeded

Explanation
%1 = Channel number
%2 = Block number

Max. nesting depth control structures (IF-ELSE-ENDIF, LOOP-ENDLOOP etc.) exceeded. At the present time, the max. nesting depth is 8.

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Reactions	Alarm display Interface signals are set Interpreter stop NC Start inhibited.
Remedy	Correct part program. If necessary, move parts to a subroutine.
Program continuation	Clear the alarm with the RESET key. Restart part program.

12661 Channel %1 block %2 technology cycle %3: no further subprogram call possible

Explanation	%1 = Channel number %2 = Block number %3 = Name of the technology cycle call In a technology cycle it is not possible to call a subroutine or another technology cycle.
Reactions	Alarm display Interface signals are set Correction block.
Remedy	Change part program.
Program continuation	Clear the alarm with the RESET key.

12700 Channel %1 block %2 contour definition programming not allowed as modal sub-program is active

Explanation	%1 = Channel number %2 = Block number, label In the external language mode, a block is programmed with contour definition and a modal cycle is active at the same time. Because of unclear address assignment (e.g. R = radius for contour definition or return plane for drilling cycle) contour definition programming must not be used when a modal cycle is active.
Reactions	Alarm display Interface signals are set Correction block.
Remedy	Change part program
Program continuation	Clear the alarm with the cancel key.

12701 Channel %1 block %2 illegal interpolation type for contour definition active

Explanation	%1 = Channel number %2 = Block number, label In one contour definition block, G01 is not active as interpolation function. In one contour definition block, the linear interpolation always has to be selected with G01. G00, G02, G03, G33 etc. are not permitted.
Reactions	Alarm display Interface signals are set Correction block.
Remedy	Change part program. Program linear interpolation G01.
Program continuation	Use NC START to clear the alarm and continue the machining.

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12710 Channel %1 block %2 illegal language element in external language mode

Explanation
%1 = Channel number
%2 = Block number, label

The programmed language element is not allowed or unknown in external language mode. Only the language elements from Siemens mode which are used for subprogram calls (except for Lxx) and the language constructs for program repetition with REPEAT (UNTIL) are allowed.

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Change part program

Program continuation
Clear the alarm with the cancel key.

12722 Channel %1 block %2 multiple ISO_2/3 macro or cycle calls in the block

Explanation
%1 = Channel number
%2 = Block number, label

A mixture of cycle and macro calls are programmed in a block, e.g. cycle call with G81 - G89 together with an M macro in the block or a G65/G66 macro call together with M macros in the block.
Only one macro or cycle call can appear in an NC block.

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Divide the cycle and macro calls into several blocks.

Program continuation
Use NC START to clear the alarm and continue the machining.

14000 Channel %1 block %2 illegal end of file

Explanation
%1 = Channel number
%2 = Block number, label

An **M02** or an **M30** for main programs, an **M17** for subroutines, is expected as end of file**.**

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Check whether the program end has been omitted or whether in the last program block a jump has been made to a program section that contains the end identification.

Program continuation
Clear the alarm with the RESET key. Restart part program.

14001 Channel %1 block %2 illegal end of block

Explanation
%1 = Channel number
%2 = Block number, label

After system-internal data manipulation (e.g. when transferring blocks from an external source) a subfile can end without having LF as the last character.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

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Remedy
Read out the part program, modify it with a text editor (e.g., insert blanks or comments before the displayed block), so that after reading it in again the part program has a different structure in the memory.

Program continuation
Clear the alarm with the RESET key. Restart part program.

14009 Channel %1 block %2 illegal program path %3

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Program path

The part program command CALLPATH was called with a parameter (program path) referring to a directory which does not exist in the file system of the NCK.

Reactions
Correction block with reorganization
Interface signals are set
Alarm display.

Remedy
- Modify the CALLPATH instruction such that the parameter contains the complete path name of the loaded directory.
- Load the programmed directory in the file system of the NCK.

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

14010 Channel %1 block %2 invalid default parameter in subroutine call

Explanation
%1 = Channel number
%2 = Block number, label

In a subroutine call with parameter transfer, parameters have been omitted that cannot be replaced by default parameters (call-by-reference parameters or parameters of type AXIS. The other missing parameters are defaulted with the value 0 or with the unit frame in the case of frames).

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
The missing parameters must be provided with values in the subroutine call.

Program continuation
Clear the alarm with the RESET key. Restart part program.

14011 Channel %1 block %2 program %3 not present or not released for machining

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Program name

The called program (main program or subroutine) has been called from the currently running part program (main program or subroutine). Either it is not present in the NC memory or the option for the associated function is not set.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Correct the NC part program.

1. Check the subroutine name in the calling program.
2. Check the name of the calling program.
3. Check whether the program has been transferred to the NC memory.
4. Check or set/correct the options.

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Program continuation Clear the alarm with the RESET key. Restart part program.

14012 Channel %1 block %2 maximum subroutine level exceeded

Explanation %1 = Channel number
%2 = Block number, label

The maximum nesting depth of 8 program levels has been exceeded.

Subroutines can be called from the main program, and these in turn may have a nesting depth of 7.

Reactions Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy Modify the machining program so that the nesting depth is reduced, e.g. using the editor copy a subroutine of the next nesting level into the calling program and remove the call for this subroutine. This reduces the nesting depth by one program level.

Program continuation Clear the alarm with the RESET key. Restart part program.

14013 Channel %1 block %2 number of subroutine passes invalid

Explanation %1 = Channel number
%2 = Block number, label

In a subroutine call the programmed number of passes P is zero or negative.

Reactions Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy Program number of passes between 1 and 9 999.

Program continuation Clear the alarm with the RESET key. Restart part program.

14014 Channel %1 selected program or access rights not present

Explanation %1 = channel number

The selected part program is not contained in the NC memory.

Reaction Alarm display.

Remedy Reload the program in the NC memory or check and correct the name of the directory (workpiece overview) and the program (program overview).

Program continuation Clear the alarm with the cancel key. Restart part program.

14015 Channel %1: no access rights for the file present

Explanation %1 = channel number

The user does not have any execution rights for the file.

Reactions Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy Change the user rights

Program continuation Clear the alarm with the RESET key. Restart part program.

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14016 Channel %1 block %2 error when calling the subroutine via M/T function

Explanation
%1 = Channel number
%2 = Block number, label

The following conflict was detected in a subroutine call per M or T function: In the block referenced with parameter %2
– an M or T function replacement has already been activated
– a modal subroutine call is already active
– a subroutine return has been programmed
– an M98 subroutine call is active (only in external language mode)

Reactions
Alarm display
Interface signals are set
Correction block with reorganization.

Remedy
An M or T function replacement is only possible if a subprogram call or return jump has not already been performed as a result of a subprogram call or return. The part program must be corrected accordingly.

Program continuation
Clear the alarm with the cancel key.

14017 Channel %1 block %2 syntax error when calling the subroutine via M function

Explanation
%1 = Channel number
%2 = Block number, label

When calling M code subroutine with parameter transfer, an illegal syntax was detected:
- Address extension not programmed as a constant.
- M function value not programmed as a constant.

Note:
If a parameter transfer has been programmed via MD 10718 M_NO_FCT_CYCLE_PAR for an M function replacement, the following restriction applies to this M function: both the address extension and the M function value must be programmed for replacement as constant.

Reactions
Alarm display
Interface signals are set
Correction block with reorganization.

Remedy
Change the programming of the M function.

Program continuation
Use NC START to clear the alarm and continue the machining.

14018 Channel %1 block %2 part program command %3 cannot be executed (protection level set: %4 actual: %5)

Explanation:
%1 = Channel number
%2 = Block number, Label
%3 = Programmed command
%4 = Protection level of the command
%5 = Current protection level

A protection level assigned to the part program command %3 is logically higher (smaller value) than the current access right or the command does not exist in the current control configuration.

Reactions
Alarm display
Correction block with reorganization
Interface signals are set.

Remedy
Modify part program. The valid language commands for the associated system configuration are described in the Siemens Programming Guide or the manufacturer's documentation.

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

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14020 Channel %1 block %2 wrong value, or incorrect number of parameters on the function or the procedure call

Explanation
%1 = Channel number
%2 = Block number, label

- An illegal parameter value was specified in a function or procedure call.
- An illegal number of actual parameters was programmed in a function or procedure call.

Reactions
Alarm display
Interface signals are set
Correction block with reorganization.

Remedy
Change part program.

Program continuation
Clear the alarm with the NC START. Restart part program.

14021 Channel %1 block %2 wrong value, or incorrect number of parameters on the function or the procedure call

Explanation
%1 = Channel number
%2 = Block number, label

- An illegal parameter value was specified in a function or procedure call.
- An illegal number of actual parameters was programmed in a function or procedure call.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Change part program.

Program continuation
Clear the alarm with the RESET key. Restart part program.

14040 Channel %1 block %2 error in end point of circle

Explanation
%1 = Channel number
%2 = Block number, label

In circular interpolation, either the circle radii for the initial point and the end point are further apart, or the circle center points are further apart, than specified in the machine data.

1. In circle radius programming the starting and end points are identical, thus the circle position is not determined by starting and end points.
2. **Radii:** The NC calculates from the present start point and the other programmed circle parameters the radii for the start and the end point. An alarm message is issued if the difference between the circle radii is either
   - greater than the value in the MD 21000 **CIRCLE_ERROR_CONST** (for small radii, if the programmed radius is smaller than the quotient of the MD 21000 **CIRCLE_ERROR_CONST** divided by MD 21010 **CIRCLE_ERROR_FACTOR**), or
   - greater than the programmed radius multiplied by the MD 21010 **CIRCLE_ERROR_FACTOR** (for large radii, if the programmed radius is greater than the quotient of the MD 21000 **CIRCLE_ERROR_CONST** divided by MD 21010 **CIRCLE_ERROR_FACTOR**).

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3. **Center points:** A new circle center is calculated using the circle radius at the starting position. It lies on the mid-perpendicular positioned on the connecting straight line from the starting point to the end point of the circle. The angle in the radian measure between both straight lines from the starting point to the center calculated/programmed as such must be lower than the root of 0.001 (corresponding to approx. 1.8 degrees).

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Please inform the authorized personnel/service department.
Check MD 21000 **CIRCLE_ERROR_CONST** and MD 21010 **CIRCLE_ERROR_FACTOR**. If the values are within reasonable limits, the circle end point or the circle mid-point of the part program block must be programmed with greater accuracy.

Program continuation
Clear the alarm with the RESET key. Restart part program.

14045 Channel %1 block %2 error in tangential circle programming

Explanation
%1 = Channel number
%2 = Block number, label

The alarm may have the following causes:

- The tangent direction is not defined for tangent circle, e.g. because no other travel block has been programmed before the current block.
- No circle can be formed from start and end point as well as tangent direction because - seen from the start point - the end point is located in the opposite direction to that indicated by the tangent.
- It is not possible to form a tangent circle since the tangent is located perpendicular to the active plane.
- In the special case in which the tangent circle changes to a straight line, several complete circular revolutions were programmed with TURN.

Reactions
Alarm display
Interface signals are set
Correction block with reorganization
NC Start disable
NC Stop on alarm at end of block.

Remedy
Change part program.

Program continuation
Use NC START to clear the alarm and continue the machining.

14048 Channel %1 block %2 wrong number of revolutions in circle programming

Explanation
%1 = Channel number
%2 = Block number, label

In the circle programming, a negative number of full revolutions has been specified.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Change part program

Program continuation

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14050 Channel %1 block %2 nesting depth for arithmetic operations exceeded

Explanation
%1 = Channel number
%2 = Block number, label

For calculating arithmetic expressions in NC blocks, an operand stack with a fixed set size is used. With very complex expressions, this stack can overflow.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Divide up complex arithmetic expressions into several simpler arithmetic blocks.

Program continuation
Clear the alarm with the RESET key. Restart part program.

14051 Channel %1 block %2 arithmetic error in part program

Explanation
%1 = Channel number
%2 = Block number, label

- In calculating an arithmetic expression, an overflow has occurred (e.g. division by zero)
- In a data type, the representable value range has been exceeded

Reactions
Alarm display
Interface signals are set
Correction block with reorganization.

Remedy
Analyze the program and correct the defective point in the program.

Program continuation
Use NC START to clear the alarm and continue the machining.

14060 Channel %1 block %2 invalid skip level with differential block skip

Explanation
%1 = Channel number
%2 = Block number, label

A skip level larger than 1 is specified for "differential block skips" (in package 1, the specification of a value for the skip level will already be rejected by the compiler as **syntax error**, namely, only one "suppress block" level ON/OFF is possible).

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Enter skip level (the number behind the slash) 1.

Program continuation
Clear the alarm with the RESET key. Restart part program.

14070 Channel %1 block %2 memory for variables not sufficient for subroutine call

Explanation
%1 = Channel number
%2 = Block number, label

A called subroutine cannot be processed (opened), either because the internal data memory to be created for general purposes is not large enough, or because the available memory for the local program variables is too small.
The alarm can only occur in MDA mode.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

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Remedy
Analyze the part program section:

1. Has the most useful data type always been selected in the variable definitions? (For example REAL for data bits is poor; BOOL would be better)
2. Can local variables be replaced by global variables?

Program continuation
Clear the alarm with the RESET key. Restart part program.

14080 Channel %1 block %2 jump target not found

Explanation
%1 = Channel number
%2 = Block number, label

In conditional and unconditional jumps, the jump destination within the program must be a block with a **label** (symbolic name instead of block number). If no jump destination has been found with the given label when searching **in the programmed direction**, an alarm is output.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Check for the following possible errors in the NC part program:

1. Check whether the target designation is identical with the label.
2. Is the jump direction correct?
3. Has the label been terminated with a colon?

Program continuation
Clear the alarm with the RESET key. Restart part program.

14082 Channel %1 block %2 program section target not found

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Start or End label

The start point for the program part loop with CALL <programname> BLOCK <startlabel> TO <endlabel> was not found or the same program part loop was called recursively.

Reactions
Alarm display
Interface signals are set
Correction block with reorganization.

Remedy
Check the start and end label for the program loop in the user program.

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

14085 Channel %1 block %2 instruction not allowed

Explanation
%1 = Channel number
%2 = Block number, label

The instruction 'TML()' may only be used in the subprogram, which replaces the T command.

Reactions
Alarm display
Interface signals are set
Correction block with reorganization
NC Stop on alarm at end of block

Remedy
Change part program.

Program continuation
Use NC START to clear the alarm and continue the program.

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14088 Channel %1 block %2 axis %3 doubtful position

Explanation
%1 = Channel number.
%2 = Block number, label.
%3 = Axis name, spindle number.

An axis position larger than 3.40e+38 increments has been programmed.

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Change part program.

Program continuation
Use NC START to clear the alarm and continue the program.

14091 Channel %1 block %2 illegal function, index: %3

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Index

A function was programmed which is not allowed in the current program context. The code of the function in question is entered in "index":
Index = 1: "RET" command was programmed in the main program level

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Index = 1: Substitute "RET" command with M17/M30.

Program continuation
Clear the alarm with the RESET key. Restart part program.

14092 Channel %1 block %2 axis %3 is wrong axis type

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Modify part program.

Program continuation
Clear the alarm with the RESET key. Restart part program.

14095 Channel %1 block %2 radius for circle programming too small

Explanation
%1 = Channel number
%2 = Block number, label

The radius entered for radius programming is too small, i.e. the programmed radius is smaller than half of the distance between start and end point.

Reactions
Alarm display
Interface signals are set
Correction block with reorganization.

Remedy
Change part program.

Program continuation
Use NC START to clear the alarm and continue the program.

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14096

Channel %1 block %2 illegal type conversion

Explanation

%1 = Channel number
%2 = Block number, label

During the program run, a variable value assignment or an arithmetic operation has caused data to be processed in such a way that they have to be converted to another type. This would lead to the value range being exceeded.

Variable type	Scope	Value range
REAL	Fractional number with dec. point	**$\pm (2^{-1022}-2^{+1023})$**
INT	Signed integer	**$\pm (2^{31}-1)$**
BOOL	Truth value TRUE, FALSE	**0.1**
CHAR	1 ASCII character	**0 - 255**
STRING	Character string (max. 100 values)	**0 - 255**
AXIS	Axis addresses	**Axis names only**
FRAME	Geometric details	**As for axis paths**

Value ranges of the various variable types

to / from	REAL	INT	BOOL	CHAR	STRING
REAL		yes [1]	yes	yes [2]	-
INT	yes		yes	yes [2]	-
BOOL	yes	yes		yes	-
CHAR	yes	yes	yes		yes
STRING	-	-	yes	yes [3]	

Type conversion

[1] Value <> 0 is equivalent to TRUE; value == 0 is equivalent to FALSE.
[2] String length 0 => FALSE, otherwise TRUE
[3] If only one character

It is not possible to convert from type AXIS and FRAME nor into type AXIS and FRAME.

Reactions

Alarm display
Interface signals are set
Correction block with reorganization.

Remedy

Change the program section to avoid exceeding the value range, for example by using a different variable definition.

Program continuation

Use NC START to clear the alarm and continue the program.

14097

Channel %1 block %2 string cannot be converted to AXIS type

Explanation

%1 = Channel number
%2 = Block number, label

The called function AXNAME - conversion of the transferred parameters of the STRING type to an axis name (return value) of the AXIS type - has not found this axis identifier in the machine data.

Reactions

Alarm display
Correction block with reorganization
Interface signals are set.

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Remedy
Please inform the authorized personnel/service department. Check the transferred parameters (axis name) of the function AXNAME to determine whether a geometry, channel or machine axis of this name has been configured by means of the machine data:

10 000: AXCONF_MACHAX_NAME_TAB
20 070: AXCONF_GEOAX_NAME_TAB
20 080: AXCONF_CHANAX_NAME_TAB

Choose the parameter string appropriate for the axis name, possibly change the axis name in the machine data. (If a change of name is to take place via the NC part program, this change must first be validated by means of a "Power On").

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

14098 Channel %1 block %2 conversion error: no valid number found

Explanation
%1 = Channel number
%2 = Block number, label

The string is not a valid INT or REAL number.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Change part program. If this is an input, the ISNUMBER built-in function (with the same parameter) can be used to test whether the string represents a number.

Program continuation
Clear the alarm with the RESET key. Restart part program.

14099 Channel %1 block %2 result in string concatenation too long

Explanation
%1 = Channel number
%2 = Block number, label

The result of string chaining returns a string which is greater than the maximum string length laid down by the system.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibit in this channel.

Remedy
Adapt part program. With the function STRLEN, it is also possible to test the size of the sum string before performing the chaining operation.

Program continuation
Clear the alarm with the RESET key. Restart part program.

14130 Channel %1 block %2 too many initialization values specified

Explanation
%1 = Channel number
%2 = Block number, label

On assigning an array by means of SET, more initialization values than existing array elements have been specified in the program run.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

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Remedy Reduce the number of initialization values.

Program continuation Clear the alarm with the RESET key. Restart part program.

14160 Channel %1 block %2 tool length selection without geometry axis specification

Explanation %1 = Channel number
%2 = Block number, label

If for the tool length compensation with H word and G43/G44 in the ISO M mode using the MD 20380 **TOOL_CORR_MODE_G43G44** the variant C is activated (the tool length acts in the programmed axis), just one geometry axis together with H, if the MD 20384 **TOOL_CORR_MULTIPLE_AXES** is not set. The alarm is then issued when either no geometry axis or more than one geometry axis has been programmed together with H .
The programming of multiple axis is permitted when the MD 20384 **TOOL_MULTIPLE_AXES** = TRUE has been set.
If no axis is specified, this is always an error.

Reactions Alarm display
Interface signals are set
Correction block with reorganization
NC Stop on alarm.

Remedy Change MD 20380 **TOOL_CORR_MODE** or the part program.

Program continuation

14165 Channel %1 block %2 compensation selection without active tool

Explanation %1 = Channel number
%2 = Block number, label

If a tool compensation is activated in the ISO M language mode (G43/G44), a tool number (H) must be specified.

Reactions Alarm display
Interface signals are set
Correction block with reorganization
NC Stop for alarm.

Remedy Change part program

Program continuation

14170 Channel %1 block %2 illegal interpolation type for tool length compensation

Explanation %1 = Channel number
%2 = Block number, label

If tool compensation (G43/G44) is activated in the ISO M language mode, the linear type of interpolation must be active.

Reactions Alarm display
Interface signals are set
Correction block with reorganization
NC Stop for alarm.

Remedy Change part program

Program continuation

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14180 Channel %1 block %2 H number is not defined

Explanation
%1 = Channel number
%2 = Block number, label

The specified H number is not assigned to any tool (ISO M).

Reactions
Interface signals are set
Correction block with reorganization
NC Stop on alarm
Alarm display.

Remedy
Change part program

Program continuation

14185 Channel %1 block %2 D number is not defined

Explanation
%1 = Channel number
%2 = Block number, label

The specified D number is not assigned to any tool (ISO M).

Reactions
Alarm display
Interface signals are set
Correction block with reorganization
NC Stop on alarm.

Remedy
Change part program

Program continuation

14190 Channel %1 block %2 H number with G49

Explanation
%1 = Channel number
%2 = Block number, label

G49 (select tool length compensation) and an H word not equal to H0 have been programmed simultaneously.

Reactions
Alarm display
Interface signals are set
Correction block with reorganization
NC Stop on alarm.

Remedy
Change part program

Program continuation

14195 Channel %1 block %2 D number with G49

Explanation
%1 = Channel number
%2 = Block number, label

G49 (select tool length compensation) and an D word not equal to D0 have been programmed simultaneously.

Reactions
Interface signals are set
Correction block with reorganization
NC Stop on alarm
Alarm display.

Remedy
Change part program

Program continuation

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14197 Channel %1 block %2 D number and H number programmed simultaneously

Explanation
%1 = Channel number
%2 = Block number, label

A D word and H word have been programmed simultaneously.

Reactions
Alarm display
Interface signals are set
Correction block with reorganization
NC Stop for alarm.

Remedy
Change part program

Program continuation

14198 Channel %1 block %2 illegal change of tool direction with tool offset

Explanation
%1 = Channel number
%2 = Block number, label.

If an offset is active in the tool direction, block change is not possible if this would change the assignment of the offset axes to the channel axes (plane change, tool change, cutter <=> turning tool, geometry axis replacement).

Reactions
Alarm display
Interface signals are set
NC Start inhibit
Correction block with reorganization.
NC Stop on alarm at end of block.

Remedy
Change the part program
Reduce the offset in tool direction to zero.

Program continuation
Use NC START to clear the alarm and continue the program.

14199 Channel %1 block %2 illegal plane change for tool with diameter

Explanation
%1 = Channel number
%2 = Block number, label.

If a tool has a wear or length component which is evaluated as a diameter for the facing axis (bit 0 and/or bit 1 in MD 20360 **TOOL_PARAMETER_DEF_MASK** is set) and bit 2 of this MD is also set, this tool may only be used in the plane active on tool selection. A plane change results in an alarm.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Change the part program
Reset bit 2 in the MD 20360 **TOOL_PARAMETER_DEF_MASK**.

Program continuation
Use NC START to clear the alarm and continue the program.

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14200 Channel %1 block %2 negative polar radius

Explanation

%1 = Channel number
%2 = Block number, label

In the endpoint specification of a traversing block with G00, G01, G02 or G03 in polar coordinates, the polar radius entered for the vocabulary word **RP=**... is negative.

Definition of terms:

- **Specification of end of block point** with polar angle and polar radius, referring to the current pole (preparatory functions: G00/G01/G02/G03).
- **New definition of the pole** with polar angle and pole radius, referring to the reference point selected with the G function.
  G110 ... Last programmed point of the plane
  G111 ... Zero point of the current WCS
  G112 ... last pole

Reactions

Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy

Correct the NC part program – valid inputs for the polar radius are only positive absolute values that specify the distance between the current pole and the block end point (the direction is defined with the polar angle **AP=...**).

Program continuation

Clear the alarm with the RESET key. Restart part program.

14210 Channel %1 block %2 polar angle too large

Explanation

%1 = Channel number
%2 = Block number, label

In specifying the endpoints in a traversing block with G00, G01, G02 or G03 in polar coordinates, the value range of the polar angle programmed under the vocabulary word **AP=**... has been exceeded. It covers the range from -360 to +360 degrees with a resolution of 0.001 degrees.

Definition of terms:

- **Specification of end of block point** with *polar angle* and *polar radius*, referring to the current pole (preparatory functions: G00/G01/G02/G03).
- **New definition of the pole** with *polar angle* and *pole radius*, referring to the reference point selected with the G function.
  G110 ... On the last programmed point of the plane
  G111 ... On the zero point of the current workpiece coordinate system (WCS)
  G112 ... On the last pole

Reactions

Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy

Correct NC part program - the permissible input range for the polar angle is between the values -360 to +360 degrees with a resolution of 0.001 degrees.

Program continuation

Clear the alarm with the RESET key. Restart part program.

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14250 Channel %1 block %2 negative pole radius

Explanation

%1 = Channel number
%2 = Block number, label

In redefining the pole with G110, G111 or G112 in polar coordinates, the pole radius specified under vocabulary word **RP=**... is negative. Only positive absolute values are permitted.

Definition of terms:

- **Specification of end of block point** with *polar angle* and *polar radius*, referring to the current pole (preparatory functions: G00/G01/G02/G03).
- **New definition of the pole** with *polar angle* and *pole radius*, referring to the reference point selected with the G function.
  G110 ... Last programmed point of the plane
  G111 ... Zero point of the current WCS
  G112 ... last pole

Reactions

Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy

Correct the NC part program – valid inputs for the polar radius are only positive absolute values that specify the distance between the reference point and the new pole (the direction is defined with the polar angle **AP=...**).

Program continuation

Clear the alarm with the RESET key. Restart part program.

14260 Channel %1 block %2 pole angle too large

Explanation

%1 = Channel number
%2 = Block number, label

In redefining the pole with G110, G111 or G112 in polar coordinates, the value range of the pole angle specified under vocabulary word **AP=**... has been exceeded. It covers the range from -360 to +360 degrees with a resolution of 0.001 degrees.

Definition of terms:

- **Specification of end of block point** with *polar angle* and *polar radius*, referring to the current pole (preparatory functions: G00/G01/G02/G03).
- **New definition of the pole** with *polar angle* and *pole radius*, referring to the reference point selected with the G function.
  G110 ... Last programmed point of the plane
  G111 ... Zero point of the current WCS
  G112 ... last pole

Reactions

Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy

Correct NC part program - the permissible input range for the polar angle is between the values -360 degrees and +360 degrees with a resolution of 0.001 degrees.

Program continuation

Clear the alarm with the RESET key. Restart part program.

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14270 Channel %1 block %2 pole programmed incorrectly

Explanation

%1 = Channel number
%2 = Block number, label

When defining the pole, an axis was programmed that does not belong to the selected processing level.

Programming in polar coordinates always refers to the plane activated with G17 to G19. This also applies to the definition of a new pole with G110, G111 or G112.

Reactions

Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy

Correct the NC part program. Only the two geometry axes may be programmed that establish the current machining plane.

Program continuation

Clear the alarm with the RESET key. Restart part program.

14280 Channel %1 block %2 polar coordinates programmed incorrectly

Explanation

%1 = Channel number
%2 = Block number, label

The end point of the displayed block has been programmed both in the polar coordinate system (with AP=..., RP=...) and in the Cartesian coordinate system (axis addresses X, Y,...).

Reactions

Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy

Correct the NC part program - the axis motion may be specified **in one coordinate system only**.

Program continuation

Clear the alarm with the RESET key. Restart part program.

14300 Channel %1 block %2 overlaid handwheel motion activated incorrectly

Explanation

%1 = Channel number
%2 = Block number, label

Handwheel override has been called up incorrectly:

- 1. For positioning axes:
  - Handwheel override programmed for indexing axis,
  - No position programmed,
  - FA and FDA programmed for the same axis in the block.
- 2. For contouring axes:
  - No position programmed,
  - G60 not active,
  - 1. G group incorrect (only G01 to CIP).

Reactions

Alarm display
Correction block with reorganization
Interface signals are set.

Remedy

Change part program.

Program continuation

Clear the alarm with NC START or the RESET key and continue the program.

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14310 Handwheel %1 configuration incorrect or inactive

Explanation

%1 = Handwheel number

The inputs are using a drive with a drive number that does not exist or

- an inactive drive for assignment of the handwheel (ENC_HANDWHEEL_MODULE_NR) or
- an axis is using a measuring circuit which does not exist for the drive hardware.

Reactions

NC Start inhibit in this channel
Alarm display
Interface signals are set.

Remedy

Please inform the authorized personnel/service department. Check input configuration (machine data) and/or drive hardware. Power-up is interrupted.

Program continuation

Switch the control OFF - ON.

14320 Handwheel %1 used more than once (%2) in channel %3 axis %4

Explanation

%1 = Handwheel number
%2 = Use
%3 = Channel
%4 = Axis

Warning that the designated handwheel has been used more than once:

The second parameter supplies the explanation:

1: Block with axial handwheel override for this axis cannot be performed for this axis because the handwheel for the axis is performing a DRF motion

2: Block with speed override for the path cannot be performed because the handwheel for the axis of the path is performing a DRF motion

3: Block with contour handwheel cannot be performed because the handwheel for the axis of the path is performing a DRF motion

4: PLC axis with axial handwheel override cannot be started immediately because the handwheel for the axis is performing a DRF motion

5: The axis is a reciprocating axis with axial handwheel override, the oscillating motion cannot be started immediately because the handwheel for the axis is performing a DRF motion

6: The DRF motion for this axis cannot be performed because an handwheel override for this axis with the handwheel is active

7: The DRF motion for this axis cannot be performed because a speed override of the path with the handwheel is active and the axis belongs to the path

8: The DRF motion for this axis cannot be performed because the contour handwheel with this handwheel is active and the axis belongs to the path

9: The DRF motion for this axis cannot be performed because the axis is a PLC axis with handwheel override that is active with the handwheel

10: The DRF motion for this axis cannot be performed because the axis as reciprocating axis with handwheel override is active with this handwheel

Reactions

Alarm display

Remedy

Use the handwheel for only one purpose.

Program continuation

Use NC START to clear the alarm and continue the program.

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14400 Channel %1 block %2 tool radius compensation active at transformation switchover

Explanation
%1 = Channel number
%2 = Block number, label

A change of transformation is not allowed when tool radius compensation is active.

Reactions
Alarm display
Interface signals are set
Correction block with reorganization.

Remedy
Perform tool radius compensation in the NC part program with **G40** (in a block with G00 or G01) before performing a transformation change.

Program continuation
Use NC START to clear the alarm and continue the program.

14401 Channel %1 block %2 transformation not available

Explanation
%1 = Channel number
%2 = Block number, label

The required transformation is not available.

Example:
The following has been programmed: N220 TRACYLI(3) ;Transformation no. 3-ON
However, only transformation 1 and 2 applies.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Please inform the authorized personnel/service department.

- Modify part program; program defined transformations only.
- Check MD 24100 TRAFO_TYPE_n (assigns the transformation to part program instructions).

Program continuation
Clear the alarm with the RESET key. Restart part program.

14403 Channel %1 block %2 preprocessing and main run might not be synchronized

Explanation
%1 = Channel number
%2 = Block number, label

Positioning axis curves cannot be predicted reliably. Consequently, the position in the MCS is not known exactly. It might therefore be possible that a change in the multiple significance of the transformation has been performed in the main run although no provision was made for this in the preprocessing run.

Reactions
Alarm display.

Remedy
Change part program. Synchronize preprocessing run and main run.

Program continuation
Clear the alarm with the Cancel key or with NC START.

14404 Channel %1 block %2 illegal parameterization of transformation

Explanation
%1 = Channel number
%2 = Block number, label

Error has occurred when selecting transformation.

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Possible error causes can be:

- An axis traversed by the transformation has not been enabled:
  - Is in spindle mode (-> enable with SPOS)
  - Is in POSA mode (-> enable with WAITP)
  - Is concurrent Pos axis (-> enable with WAITP)
- Parameterization via machine data has an error.
- Axis or geometry axis assignment to the transformation has an error.
- Machine data has an error (-> modify machine data, cold restart)

Transformation-dependent error causes can be:

TRANSMIT:

- The current machine axis position is unsuitable for selection (e.g. selection in the pole) (-> change position slightly).
- Parameterization via machine data has an error.
- Special requirement with respect to the machine axis has not been satisfied (e.g. rotary axis is not a modulo axis) (-> modify machine data, cold restart).

TRACYL:

- The programmed parameter is not allowed when transformation is selected.

Reactions: Alarm display
Interface signals are set
Correction block with reorganization.

Remedy: Please inform the authorized personnel/service department.
Change the part program or change the machine data.

Program continuation: Use NC START to clear the alarm and continue the program.

14411 Channel %1 block %2 tool radius compensation active at geometry axis changeover

Explanation: %1 = Channel number
%2 = Block number, label

It is not permissible to change the assignment of geometry axes to channel axes when tool radius compensation is active.

Reactions: Alarm display
Correction block with reorganization
Interface signals are set.

Remedy: Change part program.

Program continuation: Clear the alarm with NC START or the RESET key and continue the program.

14412 Channel %1 block %2 transformation active at geometry axis changeover

Explanation: %1 = Channel number
%2 = Block number, label

It is not permissible to change the assignment of geometry axes to channel axes when transformation is active.

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Reactions	Alarm display Correction block with reorganization Interface signals are set.
Remedy	Change part program.
Program continuation	Clear the alarm with NC START or the RESET key and continue the program.

14415 Channel %1 block %2 tangential control: changeover geometry/channel axis not allowed

Explanation	%1 = Channel number %2 = Block number, label An assignment change of the geometry axes to channel axes is not permitted with active tangential control.
Reactions	Alarm display Correction block with reorganization Interface signals are set.
Remedy	Change the part program, use TANGDEL to delete the active tangential control.
Program continuation	Clear the alarm with NC START or the RESET key and continue the program.

14430 Channel %1 block %2 tangential axis %3 may not be traversed as POS axis

Explanation	%1 = Channel number %2 = Block number, label %3 = Axis name A tangential corrected axis cannot be traversed as positioning axis.
Reactions	Alarm display Correction block with reorganization Interface signals are set.
Remedy	Change the part program, use TANGDEL to delete the active tangential control.
Program continuation	Clear the alarm with NC START or the RESET key and continue the program.

14432 Channel %1 block %2 smoothing length for tangential axis %3 is zero

Explanation	%1 = Channel number %2 = Block number, label %3 = Axis name A smoothing length for the activation of the tangential control with TANGON() for a tangential axis coupled in the preparation, otherwise any discontinuities of the tangential axis cannot be smoothed.
Reactions	Alarm display Correction block with reorganization Interface signals are set.
Remedy	Change part program
Program continuation	Clear the alarm with NC START or the RESET key and continue the program.

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14434 Channel %1 block %2 rel. lift-off path for tangential axis %3 is invalid

Explanation: %1 = Channel number
%2 = Block number, label
%3 = Axis name

The factor r for the relative lift-off path programmed for TLIFT must lie in the range 0 =< r < 1.

Reactions: Alarm display
Correction block with reorganization
Interface signals are set.

Remedy: Change part program

Program continuation: Clear the alarm with NC START or the RESET key and continue the program.

14500 Channel %1 block %2 illegal DEF or PROC instruction in the part program

Explanation: %1 = Channel number
%2 = Block number, label

NC part programs with high-level language elements are divided into a preceding **definition part** followed by a **program part**. The transition is not marked specifically; a definition statement is not allowed to follow the first program command.

Reactions: Alarm display
Interface signals are set
Correction block with reorganization.

Remedy: Put definition and PROFC statements at the beginning of the program.

Program continuation: Use NC START to clear the alarm and continue the program.

14510 Channel %1 block %2 PROC instruction missing on subroutine call

Explanation: %1 = Channel number
%2 = Block number, label

In subroutine calls with parameter transfer ("call-by-value" or "call-by-reference") the called subroutine must begin with a PROC statement.

Reactions: Alarm display
Interface signals are set
Correction block with reorganization.

Remedy: Define the subroutine in accordance with the type used.

1. Usual subroutine structure (without parameter transfer):
   % SPF 123456
   :
   M17
2. Subroutine structure with vocabulary word and subroutine name (without parameter transfer):
   PROC UPNAME
   :
   M17
   ENDPROC
3. Subroutine structure with vocabulary word and subroutine name (with parameter transfer "call-by-value"):
   PROC UPNAME (VARNAME1, VARNAME2, ...)
   :
   M17
   ENDPROC

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4. Subroutine structure with vocabulary word and subroutine name (with parameter transfer "call-by-reference"):
   PROC UPNAME (Typ1 VARNAME1, Typ2 VARNAME2, ...)
   :
   M17
   ENDPROC

Program continuation: Use NC START to clear the alarm and continue the program.

14520 Channel %1 block %2 illegal PROC instruction in data definition section

Explanation: %1 = Channel number
%2 = Block number, label

The PROC statement may only be programmed at the beginning of the subroutine.

Reactions: Alarm display
Interface signals are set
Correction block with reorganization.

Remedy: Modify NC part program appropriately.

Program continuation: Use NC START to clear the alarm and continue the program.

14530 Channel %1 block %2 EXTERN and PROC instruction do not correspond

Explanation: %1 = Channel number
%2 = Block number, label

Subroutines with parameter transfer must be known **before** they are called in the program. If the subroutines are always available (fixed cycles) the control establishes the call interfaces at the time of system power-up. Otherwise an EXTERN statement must be programmed in the calling program.

Example:
N123 **EXTERN** UPNAME (TYP1, TYP2, TYP3, ...)

The type of the variable must match the type given in the definition (PROC statements) or it must be compatible with it. The name can be different.

Reactions: Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy: Check the variable types in the EXTERN and the PROC statements for correspondence and correctness.

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

14540 Channel %1 block %2 contour tool: The minimum limit angle has been programmed more than once (cutting edge D%3)

Explanation: %1 = Channel number
%2 = Block number, label
%3 = Cutting edge number, label

The limit angle of a contour tool may be non-zero only in an associated cutting edge.

Reactions: Local alarm Reactions
Alarm display
Interface signals are set
Correction block with reorganization
NC Stop for alarm at block end.

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Remedy	Change tool definition.
Program continuation	Clear the alarm with NC START or the RESET key and continue the program.

14600 Channel %1 block %2 reload buffer cannot be established

Explanation	%1 = Channel number %2 = Block number, label The reload buffer cannot be set up while loading the INITIAL_INI block, because the RAM of the NC does not have sufficient memory space.
Reactions	Alarm display Interface signals are set Interpreter stop NC Start inhibited.
Remedy	Make available free memory space in the NC area, for example, by deleting part programs that are not longer required.
Program continuation	Clear the alarm with the RESET key. Restart part program.

14601 Channel %1 block %2 reload buffer could not be deleted

Explanation	%1 = Channel number %2 = Block number, label The reload buffer for "processing from external source" cannot be deleted, possible cause: - HMI PLC communication was not terminated.
Reactions	Alarm display Interface signals are set Interpreter stop NC Start inhibited.
Remedy	Power On clears all reload buffers.
Program continuation	Clear the alarm with the RESET key. Restart part program.

14602 Channel %1 block %2 timeout during EXTCALL

Explanation	%1 = Channel number %2 = Block number, label No connection could be established to the MMC for reloading of external subprograms (EXTCALL) within the time set in MD 10132 **MMC_CMD_TIMEOUT**.
Reactions	Alarm display Interface signals are set Interpreter stop NC Start inhibit in this channel.
Remedy	Increase MD 10132 **MMC_CMD_TIMEOUT**.
Program continuation	Clear the alarm with the RESET key. Restart part program.

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14610 Channel %1 block %2 compensation block not possible

Explanation
%1 = Channel number
%2 = Block number, label

An alarm was output which could be eliminated basically via program correction. Since the error occurred in a program which is processed from external, a compensation block/program correction is not possible.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibit in this channel.

Remedy
Abort program with reset.

• Correct program on MMC or PC.

• Restart reloading (possibly with block search for interrupt location).

Program continuation
Clear the alarm with the RESET key. Restart part program.

14700 Channel %1 block %2 timeout during command to interpreter

Explanation
%1 = Channel number
%2 = Block number, label

A timeout has occurred for control-internal commands such as part program selection, reset or change configuration-specific machine data.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Please inform the authorized personnel/service department.
If the runtime error occurred as the result of a temporary excessive load on the system (e.g. in the MMC area) error-free execution is possible by repeating the program or operator action.
Otherwise, the A&D MC system support should be contacted with a precise description of the error situation:
SIEMENS AG, After-Sales Support for A&D MC Products, Hotline
(Phone: see page 1-9)

Program continuation
Power-down the control and power-up again.

14701 Channel %1 block %2 number of available NC blocks reduced by %3

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Number of blocks not available

After reset, it has been found that the number of available blocks has decreased compared with the last reset. This is due to a system error. Part program execution can be resumed after the alarm has been acknowledged.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Proceed as in the case of a system error.

Program continuation
Clear the alarm with the RESET key. Restart part program.

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14710 Channel %1 block %2 error in initialization sequence in function %3

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Index for section

The start-up and reset of the control produces initialization blocks. This can cause errors because of incorrect machine data settings.

The parameter %3 specifies the section of the initblock generation in which the error occurred:

Section 0: Error during synchronization preprocessing/main run
Section 1: Error on selection of tool length compensation.
Section 2: Error on selection of transformation.
Section 3: Error on selection of zero offset.

The cycle interfaces are also read in during the power-up procedure. If an error occurs here, it will be reported with "section 5".

Reactions

Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy

For section 0-3: Load the standard machine data
For section 5: Reload the cycles

Program continuation

Clear the alarm with the RESET key. Restart part program.

14711 Channel %1 transformation selection not possible because of unavailable axis %2

Explanation

%1 = Channel number
%2 = Axis name, spindle number

The configuration of the machine data 20110 **RESET_MODE_MASK** and 20140 **TRAFO_RESET_VALUE** means that a reset or a control power-up should select a transformation. This, however, is not possible, because the required axis %2 is not available. Possible causes: The axis is used by the PLC.

Reactions

Interface signals are set
Alarm display.

Remedy

Select transformation using a part program command.

Program continuation

Clear the alarm with the RESET key. Restart part program.

14750 Channel %1 block %2 too many auxiliary functions programmed

Explanation

%1 = Channel number
%2 = Block number, label

More than 10 auxiliary functions have been programmed in an NC block.

Reactions

Alarm display
Interface signals are set
Correction block with reorganization.

Remedy

Check whether all auxiliary functions are necessary in one block - modal functions need not be repeated. Create separate auxiliary function block or divide the auxiliary functions over several blocks.

Program continuation

Clear the alarm with the RESET key. Restart part program.

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14760 Channel %1 block %2 auxiliary function of a group programmed repeatedly

Explanation
%1 = Channel number
%2 = Block number, label

The M and H functions can be divided up as required over machine data in groups in any variation. Auxiliary functions are thus put into groups that mutually preclude several individual functions of one group. Within one group only one auxiliary function is advisable and permissible.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Please inform the authorized personnel/service department.
Only program one help function per help function group. (For the group division, see the machine manufacturer's programming guide).

Program continuation
Clear the alarm with the RESET key. Restart part program.

14762 Channel %1 block %2 too many PLC variables programmed

Explanation
%1 = Channel number
%2 = Block number, label

The number of programmed PLC-variable auxiliary functions has exceeded the maximum permitted number. The number is set in MD 28150 **MM_NUM_VDIVAR_ELEMENTS**.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibit
NC Stop on alarm.

Remedy
Modify part program or machine data.

Program continuation
Clear the alarm with the RESET key. Restart part program.

14770 Channel %1 block %2 auxiliary function programmed incorrectly

Explanation
%1 = Channel number
%2 = Block number, label

The permissible number of programmed auxiliary functions per NC block has been exceeded or more than one auxiliary function of the same auxiliary function group has been programmed (M and S function).

In the user-defined auxiliary functions, the maximum number of auxiliary functions per group in the NC system settings has been defined for all auxiliary functions by means of the MD 11100 **AUXFU_MAXNUM_GROUP_ASSIGN** (default: 1).

For each user-defined auxiliary function to be assigned to a group, the assignment is made using 4 machine data items.

MD 22010 **AUXFU_ASSIGN_TYPE:**	**Auxiliary function type**, e.g. M
MD 22000 **AUXFU_ASSIGN_GROUP:**	Required **group**
MD 22020 **AUXFU_ASSIGN_EXTENSION:**	Possibly required **extension**
MD 22030 **AUXFU_ASSIGN_VALUE:**	**Function value**

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

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Remedy Correct the part program - max. 16 auxiliary functions, max. 5 M functions per NC block, max. 1 auxiliary function per group.

Program continuation Clear the alarm with the RESET key. Restart part program.

14780 Channel %1 block %2 unreleased option used

Explanation %1 = Channel number
%2 = Block number, label

A non-released option has been used in the block.

Reactions Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy Modify part program, retrofit option.

Program continuation Clear the alarm with the RESET key. Restart part program.

14782 Channel %1 block %2 inactive function was used (identifier %3)

Explanation %1 = Channel number
%2 = Block number, label
%3 = Detailed identification

An inactive function is used in the block.

Flag, short description

1 Transformation
2 Tool H numbers

Reactions Correction block with reorganization
Interface signals are set
Alarm display.

Remedy Change part program.
Activate function.

Program continuation Use NC START to clear the alarm and continue the program.

14790 Channel %1 block %2 axis %3 programmed by PLC

Explanation %1 = Channel number
%2 = Block number, label
%3 = Axis

In the NC block, an axis has been programmed that is already being traversed by the PLC.

Reactions Alarm display
Correction block with reorganization
Interface signals are set.

Remedy Modify part program, do not use this axis.

Stop traversing motion of the axis by the PLC, modify part program (insert WAITP).

Program continuation Clear the alarm with NC START or the RESET key and continue the program.

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14800 Channel %1 block %2 programmed path speed less or equal to zero

Explanation
%1 = Channel number
%2 = Block number, label

A negative F value has been programmed in conjunction with the G functions G94, G95 or G96. The path velocity may be programmed in the range 0.001 to 999 999.999 [mm/min, mm/rev, deg/min, deg/rev] for the metric input system and 0.000 1 to 39 999.999 9 [inch/min, inch/rev] for the inch input system.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Program the path velocity (geometric sum of the velocity components of the geometry axes involved) within the limits given above.

Program continuation
Clear the alarm with the RESET key. Restart part program.

14810 Channel %1 block %2 negative axis speed programmed for positioning axis %3

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Axis

A negative feed (FA value) has been programmed for the displayed axis presently operating as a positioning axis. The positioning velocity may be programmed in the range 0.001 to 999 999.999 [mm/min, deg/min] for the metric input system and 0.000 1 to 39 999.999 9 [inch/min, inch/rev] for the inch input system.

Reactions
Alarm display
Interface signals are set
Correction block with reorganization.

Remedy
Program the positioning velocity within the limits given above.

Program continuation
Use NC START to clear the alarm and continue the machining.

14811 Channel %1 block %2 incorrect value range for acceleration of axis/spindle %3

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Axis, spindle

A value outside of the permissible input range of the programmed acceleration has been used. Values of between 1 and 200 % are possible.

Reactions
Alarm display
Interface signals are set
Correction block with reorganization.

Remedy
Adjust the value range in accordance with the Programming Guide.

Program continuation
Clear the alarm with the RESET key. Restart part program.

14812 Channel %1 block %2 SOFTA not available for axis %3

Explanation:
%1 = Channel number
%2 = Block number, label
%3 = Axis

SOFT is to be set as type of motion control for an axis. This is not possible because a bent acceleration characteristic has been selected for this axis via machine data.

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Reactions	Alarm display Correction block with reorganization Interface signals are set.
Remedy	Change the part program or change the machine data.
Program continuation	Clear the alarm with NC START or the RESET key and continue the program.

14815 Channel %1 block %2 negative thread lead change programmed

Explanation	%1 = Channel number %2 = Block number, label A negative thread lead change has been programmed.
Reactions	Alarm display Interface signals are set Correction block with reorganization.
Remedy	Correct the value assignment. The programmed F value should be greater than zero. Zero is allowed but has no effect.
Program continuation	Use NC START to clear the alarm and continue the program.

14820 Channel %1 block %2 negative value for maximum spindle speed programmed with constant cutting speed

Explanation	%1 = Channel number %2 = Block number, label For the function "Constant cutting speed G96" a maximum spindle speed can be programmed with the vocabulary word **LIMS=...**. The values are in the range 0.1 - 999 999.9 [rev/min].
Reactions	Alarm display Interface signals are set Interpreter stop NC Start inhibited.
Remedy	Program the maximum spindle speed for the constant cutting speed within the limits given above. The vocabulary word LIMS is modal and can either be placed in front of or within the block that selects the constant cutting speed.
Program continuation	Clear the alarm with the RESET key. Restart part program.

14824 Channel %1 block %2 conflict with GWPS

Explanation	%1 = Channel number %2 = Block number, label The functions of constant grinding wheel surface speed GWPS and constant cutting speed G96 S... have been activated at the same time for a spindle.
Reactions	Alarm display Correction block with reorganization Interface signals are set.
Remedy	Change part program
Program continuation	Clear the alarm with NC START or the RESET key and continue the program.

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14840 Channel %1 block %2 incorrect value range for constant cutting speed

Explanation
%1 = Channel number
%2 = Block number, label

The programmed cutting speed is not within the input range

Input range metric:	0.01 to 9,999.99 [m/min]
Input range inch:	0.1 to 99,999.99 [inch/min].

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Program cutting speed under address S within the permissible range of values.

Program continuation
Clear the alarm with the RESET key. Restart part program.

14900 Channel %1 block %2 center point and end point programmed simultaneously

Explanation
%1 = Channel number
%2 = Block number, label

When programming a circle by means of the opening angle, the circle center point was programmed together with the circle end point. This is too much information for the circle. Only one of the two points is allowed.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Select the programming variant for which the dimension can be reliably taken from the workpiece designation (avoidance of conversion errors).

Program continuation
Clear the alarm with the RESET key. Restart part program.

14910 Channel %1 block %2 invalid circle opening angle

Explanation
%1 = Channel number
%2 = Block number, label

When programming a circle by means of the opening angle, a negative opening angle or an opening angle greater than or equal to 360 degrees has been programmed.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Program opening angle within the allowed range of values between 0.0001 and 359.9999 [degrees].

Program continuation
Clear the alarm with the RESET key. Restart part program.

14920 Channel %1 block %2 intermediate point of circle incorrect

Explanation
%1 = Channel number
%2 = Block number, label

When programming a circle by means of an intermediate point all 3 points (start, end and intermediate points) are on a straight line and the intermediate point (programmed by means of interpolation parameters I, J, K) is not located between the start and end points.

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Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Locate the position of the intermediate point with the parameters I, J and K in such a way that it actually is located between the start and end points of the circle or do not make use of this type of circle programming and instead program the circle with radius or opening angle or center point parameters.

Program continuation
Clear the alarm with the RESET key. Restart part program.

15030

Channel %1 block %2 different measurement system settings

Explanation
%1 = Channel number
%2 = Block number, label

The INCH or METRIC instruction describes the system of measurement in which the data blocks have been read from the control.

In order to prevent the incorrect interpretation of data intended for a particular system of measurement, a data block is only accepted if the above instruction matches the active system of measurement.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Change the system of measurement or load a data block which matches the system of measurement.

Program continuation
Clear the alarm with the RESET key. Restart part program.

15100

Channel %1 block %2 REORG abort caused by log file overflow

Explanation
%1 = Channel number
%2 = Block number, label

In order to synchronize the preprocessing run and the main run with REORG, the control accesses modification data which are maintained in a logfile. The alarm indicates that no more capacity is available in the logfile for the specified block in the channel.

Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
Please inform the authorized personnel/service department.
No remedial measures are available for the further execution of the current NC program, however:

Reduce log file size requirement by:
Reducing the distance between the preprocessing and the main run via appropriate preprocessing stops **STOPRE**.

Program continuation
Clear the alarm with the RESET key. Restart the changed part program (in accordance with the remedy).

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15110 Channel %1 block %2 REORG not possible

Explanation
%1 = Channel number
%2 = Block number, label

In order to synchronize the preprocessing run and the main run with REORG, the control accesses modification data which are maintained in a logfile. The alarm indicates that no more capacity is available in the logfile for the specified block in the channel.

The alarm message means that the **logfile has been deleted** in order to obtain additional memory for program reorganization. Consequently, it is no longer possible to REORG the preprocessing memory up to the next coincidence point.

Reactions
Alarm display.

Remedy
Please inform the authorized personnel/service department.
No remedial measures are available for the further execution of the current NC program, however:

Reduce log file size requirement by:
Reducing the distance between the preprocessing and the main run via appropriate preprocessing stops **STOPRE**.

Program continuation
Alarm display disappears with alarm cause. No further operator action required.

15150 Channel %1 block %2 reload from external aborted

Explanation
%1 = Channel number
%2 = Block number, label

The processing of extern has been terminated because the reload buffer does not contain sufficient machine function blocks (traversing blocks, auxiliary function, delay time, etc.). Background: When already executed machine function blocks are released, memory becomes available in the reload buffer. If machine function blocks are no longer released, nothing can be reloaded - this results in a deadlock situation.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Add machine function blocks to the part program.

Increase the size of the reload buffer (MD 18360 MM_EXT_PROG_BUFFER_SIZE).

Program continuation
Clear the alarm with the RESET key. Restart part program.

15160 Channel %1 block %2 wrong preprocessing configuration

Explanation
%1 = Channel number
%2 = Block number, label

The following deadlock has been found in the interpreter:
A block element is needed but the block element memory is empty and there is no likelihood of getting new block elements by processing the preprocessing/main run queue because this queue itself is empty.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Please inform the authorized personnel/service department.

Program continuation
Clear the alarm with the RESET key. Restart part program.

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15170 Channel %1 block %2 program %3 could not be compiled

Explanation
%1 = Channel number
%2 = Block number, label
%3 = String

An error has occurred in compile mode. The (compiler) error message refers to the program specified here.

Reactions: Alarm display.

Remedy: Correct part program.

Program continuation: Clear the alarm with the cancel key. No further operator action required.

15175 Channel %1 block %2 program %3 could not build any interfaces

Explanation
%1 = Channel number
%2 = Block number, label
%3 = String

An error has occurred in interface generation mode. The (compiler) error message refers to the program specified here.

Reactions: Alarm display.

Remedy: Correct part program.

Program continuation: Clear the alarm with the cancel key. No further operator action required.

15180 Channel %1 block %2 program %3 cannot be executed as INI file

Explanation
%1 = Channel number
%2 = Block number, label
%3 = String

An error occurred while reading the INI file. The error message refers to the program specified here.

Reactions: Alarm display.

Remedy: Correct part program.

Program continuation: Clear the alarm with the cancel key. No further operator action required.

15185 Channel %1 %2 errors in INI file

Explanation
%1 = Channel number
%2 = Number of detected errors

Errors detected while processing an INI file.

Reactions
Alarm display
Interface signals are set
NC Start disable.

Remedy: Please inform the authorized personnel/service department. Correct INI file or correct MD and create new INI file (via "upload").

Program continuation: Switch the control OFF - ON.

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15190 Channel %1 block %2 not enough free memory for subroutine call

Explanation
%1 = Channel number
%2 = Block number, label

The following deadlock has been found in the interpreter:
Memory is needed for calling a subroutine. The module memory is, however, empty and there is no prospect of module memory becoming free again by executing the preprocessing/main run queue, because this queue is empty.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Program the STOPRE preprocessing stop before the subroutine call.

Program continuation
Clear the alarm with the RESET key. Restart part program.

15300 Channel %1 block %2 invalid number-of-passed-blocks during block search

Explanation
%1 = Channel number
%2 = Block number, label

In the function "Block search with calculation" a negative number of passes has been entered in column P (number of passes). The permissible range of values is P 1 - P 9 999.

Reactions
Alarm display.

Remedy
Enter only positive number of passes within the range of values.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

15310 Channel %1 block %2 file requested during block search is not available

Explanation
%1 = Channel number
%2 = Block number, label

During block search, a target has been specified with a program that has not been loaded.

Reactions
Alarm display.

Remedy
Correct the specified search target accordingly or reload the file.

Program continuation
Clear the alarm with the Cancel key or with NC START.

15320 Channel %1 block %2 invalid block search command

Explanation
%1 = Channel number
%2 = Block number, label

The block search command (type of search target) is smaller than 1 or greater than 5. It is entered in column type of the block search window. Valid block search commands are:

Type	Meaning
1	Search for block number
2	Search for label
3	Search for string
4	Search for program name
5	Search for line number in a file

Reactions
Alarm display.

Remedy
Change block search command.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

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15330 Channel %1 block %2 invalid block number as search target

Explanation
%1 = Channel number
%2 = Block number, label

Syntax error! Positive integers are allowed as block numbers. Block numbers must be preceded by ":" and subblocks by an "N".

Reactions
Alarm display.

Remedy
Repeat the input with corrected block number.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

15340 Channel %1 block %2 invalid label as search target

Explanation
%1 = Channel number
%2 = Block number, label

Syntax error! A label must have at least 2 but no more than 32 characters, and the first two characters must be alphabetic or underscore characters. Labels must be concluded with a colon.

Reactions
Alarm display.

Remedy
Repeat the input with corrected label.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

15350 Channel %1 block %2 search target not found

Explanation
%1 = Channel number
%2 = Block number, label

The specified program has been searched to the end of the program without the selected search target having been found.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Check the part program, change the block search (typing error in the part program) and restart the search.

Program continuation
Clear the alarm with the RESET key. Restart part program.

15360 Channel %1 illegal target of block search (syntax error)

Explanation:
%1 = channel number

The specified search target (block number, label or string) is not allowed in block search.

Reactions
Alarm display.

Remedy
Correct target of block search.

Program continuation
Clear the alarm with the Cancel key or with NC START.

15370 Channel %1 target of block search not found

Explanation
%1 = channel number

In a block search, an impermissible search target has been specified (e.g. negative block number).

Reactions
Alarm display.

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Remedy: Check the specified block number, label or character string. Repeat entry with correct search target.

Program continuation: Clear the alarm with the cancel key. No further operator action required.

15380 Channel %1 block %2 illegal incremental programming in axis %3

Explanation: %1 = Channel number.
%2 = Block number, label.
%3 = Axis.

A transformation change occurred after "search at block end".

The position accumulated during the search cannot be traversed incrementally.

Reactions: Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy:
- Find search destination in which the axes are programmed using an absolute reference.
- Deactivate adding of the accumulated search position with SD 42444 **TARGET_BLOCK_INCR_** = FALSE.
- Use search run with calculation "at contour".

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

15400 Channel %1 block %2 selected initial init file does not exist

Explanation: %1 = Channel number
%2 = Block number, label

The operator has selected an INI block for a read, write or execution function which:

1. Does not exist in the NC range or
2. Does not have the protection level required to perform the function

Reactions: Alarm display.

Remedy: Please inform the authorized personnel/service department.
Check whether the selected INI block is contained in the file system of the NC.
The present protection level must be selected to be at least equal to (or greater than) the protection level that has been defined for the read, write or execution function at the time of creating the file.

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

15410 Channel %1 block %2 initialization file with invalid M function

Explanation: %1 = Channel number
%2 = Block number, label

The only M function allowed in an Init block is the M02, M17 or M30 end-of-program function.

Reactions: Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy: Remove all M functions from the Init block except for the end identifier.

An Init block may contain value assignments only (and global data definitions if they are not defined again in a program that can be executed later).

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

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15420 Channel %1 block %2 instruction in current mode not allowed

Explanation
%1 = Channel number
%2 = Block number, label

The interpreter has detected an invalid instruction (e.g. a traverse instruction) while processing of an Init module.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Remove all motion actions and auxiliary functions from the Init block except for the end identifier.

An Init block may contain value assignments only (and global data definitions if they are not defined again in a program that can be executed later).

Program continuation
Clear the alarm with the RESET key. Restart part program.

15460 Channel %1 block %2 syntax error in locking function

Explanation
%1 = Channel number
%2 = Block number, label

The addresses programmed in the block are not compatible with the modal syntax-determining G function.

Example:
N100 G01 ... I .. J.. K.. LF

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Correct the displayed block and ensure that the G functions and addresses in the block are in agreement.

Program continuation
Clear the alarm with the RESET key. Restart part program.

15500 Channel %1 block %2 illegal angle of shear

Explanation
%1 = Channel number
%2 = Block number, label

The function CSHEAR has been called with an illegal (impossible) angle of shear, e.g. when the sum of angles between the axis vectors is greater than 360 degrees.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibit in this channel.

Remedy
Program the angle of shear in accordance with the geometrical conditions of the machine and workpiece system.

Program continuation
Clear the alarm with the RESET key. Restart part program.

15700 Channel %1 block %2 illegal cycle alarm number

Explanation
%1 = Channel number
%2 = Block number, label

A SETAL command with a cycle alarm number smaller than 60,000 or larger than 67,999 has been programmed.

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Alarm Reactions of Siemens standard cycles:
No. 61 000 - 61 999: Interpreter stop; delete with reset
No. 62 000 - 62 999: Compensation block; delete with NC Start

Reactions: Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy: Program alarm number in the SETAL instruction in the correct range.

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

15800 Channel %1 block %2 wrong starting conditions for CONTPRON/CONTDCON

Explanation: %1 = Channel number
%2 = Block number, label

The starting conditions are faulty for the contour preparation (CYCLE 95):
G40 (deselection of the tool radius compensation) is not active

Reactions: Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy: Change part program: Deselect tool radius compensation with G40.

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

15810 Channel %1 block %2 wrong array dimension for CONTPRON/CONTDCON

Explanation: %1 = Channel number
%2 = Block number, label

The column number for a contour table has a fixed size. The current value is contained in the current Technology Programmer's Guide.

Reactions: Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy: Correct the array definition for the contour table.

The number of rows can be defined freely and corresponds to the number of contour elements (circles, straight lines). The number of columns is fixed (see the Cycle Programming Guide).

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

15900 Channel %1 block %2 touch probe not allowed

Explanation: %1 = Channel number
%2 = Block number, label

A non-existent touch probe for measuring with deletion of remaining distance has been selected in the part program.

Reactions: Alarm display
Interface signals are set
Correction block with reorganization.

Remedy: Change part program.

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

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15910 Channel %1 block %2 touch probe not allowed

Explanation
%1 = Channel number
%2 = Block number, label

A non-existent touch probe for measuring without deletion of remaining distance has been selected in the part program.

Reactions
Alarm display
Interface signals are set
Correction block with reorganization.

Remedy
Change part program.

Program continuation
Clear the alarm with the RESET key. Restart part program.

15950 Channel %1 block %2 no traverse motion programmed

Explanation
%1 = Channel number
%2 = Block number, label

In the part program, measurement with deletion of remaining distance without axis details has been selected or the programmed traversing motion is zero.

Reactions
Alarm display
Interface signals are set
Correction block with reorganization.

Remedy
Change part program.

Program continuation
Clear the alarm with the RESET key. Restart part program.

15960 Channel %1 block %2 no traverse motion programmed

Explanation
%1 = Channel number
%2 = Block number, label

In the part program, measurement without deletion of remaining distance without axis details has been selected or the programmed traversing motion is zero.

Reactions
Alarm display
Interface signals are set
Correction block with reorganization.

Remedy
Change part program.

Program continuation
Clear the alarm with the RESET key. Restart part program.

16020 Channel %1 repositioning in block %2 is not possible

Explanation
%1 = Channel number
%2 = Block number, label

Programming or operator action incorrect: A block is to be repositioned for which repositioning information exists.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
If necessary, change the part program.

Program continuation
Clear the alarm with the RESET key. Restart part program.

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16100 Channel %1 block %2 spindle %3 not available in the channel

Explanation
%1 = Channel number
%2 = Block number, label
%3 = String

Mistake in programming:
This channel does not recognize the spindle number.
The alarm can occur together with a dwell or spindle function.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Please inform the authorized personnel/service department.
Check the **part program** to determine whether the programmed spindle number is correct and whether the program is run in the correct channel.

Check MD 35000 **SPIND_ASSIGN_TO MACHAX** for all machine axes to see whether one of them contains the programmed spindle number. This machine axis number must be entered in a channel axis of the MD 20070 **AXCONF_MACHAX_USED**.

Program continuation
Clear the alarm with the RESET key. Restart part program.

16105 Channel %1 block %2 spindle %3 cannot be assigned

Explanation
%1 = Channel number
%2 = Block number, label
%3 = String

Mistake in programming: The programmed spindle is not assigned a real axis by the spindle number converter. The alarm can be issued after improper use of SD 42800 **SPIND_ASSIGN_TAB**[].

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibit in this channel.

Remedy
Correct the setting data or change the part program.

Program continuation
Clear the alarm with the RESET key. Restart part program.

16111 Channel %1 block %2 spindle %3 no speed programmed

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Spindle

A speed must be programmed.

Reactions
Alarm display
Correction block with reorganization
Interface signals are set.

Remedy
Program speed with S[spindlenumber]=...

Program continuation
Clear the alarm with NC Start or the RESET key and continue the program.

16200 Channel %1 block %2 spline and polynomial interpolation not available

Explanation
%1 = Channel number
%2 = Block number, label

The spline and polynomial interpolation are options that are not contained in the control.

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Reactions	Alarm display Correction block with reorganization Interface signals are set.
Remedy	Do not program spline and polynomial interpolation.
Program continuation	Clear the alarm with NC START or the RESET key and continue the program.

16410 Channel %1 block %2 axis %3 is not a geometry axis

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

A geometry axis has been programmed that cannot be represented on any machine axis.

Example:
Polar coordinate system with X, Z, and C axis

Reactions	Alarm display Interface signals are set Interpreter stop NC Start inhibited.
Remedy	Do not program the associated axis as a geometry axis.
Program continuation	Clear the alarm with the RESET key. Restart part program.

16420 Channel %1 block %2 axis %3 programmed repeatedly

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

It is not allowed to program an axis more than once.

Reactions	Alarm display Interface signals are set Interpreter stop NC Start inhibited.
Remedy	Delete the axis addresses that have been programmed more than once.
Program continuation	Clear the alarm with the RESET key. Restart part program.

16430 Channel %1 block %2 geometry axis %3 cannot traverse as positioning axis in rotated coordinate system

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

In the rotated coordinate system, traversing of a geometry axis as positioning axis (i.e. along its axis vector in the rotated coordinate system) would mean traversing of several machine axes. This is in conflict with the positioning axis concept, however, in which one axis interpolator runs in addition to the path interpolator.

Reactions	Alarm display Interface signals are set Correction block with reorganization.
Remedy	Traverse geometry axes as positioning axes only with rotation deactivated. Deactivate rotation: Vocabulary word ROT without further specification of axis and angle. Example: N100 ROT
Program continuation	Clear the alarm with NC START or the RESET key and continue the program.

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16440 Channel %1 block %2 rotation programmed for non-existent geometry axis

Explanation
%1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

A rotation of a geometry axis which does not exist was programmed.

Reactions
Alarm display
Interface signals are set
Correction block with reorganization.

Remedy
Change part program

Program continuation
Use NC START to clear the alarm and continue the program.

16500 Channel %1 block %2 chamfer or rounding negative

Explanation
%1 = Channel number
%2 = Block number, label

A negative chamfer or rounding has been programmed under the vocabulary words CHF= ..., RND=... .

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Values for chamfers, roundings and modal roundings must be programmed with positive values only.

Program continuation
Clear the alarm with the RESET key. Restart part program.

16510 Channel %1 block %2 no facing axis available

Explanation
%1 = Channel number
%2 = Block number, label

Diameter programming has been activated with the vocabulary word DIAMON although no facing axis has been programmed in this NC block.

If the diameter axis is not a geometry axis, in the initial setting "DIAMON" the alarm appears as soon as the control is switched on.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy
Please inform the authorized personnel/service department.
Activate the modal G function DIAMON only in NC blocks containing a facing axis or deactivate diameter program with DIAMOF.

In MD 20150 **GCODE_RESET_VALUES[28]**, select "DIAMOF" for the initial setting.

Program continuation
Clear the alarm with the RESET key. Restart part program.

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16700 Channel %1 block %2 axis %3 invalid feed type

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

In a thread cutting function, the feed has been programmed in a unit that is impermissible.

1. **G33 (thread with constant lead)** and the feed have not been programmed with G94 or G95.
2. **G33 (thread with constant lead)** is active (modal) and G63 is programmed additionally in a following block → conflict situation! (G63 is in the 2nd G group, G33, G331 and G332 are in the 1st G group).
3. **G331** or **G332 (rigid tapping)** and the feed have not been programmed with G94.

Reactions

Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy

Use only the feed type G94 or G95 in the thread cutting functions.

After G33 and before G63, deselect the thread cutting function with G01.

Program continuation

Clear the alarm with the RESET key. Restart part program.

16710 Channel %1 block %2 axis %3 master spindle not programmed

Explanation:

%1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

A master spindle function has been programmed (G33, G331, G95, G96) but the speed or the direction of rotation of the master spindle is missing.

Reactions

Alarm display
Interface signals are set
Interpreter stop
NC Start inhibit in this channel.

Remedy

Add S value or direction of rotation for the master spindle in the displayed block.

Program continuation

Clear the alarm with the RESET key. Restart part program.

16715 Channel %1 block %2 axis %3 spindle not in standstill

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Spindle number

In the applied function (G74, reference point approach), the spindle must be stationary.

Reactions

Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy

Program M5 or SPOS in front of the defective block in the part program.

Program continuation

Clear the alarm with the RESET key. Restart part program.

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16720 Channel %1 block %2 axis %3 thread lead is zero

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

No lead was programmed in a thread block with **G33** (thread with constant lead) or G331 (rigid tapping).

Reactions

Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy

The thread lead must be programmed for the specified geometry axis under the associated interpolation parameters.

X → **I**
Y → **J**
Z → **K**

Program continuation

Clear the alarm with the RESET key. Restart part program.

16730 Channel %1 block %2 axis %3 wrong parameters

Explanation

%1 = Channel number
%2 = Block number, label
%3 = Axis name, spindle number

In **G33** (tapping with constant lead) the lead parameter was not assigned to the axis that determines the velocity.

For longitudinal and face threads, the thread lead for the specified geometry axis must be programmed under the associated interpolation parameter.

X → **I**
Y → **J**
Z → **K**

For taper threads, the address **I, J, K** depends on the axis with the longer path (thread length). A 2nd lead for the other axis is, however, **not specified**.

Reactions

Alarm display
Interface signals are set
Interpreter stop
NC Start inhibited.

Remedy

Assign lead parameters to the axis that determines the velocity.

Program continuation

Clear the alarm with the RESET key. Restart part program.

16740 Channel %1 block %2 no geometry axis programmed

Explanation

%1 = Channel number
%2 = Block number, label

No geometry axis was programmed for tapping (G33) or for rigid tapping (G331, G332). The geometry axis is, however, essential if an interpolation parameter has been specified.

Example:

```
N100 G33 Z400 K2  ; Thread lead 2 mm, thread
  :                 end Z=400 mm
N200 SPOS=0       ; Transfer spindle to axis operation
N201 G90 G331 Z-50 K-2 ; Tapping at Z=-50, counter-clockwise rotation
N202 G332 Z5      ; Retraction, automatic direction reversal
N203 S500 M03     ;Spindle reverts to spindle operation
```

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Reactions	Alarm display Interface signals are set Interpreter stop NC Start inhibited.
Remedy	Specify geometry axis and corresponding interpolation parameters.
Program continuation	Clear the alarm with the RESET key. Restart part program.

16750 Channel %1 block %2 axis %3 SPCON not programmed

Explanation	%1 = Channel number %2 = Block number, label %3 = Axis name, spindle number For the programmed function (rotary axis, positioning axis), the spindle must be in position control mode.
Reactions	Alarm display Interface signals are set Correction block with reorganization.
Remedy	Program position control of the spindle with SPCON in the previous block.
Program continuation	Clear the alarm with NC START or continue the program.

16751 Channel %1 block %2 spindle/axis %3 SPCOF not executable

Explanation	%1 = channel number %2 = block number, label %3 = axis name, spindle number For the programmed function, the spindle must be in the open-loop control mode. In the positioning or axis mode, the position control must not be deselected.
Reactions	Alarm display Interface signals are set Interpreter stop NC Start disable.
Remedy	Put the spindle into open-loop control mode in the preceding block. This can be done with M3, M4 or M5 for the relevant spindle.
Program continuation	Clear the alarm with the RESET key. Restart part program.

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16755 Channel %1 block %2 no stop required

Explanation
%1 = channel number
%2 = block number, label

No Stop is needed for the programmed function. A Stop is necessary after SPOSA or after M5 if the next block is to be applied only after the spindle has come to a stop.

Reactions
Alarm display
Interface signals are set
Correction block with reorganization

Remedy
Do not write instruction.

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

16760 Channel %1 block %2 axis %3 S value missing

Explanation
%1 = channel number
%2 = block number, label
%3 = axis name, spindle number

No spindle speed has been given for rigid tapping (G331 or G332).

Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy
Program the spindle speed under address S in [rpm] (in spite of axis mode); the direction of rotation is indicated by the sign of the spindle lead.

Positive thread lead: Rotational direction as M03
Negative thread lead: Rotational direction as M04

Program continuation
Clear the alarm with the RESET key. Restart part program.

16762 Channel %1 block %2 spindle %3 thread function is active

Explanation
%1 = channel number
%2 = block number, label
%3 = spindle number

Programming error:
The spindle function cannot be executed at the moment.
This alarm occurs when the spindle is linked with the axes by an interpolation function.

Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy
Modify part program. Deselect thread cutting or tapping.

Program continuation
Clear the alarm with the RESET key. Restart part program.

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16763 Channel %1 block %2 axis %3 programmed speed is illegal (zero or negative)

Explanation
%1 = channel number
%2 = block number, label
%3 = axis name, spindle number

A spindle speed (S value) was programmed with the value zero or with a negative value.

Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy
The programmed spindle speed (S value) must be positive. Depending on the application case, the value zero can be accepted (e.g. G25 S0).

Program continuation
Clear the alarm with the RESET key.

16770 Channel %1 block %2 axis %3 no measuring system available

Explanation
%1 = channel number
%2 = block number, label
%3 = axis name, spindle number

A function has been programmed for an axis that requires a measuring system. According to MD 30 200 **NUM_ENCS**, this machine axis does not have a measuring system.

Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy
Remove the relevant function (e.g. SPOS) from the part program or enter an existing measuring system in MD 30 200 **NUM_ENCS**.

Program continuation
Clear the alarm with the RESET key. Restart part program.

16771 Channel %1 following axis %2 overlaid movement not enabled

Explanation
%1 = channel number
%2 = axis name, spindle number

No gear synchronization and no overlay movement can be executed because this is not enabled at the VDI interface.

Reaction
Alarm display

Remedy
Set the "Enable following axis overlay" VDI signal.

Program continuation
Alarm display disappears with alarm cause. No further operator action necessary.

16772 Channel %1 block %2 axis %3 is following axis, coupling opened

Explanation
%1 = channel number
%2 = block number, label
%3 = axis, spindle

The axis is active as a following axis in a coupling. The coupling is opened in REF mode. The alarm can be suppressed with machine data setting 11410 SUPPRESS_ALARM_MASK Bit29 = 1.

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Reaction	Alarm display
Remedy	The coupling is closed again when REF mode is ended.
Program continuation	Alarm display disappears with alarm cause. No further operator action necessary.

16777 Channel %1 block %2 coupling: Not available for leading axis %4 following axis %3

Explanation

%1 = channel number
%2 = block number, label
%3 = axis name, spindle number
%4 = axis name, spindle number

A coupling has been switched on in which the slave spindle/axis is currently not available. One possible cause:

- The spindle/axis has been under the control of the PLC and has not yet been released.

Reactions	NC stop on alarm. NC start inhibit in this channel. Alarm display. Interface signals are set.
Remedy	Please inform the authorized personnel/service department. Put the master spindle/axis with spindle/axis exchange into the necessary channel or release from the PLC.
Program continuation	Clear the alarm with the RESET key. Restart part program.

16778 Channel %1 block %2 coupling: Ring coupling for following axis %3 and leading axis %4 impermissible

Explanation:

%1 = channel number
%2 = block number, label
%3 = axis name, spindle number
%4 = axis name, spindle number

A coupling has been switched on which will create a ring coupling when other couplings are taken into account. This ring coupling cannot be uniquely computed.

Reactions	NC stop on alarm. NC start inhibit in this channel. Alarm display. Interface signals are set.
Remedy	Please inform the authorized personnel/service department. Configure the coupling accordingly in MD or correct the NC part program (channel MD: COUPLE_AXIS_n).
Program continuation	Clear the alarm with the RESET key. Restart part program.

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16786 Channel %1 block %2 a coupling to master spindle %3 already exists

Explanation

%1 = channel number
%2 = block number, label
%3 = master spindle number

An attempt has been made to activate a coupling with a slave spindle that is already configured in an active coupling with another master spindle. The number of master spindles is restricted to one with the synchronous spindle function. The existing active master spindle is displayed as the last alarm parameter.

Reactions

Correction block with reorganization.
Interface signals are set.
Alarm display.

Remedy

The existing coupling must be separated before the new coupling is activated. The ELG function must be used if a coupling with several master spindles / axes is required.

Program continuation

Clear the alarm with NC START or continue the program.

16800 Channel %1 block %2 traverse instruction DC/CDC for axis %3 not allowed

Explanation

%1 = channel number
%2 = block number, label
%3 = axis name, spindle number

The vocabulary word DC (Direct Coordinate) can only be used for rotary axes. This causes approach of the programmed absolute position along the shortest path.

Example:
N100 C=DC(315)

Reactions

Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy

Please inform the authorized personnel/service department.
In the displayed NC block, replace the vocabulary word DC by specifying **AC** (**A**bsolute **C**oordinate).

If the alarm display is the result of an error in the axis definition, the axis can be declared as a rotary axis by means of the axis-specific MD 30300 **IS_ROT_AX**.

Corresponding machine data:

MD 30310 **ROT_IS_MODULO**
MD 30320 **DISPLAY_IS_MODULO**

Program continuation

Clear the alarm with the RESET key. Restart part program.

16810 Channel %1 block %2 traverse instruction ACP for axis %3 not allowed

Explanation

%1 = channel number
%2 = block number, label
%3 = axis name, spindle number

The vocabulary word **ACP** (**A**bsolute **C**oordinate **P**ositive) is only allowed for "modulo axes". It causes approach of the programmed **absolute position** in the specified direction.

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Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy
Please inform the authorized personnel/service department.
In the displayed NC block, replace the vocabulary word ACP by specifying **AC** (**A**bsolute **C**oordinate).

If the alarm display is the result of an error in the axis definition, the axis can be declared as a rotary axis with modulo conversion by means of the axis-specific MD 30300 **IS_ROT_AX** and MD 30310 **ROT_IS_MODULO**.

Corresponding machine data:

MD 30 320 **DISPLAY_IS_MODULO**

Program continuation
Clear the alarm with the RESET key. Restart part program.

16820 Channel %1 block %2 traverse instruction ACN for axis %3 not allowed

Explanation
%1 = channel number
%2 = block number, label
%3 = axis name, spindle number

The vocabulary word **ACN** (**A**bsolute **C**oordinate **N**egative) is only allowed for "modulo axes". It causes approach of the programmed **absolute position** in the specified direction.

Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy
Please inform the authorized personnel/service department.
In the displayed NC block, replace the vocabulary word ACN by specifying **AC** (**A**bsolute **C**oordinate).

If the alarm display is the result of an error in the axis definition, the axis can be declared as a rotary axis with modulo conversion by means of the axis-specific MD 30300 **IS_ROT_AX** and MD 30310 **ROT_IS_MODULO**.

Corresponding machine data:

MD 30320 **DISPLAY_IS_MODULO**

Program continuation
Clear the alarm with the RESET key. Restart part program.

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16830 Channel %1 block %2 incorrect position programmed for axis/spindle %3

Explanation
%1 = channel number
%2 = block number, label
%3 = axis name, spindle number

A position outside the range of 0 - 359.999 was programmed for a modulo axis.

Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy
Program a position within the range from 0 - 359.999.

Program continuation
Clear the alarm with the RESET key. Restart part program.

16903 Channel %1 program control: Action %2 not allowed in the current state!

Explanation
%1 = channel number
%2 = action number/action name (see Section 1.5 Action List)

The relevant action cannot be processed now. This can occur, for example, when machine data are read in.

Reaction
Alarm display.

Remedy
Wait until the previous process is finished or abort with Reset and repeat the operation.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

16904 Channel %1 program control: action %2 not allowed in the current state

Explanation
%1 = channel number
%2 = action number/action name (see Section 1.5 Action List)

The operation (program, JOG, block search, reference point, etc.) cannot be started or continued in the current status.

Reaction
Alarm display

Remedy
Check the program status and channel status.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

16905 Channel %1 program control: action %2 not allowed

Explanation
%1 = channel number
%2 = action number/action name (see Section 1.5 Action List)

Operation cannot be started or continued. A start is only accepted when an NC function can be started.
Example: A start is accepted in JOG mode when, for example, the function generator is active or a JOG movement has first been stopped with the Stop key.

Reaction
Alarm display.

Remedy
Check the program and channel status.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

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16906 Channel %1 program control: action %2 is aborted due to an alarm

Explanation	%1 = channel number %2 = action number/action name (see Section 1.5 Action List) The action was aborted due to an alarm. Operation cannot be started or continued. A start is only accepted when an NC function can be started.
Reaction	Alarm display.
Remedy	Eliminate the error and acknowledge the alarm. Then repeat the operation.
Program continuation	Clear the alarm with the cancel key. No further operator action required.

16907 Channel %1 action %2 only possible in stop state

Explanation	%1 = channel number %2 = action number/action name (see Section 1.5 Action List) This action may only be performed in Stop state.
Reaction	Alarm display.
Remedy	Check the program and channel status.
Program continuation	Clear the alarm with the cancel key. No further operator action required.

16908 Channel %1 action %2 is possible only in the Reset state or at block end

Explanation	%1 = channel number %2 = action number/action name (see Section 1.5 Action List) The action %2 may only be performed in Reset state or at end of block.
Reaction	Alarm display.
Remedy	Check the program and channel status.
Program continuation	Clear the alarm with the cancel key. No further operator action required.

16909 Channel %1 action %2 not allowed in current mode

Explanation	%1 = channel number %2 = action number/action name (see Section 1.5 Action List) You have to activate a different operating mode for the activated function.
Reaction	Alarm display.
Remedy	Check operation and operating state.
Program continuation	Clear the alarm with the cancel key. No further operator action required.

16911 Channel %1 mode change not allowed

Explanation	%1 = channel number The change from overstoring into another operating mode is not allowed.
Reaction	Alarm display.
Remedy	Once overstoring has been terminated, it is possible to change to another operating state again.
Program continuation	Clear the alarm with the cancel key. No further operator action required.

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16912

Channel %1 program control: Action %2 possible only in Reset state

Explanation

%1 = channel number
%2 = action number/action name (see Section 1.5 Action List)

The action can be performed only in the Reset state.
Example: Program selection through HMI or channel communication (INIT) can only be performed in Reset state.

Reaction

Alarm display.

Remedy

Reset or wait until processing is terminated.

Program continuation

Clear the alarm with the cancel key. No further operator action required.

16913

Mode group %1 channel %2 mode change: action %3 not allowed

Explanation

%1 = channel number
%2 = mode group number
%3 = action number/action name (see Section 1.5 Action List)

The change to the desired mode is not permitted. The change can only take place in the Reset state.

Example:
Program processing is halted in AUTO mode by NC Stop. Then there is a mode change to JOG mode (program status interrupted). From this operating mode it is only possible to change to AUTO mode and not to MDA mode!

Reaction

Alarm display.

Remedy

Either activate the RESET key to reset program processing, or select the mode in which the program was being processed previously.

Program continuation

Clear the alarm with the cancel key. No further operator action required.

16914

Mode group %1 channel %2 mode change: action %3 not allowed

Explanation

%1 = channel number
%2 = mode group number
%3 = action number/action name (see Section 1.5 Action List)

Incorrect mode change, e.g.: AUTO → MDAREF

Reaction

Alarm display.

Remedy

Check operation or selected operating mode.

Program continuation

Clear the alarm with the cancel key. No further operator action required.

16915

Channel %1 action %2 not allowed in the current block

Explanation

%1 = channel number
%2 = action number/action name (see Section 1.5 Action List)

If traversing blocks are interrupted by asynchronous subroutines, then it must be possible for the interrupted program to continue (reorganization of block processing) after termination of the asynchronous subroutine.
The 2nd parameter describes which action wanted to interrupt block processing.

Reaction

Alarm display.

Remedy

Let the program continue to a reorganized NC block or modify part program.

Program continuation

Clear the alarm with the cancel key. No further operator action required.

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16916 Channel %1 repositioning: action %2 not possible in the current state

Explanation
%1 = channel number
%2 = action number/action name (see Section 1.5 Action List)

Block processing cannot be repositioned at the moment. It is also not possible to switch operating modes.
The 2nd parameter describes which action should be used to reposition the block processing.

Reaction: Alarm display.

Remedy: Let the program continue to a repositionable NC block or modify part program.

Program continuation: Clear the alarm with the cancel key. No further operator action required.

16919 Channel %1 action %2 is not allowed when an alarm is active

Explanation
%1 = channel number
%2 = action number/action name (see Section 1.5 Action List)

This action cannot be performed due to an alarm, or the channel is in an error state.

Reaction: Alarm display.

Remedy: Press the RESET key.

Program continuation: Clear the alarm with the cancel key. No further operator action required.

16920 Channel %1 action %2 is already active

Explanation
%1 = channel number
%2 = action number/action name (see Section 1.5 Action List)

An identical action is still in progress.

Reaction: Alarm display.

Remedy: Wait until the previous action is finished and then repeat the operation.

Program continuation: Clear the alarm with the cancel key. No further operator action required.

16922 Channel %1 subprograms: action %2 maximum nesting depth exceeded

Explanation
%1 = channel number
%2 = action number/action name (see Section 1.5 Action List)

Various actions can cause an interruption in the current processing operation. Depending on the action, internal routines are activated. These programs can be interrupted in the same manner as the NC program. Unlimited nesting depth is not possible for internal routines due to memory limitations.

Example:
An interrupt interrupts the current program run. Other interrupts with higher priorities interrupt the previously active internal program runs.
Examples of actions are dry run, decoding single block, delete distance to go, etc.

Reactions: Alarm display.
Interface signals are set.
NC Start inhibit.
NC Stop on alarm.

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Remedy
Press the RESET key.

As a first step, check the program nesting depth and reduce or eliminate interruption.

Example:
The approach block in a repositioning process should not be interrupted repeatedly.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

16923

Channel %1 program control: action %2 not allowed in the current state

Explanation
%1 = channel number
%2 = action number/action name (see Section 1.5 Action List)

The current processing run cannot be stopped because a preprocessing run is active.

This applies to, for example, loading machine data and block searches until the search object is found.

Reactions
Alarm display.
Interface signals are set.

Remedy
Abort by pressing RESET!

Program continuation
Clear the alarm with the cancel key. No further operator action required.

16924

Channel %1 caution: Program test changes tool management data

Explanation
%1 = channel number

Tool management data are changed during program testing. The data cannot be correctly automatically when the program test is complete.

This error message prompts the user to make a backup copy of the data or to reimport the data after the operation is terminated.

Reaction
Alarm display.

Remedy
Please inform the authorized personnel/service department.
Save tool data to HMI and reimport data after "ProgtestOff".

Program continuation
Clear the alarm with the cancel key. No further operator action required.

16925

Channel %1 program control: action %2 not allowed in the current state

Explanation
%1 = channel number
%2 = action number/action name (see Section 1.5 Action List)

The action has been refused since a mode or sub-mode change (change to automatic mode, MDA, JOG) is currently in progress.

Example:
This alarm message is displayed if the Start key is pressed while a mode or submode changeover (e.g. from AUTOMATIC to MDA) is in progress and the NC has not yet confirmed the mode selection.

Reaction
Alarm display.

Remedy
Repeat action.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

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16927 Channel %1 action %2 not allowed with active interrupt processing

Explanation
%1 = channel number
%2 = action number/action name (see Section 1.5 Action List)

This action may not be activated during interrupt processing (e.g. mode change).

Reaction
Alarm display.

Remedy
Reset or wait until interrupt processing is terminated.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

16928 Channel %1 interrupt processing: Action %2<ALNX> not possible

Explanation
%1 = channel ID
%2 = action number/action name (see Section 1.5 Action List)

A program interrupt has been activated in a non REORG capable block.

Examples of possible program interrupts in this case:
- Travel to fixed stop
- VDI channel delete distance to go
- VDI axial delete distance to go
- Measuring
- Software limit
- Axis replacement
- Axis is exited follow-up mode
- Servo disable
- Gear stage change with actual GS does not match setpoint GS

The relevant block is a:
a collection block for block search (except for last collection block) the Overstore Off block.

Reactions
Alarm display.
Interface signals are set.
NC Start inhibit.
NC Stop on alarm.

Remedy
Do not trigger the event on this block.

Program continuation

16930 Channel %1: Preceding and current block %2 must be separated by an executable block

Explanation
%1 = channel number
%2 = block number

The language function MSG must be packed into separate NC blocks. In order to prevent dips in velocity, these blocks are appended to the following NC block by an internal NC function (with WAITMC to the preceding NC block). For this reason, there must always be an executable block (not a calculation block) between the NC blocks.
An executable NC block always includes e.g. travel movements, an auxiliary function, Stopre, dwell time, etc.

Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
Correction block with reorganization.

Remedy
Program an executable NC block between the previous and the current NC block.

Program continuation
Clear the alarm with NC Start. Restart part program.

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16931 Channel %1 subprograms: action %2 maximum nesting depth exceeded

Explanation

%1 = channel number
%2 = action number/action name (see Section 1.5 Action List)

Various actions can cause an interruption in the current processing operation. Depending on the action, internal routines are activated. These can be interrupted in the same manner as the user program. Unlimited nesting depth is not possible for internal routines due to memory limitations.

Example:
In the case of an approach block in a repositioning procedure, do not interrupt repeatedly, instead wait until processing is completed.
Examples of actions are mode change, Slash On/Off

Reaction: Alarm display.

Remedy: Initiate a block change and repeat the action.

Program continuation: Clear the alarm with the cancel key. No further operator action required.

16932 Channel %1 conflict when activating user data type %2

Explanation

%1 = channel number
%2 = data type

The "activate user data" function (PI service _N_SETUDT) modifies a data block (tool offset, settable work offset or base frame) which is also written by the part program blocks in preparation.

In the event of a conflict, the value entered by the MMC is reset.

Parameter %2 specifies which data block is affected:

1: Active tool offset

2: Base frame

3: Active work offset

Reaction: Alarm display

Remedy: Check the inputs on the MMC and repeat if necessary.

Program continuation: Clear the alarm with the cancel key. No further operator action required.

16933 Channel %1 interrupt processing: action %2<ALNX> not allowed in the current state

Explanation

%1 = channel ID
%2 = action number/action name

If a temporary standstill has occurred because of a Reorg event across block boundaries, it is possible that a block without Reorg capability has been loaded. In this situation, it is unfortunately necessary to abort the Reorg event handling! Reorg events are, e.g. abort subprogram, delete distance-to-go and interrupts.

Reactions: Alarm display.
Interface signals are set.
NC start inhibit in this channel.
NC stop on alarm.

Remedy: Abort program with Reset.

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

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16934 Channel %1 interrupt processing: Action %2<ALNX> not possible due to stop

Explanation
%1 = channel ID
%2 = action number/action name (see Section 1.5 Action List)

Reorg events are, e.g. abort subprogram, delete distance-to-go and interrupts, axis replacement, exit follow-up state.

Two Reorg events overlap in this situation. In this case, the 2nd Reorg event affects the 1st block that has been generated by the preceding event, (e.g. axis replacement is forced twice in quick succession). Axis replacement leads to Reorg in the channels from which an axis is removed without preparation.

This block must be stopped in the above sequence in order to prevent the interpolator buffer from overflowing. This can be achieved by pressing the Stop or StopAll key, configuring an alarm with interpreter stop or by decode single block.

Reactions
Alarm display.
Interface signals are set.
NC Start inhibit.
NC Stop on alarm.

Remedy
Abort program with Reset.

Program continuation

16936 Channel %1 action %2<ALNX> not possible due to active dry run feedrate

Explanation
%1 = channel ID
%2 = action number/action name

This action is not allowed as dry run feedrate is currently active.

Reaction
Alarm display.

Remedy
Abort program with Reset.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

16937 Channel %1 action %2<ALNX> not possible due to program test

Explanation
%1 = channel ID
%2 = action number/action name

This action is not allowed as program test is currently active.

Reaction
Alarm display.

Remedy
Deactivate program test.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

16938 Channel %1 action %2<ALNX> aborted due to active gear change

Explanation
%1 = channel ID
%2 = action number/action name (see Section 1.5 Action List)

Typical examples of Reorg events are abort subprogram, delete distance-to-go and exit from follow-up state.

These events wait for the end of a gear change. However, the maximum waiting period has elapsed.

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Reactions	Alarm display. Interface signals are set. NC Start inhibit. NC stop on alarm.
Remedy	Abort program with Reset.
Program continuation	Clear the alarm with the RESET key.

16939

Channel %1 action %2<ALNX> rejected due to active gear change

Explanation	%1 = channel ID %2 = action number/action name (see Section 1.5 Action List) Reorganization events that are possible in Stop state, e.g. mode change, wait for the end of the gear change. However, the maximum waiting period has elapsed.
Reactions	Alarm display. Interface signals are set.
Remedy	Repeat action.
Program continuation	Clear the alarm with the RESET key.

16940

Channel %1 action %2<ALNX> wait for gear change

Explanation	%1 = channel ID %2 = action number/action name (see Section 1.5 Action List) Reorganization events wait for the end of a gear change. The alarm is displayed during the waiting period.
Reactions	Alarm display. Warning display.
Remedy	This is a self-clearing message.
Program continuation	Alarm display disappears with alarm cause. No further operator action required.

16941

Channel %1 action %2ALNX rejected because no program event has been executed yet

Explanation	%1 = channel ID %2 = action number/action name The setting of the machine data 20108 **PROG_EVENT_MASK** forces an asynchronous subprogram to be triggered automatically on RESET or Power On. The implicitly triggered asynchronous subprograms are normally called "Event-triggered program call" or "Program event". In the alarm situation, this asynchronous subprogram could not yet be activated; that is why the action (normally start of part program) must be rejected. Reasons for the fact that the asynchronous subprogram could not be triggered: 1. The asynchronous subprogram does not exist (/ N CMA DIR/ _N_PROG_EVENT_SPF) 2. No READY signal (due to alarm)
Reaction	Alarm display
Remedy	• Load program • Check MD 11602 **ASUP_START_MASK**. • Acknowledge the alarm.
Program continuation	Clear the alarm with the cancel key. No further operator action required.

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16944 Channel %1 action %2<ALNX> not possible due to active search blocks

Explanation
%1 = channel ID
%2 = action number/action name

The NCK is currently processing either the action blocks of the search run or the approach motion after the search run. In this situation, the action (2nd parameter of the alarm) must be rejected. Currently, only the integrated search run is rejected with this alarm. The integrated search run is activated if search run is triggered in the Stop program state. In other words: Parts of a program have already been executed and a following program part is "skipped" with search run in order to continue the program afterwards.

Reaction
Alarm display.

Remedy
Repeat the action after the approach motion of the search run.

Program continuation
Clear the alarm with the Cancel key or with NC START.

16945 Channel %1 action %2<ALNX> delayed until block end

Explanation
%1 = channel ID
%2 = action number/action name

The currently executing action (e.g. dry run on/off, change skip levels, etc.) should be active immediately, but it cannot become active until the end of the block, since a thread is currently being machined. The action is activated with a slight delay. Example: Dry run is started in the middle of the thread, then traversal at high speed does not start before the next block.

Reaction:
Alarm display.

Remedy
Alarm can be switched off via MD 11410 **SUPPRESS_ALARM_MASK** Bit17==1.

Program continuation
Clear the alarm with the Cancel key or with NC START.

16950 Channel %1 search run with hold block

Explanation
%1 = channel ID

Info alarm

The block search was not performed on the interruption block, but stopped shortly beforehand on another block. This so-called "hold block" is generated by part program command IPTRLOCK, or defined implicitly in MD 22680 AUTO_IPTR_LOCK. The purpose of this function to prevent block searches from taking place in critical program areas (e.g. during hobbing operations). The alarm therefore indicates that the search has stopped on another block rather than on the interrupted block. This behavior is desired and the alarm serves only informational purposes.

Reaction
Alarm display.

Remedy
MD 11410 **SUPPRESS_ALARM_MASK** MD 22680 **AUTO_IPTR_LOCK** and NC command IPTRLOCK

Program continuation
Clear the alarm with the Cancel key or with NC START.

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16951 Channel %1 search run in a search-suppressed program section

Explanation

%1 = channel ID

The part programmer can use NC commands IPTRLOCK and IPTRUNLOCK to identify a program section as "search-suppressed". Any search attempted in this program section is acknowledged with alarm 16951. In other words: Activation of this alarm indicates that the operator has started a search (type Serupro) for a search target located in a program area that must not be searched! This kind of program area can also be defined implicitly with machine data 22680 **AUTO_IPTR_LOCK**.

Note:

The alarm cannot be generated until the simulation during the block search is finished. The alarm cannot be displayed immediately a block search is started.

Reactions

NC start inhibit in this channel
NC stop on alarm
Alarm display
Interface signals are set
Alarm display

Remedy

MD 11410 **SUPPRESS_ALARM_MASK,** MD 22680 **AUTO_IPTR_LOCK** and NC command IPTRLOCK

Program continuation

Clear the alarm with the RESET key. Restart part program.

16952 Channel %1 start program command not possible due to MDA

Explanation

%1 = channel ID

The NCK is currently processing an ASUB in MDA mode. In this state, it is not legal to issue a "Start" program command for another channel. Notice! If an asynchronous subprogram is started from JOG, the NCK can switch internally to MDA if it was previously in this mode and has not been RESET. Note: Without this alarm, the MDA buffer of the other channel would always be started.

Reactions

Alarm display
Interface signals are set
NC stop on alarm
NC start inhibit in this channel

Remedy

Start asynchronous subroutine in AUTO or AUTO->JOG

Program continuation

Clear the alarm with the RESET key. Restart part program.

16954 Channel %1 block %2 programmed stop illegal in stop-delay area

Explanation

%1 = channel ID
%2 = block number, label

A program command which causes a stop has been used in a program area (stop-delay area) which is parenthesized by DELAYFSTON and DELAYFSTOF. Except for G4, no commands which cause even a brief stop may be used in such areas. A stop-delay area can also be defined via MD 11550 **STOP_MODE_MASK**.

Reactions

NC stop on alarm
NC start inhibit in this channel
Alarm display
Interface signals are set
Interpreter stop

Remedy

MD 11550 **STOP_MODE_MASK** and NC command DELAYFSTON DELAYFSTOF

Program continuation

Clear the alarm with the RESET key. Restart part program.

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16955 Channel %1 stop delayed in stop-delay area

Explanation
%1 = channel ID

An event which causes a stop has been detected in a program area (stop-delay area) which is parenthesized by DELAYFSTON and DELAYFSTOF. The stop is delayed and executed after DELAYFSTOF. A stop-delay area can also be defined via MD 11550 **STOP_MODE_MASK**.

Reactions
Alarm display.
Interface signals are set.

Remedy
MD 11550 **STOP_MODE_MASK** and NC command DELAYFSTON DELAYFSTOF

Program continuation
Alarm display disappears with alarm cause. No further operator action necessary.

17000 Channel %1 block %2 maximum number of symbols exceeded

Explanation
%1 = channel number
%2 = block number, label

The maximum number of symbols defined by machine data 28020 **MM_NUM_LUD_NAMES_TOTAL** has been exceeded.

Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
NC start inhibit in this channel.

Remedy
Please inform the authorized personnel/service department.

• Edit machine data

• Reduce the number of symbols (variables, subroutines, parameters)

Program continuation
Clear the alarm with the RESET key. Restart part program.

17001 Channel %1 block %2 no memory left for tool/magazine data

Explanation
%1 = channel number
%2 = block number, label

The quantity of tool data in the NC is limited.

Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy
Delete any unnecessary tools.

Program continuation
Clear the alarm with the RESET key. Restart part program.

17010 Channel %1 block %2 no memory left

Explanation
%1 = channel number
%2 = block number, label

When executing/reading files from the active working memory, it was found that there is not enough memory space (e.g. when creating tool offset memory).

Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

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Remedy Make more memory available to the data management system for subroutine calls and tool offsets

Program continuation Clear the alarm with the RESET key. Restart part program.

17020 Channel %1 block %2 illegal array index 1

Explanation %1 = channel number
%2 = block number, label

A read or write access has been programmed to an array variable (e.g. arithmetic parameter) with invalid 1st array index.

e.g. R2000 = 5; parameter number 2000 not defined

Reactions Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy Correct the specification of array elements in the access instruction to match the defined size.

Program continuation Clear the alarm with the RESET key. Restart part program.

17030 Channel %1 block %2 illegal array index 2

Explanation %1 = channel number
%2 = block number, label

A read or write access has been programmed to an array variable with invalid 2nd array index. The valid array indices must be contained within the defined array size and the absolute limits (0 - 32 766).

Reactions Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy Correct the specification of array elements in the access instruction to match the defined size.

Program continuation Clear the alarm with the RESET key. Restart part program.

17040 Channel %1 block %2 illegal axis index

Explanation %1 = channel number
%2 = block number, label

A read or write access has been programmed to an axial variable in which the axis name cannot be unambiguously imaged on a machine axis.

Reactions Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy Use the machine axis name as the axis index.

Program continuation Clear the alarm with the RESET key. Restart part program.

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17050 Channel %1 block %2 illegal value

Explanation

%1 = channel number
%2 = block number, label

A frame component other than TRANS, ROT, SCALE or MIRROR was addressed when an individual frame element was accessed.

Frame components are selected either by the vocabulary words

TR for offset (TRANS, internal 0)
RT for rotation (ROT, internal 1)
SC for scaling (SCALE, internal 3) and
MI for mirroring (MIRROR, internal 4)

or they are specified directly as an integral value 0, 1, 3, 4.

Example:
Access to the rotation around the X axis of the current settable frame.

R10=$P_UIFR[2, X, RT] can also be programmed as:
R10=$P_UIFR[2, X, 1]

Reactions

Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy

Address frame components only with the vocabulary words provided; program the scale factor between the limits of 0.000 01 to 999.999 99.

Program continuation

17060 Channel %1 block %2 requested data area too large

Explanation

%1 = channel number
%2 = block number, label

The maximum memory space allocated for one symbol has been exceeded.

Reactions

Alarm display.
Interface signals are set.
Correction block with reorganization.

Remedy

Reduce array dimensions.

Program continuation

Clear the alarm with NC START or the RESET key and continue the program.

17070 Channel %1 block %2 data is write-protected

Explanation

%1 = channel number
%2 = block number, label

An attempt has been made to write a protected variable or MD for which the user has no access authorization.

Reactions

Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy

Remove write access operations to protected variable from the NC program or machine data file.

Program continuation

Clear the alarm with the RESET key. Restart part program.

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17080 Channel %1 block %2 value below lower limit

Explanation
%1 = channel number
%2 = block number, label

An attempt was made to write an MD with a value that is smaller than the defined lower limit.

Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy
Please inform the authorized personnel/service department.
Determine the input limits of the MD and assign a value within these limits.

Program continuation
Clear the alarm with the RESET key. Restart part program.

17090 Channel %1 block %2 value exceeds upper limit

Explanation
%1 = channel number
%2 = block number, label

An attempt was made to write an MD with a value that is higher than the defined upper limit.

Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy
Please inform the authorized personnel/service department.
Determine the input limits of the MD and assign a value within these limits.

Program continuation
Clear the alarm with the RESET key. Restart part program.

17095 Channel %1 block %2 invalid value

Explanation
%1 = channel number
%2 = block number, label

An attempt was made to write an invalid value, e.g. zero, into a machine data.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.

Remedy
Correct the value assignment, e.g. a value within the value range not equal to zero.

Program continuation

17100 Channel %1 block %2 digital input/comparator no. %3 not activated

Explanation
%1 = channel number
%2 = block number, label
%3 = no. of input

Either an attempt was made to read a digital input n via the system variable $A_IN[n] and this input has not been activated via NCK machine data 10350 FASTIO_DIG_NUM_INPUTS; or to read a comparator input via system variable $A_INCO[n] and this input belongs to a comparator which has not been activated.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.

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Remedy Please inform the authorized personnel/service department. Modify part program or machine data accordingly.

Program continuation Clear the alarm with NC START or the RESET key and continue the program.

17110 Channel %1 block %2 digital output no. %3 not activated

Explanation %1 = channel number
%2 = block number, label
%3 = no. of output

An attempt was made to read or set a digital NCK output via the system variable $A_OUT [n] with the index [n] greater than the specified upper limit in the NCK machine data 10360 **FASTIO_DIG_NUM_OUTPUTS**.

Reactions Alarm display.
Interface signals are set.
Correction block with reorganization.

Remedy Program index [n] of the system variable $A_OUT [n] only between 0 and the value in the NCK machine data 10350 **FASTIO_DIG_NUM_OUTPUTS**.

Program continuation Clear the alarm with NC START or the RESET key and continue the program.

17120 Channel %1 block %2 analog input no. %3 not activated

Explanation %1 = channel number
%2 = block number, label
%3 = no. of input

An attempt has been made by means of the system variable $A_INA[n] to read an analog input n that has not been activated by the MD 10300 FASTIO_ANA_NUM_INPUTS.

Reactions Alarm display.
Interface signals are set.
Correction block with reorganization.

Remedy Please inform the authorized personnel/service department. Modify part program or machine data accordingly.

Program continuation Clear the alarm with NC START or the RESET key and continue the program.

17130 Channel %1 block %2 analog output no. %3 not activated

Explanation %1 = channel number
%2 = block number, label
%3 = no. of output

An attempt has been made by means of the system variable $A_OUTA[n] to write or read an analog output n that has not been activated by the MD 10310 FASTIO_ANA_NUM_OUTPUTS.

Reactions Alarm display.
Interface signals are set.
Correction block with reorganization.

Remedy Please inform the authorized personnel/service department. Modify part program or machine data accordingly.

Program continuation Clear the alarm with NC START or the RESET key and continue the program.

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17140 Channel %1 block %2 NCK output %3 is assigned to a function via machine data

Explanation
%1 = channel number
%2 = block number, label
%3 = no. of output

The programmed digital/analog output is assigned to an NC function (e.g. software cams).

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.

Remedy
Please inform the authorized personnel/service department. Use another output or deactivate concurrent NC function via MD.

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

17150 Channel %1 block %2 maximum of %3 NCK outputs programmable in the block

Explanation
%1 = channel number
%2 = block number, label
%3 = number

No more than the specified number of outputs may be programmed in an NC block.

The quantity of hardware outputs is defined in the MD:

10360 FASTIO_DIG_NUM_OUTPUTS and
10310 FASTIO_ANA_NUM_OUTPUTS

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.

Remedy
Program fewer digital/analog outputs in one block. The specified maximum number applies in each case separately for analog or digital outputs. If necessary, program two NC blocks.

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

17160 Channel %1 block %2 no tool selected

Explanation
%1 = channel number
%2 = block number, label

An attempt has been made to access the current tool offset data although no tool was selected beforehand.

Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy
Program or activate a tool offset in the NC part program.

Example:
N100 G.. ... T5 D1 ... LF

Program continuation
Clear the alarm with the RESET key. Restart part program.

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17170 Channel %1 block %2 number of symbols too large

Explanation
%1 = channel number
%2 = block number, label

The predefined symbols could not be read in during power-up.

Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
NC start inhibit in this channel.

Remedy
- SYSTEM ERROR – Please inform the authorized personnel/service department.

Program continuation

17180 Channel %1 block %2 illegal D number

Explanation
%1 = channel number
%2 = block number, label

In the displayed block, access is made to a D number (tool edge number) that is not initialized and therefore is not available.

Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy
Check tool call in the NC part program:

- Correct tool edge number D.. programmed?
  If no tool edge number is specified, then D1 is automatically active.
- All tool parameters defined?
  The dimensions of the tool edge must have been entered previously either on the operator panel or via the RS-232-C interface.

Program continuation
Clear the alarm with the RESET key. Restart part program.

17181 Channel %1 block %2 T no.= %3, D no.= %4 does not exist

Explanation
%1 = channel number
%2 = block number, label

A programmed D number was not recognized by the NC. By default, the D number refers to the specified T number. If the flat D number function is active, T= 1 is output.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.

Remedy
If the program is incorrect, remedy the error with a correction block and continue the program.

If the data block is missing, download a data block for the specified T/D values onto the NCK (via HMI with overstore) and continue the program.

Program continuation
Clear the alarm with NC START and continue the program.

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17188 Channel %1 D number %2 defined in tool T no. %3 and %4

Explanation

%1 = channel number
%2 = offset number D
%3 = T number of first tool
%4 = T number of second tool

The specified D number %2 in the tool list of channel %1 is not unique.

The specified T numbers %3 and %4 each have an offset with number %2.

Reactions

Alarm display.
Interface signals are set.

Remedy

1. Ensure that the D numbers within the TO unit are unique.
2. If unique numbering is not necessary for subsequent operations, do not use the command.

Program continuation

Alarm display disappears with alarm cause. No further operator action required.

17190 Channel %1 block %2 illegal T number

Explanation

%1 = channel number
%2 = block number, label

In the displayed block, access is made to a T number (tool number) that is not initialized and therefore not available.

Reactions

Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy

Check tool call in the NC part program:

- Correct tool number T... programmed?
- Tool parameters P1 - P25 defined?
  The dimensions of the tool edge must have been entered previously either on the operator panel or via the RS-232-C.

Program continuation

Clear the alarm with the RESET key. Restart part program.

17191 Channel %1 block %2 T= %3 does not exist, program %4

Explanation

%1 = channel number
%2 = block number, label
%3 = T number or T identifier
%4 = program name

A tool identifier which the NC does not recognize was programmed.

Reactions

Alarm display
Interface signals are set
Correction block with reorganization

Remedy

If the program pointer is at an NC block which contains the specified T identifier:
If the program is incorrect, remedy the error with a correction block and continue the program.
If the data block is missing, create one. You can do this by downloading a data block with all the defined D numbers onto the NC (via MMC) and then continue the program.

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If the program pointer is at an NC block which does not contain the specified T identifier:
The error occurred at an earlier point in the program where the T command appeared, but the alarm was not output until the change command was detected.
If the program is incorrect - T5 programmed instead of T55 - the current block can be corrected with a correction block; i.e. if only M06 is entered, you can correct the block with T55 M06. The incorrect T5 line remains in the program until it is terminated by a RESET or end of program.

Program continuation: Clear the alarm with NC START and continue the program.

17194 Channel %1 block %2 no suitable tool found

Explanation: %1 = channel number
%2 = block number, label

- An attempt was made to access a tool which has not been defined.
- The specified tool does not permit access.
- A tool with the desired properties is not available.

Reactions: Alarm display
Correction block with reorganization
Interface signals are set.

Remedy: Check access to tool:

- Are the parameters of the NC command correctly programmed?
- Does the status of the tool prevent access?

Program continuation: Clear the alarm with NC START and continue the program.

17200 Channel %1 block %2 tool cannot be deleted

Explanation: %1 = channel number
%2 = block number, label

An attempt has been made to delete from the part program the tool data for a tool currently involved in a machining operation. Tool data for tools involved in the current machining operation may not be deleted.

Reactions: Alarm display
Interface signals are set
Interpreter stop
NC Start disable

Remedy: Deselect tool

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

17210 Channel %1 block %2 access to variable not possible

Explanation: %1 = channel number
%2 = block number, label

The variable cannot be written/read directly from the part program.

Reactions: Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy: Modify part program.

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

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17220 Channel %1 block %2 tool does not exist

Explanation
%1 = channel number
%2 = block number, label

If an attempt is made to access a tool which has not (yet) been defined using a T number.

Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy
Correct the NC program.

Program continuation
Clear the alarm with the RESET key. Restart part program.

17270 Channel %1 block %2 call-by-reference: Illegal variable

Explanation
%1 = channel number
%2 = block number, label

Machine data and system variables must not be transferred as call-by-reference parameters.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.

Remedy
Correct the NC program: Assign the value of the machine data or system variable to a program-local variable and transfer this as parameter.

Program continuation
Clear the alarm with NC START or continue the program.

17500 Channel %1 block %2 axis %3 is not an indexing axis

Explanation
%1 = channel number
%2 = block number, label
%3 = axis name, spindle number

An indexing axis position has been programmed for an axis with vocabulary words CIC, CAC or CDC that has not been defined as an indexing axis in the machine data.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.

Remedy
Please inform the authorized personnel/service department. Remove programming instruction for indexing axis positions (CIC, CAC, CDC) from the NC part program or declare the relevant axis to be an indexing axis.

Indexing axis declaration:

MD 30500: INDEX_AX_ASSIGN_POS_TAB (indexing axis assignment)

The axis will become an indexing axis when an assignment to an indexing position table was made in the stated MD. Two tables are possible (input value 1 or 2).

MD 10900: INDEX_AX_LENGTH_POS_TAB_1
MD 10920: INDEX_AX_LENGTH_POS_TAB_2 (number of positions for 1^{st}/2^{nd} indexing axis)

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Default: 0 Maximum value: 60

MD 10910: INDEX_AX_POS_TAB_1 [n]
MD 10930: INDEX_AX_POS_TAB_2 [n]

(positions of the 1st indexing axis) The absolute axis positions are entered. (The list length is defined via MD 10900).

Program continuation: Clear the alarm with NC START or the RESET key and continue the program.

17600 Channel %1 block %2 preset on transformed axis %3 not possible

Explanation: %1 = channel number
%2 = block number, label
%3 = axis name, spindle number

The programmed preset axis is involved in the current transformation. This means that is it not possible to set the actual value memory (preset) for this axis.

Example:

Machine axis A must be set to the new actual value A 100 at the absolute position A 300.

Example:

N100 G90 G00 A=300
N101 PRESETON A=100

Reactions: Alarm display.
Interface signals are set.
Correction block with reorganization.

Remedy: Avoid preset actual value memory for axes which are participating in a transformation or deselect the transformation with vocabulary word TRAFOOF.

Program continuation: Clear the alarm with NC START or the RESET key and continue the program.

17610 Channel %1 block %2 positioning axis %3 cannot participate in transformation

Explanation: %1 = channel number
%2 = block number, label
%3 = axis name, spindle number

The axis addressed by vocabulary word POS or POSA is involved in the active transformation. Therefore, it cannot traverse as a positioning axis.

Reactions: Alarm display.
Interface signals are set.
Correction block with reorganization.

Remedy: Remove POS or POSA instruction from the part program block or deselect transformation with TRAFOOF beforehand.

Program continuation: Clear the alarm with NC START or continue the program.

17620 Channel %1 block %2 approach to fixed point for transformed axis %3 not possible

Explanation: %1 = channel number
%2 = block number, label
%3 = axis name, spindle number

In the displayed block, an axis is programmed for the fixed point approach (G75) that is involved in the active transformation. Fixed point approach is not performed with this axis!

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Reactions: Alarm display.
Interface signals are set.
Correction block with reorganization.

Remedy: Remove G75 instruction from the part program block or deselect transformation with TRAFOOF beforehand.

Program continuation: Clear the alarm with NC START or continue the program.

17630 Channel %1 block %2 referencing for transformed axis %3 not possible

Explanation: %1 = channel number
%2 = block number, label
%3 = axis name, spindle number

In the displayed block, an axis is programmed for reference point approach (G74) that is involved in the active transformation. Reference point approach is not performed with this axis!

Reactions: Alarm display.
Interface signals are set.
Correction block with reorganization.

Remedy: Remove G74 instruction, or the machine axes involved in transformation, from the part program block or deselect the transformation with TRAFOOF beforehand.

Program continuation: Clear the alarm with NC START or continue the program.

17640 Channel %1 block %2 spindle mode for transformed axis %3 not possible

Explanation: %1 = channel number
%2 = block number, label
%3 = axis name, spindle number

The axis programmed for the spindle operation is involved in the current transformation as geometry axis. This is illegal.

Reactions: Alarm display.
Interface signals are set.
Interpreter stop.
NC Start disable.

Remedy: First switch off the transformation function.

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

17650 Channel %1 block %2 machine axis %3 not programmable

Explanation: %1 = channel number
%2 = block number, label
%3 = axis name, spindle number

The machine axis cannot be used when a transformation is active. It might be possible to program the function in a different coordinate system. The axis identifier is used to select the coordinate system.

Reactions: Alarm display.
Interface signals are set.
Correction block with reorganization.

Remedy: Deactivate the transformation or use another coordinate system.

Program continuation: Clear the alarm with NC START or continue the program.

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17800 Channel %1 block %2 illegally coded position programmed

Explanation

%1 = channel number
%2 = block number, label

The position number n specified with the vocabulary word FP=n is not permissible. Two absolute axis positions can be defined as fixed points via the axis-specific MD30 600 FIX_POINT_POS [n].

Reactions

Alarm display.
Interface signals are set.
Correction block with reorganization.

Remedy

Program vocabulary word FP with machine fixed points 1 or 2.

Example:

Approach fixed point 2 with machine axes X1 and Z2.
N100 G75 FP=2 X1=0 Z2=0

Program continuation

Clear the alarm with NC START or the RESET key and continue the program.

17900 Channel %1 block %2 axis %3 is no machine axis

Explanation

%1 = channel number
%2 = block number, label
%3 = axis name, spindle number

At this point, the block context calls for a machine axis. This is the case with:

• G74 (reference point approach)

• G75 (fixed point approach)

If a geometry or additional axis identifier is used, then it must also be allowed as machine axis identifier (MD 10000 AXCONF_MACHAX_NAME_TAB).

Reactions

Alarm display.
Interface signals are set.
Interpreter stop.
NC start inhibit in this channel.

Remedy

Use machine axis identifier when programming.

Program continuation

Clear the alarm with the RESET key. Restart part program.

18100 Channel %1 block %2 invalid value assigned to FXS[ ]

Explanation

%1 = channel number
%2 = block number, label

The following values are valid at the present time:

0: "Deselect travel to fixed stop"

1: "Select travel to fixed stop"

Reactions

Alarm display.
Interface signals are set.
Correction block with reorganization.

Program continuation

Clear the alarm with NC START or continue the program.

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18101 Channel %1 block %2 invalid value assigned to FXST[ ]

Explanation
%1 = channel number
%2 = block number, label

Only the range 0.0 - 100.0 is valid at the present time.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.

Program continuation
Clear the alarm with NC START or continue the program.

18102 Channel %1 block %2 invalid value assigned to FXSWU

Explanation
%1 = channel number
%2 = block number, label

Only positive values including zero are valid at the present time.

Reactions
Alarm display.
Interface signals are set.
Correction block with reorganization.

Program continuation
Clear the alarm with NC START or continue the program.

18300 Channel %1 block %2 frame: Fine offset not possible

Explanation
%1 = channel number
%2 = block number, label

Allocation of a fine offset to settable frames or the basic frame is not possible since MD 18600 **MM_FRAME_FINE_TRANS** is not equal to 1.

Reactions
Alarm display
Interface signals are set.
Interpreter stop.

Remedy
Please inform the authorized personnel/service department. Modify program or set MD 18600 **MM_FRAME_FINE_TRANS** to 1.

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

18310 Channel %1 block %2 frame: Rotation illegal

Explanation
%1 = channel number
%2 = block number, label

Rotations are not possible with global frames.

Reactions
Alarm display.
Interface signals are set.
Interpreter stop.
NC start inhibit.
NC stop on alarm.

Remedy
Modify part program.

Program continuation
Clear the alarm with the RESET key. Restart part program.

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18311 Channel %1 block %2 frame: Illegal statement

Explanation
%1 = channel number
%2 = block number, label

An attempt was made to read or write a frame which does not exist.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC start inhibit
NC stop on alarm

Remedy
Modify part program.

Program continuation
Clear the alarm with the RESET key. Restart part program.

18313 Channel %1 block %2 frame: illegal switchover of geometry axes

Explanation
%1 = channel number
%2 = block number, label

It is not permissible to change the geometry axis assignment because the current frame contains rotations.

Reactions
Alarm display
Interface signals are set
NC stop on alarm
Interpreter stop
NC start inhibit in this channel

Remedy
Change NC program or set other mode with MD 10602 **FRAME_GEOAX_CHANGE_MODE**.

Program continuation
Clear the alarm with the RESET key. Restart part program.

18314 Channel %1 block %2 frame: type conflict

Explanation
%1 = channel number
%2 = block number, label

It is not possible to chain global frames and channel-specific frames.

The alarm occurs if a global frame is programmed with a channel axis name and no machine axis is assigned to the channel axis.

Channel-specific frames cannot be programmed with machine axis names if no corresponding channel axis is configured for the machine axis.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC start inhibit
NC stop on alarm

Remedy
Modify part program.

Program continuation
Clear the alarm with the RESET key. Restart part program.

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18400 Channel %1 block %2 language change not possible:%3

Explanation

%1 = channel number
%2 = block number, label
%3 = cause

The selection of an external NC language is not possible due to the reason specified. The following reasons might be specified (see parameter 3):

1. Error in machine data settings
2. Active transformation

Reactions

Alarm display.
Interface signals are set.
Interpreter stop.
NC start inhibit in this channel.

Remedy

Remedy the specified cause of the error before selecting the language.

Program continuation

Clear the alarm with the RESET key. Restart part program.

20000 Channel %1 axis %2 reference cam not reached

Explanation

%1 = channel number
%2 = axis name, spindle number

After starting the reference point approach, the rising edge of the reduction cam must be reached within the section defined in the MD 34 030 **REFP_MAX_CAM_DIST** (phase 1 of referencing). (This error occurs only **with incremental encoders**).

Reactions

NC Stop on alarm.
NC start inhibit.
Alarm display.
Interface signals are set.

Remedy

Please inform the authorized personnel/service department.
There are 3 possible causes of error:

1. The value entered in MD 34 030 **REFP_MAX_CAM_DIST** is too small. Calculate the maximum possible distance from the start of referencing to the reduction cam and compare with the setting in MD 34 030 **REFP_MAX_ CAM_DIST**, increase the MD if necessary.
2. The cam signal is not received by the PLC input module. Actuate the reference point switch manually and check the input signal at the NC/PLC interface (section: Switch! Connector! Cable! PLC input! User program).
3. The reference point switch is not operated by the cam. Check the vertical distance between reduction cam and activating switch.

Program continuation

Clear the alarm with the RESET key. Restart part program.

20001 Channel %1 axis %2 no cam signal present

Explanation

%1 = channel number
%2 = axis name, spindle number

At the beginning of phase 2 of reference point approach, the signal from the reduction cam is no longer available.

Phase 2 of reference point approach begins when the axis remains stationary after deceleration to the reduction cam. The axis then starts in the opposite direction in order to select the next zero marker of the measuring system on leaving the reduction cam or approaching it again (negative/positive edge).

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Reactions
NC Stop on alarm.
NC start inhibit.
Alarm display.
Interface signals are set.

Remedy
Check whether the **deceleration path** after the approach velocity is greater than the distance to reference point cam - in which case the axis cannot stop until it is beyond the cam. Use a longer cam.

When the axis has stopped on the cam, a check must be made to see whether the signal ”DECELERATION REFERENCE POINT APPROACH" (V 380x1000.7) is still present at the interface to the NC.

- Hardware: Wire break? Short circuit?
- Software: User program?

Program continuation
Clear the alarm with the RESET key. Restart part program.

20002

Channel %1 axis %2 zero mark not found

Explanation
%1 = channel number
%2 = axis name, spindle number

The zero mark of the **incremental encoder** is not within a defined section.

Phase 2 of reference point approach ends when the zero mark of the encoder has been detected after the rising/falling edge of the PLC interface signal "DECELERATION REFERENCE POINT APPROACH" (V 380x1000.7) has given the trigger start. The maximum distance between the trigger start and the zero mark that follows is defined in MD 34 060 **REFP_MAX_MARKER_DIST**.

The monitor prevents a zero mark signal from being overtraveled and the next being evaluated as reference point signal! (Faulty cam adjustment or excessive delay by the PLC user program).

Reactions
NC Stop on alarm.
NC start inhibit.
Alarm display.
Interface signals are set.

Remedy
Check the cam adjustment and make sure that the distance is sufficient between the end of the cam and the zero mark signal that follows. The path must be greater than the axis can cover in the PLC cycle time.

Increase MD 34 060 **REFP_MAX_MARKER_DIST**, but do not select a value greater than the distance between the 2 zero marks as this might deactivate the monitor!

Program continuation
Clear the alarm with the RESET key. Restart part program.

20003

Channel %1 axis %2 measuring system error

Explanation
%1 = channel number
%2 = axis name, spindle number

In a measuring system with distance-coded reference marks, the distance between two adjacent markers has been found to be more than twice the distance entered MD 34300 **ENC_REFP_MARKER_DIST**. The control issues the alarm after having made a second attempt in reverse direction with half the traversing velocity and detecting that the distance is too large again.

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Reactions
NC stop on alarm
NC start inhibit in this channel.
Alarm display.
Interface signals are set.

If the axis is a single axis when the alarm is triggered, then the alarm applies to this axis only (but not, for example, to the channel or mode group)

Remedy
Determine the **distance** between 2 odd reference marks (reference mark interval). This value (which is 20.00 mm on Heidenhain scales) must be entered in MD 34 060 **REFP_MAX_MARKER_DIST**.

Check the **reference track** of the scale including the evaluation electronics.

Program continuation
Clear the alarm with the RESET key. Restart part program.

20004

Channel %1 axis %2 reference mark missing

Explanation
%1 = channel number
%2 = axis name, spindle number

With a **distance-coded linear measuring system**, 2 reference marks have not been found within the defined search section (axis-specific MD 34 060 **REFP_MAX_MARKER_ DIST)**.

No reduction cam is required for distance-coded scales (but an existing cam will be evaluated). The conventional direction key determines the direction of search.
The search distance MD 34060 **REFP_MAX_MARKER_DIST**, within which the two reference marks are expected, is counted commencing at the start point.

Reactions
NC Stop on alarm.
NC start inhibit.
Alarm display.
Interface signals are set.

Remedy
Please inform the authorized personnel/service department.
Determine the **distance** between 2 odd reference marks (reference mark interval). This value (which is 20.00 mm on Heidenhain scales) must be entered in MD 34 060 **REFP_MAX_MARKER_DIST**.

Check the **reference track** of the scale including the evaluation electronics.

Program continuation
Clear the alarm with the RESET key. Restart part program.

20005

Channel %1 axis %2 reference point approach aborted

Explanation
%1 = channel number
%2 = axis name, spindle number

Channel-specific referencing could not be completed for all the specified axes (e.g.: referencing aborted due to: missing servo enable signal, measuring system switchover, direction key released, etc.).

Reactions
NC Stop on alarm.
NC start inhibit.
Alarm display.
Interface signals are set.

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Remedy

Check reason for abort:

- Servo enable missing (V 380x0001.1)
- Traversing key signal + or - missing (V 380x0004.6 and .7)
- Feed override = 0

The axis-specific MD 34 110 **REFP_CYCLE_NR** determines which axes are involved in the channel-specific referencing.

-1: **No** channel-specific referencing, NC Start **without** referencing.

0: **No** channel-specific referencing, NC Start **with** referencing.

1-8: Channel-specific referencing. The number entered here corresponds to the referencing sequence (when all axes with contents 1 have reached the reference point, then the axes with contents 2 start, etc.).

Program continuation

Clear the alarm with the RESET key. Restart part program.

20006

Channel %1 axis %2 reference point creep velocity not reached

Explanation

%1 = channel number
%2 = axis name, spindle number

In phase 2 of reference point approach (wait for zero mark), the cam end was reached but the reference point approach velocity was not within the tolerance window. (This can occur when the axis is already at the end of the cam at the beginning of reference point approach. This means that phase 1 has already been concluded and will not be started.)

Phase 2 has been interrupted (this time before the cam) and the reference point approach will be started once again automatically with phase 1. If the approach velocity is not attained at the second attempt either, the referencing will be aborted with the alarm display.

Approach velocity: MD 34 040 **REFP_VELO_SEARCH_MARKER**
Velocity tolerance: MD 35 150 **SPIND_DES_VELO_TOL**

Reactions

NC Stop on alarm.
NC start inhibit.
Alarm display.
Interface signals are set.

Remedy

Please inform the authorized personnel/service department.
Reduce the MD for the approach velocity MD 34040 **REFP_VELO_SEARCH_MARKER** and/or increase the MD for the velocity tolerance MD 35 150 **SPIND_DES_VELO_TOL**.

Program continuation

Clear the alarm with the RESET key. Restart part program.

20007

Channel %1 axis %2 reference point approach requires 2 measuring systems

Explanation

%1 = channel number
%2 = axis name, spindle number

2 encoders are needed for setting MD 34200 **ENC_REFP_MODE** = 6!

Reactions

NC Stop on alarm.
NC start inhibit.
Alarm display.
Interface signals are set.

Remedy

Please inform the authorized personnel/service department.
Modify referencing mode MD 34200 **ENC_REFP_MODE** or install and configure a second encoder

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Program continuation Clear the alarm with the RESET key. Restart part program.

20008 Channel %1 axis %2 reference point approach requires second referenced measuring system

Explanation %1 = channel number
%2 = axis name, spindle number

The setting MD 34200 **ENC_REFP_MODE** = 6 does not apply to this control system.

Reactions NC Stop on alarm.
NC start inhibit.
Alarm display.
Interface signals are set.

Remedy Change referencing mode MD 34200 **ENC_REFP_MODE**

Program continuation Clear the alarm with the RESET key. Restart part program.

20050 Channel %1 axis %2 handwheel mode active

Explanation %1 = channel number
%2 = axis name, spindle number

The axes cannot be traversed in JOG mode using the traversing keys because traversing is still taking place via the handwheel.

Reaction Alarm display.

Remedy Decide whether the axis is to be traversed by means of the direction keys or via the handwheel. End handwheel mode, with axial deletion of distance to go (V 380x0002.2) if appropriate.

Program continuation Alarm display disappears with alarm cause. No further operator action required.

20051 Channel %1 axis %2 handwheel mode not possible

Explanation %1 = channel number
%2 = axis name, spindle number

The axis is already traveling via the traversing keys, so handwheel mode is no longer possible.

Reaction Alarm display.

Remedy Decide whether the axis is to be traversed by means of the direction keys or via the handwheel.

Program continuation Alarm display disappears with alarm cause. No further operator action required.

20052 Channel %1 axis %2 already active

Explanation %1 = channel number
%2 = axis name, spindle number

The axis is to traverse as a machine axis in JOG mode via the direction keys on the machine control panel. However, this is not possible because:

1. it is already traversing as a geometry axis
   (V32001000.6 V32001000.7,
   V32001004.6 V32001004.7 or
   V32001008.6 V32001008.7)
2. it is already traversing as a machine axis
   (V38000004.6 V38000004.7) or

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3. a frame is valid for a rotated coordinate system and another geometry axis involved in this is already traversing in JOG mode by means of the direction keys.

Reaction: Alarm display.

Remedy: Stop traversing through the channel or axis interface or stop the other geometry axis.

Program continuation: Clear the alarm with the cancel key. No further operator action required.

20053 Channel %1 axis %2 DRF, FTOCON, external work offset not possible

Explanation: %1 = channel number
%2 = axis name, spindle number

The axis is traversed in a mode (e.g. referencing) that allows no additional overlaid interpolation.

Reaction: Alarm display.

Remedy: Wait until the axis has reached its reference position or terminate reference point approach with "Reset" and start DRF once again.

Program continuation: Clear the alarm with the Cancel key or with NC START.

20054 Channel %1 axis %2 wrong index for indexing axis in JOG mode

Explanation: %1 = channel number
%2 = axis name, spindle number

1. The displayed indexing axis is to be traversed incrementally in JOG mode (by 1 indexing position). However, no further indexing position is available in the selected direction.

2. The axis is stationary at the last indexing position. In incremental traversing, the working area limitation or the software limit switch is reached without an indexing position being located in front of it at which a stop could be made.

Reaction: Alarm display.

Remedy: Please inform the authorized personnel/service department. Correct (add to) the list of indexing positions by means of the machine data

MD 10900: INDEX_AX_LENGTH_POS_TAB_1
MD 10910: INDEX_AX_POS_TAB_1
MD 10920: INDEX_AX_LENGTH_POS_TAB_2
MD 10930: INDEX_AX_POS_TAB_2

or set the working area limits or the software limit switches to other values.

Program continuation: Clear the alarm with the Cancel key or with NC START.

20055 Channel %1 master spindle not present in JOG mode

Explanation: %1 = channel number

The displayed axis is to be traversed as machine axis in JOG mode with revolutional feed, but no master spindle has been defined from which the actual speed could be derived.

Reactions: Alarm display.
Interface signals are set.

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Remedy
Please inform the authorized personnel/service department.
If the revolutional feed is also to be active in JOG mode, then a master spindle must be declared via the channel-specific machine data 20090 **SPIND_DEF_MASTER_SPIND**. In this case you have to open a screen in the **PARAMETER** operating area with the softkeys "SETTINGDATA" and "JOG DATA" and preselect the G function **G95** there. The JOG feedrate can then be entered in [mm/rev]. (If 0 mm/rev is set as JOG feed, the control takes the value assigned in the axis-specific MD 32050 **JOG_REV_VELO** or in the case of rapid traverse overlay 32040 **JOG_REV_VELO_RAPID**).

The revolutional feed in JOG mode is deactivated by changing the G function from **G95** to **G94**.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

20056 Channel %1 axis %2 no revolutional feed because axis/spindle %3 stationary

Explanation
%1 = channel number
%2 = axis name, spindle number
%3 = axis name, spindle number

An axis is to travel in JOG with revolutional feed, but the feed of the spindle/axis from which the feed is to be derived is 0.

Reaction
Alarm display.

Remedy
Traverse the spindle/axis from which the feed is to be derived.

Program continuation
Alarm display disappears with alarm cause. No further operator action required.

20057 Channel %1 block %2 revolutional feed for axis/spindle %3 is <= zero

Explanation
%1 = channel number
%2 = block number, label
%3 = axis name, spindle number

Revolutional feed has been programmed for an axis/spindle, but the velocity was not programmed or the programmed value is smaller than or equal to zero.

Reactions
Alarm display.
Interface signals are set.
NC stop on alarm.
NC start inhibit.
Channel processing not ready.

Remedy
Please inform the authorized personnel/service department.
Correct part program.

Program continuation
Clear the alarm with the RESET key. Restart part program.

20058 Channel %1 axis %2 revolutional feed: Illegal feed source

Explanation
%1 = channel number
%2 = axis name, spindle number

An axis/spindle is to be traversed at revolutional feedrate. The reference axis/spindle defined in SD 43300 **ASSIGN_FEED_PER_REV_SOURCE** refers to itself. The coupling created cannot be executed.

Reaction
Alarm display.

Remedy
The spindle/axis from which the feed is to be derived refers to itself.

Program continuation
Alarm display disappears with alarm cause. No further operator action required.

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20060 Channel %1 axis %2 cannot be traversed as geometry axis

Explanation

%1 = channel number
%2 = axis name

The axis is currently not in "Geometry axis" state. Therefore, it cannot be traversed in JOG mode as a geometry axis.

If the abbreviation **WCS** (workpiece coordinate system) is displayed in the "Position" screen, then **only the geometry axes** can be traversed by means of the direction keys! (**MCS** ... Machine coordinate system; **all machine axes can now** be traversed by using the direction keys on the machine control panel).

Reaction

Alarm display.

Remedy

Check the operating steps to establish whether geometry axes really must be traversed, otherwise switch over to the machine axes by activating the "**WCS/MCS**" key on the machine control panel.

Program continuation

Clear the alarm with the cancel key. No further operator action required.

20062 Channel %1 axis %2 already active

Explanation

%1 = channel number
%2 = axis name, spindle number

The displayed axis is already traversing as a machine axis. Therefore, it cannot be operated as a geometry axis.

Traversing of an axis can take place in JOG mode through 2 different interfaces.

1. as a **geometry axis**: via the channel-specific interface
   1st GEO axis: V32001000.6 and .7
   2nd GEO axis: V32001004.6 and .7
   3rd GEO axis: V32001008.6 and .7
2. as a **machine axis**: via the axis-specific interface
   DB 31 - DB 48 DBX8.6 or DBX8.7

With the standard machine control panel, it is not possible to operate an axis as machine axis and geometry axis at the same time.

Reaction

Alarm display.

Remedy

Do not start the geometry axis until the traversing motion as machine axis has been concluded.

Program continuation

Clear the alarm with the cancel key. No further operator action required.

20065 Channel %1 master spindle not defined for geometry axes in JOG mode

Explanation

%1 = channel number

The displayed axis is to be traversed as a geometry axis in JOG mode with revolutional feed, but no master spindle has been defined from which the actual speed could be derived.

Reactions

Alarm display.
Interface signals are set.

Remedy

If the revolutional feed is also to be active in JOG mode, then a master spindle must be declared via the channel-specific machine data 20090 **SPIND_DEF_MASTER_SPIND**. In this case you have to open a screen in the **PARAMETER** operating area with the softkeys "SETTINGDATA" and "JOG DATA" and preselect the G function **G95** there. The JOG feedrate can then be entered in [mm/rev]. (If 0 mm/rev is set as JOG feed, the control takes the value assigned in the axis-specific MD 32050 **JOG_REV_VELO** or in the case of rapid traverse overlay 32040 **JOG_REV_VELO_RAPID**).

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The revolutional feed in JOG mode is deactivated by changing the G function from **G95** to **G94**.

Program continuation: Clear the alarm with the cancel key. No further operator action required.

20070 Channel %1 axis %2 programmed end position is behind software limit switch %3

Explanation: %1 = channel number
%2 = axis number
%3 = "+" or "-"

The axis is traversed as a concurrent positioning axis by the PLC and the target position is situated behind the corresponding software limit switch. The axis is not traversed.

Reaction: Alarm display.

Remedy: Please inform the authorized personnel/service department. Specify smaller target position. Modify MD for SW limit switch. Possibly activate another SW limit switch.

Program continuation: Alarm display disappears with alarm cause. No further operator action necessary.

20071 Channel %1 axis %2 programmed end position is behind working area limit %3

Explanation: %1 = channel number
%2 = axis number
%3 = "+" or "-"

The displayed axis is operated as a "concurrent positioning axis". Its target position is behind the preset working area limitation. The axis is not traversed.

Reaction: Alarm display.

Remedy: Specify smaller target position.

- Deactivate working area limitation.
- Set working area limitation differently.

Program continuation: Alarm display disappears with alarm cause. No further operator action necessary.

20073 Channel %1 axis %2 cannot be repositioned

Explanation: %1 = channel number
%2 = axis number

The concurrent positioning axis cannot be positioned because it has already been restarted via the VDI interface and is still active. No repositioning motion takes place and the motion initiated by the VDI interface is not affected.

Reaction: Alarm display.

Remedy: None.

Program continuation: Clear the alarm with the Cancel key or with NC START.

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20080 Channel %1 axis %2 no handwheel assigned for overlaid motion

Explanation
%1 = channel number
%2 = axis number

No handwheel has been assigned for this specified axis after handwheel override has been started in automatic mode. If the axis identifier is missing in the alarm with active velocity override FD > 0, then the 1st geometry axis has not been defined in the NC channel. In this case the block is executed without handwheel control.

Reaction
Alarm display.

Remedy
If handwheel control is required, a handwheel must be activated.

Program continuation
Alarm display disappears with alarm cause. No further operator action necessary.

20085 Channel %1 contour handwheel: traverse direction or overtravel of beginning of block not allowed

Explanation
%1 = channel number

Travel takes place on the path with the contour handwheel in the opposite direction to the programmed travel direction and the starting point of the path has been reached at the start of the block.

Reaction
Alarm display

Remedy
Turn the contour handwheel in the opposite direction. Program continuation: Alarm display disappears with alarm cause. No further operator action necessary.

20090 Axis %1 travel to fixed stop not possible. Check programming and axis data

Explanation
%1 = axis name, spindle number

1. The "Travel to fixed stop" function has been programmed with FXS[AX]=1 but the axis does not (yet) support this. Check MD 37000 FIXED_STOP_MODE. The function is not available for simulated axes.
2. On selection, no movement was programmed for axis AX. AX is a machine axis identifier.
3. It is always necessary to program a traversing movement in the selection block for the axis/spindle for which the "Travel to fixed stop" function is activated.

Reactions
Can sometimes be switched over for all channels via MD.
Channel not ready.
NC Start inhibit.
NC stop on alarm.
Alarm display.
Interface signals are set.

Remedy
Please inform the authorized personnel/service department.

- Check axis type
- Check MD 37000
- Is a machine axis movement missing in the approach block?

Program continuation
Clear the alarm with the RESET key.

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20091 Axis %1 has not reached fixed stop

Explanation: %1 = axis name, spindle number

On attempting to travel to a fixed stop, the programmed end position has been reached or the traversing movement has been aborted. The alarm can be concealed by means of the machine data 37050 FIXED_STOP_ALARM_MASK.

Reactions: Can sometimes be switched over for all channels via MD.
Channel not ready.
NC Start inhibit.
NC stop on alarm.
Alarm display.
Interface signals are set.

Remedy: Correct the part program and the settings:

- Has the traversing block been aborted?
- Should the axis position correspond to the programmed end position, then correct the end position.
- If the programmed end position is in the workpiece, the trigger criterion must be checked.
- Was the contour deviation that triggered the alarm too large? Has the torque limit been set too high?

Program continuation: Clear the alarm with the RESET key

20092 Axis %1 travel to fixed stop still active

Explanation: %1 = axis name, spindle number

An attempt has been made to move an axis while it is in fixed stop or while travel to fixed stop function is still selected.

Reactions: Can sometimes be switched over for all channels via MD.
Channel not ready.
NC Start inhibit.
NC stop on alarm.
Alarm display.
Interface signals are set.

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

- Has the axis at the fixed stop also been moved by a traversing movement of geometry axes?
- If the function selected even though the axis is stationary at the stop?
- Has the function deselection been interrupted by a RESET?
- Has the PLC switched the acknowledgement signals?

Program continuation: Clear the alarm with the RESET key.

20093 Axis %1 zero speed monitoring at fixed stop has responded

Explanation: %1 = axis name, spindle number

The position of the axis has been outside the zero speed window ever since the function was selected.

Reactions: Can sometimes be switched over for all channels via MD.
Channel not ready.
NC Start inhibit.
NC stop on alarm.
Alarm display.
Interface signals are set.

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Remedy
Please inform the authorized personnel/service department.
- Check the mechanical components, e.g. has the stop broken away? Has the part to be clamped moved?
- Position window for zero speed monitoring too narrow (MD 37020 FIXED_STOP_WINDOW_DEF) (SD 43520 FIXED_STOP_WINDOW). Default is 1 mm in each case.

Program continuation
Clear the alarm with the RESET key.

20094

Axis %1 function has been aborted

Explanation
%1 = axis name, spindle number

The function has been aborted.
Possible reasons:
- Because a pulse disable has occurred, the torque can no longer be produced.
- The PLC has removed the acknowledgments.

The alarm can be re-configured in MD 11412 **ALARM_REACTION_CHAN_NOREADY** (channel not ready).

Reactions
Can sometimes be switched over for all channels via MD.
Channel not ready.
NC start inhibit.
NC stop on alarm.
Alarm display.
Interface signals are set.

Remedy
Has a pulse inhibit been issued by the infeed/regenerative feedback unit or the PLC? Have the acknowledgement bits have been reset by the PLC even though NCK has not requested deselection?

Program continuation
Cancel alarm in all channels of this mode group by pressing RESET.

20141

Channel %1 motion-synchronous action: Invalid axis type

Explanation
%1 = channel number

The requested command is not permissible in the current axis status for the command axis or spindle. This alarm occurs with command axes (POS, MOV), spindle commands from motion-synchronous actions (M3/M4/M5, SPOS), coupled motion (TRAILON, TRAILOF) and lead value coupling (LEADON, LEADOF).

Reactions
NC start inhibit in this channel.
NC stop on alarm.
Alarm display.
Interface signals are set.

Remedy
First stop the axis or deactivate the coupling, then select a new status.

Program continuation
Clear the alarm with the RESET key. Restart part program.

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21550 Channel %1 axis %2 retraction from hardware limit switch not possible Cause: %3

Explanation

%1 = channel number
%2 = axis name
%3 = cause

An attempt has been made to retract a coupled following axis or an output axis in a transformation via the leading axis or input axis in a transformation. This is not allowed in the current situation.

Possible causes:

1 Retraction direction not legal
2 Coupling not synchronized
3 Retraction not legal for the active coupling
4 Reserved
5 Retraction not legal for the active transformation

Reactions

NC start inhibit in this channel.
Alarm display.

Remedy

Remedy of error cause:

1 Specify a different travel direction
2 Deactivate the coupling and move axis(axes) separately
3 Deactivate the coupling and move axis(axes) separately
4 Reserved
5 Deactivate the transformation and move axis(axes) separately

Program continuation

Clear the alarm with the RESET key. Restart part program.

21610 Channel %1 axis %2 %3 frequency limit exceeded

Explanation

%1 = channel number
%2 = axis name, spindle number
%3 = string (encoder number)

The maximum permissible frequency for the active encoder (axial interface signal V390x0000.2) specified in axis-specific MD 36 300 **ENC_FREQ_LIMIT [n]** (n ... encoder number 1 or 2) has been exceeded. The reference of the actual value to the mechanical slide position may have been lost.

The alarm can be re-configured in MD 11412 **ALARM_REACTION_CHAN_NOREADY** (NC not ready).

Reactions

Alarm display.
Interface signals are set.
NC not ready.
Can sometimes be switched over for all channels via MD.
NC Stop on alarm.
NC Start inhibit.

Remedy

Check MD 36300 **ENC_FREQ_LIMIT [0]**.

Program continuation

Cancel alarm in all channels of this mode group by pressing RESET.

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21612 Channel %1 axis %2 VDI signal 'Servo enable' reset during motion

Explanation

%1 = channel number
%2 = axis name, spindle number

The interface signal "Servo enable" (V 380x0002.1) has been set to 0 for the displayed axis even though an axis from the geometry grouping was moving.

The axes entered in MD array 20050 **AXCONF_GEOAX_ASSIGN_TAB** count as axes belonging to the geometry grouping. Servo enable must be applied for **all** configured geometry axes, regardless of whether they are currently in motion or not.

Reactions

NC start inhibit.
Alarm display.
Interface signals are set.
NC Stop on alarm.

Remedy

Check the interface signal "Servo enable" (V 380x0002.1, e.g. by reading the PLC status display in the DIAGNOSIS operating area). Trace back the signal to the sections in the PLC user program at which it is linked and set/reset.

Program continuation

Clear the alarm with the RESET key. Restart part program.

21613 Axis %1 measuring system changing

Explanation

%1 = axis name, spindle number

The measuring system for this axis is changing.

Reaction

Alarm display.

Remedy

-

Program continuation

Alarm display disappears with alarm cause. No further operator action necessary.

21614 Channel %1 axis %2 hardware limit switch %3

Explanation

%1 = channel number
%2 = axis name, spindle number
%3 = string (+, - or +/-)

The VDI signal "Hardware limit switch" has been set at the NC/PLC interface (V 380x1000.0 or.1).

Reactions

Alarm display.
NC Start inhibit.

Remedy

1. With axes that have already been referenced, the software limit switch 1 or 2 should respond before the hardware limit switch is reached.
   Check MD 36110 **POS_LIMIT_PLUS**, MD 36100 **POS_LIMIT_MINUS**, MD 36130 **POS_LIMIT_ PLUS2** and MD 36120 **POS_LIMIT_MINUS2** as well as the interface signal for selection of the $1^{st}/2^{nd}$ software limit switch (V 380x1000.2 and .3) and correct if necessary (PLC user program).
2. If the axis has not yet been moved to the reference point, it is possible to depart from the hardware limit switch in the opposite direction in JOG mode.
3. Check PLC user program and the connection from the switch to the PLC input module, provided the axis has not yet reached the hardware limit switch at all.

Program continuation

Clear the alarm with the RESET key. Restart part program.

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21615 Channel %1 axis %2 switched from motion to follow-up mode

Explanation
%1 = channel number
%2 = axis name, spindle number

This axis has been switched from traverse mode and to "Follow-up" mode, for instance, because the pulse enable for the drive has been reset.

Reactions:
NC start inhibit in this channel.
Alarm display.
Interface signals are set.
NC stop on alarm.

If the axis is a single axis when the alarm is triggered, then the alarm applies to this axis only.

Remedy
-

Program continuation
Clear the alarm with the RESET key. Restart part program.

21617 Channel %1 block %2 transformation does not allow pole traversal

Explanation
%1 = channel number
%2 = block number, label

The specified curve passes through the pole or a forbidden area of the transformation.

Reactions
Alarm display.
Interface signals are set.
NC stop on alarm.
NC Start inhibit.

Remedy
Modify part program (if alarm has occurred in AUTO mode).

To escape from the alarm position, transformation must be deselected (it is not enough to try a RESET if the transformation remains active when RESET is applied).

Program continuation
Clear the alarm with the RESET key. Restart part program.

21618 Channel %1 as from block %2 transformation active: Overlaid motion too large

Explanation
%1 = channel number
%2 = block number, label

The share of overlaid motion on the transformation-related axes is so high that the path movement planned by the preparation no longer sufficiently corresponds to the actual ratio for the interpolation. Strategy of singularities, monitoring of working range limitation and dynamic Look Ahead are possibly no longer correct.

Reaction
Alarm display.

Remedy
With overlaid motion it is necessary to keep a sufficiently large path safety distance with regard to poles and working range limitations.

Program continuation
Clear the alarm with the Cancel key or with NC START.

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21619 Channel %1 block %2 transformation active: Motion not possible

Explanation

%1 = channel number
%2 = block number, label

The machine kinematics does not allow the specified motion. Possible causes of transformation-related error:

With TRANSMIT:
A (circular) area exists around the pole, where positioning is not possible. The area exists because the tool reference point cannot be traversed into the pole. The area is defined by

- The machine data ($MC_TRANSMIT_BASE_TOOL..).
- The active tool length compensation (see $TC_DP..).
  The inclusion of the tool length compensation depends on the selected working plane (see G17,..).

The machine stops at the edge of the area where positioning is not possible.

Reactions

Alarm display.
Interface signals are set.
NC stop on alarm.
NC start inhibit.
Part program modification.

Remedy

Modify the incorrectly specified tool length compensation

Program continuation

Note: RESET alone is not enough if transformation also remains active during RESET.

Clear the alarm with the RESET key. Restart part program.

21700 Channel %1 block %3 axis %2 touch probe already deflected, edge not possible

Explanation

%1 = channel number
%2 = axis name, spindle number
%3 = block number

The probe programmed under vocabulary word MEAS or MEAW is already deflected and has switched. The probe signal must be reset (neutral position of probe) before another measurement can be taken.

The axis display is of no significance at the present time but an axis-specific evaluation has been planned for later stages of development.

Reactions

Alarm display.
Interface signals are set.
NC Stop on alarm.
NC Start inhibit.

Remedy

Check start position for measurement or check probe signals. Are the cables and connectors in good order?

Program continuation

Clear the alarm with the RESET key. Restart part program.

21701 Channel %1 block %3 axis %2 measurement not possible

Explanation

%1 = channel number
%2 = axis name, spindle number
%3 = block number

Measurement level 2 (MEASA, MEAWA, MEAC)

There is an error in the programmed measurement task.

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Possible causes:

- Invalid measuring mode
- Invalid probe
- Invalid encoder
- Invalid number of measuring edges
- Identical measurement signal edges are only programmable in mode 2
- Invalid FIFO number
- Mismatch between the number of FIFOs programmed and the number of probes used in the measurement task.

Further causes

- A measurement task is already active (e.g. from a synchronized action).

Reactions: Alarm display.
Interface signals are set.
NC stop on alarm.
NC Start inhibit.

Remedy: Correct measurement tasks.

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

21702

Channel %1 block %3 axis %2 measurement aborted

Explanation: %1 = channel number
%2 = axis name, spindle number
%3 = block number

The measurement block has ended (the programmed end position of the axis has been reached) but the activated probe has not yet responded.

Reaction: Alarm display.

Remedy: Check the traversing movement in the measurement block.

- Is it essential for the activated probe to have switched by the time the specified axis position is reached?
- Are probe, cable, cable distributor, terminal connections O.K.?

Either program all GEO axes explicitly or program the traversing movement with the POS[axis] command.

Program continuation: Clear the alarm with the cancel key. No further operator action required.

21703

Channel %1 block %3 axis %2 probe not deflected, illegal edge polarity

Explanation: %1 = channel number
%2 = axis name, spindle number
%3 = block number

The selected probe is not (!) deflected and therefore cannot record any measured value from the deflected to the non-deflected state.

Reactions: Alarm display.
Interface signals are set.
NC Stop on alarm.
NC Start inhibit.

Remedy: - Check probe
- Check start position for measurement
- Check program

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

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21740 Output value limited for analog output no. %1

Explanation
%1 = no. of output

The value range of the analog output n is limited by machine data 10330 FASTIO_ANA_OUTPUT_WEIGHT[n].

Reaction
Alarm display.

Remedy
Do not program values with $A_OUTA[..] = x that are higher than permitted in the respective machine data.

Program continuation
Clear the alarm with the Cancel key or with NC START.

21760 Channel %1 block %2 too many auxiliary functions programmed

Explanation
%1 = channel number
%2 = block number, label

The number of programmed auxiliary functions exceeds the maximum permissible number. This alarm can occur in conjunction with motion-synchronous actions: The maximum permissible number of auxiliary functions must not be exceeded in motion block and motion-synchronous actions.

Reactions
Alarm display
Interface signals are set
NC stop on alarm
Interpreter stop
NC start inhibit in this channel

Remedy
Modify part program.

Program continuation
Clear the alarm with the RESET key. Restart part program.

21800 Channel %1 workpiece required = %2 reached

Explanation
%1 = channel number
%2 = workpiece required

This alarm is activated via MD 27880 **PART_COUNTER**, bit 1: The number of counted workpieces {$AC_ACTUAL_PARTS or $AC_SPECIAL_PARTS} is equal to or already higher than the programmed value for the number of workpieces required {$AC_REQUIRED_PARTS} The channel VDI signal "Workpiece required reached" is output at the same time. The value for the number of the counted workpieces $AC_ACTUAL_PARTS is reset while the value of $AC_SPECIAL_PARTS remains.

Reactions
Alarm display
Interface signals are set
NC not ready

Remedy
No program interrupt. Clear alarm display.

Program continuation
Clear the alarm with the Delete key.

22000 Channel %1 block %3 spindle %2 change of gear stage not possible

Explanation
%1 = channel number
%2 = spindle number
%3 = block number, label

Automatic gear stage selection has been programmed with M40. The new M word is not in the present gear stage, but the spindle is not in **"Open-loop control mode"**.

For automatic gear stage change (M40 in conjunction with spindle speed in address S) the spindle must be in **"Open-loop control mode"**.

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Reactions
Alarm display.
Interface signals are set.
NC Stop on alarm.
NC Start inhibit.

Remedy
Before the S word which requires a gear stage change, change into the open-loop control mode of the spindle.

The spindle is switched to open-loop control mode with:

- **M03, M04, M05** or **M41 ... M45** from axis or positioning mode
- Interface signal **"Gear is changed"** (V 38032000.3) from oscillation mode

Program continuation
Clear the alarm with the RESET key. Restart part program.

22010 Channel %1 block %3 spindle %2 actual gear stage differs from requested gear stage.

Explanation
%1 = channel number
%2 = spindle number
%3 = block number, label

The requested gear stage change has been concluded.
The actual gear stage reported by the PLC as being engaged is not the same as the gear stage requested by the NC.
Note: Wherever possible, the requested gear stage should always be engaged.

Reaction
Alarm display.

Remedy
Correct the PLC program.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

22011 Channel %1 block %3 spindle %2 change to programmed gear stage not possible

Explanation
%1 = channel number
%2 = spindle number
%3 = block number, label

With the 'DryRun' and 'ProgramTest' functions deselected, it is not possible in the Repos module to carry out a gear stage change to a previously programmed gear stage. This is the case if the spindle in the deselection block is not operating in speed control mode or not active as a following axis or in a transformation. Retro-execution of a gear stage change when the above mentioned functions are deselected can be avoided by resetting bit 2 of machine data 35035 SPIND_FUNCTION_MASK.

Reaction
Alarm display.

Remedy
Change deselection block or block search target block to speed control mode (M3, M4, M5, SBCOF).

Program continuation
Clear the alarm with the cancel key. No further operator action required.

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22020 Channel %1 block %3 spindle %2 gear stage change position not reached

Explanation
%1 = channel number
%2 = spindle number
%3 = block number, label

Through the configuration of MA_GEAR_STEP_CHANGE_ENABLE[AXn] = 2, the spindle is traversed to the position stored in MA_GEAR_STEP_CHANGE_POSITION[AXn] before the actual gear stage change. The required gear stage change position has not been reached.

Reactions
Channel not ready.
NC start inhibit in this channel.
NC stop on alarm.
Alarm display.
Interface signals are set.

Remedy
Correct sequence in the PLC.

Program continuation
Clear the alarm with the RESET key. Restart part program.

22022 Channel %1 block %2 spindle %3 incorrect gear stage in axis mode

Explanation
%1 = channel number
%2 = block number, label
%3 = spindle

A gear stage for spindle operation in axis mode is configured in machine data 35014 **GEAR_STEP_USED_IN_AXISMODE**. The NC checks that this gear stage is engaged when the spindle is switched to this gear stage. It does this by comparing the gear stage configured in MD 35014 with the actual gear stage returned by the PLC (VDI interface "Actual gear stage A to C", V38002000.0 … 2). If the gear stages are not identical, this alarm is generated. When the spindle switches to axis mode in response to a programmed M70 command, the NC automatically engages or requests the gear stage configured in MD 35014. If the gear stage in this MD is already active, no gear stage change is requested. M40 remains active in both cases.

Reactions
Interface signals are set.
Alarm display.

Remedy
Program M70 before axis mode. Note MD 20094.

Program continuation
Clear the alarm with the RESET key. Restart part program.

22040 Channel %1 block %3 spindle %2 is not referenced with zero mark

Explanation
%1 = channel number
%2 = axis name, spindle number
%3 = block number, label

The current position is not referenced with the measuring system position although reference is made to it.

Reaction
Alarm display.

Remedy
Correct NC part program. Establish zero mark synchronization by positioning, by rotation (at least 1 revolution) in speed control mode or G74 before switching the alarm generating function on.

Program continuation
Clear the alarm with the Cancel key or with NC START.

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22050

Channel %1 block %3 spindle %2 no transition from speed control mode to position control mode

Explanation

%1 = channel number
%2 = axis name, spindle number
%3 = block number, label

- An oriented spindle stop (SPOS) has been programmed, but no spindle encoder defined.
- On activation of position control, the spindle speed is greater than the limit speed of the measuring system.

Reactions

NC Start inhibit.
NC stop on alarm.
Alarm display.
Interface signals are set.

Remedy

Spindle with no encoder attached: NC language elements which require encoder signals must not be used.

Spindle with encoder attached: Enter spindle encoder in MD 30200 **NUM_ENCS**.

Program continuation

Clear the alarm with the RESET key. Restart part program.

22051

Channel %1 block %3 spindle %2 reference mark not found

Explanation

%1 = channel number
%2 = axis name, spindle number
%3 = block number, label

During referencing, the spindle rotated through a distance greater than axis-specific MD 34060 **REFP_MAX_MARKER_DIST** without detecting a reference mark signal. The check is made during spindle positioning with SPOS or SPOSA if the spindle has not previously operated under speed control (S=...).

Reactions

NC Start inhibit.
NC stop on alarm.
Alarm display.
Interface signals are set.

Remedy

Please inform the authorized personnel/service department.
Check and correct MD 34060 **REFP_MAX_MARKER_DIST**. The value entered specifies the distance in [mm] or [degrees] between 2 zero marks.

Program continuation

Clear the alarm with the RESET key. Restart part program.

22052

Channel %1 block %3 spindle %2 no standstill on block change

Explanation

%1 = channel number
%2 = axis name, spindle number
%3 = block number, label

The specified spindle was programmed as a spindle or axis, but a positioning operation was still in progress from the previous block (with SPOSA ... spindle positioning beyond block boundaries).

Example:

```
N100 SPOSA [2] = 100
 :
N125 S2 = 1000 M2 = 04  ; error if spindle S2 is still running
                        ; from block N100!
```


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Reactions
NC Start inhibit.
NC stop on alarm.
Alarm display.
Interface signals are set.

Remedy
Before programming the spindle/axis again after the SPOSA instruction, you should use a WAITS command to cause the program to wait for the programmed spindle position.

Example:
N100 SPOSA [2] = 100
:
N125 WAITS (2)
N126 S2 = 1000 M2 = 04

Program continuation
Clear the alarm with the RESET key. Restart part program.

22053 Channel %1 block %3 spindle %2 reference mode not supported

Explanation
%1 = channel number
%2 = axis name, spindle number
%3 = block number, label

In the case of SPOS with an absolute encoder, only the referencing mode MD 34200 **ENC_REFP_MODE** = 2 is supported! **ENC_REFP_MODE** = 6 is not supported by SPOS!

Reactions
NC Start inhibit.
NC stop on alarm.
Alarm display.
Interface signals are set.

Remedy
Change setting in MD 34200 **ENC_REFP_MODE**, switch to JOG + REF and then reference.

Program continuation
Clear the alarm with the RESET key. Restart part program.

22055 Channel %1 block %3 spindle %2 configured positioning speed is too high

Explanation
%1 = channel number
%2 = axis name, spindle number
%3 = block number, label

The current position is not referenced with the measuring system position although reference is made to it.

Reaction
Alarm display.

Remedy
Modify part program. Establish zero mark synchronization by positioning, by rotation (at least 1 revolution) in speed control mode or G74 before switching the alarm generating function on.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

22060 Channel %1 position control expected for axis/spindle %2

Explanation
%1 = channel number
%2 = axis name, spindle number

The programmed coupling type (setpoint or actual-value coupling) or the programmed function requires position control.

Reaction
Alarm display.

Remedy
Activate position control, e.g. by programming SPCON.

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Program continuation Alarm display disappears with alarm cause. No further operator action necessary.

22062 Channel %1 axis %2 reference point approach: zero mark search velocity (MD) is not reached

Explanation %1 = channel number
%2 = axis name, spindle number

The configured zero mark search velocity is not reached.

Reactions Alarm display.
Interface signals are set.
NC start inhibit.
NC stop on alarm.

Remedy Check active speed limitation.
Configure a lower zero mark search velocity MD 34040 **REFP_VELO_SEARCH_MARKER**. Check tolerance range for the actual velocity in MD 35150 **SPIND_DES_VELO_TOL**. Set a different referencing mode MD 34200 **ENC_REFP_MODE=7**

Program continuation Clear the alarm with the RESET key. Restart part program.

22064 Channel %1 axis %2 reference point approach: zero mark search velocity (MD) is too high

Explanation %1 = channel number
%2 = axis name, spindle number

The configured zero mark search velocity is too high. The encoder limit frequency is exceeded for the active measuring system.

Reactions Alarm display.
Interface signals are set.
NC start inhibit.
NC stop on alarm.

Remedy Configure a lower zero mark search velocity MD 34040 **REFP_VELO_SEARCH_MARKER**. Check encoder limit frequency configured in MD 36300 **ENC_FREQ_LIMIT** and MD 36302 **ENC_FREQ_LIMIT_LOW**. Set a different referencing mode
MD 34200 **ENC_REFP_MODE=7**.

Program continuation Clear the alarm with the RESET key. Restart part program.

22067 Channel %1 tool management: tool change not possible since there is no tool available in tool group %2

Explanation %1 = channel ID
%2 = string (identifier)

The requested tool change is not possible. The specified tool group does not contain a replacement tool which could be loaded. It is possible that all of the tools in question have been set to the 'Disabled' state by the tool monitoring function.

Reactions Interface signals are set.
Alarm display.
NC start inhibit.
NC Stop on alarm at end of block.
Stop on alarm.

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Remedy
- Ensure that the specified tool group contains a tool that is ready for use when tool change is requested.
- This can be achieved, for example, by replacing disabled tools
- or by releasing a disabled tool manually.
- Check whether the tool data are correctly defined.
  Have all intended tools in the group been defined with the specified identifier and loaded?

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

22100

Channel %1 block %3 spindle %2 chuck speed exceeded

Explanation

%1 = channel number
%2 = axis name, spindle number
%3 = block number, label

The actual speed of the displayed spindle is greater than the value entered in the axis-specific machine data 35100 **SPIND_VELO_LIMIT** plus the tolerance value specified in machine data 35150 **SPIND_DES_VELO_TOL**.

If the drive actuator has been optimized properly, the alarm cannot occur!

Reactions: Alarm display.
Interface signals are set.
NC not ready.
NC Stop on alarm.
NC Start inhibit.

Remedy: Check and correct the start-up and optimization data of the drive actuator in accordance with the Installation and Start-up Guide.

Increase the tolerance window in machine data 35150 **SPIND_DES_VELO_TOL**.

Program continuation: Clear the alarm with the RESET key.

22101

Channel %1 block %3 spindle %2 maximum speed for encoder resynchronization exceeded

Explanation

%1 = channel number
%2 = axis name, spindle number
%3 = block number, label

The limit frequency of the active encoder (axis-specific MD 36300 **ENC_FREQ_LIMIT[0]**) has been exceeded with function **G33 (thread cutting with encoder), G95 (revolutional feedrate)** or **G96 (constant cutting rate)**. As a result, the spindle is no longer synchronized.

Reactions: Alarm display.
Interface signals are set.
NC Stop on alarm.
NC Start inhibit.

Remedy: Check whether the encoder is activated by interface signal: **position measuring system** V380x0001.5, or whether the limit frequency for this encoder is correctly preset in MD 36300 **ENC_FREQ_LIMIT[0]**.

Check the maximum spindle speed setting in axis-specific MD 35130 **GEAR_STEP_MAX_VELO_LIMIT** and reduce if necessary.

Set an upper spindle speed limitation (which must be lower than the maximum encoder limit frequency) with **G26 S...** in the preceding NC block.

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

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22200 Channel %1 spindle %2 axis stopped during tapping

Explanation

%1 = channel number
%2 = axis name, spindle number

When tapping with compensating chuck (G63) the drilling axis was stopped via the NC/PLC interface and the spindle continues to rotate. The thread and possibly also the tap were damaged as a result.

Reactions

Alarm display.
Interface signals are set.
NC Start inhibit.

Remedy

Provide an interlock in the PLC user program so that no axis stop can be initiated when tapping is active. If the tapping operation must be terminated under critical machine conditions, the spindle and the axis should be stopped simultaneously if at all possible. Slight differences are then accommodated by the compensating chuck.

Program continuation

Clear the alarm with the RESET key. Restart part program.

22250 Channel %1 spindle %2 axis stopped during thread cutting

Explanation

%1 = channel number
%2 = axis name, spindle number

The thread cutting axis has been stopped while a thread block was active.

The stop can be caused by VDI signals that cause the feed to be interrupted.

Reactions

Alarm display.
Interface signals are set.
NC Start inhibit.

Remedy

Check the axis-/spindle-specific stop signals (V 380x0004.3)

Program continuation

Clear the alarm with the RESET key. Restart part program.

22260 Channel %1 spindle %2 thread might be damaged

Explanation

%1 = channel number
%2 = axis name
%3 = block number

When **DECODING SINGLE BLOCK** has been selected and there is a chain of thread blocks, then machining pauses occur at the block limits until the next block is executed with the new NC Start.

In normal single block mode, the program is stopped by a higher-level logic only at the block boundaries at which no contour distortions or contour errors can occur. With chained thread blocks, this is after the last thread block!

Reaction

Alarm display.

Remedy

If only one thread block has been programmed, the alarm message can be ignored.

If there are several consecutive thread blocks, this machining section must not be executed in the automatic **DECODING SINGLE BLOCK** mode.

Program continuation

Clear the alarm with NC START and continue the program.

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22270 Channel %1 block %2 spindle %3 spindle speed too high for thread cutting

Explanation
%1 = channel number
%2 = block number, label
%3 = axis name, spindle number

The spindle speed is so high for a thread cutting operation with G33 that the maximum axis velocity has been exceeded as a result of the programmed lead.

Reaction
Alarm display.

Remedy
Program a lower spindle speed or a speed limitation with G26 S ... or reduce the spindle speed prior to the thread block using SD 43 220 **SPIND_MAX_VELO_G26** or the spindle override function.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

22275 Channel %1 block %2 zero velocity of thread axis reached at position %3

Explanation
%1 = channel number.
%2 = block number, label.
%3 = position.

An axis standstill was reached at the specified position during thread cutting with G35 due to the linear decrease in the thread lead.

The standstill position of the thread axis is dependent on:

- Programmed thread lead decrease.
- Thread length.

Reaction
Alarm display.

Remedy
Change at least one of the above factors.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

22280 Channel %1 in block %2: Prog. acceleration path too short %3, required %4

Explanation
%1 = channel number
%2 = block number, label
%3 = prog. acceleration path
%4 = required acceleration path

In order to stay within the programmed acceleration path, the acceleration caused an overload on the thread axis. In order to accelerate the axis with the programmed dynamic response, the length of the acceleration path must be at least as large as the value in parameter %4.

Reaction
Alarm display.

Remedy
Adjust the setting in SD **42010 THREAD_RAMP_DISP**.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

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22321 Channel %1 axis %2 PRESET not allowed during traverse motion

Explanation
%1 = channel number
%2 = block number, label

A preset command was given from MMC or PLC while an axis was traveling in JOG mode.

Reactions
Alarm display.
Interface signals are set.

Remedy
Wait until the axis is stationary.

Program continuation
Clear the alarm with the Cancel key or with NC START.

22322 Channel %1 axis %2 PRESET: Illegal value

Explanation
%1 = channel number
%2 = axis name, spindle number

The entered Preset value is too large (number format overflow).

Reactions
Alarm display.
Interface signals are set.
NC stop on alarm.
NC start inhibit in this channel.

Remedy
Use more realistic (smaller) Preset values.

Program continuation
Clear the alarm with the RESET key. Restart part program.

25000 Axis %1 hardware fault of active encoder

Explanation
%1 = axis name, spindle number

The signals from the currently active actual position encoder (interface signal V 380x001.5) are missing, or they are not co-phasal, or they are showing a ground fault/short circuit.

Reactions
NC not ready.
NC Start inhibit.
NC Stop on alarm.
NC switches to follow-up mode.
Alarm display.
Interface signals are set.
The axes are no longer synchronized with the actual machine value (reference point).

Remedy
Check **measuring circuit connectors** for correct contacting. Check encoder signals and replace the encoder if faults are found.

Program continuation
Switch the control OFF - ON.

25001 Axis %1 hardware fault on passive encoder

Explanation
%1 = axis name, spindle number

The signals from the currently inactive actual position encoder are missing, or they are not co-phasal, or they are showing a ground fault/short-circuit.

Reaction
Alarm display.

Remedy
Please inform the authorized personnel/service department. Check measuring circuit connectors for correct contacting. Check encoder signals and replace the encoder if faults are found. Deactivate monitoring with the appropriate interface signal (V 380x001.5).

Program continuation
Clear the alarm with the RESET key. Restart part program.

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25010 Axis %1 pollution of measuring system

Explanation
%1 = axis name, spindle number

The encoder used for position control is signaling contamination (only in measuring systems with contamination signal).

Reactions
NC not ready.
NC Start inhibit.
NC Stop on alarm.
NC switches to follow-up mode.
Alarm display.
Interface signals are set.
The axes are no longer synchronized with the actual machine value (reference point).

Remedy
Check the measuring system in accordance with the instructions given by the measuring device manufacturer.

Program continuation
Clear the alarm with the RESET key. Restart part program.

25011 Axis %1 pollution of measuring system

Explanation
%1 = axis name, spindle number

The encoder not used for position control is signaling contamination (only in measuring systems with contamination signal).

Reaction
Alarm display.

Remedy
Please inform the authorized personnel/service department.
Check the measuring system in accordance with the instructions given by the measuring device manufacturer.

Program continuation
Clear the alarm with the cancel key. No further operator action required.

25020 Axis %1: zero mark monitoring

Explanation
%1 = axis name, spindle number

The position encoder pulses between 2 zero mark pulses are counted (hardware function). It checks that the encoder always outputs the same number of pulses between two zero marks. As soon as a difference is registered in the 4 low-significance counter bits, an alarm is triggered!

Reactions
NC not ready.
NC Start inhibit.
NC Stop on alarm.
NC switches to follow-up mode.
Alarm display.
Interface signals are set.
The axes are no longer synchronized with the actual machine value (reference point).

Remedy
The differences can result from transmission errors, disturbances, encoder hardware faults or from the evaluation electronics in the encoder used for position control. The actual value branch must therefore be checked:

1. **Transmission path:** Check the actual-value connector on the motor for correct contacting, check encoder cable for continuity and short circuits or ground faults (loose contact?).
2. **Encoder pulses:** Encoder power supply within the tolerance limits?
3. **Evaluation electronics:** Replace or reconfigure the drive module used. Monitoring can be switched off by setting MD 36310 **ENC_ZERO_MONITORING** to 0.

Program continuation
Clear the alarm with the RESET key. Restart part program.

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25021 Axis %1: zero mark monitoring

Explanation

%1 = axis name, spindle number

Monitoring relates to the encoder that is not used by the position control! (Interface signal DB 31 - 48, DBX 1.5 = 0 or 1.6 = 0)

The position encoder pulses between 2 zero mark pulses are counted (hardware function). A check is made in the interpolation cycle grid (default setting 4 ms) as to whether the encoder always issues the same number of pulses between the zero marks. As soon as a difference is registered in the 4 least-significance counter bits, an alarm is triggered!

Reaction

Alarm display.

Remedy

Please inform the authorized personnel/service department.
The differences can result from transmission errors, disturbances, encoder hardware faults or from the evaluation electronics in the encoder used for position control. The actual value branch must therefore be checked:

1. **Transmission path:** Check the actual-value connector on the motor and on the FDD module for correct contacting, check encoder cable for continuity and for short circuits or ground faults (loose contact?).
2. **Encoder pulses:** Encoder power supply within the tolerance limits?
3. **Evaluation electronics:** Replace or reconfigure the drive module used.

Monitoring can be switched off by setting machine data
ENC_ZERO_MON_ACTIVE [n]=... (n ... encoder number: 1, 2) to 0.

Program continuation

Clear the alarm with the cancel key. No further operator action required.

25030 Axis %1 actual velocity alarm limit

Explanation

%1 = axis name, spindle number

The actual velocity of the axis is checked once in every IPO cycle. If there are no errors, the actual velocity can never exceed the setting specified in the axis-specific MD 36200 **AX_VELO_LIMIT** (threshold for velocity monitoring). This threshold value in [mm/min, rev/min] is input by an amount that is about 5 to 10% greater than that which can occur at maximum traversing velocity. Drive errors can result in the velocity being exceeded and the alarm is then triggered.

Reactions

NC not ready.
NC Start inhibit.
NC Stop on alarm.
NC switches to follow-up mode.
Alarm display.
Interface signals are set.

Remedy

Check speed setpoint cable (bus cable).
Check the actual values and direction of position control.
Reverse the position control direction accelerates in an uncontrolled manner → axis-specific MD 32110 **ENC_FEEDBACK_POL** = < -1, 0, 1 >.
Increase monitoring limit in MD 36200 **AX_VELO_LIMIT**.

Program continuation

Clear the alarm with the RESET key. Restart part program.

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25040 Axis %1 zero speed monitoring

Explanation

%1 = axis name, spindle number

The NC monitors to ensure that the position is held at zero speed. The monitor is activated after an adjustable axial time period in MD 36040 **STANDSTILL_DELAY_TIME** which follows completion of interpolation. A continuous check is made to ascertain whether the axis is within the tolerance threshold in MD 36030 **STANDSTILL_POS_TOL**.

The following scenarios are possible:

1. The interface signal SERVO ENABLE (V 380x0002.1) is zero because the axis is clamped mechanically. Due to mechanical influences (e.g. high machining pressure), the axis is pushed away from the permissible position tolerance.
2. With a closed position control loop (without clamping) – interface signal SERVO ENABLE(V 380x0002.1) is ”1” – the axis is pushed out of position by high mechanical forces with low gain in the position control loop.

Reactions

NC not ready.
NC Start inhibit.
NC Stop on alarm.
NC switches to follow-up mode.
Alarm display.
Interface signals are set.

Remedy

- Check MD 36040 **STANDSTILL_DELAY_TIME** and MD 36030 **STANDSTILL_POS_TOL** and increase if necessary.
- Estimate the **machining forces** and lower if necessary by feedrate reduction/speed increase.
- Increase the **clamping pressure**.
- Increase the **gain** in the position control loop by improved optimization (servo gain factor MD 32200 **POSCTRL_GAIN**).

Program continuation

Clear the alarm with the RESET key. Restart part program.

25050 Axis %1 contour monitoring

Explanation

%1 = axis name, spindle number

The NC calculates for each interpolation point (setpoint) of an axis the actual value that should result based on an internal model. If this calculated actual value and the true machine actual value differ by a larger amount than given in the machine data 36400 **CONTOUR_TOL**, then the program is aborted and the alarm message is issued.

Reactions

NC not ready.
Can sometimes be switched over for all channels via MD.
NC not ready.
NC Start inhibit.
NC Stop on alarm.
NC switches to follow-up mode.
Alarm display.
Interface signals are set.

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Remedy

- **Check tolerance value in** MD 36400 **CONTOUR_TOL**, increase setting if necessary.
- **Check optimization of the position controller** (**servo gain factor** in MD 32200 **POSCTRL_GAIN**) to establish whether the axis follows the given setpoint without overshooting. Otherwise, the speed controller optimization must be improved or the Kv servo gain factor must be reduced.
- **Check acceleration in** MD 32300 **MAX_AX_ACCEL.** The position control is opened if the axis reaches current limits as a result of excessive acceleration. The "lost" actual value is "caught up" in the form of an overshoot once the control loop is closed again.
- Improvement of **speed controller optimization**.
- Check the **mechanics (smooth running, inertial masses)**.

Program continuation

Clear the alarm with the RESET key. Restart part program.

25060

Axis %1 speed setpoint limitation

Explanation

%1 = axis name, spindle number

The speed setpoint has exceeded its upper limit for a longer period than allowed.

The maximum speed setpoint is limited to a certain percentage with the axis-specific machine data 36210 **CTRLOUT_LIMIT**. A setting of 100% corresponds to the rated speed of the motor and therefore to rapid traverse velocity.

If the values are exceeded for a short time, then this is tolerated provided they do not last longer than allowed for in the axis-specific MD 36220 **CTRLOUT_LIMIT_TIME**. During this period, the setpoint is limited to the set maximum value (MD 36210 **CTRLOUT_LIMIT**).

Reactions

NC not ready.
Can sometimes be switched over for all channels via MD.
NC Start inhibit.
NC Stop on alarm.
NC switches to follow-up mode.
Alarm display.
Interface signals are set.

Remedy

If the drive controller has been set correctly and if the machining conditions are those that normally prevail, then this alarm should not occur.

- **Check actual values:** Local sluggishness of slide, speed dip and torque surge on workpiece/tool contact, travel to fixed obstacle, etc.
- **Check direction of position control:** Does the axis accelerate uncontrollably?
- Check the speed setpoint cable.

Program continuation

Clear the alarm with the RESET key.

25070

Axis %1 drift value too large

Explanation

%1 = axis name, spindle number

Applies only to analog drives!

The permissible maximum value of drift (internal, integrated drift value of automatic drift compensation) has been exceeded during the last compensation operation! The permissible maximum value is defined in the axis-specific MD 36710 **DRIFT_LIMIT**. The drift value itself is not limited.

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Automatic drift compensation: MD 36700 **DRIFT_ENABLE** = 1
The difference between actual and setpoint position (drift) is checked cyclically in the IPO cycle when the axes are at zero speed. The difference is compensated automatically to zero by slowly integrating an internal drift value.

Drift compensation by hand: MD 36700 **DRIFT_ENABLE** = 0
A static offset can be added to the speed setpoint in MD 36720 **DRIFT_VALUE**. This is not included in the drift monitoring because it acts like a voltage zero offset.

Reaction: Alarm display.

Remedy: Adjust the drift compensation with the automatic drift compensation switched off at the drive until the position lag is approximately zero. Then reactivate the automatic drift compensation in order to balance out the dynamic drift changes (temperature rise effects).

Program continuation: Clear the alarm with the cancel key. No further operator action required.

25080 Axis %1 position monitoring

Explanation: %1 = axis name, spindle number

For blocks in which "exact stop" is effective, the axis must have reached the exact stop window after the positioning time given in axis-specific MD 36 020 **POSITIONING_TIME**.
Exact stop coarse: MD 36000 **STOP_LIMIT_COARSE**
Exact stop fine: MD 36010 **STOP_LIMIT_FINE**

Reactions:
NC not ready.
Can sometimes be switched over for all channels via MD.
NC Start inhibit.
NC Stop on alarm.
NC switches to follow-up mode.
Alarm display.
Interface signals are set.

Remedy: Check whether the exact stop limits (course and fine) correspond to the dynamic possibilities of the axis, otherwise increase them, if necessary in connection with the positioning time set in MD 36020 **POSITIONING_TIME**.
Check speed controller/position controller optimization; set gain as high as possible.
Check setting of servo gain factor (MD 32200 **POSCTRL_GAIN**) and increase if necessary.

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

25105 Axis %1 measuring systems are drifting

Explanation: %1 = axis name, spindle number

The two measuring systems are drifting apart, i.e. the cyclically monitored actual value difference between the two measuring systems is greater than the associated tolerance value set in the machine data 36510 **ENC_DIFF_TOL**. This can only occur when both measuring systems are active (MD 30200 **NUM_ENCS** = 2) and referenced. The alarm can be re-configured in MD 11412 **ALARM_REACTION_CHAN_NOREADY** (channel not ready).

Reactions:
Channel not ready.
Channel not ready.
NC start inhibit in this channel.
NC stop on alarm.
NC switches to follow-up mode.
Alarm display.
Interface signals are set.

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Remedy: Please inform the authorized personnel/service department. Check machine data of active and selected encoders. Check machine data for encoder tolerance(MD 36510 **ENC_DIFF_TOL**).

Program continuation: Press the RESET key to clear alarm in all channels of this mode group. Restart part program.

25110 Axis %1 selected encoder not available

Explanation: %1 = axis name, spindle number

The selected encoder does not correspond to the maximum number of encoders in the axis-specific machine data 30200 **NUM_ENCS**, i.e. the 2nd encoder does not exist.

Reaction: Alarm display.

Remedy: Please inform the authorized personnel/service department.
Enter the number of actual value encoders used for this axis in the machine data 30200 **NUM_ENCS** ("Number of encoders").

Input value 0: Axis without encoder → e.g. spindle
Input value 1: Axis with one encoder → default setting
Input value 2: Axis with 2 encoders → e.g. direct and indirect measuring system

Program continuation: Clear the alarm with the cancel key. No further operator action required.

25200 Axis %1 requested set of parameters invalid

Explanation: %1 = axis name, spindle number

A new parameter set has been requested for the position control. The number of this parameter set is outside the permissible limit (8 parameter sets: 0 ... 7 available).

Reactions: NC Stop on alarm.
NC start inhibit.
Alarm display.
Interface signals are set.

Remedy: Please inform the authorized personnel/service department.
Check the axis-/spindle-specific interface signals (V380x4001.0 - .2 "Select drive parameter set A, B, C").

One parameter set includes the following machine data:

- MD 31050 **DRIVE_AX_RATIO_DENOM [n]**
- MD 31060 **DRIVE_AX_RATIO_NUMERA [n]**
- MD 32200 **POSCTRL_GAIN [n]**
- MD 32810 **EQUIV_SPEEDCTRL_TIME [n]**
- MD 32910 **DYN_MATCH_TIME [n]**
- MD 36200 **AX_VELO_LIMIT [n]**

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

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25201 Axis %1 drive fault

Explanation
%1 = axis name, spindle number

The drive signals a serious fault of status class 1 (ZK1). The exact cause of the fault can be identified by evaluating the following drive alarms which are output in addition:

Alarm 300 500, alarms 300 502 - 300 505, alarm 300 508, alarm 300 515, alarm 300 608, alarm 300 612, alarm 300 614, alarms 300 701 - 300 761, alarm 300 799.

Reactions
NC not ready.
Can sometimes be switched over for all channels via MD.
NC Start inhibit.
NC Stop on alarm.
NC switches to follow-up mode.
Alarm display.
Interface signals are set.

Remedy
Evaluation of the drive alarms listed above.

Program continuation
Clear the alarm with the RESET key.

25202 Axis %1 waiting for drive

Explanation
%1 = axis name, spindle number

Group fault drive (self-clearing)

Reactions
Alarm display.
Interface signals are set.

Remedy
Wait for the drive.
This alarm reveals similar problems to alarm 25201 (see this alarm).

The alarm is active continuously during power-up if the drive is not communicating (e.g. PROFIBUS connector removed).

Otherwise, the alarm is active only briefly and is replaced by alarm 25201 after an internal timeout in the event of a permanent problem.

Program continuation
Clear the alarm with the RESET key.

26000 Axis %1 clamping monitoring

Explanation
%1 = axis name, spindle number

The clamped axis has been pushed out of its setpoint position. The permissible difference is defined in the axis-specific MD 36050 **CLAMP_POS_TOL**.

Axis clamping is activated with axis-specific interface signal
V 380x0002.3: "Clamping in progress".

Reactions
NC not ready.
NC Start inhibit.
NC Stop on alarm.
NC switches to follow-up mode.
Alarm display.
Interface signals are set.

Remedy
Determine the position deviation to the setpoint position and, depending on the results, either increase the permissible tolerance in the MD or mechanically improve the clamping (e.g. increase clamping pressure).

Program continuation
Clear the alarm with the RESET key. Restart part program.

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26001 Axis %1 parameterization error: Friction compensation

Explanation

%1 = axis name, spindle number

The parameterization of the adaptation characteristic in the quadrant error compensation is not allowed because acceleration value 2 (MD 32560 **FRICT_COMP_ACCEL2)** is not between acceleration value 1 (MD 32550 **FRICT_COMP_ACCEL1**) and acceleration value 3 (MD 32570 **FRICT_COMP_ACCEL3**).

Reactions

Can sometimes be switched over for all channels via MD.
Channel not ready.
NC Start inhibit.
NC stop on alarm.
NC switches to follow-up mode.
Alarm display.
Interface signals are set.

Remedy

Please inform the authorized personnel/service department.
Check the setting parameters of the quadrant error compensation (friction compensation), if necessary switch off the compensation with MD **32500 FRICT_COMP_ENABLE**.

Program continuation

Clear the alarm with the RESET key.

26002 Axis %1 encoder %2 parameterization error: Number of encoder pulses

Explanation

%1 = axis name, spindle number
%2 = encoder number

1. Rotary measuring system (MD 31000 **ENC_IS_LINEAR**[] == FALSE)

   The number of encoder marks set in MD 31020 **ENC_RESOL**[] does not correspond to the value in the drive machine data MD1005 or zero has been entered in one of the two machine data.

2. Absolute measuring system with EnDat interface
   (MD 30240 **ENC_TYPE**[] == 4)

   On absolute encoders, the resolution of the incremental and absolute track supplied by the drive is also checked for consistency.

   - Motor measuring system: MD1005, MD1022
   - Direct measuring system: MD1007, MD1032

   The two drive machine data must have a defined relation to one another. If the conditions listed below are not fulfilled, an alarm is output.

2.1 Rotary measuring system (MD 31000 **ENC_IS_LINEAR**[] == FALSE)

MD1022/MD1005 == 4 * n [n=1,2,3...] (motor measuring system)

MD1032/MD1007 == 4 * n [n=1,2,3...] (Direct measuring system)

2.2 Linear measuring system (MD 31000 **ENC_IS_LINEAR**[] == TRUE)

MD1005/MD1022 == 4 * n [n=1,2,3...] (Motor measuring system)

MD1007/MD1032 == 4 * n [n=1,2,3...] (Direct measuring system)

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Reactions	NC not ready Under certain circumstances, can be changed over via MD channel-wide NC Start inhibit NC Stop on alarm NC switches to tracking mode Alarm display Interface signals are set.
Remedy	Please inform the authorized personnel/service department. Compare machine data For absolute encoders, pending drive alarms indicating encoder problems should be evaluated, if necessary. They could be the cause of incorrect entries in MD1022/MD1032 which are read out of the encoder by the drive.
Program continuation	Switch the control OFF - ON.

26003

Axis %1 parameterization error: Spindle pitch

Explanation	%1 = axis name, spindle number The pitch of the ballscrew/trapezoidal leadscrew set in the axis-specific MD 31030 **LEADSCREW_PITCH** is zero.
Reactions	NC not ready NC Start inhibit NC Stop on alarm NC switches to tracking mode Alarm display Interface signals are set.
Remedy	Determine pitch of ballscrew (data from machine manufacturer or pitch measurement with spindle cover removed) and enter in MD 31030 **LEADSCREW_PITCH** (usually 10 or 5 mm/rev).
Program continuation	Switch the control OFF - ON.

26004

Axis %1 encoder %2 parameterization error: grid point distance with linear encoders

Explanation	%1 = axis name, spindle number %2 = encoder number The encoder grid point distance set in the axis-specific MD 31010 **ENC_GRID_POINT_DIST** is zero.
Reactions	NC not ready. Under certain circumstances, can be changed over via MD channel-wide NC Start inhibit NC Stop on alarm NC switches to tracking mode Alarm display Interface signals are set.
Remedy	Please inform the authorized personnel/service department. Enter the encoder grid point distance according to the data given by the machine (or measuring device) manufacturer in the MD 31010 **ENC_GRID_POINT_DIST**.
Program continuation	Switch the control OFF - ON.

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26005 Axis %1 parameterization error: output rating

Explanation
%1 = axis name, spindle number

The output evaluation of the analog speed setpoint set in the MD 32250 **RATED_OUTVAL** or in MD 32260 **RATED_VELO** is zero.

Reactions
NC not ready
Under certain circumstances, can be changed over via MD channel-wide
NC Start inhibit
NC Stop on alarm
NC switches to tracking mode
Alarm display
Interface signals are set.

Remedy
The rated motor speed should be entered in MD 32260 **RATED_VELO**.

Program continuation
Clear the alarm with the RESET key. Restart part program.

26006 Axis %1 encoder %2 encoder type/output type %3 not possible

Explanation
%1 = axis name, spindle number
%2 = encoder number
%3 = encoder type/output type

Not all encoder types and/or output types are available in the current software status.

MD 30240 **ENC_TYPE**	= 0	Simulation
	= 1	Signal generator
	= 2	Rectangular encoder
	= 4	EnDat absolute encoder
MD 30130 **CTRLOUT_TYPE**	= 0	Simulation
	= 1	Standard

Reactions
NC not ready
Under certain circumstances, can be changed over via MD channel-wide
NC Start inhibit
NC Stop on alarm
NC switches to tracking mode
Alarm display
Interface signals are set.

Remedy
Check and correct in MD 32240 **ENC_TYPE** and/or MD 30130 **CTRL_OUT_TYPE**.

Program continuation
Control OFF - ON.

26014 Axis %1 MD %2 invalid value

Explanation
%1 = axis name, spindle number
%2 = string: MD identifier

MD contains an invalid value.

Reactions
NC not ready
NC Start inhibit
NC Stop on alarm
NC switches to tracking mode
Alarm display
Interface signals are set.

Remedy
Repeat entry with correct value and then Power On.

Program continuation
Switch the control OFF - ON.

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26015 Axis %1 machine data %2[%3] invalid value

Explanation
%1 = axis name, spindle number
%2 = string: MD identifier
%3 = index: MD array index

MD contains an invalid value.

Reactions
NC not ready
NC Start inhibit
NC Stop on alarm
NC switches to tracking mode
Alarm display
Interface signals are set.

Remedy
Repeat entry with correct value and then Power On.

Program continuation
Switch the control OFF - ON.

26016 Axis %1 machine data %2 invalid value

Explanation
%1 = axis name, spindle number
%2 = string: MD identifier

Machine data contains an invalid value.

Reactions
NC not ready
NC Start inhibit
NC Stop on alarm
NC switches to tracking mode
Alarm display
Interface signals are set.

Remedy
Repeat entry with correct value and then Reset.

Program continuation
Clear the alarm with the RESET key. Restart part program.

26017 Axis %1 machine data %2[%3] invalid value

Explanation
%1 = axis name, spindle number
%2 = string: MD identifier
%3 = index: MD array index

Machine data contains an invalid value.

Reactions
Channel not ready
NC Start inhibit
NC Stop on alarm
NC switches to tracking mode
Alarm display
Interface signals are set.

Remedy
Repeat entry with correct value and then Reset.

Program continuation
Clear the alarm with the RESET key. Restart part program.

26018 Axis %1 setpoint output drive %2 used more than once

Explanation
%1 = axis name, spindle number
%2 = drive number

A setpoint has been selected more than once.
The MD 30110 **CTRLOUT_MODULE_NR** contains the same value for different axes.

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Reactions	NC not ready NC Start inhibit NC Stop on alarm NC switches to tracking mode Alarm display Interface signals are set.
Remedy	Please inform the authorized personnel/service department. Avoid duplicate setpoint assignment by correcting MD 30110 **CTRLOUT_MODULE_NR**
Program continuation	Switch the control OFF - ON.

26019 Axis %1 encoder %2 measurement not possible with this controller module

Explanation	%1 = NC axis number %2 = encoder number If the MD 13100 **DRIVE_DIAGNOSIS**[8] contains a value not equal to zero, then the control has found at least one control module which does not support measuring. Measuring was programmed from the part program for the associated axis.
Reactions:	Alarm display Interface signals are set Local alarm reaction NC Stop on alarm NC Start inhibit in this channel.
Remedy	If possible, modify the measuring motion in such a manner that the axis concerned does not have to travel; do not program this axis in the MEAS block again. However, it is then no longer possible to query a measured value for this axis. Otherwise, exchange the controller module for one that supports measuring. See MD 13100 **DRIVE_DIAGNOSIS**[8].
Program continuation	Clear the alarm with the RESET key. Restart part program.

26020 Axis %1 encoder %2 hardware fault %3 during encoder initialization

Explanation	%1 = axis name, spindle number %2 = encoder number %3 = error fine coding Error during initialization or while accessing encoder (refer to additional information for absolute encoder interface from error fine coding).
Reactions	NC not ready Under certain circumstances, can be changed over via MD channel-wide NC Start inhibit NC Stop on alarm NC switches to tracking mode Alarm display Interface signals are set Axes no longer synchronized with actual machine value (reference point).
Remedy	Please inform the authorized personnel/service department. Rectify hardware error, replace encoder if necessary.

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Bit No.	Meaning	Note
Bit 0	Lighting failed	
Bit 1	Signal amplitude too small	
Bit 2	Position value incorrect	
Bit 3	Overvoltage	
Bit 4	Undervoltage	
Bit 5	Overcurrent	
Bit6	Battery change necessary	
Bit7	Checksum error	
Bit 8	EnDat encoder: incorrect overlap	
Bit 9	C/D track error on encoder ERN1387 or EQN encoder connected or incorrectly configured (not on EQN, MD 1011)	
Bit 10	Log cannot be aborted or old hardware	
Bit 11	SSI level detected on data line or no encoder connected or incorrect encoder cable (ERN instead of EQN)	
Bit 12	Timeout while reading measuring value	
Bit 13	CRC error	
Bit 14	Incorrect IPU submodule for direct measuring signal	Only for 611D expansion
Bit 15	Encoder faulty	

Program continuation Switch the control OFF - ON.

26022

Axis %1 encoder %2 measurement with simulated encoder not possible

Explanation %1 = NC axis number
%2 = encoder number

Alarm occurs on the control when a measurement is made without the encoder hardware (simulated encoder).

Reactions Alarm display
Interface signals are set
NC Stop on alarm
NC not ready.

Remedy Please inform the authorized personnel/service department.

- If possible, modify the measuring motion in such a manner that the axis concerned does not have to travel; do not program this axis in the MEAS block again. However, it is then no longer possible to query a measured value for this axis.
- Ensure that measurement is not taking place with simulated encoders (MD 30240 **ENC_TYPE**).

Program continuation Clear the alarm with the RESET key. Restart part program.

26024

Axis %1 machine data %2 value changed

Explanation %1 = axis name, spindle number
%2 = string: MD identifier

The machine data contains an invalid value. This has therefore been changed by the software.

Reaction Alarm display.

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Remedy Check MD.

Program continuation Clear the alarm with the RESET key. Restart part program.

26025 Axis %1 machine data %2 value changed

Explanation %1 = axis name, spindle number
%2 = string: MD identifier
%3 = index: MD array index

The machine data contains an invalid value. It has therefore been changed internally by the software to a valid value.

Reaction Alarm display.

Remedy Check MD.

Program continuation Clear the alarm with the RESET key. Restart part program.

26030 Axis %1 encoder %2 absolute position lost

Explanation %1 = axis name, spindle number %2 = encoder number

The absolute position of the absolute encoder was invalid because a changed gear stage ratio was found between encoder and processing during the parameter block change.

Reactions NC not ready
Under certain circumstances, can be changed over via MD channel-wide
NC Start inhibit
NC Stop on alarm
NC switches to tracking mode
Alarm display
Interface signals are set
Axes no longer synchronized with actual machine value (reference point).

Remedy Please inform the authorized personnel/service department.
Re-referencing/resynchronization of the absolute encoder; attach encoder on the load side and configure correctly (e.g. MD 31040 **ENC_IS_DIRECT**).

Program continuation Clear the alarm with the RESET key.

26050 Axis %1 parameter block change from %2 to %3 not possible

Explanation %1 = axis name, spindle number
%2 = index: current parameter block
%3 = index: new parameter block

The parameter block change cannot be performed without jumps. This is due to the content of the parameter block to be switched on, e.g. different load gear factors.

Reactions NC Start inhibit
NC Stop on alarm
Alarm display
NC switches to tracking mode
Interface signals are set
Local response.

Remedy -

Program continuation Clear the alarm with the RESET key. Restart part program.

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26052 Channel %1 in block %2: path velocity too high for auxiliary function output

Explanation
%1 = channel number
%2 = block number, label

This alarm usually occurs in a block with auxiliary function output during a movement. In this case, the wait for acknowledgement of the auxiliary function was longer than planned.
The alarm occurs if internal control inconsistencies cause continuous path mode (G64, G641, ...) to be blocked unexpectedly.
The path interpolation stops abruptly at the end of the block indicated in the message (regenerative stop). On the next block change, the path continues unless the abrupt stop has caused an error in the position controller (e.g. because the MD 36400 **CONTOUR_TOL** setting was over-sensitive).

Reaction
Alarm display.

Remedy
Program G09 in the block indicated in the message to allow the path interpolation to stop as planned.

Program continuation
Clear the alarm with the Cancel key. No further operator action required.

26070 Channel %1 axis %2 cannot be controlled by the PLC, max. number exceeded

Explanation
%1 = channel number
%2 = axis name, spindle number

An attempt has been made to control more axes than allowed from the PLC.

Reactions
Interface signals are set.

Alarm display.

Remedy
Check the machine data MD_NUM_MAX_PLC_CNTRL_AXES and correct if necessary or reduce the number of PLC-controlled axes.

Program continuation
Clear the alarm with the Cancel key or with NC START.

26072 Channel %1 axis %2 cannot be controlled by the PLC

Explanation
%1 = channel number
%2 = axis name, spindle number

The axis cannot be made a PLC-controlled axis. For the time being, the axis cannot be controlled at any state from the PLC.

Reactions:
Alarm display
Interface signals are set

Remedy
Use Release or Waitp to make the axis a neutral one.

Program continuation
Clear the alarm with the Cancel key or with NC START.

26074 Channel %1 switching off PLC control of axis %2 not allowed in the current state

Explanation
%1 = channel
%2 = axis, spindle

The PLC can return the control rights for an axis to program execution only if the axis is in the READY state.

Reactions
Alarm display
Interface signals are set
Interpreter stop
NC Start inhibit in this channel.

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Remedy Activate axial RESET and repeat procedure.

Program continuation Clear the alarm with the Cancel key or with NC START.

26100 Axis %1 drive %2 sign of life missing

Explanation %1 = axis name, spindle number
%2 = drive number

The drive control cell counter increases by one “sign of life cell” in each control cycle. The servo checks this counter for changes in the interpolation cycle. If the number of cells remains unchanged, the alarm is set.

Reactions NC not ready
NC Start inhibit
NC Stop on alarm
NC switches to tracking mode
Alarm display
Interface signals are set.

Remedy When this alarm is triggered, other error messages (system errors, e.g. stack overflow) are displayed. Evaluation of these messages provides information on the cause of the error.

If this alarm occurs repeatedly, the alarm displays and an exact as possible machine and program analysis should be recorded and reported to the Siemens AG, system support hotline for A&D MC products.

Program continuation Switch the control OFF - ON.

26101 Axis %1 drive %2 communication failure

Explanation %1 = axis name, spindle number
%2 = drive number

The drive is not communicating.

Reactions NC not ready
NC Start inhibit
NC Stop on alarm
NC switches to tracking mod.
Alarm display
Interface signals are set
Axes no longer synchronized with actual machine value (reference points).

Remedy Check bus configuration.
Check the interface (connector removed, option module inactive, etc.).

Program continuation Clear the alarm with the RESET key.

26102 Axis %1 drive %2 sign of life missing

Explanation %1 = axis name, spindle number
%2 = drive number

The sign of life cell is no longer being updated by the drive.

Reactions NC not ready
NC Start inhibit
NC Stop on alarm
NC switches to tracking mode
Alarm display
Interface signals are set
Axes no longer synchronized with actual machine value (reference points).

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Remedy Check cycle setting, extend cycle time if required.
Restart drive, check drive software

Program continuation Clear the alarm with the RESET key.

26105 Drive of axis %1 not found

Explanation %1 = axis name, spindle number

The drive configured for the specified axis could not be found. For example, a PROFIBUS slave was configured on the NC but is not contained in SDB.

Reactions NC not ready
NC Start inhibit
NC Stop on alarm
NC switches to tracking mode
Alarm display
Interface signals are set.

Remedy Possible causes:

1. MD 30130 **CTRLOUT_TYPE** not equal to 0 as a result of an oversight; the drive should actually be simulated (= 0).
2. MD 30110 **CTRLOUT_MODULE_NR** entered incorrectly, i.e. the logical drive numbers have been mixed up, or a drive number which does not exist on the bus has been entered (check e.g. the number of slaves)
3. An incorrect SDB is being used or the addresses of the input and output slots of the drives were not selected during PROFIBUS configuration.

Program continuation Switch the control OFF - ON.

26106 Encoder %2 of axis %1 not found

Explanation %1 = axis name, spindle number
%2 = encoder number

The drive configured for the specified axis could not be found. For example, a PROFIBUS slave was configured on the NC but is not contained in SDB.

Reactions NC not ready
NC Start inhibit
NC Stop on alarm
NC switches to tracking mode
Alarm display
Interface signals are set.

Remedy Possible causes:

1. MD 30240 **ENC_TYPE** not equal to 0 as a result of an oversight; the encoder should actually be simulated (= 0).
2. MD 30220 **ENC_MODULE_NR** entered incorrectly, i.e. the logical drive numbers have been mixed up, or a drive number which does not exist on the bus has been entered (check e.g. the number of slaves)
3. An incorrect SDB is being used or the addresses of the input and output slots of the drives were not selected during PROFIBUS configuration.

Program continuation Switch the control OFF - ON.

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29033 Channel %1 axis change of axis %2 not possible, PLC axis movement not yet completed

Explanation
%1 = channel number
%2 = axis

A PLC axis has not yet reached its end position and cannot be returned to the NC or neutralized.

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

Remedy
Wait until the axis has reached the end position or terminate the movement with delete distance to go.

Program continuation
Clear the alarm with the RESET key. Restart part program.

300402 System error in drive link. Error codes %1, %2

Explanation
%1 = error code 1
%2 = error code 2

An internal software error or serious error condition has occurred which may be recoverable by a hardware reset. Troubleshooting can generally be performed only by Siemens AG, System Support for A&D MC Products, Hotline (Phone see page 9).

In the error code combination (1077,X) the distribution of computing time for the drive communication sub-task should be increased using MD10140 **TIME_LIMIT_NETTO_DRIVE_TASK** (up to 500ms possible).

If the above-mentioned limit is exhausted and the alarm continues to occur, the MD10150 **PREP_DRIVE_TASK_CYCLE_RATIO=1** can be set additionally. Please note that by reducing MD10150, the time share of the preparation in the non-cyclic time plane is reduced. This may lead to longer block cycle times.

Reactions
NC not ready
NC Stop on alarm
NC Start inhibit
NC switches to tracking mode
Alarm display
Interface signals are set.

Remedy
Make a note of the error text and contact Siemens AG A&D MC, Hotline (Phone see page 9)

Program continuation
Switch the control OFF - ON.

300405 Axis %1 drive %2 unknown drive alarm, code %3

Explanation
%1 = NC axis number
%2 = drive number
%3 = service number

The service number signaled by the drive is not implemented in the NCK. It cannot be assigned to any alarm number.

Reactions:
Channel not ready
NC Start inhibit in this channel
NC Stop on alarm
NC switches to tracking mode
Alarm display
Interface signals are set.

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Remedy	Please inform the authorized personnel/service department. Reinitialization of the drive required. The search for the precise cause of the error can only be performed by the development team. The displayed error codes are always needed for this. Make a note of the error text and contact Siemens AG A&D MC, Hotline (Phone see page 9)
Program continuation	Press the RESET key to clear alarm in all channels of this mode group. Restart part program.

300406

Problem in non-cyclic communication for base address %1, additional info %2, %3, %4

Explanation	A problem has arisen during non-cyclic communication with the logic base address. The additional pieces of information identify the location of the problem.
Reactions	Alarm display Message display.
Remedy	Please inform the authorized personnel/service department. The alarm can be suppressed when ENABLE_ALARM_MASK bit 1 == 0. SIEMENS AG, After-Sales Support for A&D MC Products, Hotline.
Program continuation	Clear the alarm with the Cancel key or with NC START.

300410

Axis %1 drive %2 error when storing a file (%3, %4)

Explanation	%1 = NC axis number %2 = drive number %3 = error code 1 %4 = error code 2 An attempt to save a data block, e.g. the result of a measuring function, in the file system has failed.
Reactions	Alarm display Interface signals are set.
Remedy	Create more space in the file system. It is normally sufficient to delete 2 NC programs or to free 4 – 8KB of memory.
Program continuation	Clear the alarm with the RESET key.

300411

Axis %1 drive %2 error when reading a file (%3, %4)

Explanation	%1 = NC axis number %2 = drive number %3 = error code 1 %4 = error code 2 An attempt to read a data block, e.g. a drive boot file, from the file system has failed. The data block or the file system is damaged.
Reactions	Alarm display Interface signals are set.
Remedy	If the error occurred during power-up, i.e. it is probably connected to a drive boot file, delete all boot files and load them back into the control from the back-up copy.
Program continuation	Clear the alarm with the RESET key.

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300412 Error when storing a file (%1, %2)

Explanation
%1 = error code 1
%2 = error code 2

An attempt to save a data block, e.g. the result of a measuring function, in the file system has failed.

Reactions
Alarm display
Interface signals are set.

Remedy
Please inform the authorized personnel/service department.
Create more space in the file system. It is normally sufficient to delete 2 NC programs or to free 4 – 8KB of memory.

Program continuation
Clear the alarm with the RESET key.

300413 Error when reading a file (%1, %2)

Explanation
%1 = error code 1
%2 = error code 2

An attempt to read a data block, e.g. a drive boot file, from the file system has failed. The data block or the file system is damaged.

Reactions
Alarm display
Interface signals are set.

Remedy
If the error occurred during power-up, i.e. it is probably connected to a drive boot file, delete all boot files and load them back into the control from the back-up copy.

Program continuation
Clear the alarm with the RESET key.

300423 Measuring results could not be read (%1)

Explanation
%1 = error code

An attempt to read a measurement result has failed:
Error code = 4: Not enough space for test result
Error code = 16: Measurement not yet finished

Reactions
Alarm display
Interface signals are set.

Remedy
Repeat measurement. Change measurement time if necessary.

Program continuation
Clear the alarm with the RESET key.

300500 Axis %1, drive %2 drive system error, error codes %3, %4

Explanation
%1 = NC axis number
%2 = drive number
%3 = error code 1
%4 = error code 2

The drive has signaled a system error.

Reactions
NC not ready
Under certain circumstances, can be changed over via MD channel-wide
Channel not ready
NC Stop on alarm
NC Start inhibit
NC switches to tracking mode
Alarm display
Interface signals are set.

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Remedy

You will find information on the error codes under 1.7 "Error codes of alarm 300500" at the end of this document.

NC reset (Power On)
The search for the precise cause of error can only be performed by the development team. The displayed error codes are always needed for this. Reinitialization of the drive required.

Please inform the authorized personnel/service department.
SIEMENS AG, After-Sales Support for A&D MC Products, Hotline.
(Phone: see Section 1.1).

Program continuation

Switch the control OFF - ON.

Effect

For FDD: Regenerative stop (corresponds to STOP B)
For RDD: Pulse and controller inhibit (corresponds to STOP A).

Explanation

The error occurs if the computation time of the drive processor is not sufficient for the cycle indicated in the additional information.

Error No.	Additional information	Explanation
...		
For 840D: 03 For 840C: F003	40	Monitoring clock cycle for SINUMERIK Safety Integrated too low.
...		

Remedy

Increase the relevant clock cycle or subordinate clock cycle (e.g. current-control, speed-control or position-control clock cycle) or deselect any functions that are not required.

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1.2 PROFIBUS alarms

380001

PROFIBUS DP: startup error, reason %1 parameter %2 %3 %4

Explanation

%1 = cause of error
%2 = parameter 1
%3 = parameter 2
%4 = parameter 3

An error occurred during startup of the DP master.

Error cause:	Par 1:	Par 2:	Par 3:
01=DPM version	DPM version	DPA version	
02=DPM power-up time-out	DPM actual status	DPM nominal status	
03=DPM power-up status	DPM actual status	DPM nominal status	DPM error code
04=DPM power-up error	DPM actual status	DPM nominal status	DPM error code
05=DPM-PLL sync error			
07=Alarm source too long	Actual number	Nominal number	
08=Unknown client	Client ID		
09=Client version	Client ID	Client version	DPA version
10=Too many clients	Client number	Max. number of clients	

Clients are the following components of the control system that use the PROFIBUS DP:
Client ID = 1: PLC
Client-ID = 2: NCK

Causes could be:
- SDB has incorrect content
- Hardware defect in NC components

Reactions

Alarm display,
Interface signals are set,
NC not ready,
NC Start inhibit

Remedy

Please proceed as follows:

1. Check the control project (particularly SDB); check MD 11240; if a user-specific SDB is in use, load it again.
2. If the error still exists, save the file and restart the control system using the default values with which the system was supplied.
3. If the system starts up without an error, the user data should be loaded one step at a time.

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4. If the error still exists after startup with the default values, reboot from the PC card or update the software.
5. If the error still exists, replace the hardware. If the error cannot be eliminated by this procedure, please make a note of the error text and contact the control system manufacturer.

Program continuation

Switch control system OFF and ON again.

380003

PROFIBUS DP: operating error, reason %1, parameter %2 %3 %4

Explanation

%1 = cause of error
%2 = parameter 1
%3 = parameter 2
%4 = parameter 3

An operating error occurred on the PROFIBUS DP in cyclic mode.

Error cause:	Par 1:	Par 2:	Par 3:
01=Unknown alarm	Alarm class	Logical address	
02=DPM cycle time-out	DPM actual status	DPM nominal status	
03=DPM cycle status	DPM actual status	DPM nominal status	DPM error code
04=DPM cycle error	DPM actual status	DPM nominal status	DPM error code
05=Not registr. client	Client number	Max. number of clients	

Alarm class: (see alarm 380060)

For error cause 01, the main causes may be:

- data transfer fault on the PROFIBUS DP

For error causes 02, 03, 04:

- Error in contents of SDB

For error causes 02, 03, 04, 05:

- Parts of the system program have been damaged

Reactions

Alarm display
Interface signals are set
NC not ready
NC Start inhibit.

Remedy

For error cause 01:

- Check the electrical and fault-related specifications for PROFIBUS DP, assess the cable installation
- Check the terminating resistors of the PROFIBUS connectors (CN setting at end of cable, otherwise OFF setting required)
- Check slave for error causes 02, 03, 04:
- Check SDB for error causes 02, 03, 04, 05:
- Follow the procedure described for troubleshooting alarm 380001

If the error cannot be eliminated by this procedure, please make a note of the error text and contact the control system manufacturer.

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Program continuation Clear the alarm with the RESET key.

380005

PROFIBUS-DP: bus %3 access conflict, type %1, counter %2

Explanation %1 = conflict type
%2 = serial number within the conflict sequence
%3 = number of the bus affected

An access conflict occurred on the PROFIBUS DP in cyclic mode: The NCK attempted to write data to the bus or to read from the bus while cyclic data transfer was active. This can lead to data integrity problems. Type 1: Cyclic transfer has not finished on the PROFIBUS when the NCK attempts to read data Type 2. The NCK has not finished writing data when cyclic transfer begins again. Counter %2 contains a serial number starting at the number 1. A maximum of 10 alarms are output in succession. If no conflicts occur in a DP cycle, the counter is reset and new alarms are output again during the next conflict.

Reaction Alarm display.

Remedy Recheck timing conditions, correctly set SYSCLOCK_CYCLE_TIME and

POSCTRL_CYCLE_DELA especially:
POSCTRL_CYCLE_DELAY must be larger for type 1.
POSCTRL_CYCLE_DELAY must be smaller for type 2.

- If alarm-free operation cannot be achieved with any POSCTRL_CYCLE_DELAY setting, SYSCLOCK_CYCLE_TIME must be increased.
- If the error cannot be eliminated by this procedure, please make a note of the error text and contact the control system manufacturer.

Program continuation Clear the alarm with the Cancel key or with NC START.

380020

PROFIBUS DP: SDB error %1 for SDB source %2

Explanation %1 = cause of error
%2 = SDB source

Error in SDB for PROFIBUS DP configuration.

Error cause:

01=SDB not present in SDB source
02=SDB in SDB source too big.
03=SDB cannot be activated in SDB source.

SDB source:

00=Default SDB1	(selected by MD 11240 = 0 if no user SDB is loaded in the control system)
01=Standard SDB1	(selected by MD 11240 = 1)
02=Standard SDB2	(selected by MD 11240 = 2)

...

100 = SDB located in supported memories (SRAM)
101 = User SDB located in file system
102 = SDB reloaded in SRAM during power-up

Reactions PROFIBUS is inactive and/or functioning according to default SDB
Alarm display
Interface signals are set
NC not ready
NC Start inhibit.

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Remedy
- Check MD 11240
- If SDB source = 100: Reload user SDB in passive file system /_N_IBN_DIR/_N_SDB_BIN.
- If SDB source = 101, check support accumulators.
- If SDB source = 102: Follow the procedure described for troubleshooting alarm 380001.
- If alarm 380021 is also signaled, please follow the instructions provided for this alarm.

If the error cannot be eliminated by this procedure, please make a note of the error text and contact the control system manufacturer.

Program continuation: Switch control system OFF and ON again.

380021

PROFIBUS DP: default SDB was loaded

Explanation: No user-specific SDB exists.
The default SDB was loaded during startup.

Without process peripherals, the NC is ready for a start-up.

The alarm is triggered the first time the NC is switched on or once if the SDB stored in the supported RAM is lost.

Reaction: Alarm display

Remedy: Produce user-specific SDB and load in the control or select and activate standard SDB using MD 11240 **PROFIBUS_SDB_NUMBER**.

Restart the NC.

If the error occurs the next time the NC is switched on, the SDB which was loaded contains an error and must be created again.

Program continuation: Clear the alarm with the Cancel key.

380022

PROFIBUS DP: configuration in DP master bus %1 has been changed

Explanation: %1 = number of the bus affected

The PROFIBUS configuration on the DP master was changed during operation, e.g. by downloading a new hardware configuration. Since it is possible that the cycle data has changed, operation cannot be continued and a warm start is required.

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

Remedy: NCK restart. If the error cannot be eliminated by this procedure, please make a note of the error text and contact the control system manufacturer.

Program continuation: Switch the control OFF - ON.

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380040

PROFIBUS DP: configuration error %1, parameter %2

Explanation

%1 = cause of error
%2 = parameter

The PROFIBUS DP was not generated in SDB in accordance with the configuration specifications of the NC in use.

Error cause:	Par 1:
01 = SDB contains slave or diagnostic slot	Slave address
02 = SDB contains too many slot entries	Identifier

Reactions

Alarm display
Interface signals are set
NC not ready
NC Start inhibit.

Remedy

Check that SDB

- contains a diagnostic slot for every slave and
- only contains slave entries that are relevant to the application.

It is possible to include a superset of slaves in SDB for use in different end versions of the product. This overloads the NC memory and runtime capacity, however, and should therefore be avoided. If this alarm occurs, it is necessary to reduce SDB to a minimum.

If the alarm continues to occur, please make a note of the error text and contact the control system manufacturer.

Program continuation

Switch control system OFF and ON again.

380050

PROFIBUS DP: multiple assignment of inputs on address %1

Explanation

%1 = logical address

Multiple assignments of input data have been detected in the logical address space.
Logical address: Base address of the address area defined several times

Reactions

Alarm display
Interface signals are set
NC not ready
NC Start inhibit.

Remedy

The address partitioning should be checked as follows:

Check for multiple assignments in the following machine data:

MD 13050[1] - MD 13050[n]	n = Largest axis index of control
MD 12970, 12971	PLC address range for digital inputs
MD 12978, 12979	PLC address area for analog outputs

If no inconsistencies can be found in the parameters, compare the machine data with the configuration in SDB. In particular, check that the lengths configured for the individual slots do not result in area overlaps. When you find the cause of the error, change the machine data and/or SDB.

Program continuation

Switch control system OFF and ON again.

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380051

PROFIBUS DP: multiple assignment of outputs on address %1

Explanation

%1 = Logical address

Multiple assignments of input data have been detected in the logical address space.
Logical address: Base address of the address area defined several times

Reactions

Alarm display
Interface signals are set
NC not ready
NC Start inhibit.

Remedy

The address partitioning should be checked as follows:

Check for multiple assignments in the following machine data:

MD 13050[1] - MD 13050[n]	n = Largest axis index of control
MD 12974, 12975	PLC address range for digital outputs
MD 12982, 12983	PLC address area for analog outputs

If no inconsistencies can be found in the parameters, compare the machine data with the configuration in SDB. In particular, check that the lengths configured for the individual slots do not result in area overlaps. When you find the cause of the error, change the machine data and/or SDB.

Program continuation

Switch control system OFF and ON again.

380060

PROFIBUS DP: alarm %1 on logical address %2 from unassigned station

Explanation

%1 = alarm class
%2 = logical address

SDB contains a slave which is not assigned in the NC via the MD parameters (see the help for alarm 380 050/51). The slave is also connected to the PROFIBUS DP. An alarm has been triggered by a slave of this type.

Alarm class:

01 = Station return (or arrival)
02 = Station failure

Operation with the NC is not possible.

Reaction

Alarm display.

Remedy

- Add MD or
- change SDB or
- disconnect the slave from PROFIBUS DP or
- acknowledge alarm

Program continuation

Clear the alarm with the Cancel key.

380070

PROFIBUS DP: no input slot available for base address %1 (length %2)

Explanation

%1 = logical base address of area requested
%2 = size of area in bytes

An incorrect logical base address was specified for a digital input.

Either no slot has been configured for this base address or the requested area extends beyond the end of the slot.

Reactions

Alarm display
Interface signals are set
NC not ready
NC Start inhibit.

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Remedy
Check your hardware configuration for modules that are not connected or are defective and replace them.

If the error cannot be eliminated, please make a note of the error text and contact the control system manufacturer.

Program continuation
Switch the control OFF - ON.

380071

PROFIBUS DP: no output slot available for base address %1 (length %2)

Explanation
%1 = logical base address of area requested
%2 = size of area in bytes

An incorrect logical base address was specified for a digital or analog input.

Either no slot has been configured for this base address or the requested area extends beyond the end of the slot.

Reactions
Alarm display
Interface signals are set
NC not ready
NC Start inhibit.

Remedy
Check your hardware configuration for modules that are not connected or are defective and replace them.

If the error cannot be eliminated, please make a note of the error text and contact the control system manufacturer.

Program continuation
Switch the control OFF - ON.

380072

PROFIBUS DP: output slot for base address %1 (size %2) not allowed

Explanation
%1 = logical base address of area requested
%2 = size of area in bytes

An incorrect logical base address was set for a digital or analog output, the area resides in the access range of the PLC (process output copy, base addresses < 128).

Reactions
Alarm display
Interface signals are set.
NC not ready
NC Start inhibit.

Remedy
Check your hardware configuration for modules that are not connected or are defective and replace them.

If the error cannot be eliminated, please make a note of the error text and contact the control system manufacturer.

Program continuation
Power-down the control and power-up again.

380075

PROFIBUS DP: DP I/O failure slave %1

Explanation
%1 = slave address

Failure of a PROFIBUS slot used by the NCK for digital or analog I/O.

Reaction
Alarm display

Remedy
Check that the PROFIBUS slave is operating correctly (all slaves must be included in the bus, green LED)

Program continuation
Alarm display disappears with alarm cause. No further operator action required.

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380500

PROFIBUS DP: fault on drive %1, code %2, value %3, time %4

Explanation

%1 = axis
%2 = fault code of drive (P824)
%3 = fault value of drive (P826)
%4 = fault time of drive (P825)

Contents of fault memory of assigned drive.

Reaction: Alarm display

Remedy: For fault codes/fault values, refer to drive documentation.

Program continuation: Alarm display disappears with alarm cause. No further operator action required.

380501

PROFIBUS DP: fault on bus %1, slave %2, code %3, time %4

Explanation

%1 = bus number
%2 =slave address
%3 = fault value of drive (P945)
%4 = fault time of drive (P948)

Contents of fault memory of assigned slave.

Reaction: Alarm display

Remedy: For fault codes/fault values, refer to drive documentation.

Program continuation: Alarm display disappears with alarm cause. No further operator action required.

380502

PROFIBUS DP: bus %1, slave %2, configuration changed

Explanation:

%1 = bus number
%2 = slave address

The PB bus configuration has changed.

Causes:

- Initial start-up

- New PB slave detected on bus

Reactions: Interface signals are set
Alarm display

Remedy: Another warm start is needed to allow operating the bus with the new configuration.

Program continuation: Switch the control OFF - ON.

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1.3 Cycle alarms

60000 Channel %1 block %2:

Explanation	%1 = channel number %2 = block number, label
Reactions	Alarm display Interface signals are set NC Start inhibit.
Remedy	-
Program continuation	Clear the alarm with the RESET key. Restart part program.

61000 No tool correction activated

Source (cycle)	SLOT1, SLOT2 POCKET3, POCKET4 CYCLE71 CYCLE72 CYCLE93 to CYCLE95
Reaction	Block preparation in NC is aborted
Remedy	A tool must be programmed with corrections in the program called up.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61001 Thread lead incorrect

Source (cycle)	CYCLE84 CYCLE840 CYCLE97 CYCLE376T
Reaction	Block preparation in NC is aborted
Remedy	Check parameters for thread size and check pitch information (contradict each other)
Program continuation	Clear the alarm with the RESET key. Restart part program.

61002 Machining type incorrectly defined

Source (cycle)	SLOT1, SLOT2 POCKET3, POCKET4 CYCLE71 CYCLE72 CYCLE93 CYCLE95 CYCLE97
Reaction	Block preparation in NC is aborted
Remedy	The machining type parameter VARI has been set to the wrong value and needs to be altered.
Program continuation	Clear the alarm with the RESET key. Restart part program.

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61003 No feedrate programmed in cycle

Source (cycle)	CYCLE71 CYCLE72 CYCLE371T to CYCLE374T CYCLE383T to CYCLE385T CYCLE381M, CYCLE383M, CYCLE384M, CYCLE387M
Reaction	Block preparation in NC is aborted
Remedy	The parameter for feedrate has been incorrectly set and must be altered.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61009 Active tool number = 0

Source (cycle)	CYCLE71 CYCLE72
Reaction	Block preparation in NC is aborted
Remedy	No tool (T) has been programmed before the cycle call.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61010 Finishing allowance too large

Source (cycle)	CYCLE71 CYCLE72
Reaction	Block preparation in NC is aborted
Remedy	An active scaling factor is active which is not permissible for this cycle.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61011 Scaling not permitted

Source (cycle)	CYCLE72
Reaction	Block preparation in NC is aborted
Remedy	The finishing allowance at the base is larger than the overall depth, it must be reduced.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61101 Reference plane incorrectly defined

Source (cycle)	CYCLE71 CYCLE22 CYCLE81 to CYCLE88 CYCLE840 CYCLE375T SLOT1, SLOT2 POCKET3, POCKET4
Reaction	Block preparation in NC is aborted
Remedy	Either different values must be entered for the reference plane and the retraction plane if they are relative values or an absolute value must be entered for the depth.
Program continuation	Clear the alarm with the RESET key. Restart part program.

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61102 No spindle direction programmed

Source (cycle)	CYCLE86 CYCLE88 CYCLE840 CYCLE370T to CYCLE374T, CYCLE376T CYCLE383T to CYCLE385T CYCLE381M, CYCLE383M, CYCLE384M, CYCLE387M POCKET3, POCKET4
Reaction	Block preparation in NC is aborted
Remedy	Parameter SDIR (or SDR in CYCLE840) must be programmed.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61103 Number of holes is zero

Source (cycle)	HOLES1 HOLES2
Reaction	Block preparation in NC is aborted
Remedy	No value has been programmed for the number of holes.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61104 Contour violation of slots/longitudinal holes

Source (cycle)	SLOT1 SLOT2
Reaction	Block preparation in NC is aborted
Remedy	Errors in parameterization of milling pattern in those parameters which define the position and shape of slots/longitudinal holes on a circle
Program continuation	Clear the alarm with the RESET key. Restart part program.

61105 Cutter radius too large

Source (cycle)	SLOT1, SLOT2 POCKET3, POCKET4
Reaction	Block preparation in NC is aborted
Remedy	The cutter diameter in the tool offset memory is larger than the pocket or slot width. Use a smaller cutter or change the pocket width
Program continuation	Clear the alarm with the RESET key. Restart part program.

61106 Number of and/or distance of circle elements too great

Source (cycle)	HOLES2 SLOT1, SLOT2
Reaction	Block preparation in NC is aborted
Remedy	Incorrect parameterization of NUM or INDA. The layout of the circle elements in a full circle is not possible.
Program continuation	Clear the alarm with the RESET key. Restart part program.

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61107 First drilling depth incorrectly defined

Source (cycle)	CYCLE83
Reaction	Block preparation in NC is aborted
Remedy	Change value for first drilling depth (first drilling depth is in the opposite direction to the total drilling depth)
Program continuation	Clear the alarm with the RESET key. Restart part program.

61108 No valid settings for parameters _RAD1 and _DP1

Source (cycle)	POCKET3 POCKET4
Reaction	Block preparation in NC is aborted
Remedy	The parameters _RAD1 and _DP for defining the path for the depth infeed have been incorrectly set.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61109 Parameter _CDIR incorrectly defined

Source (cycle)	POCKET3 POCKET4
Reaction	Block preparation in NC is aborted
Remedy	The cutting direction _CDIR parameter has been set to the wrong value and needs to be altered.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61110 Finishing allowance on base > infeed depth

Source (cycle)	POCKET3 POCKET4
Reaction	Block preparation in NC is aborted
Remedy	The finishing allowance at the base has been specified to be larger than the maximum depth infeed; either reduce the finishing allowance or increase the depth infeed.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61111 Infeed width > tool diameter

Source (cycle)	CYCLE71 POCKET3 POCKET4
Reaction	Block preparation in NC is aborted
Remedy	The programmed infeed width is greater than the diameter of the active tool. It must be reduced.
Program continuation	Clear the alarm with the RESET key. Restart part program.

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61112 Tool radius negative

Source (cycle)	CYCLE72
Reaction	Block preparation in NC is aborted
Remedy	The radius of the active tool is negative. This is not permitted.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61113 Parameter _CRAD for corner radius too large

Source (cycle)	POCKET3
Reaction	Block preparation in NC is aborted
Remedy	The parameter for the corner radius _CRAD has been set too large. It must be decreased.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61114 Direction of machining G41/G42 incorrectly defined

Source (cycle)	CYCLE72
Reaction	Block preparation in NC is aborted
Remedy	The machining direction of the cutter radius compensation G41/G42 has been incorrectly selected.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61115 Approach and retract mode (straight line/circle/plane/space) incorrectly defined

Source (cycle)	CYCLE72
Reaction	Block preparation in NC is aborted
Remedy	An incorrect contour approach or retract mode was defined; check parameter _AS1 or _AS2.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61116 Approach or retract path=0

Source (cycle)	CYCLE72
Reaction	Block preparation in NC is aborted
Remedy	The approach or retract path is set to zero, it must be increased; check parameter _LP1 and/or _LP2.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61117 Active tool radius <= 0

Source (cycle)	CYCLE71 POCKET3 POCKET4
Reaction	Block preparation in NC is aborted
Remedy	The radius of the active tool is negative or zero. This is not permitted.
Program continuation	Clear the alarm with the RESET key. Restart part program.

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61118 Length or width = 0

Source (cycle)	CYCLE71
Reaction	Block preparation in NC is aborted
Remedy	The length or width of the cutting area is not permitted; check parameters _LENG and _WID.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61124 Infeed width is not programmed

Source (cycle)	CYCLE71
Reaction	Block preparation in NC is aborted
Remedy	In active simulation without a tool, a value for the infeed width _MIDA must always be programmed.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61601 Finished part diameter too small

Source (cycle)	CYCLE94
Reaction	Block preparation in NC is aborted
Remedy	A finished part diameter of <3mm has been programmed. Increase value.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61602 Tool width incorrectly defined

Source (cycle)	CYCLE93
Reaction	Block preparation in NC is aborted
Remedy	The tool width (recessing tool) is larger than programmed recess width.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61603 Recess shape incorrectly defined

Source (cycle)	CYCLE93 CYCLE374T
Reaction	Block preparation in NC is aborted
Remedy	⇒ Radii/chamfers at the groove base do not match the groove width ⇒ Face groove on a contour element running parallel to the longitudinal axis is not possible.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61604 Active tool is in violation of programmed contour

Source (cycle)	CYCLE95
Reaction	Block preparation in NC is aborted
Remedy	Contour violation in relief cut elements caused by the tool clearance angle of the tool used, i.e. use another tool or check sub-contour program.
Program continuation	Clear the alarm with the RESET key. Restart part program.

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61605 Contour incorrectly programmed

Source (cycle)	CYCLE95
Reaction	Block preparation in NC is aborted
Remedy	Impermissible relief cut element detected
Program continuation	Clear the alarm with the RESET key. Restart part program.

61606 Error in contour preparation

Source (cycle)	CYCLE95
Reaction	Block preparation in NC is aborted
Remedy	Check sub-contour program This alarm is always triggered in conjunction with a 10930 ... 10934, 15800 or 15810 NCK alarm.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61607 Start point incorrectly programmed

Source (cycle)	CYCLE95 CYCLE376T
Reaction	Block preparation in NC is aborted
Remedy	The starting point reached before the cycle call does not lie outside the rectangle described by the contour subroutine.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61608 Incorrect cutting edge programmed

Source (cycle)	CYCLE94
Reaction	Block preparation in NC is aborted
Remedy	A cutting edge position 1..4, matching the undercut form, must be programmed.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61609 Shape incorrectly defined

Source (cycle)	CYCLE94
Reaction	Block preparation in NC is aborted
Remedy	Check parameters for undercut form.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61610 No infeed depth programmed

Source (cycle)	CYCLE374T
Remedy	Change infeed depth.

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61611 No intersection found

Source (cycle)	CYCLE95
Reaction	Block preparation in NC is aborted
Remedy	No intersection could be calculated with the contour. Check contour programming or change infeed depth.
Program continuation	Clear the alarm with the RESET key. Restart part program.

61800 Channel %1 block %2: External CNC system missing

Source (cycle)	CYCLE328, CYCLE370T to CYCLE374T, CYCLE376T, CYCLE383T to CYCLE385T, CYCLE381M, CYCLE383M, CYCLE384M, CYCLE387M
Remedy	Machine data for external language MD 18800 **MM_LANGUAGE** or option bit 1919800 **ON_EXTERN_LANGUAGE** is not set.

61801 Channel %1 block %2: wrong G code selected

Source (cycle)	CYCLE370T to CYCLE374T, CYCLE376T, CYCLE383T to CYCLE385T
Explanation / remedy	An impermissible numerical value has been programmed in the CYCLE ... <value> program call, or an incorrect value was specified in the cyclic setting data for the G code system. Correct the values.

61802 Channel %1 block %2: wrong axis type

Source (cycle)	CYCLE328
Explanation / remedy	The programmed axis is assigned to a spindle.

61803 Channel %1 block %2: programmed axis not available

Source (cycle)	CYCLE328
Explanation / remedy	The programmed axis is not in the system. Check MD 20050 to MD20080

61804 Channel %1 block %2: programmed position exceeds reference point

Source (cycle)	CYCLE328
Explanation / remedy	The programmed intermediate position or actual position is behind the reference point.

61805 Channel %1 block %2: the value is absolutely and incrementally programmed

Source (cycle)	CYCLE328 CYCLE371T to CYCLE374T, CYCLE376T, CYCLE383T, CYCLE384T
Explanation / remedy	The programmed intermediate position is both absolutely and incrementally programmed.

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61806

Channel %1 block %2: incorrect axis assignment

Source (cycle) CYCLE328

Explanation / remedy The axis-assignment sequence is wrong.

61807

Channel %1 block %2: incorrect spindle direction programmed (active)

Source (cycle) CYCLE384M

Explanation / remedy The programmed spindle direction contradicts the spindle direction planned for the cycle.

61808

Channel %1 block %2: the final drilling depth or individual drilling depth is missing

Source (cycle) CYCLE381M, CYCLE383M, CYCLE384M,
CYCLE387M,
CYCLE383T to CYCLE385T

Explanation / remedy Total depth “Z” or individual drilling depth “Q” missing in G8x block (first call)

61809

Channel %1 block %2: drilling position not permissible

Source (cycle) ISO encasing cycles

61810

Channel %1 block %2: ISO G code not possible

Source (cycle) ISO encasing cycles

61811

Channel %1 block %2: impermissible ISO axis name

Source (cycle) CYCLE370T to CYCLE374T,
CYCLE376T,
CYCLE383T to CYCLE385T

Explanation / remedy An impermissible numerical value has been defined in the call block.

61812

Channel %1 block %2: Value(s) in the external cycle call incorrectly defined

Source (cycle) CYCLE370T to CYCLE374T,
CYCLE376T

Explanation / remedy An impermissible ISO axis name has been programmed in the call block.

61813

Channel %1 block %2: GUD value incorrectly defined

Source (cycle) CYCLE376T

Explanation / remedy An impermissible numerical value has been entered in the cycle setting data.

61815

Channel %1 block %2: G40 not active

Source (cycle) CYCLE374T,
CYCLE376T

Explanation / remedy G40 was inactive before the cycle call.

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62000

Channel %1 block %2:

Explanation: %1 = channel number
%2 = block number, label

Reaction: Alarm display.

Remedy: -

Program continuation: Clear the alarm using the Cancel key or with NC START.

62100

No drilling cycle active

Source (cycle): HOLES1
HOLES2

Reaction: Block preparation is interrupted

Remedy: No modal drilling cycle has been called before the drilling pattern cycle call.

Program continuation: Clear the alarm using the Cancel key. Continue cycle with NC start.

63000

Channel %1 block %2.

Explanation: %1 = channel number
%2 = block number, label

Reaction: Alarm display.

Remedy: -

Program continuation: Clear the alarm with the Cancel key or with NC START.

65000

Channel %1 block %2:

Explanation: %1 = channel number
%2 = block number, label

References: The current alarm text, the error description and the remedial measures for the user cycle alarms can be found in the Programming Guide of the machine manufacturer.

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

Remedy: Refer to the manual on user cycles.

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

66000

Channel %1 block %2:

Explanation: %1 = channel number
%2 = block number, label

References: The current alarm text, the error description and the remedial measures for the user cycle alarms can be found in the machine manufacturer's Programming Guide.

Reactions: Alarm display
Interface signals are set
NC Start inhibit in this channel
Interpreter stop

Remedy: Refer to the manual on user cycles.

Program continuation: Clear the alarm using the RESET key. Restart part program.

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67000

Channel %1 block %2:

Explanation
%1 = channel number
%2 = block number, label

References: The current alarm text, the error description and the remedial measures for the user cycle alarms can be found in the machine manufacturer's Programming Guide.

Reaction: Alarm display.

Remedy: Refer to the manual on user cycles.

Program continuation: Clear the alarm using the Cancel key or with NC START.

68000

Channel %1 block %2:

Explanation
%1 = channel number
%2 = block number, label

References: The current alarm text, the error description and the remedial measures for the user cycle alarms can be found in the machine manufacturer's Programming Guide.

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

Remedy: Refer to the manual on user cycles

Program continuation: Clear the alarm using the RESET key. Restart part program.

69000

Channel %1 block %2:

Explanation
%1 = channel number
%2 = block number, label

References: The current alarm text, the error description and the remedial measures for the user cycle alarms can be found in the machine manufacturer's Programming Guide.

Reactions
Alarm display
Interface signals are set
NC Start inhibit in this channel
Interpreter stop
NC Stop on alarm at end of block.

Remedy: Refer to the manual on user cycles

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

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1.4 ISO alarms

10796 Impermissible axis names used

Explanation

Impermissible axis names have not been used in MD20060 **AXCONF_GEOAX_NAME_TAB[]** and MD2080 **AXCONF_CHANAX_NAME_TAB[]**.

Permissible axis names are:
Fanuc T: X, Y, Z, C
Fanuc M: X, X, Z, for the 4th axis A and C

Axis names consisting of several letters or a letter and number or those consisting of lower case letters are not permissible. The axis names can be freely distributed on the axes, the 1st axis does not necessarily have to have the axis name of X.

Reactions

Alarm display
Interface signals are set
NC Start inhibit.

Remedy

Adapt axis names in MD 20060 **AXCONF_GEOAX_NAME_TAB[]** and MD2080 **AXCONF_CHANAX_NAME_TAB[]**

Program continuation

12720 Channel %1 block %2 program number for macro call (G65/G66) missing

Explanation

%1 = channel number
%2 = block number, label

During macro call with G65/G66 no program number was defined. The program number must be programmed with address "P"

Reactions

Alarm display
Interface signals are set
Correction block.

Remedy

Change part program.

Program continuation

Clear the alarm with NC START or the RESET key and continue the program.

12724 Channel %1 block %2 no radius programmed for cylinder interpolation activation/deactivation

Explanation

%1 = channel number
%2 = block number, label

When programming G07.1 (cylinder interpolation TRACYL), no cylinder radius has been programmed. Selection of the cylinder interpolation (TRACYL) with G07.1 C <cylinder radius> deselect with G07.1 C0. For "C" the name of the rotary axis defined in the TRACYL machine data has to be programmed.

Reactions:

Alarm display
Interface signals are set
Correction block.

Remedy

G07.1 block, program the cylinder radius under the name of the rotary axis for the cylinder interpolation.

Program continuation

Clear the alarm with NC START or the RESET key and continue the program.

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12726 Channel %1 block %2 illegal plane selection with parallel axes

Explanation
%1 = channel number
%2 = block number, label

In a block with plane selection (G17 – G19), a basic axis of the coordinate system must not be programmed together with the parallel axis assigned to it.

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
For plane selection with G17, G18, G19 either program the basic axis of the coordinate system or the assigned parallel axis.

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

12728 Channel %1 block %2 distance for double turret not set

Explanation
%1 = channel number
%2 = block number, label

The tool clearance for the double turret head in the setting data 42162 **EXTERN_DOUBLE_TURRET_DIST** is 0.

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Enter tool clearance for the double turret head in the setting data 42162 **EXTERN_DOUBLE_TURRET_DIST**.

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

12730 Channel %1 block %2 no valid transformation machine data parameterized

Explanation
%1 = channel number
%2 = block number, label

The machine data 24100 **TRAFO_TYPE_1**, 24110 **TRAFO_AXES_IN_1**[1], 24210 **TRAFO_AXES_IN_2**[1] are incorrectly set for G07.1, G12.1.

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Enter valid transformation identifier for TRACYL in MD 24100 **TRAFO_TYPE_1** and the rotary axis number in MD 24110 **TRAFO_AXES_IN_1**[1] or MD 24210 **TRAFO_AXES_IN_2**[1].

Program continuation
Clear the alarm with the RESET key. Restart part program.

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12740 Channel %1 block %2 modal macro call %3 not possible

Explanation
%1 = channel number
%2 = block number, label
%3 = source string

When calling a modal macro no other modal macro, modal cycle or modal subroutine may be active.

Reactions
Alarm display
Interface signals are set
Correction block.

Remedy
Change part program

Program continuation
Clear the alarm using the RESET key. Restart part program.

17183 Channel %1 block %2 H no. already in T no.= %3, D no.= %4 present

Explanation
%1 = channel number
%2 = block number, label
%3 = T number
%4 = D number

Each H number (apart from H=0) may only be issued once in a TO unit. The cutting edge specified already has the H number. If the H number is to be issued several times, machine data 10890 must be set as bit 3 = 1.

Reactions
Correction block with reorganization. Alarm display
Interface signals are set.

Remedy:
Modify programs:
Select another H number

Program continuation
Clear the alarm with NC START or the RESET key and continue the program.

18200 Channel %1 block %2 language change not possible: %3

Explanation
%1 = channel number
%2 = block number, label
%3 = reason

Switchover into an external NC language is not currently possible due to the reason (%3).

Reactions
Alarm display
Interface signals are set
NC Start inhibit
Interpreter stop.

Remedy
If the reason (%3) } 1 : deselect transformating and try the language switchover again.

Program continuation
Clear the alarm with NC Start and continue the program.

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18201 Channel %1 block %2 G10 parameter %3 not programmed

Explanation	%1 = channel number %2 = block number, label %3 = reason Parameters P, R or L not programmed in command G10.
Reactions	Alarm display Interface signals are set NC Start inhibit Interpreter stop.
Remedy	Add the missing parameters to the block.
Program continuation	Clear the alarm with NC Start and continue the program.

18202 Channel %1 block %2 skip only possible at start of block

Explanation	%1 = channel number %2 = block number, label The skip character / is not at the start of the block.
Reactions	Alarm display Interface signals are set NC Start inhibit Interpreter stop.
Remedy	Remove skip character or write at start of block.
Program continuation	Clear the alarm with NC Start and continue the program.

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1.5 PLC alarms

400000 PLC STOP [Type]

Explanation: PLC not in cyclic mode. Travel with the machine is not possible.

[Type]:
- 1 Ready (User program has not been started)
- 2 Break (User program has been interrupted)
- 3 Error (Other PLC alarm with PLC Stop active)

Reaction: Alarm display

Remedy: Rectify other PLC alarm;
Switch on menu in PLC stop position
or test user program.

Program continuation:
- Switch control system OFF and ON again
- Continue using start-up menu
- Start using programming tool PT 802

400002 System error [Type]

Explanation: [Type]: Type number

Internal error states are displayed with this alarm. An error number is also specified to provide further details about the cause and location of the error.

Reaction: PLC stop

Remedy: Report this error to Siemens along with the type number.
Check cause of error in the software part named at the line number given.

Program continuation: Switch the control OFF - ON.

400004 Code error: [String] Network [No.]

Explanation: [String] : internal error code, module type
[No.] : network number

The user program contains an operation which is not supported by the control unit.

Reaction: PLC Stop

Remedy: Modify and reload user program.

Program continuation: Switch control system OFF and ON again.

400005 Switch On menu in PLC stop position

Explanation: User program is not being processed

Reaction: Alarm display

Remedy: Switch controller off/on

Program continuation: Alarm display disappears with alarm cause

- Switch controller Off/On
- Continue using start-up menu

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400006

Loss of remanent PLC data

Explanation

The following causes are possible:

- Control handling (e.g. standard PLC deletion, power up with default values)
- Control handling of power up with backed up data without backing up data in advance
- Support time exceeded

Reaction: Alarm display

Remedy: Update the data required.

Program continuation: Clear the alarm with the Cancel key.

400007

Operand error: [String] network [No.]

Explanation

[String] : Module type
[No.] : network number

Reaction: PLC Stop

Remedy: The variable displayed must be checked in the user program for violation of the address range, impermissible data type and alignment errors.

Program continuation: Switch control system OFF and ON again.

400008

Programming tool - version is not compatible [Version]

Explanation: This version is not compatible with the product stage of the control system.

Reaction: PLC Stop

Remedy: Translate the user program using a suitable programming tool version and load in the control.

Program continuation: Switch the control OFF - ON.

400009

Computing time overrun at PLC level: [String] network [No.]

Explanation

[String] : module type
[No.] : network number

Check user program of the corresponding network displayed.

Reaction: PLC Stop

Remedy: Change user program

Program continuation: Switch the control OFF - ON.

400010

Arithmetic error in user program: [Type] [String] network [No.]

Explanation: Check user program in the specified network.

Type 1: Division by zero using fixed point arithmetic
Type 2: Floating point (real number) arithmetic

[String] type number, module ID
[No.] network number

Reaction: PLC Stop

Remedy: Change user program.

Program continuation: Switch the control OFF - ON.

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400011 Permitted number of sub-program levels exceeded: [String] network [no.]

Explanation
[String] module ID
[No.] : network number

Check user program in the specified network.

Reaction: PLC Stop

Remedy: Change user program.

Program continuation: Switch the control OFF - ON.

400013 PLC user program is incorrect

Explanation: The PLC user program in the control is incorrect or is not available.

Reaction: PLC Stop

Remedy: Reload PLC user program.

Program continuation: Switch the control OFF - ON.

400014 PROFIBUS DP: power up interrupted, type 1 - 4

Explanation
Type 1: PROFIBUS DP power up interrupted
Type 2: Software versions of NC – PLC do not match
Type 3: Number of slots per function exceeded
Type 4: PROFIBUS DP server not ready

Reaction: PLC Stop

Remedy
Types 1 to 3: Report error to Siemens

Type 4: 802D – Check and/or replace PCU hardware and/or check MD 11240

Program continuation: Switch the control OFF - ON.

400015 PROFIBUS DP: I/O defect: log adr. [x] bus adr./slot: [y/z]

Explanation: The PLC-AWP is using peripheral addresses which are not available.

[x] Logical I/O address
[y] Bus address (slave)
[z] Slot number

Error causes:

- PROFIBUS peripheral has no voltage
- Slave bus address set incorrectly
- PROFIBUS connection faulty
- Active MD 11240 (SDB PROFIBUS configuration) is set incorrectly

Reaction: PLC Stop

Remedy: Rectify the error using the error cause

Program continuation: Switch the control OFF - ON.

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1.6 List of actions

No/Name	Explanation	Not allowed if …	Remedy
1. INIT	Run Init phase (tasks are initialized after Power On).		
2. RESET	Execute RESET (VDI signal reset, BAG reset or after Power On)		
3. RESET_INITBLOCK	Activate RESET init blocks (VDI signal: after Reset)		
4. PROG_END	Perform RESET, end of program has been detected (NC block with M30).		
5. MODESWITCHTOA-PROGMODE	Change the mode to the MDA or AUTOMATIC program mode (VDI signal: BAG signal)	1. The channel is active (program running, block search, loading machine data) 2. Has already been started in another program mode. 3. A channel has exited the mode group due to an interrupt. 4. Overstore or digitizing has been selected.	⇒ Abort the program with the RESET key or stop the program (not with block search, loading machine data) ⇒ Abort the program with the RESET key ⇒ Abort the program with the RESET key or wait until the interrupt is terminated. ⇒ Deactivate overstore, digitizing.
6. MODESWITCHTOSAVE-MODE	Automatic change from an internal mode to the mode that was externally set (with TEACH_IN an attempt is made after every stop to change from the internal mode "AUTOMATIC, MDA" to TEACH_IN)		
7. MODESWITCHTOHAND-MODE	Change the mode to a manual mode (VDI signal: JOG, TEACH_IN, REF)	1. Nesting depth too great: The current processing operation can be interrupted by various events (e.g., interrupt). Depending on the event, ASUBs are activated. These ASUBs can be interrupted in the same manner as the user program. Unlimited nesting depth is not possible for ASUBs due to memory limitations. 2. The channel is active (program running, block search, loading machine data) 3. A channel has exited the mode group due to an interrupt. 4. Overstore or digitizing has been selected.	⇒ Abort the program with the RESET key ⇒ Abort the program with the RESET key or stop the program (not with block search, loading machine data) ⇒ Abort the program with the RESET key or wait until the interrupt is terminated. ⇒ Deactivate overstore, digitizing.
8. OVERSTOREON	Activate overstore (PI command).		
9. OVERSTOREOFF	Deactivate overstore (PI command).		

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No/Name	Explanation	Not allowed if …	Remedy
10. INTERRUPT	Perform an "ASUP" user interrupt (VDI signal: digital-analog interface, ASUP interface)	1. The channel is active due to block search or loading machine data 2. The channel is stopped and the asynchronous subroutine "ASUP_START_MASK" must be started and the current block cannot be reorganized. 3. Digitizing has been selected. 4. Reference point approach has not been performed yet. 5. During a braking-reorg. error	⇒ Wait until the block search or loading of machine data is completed, or abort program with the RESET key ⇒ Activate a block change until the NC block can be reorganized. ⇒ Deactivate digitizing ⇒ Perform reference point approach or ignore this state via the MD "ASUP_START_MASK". ⇒ Abort program
11. INTERRUPTFASTLIFT-OFF	Perform user interrupt "ASUP" with rapid retraction (VDI signal: Asup interface, digital-analog interface)	See 10	
12. INTERRUPTBLSYNC	Perform user interrupt at block end (VDI signal: asynchronous subroutine interface, digital-analog interface)	See 10	
13. FASTLIFTOFF	Perform a rapid retraction		
14. TM_MOVETOOL	Move tool (only with tool management) (PI command)		
15. DELDISTOGO_SYNC	Perform deletion of distance-to-go or axis synchronization (VDI signal: deletion of distance-to-go or follow-up mode) (follow-up mode: e.g. when activating axis regulation	1. Nesting depth too great 2. If a braking-reorg. error	⇒ Abort program ⇒ Abort program
16. PROGRESETREPEAT	Abort repetition of subroutine (VDI signal: Delete number of subroutine repetitions)	1. Nesting depth too great 2. If a braking-reorg. error	⇒ Abort program ⇒ Abort program
17. PROGCANCELSUB	Abortion of subroutine processing (VDI signal: Program levels abort)	1. Nesting depth too great 2. If a braking-reorg. error	⇒ Abort program ⇒ Abort program
18. SINGLEBLOCKSTOP	Activate single block (VDI signal: Activate single block)		
19. SINGLEBLOCKOFF	Deactivate single block (VDI signal: Activate single block)		
20. SINGLEBLOCK_IPO	Activate main-run single block (OPI variable and VDI signal: Activate single block)		
21. SINGLEBLOCK_ DECODIER	Activate decoding single block (OPI variable and VDI signal: Activate single block)	1. Nesting depth too great 2. If a braking-reorg. error	⇒ Wait until the preceding asynchronous subroutine is terminated or abort the program ⇒ Abort program

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No/Name	Explanation	Not allowed if …	Remedy
22. SINGLEBLOCK_ MAINBLOCK	Activate main-program single block (OPI variable and VDI signal: Activate single block).		
23. SINGLEBLOCK_PATH	Activate procedure single block (OPI variable and VDI signal: Activate single block)		
24. STARTPROG	Start program processing (VDI signal: NC Start)	1. Program status active, 2. An alarm reaction is pending which prevents a start or forces braking. 3. Reference point approach has not been performed yet.	⇒ - ⇒ Execute condition for clearing alarm ⇒ Reference point approach
25. CHANNELSTARTPROG	Start program processing (channel communication, NC block: Start)	1. Program status active 2. An alarm reaction is pending which prevents a start or forces braking. 3. Reference point approach has not been performed yet. 4. An incorrect mode has been selected. (only Automatic).	⇒ Protect Start with WAITE ⇒ Execute condition for clearing alarm ⇒ Reference point approach ⇒ Select program mode
26. RESUMEPROG	Start continuation of program processing (VDI signal: NC Start)	1. Program status active 2. An alarm reaction is pending which prevents a start or forces braking. 3. Reference point approach has not been performed yet.	⇒ - ⇒ Execute condition for clearing alarm ⇒ Reference point approach
27. RESUMEJOGREFDIGIT	Start continuation of the selected process (JOG, reference point or digitizing) (VDI signal: NC Start)	1. Jog motion active 2. An alarm reaction is pending which prevents a start or forces braking.	⇒ - ⇒ Execute condition for clearing alarm
28. STARTDIGITIZE	Start processing in the digitizing submode. (VDI signal: NC Start)	1. Jog motion active 2. An alarm reaction is pending which prevents a start or forces braking. 3. Reference point approach has not been performed yet.	⇒ - ⇒ Execute condition for clearing alarm ⇒ Reference point approach
29. STOPALL	Stop all axes (VDI signal: Stop All or with RESET key)		
30. STOPPROG	Perform a program stop (NC block: M0)		
31. STOPJOGREF	Stop the JOG motion. (VDI signal: NC Stop)		
32. STOPDIGITIZE	Stop digitizing (VDI signal: NC Stop)		
33. STARTSIG	Start the selected process (VDI signal: NC Start)	1. Process switch active (operating mode change, activate/deactivate digitizing/overstore) 2. An alarm reaction is pending which prevents a start or forces braking. 3. A process is running (NC program, block search, loading machine data)	⇒ - ⇒ Execute condition for clearing alarm ⇒ -
34. STOPSIG	Stop the active process (VDI signal: NC Stop)		

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No/Name	Explanation	Not allowed if …	Remedy
35. INITIALINISTART	Start machine data processing (INI file is already in the NCK), (PI command)		
36. INITIALINIEXTSTART	Start machine data processing (INI file is located externally, e.g.: on HMI), (PI command)		
37. BAGSTOP_SLBTYPA	Stop because of mode group single block. (VDI signal, single type A, after stop in another channel in this mode group)		
38. BAGSTOPATEND_ SLBTYPB	Stop because of mode group single block. (VDI signal, single type B, after stop at end of block in another channel in this mode group)		
39. OVERSTORE_ BUFFER_END_ REACHED	Stop because end of overstore buffer "_N_OSTOREXX_SYF " has been reached.		
40. PREP_STOP	Start preprocessing (NC block, Stopre)		
41. PROG_STOP	Stop processing at block limit (NC block: M00/M01)		
42. STOPPROGABLOCK END	Stop processing at block limit (Alarm, VDI signal: NC Stop at block limit)		
43. STOPPROGATASUP END	Stop at end of ASUB, if start was performed from "stopped".		
44. PROGSELECT	Activate the program (PI command)		
45. PROGSELECTEXT	Activate the program, which is still located externally (PI command)		
46. CHANNEL_PROG SELECT	Activate the program from a different channel (channel communication, NC block: INIT)		
47. ASUPDEFINITION	Save definition of an ASUB, which can be activated (PI command).		
48. NEWCONF	Set all machine data with the attribute (NEW_CONF) to active (PI command)		
49. CLEARCANCELALARM	Delete all alarms with the CANCELCLEAR condition for deletion (PI command, ack-nowledge alarm key)		
50. BLOCKSEARCHUN_ CONTINUE	Continue search. (NC block: Stopre)		
51. BLOCKSEARCHRUN_ START	Start search. (PI command)		
52. BLOCKSEARCHRUN_ RESUME	Continue search. (PI command)		

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No/Name	Explanation	Not allowed if …	Remedy
53. DIGITIZEON	Activate digitizing. (PI command)		
54. DIGITIZEOFF	Deactivate digitizing. (PI command)		
55. FUNCTGENON	Switch on function generator. (PI command)		
56. FUNCTGENOFF	Switch off function generator. (PI command)		
57. WAITM	Wait for program marker (channel communication, NC block: WAITM).		
58. WAITE	Wait for end of program (channel communication, NC block: WAITE).		
59. INIT_SYNC	Activate the program from a different channel with synchronization. (channel communication, NC block: INIT+SYNC)		
60. HMICMD	Wait for acknowledgement from HMI. (NC block, HMI_CMD)		
61. PROGMODESLASH ON	Activate the blocking of blocked blocks. (VDI signal: Skip block).	Nesting depth too great	⇒ Wait until the preceding asynchronous subroutine is terminated or abort the program
62. PROGMODESLASH OFF	Deactivate the blocking of blocked blocks. (VDI signal: Skip block)	Nesting depth too great	⇒ Wait until the preceding asynchronous subroutine is terminated or abort the program
63. PROGMODEDRYRUN ON	Activate test run (VDI signal: rapid traverse superimposition)	1. Nesting depth too great 2. If a braking-reorg. error	⇒ Wait until the preceding asynchronous subroutine is terminated or abort the program ⇒ Abort program
64. PROGMODEDRYRUN OFF	Deactivate test run (VDI signal: rapid traverse superimposition)	1. Nesting depth too great 2. If a braking-reorg. error	⇒ Wait until the preceding asynchronous subroutine is terminated or abort the program ⇒ Abort program
65. BLOCKREADINHIBIT_ ON	Activate read-in disable for main-run block. (VDI signal: Read-in disable)		
66. BLOCKREADINHIBIT_ OFF	Deactivate read-in disable for main-run block. (VDI signal: Read-in disable)		
67. STOPATEND_ALARM	Stop at end of block (alarm).		
68. STOP_ALARM	Stop all axes (alarm).		
69. PROGESTON	Activate program test. (VDI signal: Program test)	1. Tool management is active. 2. The NCK channel is in a state other than "ready".	⇒ Back up tool data ⇒ Abort the program or process with the RESET key or wait for end of program.
70. PROGTESTOFF	Deactivate program test. (VDI signal: Program test)	The NCK channel is in a state other than "ready".	⇒ Abort the program or process with the RESET key or wait for end of program.
71. STOPATIPOBUFFER_ ISEMPTY_ALARM	Stop at the end of block preparation. (alarm)		

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No/Name	Explanation	Not allowed if …	Remedy
72. STOPATIPOBUF_ EMPTY_ALARM_ REORG	Stop at the end of block preparation with subsequent reorganization of block processing (alarm).	Nesting depth too great	⇒ Wait until the preceding asynchronous subroutine is terminated or abort the program
73. CONDITIONAL_STOP ATEND	Conditional stop at block end. (If, after continuation by means of an NC start, there is still a reason to stop "Stop at block end", the program stops again.)		
74. CONDITIONAL_SBL_ DEC_STOPATEND	Conditional stop at block end. (Despite the start, the interpreter or the preprocessing does not manage to put a block in main run)		
75. INTERPRETERSTOP_ ALARM	Stop preprocessing (alarm).		
76. RETREAT_MOVE_ THREAD	Retraction with G33 and Stop.		
77. WAITMC	Conditional wait for program marker (NC block: WAITMC).		
78. SETM	Set marker (NC block: SETM).		
79. CLEARM	Delete marker (NC block: CLEARM).		
80. BLOCK_SELECT	Selection of an NC block (PI command).		
81. LOCK_FOR_EDIT	Disable the NC program currently being processed for editing (PI command).		
82. START_TEACHINPROG	Start a program in the TEACHIN submode (VDI signal: NC Start).	See 33 and 5	
83. RESUME_TEACHIN PROG	Continue a program in the TEACHIN submode (VDI signal: NC Start).	See 33 and 5	
84. PURE_REORG	Reorganize block processing.		
85. INTERRUPT_ TOPROG_NOREPOS	Activate an "ASUB" user interrupt in a manual mode. (VDI signal, asynchronous subroutine interface, digital-analog interface)	See 10	
86. INTERRUPT_START	Activate an "ASUB" user interrupt. Is only executed if the channel is in the READY status (VDI signal, asynchronous subroutine interface, digital-analog interface)	See 10	

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No/Name	Explanation	Not allowed if …	Remedy
87. INTERRUPT_START	Perform an "ASUB" user interrupt. (VDI signal, asynchronous subroutine interface, digital-analog interface) Collective event for all interrupt signals. This event decides which specific interrupt you want to trigger. Possible candidates are: 10, 11, 12, 85, 86.	See 10	
88. STOPBAG	Stop processing (VDI signal: Mode group stop).		
89. NEWCONF_PREP_ STOP	Activate all machine data with the attribute (NEW_CONF) (NC_block: NEW_CONF).		
90. BLOCKSEARCHRUN_ NEWCONF	Activate all machine data with the attribute (NEW_CONF) (NC block: NEW_CONF with block search).		
91. CONTINUE_INTERPR	BSALARMEVENTPAR _CONTINUE_INTERP R Start continuation of interpreter processing. (internal preprocessing stop).		
92. SLAVEDATA	Interlock for data rescue	The NC channel which is not in a stopped state.	
93. SET_USER_DATA	Set user data to active, e.g. via HMI, recently changed tool lengths immediately become active in the current program.	1. The NC channel which is not in a stopped state 2. The channel is stopped and the current block cannot be reorganized.	⇒ Press the Stop/Single-Block/RESET/StopAtEnd (in Automatic mode) key. ⇒ Activate a block change until the NC block can be reorganized.
94. PLCVERSION	Write user PLC version into version file		
95. CONVERT_SCALING_ SYSTEM	BSALARMEVENTPAR _CONVERT_SCALING _SYSTEM Switch over PI service measurements system		
96. SYSTEM_SHUTDOWN	Shut down system (Vdi signal)		
97. SERUPRO_ON	Activate block search program invocation in mode 5 This mode simulates the block search, in which the program under "Program test operation" is processed as far as the target of the block search.		
98. ESR	Extended stop and retract		
99. BLOCKSEARCHRUN_ SIGNAL	Block search (general) is just being activated. No alarms should occur since only the PI service neg. is possibly acknowledged.		

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No/Name	Explanation	Not allowed if …	Remedy
100. BLOCKSEARCHRUN_INTEGR	Integrated block search, i.e., a block search is restarted on a stopped program.		
101. EXT_ZERO_POINT	External zero offset is activated via the PLC. Movement is stopped, a Reorg is performed, the interpreter is switched over and then selected using REPOS and continued automatically.	1. The channel is not in AUTO or MDA. 2. The channel is stopped and the current block cannot be reorganized.	1. Select Auto or MDA. 2. Activate a block change until the NC block can be reorganized.
102. SINGLEBLOCK_IPONOSBLOF	Single block type 3 is activated. With single block type 3, a stop is performed at all main blocks. Unlike single block type 1, the part program command SBLOF is ignored.		
103. SINGLEAX_STOPALL_MASTER	Stop a single axis movement (Vdi signal)	The axis is not controlled by the PLC. (exception old reaction with oscillation axis)	
104. SINGLEAX_STOPALARM_MASTER	Stopping of a single axis movement by an alarm /alarm)	The axis is not controlled by the PLC. (exception old reaction with oscillation axis)	
105. SINGLEAX_RESUME_MASTER	Continue a single axis movement (Vdi signal)	The axis has not been stopped previously. Not for all axis types at present	
106. SINGLEAX_RESET_MASTER	Abort a single axis movement (Vdi signal)	The axis is not controlled by the PLC. Not for all axis types at present	
107. SINGLEAX_DELDIS_MASTER	Delete distance-to-go for a single axis movement (Vdi signal)	The axis is not controlled by the PLC. Not for all axis types at present	
108. SINGLEAX_PLCCTRL_ON_MASTER	Power up: Axis is now controlled by the PLC (Vdi signal)	The axis is not controlled by the PLC. Not for all axis types at present	
109. SINGLEAX_PLCCTRL_OFF_MASTER	Deactivate: Axis is now controlled by the PLC (Vdi signal)	Is the axis a main run axis or a neutral. Not for all axis types at present	
110. SINGLEAX_JOG_WHEEL	Available soon		
111. SINGLEAX_JOG_PLUS_MASTER	Available soon		
112. SINGLEAX_JOG_MINUS_MASTER	Available soon		
113. SINGLEAX_JOG_PLUS_INC_MASTER	Available soon		
114. SINGLEAX_JOG_MINUS_INC_MASTER	Available soon		
115. REPOSMODECHANGE	The event is triggered by the positive PLC edge of the signal "Repos-Mode-Edge".	The channel is active (program running, block search, loading machine data)	Abort the program with the RESET key or stop the program (not with block search, loading machine data).
116. TOOLCHANGECMDON	Activate tool-management commands (Ch. VDI signal).	The NCK channel is in a state other than "ready".	Abort the program or process with the RESET key or wait for end of program.

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No/Name	Explanation	Not allowed if …	Remedy
117. TOOLCHANGECMDOFF	Deactivate tool-management commands (Ch. VDI signal).	The NCK channel is in a state other than "ready".	Abort the program or process with the RESET key or wait for end of program.
118. SIVLIMCHANGE	Selection of desired safety limitations (SGE).	Always permitted	
119. STOPRUN	Stop run, i.e. the NCK stops automatically at a block defined via BTSS.	The control is not in automatic mode.	
120. SINGLEAX_LIFTFAST_OFF_MASTER	Rapid lift for one single axis	The axis is not controlled by the PLC.	
121. SINGLEAX_STOP_LIFT OFF_MASTER	Stop the rapid lift for one single axis	1. The axis is not controlled by the PLC 2. The single axles is not performing rapid lifting	
122. TEST_SYNC_ASYNC	Only for test purposes and only in assert systems.		
123. START_LOCK	Set PI _N_STRTLK global start inhibit	Always permitted	
124. START_UNLOCK	Reset PI _N_STRTUL global start inhibit	Always permitted	
125. FASTMODESWITCHTOA HANDMODE	Implicit change of mode to jog at the start of a "Jog movement" in automatic mode See $MN_JOG_ MODE_MASK	1. A channel has exited the mode group due to an interrupt. 2. Overstore	1. Abort the program with the RESET key or wait until the interrupt is terminated. 2. Deactivate overstore
126. FASTMODESWITCHTOA PROGMODE	Implicit change of mode to automatic at the end of a "Jog movement" in automatic mode See $MN_JOG_ MODE_MASK	1. A channel has exited the mode group due to an interrupt. 2. Overstore	1. Abort the program with the RESET key or wait until the interrupt is terminated. 2. Deactivate overstore
127. SIMULATIONBLOCKSEA RCHRUN	BSALARMEVENTPAR _SIMULATIONBLOCK SEARCHRUN Simulation search should be started, i.e. the calculation results are only displayed on the HMI, motion is also n_o_t undertaken after the search.	The channel which is not in a RESET state	Press RESET

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Glossary / Abbreviations 2

2.1 Abbreviations

A	Output
ASCII	American Standard Code for Information Interchange: American coding standard for the exchange of information
CRC	Cutter radius compensation
DB	Data Block
DIN	German Standard
DIO	Data Input/Output: Data transfer display
DRY	Dry Run: Dry run feedrate
EIA code	Special punched tape code, number of holes per character always odd
EPROM	Erasable Programmable Read Only Memory
ETC	ETC Key: Expansion of the soft key bar in the same menu.
FFS	Flash File System
FRAME	Coordinate conversion with the components zero (work) offset, rotation, scaling, mirroring
GUD	Global User Data: Global user data

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HMI	Human Machine Interface
HW	Hardware
I	Input
IM	Interface Module Interconnection module
IM S/R	Interface Module (S=send/R=receive): interface module for transmitting and receiving data
INC	Increment: Increment
I/R	Infeed/Regenerative Feedback unit
ISO code	Special punched tape code, number of holes per character always even
K1...K4	Channel 1 to channel 4
K_v	Servo gain factor
$K_ü$	Ratio
LEC	Leadscrew error compensation
LUD	Local User Data
MB	Megabyte
MCP	Machine control panel
MCS	Machine coordinate system
MD	Machine Data
MDA	Manual Data Automatic: Manual input
MLFB	Machine-readable product designation

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MPF	Main Program File: NC part program (main program)
MPI	Multi-point interface
NC	Numerical Control
NCK	Numerical Control Kernel: NC kernel with block preparation, traversing range, etc.
OEM	Original Equipment Manufacturer
OP	Operator Panel
PC	Personal Computer
PCMCIA	Personal Computer Memory Card International Association: Interface standard
PG	Programming device
PLC	Programmable Logic Control
PRT	Program test
RAM	Program memory that can be read and written to
RPA	R Parameter Active: Memory area on the NC for R parameter numbers
SBL	Single Block
SBL2	Decoding Single Block
SD	Setting Data
SEA	Setting Data Active: Memory area for setting data on the NC
SSI	Serial Synchronous Interface
SW	Software

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TEA	Testing Data Active: Refers to machine data
TNRC	Tool Nose Radius Compensation
TO	Tool Offset
TOA	Tool Offset Active: Memory area for tool offsets
V	PLC variable of bit type

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2.2 Glossary

Command	Instruction in the user program
Diagnostics	Detection of incorrect processes during *processing*; indicates undesired and/or unexpected occurrences in the process
Multi-Point-Interface	MPI Hardware module for online connection to the AS
Operating mode	Mode for *processing*, such as "manual or automatic mode" corresponds to operation of the machine
Sensor	Electric *element*; passes a *signal* to the *control*
User program	Accumulation of all status graphs in a form which can be processed in the PLC

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Appendix: Sinamics Alarms 3

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Product: SINAMICS I, Version: V02.20.28.00, Label: ARM_M0475_11, Language: en

F01000 Internal software error

Reaction: OFF2

Acknowledge: power on

Cause: An internal software error has occurred.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.
- upgrade the firmware release.
- contact the Hotline.
- replace the control unit.

F01001 Internal software error

Reaction: OFF2

Acknowledge: power on

Cause: An internal software error has occurred.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.
- upgrade the firmware release.
- contact the Hotline.

F01002 Internal software error

Reactions: A_INFEED: OFF2 (OFF1)
SERVO: OFF2

Acknowledge: power on

Cause: An internal software error has occurred.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.
- upgrade the firmware release.
- contact the Hotline.

F01003 Acknowledgment delay when accessing the memory

Reactions: A_INFEED: OFF2 (OFF1)
SERVO: OFF2

Acknowledge: power on

Cause: A memory area was accessed that does not return a "READY".
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.
- contact the Hotline.

F01005 Firmware download DRIVE-CLiQ component unsuccessful

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: Firmware was not able to be downloaded into a DRIVE-CLiQ component.
Fault value (r0949):
xxyyyy hex: xx = component number, yyyy = cause of the fault.
Cause of the fault (decimal):
011: DRIVE-CLiQ component has detected a checksum error.
015: The selected DRIVE-CLiQ component did not accept the contents of the firmware file.
101: After several communication attempts, not response from the DRIVE-CLiQ component.
140: Firmware file for the DRIVE-CLiQ component not available on the CompactFlash Card.
156: Component with the specified component number is not available (p7828).
Additional values:
Only for internal Siemens troubleshooting.

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Remedy: - check the selected component number (p7828).
- check the DRIVE-CLiQ connection.
- save suitable firmware file for download in the directory /siemens/sinamics/code/sac/.
- after POWER ON has been carried-out again for the DRIVE-CLiQ component, download the firmware again.

A01006 Firmware update DRIVE-CLiQ component required

Reaction: NONE

Acknowledge: NONE

Cause: The firmware of a DRIVE CLiQ component must be updated as there is no suitable firmware or firmware version in the component for operation with the control unit.
Alarm value (r2124, decimal):
Component number of the DRIVE-CLiQ component.

Remedy: Firmware update using the commissioning software:
The firmware version of all of the components on the "version overview" page can be read in the Project Navigator under "Configuration" of the associated drive unit and an appropriate firmware update can be carried-out.
Firmware update via parameter:
- take the component number from the alarm value and enter into p7828.
- start the firmware download with p7829 = 1.

A01007 POWER ON DRIVE-CLiQ component required

Reaction: NONE

Acknowledge: NONE

Cause: A DRIVE-CLiQ component must be powered-up again (POWER ON) as, for example, the firmware was updated.
Alarm value (r2124, decimal):
Component number of the DRIVE-CLiQ component.

Remedy: Switch-out the power supply of the specified DRIVE-CLiQ component and switch-in again.

F01010 Unknown drive type

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: An unknown drive type was found.
Fault value (r0949, decimal):
Drive object number.

Remedy: Check the EEPROM data of the drive objects.

F01015 Internal software error

Reaction: OFF2

Acknowledge: power on

Cause: An internal software error has occurred.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.
- upgrade the firmware release.
- contact the Hotline.

F01030 Monitoring master control: Sign-of-life failure PC

Reaction: OFF1

Acknowledge: IMMEDIATELY

Cause: For active PC master control, no sign-of-life was received within the monitoring time.
The master control was returned to the active BICO interconnection.

Remedy: Set the monitoring time higher at the PC/AOP or disable completely.
Notice:
The monitoring time should be set as short as possible. A long monitoring time means a late response when the communications fail!
The monitoring time is set in milliseconds.
- in the AOP using the Main menu -> Settings -> Control settings -> Timeout monitoring
- In Starter using <Drive> -> Commissioning -> Control panel -> Button "Fetch master control" -> a window is displayed in which the monitoring time can be set.

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A01035 (F) ACX: Run-up from the back-up files

Reaction: NONE

Acknowledge: NONE

Cause: When the control unit ran-up no complete data set from the parameter save files was found. The last time that the parameterization was saved, it was not completely carried-out. Instead, a backup data set or file is downloaded.
Alarm value (r2124, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: If you saved the project in STARTER, carry-out a new download for your project and save using the function "Copy RAM to ROM" or with p0977 = 1 so that all of the parameter files are again completely written into the CompactFlash Card.

Reaction upon F: A_INFEED: NONE (OFF2)
SERVO: NONE (OFF1, OFF2, OFF3)

Acknowledge upon F: IMMEDIATELY

F01036 (A) ACX: Parameter back-up file missing

Reactions: A_INFEED: NONE (OFF2)
SERVO: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: When downloading the device parameterization, a file associated with a drive object cannot be found. Neither a PSxxxyyy.ACX, a PSxxxyyy.NEW nor a PSxxxyyy.BAK exists on the CompactFlash Card for this drive object.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: If you have saved your project data using STARTER, carry-out a new download for your project. Save using the function "Copy RAM to ROM" or with p0977 = 1 so that all of the parameter files are again completely written into the CompactFlash Card.
If you have not saved the project data, then the system must be again commissioned for the first time.

Reaction upon A: NONE

Acknowledge upon A: NONE

F01037 (A) ACX: Re-naming parameter file not successful

Reactions: A_INFEED: NONE (OFF2)
SERVO: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: The re-naming after saving a parameter-save file on the CompactFlash Card was unsuccessful.
One of the files to be re-named had the "read only" attribute. The parameter-save files are saved on the CompactFlash Card in the directory \USER\SINAMICS\DATA.
It is possible that the CompactFlash Card is defective.
Fault value (r0949, hexadecimal):
The least-significant byte includes the drive object number (yyy in the file names PSxxxyyy.* or CAxxxyyy.* or CCxxxyyy.*).
Special cases: yyy = 0 --> consistency save file PSxxx000.*, yyy = 99 --> PROFIBUS parameter file PSxxx099.*
The next most significant byte includes the file number xxx.
The value for xxx depends on p0977 with which the save operation was started:
p0977 = 1, 10, 11, 12 --> xxx = 0, 10, 11, 12
The two most significant bytes are used for internal Siemens troubleshooting.

Remedy: Check whether one of the files to be overwritten has the attribute "read only" and change this file attribute into "writable". Check all of the files (PSxxxyyy.*, CCxxxyyy.*, CAxxxyyy.*) that belong to drive yyy designated in the fault value.
Replace the CompactFlash Card.

Reaction upon A: NONE

Acknowledge upon A: NONE

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F01039 (A) ACX: Writing into parameter file not successful

Reactions: A_INFEED: NONE (OFF2)
SERVO: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: When writing at least one parameter-save file was not written onto the CompactFlash Card.
One of the files to be overwritten has the "read only" attribute. The parameter-save files PSxxxyyy.NEW are saved on the CompactFlash Card in the directory \USER\SINAMICS\DATA.
It is possible that the CompactFlash Card is defective.
Fault value (r0949, hexadecimal):
The least significant byte includes the drive object number (yyy in the file names PSxxxyyy.NEW).
Special cases: yyy = 0 --> consistency save file PSxxx000.NEW, yyy = 99 --> PROFIBUS parameter file
The next most significant byte includes the file number xxx.
The value for xxx depends on p0977 with which the save operation was started:
p0977 = 1, 10, 11, 12 --> xxx = 0, 10, 11, 12
The two most significant bytes are used for internal Siemens troubleshooting.

Remedy: Check whether one of the files to be overwritten (PSxxxyyy.*, CAxxxyyy.*, CCxxxyyy.*) has the attribute "read only" and change this file attribute into "writable".
Replace the CompactFlash Card.

Reaction upon A: NONE

Acknowledge upon A: NONE

F01040 Save parameter settings and carry-out a POWER ON

Reaction: OFF2

Acknowledge: power on

Cause: A parameter was changed in the drive system that means that it is necessary to save the parameters and run-up again (e.g. p0110).

Remedy: - save the parameters (p0971/p0977).
- carry-out a POWER ON (power off/on) for all components.

F01041 Parameter save necessary

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: Defective or missing files were detected on the CompactFlash Card at run-up.

Remedy: - save the parameters (p0977).
- download the project again into the drive unit.

F01042 Parameter error during project download

Reactions: OFF2 (NONE, OFF1, OFF3)

Acknowledge: IMMEDIATELY

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Cause: An error was detected when downloading a project using the commissioning (start-up) software (e.g. incorrect parameter value).
For the specified parameter, it was detected that dynamic limits were exceeded that could possibly depend on other parameters.
Fault value (r0949, decimal):
Low word: Parameter number (16 bits without sign)
Byte 3: Parameter index
Byte 4: Fault detection
0: Parameter number illegal.
1: Parameter value cannot be changed.
2: Lower or upper value limit exceeded.
3: Sub-index incorrect.
4: No array, no sub-index.
5: Data type incorrect.
6: Setting not permitted (only resetting).
7: Descriptive element cannot be changed.
9: Descriptive data not available.
11: No master control.
15: No text array present.
17: Task cannot be executed due to operating status.
20: Illegal value.
21: Response too long.
22: Parameter address illegal.
23: Format illegal.
24: Number of values not consistent.
25: Drive object does not exist.
101: Presently de-activated.
104: Illegal value.
107: Write access not permitted when controller enabled.
108: Units unknown.
109: Write access only in the commissioning state, encoder (p0010 = 4).
110: Write access only in the commissioning state, motor (p0010 = 3).
111: Write access only in the commissioning state, power module (p0010 = 2).
112: Write access only in the quick commissioning mode (p0010 = 1).
113: Write access only in the ready mode (p0010 = 0).
114: Write access only in the commissioning state, parameter reset (p0010 = 30).
115: Write access only in the Safety Integrated commissioning state (p0010 = 95).
116: Write access only in the commissioning state, technological application/units (p0010 = 5).
117: Write access only in the commissioning state (p0010 not equal to 0).
118: Write access only in the commissioning state, download (p0010 = 29).
119: Parameter may not be written into in download.
120: Write access only in the startup state, drive basis configuration (device: p0009 = 3).
121: Write access only in commissioning state Define drive type" (device: p0009 = 2).
122: Write access only in commissioning state Data set basic configuration" (device: p0009 = 4).
123: Write access only in commissioning state "Device Configuration" (device: p0009 = 1).
124: Write access only in commissioning state Device download" (device: p0009 = 29).
125: Write access only in commissioning state Device parameter reset" (device: p0009 = 30).
126: Write access only in commissioning state Device ready" (device: p0009 = 0).
127: Write access only in commissioning state Device" (device: p0009 not equal to 0).
129: Parameter may not be written into in download.
130: Transfer of the master control is inhibited via BI: p0806.
131: Required BICO interconnection not possible, because BICO output does not supply floating value
132: Free BICO interconnection inhibited via p0922.
133: Access method not defined.
200: Below the valid values.
201: Above the valid values.
202: Not accessible from BOP.
203: Cannot be read from BOP.
204: Write access not permitted.

Remedy: - enter the correct value into the specified parameter.
- identify the parameter that narrows (restricts) the limits of the specified parameter.

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F01043 Fatal error when downloading a project

Reactions: OFF2 (OFF1, OFF3)

Acknowledge: IMMEDIATELY

Cause: A fatal error was detected when downloading a project using the commissioning (start-up) software.
Fault value (r0949, decimal):
1: Device status cannot be changed to Device Download (drive object ON?).
2: Drive object ID incorrect
3: A drive object that has already been deleted is deleted again.
4: Deletes drive object that has already been registered for generation.
5: Deletes a drive object that no longer exists.
6: Generating an undeleted drive object that already existed.
7: Regeneration of a drive object already registered for generation.
8: Maximum number of drive objects that can be generated exceeded.
9: Error while generating a device drive object.
10: Error while generating target topology parameters (p9902 and p9903).
11: Error when generating a drive object (global component).
12: Error when generating a drive object (drive component).
13: Unknown drive object type.
14: Drive status cannot be changed to Drive Download.
15: Drive status cannot be changed to Ready (p0947 and p0949).
16: Device status cannot be changed to Ready.
17: It is not possible to download the topology. The component wiring should be checked, taking into account the various messages/signals.
18: A new download is only possible if the factory settings are re-established for the drive unit.
19: The slot for the option module has been configured several times (e.g. CAN and COMM BOARD).
20: The configuration is inconsistent (e.g. CAN for control unit, however no CAN configured for drive objects - active line module, servo or vector).

Remedy: - use the actual version of the commissioning software.
- modify the offline project and carry-out a new download (e.g. compare the number of drive objects, motor, encoder, power module in the offline project and at the drive).
- change the drive system (is a drive rotating or is there a message/signal?).
- carefully note any other messages/signals and remove their cause.

F01044 CU CompactFlash: Message description incorrect

Reaction: OFF2

Acknowledge: power on

Cause: An error was detected when loading the message descriptions (FDxxxyyy.ACX) saved on the CompactFlash Card.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: Replace the CompactFlash Card.

A01045 CU CompactFlash: Configuration data invalid

Reaction: NONE

Acknowledge: NONE

Cause: An invalid data type was detected when evaluating parameter files PSxxxyyy.ACX, PTxxxyyy.ACX, CAxxxyyy.ACX or CCxxxyyy.ACX, saved on the CompactFlash Card.
Alarm value (r2124, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: Restore the factory setting using (p0976 = 1) and re-load the project into the drive unit. Operation without any restrictions is then possible.
After downloading the project, save the parameterization in STARTER using the function "Copy RAM to ROM" or with p0977 = 1 so that the incorrect parameter files are overwritten on the CompactFlash Card.

A01046 (F) CU CompactFlash: Configuration data invalid

Reaction: NONE

Acknowledge: NONE

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Cause: An invalid data type was detected when evaluating the parameter files PSxxxyyy.ACX, PTxxxyyy.ACX, CAxxxyyy.ACX or CCxxxyyy.ACX saved on the CompactFlash Card.
Alarm value (r2124, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: Restore the factory setting using (p0976 = 1) and re-load the project into the drive unit. Operation without any restrictions is then possible.
After downloading the project, save the parameterization in STARTER using the function "Copy RAM to ROM" or with p0977 = 1 so that the incorrect parameter files are overwritten on the CompactFlash Card.

Reaction upon F: A_INFEED: NONE (OFF2)
SERVO: NONE (OFF1, OFF2, OFF3)

Acknowledge upon F: IMMEDIATELY

A01047 (F) ACX: Parameter write error

Reaction: NONE

Acknowledge: NONE

Cause: When evaluating the parameters files PSxxxyyy.ACX, PTxxxyyy.ACX, CAxxxyyy.ACX or CCxxxyyy.ACX, saved on the CompactFlash Card, a parameter value was not able to be transferred into the control unit memory.
Alarm value (r2124, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: Restore the factory setting using (p0976 = 1) and re-load the project into the drive unit. Operation without any restrictions is then possible.
After downloading the project, save the parameterization in STARTER using the function "Copy RAM to ROM" or with p0977 = 1 so that the incorrect parameter files are overwritten on the CompactFlash Card.

Reaction upon F: A_INFEED: NONE (OFF2)
SERVO: NONE (OFF1, OFF2, OFF3)

Acknowledge upon F: IMMEDIATELY

A01049 CU CompactFlash: It is not possible write into the file

Reaction: NONE

Acknowledge: NONE

Cause: It is not possible to write into a write-protective file (PSxxxxxx.acx). The write task was interrupted.
Alarm value (r2124, decimal):
Drive object number.

Remedy: Check whether the write-protected attribute has been set for the files on the CompactFlash Card under .../USER/SINAMICS/DATA/... When required, remove write protection and save again (e.g. set p0971 to 1).

F01050 CompactFlash card and device not compatible

Reactions: A_INFEED: OFF2 (NONE)
SERVO: OFF2 (NONE, OFF1, OFF3)

Acknowledge: IMMEDIATELY

Cause: The CompactFlash Card and the device type do not match (e.g. a CompactFlash Card for SINAMICS S is inserted in SINAMICS G).

Remedy: - insert the matching CompactFlash Card
- use the matching control unit or power module.

F01051 Drive object type is not available

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The drive object type in conjunction with the selected application-specific perspective is not available. The required descriptive file (PDxxxyyy.ACX) does not exist on the CompactFlash Card.
Fault value (r0949, decimal):
Index of p0103 and p0107.
See also: p0103, p0107

Remedy: - for this drive object type (p0107), select a valid application-specific perspective (p0103).
- save the required descriptive file (PDxxxyyy.ACX) on the CompactFlash Card.
See also: p0103, p0107

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A01100 CU: CompactFlash Card withdrawn

Reaction: NONE

Acknowledge: NONE

Cause: The CompactFlash Card (non-volatile memory) was withdrawn in operation.
Notice:
It is not permissible that the CompactFlash Card is withdrawn or inserted under voltage.

Remedy: - power-down the drive system.
- re-insert the CompactFlash Card that was withdrawn - this card must match the drive system.
- power-up the drive system again.

F01105 (A) CU: Insufficient memory

Reaction: OFF1

Acknowledge: IMMEDIATELY (power on)

Cause: Two many functions, data sets or drives configured on this control unit.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - change the configuration on this control unit.
- use an additional control unit.

Reaction upon A: NONE

Acknowledge upon A: NONE

F01107 CU: Save to CompactFlash Card unsuccessful

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A data save on the CompactFlash Card was not able to be successfully carried-out.
- CompactFlash Card is defective.
- CompactFlash Card does not have sufficient memory space.
Fault value (r0949, decimal):
-1: The file on the RAM was not able to be opened.
-2: The file on the RAM was not able to be read.
-3. A new directory was not able to be set-up on the CompactFlash Card.
-4: A new file was not able to be set-up on the CompactFlash Card.
-5: A new file was not able to be written onto the CompactFlash Card.

Remedy: - try to save again.
- use another CompactFlash Card.

F01110 CU: More than one SINAMICS G on one control unit

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: More than one SINAMICS G power module type is being operated from the control unit.
Fault value (r0949, decimal):
Number of the second drive with a SINAMICS G power module type.

Remedy: Only one SINAMICS G drive type is permitted.

F01111 CU: SINAMICS S and G together on one control unit

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: SINAMICS S and G drive units are being operated together on one control unit.
Fault value (r0949, decimal):
Number of the first drive object with a different power module type.

Remedy: Only power modules of one particular drive type may be operated with one CU.

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F01120 (A) Terminal initialization has failed

Reactions: OFF1 (OFF2)

Acknowledge: IMMEDIATELY (power on)

Cause: An internal software error has occurred when initializing the terminal functions on the CU3xx, the TB30 or the TM31.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy:
- carry-out a POWER ON (power off/on) for all components.
- upgrade the firmware release.
- contact the Hotline.
- replace the control unit.

Reaction upon A: NONE

Acknowledge upon A: NONE

F01205 CU: Time slice overflow

Reaction: OFF2

Acknowledge: power on

Cause: Insufficient processing time is available for the existing topology.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy:
- reduce the number of drives.
- increase the sampling times.

F01210 CU: Selected basic clock cycle does not match DRIVE-CLiQ clock cycle

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The parameter to select the basic clock cycle does not match the drive topology. Drives connected to the same DRIVE-CLiQ port of the control unit have been assigned different basic clock cycles.
Fault value (r0949, decimal):
The fault value specifies the parameter involved.
See also: p0111

Remedy: Only those drive objects may be connected to the same DRIVE-CLiQ socket of the control unit that should run with the same basic clock cycle. For example, active line modules and motor modules should be inserted at different DRIVE-CLiQ ports as their basic clock cycles and current controller clock cycles are generally different.
See also: p0111

F01220 CU: Basic clock cycle too low

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The parameter for the basic clock cycle is set too short for the number of connected drives.
Fault value (r0949, decimal):
The fault value specifies the parameter involved.
See also: p0110

Remedy:
- increase the basic clock cycle.
- reduce the number of connected drives and start to re-commission the unit.

See also: p0110

F01221 CU: Basic clock cycle too short (application cannot maintain its clock cycle)

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The closed-loop control / monitoring cannot maintain the intended clock cycle.
The runtime of the closed-loop control/monitoring is too longer for the particular clock cycle or the computation time remaining in the system is not sufficient for the closed-loop control/monitoring.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: Increase the basic clock cycle of DRIVE-CLiQ communications.
See also: p0112

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F01250 CU: CU-EEPROM incorrect read-only data

Reactions: NONE (OFF2)

Acknowledge: power on

Cause: Error when reading the read-only data of the EEPROM in the control unit.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON.
- replace the control unit

A01251 CU: CU-EEPROM incorrect read-write data

Reaction: NONE

Acknowledge: NONE

Cause: Error when reading the read-write data of the EEPROM in the control unit.
Alarm value (r2124, decimal):
Only for internal Siemens troubleshooting.

Remedy: For alarm value r2124 < 256, the following applies:
- carry-out a POWER ON.
- replace the control unit.
For alarm value r2124 >= 256, the following applies:
- delete (clear) the fault memory on the drive object on which the alarm occurred (p0952 = 0).
- as an alternative, delete (clear) the fault memories of all drive objects (p2147 = 1).
- replace the control unit.

F01255 CU: Opt. module EEPROM incorrect read-only data

Reactions: NONE (OFF2)

Acknowledge: power on

Cause: Error when reading the read-only data of the EEPROM in the option module.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON.
- replace the control unit.

A01256 CU: Opt. module EEPROM incorrect read-write data

Reaction: NONE

Acknowledge: NONE

Cause: Error when reading the read-write data of the EEPROM in the option module.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON.
- replace the control unit.

F01305 Topology: Component number missing

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The component number from the topology was not parameterized (p0121 (for power module, refer to p0107), p0131 (for servo/vector drives, refer to p0107), p0141, p0151, p0161).
Fault value (r0949, decimal):
The fault value includes the particular data set number.
The fault also occurs if speed encoders were configured (p0187 ... p0189), however, no component numbers exist for them.
In this case, the fault value includes the drive data set number plus 100 * encoder number (e.g. 3xx, if a component number was not entered into p0141 for the third encoder).
See also: p0121, p0131, p0141, p0142, p0151, p0161, p0186, p0187, p0188, p0189

Remedy: Enter the missing component number or remove the component and restart commissioning.
See also: p0121, p0131, p0141, p0142, p0151, p0161, p0186, p0187, p0188, p0189

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A01320 Topology: Drive object number does not exist in configuration

Reaction: NONE

Acknowledge: NONE

Cause: A drive object number is missing in p0978
Alarm value (r2124, decimal):
Index of p0101 under which the missing drive object number can be determined.

Remedy: Set p0009 to 1 and change p0978:
Rules:
- p0978 must include all of the drive object numbers (refer to p0101).
- it is not permissible that a drive object number is repeated.
- by entering a 0, the drive objects with PZD are separated from those without PZD.

A01321 Topology: Drive object number does not exist in configuration

Reaction: NONE

Acknowledge: NONE

Cause: p0978 contains a drive object number that does not exist.
Alarm value (r2124, decimal):
Index of p0978 under which the drive object number can be determined.

Remedy: Set p0009 to 1 and change p0978:
Rules:
- p0978 must include all of the drive object numbers (refer to p0101).
- it is not permissible that a drive object number is repeated.
- by entering a 0, the drive objects with PZD are separated from those without PZD.

A01322 Topology: Drive object number present twice in configuration

Reaction: NONE

Acknowledge: NONE

Cause: a drive object number is present more than once in p0978.
Alarm value (r2124, decimal):
Index of p0978 under which the involved drive object number is located.

Remedy: Set p0009 to 1 and change p0978:
Rules:
- p0978 must include all of the drive object numbers (refer to p0101).
- it is not permissible that a drive object number is repeated.
- by entering a 0, the drive objects with PZD are separated from those without PZD.

A01330 Topology: Quick commissioning not possible

Reaction: NONE

Acknowledge: NONE

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Cause: Unable to carry-out a quick commissioning. The existing actual topology does not fulfill the requirements.
Alarm value (r2124, hexadecimal):
The cause is in byte 1 supplementary information is included in byte 2 and the high word.
Byte 1 = 1:
For a component, illegal connections were detected.
- byte 2 = 1: For a motor module, more than one motor with DRIVE-CLIQ was detected.
- byte 2 = 2: For a motor with DRIVE-CLiQ, the DRIVE-CLiQ cable is not connected to a motor module.
- high word = preliminary component number of the component with illegal connection.
Byte 1 = 2:
The topology contains too many components of a particular type.
- byte 2 = 1: There is more than one master control unit.
- byte 2 = 2: There is more than 1 active line module (8 for a parallel circuit configuration).
- byte 2 = 3: There are more than 6 motor modules (8 for a parallel circuit configuration).
- byte 2 = 4: There are more than 9 encoders.
- byte 2 = 5: There are more than 2 terminal modules.
- byte 2 = 7: Component type unknown.
- byte 2 = 8: There are more than 6 drive slaves.
- byte 2 = 9: Connection of a drive slave not permitted.
- byte 2 = 10: No drive master available.
- byte 2 = 11: There is more than one motor with DRIVE-CLiQ for a parallel circuit.
- high word = not used.
Byte 1 = 3:
More than 16 components are connected at a DRIVE-CLiQ socket of the control unit.
- byte 2 = 0, 1, 2, 3 means e.g. detected at the DRIVE-CLiQ socket X100, X101, X102, X103.
- high word = not used.
Byte 1 = 4:
The number of components connected one after the other is greater than 7.
- byte 2 = not used.
- high word = preliminary component number of the 8th component.
Byte 1 = 5:
The component is not permissible for SERVO.
- byte 2 = 1: SINAMICS G available.
- byte 2 = 2: Chassis available.
- high word = preliminary component number of the 1st component found that resulted in the fault.
Byte 1 = 6:
For a component, illegal EEPROM data was detected. These must be corrected before the system continues to run-up.
- byte 2 = 1: The Order No. [MLFB] of the power module that was replaced includes a space retainer. The space retainer (*) must be replaced by a correct character.
- high word = preliminary component number of the component with illegal EEPROM data.
Byte 1 = 7:
The actual topology contains an illegal combination of components.
- byte 2 = 1: Active line module (ALM) and basic line module (BLM).
- byte 2 = 2: Active line module (ALM) and smart line module (SLM).
- high word = not used.
Note:
Connection type and connection number are described in F01375.
See also: p0097, r0098, p0099

Remedy: - adapt the output topology to the permissible requirements.
- carry-out commissioning using the commissioning software.
- for motors with DRIVE-CLiQ, connect the power and DRIVE-CLiQ cable to the same motor module (single motor module: DRIVE-CLiQ at X202, double motor module: DRIVE-CLiQ from motor 1 (X1) to X202, from motor 2 (X2) to X203).
Re byte 1 = 6 and byte 2 = 1:
Correct the order number when commissioning using the commissioning software.
See also: p0097, r0098, p0099

A01331 Topology: Component not assigned to a drive object

Reaction: NONE

Acknowledge: NONE

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Cause: A component is not assigned to a drive object.
- when commissioning, a component was not able to be automatically assigned to a drive object.
- the parameters for the data sets are not correctly set.
Alarm value (r2124, decimal):
Component number of the unassigned component.

Remedy: This component is assigned to a drive object.
Check the parameters for the data sets.
Examples:
- power module (p0121).
- motor (p0131, p0186).
- encoder interface (p0140, p0141, p0187 ... p0189).
- encoder (p0140, p0142, p0187 ... p0189).
- terminal module (p0151).
- option board (p0161).

F01340 Topology: Too many components on one line

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: For the selected communications clock cycle, too many DRIVE-CLiQ components are connected to one line of the control unit.
Fault value (r0949, hexadecimal):
xyy hex: x = fault cause, yy = component number or connection number.
1yy:
The communications clock cycle of the DRIVE-CLiQ connection on the CU is not sufficient for all read transfers.
2yy:
The communications clock cycle of the DRIVE-CLiQ connection on the CU is not sufficient for all write transfers.
3yy:
Cyclic communications is fully utilized.
4yy:
The DRIVE-CLiQ cycle starts before the earliest end of the application. An additional deadtime must be added to the control. Sign-of-life errors can be expected.
5yy:
Internal buffer overflow for net data of a DRIVE-CLiQ connection.
6yy:
Internal buffer overflow for receive data of a DRIVE-CLiQ connection.
7yy:
Internal buffer overflow for send data of a DRIVE-CLiQ connection.

Remedy: Check the DRIVE-CLiQ connection:
Approximately the same number of components should be connected in series and operated at the DRIVE-CLiQ connections. This means that communication is uniformly distributed over several communication lines.
Re fault value = 1yy - 4yy in addition:
- increase the basic clock cycle (p0112).

F01355 Topology: Actual topology modified

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The unit target topology p0099 does not correspond to the unit actual topology r0098.
The fault only occurs if the topology was commissioned using the automatic internal device mechanism and not using the commissioning software.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.
See also: r0098, p0099

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Remedy: One of the following counter-measures can be selected if no faults have occurred in the topology detection itself:
If commissioning was still not completed:
- carry-out a self-commissioning routine (starting from p0009 = 1).
general: Set p0099 to r0098, set p0009 to 0; for existing motor modules, this results in servo drives being automatically generated (refer to p0107).
or to generate servo drives: Set p0097 to 1, set p0009 to 0;
or to generate vector drives: Set p0097 to 2, set p0009 to 0.
or to generate vector drives with a parallel circuit configuration: Set p0097 to 12, set p0009 to 0.
In order to set configurations in p0108, before setting p0009 to 0, it is possible to first set p0009 to 2 and p0108 modified (the index corresponds to the drive object, also refer to p0107).
If commissioning was already completed:
- re-establish the original connections and re-connect power to the control unit.
- restore the factory setting for the complete equipment (all of the drives) and allow automatic self-commissioning again.
- change the device parameterization to match the connections (this is only possible using the commissioning software).
Notice:
Topology changes, that result in this fault being generated, cannot be accepted by the automatic function in the device, but must be transferred using the commissioning software and parameter download. The automatic function in the device only allows constant topology to be used. Otherwise, when the topology is changed, all of the previous parameter settings are lost and replaced by the factory setting.
See also: r0098

F01360 Topology: Actual topology is illegal

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The detected actual topology is not permissible.
Fault value (r0949, hexadecimal):
Byte 1 (cause):
1: Too many components were detected at the control unit. The maximum permissiblen number of components is 199.
2: The component type of a component is not known. The preliminary component number is in the high word.
Note:
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Re fault value = 1:
Change the configuration. Connect less than 199 components to the control unit.
Re fault value = 2:
Remove the component with unknown component type.

F01375 Topology: Actual topology duplicate connection between two components

Reaction: NONE

Acknowledge: IMMEDIATELY

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Cause: When detecting the actual topology, a ring-type connection was detected.
Fault value (r0949, hexadecimal):
Low word: Preliminary component number of a component included in the ring
Byte 3: Component class
Byte 4: Connection number
Example:
Fault value = 33751339 dec = 203012B hex
Byte 4 = 02 hex = 2 dec, byte 3 = 03 hex = 3 dec, low word = 012B hex = 299 dec
Component class:
1: Control unit
2: Motor module
3: Line module
4: Sensor module (SM)
5: Voltage sensing module (VSM)
6: Terminal module (TM)
7: DMC20, repeater
8: CX32
49: DRIVE-CLiQ components (non-listed components)
50: Option slot (e.g. terminal board 30)
60: Encoder (e.g. EnDat)
70: Motor with DRIVE-CLiQ
Component type:
Precise designation within a component class (e.g. "SMC20").
Connection number:
Consecutive numbers, starting from zero, of the appropriate connection or slote (e.g. DRIVE-CLiQ connection X100 on the control unit has the connection number 0).

Remedy: Output the fault value and remove the specified connection.

F01380 Topology: Actual topology, defective EEPROM

Reaction: NONE

Acknowledge: power on

Cause: When detecting the actual topology, a component with a defective EEPROM was detected.
Fault value (r0949, hexadecimal):
Low word:
Preliminary component number of the defective components.

Remedy: Output the fault value and remove the defected component.

A01381 Topology: Comparison shows power module shifted

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a power module in the actual topology that has been shifted with respect to the target topology.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component shifted in the target topology.
The connection in the actual topology where the shifted component was detected, is described in bytes 2, 3 and 4.
Byte 2: Component class
Byte 3: component number
Byte 4: Connection number
Note:
Component class and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- undo the change to the actual topology by changing-over the DRIVE-CLiQ cables.
- commissioning software: Go online, upload the drive unit, adapt the topology offline and download the modified project.
- automatically remove the topology error (p9904).

A01382 Topology: Comparison shows sensor module shifted

Reaction: NONE

Acknowledge: NONE

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Cause: The topology comparison has detected a sensor module in the actual topology that has been shifted with respect to the target topology.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component shifted in the target topology
The connection in the actual topology where the shifted component was detected, is described in bytes 2, 3 and 4.
Byte 2: Component class
Byte 3: Component number
Byte 4: Connection number
Note:
Component class and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- undo the change to the actual topology by changing-over the DRIVE-CLiQ cables.
- commissioning software: Go online, upload the drive unit, adapt the topology offline and download the modified project.
- automatically remove the topology error (p9904).

A01383 Topology: Comparison shows terminal module shifted

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a terminal module in the actual topology that has been shifted with respect to the target topology.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component shifted in the target topology
The connection in the actual topology where the shifted component was detected, is described in bytes 2, 3 and 4.
Byte 2: Component class
Byte 3: Component number
Byte 4: Connection number
Note:
Component class and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- undo the change to the actual topology by changing-over the DRIVE-CLiQ cables.
- commissioning software: Go online, upload the drive unit, adapt the topology offline and download the modified project.
- automatically remove the topology error (p9904).

A01385 Topology: Comparison shows CX32 shifted

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a controller extension 32 (CX32) in the actual topology that has been shifted with respect to the target topology.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component shifted in the target topology
The connection in the actual topology where the shifted component was detected, is described in bytes 2, 3 and 4.
Byte 2: Component class
Byte 3: Component number
Byte 4: Connection number
Note:
Component class and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- undo the change to the actual topology by changing-over the DRIVE-CLiQ cables.
- commissioning software: Go online, upload the drive unit, adapt the topology offline and download the modified project.
- automatically remove the topology error (p9904).

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A01386 Topology: Comparison shows DRIVE-CLiQ component shifted

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a DRIVE-CLiQ component in the actual topology that has been shifted with respect to the target topology.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component shifted in the target topology
The connection in the actual topology where the shifted component was detected, is described in bytes 2, 3 and 4.
Byte 2: Component class
Byte 3: Component number
Byte 4: Connection number
Note:
Component class and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- undo the change to the actual topology by changing-over the DRIVE-CLiQ cables.
- commissioning software: Go online, upload the drive unit, adapt the topology offline and download the modified project.
- automatically remove the topology error (p9904).

A01387 Topology: Comparison shows option slot component shifted

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a option slot component in the actual topology that has been shifted with respect to the target topology.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component shifted in the target topology
The connection in the actual topology where the shifted component was detected, is described in bytes 2, 3 and 4.
Byte 2: Component class
Byte 3: Component number
Byte 4: Connection number
Note:
Component class and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- undo the change to the actual topology by changing-over the DRIVE-CLiQ cables.
- commissioning software: Go online, upload the drive unit, adapt the topology offline and download the modified project.
- automatically remove the topology error (p9904).

A01388 Topology: Comparison shows EnDat encoder shifted

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected an EnDat encoder in the actual topology that has been shifted with respect to the target topology.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component shifted in the target topology
The connection in the actual topology where the shifted component was detected, is described in bytes 2, 3 and 4.
Byte 2: Component class
Byte 3: Component number
Byte 4: Connection number
Note:
Component class and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- undo the change to the actual topology by changing-over the DRIVE-CLiQ cables.
- commissioning software: Go online, upload the drive unit, adapt the topology offline and download the modified project.
- automatically remove the topology error (p9904).

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A01389 Topology: Comparison shows motor with DRIVE-CLiQ shifted

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a motor with DRIVE-CLiQ in the actual topology that has been shifted with respect to the target topology.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component shifted in the target topology
The connection in the actual topology where the shifted component was detected, is described in bytes 2, 3 and 4.
Byte 2: Component class
Byte 3: Component number
Byte 4: Connection number
Note:
Component class and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- undo the change to the actual topology by changing-over the DRIVE-CLiQ cables.
- commissioning software: Go online, upload the drive unit, adapt the topology offline and download the modified project.
- automatically remove the topology error (p9904).

A01416 Topology: Comparison shows additional component in actual topology

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has found a component in the actual topology which is not specified in the target topology. The alarm value defines the connection at which the additional component was detected.
Alarm value (r2124, hexadecimal):
Byte 1: Component number
Byte 2: Component class
Byte 3: Connection number
Note:
Component class and connection number are described in F01375.

Remedy: Adapting the topologies:
- remove the additional component in the actual topology.
- download the target topology that matches the actual topology (commissioning software).

A01420 Topology: Comparison shows a component is different

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected differences in the actual and target topologies in relation to one component. There are differences in the electronic rating plate.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component
Byte 2: Component class of the target topology
Byte 3: Component class of the actual topology
Byte 4 (cause):
1: Different component type
2: Different order number
3: Different manufacturer
4: Connection changed-over for a multi-component slave (e.g. double motor module) or defective EEPROM data in the electronic rating plate
Note:
Component class and component type are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- check the component soft-wired connections against the hardware configuration of the drive unit in the commissioning software and correct differences.
- parameterize the topology comparison of all components (p9906).
- parameterize the topology comparison of one components (p9907, p9908).

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A01421 Topology: Comparison, different components

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected differences in the actual and target topologies in relation to one component.
The component class, the component type or the number of connections differ.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component
Byte 2: Component class of the target topology
Byte 3: Component class of the actual topology
Byte 4 (cause):
1: Different component class
2: Different component type
3: Different order number
4: Different number of connections
Note:
Component class, component type and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Check the component soft-wired connections against the hardware configuration of the drive unit in the commissioning software and correct differences.

A01425 Topology: Comparison shows that the serial number of a component is different

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected differences in the actual and target topologies in relation to one component.
The serial number is different.
Alarm value (r2124, hexadecimal):
Byte 1: Component number of the component
Byte 2: Component class
Byte 3: Number of differences
Note:
The component class is described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- change over the actual topology to match the target topology.
- download the target topology that matches the actual topology (commissioning software).
Re byte 3:
Byte 3 = 1 --> can be acknowledged using p9904 or p9905.
Byte 3 > 1 --> can be acknowledged using p9905 and can be de-activated using p9906 or p9907/p9908.
See also: p9904, p9905, p9906, p9907, p9908

A01428 Topology: Comparison shows connection of a component is different

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected differences in the actual and target topologies in relation to one component.
A component was connected to another connection.
The different connections of a component are described in the alarm value:
Alarm value (r2124, hexadecimal):
Byte 1: Component number
Byte 2: Component class
Byte 3: Connection number in the actual topology
Byte 4: Connection number in the target topology
Note:
Component class and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- change over the actual topology to match the target topology.
- download the target topology that matches the actual topology (commissioning software).
- automatically remove the topology error (p9904).
See also: p9904

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A01429 Topology: Comparison shows connection is different for more than component

Reaction: NONE

Acknowledge: NONE

Cause: A topology comparison has found differences between the actual and target topology for several components. A component was connected to another connection.
The different connections of a component are described in the alarm value:
Alarm value (r2124, hexadecimal):
Byte 1: Component number
Byte 2: Component class
Byte 3: Connection number in the actual topology
Byte 4: Connection number in the target topology
Note:
Component class and connection number are described in F01375.
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: Adapting the topologies:
- change over the actual topology to match the target topology.
- download the target topology that matches the actual topology (commissioning software).
Note:
In the software, a double motor module behaves just like two separate DRIVE-CLiQ nodes. If a double motor module is re-inserted, this can result in several differences in the actual topology.

F01451 Topology: Target topology is invalid

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: An error has occurred when writing into the target topology.
The write operation was interrupted due to an invalid target topology.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: Reload the target topology using the commissioning software.

F01470 Topology: Target topology ring connection

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A ring-type connection was detected when writing into the target topology.
Fault value (r0949, hexadecimal):
Byte 1: Component number of a component included in the ring
Byte 2: Component class
Byte 3: Connection number
Note:
Component class and connection number are described in F01375.

Remedy: Read-out the fault value and remove one of the specified connections.
Then, download the target topology again using the commissioning software.

F01475 Topology: Target topology duplicate connection between two components

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: When writing the target topology, a duplicate connection between two components was detected.
Fault value (r0949, hexadecimal):
Byte 1: Component number of one of the components connected twice
Byte 2: Component class
Byte 3: Connection number 1 of the duplicate connection
Byte 4: Connection number 2 of the duplicate connection
Note:
Component class and connection number are described in F01375.

Remedy: Read-out the fault value and remove one of the two specified connections.
Then, download the target topology again using the commissioning software.

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A01481 Topology: Comparison shows power module not present in the actual topology

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a power module in the target topology that is not used in the actual topology.
Alarm value (r2124, decimal):
Component number of the additional target components.
Note:
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: - delete the drive belonging to the power module in the commissioning software project and download the new configuration into the drive unit.
- check that the actual topology matches the target topology and if required, change over.
- check DRIVE-CLiQ cables for interruption and contact problems.

A01482 Topology: Comparison shows sensor module not present in the actual topology

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a sensor module in the target topology that is not used in the actual topology.
Alarm value (r2124, decimal):
Component number of the additional target components.
Note:
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: - re-configure the drive belonging to the sensor module in the commissioning software project (encoder configuration) and download the new configuration into the drive unit.
- delete the drive belonging to the sensor module in the commissioning software project and download the new configuration into the drive unit.
- check that the actual topology matches the target topology and if required, change over.
- check DRIVE-CLiQ cables for interruption and contact problems.

A01483 Topology: Comparison shows terminal module not present in the actual topology

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a terminal module in the target topology that is not used in the actual topology.
Alarm value (r2124, decimal):
Component number of the additional target components.
Note:
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: - delete the terminal module in the commissioning software project and download the new configuration into the drive unit.
- check that the actual topology matches the target topology and if required, change over.
- check DRIVE-CLiQ cables for interruption and contact problems.

A01485 Topology: Comparison CX32 in actual topology missing

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a controller extension 32 (CX32) in the target topology that is not used in the actual topology.
Alarm value (r2124, decimal):
Component number of the additional target components.
Note:
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: - delete the CX32 in the commissioning software project and download the new configuration into the drive unit.
- check that the actual topology matches the target topology and if required, change over.
- check DRIVE-CLiQ cables for interruption and contact problems.

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A01486 Topology: Comparison shows DRIVE-CLiQ not present in the actual topology

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a DRIVE-CliQ component in the target topology that is not used in the actual topology.
Alarm value (r2124, decimal):
Component number of the additional target components.
Note:
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: - delete the drive belonging to this component in the commissioning software project and download the new configuration into the drive unit.
- re-configure the drive belonging to this component in the commissioning software project and download the new configuration into the drive unit.
- check that the actual topology matches the target topology and if required, change over.
- check DRIVE-CLiQ cables for interruption and contact problems.

A01487 Topology: Comparison shows option slot component not present in the actual topology

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected an option slot component in the target topology that is not used in the actual topology.
Alarm value (r2124, decimal):
Component number of the additional target components.
Note:
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: - delete the option board in the commissioning software project and download the new configuration into the drive unit.
- re-configure the drive unit in the commissioning software project and download the new configuration into the drive unit.
- check that the actual topology matches the target topology and if required, change over.

A01488 Topology: Comparison EnDat encoder not present in the actual topology

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected an EnDat encoder in the target topology that is not used in the actual topology.
Alarm value (r2124, decimal):
Component number of the additional target components.
Note:
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

Remedy: - re-configure the drive belonging to the encoder in the commissioning software project (encoder configuration) and download the new configuration into the drive unit.
- delete the drive belonging to the encoder in the commissioning software project and download the new configuration into the drive unit.
- check that the actual topology matches the target topology and if required, change over.

A01489 Topology: Comparison shows motor with DRIVE-CLiQ not present in the actual topology

Reaction: NONE

Acknowledge: NONE

Cause: The topology comparison has detected a motor with DRIVE-CLiQ in the target topology that is not used in the actual topology.
Alarm value (r2124, decimal):
Component number of the additional target components.
Note:
The drive system run-up is stopped. In this state, the drive control (closed-loop) cannot be enabled.

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Remedy: - re-configure the drive belonging to this motor in the commissioning software project and download the new configuration into the drive unit.
- delete the drive belonging to this motor in the commissioning software project and download the new configuration into the drive unit.
- check that the actual topology matches the target topology and if required, change over.
- check DRIVE-CLiQ cables for interruption and contact problems.

F01505 (A) BICO: Interconnection cannot be established

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A PROFIBUS telegram has been set (p0922).
An interconnection contained in the telegram, was not able to be established.
Fault value (r0949, decimal):
Parameter receiver that should be changed.

Remedy: Establish another interconnection.

Reaction upon A: NONE

Acknowledge upon A: NONE

F01506 (A) BICO: No standard telegram

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The standard telegram in p0922 is not maintained and therefore p0922 is set to 999.
Fault value (r0949, decimal):
BICO parameter for which the write attempt was unsuccessful.

Remedy: Again set the required standard telegram (p0922).

Reaction upon A: NONE

Acknowledge upon A: NONE

F01510 BICO: Signal source is not float type

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The selected connector output does not have the correct data type. This interconnection is not established.
Fault value (r0949, decimal):
Parameter number to which an interconnection should be made (connector output).

Remedy: Interconnect this connector input with a connector output having a float data type.

F01511 (A) BICO: Interconnection between various normalizations

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The requested interconnection was set up. However, a conversion is made between the BICO output and BICO input using the reference values.
- the BICO output has different normalized units than the BICO input.
- alarm only for interconnections within a drive object.
Alarm during commissioning and download inactive.
Example:
The BICO output has, as normalized unit, voltage and the BICO input has current.
This means that the factor p2002 (contains the reference value for current) / p2001 (contains the reference value for voltage) is calculated between the BICO output and BICO input.
Fault value (r0949, decimal):
Parameter number of the BICO input (signal receiver).

Remedy: No correction needed.

Reaction upon A: NONE

Acknowledge upon A: NONE

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F01512 BICO: No normalization available

Reactions: A_INFEED: OFF2 (OFF1)
SERVO: OFF2

Acknowledge: power on

Cause: An attempt was made to determine a conversion factor for a normalization that does not exist.
Fault value (r0949, decimal):
Unit (e.g. corresponding to SPEED) for which an attempt was made to determine a factor.

Remedy: Apply normalization or check the transfer value.

F01513 (A) BICO: Spanning DO between different normalizations

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The requested interconnection was set up. However, a conversion is made between the BICO output and BICO input using the reference values.
An interconnection is made between different drive objects and the BICO output has different normalized units than the BICO input or the normalized units are the same but the reference values are different.
Example:
The BICO output has, as standard unit, voltage and the BICO input has current; both lie in different drive objects. This means that the factor p2002 (contains the reference value for current) / p2001 (contains the reference value for voltage) is calculated between the BICO output and BICO input.
Fault value (r0949, decimal):
Parameter number of the BICO input (signal receiver).

Remedy: No correction needed.

Reaction upon A: NONE

Acknowledge upon A: NONE

A01514 (F) BICO: Error when writing during a reconnect

Reaction: NONE

Acknowledge: NONE

Cause: During a reconnect operation (e.g. at run-up or download - but cannot occur in normal operation) a parameter was not able to be written into.
Example:
When writing to a double word BICO input in the second index, the memory areas overlap (e.g. p8861). The parameter is then reset to the factor setting.
Alarm value (r2124, decimal):
Parameter number of the BICO input (signal receiver).

Remedy:

Reaction upon F: NONE

Acknowledge upon F: IMMEDIATELY

F01590 (A) Drive: Service/maintenance interval expired

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The selected service/maintenance interval (p0651) for this drive was reached.
Fault value (r0949, decimal):
Motor data set number.
See also: p0650, p0651

Remedy: Carry-out service/maintenance and reset the service/maintenance interval (p0651).

Reaction upon A: NONE

Acknowledge upon A: NONE

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F01600 SI CU: STOP A initiated

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: The Safety Integrated function on the control unit has detected a fault and initiated a STOP A (pulse cancellation via the safety shutdown path of the control unit).
- forced checking procedure of the safety shutdown path of the control unit unsuccessful.
- subsequent response to fault F01611 (defect in a monitoring channel).
Fault value (r0949, decimal):
0: Stop request from the motor module.
1005: Pulses cancelled although SH not selected and there is not internal STOP A present.
1010: Pulses enabled although SH is selected or an internal STOP A is present.
1015: Feedback of the safe pulse cancellation for motor modules connected in parallel are different.
9999: Subsequent response to fault F01611.

Remedy: - select safe standstill and then de-select again.
- check whether the safe standstill function is also enabled on the motor module (p9801).
If required, select the safety commissioning mode (p0010), enable the safe standstill function on the control unit and motor module (p9601, p9801), exist the safety commissioning mode (p0010) and carry-out a POWER ON for all components (power-down/power-up).
- replace the motor module involved.
Re fault value = 9999:
- carry-out diagnostics for fault F01611.
Note:
CU: Control unit
SI: Safety Integrated

F01611 SI CU: Defect in a monitoring channel

Reactions: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY (power on)

Cause: The Safety Integrated function on the control unit has detected a fault in the crosswise data comparison and initiated a STOP F.
As a result of this fault, after the parameterized transition has expired (p9658), fault F01600 (CU Safety Integrated: STOP A initiated) is output.
Fault value (r0949, decimal):
0: Stop request from the motor module.
1 to 999:
Number of the crosswise compared data that resulted in this fault.
1: Safety Integrated monitoring clock cycle (r9780, r9880).
2: Safety Integrated enable safety functions (p9601, p9801).
3: Safety Integrated tolerance time SGE changeover (p9650, p9850).
4: Safety Integrated transition period STOP F to STOP A (p9658, p9858).
5: Safety Integrated enable safe brake control (p9602, p9802).
This number is also displayed in r9795.
1000:
Watchdog timer has expired. Within the time of approx. 5 * p9650 too many switching operations have occurred at terminal EP of the motor module.
1001, 1002: Initialization error, change timer / check timer.
2000: Status of the SH terminals on the control unit and motor module are different.
2001: Feedback signal for safe pulse cancellation on the control unit and motor module are different.
2004: Status of the SH selection for modules connected in parallel are different.
2005: Feedback signal of the safe pulse cancellation on the control unit and motor modules connected in parallel are different.

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Remedy: Re fault value = 1 to 999:
- check the crosswise compared data that resulted in a STOP F.
- carry-out a POWER ON (power off/on) for all components.
- upgrade the motor module software.
- upgrade the control unit software.

Re fault value = 1000:
- check the EP terminal at the motor module (contact problems).

Re fault value = 1001, 1002:
- carry-out a POWER ON (power off/on) for all components.
- upgrade the motor module software.
- upgrade the control unit software.

Re fault value = 2000, 2001:
- check the tolerance time SGE changeover and if required, increase the value (p9650, p9850).
- check the wiring of the safety-relevant input signals (contact problems).
- replace the motor module involved.

Note:
CU: Control unit
SI: Safety Integrated

N01620 (F, A) SI CU: Safe standstill active

Reaction: NONE

Acknowledge: NONE

Cause: The safe standstill function has been selected on the control unit and is active.
Note:
This fault does not result in a safety stop response.

Remedy: None necessary.
Note:
CU: Control unit
SI: Safety Integrated

Reaction upon F: OFF2

Acknowledge upon F: IMMEDIATELY (power on)

Reaction upon A: NONE

Acknowledge upon A: NONE

F01625 SI CU: Sign-of-life error in safety data

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: The Safety Integrated function on the control unit has detected an error in the sign-of-life of the safety data and initiated a STOP A.
- there is either a DRIVE-CLIQ communications error or communications have failed.
- a time slice overflow of the safety software has occurred.

Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy:
- select safe standstill and then de-select again.
- carry-out a POWER ON (power off/on) for all components.
- check whether there is a DRIVE-CLiQ communications error between the control unit and the motor module involved and if required, carry-out a diagnostics routine for the faults identified.
- de-select all drive functions that are not absolutely necessary.
- reduce the number of drives.
- check the electrical cabinet design and cable routing for EMC compliance

Note:
CU: Control unit
SI: Safety Integrated

F01630 SI CU: Brake control defective

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

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Cause: The Safety Integrated function on the control unit has detected a brake control fault and initiated a STOP A.
- no motor holding brake connected.
- the motor holding brake control on the motor module is faulty.
- a DRIVE-CLiQ communications error has occurred between the control unit and the motor module involved.
Fault value (r0949, decimal):
10: No brake connected or fault in the motor module brake control circuit ("open brake" operation).
11: Defect in the brake control circuit of the motor module ("brake open" operation).
20: Short-circuit in the brake winding or fault in the brake control circuit of the motor module ("brake open" state).
30: No brake connected, short-circuit in the brake winding or fault in the motor module brake control circuit ("close brake" operation).
31: Defect in the brake control circuit of the motor module ("close brake" operation).
40: Defect in the brake control circuit of the motor module ("brake closed" state).
50: Defect in the brake control circuit of the motor module or communications fault between the control unit and the motor module (brake control diagnostics).

Remedy: - check the motor holding brake connection.
- check the function of the motor holding brake.
- check whether there is a DRIVE-CLiQ communications error between the control unit and the motor module involved and if required, carry-out a diagnostics routine for the faults identified.
- check the electrical cabinet design and cable routing for EMC compliance
- replace the motor module involved.
Note:
CU: Control unit
SI: Safety Integrated

F01649 SI CU: Internal software error

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: An internal error in the Safety Integrated software on the control unit has occurred.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.
- re-commission the Safety Integrated function and carry-out a POWER ON.
- upgrade the control unit software.
- contact the Hotline.
- replace the control unit.
Note:
CU: Control unit
SI: Safety Integrated

F01650 SI CU: Acceptance test required

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: The Safety Integrated function on the control unit requires an acceptance test.
Note:
This fault results in a STOP A.
Fault value (r0949, decimal):
130: No safety parameters available for the motor module.
1000: Reference and actual checksum on the control unit are not identical (run-up).
- at least one checksum-checked piece of data is defective.
2000: Reference and actual checksum on the control unit are not identical (commissioning mode).
- reference checksum incorrectly entered into the control unit (p9799 not equal to r9798).
2001: Reference and actual checksum on the motor module are not identical (commissioning mode).
- reference checksum incorrectly entered into the motor module (p9899 not equal to r9898).
2002: Enable of safety-related functions between the control unit and motor module differ (p9601 not equal to p9801).
2003: Acceptance test is required as a safety parameter has been changed.
2010: Safe brake control is enabled differently the control unit and motor module (p9602 not equal to p9802).
2020: Error when saving the safety parameters for the motor module.
9999: Subsequent response of another safety-related fault that occurred at run-up that requires an acceptance test.

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Remedy: Re fault value = 130:
- carry-out safety commissioning routine.
Re fault value = 1000:
- again carry-out safety commissioning routine.
- replace the CompactFlash Card.
Re fault value = 2000:
- check the safety parameters in the control unit and adapt the reference checksum (p9799).
Re fault value = 2001:
- check the safety parameters in the motor module and adapt the reference checksum (p9899).
Re fault value = 2002:
- enable the safety-related functions on the control unit and check on the motor module (p9601 = p9801).
Re fault value = 2003:
- carry-out an acceptance test.
Re fault value = 2010:
- enable the safe brake control in the control unit and check on the motor module (p9602 = p9802).
Re fault value = 2020:
- again carry-out safety commissioning routine.
- replace the CompactFlash Card.
Re fault value = 9999:
- carry-out diagnostics for the other safety-related fault that is present.
Note:
CU: Control unit
SI: Safety Integrated
See also: p9799, p9899

F01651 SI CU: Not synchronized with the motor module

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: The Safety Integrated function is requesting synchronization of the safety time slices on the control unit and motor module. This synchronization routine was not successful.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.
- upgrade the motor module software.
- upgrade the control unit software.
Note:
CU: Control unit
SI: Safety Integrated

F01652 SI CU: Monitoring clock cycle not permissible

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: The Safety Integrated monitoring clock cycle cannot be maintained due to the communication conditions requested in the system.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: Upgrade the control unit software.
Note:
CU: Control unit
SI: Safety Integrated

F01655 SI CU: Align monitoring functions

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

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Cause: An error has occurred when aligning the Safety Integrated monitoring functions on the control unit and motor module.
Control unit and motor module were not able to determine a common set of supported SI monitoring functions.
- there is either a DRIVE-CLIQ communications error or communications have failed.
- Safety Integrated software releases on the control unit and motor module are not compatible with one another.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy:
- carry-out a POWER ON (power off/on) for all components.
- upgrade the motor module software.
- upgrade the control unit software.
- check the electrical cabinet design and cable routing for EMC compliance
Note:
CU: Control unit
SI: Safety Integrated

F01656 SI CU: Incorrect motor module parameter

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: When accessing the Safety Integrated parameters for the motor module on the CompactFlash Card, an error has occurred.
Note:
This fault results in a STOP A.
Fault value (r0949, decimal):
129: Safety parameters for the motor module corrupted.
131: Internal motor module software error.
132: Communication errors when uploading or downloading the safety parameters for the motor module.
255: Internal software error on the control unit.

Remedy:
- re-commission the safety functions.
- upgrade the control unit software.
- upgrade the motor module software.
- replace the CompactFlash Card.
Re fault value = 132:
- check the electrical cabinet design and cable routing for EMC compliance
Note:
CU: Control unit
SI: Safety Integrated

F01659 SI CU: Write task for parameter rejected

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: The write task for one or several Safety Integrated parameters on the control unit was rejected.
Note:
This fault does not result in a safety stop response.
Fault value (r0949, decimal):
1: The Safety Integrated password is not set.
2: A parameter reset was selected - however, the Safety Integrated parameters cannot be reset as Safety Integrated is presently enabled.
10: An attempt was made to enable the SH function although this cannot be supported.
11: An attempt was made to enable the SBC function although this cannot be supported.
12: An attempt was made to enable the SBC function although this cannot be supported for a parallel circuit configuration.

See also: p0970, p3900, r9771, r9871

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Remedy: Re fault value = 1:
- set the Safety Integrated password (p9761).
Re fault value = 2:
- inhibit Safety Integrated (p9601, p9801) and again reset the drive parameters.
Re fault value = 10, 11:
- check whether there are faults in the safety function alignment between the control unit and the motor module involved (F01655, F30655) and if required, carry-out diagnostics for the faults involved.
- use a motor module that supports the function safe standstill or safe brake control.
- upgrade the motor module software.
- upgrade the control unit software.
Note:
CU: Control unit
SI: Safety Integrated
See also: p9601, p9761, p9801

F01660 SI CU: Safety-related functions not supported

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: The motor module does not support the safety-related functions (e.g. the motor module version is not the correct one). Safety Integrated cannot be commissioned.
Note:
This fault results in a STOP A that cannot be acknowledged.

Remedy: - use a motor module that supports the safety-related functions.
- upgrade the motor module software.
Note:
CU: Control unit
SI: Safety Integrated

A01698 (F) SI CU: Commissioning mode active

Reaction: NONE

Acknowledge: NONE

Cause: The commissioning of the Safety Integrated function is selected.
This alarm is withdrawn after the safety functions have been commissioned.
See also: p0010

Remedy: None necessary.
Note:
CU: Control unit
SI: Safety Integrated

Reaction upon F: NONE (OFF1, OFF2, OFF3)

Acknowledge upon F: IMMEDIATELY (power on)

A01699 (F) SI CU: Shutdown path test required

Reaction: NONE

Acknowledge: NONE

Cause: The time set in p9659 for the forced checking procedure of the safety shutdown paths has been exceeded. The safety shutdown paths must be re-tested.
After the next time that the safe standstill function is de-selected, the alarm is withdrawn and the monitoring time is reset.
See also: p9659

Remedy: Select safe standstill and then deselect again.
Note:
CU: Control unit
SI: Safety Integrated

Reaction upon F: NONE (OFF1, OFF2, OFF3)

Acknowledge upon F: IMMEDIATELY (power on)

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F01800 DRIVE-CLiQ: Hardware/configuration incorrect

Reactions: A_INFEED: NONE
SERVO: OFF1

Acknowledge: power on

Cause: A DRIVE-CLiQ connection fault has occurred.
Fault value (r0949, decimal):
0 ... 3:
The socket 0 ... 3 has not switched to cyclic operation. The cause can be an incorrect structure or a configuration that results in an impossible bus timing.
10:
Loss of the DRIVE-CliQ connection. The cause can be, for example, that the DRIVE-CLiQ cable was withdrawn from the control unit or as a result of a short-circuit for motors with SMI. This fault can only be acknowledged in cyclic communication.
11:
Repeated fault when detecting the connection. This fault can only be acknowledged in cyclic communication.
12:
A connection was detected but the node ID exchange mechanism does not function. The reason is probably that the component is defective. This fault can only be acknowledged in cyclic communication.

Remedy: Re fault value = 0 ... 3:
- ensure that the DRIVE-CLiQ components have the same firmware releases.
- avoid longer topologies for short current controller clock cycles.
Re fault value = 10:
- check the DRIVE-CLiQ cables at the control unit.
- remove any short-circuit for motors with SMI.
- carry-out a POWER ON.
Re fault value = 11:
- check the electrical cabinet design and cable routing for EMC compliance
Re fault value = 12:
- replace the component involved.

F01801 DRIVE-CLiQ: No communications to the components

Reactions: OFF1

Acknowledge: power on (IMMEDIATELY)

Cause: Communications with the DRIVE-CLiQ component specified by the fault value is not possible.
One cause can be, e.g. that a DRIVE-CLiQ cable has been withdrawn.
Fault value (r0949, decimal):
Component ID.

Remedy: - check the DRIVE-CLiQ connections.
- check the power supply voltage of the component involved.
- carry-out a POWER ON.

F01802 (A) CU DRIVE-CLiQ: POWER ON due to basic sampling times

Reactions: OFF2

Acknowledge: power on

Cause: It is not possible to change the DRIVE-CLiQ basic sampling times p0110 in operation. POWER ON is required.
Fault value (r0949, decimal):
Index of p0110.

Remedy: - save (p0971 = 1).
- carry-out a POWER ON.

Reaction upon A: NONE

Acknowledge upon A: NONE

A01900 (F) PROFIBUS: Configuration telegram error

Reaction: NONE

Acknowledge: NONE

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Cause: A PROFIBUS master attempts to establish a connection using an incorrect configuring telegram.
Alarm value (r2124, decimal):
50: Syntax error.
51: Connection established to more drive objects than configured in the device. The drive objects for PZD exchange and their sequence was defined using p0978.
52: Too many data words for input or output to a drive object. A max. of 16 words is permitted for SERVO and VECTOR; max. 5 words, for A_INFEED, TB30, TM31 and CU320.
53: Uneven number of bytes for input or output.

Remedy: Check the bus configuring on the master and slave sides.
Re alarm value = 51:
Check the list of the drive objects with PZD exchange (p0978). With p0978[x] = 0, all of the following drive objects in the list are excluded from the PZD replacement.

Reaction upon F: NONE (OFF1)

Acknowledge upon F: IMMEDIATELY

A01901 (F) PROFIBUS: Parameterizing telegram error

Reaction: NONE

Acknowledge: NONE

Cause: A PROFIBUS master attempts to establish a connection using an incorrect parameterizing telegram.
Alarm value (r2124, decimal):
1: Incorrect parameterizing bits
10: Illegal length of an optional parameterizing block
11: Illegal ID of an optional parameterizing block
20: Double parameterizing block for clock synchronization
21: Incorrect parameterizing block for clock synchronization
22: Incorrect parameterizing bits for clock synchronization

Remedy: Check the bus configuration:
- bus addresses
- slave configuring

Reaction upon F: NONE (OFF1)

Acknowledge upon F: IMMEDIATELY

A01902 PROFIBUS: Parameterizing telegram not permissible

Reaction: NONE

Acknowledge: NONE

Cause: Alarm value (r2124, decimal):
0: Bus cycle time Tdp < 1 ms
1: Bus cycle time Tdp > 32 ms
2: Bus cycle time Tdp is not a integer multiple of the current controller clock cycle.
3: Instant of the actual value sensing Ti > Bus cycle time Tdp
4: Instant of the actual value sensing Ti is not an integer multiple of the current controller clock cycle.
5: Instant of the setpoint transfer Ti > = Bus cycle time Tdp
6: Instant of the setpoint transfer To is not an integer multiple of the current controller clock cycle.
7: Master application cycle time Tmapc is not an integer multiple of the speed controller clock cycle.
8: Bus reserve bus cycle time Tdp - data exchange time Tdx less than two current controller clock cycles.
9: Bus cycle time Tdp has been modified with respect to the first time that the connection was established.
10: Instant of the setpoint transfer To <= data exchange time Tdx + To_min.
11: Master application cycle time Tmapc > 14.
12: PLL tolerance window Tpll_w > Tpll_w_max.
13: Bus cycle time Tdp is not a multiple of all basic clock cycles p0110[x].

Remedy: - adapt the parameterizing telegram.
- adapt the current and speed controller clock cycle.

A01903 (F) COMM INT: Receive configuration data not valid

Reaction: NONE

Acknowledge: NONE

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Cause: The drive unit did not accept the receive-configuration data.
Alarm value (r2124, decimal):
Return value of the receive-configuration data check.
0: Configuration accepted.
1: Drive overflow.
2: Data length overflow.
3: Data length uneven.
4: Setting data for synchronization not accepted.
5: Drive still not in cyclic operation.
6: Buffer system not accepted.
7: Cyclic channel length too short for this setting.
8: Cyclic channel address not initialized.
9: 3-buffer system not permitted.
10: DRIVE-CLiQ fault.
11: CU link fault.
12: CX32 not in cyclic operation.

Remedy: Check the receive configuration data.

Reaction upon F: NONE (OFF1, OFF2, OFF3)

Acknowledge upon F: IMMEDIATELY

F01910 (N, A) PROFIBUS: Setpoint timeout

Reactions: A_INFEED: OFF2
SERVO: OFF3

Acknowledge: IMMEDIATELY

Cause: The receipt of setpoints from the PROFIBUS interface is interrupted because the bus connection is interrupted or the PROFIBUS master is switched off or was set into the STOP state.

Remedy: Restore the bus connection and set the PROFIBUS master to RUN.

Reaction upon N: NONE

Acknowledge upon N: NONE

Reaction upon A: NONE

Acknowledge upon A: NONE

F01911 PROFIBUS: Clock synchronous operation, clock cycle failure

Reaction: OFF1

Acknowledge: IMMEDIATELY

Cause: The global control telegram to synchronize the clock cycles has failed - in cyclic operation - for several DP clock cycles or has violated the time grid specified in the parameterizing telegram over several consecutive DP clock cycles (refer to the bus cycle time, Tdp and Tdpllw).

Remedy: - check the PROFIBUS cables and connectors.
- check whether communications were briefly or permanently interrupted.
- check the bus and master for utilization level (e.g. bus cycle time Tdp was set too short).

F01912 PROFIBUS: Clock-synchronous operation, sign-of-life failure

Reaction: OFF1

Acknowledge: IMMEDIATELY

Cause: The maximum permissible number of errors in the master sign-of-life (clock synchronous PROFIBUS) has been exceeded in cyclic operation.

Remedy: - check the physical bus configuration (terminating resistor, shielding, etc.).
- check the interconnection of the master sign-of-life (p2045).
- check whether the master correctly sends the sign-of-life (e.g. set-up a trace with STW2.12 ... STW2.15 and trigger signal ZSW1.3).
- check the permissible telegram failure rate (p0925).
- check the bus and master for utilization level (e.g. bus cycle time Tdp was set too short).

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F01913 (N, A) COMM INT: Monitoring time, sign-of-life expired

Reactions: OFF1

Acknowledge: IMMEDIATELY

Cause: The monitoring time for the sign-of-life counter has expired.

Remedy: - acknowledge faults that are present.
- carry-out a POWER ON (power off/on) for all components.
- upgrade the firmware release.
- contact the Hotline.

Reaction upon N: NONE

Acknowledge upon N: NONE

Reaction upon A: NONE

Acknowledge upon A: NONE

F01914 (N, A) COMM INT: Monitoring time, configuration expired

Reactions: OFF1

Acknowledge: IMMEDIATELY

Cause: The monitoring time for the configuration has expired.
Fault value (r0949, decimal):
0: The transfer of the send-configuration data has been exceeded (time).
1: The transfer of the receive-configuration data has been exceeded (time).

Remedy: - acknowledge faults that are present.
- carry-out a POWER ON (power off/on) for all components.
- upgrade the firmware release.
- contact the Hotline.

Reaction upon N: NONE

Acknowledge upon N: NONE

Reaction upon A: NONE

Acknowledge upon A: NONE

A01920 (F) PROFIBUS: Interruption, cyclic connection

Reaction: NONE

Acknowledge: NONE

Cause: The cyclic connection to the PROFIBUS master is interrupted.

Remedy: Set up the PROFIBUS connection and activate the PROFIBUS master in the cyclic mode.

Reaction upon F: NONE (OFF1)

Acknowledge upon F: IMMEDIATELY

A01921 (F) PROFIBUS: Clock cyclic synchronization

Reaction: NONE

Acknowledge: NONE

Cause: Output data of PROFIBUS master (setpoints) received at the incorrect instant in time within the PROFIBUS clock cycle.

Remedy: Check the bus configuration:
- parameters for clock synchronization: Ensure the instant in time for setpoint acceptance To > data exchange time Tdx

Reaction upon F: NONE (OFF1)

Acknowledge upon F: IMMEDIATELY

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A01930 PROFIBUS: Current controller clock cycle for clock synchronous operation, not the same

Reaction: NONE

Acknowledge: NONE

Cause: The current controller clock cycle of all drives must be set the same for the clock synchronous PROFIBUS.
Alarm value (r2124, decimal):
Number of the drive object with the different current controller clock cycle.

Remedy: - set current controller clock cycles to identical values (p0115[0]).
See also: p0115

A01931 PROFIBUS: Speed controller clock cycle for clock synchronous operation, not the same

Reaction: NONE

Acknowledge: NONE

Cause: The speed controller clock cycle of all drives must be set the same for the clock synchronous PROFIBUS.
Alarm value (r2124, decimal):
Number of the drive object with the different speed controller clock cycle.

Remedy: - set the speed controller clock cycles the same (p0115[1]).
See also: p0115

A01940 PROFIBUS: Clock synchronism still not reached

Reaction: NONE

Acknowledge: NONE

Cause: PROFIBUS is in the data exchange state and clock synchronous operation has been selected using the parameterizing telegram. It was not possible to synchronize to the clock cycle specified by the master.
- the master doesn't send a clock synchronous global control telegram although the clock synchronous operation was selected when configuring the bus.
- the master is using another clock synchronous DP clock cycle than was transferred to the slave in the parameterizing telegram.

Remedy: - check the master application and bus configuration.
- check the consistency between the clock cycle input when configuring the slave and clock cycle setting at the master.

A01941 PROFIBUS: Clock cycle signal missing when the bus is being established

Reaction: NONE

Acknowledge: NONE

Cause: PROFIBUS is in the data exchange state and clock synchronous operation has been selected using the parameterizing telegram. The global control telegram for synchronization is not being received.

Remedy: Check the master application and bus configuration.

A01943 PROFIBUS: Clock cycle signal error when the bus is being established

Reaction: NONE

Acknowledge: NONE

Cause: PROFIBUS is in the data exchange state and clock synchronous operation has been selected using the parameterizing telegram. The global control telegram for synchronization is being irregularly received.
- the master is sending an irregular global control telegram.
- the master is using another clock synchronous DP clock cycle than was transferred to the slave in the parameterizing telegram.

Remedy: - check the master application and bus configuration.
- check the consistency between the clock cycle input when configuring the slave and clock cycle setting at the master.

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A01944 PROFIBUS: Sign-of-life synchronism not reached

Reaction: NONE

Acknowledge: NONE

Cause: PROFIBUS is in the data exchange state and clock synchronous operation has been selected using the parameterizing telegram. Synchronization with the master sign-of-life (STW2 bits 12-15) could not be completed because the sign-of-life is changing differently than configured in the Tmapc time grid.

Remedy: - ensure that the master correctly increments the sign-of-life in the master application clock cycle.
- check the interconnection of the master sign-of-life (p2045).

F01950 (N, A) PROFIBUS: Clock synchronous operation, synchronization unsuccessful

Reaction: OFF1

Acknowledge: IMMEDIATELY (power on)

Cause: Synchronization of the internal clock cycle to the global control telegram has failed. The internal clock cycle exhibits an unexpected shift.

Remedy: Siemens-internal

Reaction upon N: NONE

Acknowledge upon N: NONE

Reaction upon A: NONE

Acknowledge upon A: NONE

F01951 CU DRIVE-CLiQ: Synchronization, application clock cycle missing

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: If DRIVE-CLiQ components with different application clock cycle are operated at a DRIVE-CLiQ port, then this requires synchronization with the control unit.
This synchronization routine was not successful.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.
- upgrade the motor module software.
- upgrade the control unit software.

F01952 CU DRIVE-CLiQ: Synchronization of components not supported

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: The existing system configuration requires at the connected DRIVE-CLiQ components support the synchronization between the basic clock cycle, DRIVE-CLiQ clock cycle and the application clock cycle.
However, not all DRIVE-CLiQ components have this functionality.
Fault value (r0949, decimal):
Component number of the first faulted DRIVE-CLiQ component.

Remedy: Upgrade the firmware of the component specified in the fault value.
Note:
If required, also upgrade additional components in the DRIVE-CLiQ line.

A01953 CU DRIVE-CLiQ: Synchronization not completed

Reaction: NONE

Acknowledge: NONE

Cause: After the drive system is powered-up, the synchronization between the basic clock cycle, DRIVE-CLiQ clock cycle and application clock cycle was started but was not completed within the selected time (tolerance).
Alarm value (r2124, decimal):
Only for internal Siemens troubleshooting.

Remedy: Carry-out a POWER ON (power off/on) for all components.

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F01954 CU DRIVE-CLiQ: Synchronization not successful

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: After the drive system is powered-up, the synchronization between the basic clock cycle, DRIVE-CLiQ clock cycle and application clock cycle was started and was not able to be successfully completed.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: 1. Ensure perfect functioning of the DRIVE-CLiQ.
2. Initiate a new synchronization, e.g. by:
- remove the PROFIBUS master and re-insert again.
- restart the PROFIBUS master.
- power-down the control unit and power-up again.
- press the control unit reset button.
- reset the parameter and download the saved parameters (p0009 = 30, p0976 = 2).

A02000 Function generator: Start not possible

Reaction: NONE

Acknowledge: NONE

Cause: The function generator has already been started.

Remedy: Stop the function generator and restart again if necessary.
See also: p4800

A02005 Function generator: Drive does not exist

Reaction: NONE

Acknowledge: NONE

Cause: The drive object specified for connection does not exist.
See also: p4815

Remedy: Use the existing drive object with the corresponding number.
See also: p4815

A02006 Function generator: No drive specified for connection

Reaction: NONE

Acknowledge: NONE

Cause: No drive specified for connection in p4815.
See also: p4815

Remedy: At least one drive to be connected must be specified in p4815.
See also: p4815

A02007 Function generator: Drive not SERVO

Reaction: NONE

Acknowledge: NONE

Cause: The drive object specified for connection is not a SERVO.
See also: p4815

Remedy: Use a SERVO drive object with the corresponding number.

A02010 Function generator: Speed setpoint from the drive is not zero

Reaction: NONE

Acknowledge: NONE

Cause: The speed setpoint of a drive - selected to be connected to - is greater than the value for the standstill detection set using p1226.
Alarm value (r2124, decimal):
Number of the drive object involved.

Remedy: For all of the drives specified for connection, set the speed setpoints to 0.

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A02011 Function generator: Speed actual value not zero

Reaction: NONE

Acknowledge: NONE

Cause: The speed actual value of a drive - selected to be connected to - is greater than the value for the standstill detection set using p1226.
Alarm value (r2124, decimal):
Number of the drive object involved.

Remedy: Set the relevant drives to zero speed before starting the function generator.

A02015 Function generator: Drive enable signals missing

Reaction: NONE

Acknowledge: NONE

Cause: The master control and/or enable signals are missing to connect to the specified drive.
Alarm value (r2124, decimal):
Number of the drive object involved.
See also: p4815

Remedy: Fetch the master control to the specified drive object and set all enable signals.

A02020 Function generator: Parameter cannot be changed

Reaction: NONE

Acknowledge: NONE

Cause: This parameter setting cannot be changed when the function generator is active (p4800 = 1).
See also: p4810, p4812, p4813, p4815, p4820, p4821, p4822, p4823, p4824, p4825, p4826, p4827, p4828, p4829

Remedy: - stop before parameterizing the function generator (p4800 = 0).
- if required, start the function generator (p4800 = 1).
See also: p4800

A02025 Function generator: Period too short

Reaction: NONE

Acknowledge: NONE

Cause: The value for the period is too short.
See also: p4821

Remedy: Check and adapt the value for the period.
See also: p4821

A02026 Function generator: Pulse width too wide

Reaction: NONE

Acknowledge: NONE

Cause: The selected pulse width is too high.
The pulse width must be less than the period duration.
See also: p4822

Remedy: Reduce pulse width.
See also: p4821, p4822

A02030 Function generator: Physical address equals zero

Reaction: NONE

Acknowledge: NONE

Cause: The specified physical address is zero.
See also: p4812

Remedy: Set a physical address with a value other than zero.
See also: p4812

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A02040 Function generator: Impermissible value for offset

Reaction: NONE

Acknowledge: NONE

Cause: The value for the offset is higher than the value for the upper limit or lower than the value for the lower limit.
See also: p4826

Remedy: Adjust the offset value accordingly.
See also: p4826, p4828, p4829

A02041 Function generator: Impermissible value for bandwidth

Reaction: NONE

Acknowledge: NONE

Cause: The bandwidth, referred to the time slice clock cycle of the function generator has either been set too low or too high.
Depending on the time slice clock cycle, the bandwidth is defined as follows:
Bandwidth_max = 1 / (2 * time slice clock cycle)
Bandwidth_min = Bandwidth_max / 100000
Example:
Assumption: p4830 = 125 µs
--> Bandwidth_max = 1 / (2 * 125 µs) = 4000 Hz
--> Bandwidth_min = 4000 Hz / 100000 = 0.04 Hz
Note:
p4823: Function generator bandwidth
p4830: Function generator time slice cycle
See also: p4823, p4830

Remedy: Check the value for the bandwidth and appropriately adapt.

A02047 Function generator: Invalid time slice clock cycle

Reaction: NONE

Acknowledge: NONE

Cause: The time slice cycle selected does not match any of the existing time slices.
See also: p4830

Remedy: Input an existing time slice cycle. The existing time slices can be read out via p7901.

A02050 Trace: Start not possible

Reaction: NONE

Acknowledge: NONE

Cause: The trace has already been started.

Remedy: Stop the trace and, if necessary, start again.

A02055 Trace: Recording time too short

Reaction: NONE

Acknowledge: NONE

Cause: The trace duration is too short.
The minimum is twice the value of the trace clock cycle.

Remedy: Check the selected recording time and, if necessary, adjust.

A02056 Trace: Recording cycle too low

Reaction: NONE

Acknowledge: NONE

Cause: The selected recording cycle is shorter than the selected basis clock cycle 0 (p0110[0]).

Remedy: Increase the value for the trace cycle.

A02057 Trace: Invalid time slice clock cycle

Reaction: NONE

Acknowledge: NONE

Cause: The time slice cycle selected does not match any of the existing time slices.

Remedy: Input an existing time slice cycle. The existing time slices can be read out via p7901.

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A02060 Trace: Signal to be recorded is missing

Reaction: NONE

Acknowledge: NONE

Cause: - a signal to be traced was not specified.
- the specified signals are not valid.

Remedy: - specify the signal to be traced.
- check whether the relevant signal can be traced.

A02061 Trace: Invalid signal

Reaction: NONE

Acknowledge: NONE

Cause: - the specified signal does not exist.
- the specified signal can no longer be traced (recorded).

Remedy: - specify the signal to be traced.
- check whether the relevant signal can be traced.

A02062 Trace: Trigger signal invalid

Reaction: NONE

Acknowledge: NONE

Cause: - a trigger signal was not specified.
- the specified signal does not exist.
- the specified signal is not a fixed-point signal.
- the specified signal cannot be used as trigger signal for the trace.

Remedy: Specify a valid trigger signal.

A02063 Trace: Invalid data type

Reaction: NONE

Acknowledge: NONE

Cause: The specified data type to select a signal using a physical address is invalid.

Remedy: Use a valid data type.

A02070 Trace: Parameter cannot be changed

Reaction: NONE

Acknowledge: NONE

Cause: The trace parameter settings cannot be changed when the trace is active.

Remedy: - stop the trace before parameterization.
- if required, start the trace.

A02075 Trace: Pretrigger time too long

Reaction: NONE

Acknowledge: NONE

Cause: The selected pretrigger time must be shorter than the recording time.

Remedy: Check the pretrigger time setting and change if necessary.

A02099 Trace: Insufficient memory

Reaction: NONE

Acknowledge: NONE

Cause: The memory space still available on the control unit is no longer sufficient for the trace function.

Remedy: Reduce the memory required, e.g. as follows:
- reduce the trace (record) time.
- increase the trace clock cycle.
- reduce the number of signals to be traced (recorded).

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A02100 CU: Computation deadtime current controller too low

Reaction: NONE

Acknowledge: NONE

Cause: The value in p0118 produces a dead time of one clock cycle because it lies before the setpoint becomes available. A possible cause could be, for example, that the system characteristics no longer match those parameterized after a component has been replaced.
Alarm value (r2124, floating point):
The minimum value for p0118 where a deadtime no longer occurs.

Remedy: - set p0118 to a value greater than or equal to the alarm value.
- set p0117 to an automatic setting.
- check the firmware releases of the components involved.
See also: p0117, p0118

F03500 (A) TM: Initialization

Reaction: OFF1

Acknowledge: IMMEDIATELY (power on)

Cause: When initializing the terminal modules, the terminals of the control unit or the terminal board 30, an internal software error has occurred.
Fault value (r0949, decimal):
The thousands location = 1 ... 3:
The component number (p0151) of the module involved is specified at the ones, tens and hundreds position.

Remedy: - power-down the power supply for the control unit and power-up again.
- check the DRIVE-CLiQ connection.
- if required, replace the terminal module.
The terminal module should be directly connected to a DRIVE-CLiQ socket of the control unit.
If the fault occurs again, replace the terminal module.

Reaction upon A: NONE

Acknowledge upon A: NONE

F03505 (N, A) TM: Analog input, wire breakage

Reaction: OFF1

Acknowledge: IMMEDIATELY (power on)

Cause: The input current of the TM analog input has exceeded the threshold value parameterized in p4061[x].
This fault can only occur, if p4056[x] = 3 (4 ... 20 mA with monitoring) is set.
Index x = 0: Analog input 0 (X522.1 to .3)
Index x = 1: Analog input 1 (X522.4 to .5)
Fault value (r0949, decimal):
The component number (p0151) of the module involved is specified at the ones, tens and hundreds position.
The thousands position specifies the analog input involved: 0: Analog input 0 (AI 0), 1: Analog input 1 (AI 1).

Remedy: Check the connection to the signal source for interruptions.
Check the magnitude of the impressed current - it is possible that the impressed signal is too low.
Please note that the input has a load resistor of 250 Ohm.
The input current measured by the TM can be read-out of r4052[x].

Reaction upon N: NONE

Acknowledge upon N: NONE

Reaction upon A: NONE

Acknowledge upon A: NONE

A03550 TM: Speed setpoint filter natural frequency > Shannon frequency

Reaction: NONE

Acknowledge: NONE

Cause: The natural filter frequency of the speed setpoint filter (p1417) is greater than the Shannon frequency.
The Shannon frequency is calculated according to the following formula: 0.5 / p0115[0]
See also: p1417

Remedy: Reduce the natural frequency of the speed setpoint filter (PT2 low pass) (p1417).

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F03590 (N, A) TM: Module not ready

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: The terminal module involved does not send a ready signal and no valid cyclic data.
Fault value (r0949, decimal):
Drive object number.

Remedy: - check the 24 V power supply.
- check the DRIVE-CLiQ connection.

Reaction upon N: NONE

Acknowledge upon N: NONE

Reaction upon A: NONE

Acknowledge upon A: NONE

A05000 (N) Power module: Overtemperature heatsink

Reaction: NONE

Acknowledge: NONE

Cause: The alarm threshold for overtemperature at the inverter heatsink has been reached. The response is set using p0290.
If the temperature of the heatsink increases by an additional 5 K, then fault F30004 is initiated.

Remedy: Check the following:
- is the ambient temperature within the defined limit values?
- have the load conditions and the load duty cycle been appropriately dimensioned?
- has the cooling failed?

Reaction upon N: NONE

Acknowledge upon N: NONE

A05001 (N) Power module: Overtemperature chip

Reaction: NONE

Acknowledge: NONE

Cause: Alarm threshold for overtemperature of the power semiconductor in the AC converter has been reached. The response is set using p0290.
If the chip temperature increases by an additional 15 K, then fault F30025 is initiated.

Remedy: Check the following:
- is the ambient temperature within the defined limit values?
- have the load conditions and the load duty cycle been appropriately dimensioned?
- has the cooling failed?
- pulse frequency too high?
See also: r0037, p0290

Reaction upon N: NONE

Acknowledge upon N: NONE

A05002 (N) Power module: Overtemperature air intake

Reaction: NONE

Acknowledge: NONE

Cause: The alarm threshold for the air intake overtemperature has been reached. The response is set using p0290.
If the air intake temperature increases by an additional 5 K, then fault F30035 is output.

Remedy: Check the following:
- is the ambient temperature within the defined limit values?
- has the fan failed? Check the direction of rotation.

Reaction upon N: NONE

Acknowledge upon N: NONE

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A05003 (N) Power module: Overtemperature electronics unit

Reaction: NONE

Acknowledge: NONE

Cause: The alarm threshold for the overtemperature of the electronics module has been reached. The response is set using p0290.
If the temperature of the electronics module increases by an additional 5 K, then fault F30036 is initiated.

Remedy: Check the following:
- is the ambient temperature within the defined limit values?
- has the fan failed? Check the direction of rotation.

Reaction upon N: NONE

Acknowledge upon N: NONE

A05004 (N) Power module: Overtemperature rectifier

Reaction: NONE

Acknowledge: NONE

Cause: The alarm threshold for the overtemperature of the rectifier has been reached. The response is set using p0290.
If the temperature of the rectifier increases by an additional 5 K, then fault F30037 is initiated.

Remedy: Check the following:
- is the ambient temperature within the defined limit values?
- have the load conditions and the load duty cycle been appropriately dimensioned?
- has the fan failed? Check the direction of rotation.
- has a phase of the line supply failed?
- is an arm of the supply (incoming) rectifier defective?

Reaction upon N: NONE

Acknowledge upon N: NONE

F05050 Parallel circuit configuration: Pulse enable in spite of pulse inhibit

Reactions: A_INFEED: OFF2
SERVO: OFF2

Acknowledge: IMMEDIATELY

Cause: A power module signals that the pulses are enabled although the pulses are inhibited.
Fault value (r0949, decimal):
Number of the power module involved.

Remedy: The power module is defective and must be replaced.

F05051 Parallel circuit configuration: Power module pulse enable missing

Reactions: A_INFEED: OFF2
SERVO: OFF2

Acknowledge: IMMEDIATELY

Cause: For one or several power modules, the pulses were not able to be enabled.
Fault value (r0949, decimal):
Number of the power module involved.

Remedy:
- acknowledge power module faults that are still present.
- inhibit the pulses of the power module involved (p7001).

A05052 (F) Parallel circuit configuration: Impermissible current dissymmetry

Reaction: NONE

Acknowledge: NONE

Cause: The deviation of the individual currents of the power modules exceeds the alarm threshold specified in p7010.
Alarm value (r2124, decimal):
1: Phase U.
2: Phase V.
3. Phase W.

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Remedy: - inhibit the pulses of the faulted power module (p7001).
- check the connecting cables. Loose contacts can cause current spikes.
- the motor reactors are non-symmetrical or faulty and must be replaced.
- the CTs must be calibrated or replaced.

Reaction upon F: A_INFEED: NONE (OFF1, OFF2, OFF3, STOP1, STOP2)
SERVO: NONE

Acknowledge upon F: IMMEDIATELY

A05053 (F) Parallel circuit configuration: Inadmissible DC link voltage dissymmetry

Reaction: NONE

Acknowledge: NONE

Cause: The deviation of the DC link voltage measured values exceeds the alarm threshold specified in p7011.

Remedy: - inhibit the pulses of the faulted power module (p7001).
- check the DC link connecting cables.
- the DC link voltage measurement is incorrect and must be calibrated or renewed.

Reaction upon F: A_INFEED: NONE (OFF1, OFF2, OFF3, STOP1, STOP2)
SERVO: NONE

Acknowledge upon F: IMMEDIATELY

F05055 Parallel circuit configuration: Power modules with different code numbers

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The code numbers of the power modules do not match.
Fault value (r0949, decimal):
Parameter in which the first different power module code number was detected.

Remedy: For parallel circuit configurations, only power modules with identical power module data may be used.

F05056 Parallel circuit configuration: Power module EPROM versions differ

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The EEPROM versions of the power modules do not match.
Fault value (r0949, decimal):
Parameter in which the first different version number was detected.

Remedy: For parallel circuit configurations, only power modules with identical EEPROM versions may be used.

F05057 Parallel circuit configuration: Power module versions differ

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The firmware versions of the power modules connected in parallel do not match.
Fault value (r0949, decimal):
Parameter in which the first different version number was detected.

Remedy: For parallel circuit configurations, only power modules with identical firmware versions may be used.

F05058 Parallel circuit configuration: VSM EPROM versions differ

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The EEPROM versions of the voltage sensing module (VSM) do not match.
Fault value (r0949, decimal):
Parameter in which the first different version number was detected.

Remedy: For parallel circuit configurations, only VSM with identical EEPROM versions may be used.

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F05059 Parallel circuit configuration: VSM FW versions differ

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The firmware versions of the voltage sensing module (VSM) do not match.
Fault value (r0949, decimal):
Parameter in which the first different version number was detected.

Remedy: For parallel circuit configurations, only VSM with identical firmware versions may be used.

F06000 Infeed: Precharging monitoring time expired

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: After the line contactor closes the power module does not signal the READY state within the monitoring time (p0857).
The end of the DC link pre-charging was not detected due to one of the following reasons:
- there is not line supply voltage.
- the line contactor is not closed.
- the line supply voltage is too low.
- the power module has detected an internal fault.
- there is a DC link short-circuit.
- the DC link has a ground fault.
- the pre-charging resistors are overheated as there were too many pre-charging operations per time unit.
- the pre-charging resistors are overheated as the DC link capacitance is too high (max. 20 mF).
See also: p0857

Remedy:
- check the line supply voltage.
- check or energize the line contactor.
- check and if required increase the monitoring time p0857.
- if relevant, carefully note additional power module fault messages.
- check the DC link regarding short-circuit or ground fault.
- wait until the pre-charging resistors have cooled down.
- reduce the DC link capacitance by removing the power modules or supplementary modules.

F06010 Infeed: Power module EP 24 V missing in operation

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: In operation, withdraw the pulse enable at terminal EP at the line module (X21.3, X21.4).

Remedy:
- do not open the line breaker in operation - only when the pulses are inhibited.
- check the wiring of the DP input (X21.3, X21.4) at the line module to exclude any poor contacts.

F06050 Infeed: Smart mode is not supported

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: The power module does not support the smart mode.

Remedy:
- upgrade the power module software and/or hardware for the smart mode (r0192).
- de-activate the smart mode with p3400 and supply voltage p0210 <= 415 V.
See also: r0192

F06100 Infeed: Shutdown due to line undervoltage condition

Reactions: A_INFEED: OFF2 (OFF1)
SERVO: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: The filtered (steady-state) value of the line supply voltage is less than the fault threshold (p0283).
Alarm condition: Vrms < p0283 * p0210.
Fault value (r0949, floating point):
Actual steady-state line supply voltage.
See also: p0283

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Remedy: - check the line supply.
- check the line supply voltage (p0210).
- check the fault threshold (p0283).

A06105 (F) Infeed: Line undervoltage

Reaction: NONE

Acknowledge: NONE

Cause: The filtered (steady-state) value of line supply voltage is lower than the alarm threshold (p0282).
Alarm condition: Vrms < p0282 * p0210.
Alarm value (r2124, floating point):
Actual steady-state line supply voltage.
See also: p0282

Remedy: - check the line supply.
- check the line supply voltage (p0210).
- check the alarm threshold (p0282).

Reaction upon F: A_INFEED: NONE (OFF1, OFF2)
SERVO: NONE

Acknowledge upon F: IMMEDIATELY (power on)

F06200 Infeed: Failure of one or several line phases

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: Failure of one or several line phases.
The alarm can be output in two operating states:
1. During the power-on phase of the infeed unit.
The measured line supply angle deviates from the regular characteristic for a 3-phase system - the PLL cannot be synchronized.
2. While the infeed is operational.
After a voltage has been detected (A6205) in one or several line phases a fault occurred within 100 ms (also refer to other relevant messages).
Probably causes of the fault:
- voltage dip on the line side or phase failure lasting longer than 10 ms.
- overload condition on the load side with peak current.
- commutating reactor missing.

Remedy: - check the line supply and fuses.
- check the connection and size (rating) of the line commutating reactor.
- check the load.
See also: p3463

A06205 (F) Infeed: Voltage dip in one or several phases during operation

Reaction: NONE

Acknowledge: NONE

Cause: Voltage dip in one or several line supply phases have been detected in the closed-loop voltage controlled mode. The pulses are then cancelled for 10 ms. The ready signal of the infeed unit in r0863.0 remains and the pulse inhibit due to the phase failure is displayed in r3405.2.
Alarm value (r2124, decimal):
Internal fault type of the line angle characteristic.

Remedy: - check the line supply and fuses.
- check the line supply quality and system fault level.
- check the load.
See also: p3463

Reaction upon F: A_INFEED: NONE (OFF1, OFF2)
SERVO: NONE

Acknowledge upon F: IMMEDIATELY (power on)

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F06210 Infeed: Summed current too high

Reactions: A_INFEED: OFF2 (OFF1)
SERVO: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: Smoothed sum of the phase currents (i1 + i2 + i3) greater than 4 % of the maximum power module current (r0209).
Possible causes:
- the DC link has a ground fault that results in a high summed current (r0069.6). The DC component in the line currents can damage/destroy the power module, commutating reactor or line filter!
- the zero point calibration of the current measurement was not carried-out (p3491, A06602).
- defective current measurement in the power module.
Fault value (r0949, floating point):
Smoothed sum of the phase currents.

Remedy:
- check the DC link for a low-ohmic or high-ohmic ground fault and if one is present, remove.
- increase the monitoring time of the current-offset measurement (p3491).
- if required, replace the power module.

A06215 (F) Infeed: Summed current high

Reaction: NONE

Acknowledge: NONE

Cause: Smoothed sum of the phase currents (i1 + i2 + i3) greater than 3 % of the maximum power module current (r0209).
Possible causes:
- the DC link has a ground fault that results in a high summed current (r0069.6). The DC component in the line currents can damage/destroy the power module, commutating reactor or line filter!
- the zero point calibration of the current measurement was not carried-out (p3491, A06602).
- defective current measurement in the power module.
Alarm value (r2124, floating point):
Smoothed sum of the phase currents.

Remedy:
- check the DC link for a low-ohmic or high-ohmic ground fault and if one is present, remove.
- increase the monitoring time of the current-offset measurement (p3491).
- if required, replace the power module.

Reaction upon F: A_INFEED: NONE (OFF1, OFF2)
SERVO: NONE

Acknowledge upon F: IMMEDIATELY (power on)

A06250 (F) Infeed: Defective capacitor(s) in at least one phase of line filter

Reaction: NONE

Acknowledge: NONE

Cause: A change in the line filter capacitance was detected in at least line phase.
The voltages and phase currents of the line filter, measured using a voltage sensing module (VSM), indicated a deviation of the filter capacitances from the value parameterized in p0221.
A change or a defect of the line filter capacitors results in a shift of the resonant frequencies and can result in severe damage to the drive system.
Alarm value (r2124, floating point):
The calculated actual capacitance in µF (rounded-off to an integer number).
The 1st decimal point specifies the number of the phase (1, 2, 3) where the capacitance deviates from the specified value.

Remedy:
- check the parameterized value of the filter capacitance (p0221).
- check the correct wiring of the voltage sensing module (VSM):
Differential voltages u12 and u23 must be present at the 100 V/690 V inputs of the VSM; the phase currents of the line filter must be connected to the 10 V inputs through a current - voltage converter.
- check the alarm limits for the permissible filter capacitance deviation (p3676).
- check the normalization of the line supply voltage measurement using the VSM (p3660).
- check the normalization of the filter current measurement using the VSM (p3670).
- check the line filter capacitors and if required, replace the line filter.
See also: p0221, p3660, p3670, p3676

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Reaction upon F: A_INFEED: NONE (OFF1, OFF2)
SERVO: NONE
Acknowledge upon F: IMMEDIATELY (power on)

F06300 Infeed: Line voltage too high at power on

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: The RMS line supply voltage Vrms was so high when powering-up that controlled operation is not possible without exceeding the permissible maximum voltage in the DC link (p0280).
Fault condition: Vrms * 1.5 > p0280.
Fault value (r0949, floating point):
Lowest possible controlled DC link voltage for the line supply voltage presently connected.
See also: p0280

Remedy: - check the line supply voltage
- check the maximum DC link voltage and if required, increase (p0280).
- check the line supply voltage and compare with the actual line supply voltage (p0210).
- check whether the power module is dimensioned for the line supply voltage actually being used.
See also: p0210, p0280

A06301 (F) Infeed: Line overvoltage

Reaction: NONE

Acknowledge: NONE

Cause: The filtered (steady-state) value of the rms line supply voltage Vrms is higher than the alarm threshold (p0281).
Alarm condition: Vrms < p0281 * p0210.
Alarm value (r2124, floating point):
Actual steady-state line supply voltage.
See also: p0281

Remedy: - check the line supply.
- check the line supply voltage (p0210).
- check the alarm threshold (p0281).
See also: p0210, p0281

Reaction upon F: A_INFEED: NONE (OFF1, OFF2)
SERVO: NONE
Acknowledge upon F: IMMEDIATELY (power on)

A06310 (F) Infeed: Supply voltage (p0210) incorrectly parameterized

Reaction: NONE

Acknowledge: NONE

Cause: After pre-charging was completed, the line supply voltage Vrms was calculated using the measured DC link voltage. This voltage Vrms is not within the tolerance range of the supply voltage.
The following applies for the tolerance range: 85 % * p0210 < Vrms < 110 % * p0210.
Alarm value (r2124, floating point):
Line supply voltage Vrms present.
See also: p0210

Remedy: - check the parameterized supply voltage and if required change (p0210).
- check the line supply voltage.
See also: p0210

Reaction upon F: A_INFEED: NONE (OFF1, OFF2)
SERVO: NONE
Acknowledge upon F: IMMEDIATELY (power on)

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A06350 (F) Infeed: Measured line frequency too high

Reaction: NONE

Acknowledge: NONE

Cause: The actual line frequency f_line is higher than the parameterized alarm threshold (f_line > p0211 * p0284).
The alarm can be output in two operating states:
1. During the power-on phase of the infeed unit.
Consequence:
Synchronization of the infeed to the line supply is interrupted and is restarted.
2. While the infeed is operational.
Consequence:
The infeed remains in the operating (run) state and alarm A6350 is output. This signifies a critical operational fault.
Alarm value (r2124, floating point):
Actual line frequency determined.
See also: p0284

Remedy: - check the parameterized line frequency and if required change (p0211).
- check the alarm threshold (p0284).
- check the line supply.
- check the line supply quality.
See also: p0211, p0284

Reaction upon F: A_INFEED: NONE (OFF1, OFF2)
SERVO: NONE

Acknowledge upon F: IMMEDIATELY (power on)

A06351 (F) Infeed: Measured line supply frequency too low

Reaction: NONE

Acknowledge: NONE

Cause: The actual line frequency f_line is lower than the parameterized alarm threshold (f_line < p0211 * p0285).
The alarm can be output in two operating states:
1. During the power-on phase of the infeed unit.
Consequence:
Synchronization of the infeed to the line supply is interrupted and is restarted.
2. While the infeed is operational.
Consequence:
The infeed remains in the operating (run) state and alarm A6351 is output. This signifies a critical operational fault.
Alarm value (r2124, floating point):
Actual line frequency determined.
See also: p0285

Remedy: - check the parameterized line frequency and if required change (p0211).
- check the alarm threshold (p0285).
- check the line supply.
- check the line supply quality.
See also: p0211, p0285

Reaction upon F: A_INFEED: NONE (OFF1, OFF2)
SERVO: NONE

Acknowledge upon F: IMMEDIATELY (power on)

A06400 Infeed: Line supply data identification selected/active

Reaction: NONE

Acknowledge: NONE

Cause: Line supply data identification selected/active.
The line inductance and the DC link capacitance are measured at the next pulse enable.
See also: p3410

Remedy: No remedial action required.

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F06500 Infeed: Line supply synchronization not possible within the monitoring time

Reaction: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: Line supply synchronization is not possible.
The infeed was re-synchronized to the line supply because it was interrupted due to a line frequency that was determined to be either too low or too high.
After 20 attempts, synchronization - and therefore also the power-on operation - were interrupted.

Remedy: - check the parameterized line frequency and if required change (p0211).
- check the fault thresholds (p0284, p0285).
- check the line supply.
- check the line supply quality.
See also: p0211, p0284, p0285

A06601 (F) Infeed: Current offset measurement interrupted

Reaction: NONE

Acknowledge: NONE

Cause: Defective current measurement or a DC current is present during the offset measurement.
Alarm value (r2124, decimal):
1: Excessively high phase current has occurred during the current-offset calibration.
2: The measured current - offset is greater than the 3% of the maximum permissible converter current (e.g. due to a ground fault in the DC link).

Remedy: For alarm value = 1:
- possible counter-measure if there is no line contactor: Switch-in the line supply for a sufficiently long time before OFF1 = 1.
For alarm value = 2:
- defective current measurement or a DC current is present during the offset measurement.
- check the DC link for a ground fault.

Reaction upon F: A_INFEED: NONE (OFF1, OFF2)
SERVO: NONE

Acknowledge upon F: IMMEDIATELY (power on)

A06602 (F) Infeed: Current offset measurement not possible and offset set to zero

Reaction: NONE

Acknowledge: NONE

Cause: After an OFF1 = 1 no valid current offset measurement was able to be made within the monitoring time (p3491) before closing the line contactor.
The phase current measurement calibration is interrupted. The current offset is set to 0.
See also: p3491

Remedy: - check the DC link for a ground fault. A ground fault can destroy parts and components!
- check the monitoring time setting and if required increase (p3491). At least 100 ms are required for the current calibration (p3491 > 100 ms).
Notice:
If the current measurement is not calibrated, then under certain circumstances, the quality of the DC link control will be reduced.
See also: p3491

Reaction upon F: A_INFEED: NONE (OFF1, OFF2)
SERVO: NONE

Acknowledge upon F: IMMEDIATELY (power on)

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A06800 (F) Infeed: Maximum steady-state DC link voltage reached

Reaction: NONE

Acknowledge: NONE

Cause: The DC link voltage setpoint has reached the maximum steady-state voltage parameterized in p0280.
The DC link voltage is increased by the modulation depth reserve controller for the following reasons:
- modulation depth reserve is too low (p3480).
- line supply voltage is too high.
- supply voltage (p0210) parameterized to be too low.
- excessively high setpoint for the reactive line current.

Remedy: - check the line supply voltage setting (p0210).
- check the line supply for an overvoltage condition.
- reduce the modulation depth reserve (p3480).
- reduce the reactive current setpoint.
See also: p0210, p0280, p3480

Reaction upon F: A_INFEED: NONE (OFF1, OFF2)
SERVO: NONE

Acknowledge upon F: IMMEDIATELY (power on)

F07011 Drive: Motor overtemperature

Reactions: A_INFEED: OFF2
SERVO: OFF2

Acknowledge: IMMEDIATELY

Cause: KTY:
The motor temperature has exceeded the fault threshold (p0605) or the timer stage (p0606) after the alarm threshold was exceeded (p0604) has expired.
VECTOR: The response parameterized in p0610 becomes active.
PTC:
The response threshold of 1650 Ohm was exceeded and the timer stage (p0606) has expired.
VECTOR: The response parameterized in p0610 becomes active.
Possible causes:
- motor is overloaded.
- motor ambient temperature too high.
See also: p0604, p0605, p0606, p0610

Remedy: - reduce the motor load.
- check the ambient temperature.
See also: p0604, p0605, p0606

A07015 Drive: Motor temperature sensor fault, alarm

Reaction: NONE

Acknowledge: NONE

Cause: An error was detected when evaluating the temperature sensor set in p0600 and p0601.
With the fault, the time in p0607 is started. If the fault is still present after this time has expired, then fault F07016 is output; however, at the earliest, 1 s after alarm A07015.
Possible causes:
- wire breakage or sensor not connected (KTY: R > 1630 Ohm).
- measured resistance too low (PTC: R < 30 Ohm, KTY: R < 340 Ohm).
Note:
For induction motors, the model value is selected for the temperature monitoring.
For synchronous motors, the temperature monitoring is disabled and the ambient temperature is displayed in r0035.

Remedy: - check that the sensor is connected correctly.
- check the parameterization (p0600, p0601).
See also: p0600, p0601, p0607

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F07016 Drive: Motor temperature sensor fault, fault

Reactions: A_INFEED: OFF2
SERVO: OFF1

Acknowledge: IMMEDIATELY

Cause: An error was detected when evaluating the temperature sensor set in p0600 and p0601.
Possible causes:
- wire breakage or sensor not connected (KTY: R > 1630 Ohm).
- measured resistance too low (PTC: R < 30 Ohm, KTY: R < 340 Ohm).
Note:
For induction motors, the model value is selected for the temperature monitoring.
For synchronous motors, the temperature monitoring is disabled and the ambient temperature is displayed in r0035.
If alarm A07015 is present, the time in p0607 is started. If the fault is still present after this time has expired, then fault F07016 is output; however, at the earliest, 1 s after alarm A07015.
See also: p0607

Remedy: - check that the sensor is connected correctly.
- check the parameterization (p0600, p0601).
- induction motors: Deactivate temperature sensor fault (p0607 = 0).
See also: p0600, p0601, p0607

N07044 Drive: Rotor position identification completed

Reaction: NONE

Acknowledge: NONE

Cause: The message is used to signal the sequential control that the rotor position identification routine has been completed.

Remedy: The message is used to signal the sequential control that the rotor position identification routine has been completed.

F07080 Drive: Open-loop/closed-loop control parameterization error

Reaction: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: Closed-loop control parameters have been parameterized incorrectly (e.g. p0350 = R_stator = 0).
Fault value (r0949, decimal):
The fault value includes the parameter number involved.
See also: p0300, p0311, p0341, p0344, p0350, p0354, p0356, p0358, p0360, p0400, p0640, p1082, p1300

Remedy: Modify the parameter indicated in the fault value (r0949) (e.g. p0640 = current limit > 0).
See also: p0311, p0341, p0344, p0350, p0354, p0356, p0358, p0360, p0400, p0640, p1082

F07082 Macro: Execution not possible

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The macro cannot be executed for the following reasons:
Fault for the trigger parameter itself:
- trigger parameter (e.g. p0015) does not match that in the specified file.
- data type of the TAG index, number of bit is not U16 or the data type of the TAG Dotype is not I16.
Faults for the parameters to be set:
- commissioning was carried-out (p0009 = 0) and a wait condition, required after commissioning, was not defined in the ACX file.
- parameter cannot be written into because it is either read-only or does not exist.
- parameter cannot be written into as the data is either incomplete or corrupt/incorrect (e.g. incorrect data type, value range or assignment incorrect).
- factory setting is not possible for this drive object (e.g. the drive object does not exist).
Fault value (r0949, decimal):
The parameter number involved, if this is available.

Remedy: - check the parameter involved.
- check the macro file and connections.
See also: p0015, p0700, p1000, p1500

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F07083 Macro: ACX file not found

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The ACX file (PM file) to be executed was not able to be found in the appropriate directory.
Fault value (r0949, decimal):
Parameter number with which the execution was started.
See also: p0015

Remedy: - check whether the file is saved in the appropriate directory on the CompactFlash Card.
Example:
If p0015 = 1501 is set to 1501, then the selected ACX file must be located in the following directory:
... /PMACRO/DEVICE/P15/PM001501.ACX

F07085 Drive: Open-loop/closed-loop control parameters changed

Reaction: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: Parameters of the open-loop/closed-loop control had to be changed as they exceeded dynamic limits as a result of other parameters.
Fault value (r0949, decimal):
The fault value includes the modified parameter number.
See also: p0640, p1082, p1300, p1800

Remedy: It is not necessary to change the parameters as they have already been correctly limited.

F07090 Drive: Upper torque limit less than the lower torque limit

Reactions: OFF2 (NONE, OFF1, OFF3)

Acknowledge: IMMEDIATELY

Cause: The upper torque limit is lower than the lower torque limit.

Remedy: P1 must be >= P2 if parameter P1 is connected to p1522 and parameter P2 to p1523.

F07100 Drive: Sampling times cannot be reset

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: When resetting drive parameter (p0976) sampling times cannot be reset using p0111, p0112, p0115.
Fault value (r0949, decimal):
Parameter whose setting prevents the sampling times being reset.
See also: p0110

Remedy: - continue to work with the set sampling times.
- before resetting the drive parameters, set the basic clock cycle p0110[0] to the original value.
See also: p0110

F07110 Drive: Sampling times do not match the basic clock cycle

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The parameterized sampling times do not match the basic clock cycle.
Fault value (r0949, decimal):
The fault value specifies the parameter involved.
See also: p0110, p0111, p0115

Remedy: Enter the current controller sampling times so that they are identical to the basic clock cycle, e.g. by selecting p0112.
Note which basic clock cycle is selected in p0111.
The sampling times in p0115 can only be changed manually in the sampling times preset "Expert" (p0112).
See also: p0110, p0111, p0112, p0115

A07200 Drive: Master control ON/OFF1 command present

Reaction: NONE

Acknowledge: NONE

Cause: The ON/OFF1 command is not 0, either via binector input p0840 (current CDS) or in control word p3982 bit 0.

Remedy: The signal at binector input p0840 (actual CDS) as well as p3982 bit 0 must be 0.

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F07210 Master control PC/AOP inhibited

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The transfer of master control is disabled via binector input p3985.

Remedy: Change the signal via binector input p3985.

F07220 (N, A) Drive: Master control by PLC withdrawn in operation

Reactions: OFF1 (NONE, OFF2, OFF3, STOP1, STOP2)

Acknowledge: IMMEDIATELY

Cause: The "control by PLC" signal was withdrawn in operation.
- interconnection of the binector input for "control by PLC" is incorrect (p0854).
- the higher-level control has withdrawn the "control by PLC" signal in operation.
- data transfer via the fieldbus (master - drive) was interrupted in operation.

Remedy:
- check the interconnection of the binector input for "control by PLC" (p0854).
- check the "control by PLC" signal and, if required, switch-in.
- check the data transfer via the fieldbus (master - drive).

Note:
If the drive should continue to operate after withdrawing "control by PLC" then fault response must be parameterized to NONE.

Reaction upon N: NONE

Acknowledge upon N: NONE

Reaction upon A: NONE

Acknowledge upon A: NONE

F07300 (A) Drive: Line contactor feedback signal missing

Reactions: OFF2

Acknowledge: IMMEDIATELY

Cause:
- the line contactor was not able to be closed within the time in p0861.
- the line contactor was not able to be opened within the time in p0861.
- the line contactor has dropped-out in operation.
- the line contactor has closed although the drive converter is powered-down.

Remedy:
- check the setting of p0860.
- check the feedback circuit from the line contactor.
- increase the monitoring time in p0861.

See also: p0860, p0861

Reaction upon A: NONE

Acknowledge upon A: NONE

A07350 (F) Drive: Measuring probe parameterized to a digital output

Reaction: NONE

Acknowledge: NONE

Cause: The measuring probe is connected to a bi-directional digital input/output and the terminal is set as output.
Alarm value (r2124, decimal):
9: DI/DO 9 (X122.8)
10: DI/DO 10 (X122.10)
11: DI/DO 11 (X122.11)
13: DI/DO 13 (X132.8)
14: DI/DO 14 (X132.10)
15: DI/DO 15 (X132.11)

Remedy:
- set the terminal as input (p0728).
- de-select the measuring probe (p0488, p0489, p0580).

Reaction upon F: OFF1

Acknowledge upon F: IMMEDIATELY

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A07400 (N) Drive: DC link voltage maximum controller active

Reaction: NONE

Acknowledge: NONE

Cause: The DC link voltage controller has been activated because the upper switch-in threshold has been exceeded (r1242). The ramp-down times are automatically increased in order to maintain the DC link voltage (r0026) within the permissible limits. There is a system deviation between the setpoint and actual speeds.
When the DC link voltage controller is switched-out (disabled), this is the reason that the ramp-function generator output is set to the speed actual value.
See also: p1240

Remedy: If the controller is not to intervene:
- increase the ramp-down times.
If the ramp-down times are not to be changed:
- use a chopper or regenerative feedback unit

Reaction upon N: NONE

Acknowledge upon N: NONE

F07403 Drive: Lower DC link voltage threshold reached

Reactions: A_INFEED: NONE
SERVO: OFF1

Acknowledge: IMMEDIATELY

Cause: The DC link voltage monitoring is active (p1240 = 8, 12) and the voltage is below the lower DC link voltage threshold (p1248).

Remedy:
- check the line supply voltage and the infeed module.
- reduce the lower DC link threshold (p1248).
- switch-out (disable) the DC link monitoring (p1240 = 0).

F07404 Drive: Upper DC link voltage threshold reached

Reactions: A_INFEED: NONE
SERVO: OFF2

Acknowledge: IMMEDIATELY

Cause: The DC link voltage monitoring is active (p1240 = 4, 12) and the upper DC link voltage threshold (p1244) was not reached.

Remedy:
- check the infeed module or the pulsed resistor module.
- check the line supply.
- increase the upper DC link voltage threshold (p1244).
- switch-out (disable) the DC link monitoring (p1240 = 0).

F07410 Drive: Current controller output limited

Reactions: A_INFEED: OFF2
SERVO: OFF2

Acknowledge: IMMEDIATELY

Cause:
- motor not connected or motor contactor open.
- no DC link voltage present.
- motor module defective.

Remedy:
- connect the motor or check the motor contactor.
- check the DC link voltage (r0070).
- check the motor module.

F07411 Drive: Flux controller output limited

Reactions: A_INFEED: OFF2
SERVO: OFF2

Acknowledge: IMMEDIATELY

Cause: The specified flux setpoint cannot be reached although 90% of the maximum current has been specified.
- incorrect motor data.
- motor data and motor configuration (star/delta) do not match.
- the current limit has been set too low for the motor.
- the motor module is too small.

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Remedy:
- correct the motor data.
- check the motor configuration.
- correct the current limits (p0640, p0323).
- if required, use a larger motor module.

F07412 Drive: Commutation angle incorrect (motor model)

Reactions: ENCODER

Acknowledge: IMMEDIATELY

Cause: An incorrect commutation angle was detected, that can result in a positive coupling in the speed controller. The comparison of the rotor position angle from the encoder and the motor model resulted in an excessively high value (> 80 ° electrical).
- the motor encoder is incorrectly adjusted with respect to the magnet position.
- the motor encoder is damaged.
- the angular commutation offset is incorrectly set (p0431).
- data to calculate the motor model has been incorrectly set (p0356 (motor-stator leakage inductance) and/or p0350 (motor-stator resistance) and/or p0352 (cable resistance).
- the changeover speed for the motor model is too low (p1752). The monitoring function only becomes effective above the changeover speed.

Remedy:
- if the encoder mounting was changed - re-adjust the encoder.
- replace the defective motor encoder.
- correctly set the angular commutation offset (p0431).
- correctly set the motor stator leakage inductance, motor-stator resistance and cable resistance (p0356, p0350, p0352).
- increase the changeover speed for the motor model (p1752).

F07413 Drive: Commutation angle incorrect (rotor position ID)

Reactions: OFF2

Acknowledge: IMMEDIATELY

Cause: An incorrect commutation angle was detected, that can result in a positive coupling in the speed controller. The comparison of the rotor position angle from the encoder and from the rotor position identification routine has resulted in an excessively high difference (> 45 ° electrical).
- the angular commutation offset is incorrectly set (p0431).
- the motor encoder is incorrectly adjusted with respect to the magnet position.
- the motor encoder is damaged.
- the rotor position identification routine does not function correctly.

Remedy:
- correctly set the angular commutation offset (p0431).
- re-adjust the motor encoder after the encoder has been replaced.
- replace the defective motor encoder.
- check the rotor position identification routine. If the rotor position identification routine is not suitable for this motor type, then disable the plausibility check (p1982 = 0).

F07414 Drive: Encoder serial number changed

Reactions: ENCODER

Acknowledge: IMMEDIATELY

Cause: The serial number of the motor encoder of a synchronous motor has changed. This means that it may be necessary to re-calibrate/re-adjust the commutation angle.
- an encoder was replaced.
- re-commission a build-in motor or third-party motor.
- the firmware was updated to a version that checks the encoder serial number.

Remedy: Calibrating/adjusting the commutation data in p0431. The calibration/re-adjustment can be automatically initiated using a rotor position identification routine with p1990 = 1.
If calibration/adjustment is not required, then the serial number can be directly transferred using p0440 = 1.

N07415 (F) Drive: Commutation angle offset transfer running

Reaction: OFF2

Acknowledge: NONE

Cause: The angular commutation offset was automatically determined using p1990 = 1.
This fault causes the pulses to be cancelled - this is necessary to transfer the angular commutation offset to p0431.
See also: p1990

Remedy: The fault can be acknowledged without any additional measures.

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Reaction upon F: OFF2
Acknowledge upon F: IMMEDIATELY

F07420 Drive: Current setpoint filter natural frequency > Shannon frequency

Reactions: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: One of the filter natural frequencies is greater than the Shannon frequency.
The Shannon frequency is calculated according to the following formula: 0.5 / p0115[0]
Fault value (r0949, hexadecimal):
Bit 0: Filter 1 (p1658, p1660)
Bit 1: Filter 2 (p1663, p1665)
Bit 2: Filter 3 (p1668, p1670)
Bit 3: Filter 4 (p1673, p1675)

Remedy: - reduce the numerator or denominator natural frequency of the current setpoint filter involved.
- reduce the current controller sampling time (p0115[0]).
- switch-out the filter involved (p1656).

F07421 Drive: Speed setpoint filter natural frequency > Shannon frequency

Reactions: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: One of the filter natural frequencies is greater than the Shannon frequency.
The Shannon frequency is calculated according to the following formula: 0.5 / p0115[1]
Fault value (r0949, hexadecimal):
Bit 0: Filter 1 (p1417, p1419)
Bit 1: Filter 2 (p1423, p1425)
Bit 8 ... 15: Data set number (starting from zero).

Remedy: - reduce the numerator or denominator natural frequency of the speed setpoint filter involved.
- reduce the speed controller sampling time (p0115[1]).
- switch-out the filter involved (p1414).

F07422 Drive: Speed controller reference model natural frequency > Shannon frequency

Reactions: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: The natural filter frequency of the PT2 element for the reference model (p1433) is greater than the Shannon frequency.
The Shannon frequency is calculated according to the following formula: 0.5 / p0115[0]

Remedy: - reduce the natural frequency of PT2 element for reference model (p1433).
- reduce the speed controller sampling time (p0115[1]).

F07430 Drive: Changeover to open-loop torque controlled operation not possible

Reactions: A_INFEED: NONE
SERVO: OFF2

Acknowledge: IMMEDIATELY

Cause: For sensorless operation, the converter cannot change over to closed-loop torque-controlled operation (BI: p1501).

Remedy: Do not attempt to cover over to closed-loop torque-controlled operation.

F07431 Drive: Changeover to sensorless operation not possible

Reactions: A_INFEED: OFF2
SERVO: OFF2

Acknowledge: IMMEDIATELY

Cause: For closed-loop torque control, the converter cannot change over to sensorless operation (p1404).

Remedy: Do not attempt to change over to sensorless operation.

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F07432 Drive: Synchronous motor without overvoltage protection

Reactions: A_INFEED: OFF2
SERVO: OFF2

Acknowledge: IMMEDIATELY

Cause: Under voltage conditions, a synchronous motor can generate an overvoltage condition that can destroy the drive system.
Fault value (r0949, hexadecimal):
Associated drive data set (DDS).

Remedy: Overvoltage protection can be implemented in the following ways:
- limit the maximum speed (p1082) without any additional protection.
The maximum speed without protection is calculated from p1082 = 9590/p0316.
- use a voltage protection module (VPM) in conjunction with the function "safe standstill" (p9601, p9801).
When a fault condition exists, the VPM short-circuits the motors. During the short-circuit, the pulses must be cancelled - this means that the terminals for the safe standstill must be connected to the VPM.
When using a VPM, p0643 must be set to 1.
See also: p0643

F07500 Drive: Power module data set PDS not configured

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: Only for controlled line supply infeed/regenerative feedback units:
The power module data set was not configured - this means that a data set number was not entered into the drive data set.
Fault value (r0949, decimal):
Drive data set number of p0185.

Remedy: The index of the power module data set associated with the drive data set should be entered into p0185.

F07501 Drive: Motor data set MDS not configured

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: Only for power modules:
The motor data set was not configured - this means that a data set number was not entered into the associated drive data set.
Fault value (r0949, decimal):
The fault value includes the drive data set number of p0186.

Remedy: The index of the motor data set associated with the drive data set should be entered into p0186.

F07502 Drive: Encoder data set EDS not configured

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: Only for power modules:
The encoder data set was not configured - this means that a data set number was not entered into the associated drive data set.
Fault value (r0949, decimal):
The fault value includes the drive data set number of p0187, p0188 and p0189.
The fault value is increased by 100 * encoder number (e.g. for p0189: Fault value 3xx with xx = data set number).

Remedy: The index of the encoder data set associated with the drive data set should be entered into p0187 (1st encoder), p0188 (2nd encoder) and p0189 (3rd encoder).

F07510 Drive: Identical encoder in same drive data set (DDS)

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: More than one encoder with identical component number is assigned to a single drive data set. In one drive data set, it is not permissible that identical encoders are operated together.
Fault value (r0949, decimal):
Drive data set + 100*first identical encoder + 1000*second identical encoder.
See also: p0141, p0187, p0188, p0189

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Remedy: Different encoders are always assigned to one drive data set.
See also: p0141, p0187, p0188, p0189

F07511 Drive: Enc. used multiple

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: Each encoder may only be assigned to one drive and within a drive must - in each drive data set - either always be encoder 1, always encoder 2 or always encoder 3. This unique assignment has been violated.
Fault value (r0949, decimal):
Codes the two parameters that refer to the same component number.
First parameter:
Index: First and second decimal position
Parameter number: Third decimal position (1 for p0187, 2 for p0188, 3 for p0189)
Drive number: Fourth and fifth decimal position
Second parameter:
Index: Sixth and seventh decimal position
Parameter number: Eighth decimal position (1 for p0187, 2 for p0188, 3 for p0189)
Drive number: Ninth and tenth decimal position
See also: p0141

Remedy: Correct the double use of a component number using the two parameters coded in the fault value.

A07512 Drive: Encoder data set changeover not permissible

Reaction: NONE

Acknowledge: NONE

Cause: A changeover of the encoder data set is prepared using p0187, p0188 or p0189. For this firmware release, an encoder data set changeover is not supported. Commissioning can only be exited with the correct parameterization.
Alarm value (r2124, decimal):
Parameter number with incorrect indices (p0187, p0188 or p0189).
See also: p0187, p0188, p0189

Remedy: The selectors to the encoder data sets (p0187, p0188, p0189) must, for all data sets, point to the same encoder data set.
The following must apply:
p0187[0] = p0187[1] = ... = p0187[n]
p0188[0] = p0188[1] = ... = p0188[n]
p0189[0] = p0189[1] = ... = p0189[n]

A07530 Drive: Drive data set not available

Reaction: NONE

Acknowledge: NONE

Cause: The selected drive data set is not available (p0837 > p0180). The drive data set was not changed-over.
See also: p0180, p0820, p0821, p0822, p0823, p0824, r0837

Remedy: - select the existing drive data set.
- set-up additional drive data sets.

A07550 (F, N) Drive: Not possible to reset encoder parameters

Reaction: NONE

Acknowledge: NONE

Cause: When carrying-out a factory setting (e.g. using p0970 = 1), it was not possible to reset the encoder parameters. The encoder parameters are directly read out of the encoder via DRIVE-CLiQ.
Alarm value (r2124, decimal):
Component number of the encoder involved.

Remedy: - repeat the operation.
- check the DRIVE-CLiQ connection.

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY (power on)

Reaction upon N: NONE

Acknowledge upon N: NONE

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F07551 Drive encoder: No commutation angle information

Reactions: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: The motor encoder used does not supply an absolute commutation angle. This means that synchronous motors cannot be controlled (closed-loop control)
Fault value (r0949, decimal):
The fault value includes the drive data set number involved.

Remedy: - check the encoder parameterization (p0404).
- use an encoder with track C/D, EnDat interface of Hall sensors.
- use an encoder with sinusoidal A/B track for which the motor pole pair number p0313 is an integer multiple of the encoder pulse number p0408.
- activate the rotor position identification routine (p1982 = 1).

F07552 (A) Drive encoder: Encoder configuration not supported

Reactions: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: The requested encoder configuration is not supported. Only bits may be requested in p0404 that are signaled as being supported by the encoder evaluation in r0456.
Fault value (r0949, decimal):
Encoder data set number.
See also: p0404, r0456

Remedy: - check the encoder parameterization (p0400, p0404).
- use the matching encoder evaluation (r0456).

Reaction upon A: NONE

Acknowledge upon A: NONE

F07553 (A) Drive encoder: Sensor module configuration not supported

Reactions: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: The requested sensor module configuration is not supported. In p0430, bits may only be requested that are signaled by the sensor module in r0458 as being supported.
Fault value (r0949, decimal):
Encoder data set number.

Remedy: - check the encoder parameterization (p0430).
- use the matching encoder evaluation (r0458).

Reaction upon A: NONE

Acknowledge upon A: NONE

F07560 Drive encoder: Number of pulses is not to the power of two

Reactions: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: For rotary absolute value encoders, the pulse number in p0408 must be to the power of two.
Fault value (r0949, decimal):
The fault value includes the encoder data set number involved.

Remedy: Check parameterization (p0408, p0404 Bit 0 and Bit 1).
Upgrade the sensor module firmware.

F07561 Drive encoder: Number of multiturn pulses is not to the power of two

Reactions: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: The multi-turn resolution in p0421 must be to the power of two.
Fault value (r0949, decimal):
The fault value includes the encoder data set number involved.

Remedy: Check parameterization (p0421, p0404 Bit 0 and Bit 1).
Upgrade the sensor module firmware.

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A07565 (F, N) Drive: Encoder fault/error in PROFIdrive encoder interface 1

Reaction: NONE

Acknowledge: NONE

Cause: An encoder error was signaled for encoder 1 via the PROFIdrive encoder interface (G1_ZSW.15).
Alarm value (r2124, decimal):
Error code from G1_XIST2, refer to the description regarding r0483.

Remedy: Acknowledge the encoder error using the encoder control word (G1_STW.15 = 1).

Reaction upon F: NONE (OFF1, OFF2, OFF3)

Acknowledge upon F: IMMEDIATELY

Reaction upon N: NONE

Acknowledge upon N: NONE

A07566 (F, N) Drive: Encoder fault/error in PROFIdrive encoder interface 2

Reaction: NONE

Acknowledge: NONE

Cause: An encoder error was signaled for encoder 2 via the PROFIdrive encoder interface (G2_ZSW.15).
Alarm value (r2124, decimal):
Error code from G2_XIST2, refer to the description regarding r0483.

Remedy: Acknowledge the encoder error using the encoder control word (G2_STW.15 = 1).

Reaction upon F: NONE (OFF1, OFF2, OFF3)

Acknowledge upon F: IMMEDIATELY

Reaction upon N: NONE

Acknowledge upon N: NONE

A07567 (F, N) Drive: Encoder fault/error in PROFIdrive encoder interface 3

Reaction: NONE

Acknowledge: NONE

Cause: An encoder error was signaled for encoder 3 via the PROFIdrive encoder interface (G3_ZSW.15).
Alarm value (r2124, decimal):
Error code from G3_XIST2, refer to the description regarding r0483.

Remedy: Acknowledge the encoder error using the encoder control word (G3_STW.15 = 1).

Reaction upon F: NONE (OFF1, OFF2, OFF3)

Acknowledge upon F: IMMEDIATELY

Reaction upon N: NONE

Acknowledge upon N: NONE

F07570 Drive encoder: Existing speed encoder not parameterized

Reaction: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: In spite of the fact that a speed encoder exists (refer to topology r0098) this was not parameterized.
Fault value (r0949, decimal):
Encoder data set index of the incorrect parameterization of p0400.
See also: p0141, p0187, p0188, p0189, p0400

Remedy: Select the speed encoder in p0400.
See also: p0400

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F07575 Drive: Motor encoder not ready

Reactions: OFF2 (NONE)

Acknowledge: IMMEDIATELY

Cause: The motor encoder signals that it is not ready.
- initialization of encoder 1 (motor encoder) was unsuccessful.
- the sensor module is defective.

Remedy: Evaluate other queued faults via encoder 1.

A07580 (F, N) Drive: No sensor module with the matching component number

Reaction: NONE

Acknowledge: NONE

Cause: A sensor module with the component number specified in p0141 was not found.
Alarm value (r2124, decimal):
Encoder data set involved (index of p0141).

Remedy: Correct p0141.

Reaction upon F: OFF1 (DCBRAKE, NONE, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY (power on)

Reaction upon N: NONE

Acknowledge upon N: NONE

F07800 Drive: No power module present

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The power module parameters cannot be read or no parameters are stored in the power module.
See also: r0200

Remedy: Connect the data line to power module and restart the control unit (POWER ON).

F07801 Drive: Motor overcurrent

Reactions: A_INFEED: OFF2
SERVO: OFF2

Acknowledge: IMMEDIATELY

Cause: The permissible motor limit current was exceeded.
- effective current limit set too low.
- current controller not correctly set.
- motor was braked with an excessively high stall torque correction factor.
- V/f operation: Up ramp was set too short or the load is too high.
- V/f operation: Short-circuit in the motor cable or ground fault.
- V/f operation: Motor current does not match the current of motor module.

Note:
Synchronous motor: Limit current= 1.3 * p0323
Induction motor: Limit current= 1.3 * r0209

Remedy:
- check the current limits (p0323, p0640).
- check the current controller (p1715, p1717).
- reduce the stall torque correction factor (p0326).
- increase the up ramp (p1318) or reduce the load.
- check the motor and motor cables for short-circuit and ground fault.
- check the motor module and motor combination.

F07802 Drive: Infeed or power module not ready

Reactions: OFF2

Acknowledge: IMMEDIATELY

Cause: After an internal power-on command, the infeed or drive does not signal ready.
- monitoring time is too short.
- DC link voltage is not present.
- associated infeed or drive of the signaling component is defective.
- supply voltage incorrectly set.

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Remedy: - increase the monitoring time (p0857).
- ensure that there is a DC link voltage. Check the DC-link busbar. Enable the infeed.
- replace the associated infeed or drive of the signaling component.
- check the line supply voltage setting (p0210).
See also: p0857

A07805 (N) Drive: Power module I2T overload

Reaction: NONE

Acknowledge: NONE

Cause: Alarm threshold for I2t overload (p0294) of the power module exceeded.
The response parameterized in p0290 becomes active.
See also: p0290

Remedy: - reduce the continuous load.
- adapt the load duty cycle.
- check the assignment of the rated currents of the motor and motor module.

Reaction upon N: NONE

Acknowledge upon N: NONE

F07810 Drive: Power module EEPROM without rated data

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: No rated data are stored in the power module EEPROM.
See also: p0205, r0206, r0207, r0208, r0209

Remedy: Replace the power module or inform Siemens Customer Service.

F07815 Drive: Power module has been changed

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The code number of the actual power module does not match the saved number.
Fault value (r0949, decimal):
Number of the incorrect parameter.
See also: r0200, p0201

Remedy: Connect the original power module and power-up the control unit again (POWER ON) or set p0201 to r0200 and exit commissioning with p0010 = 0.
If the new power module is accepted, then if required, the current limit p0640 can be reduced by a lower maximum current of the power module (r0209) (torque limits stay the same).
If not only the power module is changed, but also the motor, then the motor must be re-commissioning (e.g. using p0010 = 1).
See also: r0200

A07820 Drive: Temperature sensor not connected

Reaction: NONE

Acknowledge: NONE

Cause: The temperature sensor for motor temperature monitoring, specified in p0600, is not available.
- parameter download with "incorrect" setting.
- module with sensor evaluation has been, in the meantime, been removed.

Remedy: - connect the module with temperature sensor.
- set the available temperature sensor (p0600, p0601).
See also: p0600, p0601

F07840 Drive: Infeed operation missing

Reactions: OFF2

Acknowledge: IMMEDIATELY

Cause: The signal "infeed operation" is not present although the enable signals for the drive have been present for longer than the parameterized monitoring time (p0857).
- infeed not operational.
- interconnection of the binector input for the ready signal is either incorrect or missing (p0864).

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Remedy: - bring the infeed into an operational state.
- check the interconnection of the binector input for the signal "infeed operation" (p0864).
- increase the monitoring time (p0857).
See also: p0857, p0864

F07841 Drive: Infeed operation withdrawn

Reactions: OFF2

Acknowledge: IMMEDIATELY

Cause: The signal "infeed operation" was withdrawn in operation.
- interconnection of the binector input for the signal "infeed operation" is either incorrect or missing (p0864).
- the enable signals of the infeed were disabled.
- due to a fault, the infeed withdraws the signal "infeed operation".

Remedy: - check the interconnection of the binector input for the signal "infeed operation" (p0864).
- check the enable signals of the infeed and if required, enable.
- remove and acknowledge an infeed fault.
Note:
If this drive is intended to back-up the DC link regeneratively, then the fault response must be parameterized for NONE so that the drive can continue to operate even after the infeed fails.

A07850 (F) External alarm 1

Reaction: NONE

Acknowledge: NONE

Cause: BICO signal "external alarm" triggered. The condition for this external alarm is fulfilled.
See also: p2112

Remedy: Eliminate the causes of this alarm.

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY (power on)

A07851 (F) External alarm 2

Reaction: NONE

Acknowledge: NONE

Cause: BICO signal "external alarm" triggered. The condition for this external alarm is fulfilled.
See also: p2116

Remedy: Eliminate the causes of this alarm.

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY (power on)

A07852 (F) External alarm 3

Reaction: NONE

Acknowledge: NONE

Cause: BICO signal "external alarm" triggered. The condition for this external alarm is fulfilled.
See also: p2117

Remedy: Eliminate the causes of this alarm.

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY (power on)

F07860 (A) External fault 1

Reactions: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: BICO signal "external alarm" triggered.
See also: p2106

Remedy: Eliminate the causes of this fault.

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Reaction upon A: NONE
Acknowledge upon A: NONE

F07861 (A) External fault 2

Reactions: OFF2
Acknowledge: IMMEDIATELY (power on)
Cause: BICO signal "external alarm" triggered.
See also: p2107
Remedy: Eliminate the causes of this fault.
Reaction upon A: NONE
Acknowledge upon A: NONE

F07862 (A) External fault 3

Reactions: OFF2
Acknowledge: IMMEDIATELY (power on)
Cause: BICO signal "external alarm" triggered.
See also: p2108
Remedy: Eliminate the causes of this fault.
Reaction upon A: NONE
Acknowledge upon A: NONE

F07900 (N, A) Drive: Motor locked

Reactions: A_INFEED: OFF2
SERVO: OFF2
Acknowledge: IMMEDIATELY
Cause: Motor has been operating at the torque limit longer than the time specified in p2177 and below the speed threshold set in p2175.
Remedy: - check that the motor can freely rotate.
- check the torque limit: For a positive direction of rotation r1538, for a negative direction of rotation r1539.
- check the parameter, message "Motor locked" and if required, correct (p2175, p2177).
- check the inversion of the actual value (p0410).
- check the motor encoder connection.
- check the encoder pulse number (p0408).

Reaction upon N: NONE
Acknowledge upon N: NONE
Reaction upon A: NONE
Acknowledge upon A: NONE

F07901 Drive: Motor overspeed

Reactions: A_INFEED: OFF2
SERVO: OFF2
Acknowledge: IMMEDIATELY
Cause: The maximum permissible speed was either positively or negatively exceeded.
The maximum permissible positive speed is formed as follows: Minimum(p1082, CI: p1085) + p2162. The maximum permissible negative speed is formed as follows: Maximum(-p1082, CI: 1088) - p2162.
Remedy: For a positive direction of rotation:
- check r1084 and if required, correct p1082, CI: p1085 and p2162.
For a negative direction of rotation:
- check r1087 and if required, correct p1082, CI: p1088 and p2162.

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F07902 (N, A) Drive: Motor stalled

Reactions: A_INFEED: OFF2
SERVO: OFF2

Acknowledge: IMMEDIATELY

Cause: Only for vector drives (refer to p0107):
It was detected that the motor was stalled for a time longer than that entered into p2178.
Fault value (r0949, decimal):
1: Stall detection using r1408.11 (refer to p1744)
2: Stall detection using r1408.12 (refer to p1745)
See also: p1744, p2178

Remedy: For closed-loop speed and torque control with speed encoder:
- check the speed signal (interrupted cable, polarity, pulse number).
If there is no fault, then the fault tolerance can be increased (p1744).
For closed-loop speed and torque control without speed encoder:
- check whether the drive stalls due to the load if the speed setpoint is still zero. If yes, then increase the current setpoint using p1610.
- if the motor excitation (magnetizing) time (r0346) was significantly reduced, then it should be increased again.
- check the current limits (p0640, r0067). If these are too low, then the drive cannot be magnetized.
If there is no fault, then the fault tolerance (p1745) or the delay time (p2178) can be increased.

Reaction upon N: NONE

Acknowledge upon N: NONE

Reaction upon A: NONE

Acknowledge upon A: NONE

A07903 Drive: Motor speed deviation

Reaction: NONE

Acknowledge: NONE

Cause: The absolute value of the speed difference from the two setpoints (p2151, p2154) and the speed actual value (r2169) exceeds the tolerance threshold (p2163) longer than tolerated (p2164, p2166).
The alarm is only enabled for p2149.0 = 1.
Possible causes could be:
- the load torque is greater than the torque setpoint.
- when accelerating, the torque/current/power limit is reached. If the limits are not sufficient, then it is possible that the drive has been dimensioned too small.
- the speed controller is inhibited (refer to p0856; refer to Kp/Tn adaptation of the speed controller).
- for closed-loop torque control, the speed setpoint does not track the speed actual value.
- for active Vdc controller.
The signal is not generated if the ramp-function generator tracking prevents the setpoint and actual speed from drifting (moving) apart.
Only for vector drives:
For V/f control, the overload condition is detected as the Imax controller is active.
See also: p2149

Remedy: - increase p2163 and/or p2166.
- increase the torque/current/power limits.
- enable the speed controller.
- for closed-loop torque control: The speed setpoint should track the speed actual value.

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A07910 (N) Drive: Motor overtemperature

Reaction: NONE

Acknowledge: NONE

Cause: KTY:
The motor temperature has exceeded the alarm threshold (p00604).
VECTOR: The response parameterized in p0610 becomes active.
PTC:
The response threshold of 1650 Ohm was exceeded.
Alarm value (r2124, decimal):
1: No output current reduction.
2: Output current reduction active.
See also: p0604, p0610

Remedy: - check the motor load.
- check the motor ambient temperature.

Reaction upon N: NONE

Ackn. upon N: NONE

A07920 Drive: Torque too low

Reaction: NONE

Acknowledge: NONE

Cause: The torque deviates from the torque/speed envelope characteristic in the negative direction (too low).
See also: p2181

Remedy: Adapt the load.

A07921 Drive: Torque too high

Reaction: NONE

Acknowledge: NONE

Cause: The torque deviates from the torque/speed envelope characteristic in the positive direction (too high).

Remedy: Adapt the load.

A07922 Drive: Torque outside the tolerance

Reaction: NONE

Acknowledge: NONE

Cause: The torque deviates from the torque/speed envelope characteristic.

Remedy: Adapt the load.

F07923 Drive: Torque too low

Reactions: A_INFEED: OFF1
SERVO: OFF1

Acknowledge: IMMEDIATELY

Cause: The torque deviates from the torque/speed envelope characteristic in the negative direction (too low).

Remedy: Adapt the load.

F07924 Drive: Torque too high

Reactions: A_INFEED: OFF1 (NONE)
SERVO: OFF1 (NONE, OFF2, OFF3)

Acknowledge: IMMEDIATELY

Cause: The torque deviates from the torque/speed envelope characteristic in the positive direction (too high).

Remedy: Adapt the load.

F07925 Drive: Torque outside the tolerance

Reactions: A_INFEED: OFF1
SERVO: OFF1

Acknowledge: IMMEDIATELY

Cause: The torque deviates from the torque/speed envelope characteristic.

Remedy: Adapt the load.

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A07926 Envelope curve, parameter invalid

Reaction: NONE

Acknowledge: NONE

Cause: Invalid parameter values were entered for the envelope characteristic of the load monitoring.
The following rules apply for the speed thresholds:
p2182 < p2183 < p2184
The following rules apply for the torque thresholds:
p2185 > p2186
p2187 > p2188
p2189 > p2190
Alarm value (r2124, decimal):
Number of the parameter with the invalid value.

Remedy: Set the parameters for the load monitoring according to the applicable rules.

F07930 Drive: Brake control defective

Reactions: A_INFEED: OFF2
SERVO: OFF1

Acknowledge: IMMEDIATELY

Cause: The control unit has detected a brake control fault.
- no motor holding brake connected.
- the motor holding brake control on the motor module is faulty.
- a DRIVE-CLiQ communications error has occurred between the control unit and the motor module involved.
Fault value (r0949, decimal):
10: No brake connected or fault in the motor module brake control circuit ("open brake" operation).
11: Defect in the brake control circuit of the motor module ("brake open" operation).
20: Short-circuit in the brake winding or fault in the brake control circuit of the motor module ("brake open" state).
30: No brake connected, short-circuit in the brake winding or fault in the motor module brake control circuit ("close brake" operation).
31: Defect in the brake control circuit of the motor module ("close brake" operation).
40: Defect in the brake control circuit of the motor module ("brake closed" state).
50: Defect in the brake control circuit of the motor module or communications fault between the control unit and the motor module (brake control diagnostics).

Remedy: - check the motor holding brake connection.
- check the function of the motor holding brake.
- check whether there is a DRIVE-CLiQ communications error between the control unit and the motor module involved and if required, carry-out a diagnostics routine for the faults identified.
- check the electrical cabinet design and cable routing for EMC compliance
- replace the motor module involved.

A07931 Brake does not open

Reaction: NONE

Acknowledge: NONE

Cause: This alarm is output for r1229.4 = 1.
See also: p1216, r1229

Remedy: - check the functionality of the motor holding brake.
- check the feedback signal (p1223).

A07932 Brake does not close

Reaction: NONE

Acknowledge: NONE

Cause: This alarm is output for r1229.5 = 1.
See also: p1217, r1229

Remedy: - check the functionality of the motor holding brake.
- check the feedback signal (p1222).

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F07950 (A) Drive: Motor parameter defective

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The motor parameters were incorrectly entered while commissioning (e.g. p0300 = 0, no motor selected)
Fault value (r0949, decimal):
The fault value includes the parameter number involved.
See also: p0300, p0301, p0304, p0305, p0307, p0310, p0311, p0314, p0316, p0320, p0322, p0323

Remedy: Compare the motor data with the rating plate data and if required, correct.
See also: p0300, p0301, p0304, p0305, p0307, p0310, p0311, p0314, p0316, p0320, p0322, p0323

Reaction upon A: NONE

Acknowledge upon A: NONE

F07955 Drive: motor was changed

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The code number of the actual motor with DRIVE-CLiQ does not match the saved number.
Fault value (r0949, decimal):
Number of the incorrect parameter.
See also: p0301, r0302

Remedy: Connect the original motor, power-up the control unit again (POWER ON) and exit the quick commissioning by setting p0010 to 0.
Or set p0300 = 10000 (load the motor parameter with DRIVE-CLiQ) and re-commission.
Quick commissioning (p0010 = 1) is automatically exited with p3900 > 0.
If quick commissioning was exited by setting p0010 to 0, then an automatic controller calculation (p0340 = 1) is not carried-out.

F07956 Drive: Motor code number does not match the list (catalog) motor

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The code number of the actual motor with integrated encoder evaluation does not match the possible list motor types (refer to the selection, p0300).
Fault value (r0949, decimal):
Motor coder number from the integrated encoder evaluation.

Remedy: Use the integrated encoder evaluation with the matching motor code number.
The first three digits of the motor coder number generally correspond to the matching list motor type.

F07957 Drive: Motor type does not match drive type

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The code number of the actual motor with integrated encoder evaluation does not match the actual drive type (p0107).
Fault value (r0949, decimal):
Motor coder number from the integrated encoder evaluation.

Remedy: Select another drive type (e.g. servo drive for synchronous motors).

F07970 Drive: Automatic encoder adjustment incorrect

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred during the automatic encoder adjustment.
Fault value (r0949, decimal):
1: Current controller limited
2: Motor shaft locked.
3: Damping input limited.
4: Encoder speed signal not plausible.

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Remedy: Re fault value = 1:
Check whether the motor is correctly connected.
Check whether motor data have been correctly entered.
Replace the motor module involved.
Re fault value = 2:
Motor holding brake active.
Load blocks the motor.
Re fault value = 3:
Check whether the speed actual value inversion is correct (p0410.0).
Check whether the motor is correctly connected.
Check whether motor data have been correctly entered.
Re fault value = 4:
Check whether the encoder pulse number (p0408) and gearbox factor (p0432, p0433) are correct.
Check whether the motor pole pair number is correct (p0314).

A07971 (N) Drive: Automatic encoder adjustment activated

Reaction: NONE

Acknowledge: NONE

Cause: The automatic encoder adjustment is activated.
The automatic encoder adjustment is carried-out with the next power-on command.
See also: p1990

Remedy: None necessary.
The alarm automatically disappears after the encoder has been successfully adjusted or for the setting p1990 = 0.

Reaction upon N: NONE

Acknowledge upon N: NONE

F07995 Drive: Rotor position identification not successful

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The rotor position identification routine was unsuccessful.
Fault value (r0949, decimal):
1: No current is established.
2: The starting current is not zero.
3: The selected maximum distance was exceeded (p1981).
4x: The measuring signal does not permit a clear evaluation.
5: The maximum current was exceeded during the measurement.
6: The current measurement must be re-calibrated.
7x: The sensor module does not support the rotor position identification routine.
70 ... 79: Only for internal Siemens troubleshooting.
Note: x = 0 ... 9

Remedy: Re fault value = 1:
Check the motor connection and DC link voltage.
For the following parameters, set practical values that are not zero (p0325, p0329).
Re fault value = 3:
Increase the maximum distance (p1981).
Reduce the currents for the rotor position identification routine (p0325, p0329).
Stop the motor in order to carry-out the rotor position identification routine.
Re fault value = 40 ... 49:
Increase the currents for the rotor position identification routine (p0325, p0329).
Stop the motor in order to carry-out the rotor position identification routine.
Select another technique for rotor position identification routine (p1980).
Use another motor, absolute value encoder or Hall sensors.
Re fault value = 5:
Reduce the currents for the rotor position identification routine (p0325, p0329).
Re fault value = 6:
Re-calibrate the motor module.
Re fault value = 7x:
Upgrade the software in the sensor module.

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F08000 (N, A) TB: +/-15 V power supply faulted

Reactions: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: Terminal board 30 detects an incorrect internal power supply voltage.
Fault value (r0949, decimal):
0: Error when testing the monitoring circuit.
1: Fault in normal operation.

Remedy: - replace terminal board 30.
- replace control unit.

Reaction upon N: NONE

Acknowledge upon N: NONE

Reaction upon A: NONE

Acknowledge upon A: NONE

F08010 (N, A) TB: Analog-digital converter

Reactions: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: The analog/digital converter on terminal board 30 has not supplied any converted data.

Remedy: - check the power supply.
- replace terminal board 30.

Reaction upon N: NONE

Acknowledge upon N: NONE

Reaction upon A: NONE

Acknowledge upon A: NONE

F08500 (A) COMM BOARD: Monitoring time, configuration expired

Reactions: OFF1

Acknowledge: IMMEDIATELY

Cause: The monitoring time for the configuration has expired.
Fault value (r0949, decimal):
0: The transfer of the send-configuration data has been exceeded (time).
1: The transfer of the receive-configuration data has been exceeded (time).

Remedy: Check communication line.

Reaction upon A: NONE

Acknowledge upon A: NONE

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F08501 (A) COMM BOARD: Monitoring time, process data expired

Reactions: OFF1

Acknowledge: IMMEDIATELY

Cause: The set monitoring time expired while transferring process data via COMM BOARD.
See also: p2040

Remedy: - check communications link.
- check the set monitoring time if the error persists.
See also: p2040

Reaction upon A: NONE

Acknowledge upon A: NONE

F08502 (A) COMM BOARD: Monitoring time, sign-of-life expired

Reactions: OFF1

Acknowledge: IMMEDIATELY

Cause: The monitoring time for the sign-of-life counter has expired.

Remedy: Check communication line.

Reaction upon A: NONE

Acknowledge upon A: NONE

F08510 (A) COMM BOARD: send configuration data not valid.

Reactions: OFF1

Acknowledge: IMMEDIATELY

Cause: COMM BOARD did not accept the send-configuration data.
Fault value (r0949, decimal):
Return value of the send-configuration data check.

Remedy: Check the send configuration data.

Reaction upon A: NONE

Acknowledge upon A: NONE

A08511 (F) COMM BOARD: Receive configuration data not valid

Reaction: NONE

Acknowledge: NONE

Cause: The drive unit did not accept the receive-configuration data.
Alarm value (r2124, decimal):
Return value of the receive-configuration data check.
0: Configuration accepted.
1: Drive overflow.
2: Data length overflow.
3: Data length uneven.
4: Setting data for synchronization not accepted.
5: Drive still not in cyclic operation.
6: Buffer system not accepted.
7: Cyclic channel length too short for this setting.
8: Cyclic channel address not initialized.
9: 3-buffer system not permitted.
10: DRIVE-CLiQ fault.
11: CU link fault.
12: CX32 not in cyclic operation.

Remedy: Check the receive configuration data.

Reaction upon F: NONE (OFF1, OFF2, OFF3)

Acknowledge upon F: IMMEDIATELY

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A08520 (F) COMM BOARD: Non-cyclic channel error

Reaction: NONE

Acknowledge: NONE

Cause: The memory or the buffer status of the non-cyclic channel has an error.
Alarm value (r2124, decimal):
0: Error in the buffer status.
1: Error in the memory.

Remedy: Check communication line.

Reaction upon F: NONE (OFF1, OFF2, OFF3)

Acknowledge upon F: IMMEDIATELY

A08530 (F) COMM BOARD: Message channel error

Reaction: NONE

Acknowledge: NONE

Cause: The memory or the buffer status of the message channel has an error.
Alarm value (r2124, decimal):
0: Error in the buffer status.
1: Error in the memory.

Remedy: Check communication line.

Reaction upon F: NONE (OFF1, OFF2, OFF3)

Acknowledge upon F: IMMEDIATELY

A08700 (F) CBC: Communications error

Reaction: NONE

Acknowledge: NONE

Cause: A CAN communications error has occurred.
Fault value (r0949, decimal):
1: The error counter for the send telegrams has exceeded the BUS OFF value 255. The bus disables the CAN controller.
- bus cable interrupted.
- bus cable not connected.
- incorrect baud rate.
- incorrect bit timing.

2: The master no longer interrogated the CAN node status longer than for its "life time". The "life time" is obtained from the "guard time" (p8604[0]) multiplied by the "life time factor" (p8604[1]).
- bus cable interrupted.
- bus cable not connected.
- incorrect baud rate.
- incorrect bit timing.
- master fault.

Remedy:
- check the bus cable.
- check the baud rate (p8622).
- check the bit timing (p8623).
- check the master.

Reaction upon F: NONE (OFF1, OFF2, OFF3)

Acknowledge upon F: IMMEDIATELY

A08751 CBC: Telegram loss

Reaction: NONE

Acknowledge: NONE

Cause: The CAN controller has lost a receive message (telegram).

Remedy: - reduce the cycle times of the receive messages

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A08752 CBC: Error counter for error passive exceeded

Reaction: NONE

Acknowledge: NONE

Cause: The error counter for the send or receive telegrams has exceeded the value 127.

Remedy: - check the bus cable
- set a higher baud rate (p8622).
- check the bit timing and if required optimize (p8623).

A08753 CBC: Message buffer overflow

Reaction: NONE

Acknowledge: NONE

Cause: A message buffer has overflowed.
Alarm value (r2124, decimal):
1: Non-cyclic send buffer (SDO response buffer) has overflowed.
2: Non-cyclic receive buffer (SDO receive buffer) has overflowed.
3: Cyclic send buffer (SDO response buffer) has overflowed.

Remedy: 2: Reduce the cycle times of the SDO receive messages.
3: Check the bus cable.
Set a higher baud rate (p8622).
Check the bit timing and if required optimize (p8623).

A08754 CBC: Incorrect communications mode

Reaction: NONE

Acknowledge: NONE

Cause: An attempt was made to make a change at parameters p8700 - p8737 while the CAN node was in the operational mode.

Remedy: Change into the pre-operational or stopped mode.

A08755 CBC: Obj cannot be mapped

Reaction: NONE

Acknowledge: NONE

Cause: PDO mapping is not possible for the object.

Remedy: Use an object intended for the PDO mapping or enter 0.
The following objects can be mapped in the receive PDO:
0x6040, 0x6060, 0x60FF, 0x6071.
The following objects can be mapped in the transmit PDO:
0x6041, 0x6061, 0x6063, 0x6069, 0x606B, 0x606C, 0x6074.
Note:
As long as A8755 is present, the COB-ID cannot be set to valid.

A08756 CBC: Number of mapped bytes exceeded

Reaction: NONE

Acknowledge: NONE

Cause: The number of bytes of the mapped objects exceeds the telegram size for net data (max. 8 bytes).

Remedy: Map fewer objects or objects with a smaller data type.
Maximum possible are:
2 objects of data type 4 bytes.
4 objects of data type 2 bytes.
See also: p8710, p8711, p8712, p8713, p8714, p8715, p8716, p8717, p8730, p8731, p8732, p8733, p8734, p8735, p8736, p8737

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A08757 CBC: Set COB-ID invalid

Reaction: NONE

Acknowledge: NONE

Cause: For online operation, the appropriate COB-ID must be set invalid before mapping.
Example:
Mapping for RPDO 1 should be changed (p8710[0]).
--> set p8700[0] = C00006E0 hex (invalid COB-ID)
--> set p8710[0] as required.
--> p8700[0] enter a valid COB-ID

Remedy: Set the COB-ID to invalid.

A08758 CBC: Number of CAN channels too low

Reaction: NONE

Acknowledge: NONE

Cause: The number of CAN channels in p8740 has either been set to 0 or too low.
See also: p8740

Remedy: The number of channels set in p8740 must be greater than or equal to the number of PDOs.
There are 2 possibilities:
Increase the number of channels in p8740 and confirm the selection using p8741.
Reduce the number of PDOs by setting the COB-ID to invalid.
See also: p8740, p8741

A13000 License not adequate

Reaction: NONE

Acknowledge: NONE

Cause: - for the drive unit, the options that require a license are being used but the licenses are not sufficient.
- an error occurred when checking the existing licenses.
Alarm value (r2124, decimal):
0:
The existing license is not sufficient.
1:
An adequate license was not able to be determined as the CompactFlash Card with the required licensing data was withdrawn in operation.
2:
An adequate license was not able to be determined, as an error occurred when reading-out the required licensing data from the CompactFlash Card.
3:
An adequate license was not able to be determined as there is a checksum error in the license key.
4:
An internal error occurred when checking the license.

Remedy: Alarm value 0:
Additional licenses are required and these must be activated (p9920, p9921).
Alarm value 1:
With the system powered-down, re-insert the CompactFlash Card that matches the system.
Alarm value 2:
Enter and activate the license key (p9920, p9921).
Alarm value 3:
Compare the license key (p9920) entered with the license key on the certificate of license.
Re-enter the license key and activate (p9920, p9921).
Alarm value 4:
- carry-out a POWER ON.
- upgrade the firmware release.
- contact the Hotline.

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A13001 Error in license checksum

Reaction: NONE

Acknowledge: NONE

Cause: When checking the checksum of the license key, an error was detected.

Remedy: Compare the license key (p9920) entered with the license key on the certificate of license.
Re-enter the license key and activate (p9920, p9921).

F30001 Power module: Overcurrent

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The power module has detected an overcurrent condition.
- closed-loop control is incorrectly parameterized.
- motor has a short-circuit or fault to ground (frame).
- V/f operation: Up ramp set too short.
- V/f operation: Rated motor current is significantly greater than that of the motor module.
- infeed: High discharge and post-charging current for line supply voltage interruptions.
- infeed: High post-charging currents for overload when motoring and DC link voltage dip.
- infeed: Short-circuit currents at power-on due to the missing commutating reactor.
- power cables are not correctly connected.
- power cables exceed the maximum permissible length.
- power module defective.

Fault value (r0949):
Bit 0: Phase U.
Bit 1: Phase V.
Bit 2: Phase W.

Remedy:
- check the motor data - if required, carry-out commissioning.
- check the motor circuit configuration (star-delta).
- V/f operation: Increase the up ramp.
- V/f operation: Check the assignment of the rated currents of the motor and motor module.
- infeed: Check the line supply quality.
- infeed: Reduce the load when motoring.
- infeed: Correct connection of the line commutating reactor.
- check the power cable connections.
- check the power cables for short-circuit or ground fault.
- check the length of the power cables.
- replace power module.

F30002 Power module: DC link overvoltage

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The power module has detected an overvoltage condition in the DC link.
- motor regenerates too much energy.
- line supply voltage too high.

Fault value (r0949, decimal):
DC link voltage [1 bit = 100 mV].

Remedy:
- increase the ramp-down time.
- activate the DC link voltage controller.
- use a brake resistor or active line module.
- increase the current limit of the infeed or use a larger module (for the active line module).
- check the line supply voltage.

See also: p0210, p1240

F30003 Power module: DC link undervoltage

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The power module has detected an undervoltage condition in the DC link.
- line supply failure
- line supply voltage below the permissible value.
- line supply infeed failued or faulted.

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Remedy: - check the line supply voltage
- check the line supply infeed and if necessary observe the fault messages of the line supply infeed.
Note:
The ready signal of the infeed r0863 must be connected to the associated inputs p0864 of the drives.
See also: p0210

F30004 Power module: Overtemperature heatsink AC inverter

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The temperature of the power module heatsink has exceeded the permissible limit value.
- insufficient cooling, fan failure.
- overload
- ambient temperature too high.
- pulse frequency too high.
Fault value (r0949):
Temperature [1 bit = 0.01 °C].

Remedy: - check whether the fan is running.
- check the fan elements
- check whether the ambient temperature is in the permissible range.
- check the motor load.
- reduce the pulse frequency if this is higher than the rated pulse frequency.
Notice:
This fault can only be acknowledged after this alarm threshold for alarm A05000 has been fallen below.
See also: p1800

F30005 Power module: Overload I2T

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The power module was overloaded (r0036 = 100 %).
- the permissible rated power module current was exceeded for an inadmissibly long time.
- the permissible load duty cycle was not maintained.
Fault value (r0949, decimal):
I2t [100 % = 16384].

Remedy: - reduce the continuous load.
- adapt the load duty cycle.
- check the motor and power module rated currents.
See also: r0036, r0206, p0307

F30006 Power module: Thyristor control board

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The thyristor control board of the basic line module signals a fault.
- there is not line supply voltage.
- the line contactor is not closed.
- the line supply voltage is too low.
- line supply frequency outside the permissible range (45 ... 66 Hz).
- there is a DC link short-circuit.
- there is a DC link short-circuit (during the pre-charging phase).
- power supply thyristor control board outside the nominal range (5 ... 18 V) and supply voltage >30 V.
- there is an internal fault in the thyristor control board.

Remedy: The faults are saved in the TCB and are acknowledged by switching-out the TCB supply voltage for at least 10 s!
- check the line supply voltage
- check or energize the line contactor.
- check the monitoring time and, if required, increase (p0857).
- if required, observe additional power module messages/signals.
- check the DC link regarding short-circuit or ground fault.
- observe the LED fault display of the thyristor control board.

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A30010 (F) Power module: Sign-of-life, cyclic data

Reaction: NONE

Acknowledge: NONE

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the power module involved.
The cyclic setpoint telegrams of the control unit were not received on time by the power module for at least one clock cycle.

Remedy: - check the electrical cabinet design and cable routing for EMC compliance

Reaction upon F: NONE (OFF1, OFF2, OFF3)

Acknowledge upon F: IMMEDIATELY (power on)

F30011 Power module: Line phase failure in main circuit

Reactions: OFF2

Acknowledge: IMMEDIATELY

Cause: A line phase failure was detected at the power module.
- the fuse of a phase of a main circuit has ruptured.
- the DC link voltage ripple has exceeded the permissible limit value.

Remedy: Check the fuses in the main circuit.

F30012 Power module: Temperature sensor heatsink wire breakage

Reactions: A_INFEED: OFF2
SERVO: OFF1

Acknowledge: IMMEDIATELY

Cause: The connection to one of the heatsink temperature sensors in the power module is interrupted.
Fault value (r0949, hexadecimal):
Bit 0: Module slot (electronics slot)
Bit 1: Air intake
Bit 2: Inverter 1
Bit 3: Inverter 2
Bit 4: Inverter 3
Bit 5: Inverter 4
Bit 6: Inverter 5
Bit 7: Inverter 6
Bit 8: Rectifier 1
Bit 9: Rectifier 2
See also: r0949

Remedy: Contact the manufacturer.

F30013 Power module: Temperature sensor heatsink short-circuit

Reactions: A_INFEED: OFF2
SERVO: OFF1

Acknowledge: IMMEDIATELY

Cause: The heatsink temperature sensor in the motor module is short-circuited.
Fault value (r0949, hexadecimal):
Bit 0: Module slot (electronics slot)
Bit 1: Air intake
Bit 2: Inverter 1
Bit 3: Inverter 2
Bit 4: Inverter 3
Bit 5: Inverter 4
Bit 6: Inverter 5
Bit 7: Inverter 6
Bit 8: Rectifier 1
Bit 9: Rectifier 2

Remedy: Contact the manufacturer.

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F30017 Power module: Hardware current limit has responded too often

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: The hardware current limitation in the relevant phase (see A30031, A30032, A30033) has responded too often. The number of times the limit has been exceeded depends on the design and type of power module.
For infeed units, the following applies:
- closed-loop control is incorrectly parameterized.
- load on the infeed is too high.
- voltage sensing module incorrectly connected.
- commutating reactor missing or the incorrect type.
- power module defective.

The following applies to motor modules:
- closed-loop control is incorrectly parameterized.
- fault in the motor or in the power cables.
- the power cables exceed the maximum permissible length.
- motor load too high
- power module defective.

Fault value (r0949, binary):
Bit 0: Phase U
Bit 1: Phase V
Bit 2: Phase W

Remedy: For infeed units, the following applies:
- check the controller settings, if required, reset and identify the controller (p0340 = 2, p3410 = 5).
- reduce the load, if required, increase the DC link capacitance or use a higher-rating infeed.
- check the connection of the optional voltage sensing module.
- check the connection and technical data of the commutating reactor.
- check the power cables for short-circuit or ground fault.
- replace power module.

The following applies to motor modules:
- check the motor data.
- check the motor circuit configuration (star-delta).
- check the motor load.
- check the power cable connections.
- check the power cables for short-circuit or ground fault.
- check the length of the power cables.
- replace power module.

F30021 Power module: Ground fault

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: Power module has detected a ground fault.
- ground fault in the power cables
- winding fault or ground fault at the motor.
- CT defective.

Fault value (r0949, decimal):
Absolute value, summed current [32767 = 271 % rated current].

Remedy:
- check the power cable connections.
- check the motor.
- check the CT.

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F30022 Power module: Monitoring U_ce

Reaction: OFF2

Acknowledge: power on

Cause: In the power module, the monitoring of the collector-emitter voltage (V_ce) of the semiconductor has responded.
Possible causes:
- short-circuit at the motor module output.
- defective semiconductor in the power module.
Fault value (r0949, binary):
Bit 0: Short-circuit in phase U
Bit 1: Short-circuit in phase V
Bit 2: Short-circuit in phase W
Bit 3: Light transmitter enable defective
Bit 4: V_ce group fault signal interrupted
See also: r0949

Remedy:
- check the power cable connections.
- select the defective semiconductor and replace.

F30025 Power module: Overtemperature chip

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: Chip temperature of the semiconductor has exceeded the permissible limit value.
- the permissible load duty cycle was not maintained.
- insufficient cooling, fan failure.
- overload
- ambient temperature too high.
- pulse frequency too high.
Fault value (r0949):
Temperature difference between the heatsink and chip [1 Bit = 0.01 °C].

Remedy:
- adapt the load duty cycle.
- check whether the fan is running.
- check the fan elements
- check whether the ambient temperature is in the permissible range.
- check the motor load.
- reduce the pulse frequency if this is higher than the rated pulse frequency.
Notice:
This fault can only be acknowledged after this alarm threshold for alarm A05001 has been fallen below.
See also: r0037

F30027 Power module: Precharging DC link monitoring

Reaction: OFF2

Acknowledge: IMMEDIATELY

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Cause: The power module DC link was not able to be pre-charged within the expected time.
- line supply voltage too low.
- line supply phase fault.
- short-circuit or ground fault in the DC link.
- pre-charging circuit defective.

Fault value (r0949):
Missing internal enable signals, power module (lower 16 bit):
(Inverted bit-coded notation FFFF hex -> all internal enable signals available)
Bit 0: Power supply of the IGBT gating shut down
Bit 1: Reserved
Bit 2: Reserved
Bit 3: Ground fault detected
Bit 4: Peak current intervention
Bit 5: I2t exceeded
Bit 6: Thermal model, overtemperature calculated
Bit 7: (heatsink, gating module, power module) overtemperature measured
Bit 8: Reserved
Bit 9: Overvoltage detected
Bit 10: Power module has completed pre-charging, ready for pulse enable
Bit 11: SH terminal missing
Bit 12: Overcurrent condition detected
Bit 13: Armature short-circuit
Bit 14: DRIVE-CLiQ fault active
Bit 15: Vce fault detected, transistor de-saturated due to overcurrent/circuit-circuit
Status, power module (upper 16 bit, hexadecimal number):
0: Fault status (wait for OFF and fault acknowledgment)
1: Restart inhibit (wait for OFF)
2: Overvoltage condition detected -> change into the fault state
3: Undervoltage condition detected -> change into the fault state
4: Wait for bypass contactor to open -> change into the fault state
5: Wait for bypass contactor to open -> change into restart inhibit
6: Commissioning
7: Ready for pre-charging
8: Pre-charging started, DC link voltage lower than the minimum switch-on voltage
9: Pre-charging, DC link voltage end of pre-charging still not detected
10: Wait for the end of the de-bounce time of the main contactor after pre-charging has been completed
11: Pre-charging completed, ready for pulse enable
12: It was detected that the SH terminal was energized at the power module
See also: p0210

Remedy: - check the line supply voltage
- check the line supply.

See also: p0210

A30031 Power module: Hardware current limiting, phase U

Reaction: NONE

Acknowledge: NONE

Cause: Hardware current limit for phase U responded. The pulsing in this phase is inhibited for one pulse period.
- closed-loop control is incorrectly parameterized.
- fault in the motor or in the power cables.
- the power cables exceed the maximum permissible length.
- motor load too high
- power module defective.

Remedy: - check the motor data.
- check the motor circuit configuration (star-delta).
- check the motor load.
- check the power cable connections.
- check the power cables for short-circuit or ground fault.
- check the length of the power cables.

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A30032 Power module: Hardware current limiting, phase V

Reaction: NONE

Acknowledge: NONE

Cause: Hardware current limit for phase V responded. The pulsing in this phase is inhibited for one pulse period.
- closed-loop control is incorrectly parameterized.
- fault in the motor or in the power cables.
- the power cables exceed the maximum permissible length.
- motor load too high.
- power module defective.

Remedy:
- check the motor data.
- check the motor circuit configuration (star-delta).
- check the motor load.
- check the power cable connections.
- check the power cables for short-circuit or ground fault.
- check the length of the power cables.

A30033 Power module: Hardware current limiting, phase W

Reaction: NONE

Acknowledge: NONE

Cause: Hardware current limit for phase W responded. The pulsing in this phase is inhibited for one pulse period.
- closed-loop control is incorrectly parameterized.
- fault in the motor or in the power cables.
- the power cables exceed the maximum permissible length.
- motor load too high.
- power module defective.

Remedy:
- check the motor data.
- check the motor circuit configuration (star-delta).
- check the motor load.
- check the power cable connections.
- check the power cables for short-circuit or ground fault.
- check the length of the power cables.

F30035 Power module: Overtemp. air intake

Reactions: A_INFEED: OFF2
SERVO: OFF1

Acknowledge: IMMEDIATELY

Cause: Power module air intake temperature has exceeded the permissible limit value.
- ambient temperature too high.
- insufficient cooling, fan failure.

Fault value (r0949):
Temperature [1 bit = 0.01 °C].

Remedy:
- check whether the fan is running.
- check the fan elements.
- check whether the ambient temperature is in the permissible range.

Notice:
This fault can only be acknowledged after this alarm threshold for alarm A05002 has been fallen below.

F30036 Power module: Overtemperature electronics unit

Reactions: A_INFEED: OFF2
SERVO: OFF1

Acknowledge: IMMEDIATELY

Cause: Power module temperature in the module slot of the drive converter has exceeded the permissible limit value.
- insufficient cooling, fan failure.
- overload.
- ambient temperature too high.

Fault value (r0949):
Temperature [1 bit = 0.01 °C].

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Remedy: - check whether the fan is running.
- check the fan elements.
- check whether the ambient temperature is in the permissible range.
Notice:
This fault can only be acknowledged after this alarm threshold for alarm A05003 has been fallen below.

F30037 Power module: Overtemperature rectifier

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: Power module rectifier temperature has exceeded the permissible limit value.
- insufficient cooling, fan failure.
- overload.
- ambient temperature too high.
- line supply phase failure.
Fault value (r0949):
Temperature [1 bit = 0.01 °C].

Remedy: - check whether the fan is running.
- check the fan elements.
- check whether the ambient temperature is in the permissible range.
- check the motor load.
- check the line supply phases.
Notice:
This fault can only be acknowledged after this alarm threshold for alarm A05004 has been fallen below.

F30040 Power module: Undervoltage 24 V

Reaction: OFF2

Acknowledge: power on

Cause: Failure of the 24 V power supply for the power module.
- the 16 V threshold was fallen below for longer than 3 ms.
Fault value (r0949):
24 V voltage [1 bit = 0.1 V].

Remedy: Check the 24 V DC voltage supply to power module.

A30041 (F) Power module: Undervoltage 24 V

Reaction: NONE

Acknowledge: NONE

Cause: 24 V power supply fault for the power module.
- the 16 V threshold was fallen below.
Fault value (r0949):
24 V voltage [1 bit = 0.1 V].

Remedy: Check the 24 V DC voltage supply to power module.

Reaction upon F: NONE (OFF1, OFF2, OFF3)

Acknowledge upon F: IMMEDIATELY (power on)

A30042 Power module: Fan operating time reached or exceeded

Reaction: NONE

Acknowledge: NONE

Cause: The maximum operating time of the fan in the power module is set in p0252.
This message indicates the following:
Fault value (r0949, decimal):
0: The maximum fan operating time is 500 hours.
1: The maximum fan operating time has been exceeded.

Remedy: Replace the fan in the power module and reset the operating hours counter to 0 (p0251 = 0).
See also: p0251, p0252

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F30600 SI MM: STOP A initiated

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: The Safety Integrated function on the motor module has detected a fault and initiated STOP A (pulse cancellation via the safety shutdown path of the motor module).
- forced checking procedure of the safety shutdown path of the motor module unsuccessful.
- subsequent response to fault F30611 (defect in a monitoring channel).
Fault value (r0949, decimal):
0: Stop request from the control unit.
1005: Pulses cancelled although SH not selected and there is not internal STOP A present.
1010: Pulses enabled although SH is selected or an internal STOP A is present.
9999: Subsequent response to fault F30611.

Remedy: - select safe standstill and then de-select again.
- check whether the safe standstill function on the control unit is enabled (p9601).
If required, select the safety commissioning mode (p0010), enable the safe standstill function on the control unit and motor module (p9601, p9801), exist the safety commissioning mode (p0010) and carry-out a POWER ON for all components (power-down/power-up).
- replace the motor module involved.
Re fault value = 9999:
- carry-out diagnostics for fault F30611.
Note:
MM: Motor module
SI: Safety Integrated

F30611 SI MM: Defect in a monitoring channel

Reactions: NONE (OFF1, OFF2, OFF3)

Acknowledge: IMMEDIATELY (power on)

Cause: The Safety Integrated function on the motor module has detected a fault in the crosswise data comparison and initiated a STOP F.
As a result of this fault, after the parameterized transition has expired (p9858), fault F30600 (power module Safety Integrated: STOP A initiated) is output.
Fault value (r0949, decimal):
0: Stop request from the control unit.
1 to 999:
Number of the crosswise compared data that resulted in this fault.
1: Safety Integrated monitoring clock cycle (r9780, r9880).
2: Safety Integrated enable safety functions (p9601, p9801).
3: Safety Integrated tolerance time SGE changeover (p9650, p9850).
4: Safety Integrated transition period STOP F to STOP A (p9658, p9858).
5: Safety Integrated enable safe brake control (p9602, p9802).
This number is also displayed in r9895.
1000:
Watchdog timer has expired. Within the time of approx. 5 * p9850 too many switching operations have occurred at the safety-related input signals of the control unit.
1001, 1002: Initialization error, change timer / check timer.
2000: Status of the SH terminals on the control unit and motor module are different.
2001: Feedback signal for safe pulse cancellation on the control unit and motor module are different.

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Remedy: Re fault value = 1 to 999:
- check the crosswise compared data that resulted in a STOP F.
- carry-out a POWER ON (power off/on) for all components.
- upgrade the motor module software.
- upgrade the control unit software.

Re fault value = 1000:
- check the wiring of the safety-relevant input signals on the control unit (contact problems).

Re fault value = 1001, 1002:
- carry-out a POWER ON (power off/on) for all components.
- upgrade the motor module software.
- upgrade the control unit software.

Re fault value = 2000, 2001:
- check the tolerance time SGE changeover and if required, increase the value (p9650, p9850).
- check the wiring of the safety-relevant input signals (contact problems).
- replace the motor module involved.

Note:
MM: Motor module
SI: Safety Integrated

N30620 (F, A) SI MM: Safe standstill active

Reaction: NONE

Acknowledge: NONE

Cause: The safe standstill function was selected on the motor module and is active.
Note:
This fault does not result in a safety stop response.

Remedy: None necessary.
Note:
MM: Motor module
SI: Safety Integrated

Reaction upon F: OFF2

Acknowledge upon F: IMMEDIATELY (power on)

Reaction upon A: NONE

Acknowledge upon A: NONE

F30625 SI MM: Sign-of-life error in safety data

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: The Safety Integrated function on the motor module has detected an error in the sign-of-life of the safety data and initiated a STOP A.
- there is either a DRIVE-CLIQ communications error or communications have failed.
- a time slice overflow of the safety software has occurred.

Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy:
- select safe standstill and then de-select again.
- carry-out a POWER ON (power off/on) for all components.
- check whether there is a DRIVE-CLiQ communications error between the control unit and the motor module involved and if required, carry-out a diagnostics routine for the faults identified.
- de-select all drive functions that are not absolutely necessary.
- reduce the number of drives.
- check the electrical cabinet design and cable routing for EMC compliance

Note:
MM: Motor module
SI: Safety Integrated

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F30630 SI MM: Brake control defective

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: The Safety Integrated function on the motor module has detected a brake control fault and initiated a STOP A.
- no motor holding brake connected.
- the motor holding brake control on the motor module or the control unit is faulty.
- a DRIVE-CLiQ communications error has occurred between the control unit and the motor module.
Fault value (r0949, decimal):
10: No brake connected or fault in the motor module brake control circuit ("open brake" operation).
30: Short-circuit in the brake winding or fault in the motor module brake control circuit ("close brake" operation).
40: Defect in the brake control circuit of the motor module ("brake closed" state).
60, 70: Fault in the brake control of the control unit or communications fault between the control unit and motor module (brake control).

Remedy:
- check the motor holding brake connection.
- check the function of the motor holding brake.
- check whether there is a DRIVE-CLiQ communications error between the control unit and the motor module involved and if required, carry-out a diagnostics routine for the faults identified.
- check the electrical cabinet design and cable routing for EMC compliance
- replace the motor module involved.
Note:
MM: Motor module
SI: Safety Integrated

F30649 SI MM: Internal software error

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: An internal error in the Safety Integrated software on the motor module has occurred.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy:
- carry-out a POWER ON (power off/on) for all components.
- re-commission the Safety Integrated function and carry-out a POWER ON.
- upgrade the motor module software.
- contact the Hotline.
- replace the motor module.
Note:
MM: Motor module
SI: Safety Integrated

F30650 SI MM: Acceptance test required

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: The Safety Integrated function on the motor module requires an acceptance test.
Note:
This fault results in a STOP A.
Fault value (r0949, decimal):
130: No safety parameters available for the motor module.
1000: Reference and actual checksum in the motor module are not identical (run-up).
- at least one checksum-checked piece of data is defective.
2000: Reference and actual checksum on the motor module are not identical (commissioning mode).
- reference checksum incorrectly entered into the motor module (p9899 not equal to r9898).
2003: Acceptance test is required as a safety parameter has been changed.
9999: Subsequent response of another safety-related fault that occurred at run-up that requires an acceptance test.

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Remedy: Re fault value = 130:
- carry-out safety commissioning routine.
Re fault value = 1000:
- again carry-out safety commissioning routine.
- replace the CompactFlash Card.
Re fault value = 2000:
- check the safety parameters in the motor module and adapt the reference checksum (p9899).
Re fault value = 2003:
- carry-out an acceptance test.
Re fault value = 9999:
- carry-out diagnostics for the other safety-related fault that is present.
Note:
MM: Motor module
SI: Safety Integrated
See also: p9899

F30651 SI MM: Not synchronized with the control unit

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: The Safety Integrated function is requesting synchronization of the safety time slices on the control unit and motor module. This synchronization routine was not successful.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: - carry-out a POWER ON (power off/on) for all components.
- upgrade the motor module software.
- upgrade the control unit software.
Note:
MM: Motor module
SI: Safety Integrated

F30652 SI MM: Monitoring clock cycle not permissible

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: The Safety Integrated monitoring clock cycle cannot be maintained due to the communication conditions requested in the system.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, decimal):
Only for internal Siemens troubleshooting.

Remedy: Upgrade the motor module software.
Note:
MM: Motor module
SI: Safety Integrated

F30655 SI MM: Align monitoring functions

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: An error has occurred when aligning the Safety Integrated monitoring functions on the control unit and motor module.
Control unit and motor module were not able to determine a common set of supported SI monitoring functions.
- there is either a DRIVE-CLIQ communications error or communications have failed.
- Safety Integrated software releases on the control unit and motor module are not compatible with one another.
Note:
This fault results in a STOP A that cannot be acknowledged.
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

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Remedy: - carry-out a POWER ON (power off/on) for all components.
- upgrade the motor module software.
- upgrade the control unit software.
- check the electrical cabinet design and cable routing for EMC compliance
Note:
MM: Motor module
SI: Safety Integrated

F30656 SI MM: Incorrect motor module parameter

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: When accessing the Safety Integrated parameters for the motor module on the CompactFlash Card, an error has occurred.
Note:
This fault results in a STOP A.
Fault value (r0949, decimal):
129: Safety parameters for the motor module corrupted.
131: Internal software error on the control unit.
255: Internal motor module software error.

Remedy: - re-commission the safety functions.
- upgrade the control unit software.
- upgrade the motor module software.
- replace the CompactFlash Card.
Note:
MM: Motor module
SI: Safety Integrated

F30659 SI MM: Write task for parameter rejected

Reaction: OFF2

Acknowledge: IMMEDIATELY (power on)

Cause: The write task for one or several Safety Integrated parameters on the control unit was rejected.
Note:
This fault does not result in a safety stop response.
Fault value (r0949, decimal):
10: An attempt was made to enable the SH function although this cannot be supported.
11: An attempt was made to enable the SBC function although this cannot be supported.
See also: r9771, r9871

Remedy: Re fault value = 10, 11:
- check whether there are faults in the safety function alignment between the control unit and the motor module involved (F01655, F30655) and if required, carry-out diagnostics for the faults involved.
- use a motor module that supports the function safe standstill or safe brake control.
- upgrade the motor module software.
- upgrade the control unit software.
Note:
MM: Motor module
SI: Safety Integrated

F30801 Power module DRIVE-CLiQ: Sign-of-life missing

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the power module involved.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.

Remedy: - check the electrical cabinet design and cable routing for EMC compliance
- replace the component involved.
See also: p9916

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F30802 Power module: Time slice overflow

Reaction: OFF2
Acknowledge: IMMEDIATELY
Cause: Time slide overflow.
Remedy:

F30804 Power module: CRC

Reaction: OFF2
Acknowledge: IMMEDIATELY
Cause: CRC error actuator
Remedy:

F30805 Power module: Incorrect EPROM checksum

Reaction: OFF2
Acknowledge: IMMEDIATELY
Cause: Internal parameter data is corrupted
Fault value (r0949, hexadecimal):
01: EEPROM access error.
02: Too many blocks in the EEPROM.
Remedy: Replace the module.

F30820 Power module DRIVE-CLiQ: Telegram error

Reaction: OFF2
Acknowledge: IMMEDIATELY
Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the power module involved.
Fault value (r0949, hexadecimal):
01: CRC error.
02: Telegram is shorter than specified in the length byte or in the receive list.
03: Telegram is longer than specified in the length byte or in the receive list.
04: The length of the receive telegram does not match the receive list.
05: The type of the receive telegram does not match the receive list.
06: The address of the power module in the telegram and in the receive list do not match.
07: Power module expects a SYNC telegram, but the receive telegram is not a SYNC telegram.
08: Power module does not expect a SYNC telegram, but the receive telegram is a SYNC telegram.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.
Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance.
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9916

F30835 Power module DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF2
Acknowledge: IMMEDIATELY
Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the power module involved. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.
Remedy: - carry-out a POWER ON.
- replace the component involved.
See also: p9916

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F30836 Power module DRIVE-CLiQ: Send error for DRIVE-CLiQ data

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the power module involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

F30837 Power module DRIVE-CLiQ: Component faulted

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

F30845 Power module DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the power module involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9916

F30850 Power module: Internal software error

Reactions: OFF1 (NONE, OFF2, OFF3)

Acknowledge: power on

Cause: An internal software error in the power module has occurred.
Fault value (r0949, decimal):
1: Background time slice is blocked.
2: Checksum over the code memory is not OK.

Remedy: - replace power module.
- if required, upgrade the firmware in the power module.
- contact the Hotline.

F30860 CU DRIVE-CLiQ: Telegram error

Reaction: OFF2

Acknowledge: IMMEDIATELY

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Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the power module involved.
Fault value (r0949, hexadecimal):
11: CRC error and the receive telegram is too early.
01: CRC error.
12: The telegram is shorter than that specified in the length byte or in the receive list and the receive telegram is too early.
02: Telegram is shorter than specified in the length byte or in the receive list.
13: The telegram is longer than that specified in the length byte or in the receive list and the receive telegram is too early.
03: Telegram is longer than specified in the length byte or in the receive list.
14: The length of the receive telegram does not match the receive list and the receive telegram is too early.
04: The length of the receive telegram does not match the receive list.
15: The type of the receive telegram does not match the receive list and the receive telegram is too early.
05: The type of the receive telegram does not match the receive list.
16: The address of the power module in the telegram and in the receive list does not match and the receive telegram is too early.
06: The address of the power module in the telegram and in the receive list do not match.
19: The error bit in the receive telegram is set and the receive telegram is too early.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance.
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9915

F30885 CU DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the power module involved. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.
1A: Sign-of-life bit in the receive telegram not set and the receive telegram is too early.
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.
62: Error at the transition to cyclic operation.

Remedy: - check the power supply voltage of the component involved.
- carry-out a POWER ON.
- replace the component involved.
See also: p9915

F30886 CU DRIVE-CLiQ: Error when sending DRIVE-CLiQ data

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the power module involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

F30887 CU DRIVE-CLiQ: Component faulted

Reaction: OFF2

Acknowledge: IMMEDIATELY

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Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.
60: Response received too late during runtime measurement.
61: Time taken to exchange characteristic data too long.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance.
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

F30895 CU DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the power module involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9915

F30897 DRIVE-CLiQ: No communications to the components

Reaction: OFF2

Acknowledge: power on (IMMEDIATELY)

Cause: Communications with the DRIVE-CLiQ component specified by the fault value is not possible.
One cause can be, e.g. that a DRIVE-CLiQ cable has been withdrawn.
Fault value (r0949, decimal):
Component ID.

Remedy: - check the DRIVE-CLiQ connections.
- carry-out a POWER ON.

F30899 (N, A) Power module: Unknown fault

Reaction: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: A fault occurred on the power module that cannot be interpreted by the control unit firmware. This can occur if the firmware on the power module is more recent than the firmware on the control unit.
Fault value (r0949, decimal):
Fault number.
If required, the significance of this new fault can be referred to in a more recent description of the control unit.

Remedy: - replace the firmware on the power module by an older firmware version (r0128).
- upgrade the firmware on the control unit (r0018).

Reaction upon N: NONE

Acknowledge upon N: NONE

Reaction upon A: NONE

Acknowledge upon A: NONE

A30903 Power module: I2C bus

Reaction: NONE

Acknowledge: NONE

Cause: Communications with EPROM not possible
Fault value (r0949, hexadecimal):
Only for internal Siemens troubleshooting.

Remedy: Replace module

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A30920 (F) Power module: Temperature sensor fault

Reaction: NONE

Acknowledge: NONE

Cause: When evaluating the temperature sensor, an error occurred.
Alarm value (r2124, decimal):
1: Wire breakage or sensor not connected (KTY: R > 1630 Ohm).
2: Measured resistance too low (PTC: R < 30 Ohm, KTY: R < 340 Ohm).

Remedy: - check that the sensor is connected correctly.
- replace sensor.

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

A30999 (F, N) Power module: Unknown alarm

Reaction: NONE

Acknowledge: NONE

Cause: An alarm occurred on the power module that cannot be interpreted by the control unit firmware. This can occur if the firmware on the power module is more recent than the firmware on the control unit.
Alarm value (r2124, decimal):
Alarm number.
If required, the significance of this new alarm can be referred to in a more recent description of the control unit.

Remedy: - replace the firmware on the power module by an older firmware version (r0128).
- upgrade the firmware on the control unit (r0018).

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY (power on)

Reaction upon N: NONE

Acknowledge upon N: NONE

F31100 Encoder 1: Zero mark clearance error

Reactions: A_INFEED: NONE
SERVO: ENCODER

Acknowledge: READY

Cause: The measured zero mark clearance does not correspond to the parameterized zero mark clearance (p0425 for rotating encoders).
Fault value (r0949, decimal):
Last measured zero mark clearance in increments (4 increments = 1 encoder pulse).

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- check the encoder type (encoder with equidistant zero marks).
- adapt the parameter for the clearance between zero marks (p0425).
- replace the encoder or encoder cable.
Acknowledgment:
This fault can only be acknowledged by canceling the pulses.

F31101 Encoder 1: Zero mark failed

Reactions: A_INFEED: NONE
SERVO: ENCODER

Acknowledge: READY

Cause: The 1.5 x parameterized zero mark clearance was exceeded (p0425 for rotating encoders).
Fault value (r0949, decimal):
Number of increments after POWER ON or since the last zero mark that was detected (4 increments = 1 encoder pulse).

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Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- check the encoder type (encoder with equidistant zero marks).
- adapt the parameter for the clearance between zero marks (p0425).
- replace the encoder or encoder cable.
Acknowledgment:
This fault can only be acknowledged by canceling the pulses.

F31110 Encoder 1: EnDat communications error

Reactions: A_INFEED: NONE
SERVO: ENCODER

Acknowledge: READY

Cause: Serial communication protocol transfer error between the encoder and evaluation module SMCxx.
Fault value (r0949, binary):
Bit 0: Alarm bit in the position protocol.
Bit 1: Incorrect quiescent level on the data line.
Bit 2: EnDat encoder does not response (does not supply a start bit).
Bit 3: CRC error: The checksum in the protocol from the encoder does not match the data.
Bit 4: Incorrect encoder acknowledgement: The encoder incorrectly understood the task (request) or cannot execute it.
Bit 5: Internal error in the EnDat driver: An illegal mode command was requested.
Bit 6: Position value longer than 40 bits.

Remedy: Re fault value:
Bit 0 = 1: Encoder defective. F31111 may provide additional details.
Bit 1 = 1: Incorrect encoder type / replace the encoder or encoder cable.
Bit 2 = 1: Incorrect encoder type / replace the encoder or encoder cable.
Bit 3 = 1: EMC / connect the cable shield, replace the encoder or encoder cable.
Bit 4 = 1: EMC / connect the cable shield, replace the encoder or encoder cable, replace the sensor module.
Bit 5 = 1: EMC / connect the cable shield, replace the encoder or encoder cable, replace the sensor module.
Bit 6 = 1: The sensor module does not support this encoder.
Acknowledgment:
This fault can only be acknowledged by canceling the pulses.

F31111 (A) Encoder 1: Absolute value encoder EnDat, internal fault/error

Reactions: A_INFEED: NONE
SERVO: ENCODER

Acknowledge: READY

Cause: The EnDat encoder fault word contains fault bits that have been set.
Fault value (r0949, binary):
Bit 0: Lighting system failed.
Bit 1: Signal amplitude too low.
Bit 2: Position value incorrect.
Bit 3: Encoder power supply overvoltage condition.
Bit 4: Encoder power supply undervoltage condition.
Bit 5: Encoder power supply overcurrent condition.
Bit 6: The battery must be changed.

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Remedy: Re fault value, bit 0 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 1 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 2 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 3 = 1:
5 V power supply voltage fault.
When using an SMC. Check the plug-in cable between the encoder and SMC or replace the SMC.
When a motor encoder with a direct DRIVE-CLiQ connection is used: Replace the motor.
Re fault value, bit 4 = 1:
5 V power supply voltage fault.
When using an SMC. Check the plug-in cable between the encoder and SMC or replace the SMC.
When a motor encoder with a direct DRIVE-CLiQ connection is used: Replace the motor.
Re fault value, bit 5 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 6 = 1:
The battery must be changed - only for encoders with battery back-up.
Acknowledgment:
This fault can only be acknowledged by canceling the pulses.

Reaction upon A: NONE

Acknowledge upon A: NONE

F31115 Encoder 1: Amplitude error track A or B (A^2 + B^2)

Reactions: A_INFEED: NONE
SERVO: ENCODER

Acknowledge: READY

Cause: The amplitude (A^2 + B^2) does not lie within the tolerance bandwidth (software monitoring function).
SMC20:
The nominal signal level of the encoder must lie in the range 375 mV to 600 mV (500 mV -25 % / +20 %).
On the other hand, the response thresholds are < 230 mV and > 750 mV (frequency characteristic).
SMC10:
The nominal signal level is at 2900 mV (2.0 Vrms). The response thresholds are at < 1070 mV and > 3535 mV.
Fault value (r0949, decimal):
Low word:
Signal level, track A (16 bits with sign).
High word:
Signal level, track B (16 bits with sign).
SMC20:
A signal level of 500 mV peak value corresponds to the numerical value 5333 hex = 21299 dec.
SMC10:
A signal level of 2900 mV peak value corresponds to the numerical value 6666 hex = 26214 dec.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).
Acknowledgment:
This fault can only be acknowledged by canceling the pulses.

F31116 Encoder 1: Amplitude error, monitoring track A + B

Reactions: A_INFEED: NONE
SERVO: ENCODER

Acknowledge: IMMEDIATELY

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Cause: The amplitude of the rectified encoder signals A and B is not within the tolerance bandwidth (hardware monitoring).
The nominal signal level of the encoder must lie in the range 375 mV to 600 mV (500 mV -25 % / +20 %).
On the other hand, the hardware response thresholds are at < 176 mV and > 1.35 V.
Fault value (r0949, decimal):
Low word: Signal level, track A (16 bits with sign).
High word: Signal level, track B (16 bits with sign).
A signal level of 500 mV corresponds to the numerical value 5333 hex = 21299 dec.
These analog values are not measured at the same time with the hardware fault output.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).

F31117 Encoder 1: Inversion error, signals A and B

Reactions: A_INFEED: NONE
SERVO: ENCODER

Acknowledge: IMMEDIATELY

Cause: For a square-wave signal encoder (TTL. bipolar. double ended) the A* and B* signals are not inverted with respect to signals A and B.

Remedy: Check the setting of p0405: p0405.2 = 1 is only possible if the encoder is connected at X520.
Check the encoder/cable: Does the encoder supply TTL signals and the associated inverted signals?

F31118 Encoder 1: Speed difference outside the tolerance range

Reactions: A_INFEED: NONE
SERVO: ENCODER

Acknowledge: READY

Cause: The speed difference between two sampling cycles has exceeded the value in p0492.
The error is only evaluated for HTL/TTL encoders.
Encoder 1 is used as motor encoder and can be effective has fault response to change over to sensorless operation.
Fault value (r0949, decimal):
Speed difference per current controller clock cycle in increments.

Remedy: - check the tachometer feeder cable for interruptions.
- check the grounding of the tachometer shielding.
- if required, increase the maximum speed difference per sampling cycle (p0492).
Acknowledgment:
This fault can only be acknowledged by canceling the pulses.

F31120 Encoder 1: Power supply volt.

Reactions: A_INFEED: NONE
SERVO: ENCODER

Acknowledge: READY

Cause: Encoder power supply voltage fault.
Note:
If the encoder cables 6FX2002-2EQ00-.... and 6FX2002-2CH00-.... are interchanged, this can result in the encoder being destroyed because the pins of the operating voltage are reversed.
Fault value (r0949, binary):
Bit 0: Undervoltage condition on the sense line (threshold 4.75 V).
Bit 1: Encoder power supply voltage overcurrent condition (threshold 450 mA).

Remedy: For fault value, bit 0 = 1:
- correct encoder cable connected?
- check the plug connections of the encoder cable.
- SMC30: Check the parameterization (p0404.22).
For fault value, bit 1 = 1:
- correct encoder cable connected?
- replace the encoder or encoder cable.
Acknowledgment:
This fault can only be acknowledged by canceling the pulses.

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F31130 Encoder 1: Zero mark does not match position of C/D track

Reactions: A_INFEED: NONE
SERVO: ENCODER

Acknowledge: READY

Cause: After initializing the rotor position using the C/D track or using Hall signals, the zero mark was detected outside the permissible range. This zero mark is rejected.
The deviation may be up to 18 ° mechanical or up to 60 ° electrical.
Fault value (r0949, decimal):
Normalization: 32768 = 180 °
High word:
Mechanical zero mark position determined.
If the initialization via a C/D track is selected in p0404, then it is checked whether the zero mark occurs in an angular range of +/-18 ° mechanical.
Low word:
Deviation of the zero mark from the expected position as electrical angle.
If the correction of the commutation position with the zero mark is selected in p0404, then a difference of a maximum of +/- 60 ° electrical is permitted.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- if the Hall sensor is used as equivalent C/D track, check the connection.
- check the C or D track connection.
- replace the encoder or encoder cable.
Acknowledgment:
This fault can only be acknowledged by canceling the pulses.

F31131 Encoder 1: Deviation, position incremental/absolute too large

Reactions: A_INFEED: NONE
SERVO: ENCODER

Acknowledge: READY

Cause: When cyclically reading the absolute position, an excessively high deviation to the incremental position was detected. The absolute position that was read is rejected.
Limit value for the deviation:
- EnDat encoder: Is supplied from the encoder and is a minimum of 2 quadrants (e.g. EQI 1325 = 2 quadrants, EQN 1325 = 50 quadrants).
- other encoders: 15 pulses = 60 quadrants.
Fault value (r0949, decimal):
Deviation in quadrants (1 pulse = 4 quadrants).

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check whether the coding disk is dirty or there are strong ambient magnetic fields.
Acknowledgment:
This fault can only be acknowledged by canceling the pulses.

F31150 Encoder 1: Initialization error

Reactions: A_INFEED: NONE
SERVO: ENCODER

Acknowledge: READY

Cause: Encoder functionality selected in p0404 is not operating correctly.
Fault value (r0949, hexadecimal):
The fault value is a bit field. Every set bit indicates functionality that is faulted.
The bit assignment corresponds to that of p0404 (e.g. bit 5 set: Error C/D track).
See also: p0404

Remedy: - Check that p0404 is correctly set.
- check the encoder type used (incremental/absolute value) and for SMCxx, the encoder cable.
- if relevant, note additional fault/error messages that describe the fault in detail.
Acknowledgment:
This fault can only be acknowledged by canceling the pulses.

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F31405 (N, A) Encoder 1: Encoder evaluation temperature too high

Reactions: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: The encoder evaluation for a motor with DRIVE-CLiQ has detected an excessively high temperature.
The fault threshold is 125 ° C.
Alarm value (r2124, decimal):
Measured board/module temperature in 0.1 °C.

Remedy: Reduce the ambient temperature for the DRIVE-CLiQ connection of the motor.

Reaction upon N: NONE

Acknowledge upon N: NONE

Reaction upon A: NONE

Acknowledge upon A: NONE

A31410 (F, N) Encoder 1: Serial communications

Reaction: NONE

Acknowledge: NONE

Cause: Serial communication protocol transfer error between the encoder and evaluation module SMCxx.
Alarm value (r2124, binary):
Bit 0: Alarm bit in the position protocol.
Bit 1: Incorrect quiescent level on the data line.
Bit 2: EnDat encoder does not response (does not supply a start bit).
Bit 3: CRC error: The checksum in the protocol from the encoder does not match the data.
Bit 4: Incorrect encoder acknowledgement: The encoder incorrectly understood the task (request) or cannot execute it.
Bit 5: Internal error in the EnDat driver: An illegal mode command was requested.
Bit 6: Position value longer than 40 bits.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder.

Reaction upon F: A_INFEED: NONE
SERVO: NONE

Acknowledge upon F: IMMEDIATELY

Reaction upon N: NONE

Acknowledge upon N: NONE

A31411 (F, N) Encoder 1: EnDat encoder signals alarms

Reaction: NONE

Acknowledge: NONE

Cause: The error word of the EnDat encoder has alarm bits that have been set.
Alarm value (r2124, binary):
Bit 0: Frequency exceeded (speed too high).
Bit 1: Temperature exceeded.
Bit 2: Control reserve, lighting system exceeded.
Bit 3: Battery discharged.
Bit 4: Reference point passed.

Remedy: Replace encoder.

Reaction upon F: A_INFEED: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
SERVO: NONE (DCBRAKE, ENCODER, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

Reaction upon N: NONE

Acknowledge upon N: NONE

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A31414 (F, N) Encoder 1: Amplitude error track C or D (C^2 + D^2)

Reaction: NONE

Acknowledge: NONE

Cause: The amplitude (C^2 + D^2) of track C or D is not within the tolerance bandwidth.
The nominal signal must be in the range 375 mV to 600 mV (500 mV -25 % / +20 %).
On the other hand, the response thresholds are < 230 mV and > 750 mV (frequency characteristic).
This fault also occurs if the A/D converter is overcontrolled.
If the amplitude is not within the tolerance bandwidth, then it cannot be used to initialize the start position.
Alarm value (r2124, decimal):
Low word: Signal level of the C track (16 bits with sign).
High word: Signal level, track D (16 bits with sign).
A signal level of 500 mV corresponds to the numerical value 5333 hex = 21299 dec.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).
- check the Hall sensor box

Reaction upon F: A_INFEED: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
SERVO: NONE (DCBRAKE, ENCODER, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

Reaction upon N: NONE

Acknowledge upon N: NONE

N31415 (F, A) Encoder 1: Amplitude alarm, track A or B (A^2 + B^2)

Reaction: NONE

Acknowledge: NONE

Cause: The amplitude (A^2 + B^2) of track A or B is not within the tolerance bandwidth.
SMC20:
The nominal signal level is at 500 mV (500 mV -25 % / +20 %). The response threshold is < 300 mV.
SMC10:
The nominal signal level is at 2900 mV (2.0 Vrms). The response threshold is < 1414 mV (1.0 Vrms).
Alarm value (r2124, decimal):
Low word:
Amplitude square root(A*A + B*B).
SMC20:
A signal level of 500 mV peak value corresponds to the numerical value 299A hex = 10650 dec.
SMC10:
A signal level of 2900 mV peak value corresponds to the numerical value 3333 hex = 13107 dec.
High word:
Angle 0 to 65535 corresponds to 0 to 360 degrees of the fine position. Zero degrees is at the negative zero crossover of track B.

Remedy: - check the speed range, frequency characteristic (amplitude characteristic) of the measuring equipment is not sufficient for the speed range.
- check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).
- dirty code disk
- aged lighting system.

Reaction upon F: A_INFEED: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
SERVO: NONE (DCBRAKE, ENCODER, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

Reaction upon A: NONE

Acknowledge upon A: NONE

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A31418 (F, N) Encoder 1: Half the speed difference per sampling rate exceeded (p0492/2)

Reaction: NONE

Acknowledge: NONE

Cause: The speed difference between two sampling cycles has exceeded half the value of parameter p0492.
The error is only evaluated for HTL/TTL encoders.
Alarm value (r2124, decimal):
Speed difference per current controller clock cycle in increments.

Remedy: Check the tachometer feeder cable for interruptions.
Check the grounding of the tachometer shielding.
If required, increase the setting of p0492.

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

Reaction upon N: NONE

Acknowledge upon N: NONE

A31419 (F, N) Encoder 1: Track A or B outside the tolerance range

Reaction: NONE

Acknowledge: NONE

Cause: The amplitude, phase or offset correction for track A or B is at the limit.
Amplitude error correction: Amplitude B / Amplitude A = 0.78 ... 1.27
Phase: <84 degrees or >96 degrees
SMC20: Offset correction: +/-140 mV
SMC10: Offset correction: +/-650 mV
Alarm value (r2124, hexadecimal):
xxx1: Minimum of the offset correction, track B
xxx2: Maximum of the offset correction, track B
xx1x: Minimum of the offset correction, track A
xx2x: Maximum of the offset correction, track A
x1xx: Minimum of the amplitude correction, track B/A
x2xx: Maximum of the amplitude correction, track B/A
1xxx: Minimum of the phase error correction
2xxx: Maximum of the phase error correction

Remedy: - check mechanical mounting tolerances for encoders without their own bearings (e.g. toothed-wheel encoders).
- check the plug connections (also the transition resistance).
- check the encoder signals.
- replace the encoder or encoder cable.

Reaction upon F: A_INFEED: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
SERVO: NONE (DCBRAKE, ENCODER, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

Reaction upon N: NONE

Acknowledge upon N: NONE

A31429 (F, N) Encoder 1: Position difference, track C/D and A/B too large

Reaction: NONE

Acknowledge: NONE

Cause: The error of track C/D is greater than +/-15 ° mechanical or +/-60 ° electrical.
One period of track C/D corresponds to 360 ° mechanical.
One period of the Hall signal corresponds to 360 ° electrical.
The monitoring responds if, for example, Hall sensors are connected as C/D equivalent with the incorrect rotational sense or supply values that are not accurate enough.
Alarm value (r2124, decimal):
Measured deviation as mechanical angle (16 bits with sign, 182 dec corresponds to 1 °).

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Remedy: - track C or D not connected.
- correct the sense of rotation of a Hall sensor that may be connected as equivalent C/D track.
- check that the encoder cables are routed in compliance with EMC.
- check the adjustment of the Hall sensor.

Reaction upon F: A_INFEED: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
SERVO: NONE (DCBRAKE, ENCODER, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

Reaction upon N: NONE

Acknowledge upon N: NONE

A31431 (F, N) Encoder 1: Difference, absolute/incremental position too large

Reaction: NONE

Acknowledge: NONE

Cause: When cyclically reading the absolute position, an excessively high difference to the incremental position was detected.
Alarm value (r2124, decimal):
Deviation in quadrants (1 pulse = 4 quadrants).

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- coding disk dirty or strong magnetic fields.

Reaction upon F: A_INFEED: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
SERVO: NONE (DCBRAKE, ENCODER, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

Reaction upon N: NONE

Acknowledge upon N: NONE

F31801 Encoder 1 DRIVE-CLiQ: Sign-of-life missing

Reactions: A_INFEED: OFF2
SERVO: ENCODER

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.

Remedy: - check the electrical cabinet design and cable routing for EMC compliance
- replace the component involved.
See also: p9916

F31802 Encoder 1: Time slice overflow

Reactions: A_INFEED: OFF2
SERVO: ENCODER

Acknowledge: IMMEDIATELY

Cause: Time slice overflow, encoder 1.
Fault value (r0949, decimal):
9: Time slice overflow of the fast (current controller clock cycle) time slice.
10: Time slice overflow of the average time slice.
12: Time slice overflow of the slow time slice.
999: Timeout when waiting for SYNO, e.g. unexpected return to non-cyclic operation.

Remedy: Reduce the current controller frequency.

F31804 Encoder 1: CRC CODE RAM

Reactions: A_INFEED: OFF2
SERVO: ENCODER

Acknowledge: IMMEDIATELY

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Cause: The checksum via the CODE-RAM of the sensor module has changed in operation.
Fault value (r0949, hexadecimal):
Difference between the checksum at POWER ON and the actual checksum.

Remedy: Hardware defect: Replace the sensor module.
Firmware error: If required, upgrade the firmware.

F31805 Encoder 1: Incorrect EPROM checksum

Reactions: A_INFEED: OFF2
SERVO: ENCODER

Acknowledge: IMMEDIATELY

Cause: Internal parameter data is corrupted.
Fault value (r0949, hexadecimal):
01: EEPROM access error.
02: Too many blocks in the EEPROM.

Remedy: Replace the module.

F31806 Encoder 1: Initialization unsuccessful

Reactions: A_INFEED: OFF2
SERVO: ENCODER

Acknowledge: READY

Cause: The encoder was not successfully initialized.
Fault value (r0949, hexadecimal):
1, 2, 3: Encode initialization with the motor rotating.

Remedy: Acknowledge the fault.
Acknowledgment:
This fault can only be acknowledged by canceling the pulses.

F31820 Encoder 1 DRIVE-CLiQ: Telegram error

Reactions: A_INFEED: OFF2
SERVO: ENCODER

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved.
Fault value (r0949, hexadecimal):
01: CRC error.
02: Telegram is shorter than specified in the length byte or in the receive list.
03: Telegram is longer than specified in the length byte or in the receive list.
04: The length of the receive telegram does not match the receive list.
05: The type of the receive telegram does not match the receive list.
06: The address of the encoder in the telegram and in the receive list do not match.
07: The encoder expects a SYNC telegram, but the receive telegram is not a SYNC telegram.
08: The encoder does not expect a SYNC telegram, but the receive telegram is a SYNC telegram.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance.
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9916

F31835 Encoder 1 DRIVE-CLiQ: Cyclic data transfer error

Reactions: A_INFEED: OFF2
SERVO: ENCODER

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.

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Remedy: - carry-out a POWER ON.
- replace the component involved.
See also: p9916

F31836 Encoder 1 DRIVE-CLiQ: Send error for DRIVE-CLiQ data

Reactions: A_INFEED: OFF2
SERVO: ENCODER

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

F31837 Encoder 1 DRIVE-CLiQ: Component faulted

Reactions: A_INFEED: OFF2
SERVO: ENCODER

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance.
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

F31845 Encoder 1 DRIVE-CLiQ: Cyclic data transfer error

Reactions: A_INFEED: OFF2
SERVO: ENCODER

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9916

F31850 Encoder 1: Internal software error in the sensor module

Reactions: A_INFEED: OFF2
SERVO: ENCODER

Acknowledge: power on

Cause: Internal software error in the sensor module of encoder 1.
Fault value (r0949, decimal):
1: Background time slice is blocked.
2: Checksum over the code memory is not OK.
10000: OEM memory of the EnDat encoder contains data that cannot be interpreted.

Remedy: - replace the sensor module.
- if required, upgrade the firmware in the sensor module.
- contact the Hotline.

F31860 CU DRIVE-CLiQ: Telegram error

Reactions: A_INFEED: OFF2
SERVO: ENCODER

Acknowledge: IMMEDIATELY

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Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved.
Fault value (r0949, hexadecimal):
11: CRC error and the receive telegram is too early.
01: CRC error.
12: The telegram is shorter than that specified in the length byte or in the receive list and the receive telegram is too early.
02: Telegram is shorter than specified in the length byte or in the receive list.
13: The telegram is longer than that specified in the length byte or in the receive list and the receive telegram is too early.
03: Telegram is longer than specified in the length byte or in the receive list.
14: The length of the receive telegram does not match the receive list and the receive telegram is too early.
04: The length of the receive telegram does not match the receive list.
15: The type of the receive telegram does not match the receive list and the receive telegram is too early.
05: The type of the receive telegram does not match the receive list.
16: The address of the encoder in the telegram and in the receive list does not match and the receive telegram is too early.
06: The address of the encoder in the telegram and in the receive list do not match.
19: The error bit in the receive telegram is set and the receive telegram is too early.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance.
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9915

F31885 CU DRIVE-CLiQ: Cyclic data transfer error

Reactions: A_INFEED: OFF2
SERVO: ENCODER

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.
1A: Sign-of-life bit in the receive telegram not set and the receive telegram is too early.
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.
62: Error at the transition to cyclic operation.

Remedy: - check the power supply voltage of the component involved.
- carry-out a POWER ON.
- replace the component involved.
See also: p9915

F31886 CU DRIVE-CLiQ: Error when sending DRIVE-CLiQ data

Reactions: A_INFEED: OFF2
SERVO: ENCODER

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.
- check whether the firmware version of the encoder (r0148) matches the firmware version of control unit (r0018).

F31887 CU DRIVE-CLiQ: Component faulted

Reactions: A_INFEED: OFF2
SERVO: ENCODER

Acknowledge: IMMEDIATELY

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Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.
60: Response received too late during runtime measurement.
61: Time taken to exchange characteristic data too long.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance.
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

F31895 CU DRIVE-CLiQ: Cyclic data transfer error

Reactions: A_INFEED: OFF2
SERVO: ENCODER

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9915

F31897 DRIVE-CLiQ: No communications to the components

Reactions: ENCODER

Acknowledge: power on (IMMEDIATELY)

Cause: Communications with the DRIVE-CLiQ component specified by the fault value is not possible.
One cause can be, e.g. that a DRIVE-CLiQ cable has been withdrawn.
Fault value (r0949, decimal):
Component ID.

Remedy: - check the DRIVE-CLiQ connections.
- carry-out a POWER ON.

F31899 (N, A) Encoder 1: Unknown fault

Reactions: A_INFEED: OFF2
SERVO: ENCODER

Acknowledge: IMMEDIATELY (power on)

Cause: A fault occurred on the sensor module for encoder 1 that cannot be interpreted by the control unit firmware.
This can occur if the firmware on the sensor module for encoder 1 is more recent than the firmware on the control unit.
Fault value (r0949, decimal):
Fault number.
If required, the significance of this new fault can be referred to in a more recent description of the control unit.

Remedy: - replace the firmware on the sensor module by an older firmware version (r0148).
- upgrade the firmware on the control unit (r0018).

Reaction upon N: NONE

Acknowledge upon N: NONE

Reaction upon A: NONE

Acknowledge upon A: NONE

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F31905 Encoder 1: Parameteriz. error

Reactions: ENCODER

Acknowledge: IMMEDIATELY

Cause: A parameter of encoder 1 was detected as being incorrect.
It is possible that the parameterized encoder type does not match the connected encoder.
The parameter involved can be determined as follows:
- determine the parameter number using the fault value (r0949).
- determine the parameter index (p0187).
Fault value (r0949, decimal):
Parameter number.

Remedy: - check whether the connected encoder type matches the encoder that has been parameterized.
- correct the parameter specified by the fault value (r0949) and p0187.

A31920 (F) Encoder 1: Temperature sensor fault

Reaction: NONE

Acknowledge: NONE

Cause: When evaluating the temperature sensor, an error occurred.
Alarm value (r2124, decimal):
1: Wire breakage or sensor not connected (KTY: R > 1630 Ohm).
2: Measured resistance too low (PTC: R < 30 Ohm, KTY: R < 340 Ohm).

Remedy: - check that the encoder cable is the correct type and is correctly connected.
- check the temperature sensor selection in p0600 to p0603.
- replace the sensor module (hardware defect or incorrect calibration data).

Reaction upon F: A_INFEED: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
SERVO: NONE (DCBRAKE, ENCODER, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

A31999 (F, N) Encoder 1: Unknown alarm

Reaction: NONE

Acknowledge: NONE

Cause: A alarm has occurred on the sensor module for encoder 1 that cannot be interpreted by the control unit firmware.
This can occur if the firmware on the sensor module for encoder 1 is more recent than the firmware on the control unit.
Alarm value (r2124, decimal):
Alarm number.
If required, the significance of this new alarm can be referred to in a more recent description of the control unit.

Remedy: - replace the firmware on the sensor module by an older firmware version (r0148).
- upgrade the firmware on the control unit (r0018).

Reaction upon F: A_INFEED: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
SERVO: NONE (DCBRAKE, ENCODER, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY (power on)

Reaction upon N: NONE

Acknowledge upon N: NONE

F32100 Encoder 2: Zero mark clearance error

Reactions: NONE

Acknowledge: IMMEDIATELY

Cause: The measured zero mark clearance does not correspond to the parameterized zero mark clearance (p0425 for rotating encoders).
Fault value (r0949, decimal):
Last measured zero mark clearance in increments (4 increments = 1 encoder pulse).

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Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- check the encoder type (encoder with equidistant zero marks).
- adapt the parameter for the clearance between zero marks (p0425).
- replace the encoder or encoder cable.

F32101 Encoder 2: Zero mark failed

Reactions: NONE

Acknowledge: IMMEDIATELY

Cause: The 1.5 x parameterized zero mark clearance was exceeded (p0425 for rotating encoders).
Fault value (r0949, decimal):
Number of increments after POWER ON or since the last zero mark that was detected (4 increments = 1 encoder pulse).

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- check the encoder type (encoder with equidistant zero marks).
- adapt the parameter for the clearance between zero marks (p0425).
- replace the encoder or encoder cable.

F32110 Encoder 2: EnDat communications error

Reactions: NONE

Acknowledge: IMMEDIATELY

Cause: Serial communication protocol transfer error between the encoder and evaluation module SMCxx.
Fault value (r0949, binary):
Bit 0: Alarm bit in the position protocol.
Bit 1: Incorrect quiescent level on the data line.
Bit 2: EnDat encoder does not response (does not supply a start bit).
Bit 3: CRC error: The checksum in the protocol from the encoder does not match the data.
Bit 4: Incorrect encoder acknowledgement: The encoder incorrectly understood the task (request) or cannot execute it.
Bit 5: Internal error in the EnDat driver: An illegal mode command was requested.
Bit 6: Position value longer than 40 bits.

Remedy: Re fault value:
Bit 0 = 1: Encoder defective. F31111 may provide additional details.
Bit 1 = 1: Incorrect encoder type / replace the encoder or encoder cable.
Bit 2 = 1: Incorrect encoder type / replace the encoder or encoder cable.
Bit 3 = 1: EMC / connect the cable shield, replace the encoder or encoder cable.
Bit 4 = 1: EMC / connect the cable shield, replace the encoder or encoder cable, replace the sensor module.
Bit 5 = 1: EMC / connect the cable shield, replace the encoder or encoder cable, replace the sensor module.
Bit 6 = 1: The sensor module does not support this encoder.

F32111 Encoder 2: Absolute value encoder EnDat, internal fault/error

Reactions: NONE

Acknowledge: IMMEDIATELY

Cause: The EnDat encoder fault word contains fault bits that have been set.
Fault value (r0949, binary):
Bit 0: Lighting system failed.
Bit 1: Signal amplitude too low.
Bit 2: Position value incorrect.
Bit 3: Encoder power supply overvoltage condition.
Bit 4: Encoder power supply undervoltage condition.
Bit 5: Encoder power supply overcurrent condition.
Bit 6: The battery must be changed.

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Remedy:
Re fault value, bit 0 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 1 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 2 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 3 = 1:
5 V power supply voltage fault.
When using an SMC. Check the plug-in cable between the encoder and SMC or replace the SMC.
When a motor encoder with a direct DRIVE-CLiQ connection is used: Replace the motor.
Re fault value, bit 4 = 1:
5 V power supply voltage fault.
When using an SMC. Check the plug-in cable between the encoder and SMC or replace the SMC.
When a motor encoder with a direct DRIVE-CLiQ connection is used: Replace the motor.
Re fault value, bit 5 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 6 = 1:
The battery must be changed - only for encoders with battery back-up.

F32115 Encoder 2: Amplitude error track A or B (A^2 + B^2)

Reactions: NONE

Acknowledge: IMMEDIATELY

Cause:
SMC20:
The nominal signal level of the encoder must lie in the range 375 mV to 600 mV (500 mV -25 % / +20 %).
On the other hand, the response thresholds are < 230 mV and > 750 mV (frequency characteristic).
SMC10:
The nominal signal level is at 2900 mV (2.0 Vrms). The response thresholds are at < 1070 mV and > 3535 mV.
Fault value (r0949, decimal):
Low word:
Signal level, track A (16 bits with sign).
High word:
Signal level, track B (16 bits with sign).
SMC20:
A signal level of 500 mV peak value corresponds to the numerical value 5333 hex = 21299 dec.
SMC10:
A signal level of 2900 mV peak value corresponds to the numerical value 6666 hex = 26214 dec.

Remedy:
- check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).

F32116 Encoder 2: Amplitude error, monitoring track A + B

Reactions: NONE

Acknowledge: IMMEDIATELY

Cause:
The amplitude of the rectified encoder signals A and B is not within the tolerance bandwidth (hardware monitoring).
The nominal signal level of the encoder must lie in the range 375 mV to 600 mV (500 mV -25 % / +20 %).
On the other hand, the hardware response thresholds are at < 176 mV and > 1.35 V.
Fault value (r0949, decimal):
Low word: Signal level, track A (16 bits with sign).
High word: Signal level, track B (16 bits with sign).
A signal level of 500 mV corresponds to the numerical value 5333 hex = 21299 dec.
These analog values are not measured at the same time with the hardware fault output.

Remedy:
- check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).

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F32117 Encoder 2: Inversion error, signals A and B

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: For a square-wave signal encoder (TTL. bipolar. double ended) the A* and B* signals are not inverted with respect to signals A and B.

Remedy: Check the setting of p0405: p0405.2 = 1 is only possible if the encoder is connected at X520.
Check the encoder/cable: Does the encoder supply TTL signals and the associated inverted signals?

F32118 Encoder 2: Speed difference outside the tolerance range

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: The speed difference between two sampling cycles has exceeded the value in p0492.
The error is only evaluated for HTL/TTL encoders.
Fault value (r0949, decimal):
Speed difference per current controller clock cycle in increments.

Remedy: - check the tachometer feeder cable for interruptions.
- check the grounding of the tachometer shielding.
- if required, increase the maximum speed difference per sampling cycle (p0492).

F32120 Encoder 2: Power supply volt

Reactions: NONE

Acknowledge: IMMEDIATELY

Cause: Encoder power supply voltage fault.
Note:
If the encoder cables 6FX2002-2EQ00-.... and 6FX2002-2CH00-.... are interchanged, this can result in the encoder being destroyed because the pins of the operating voltage are reversed.
Fault value (r0949, binary):
Bit 0: Undervoltage condition on the sense line (threshold 4.75 V).
Bit 1: Encoder power supply voltage overcurrent condition (threshold 450 mA).

Remedy: For fault value, bit 0 = 1:
- correct encoder cable connected?
- check the plug connections of the encoder cable.
- SMC30: Check the parameterization (p0404.22).
For fault value, bit 1 = 1:
- correct encoder cable connected?
- replace the encoder or encoder cable.

F32130 Encoder 2: Zero mark does not match position of C/D track

Reactions: NONE

Acknowledge: IMMEDIATELY

Cause: After initializing the rotor position using the C/D track or using Hall signals, the zero mark was detected outside the permissible range. This zero mark is rejected.
The deviation may be up to 18 ° mechanical or up to 60 ° electrical.
Fault value (r0949, decimal):
Normalization: 32768 = 180 °
High word:
Mechanical zero mark position determined.
If the initialization via a C/D track is selected in p0404, then it is checked whether the zero mark occurs in an angular range of +/-18 ° mechanical.
Low word:
Deviation of the zero mark from the expected position as electrical angle.
If the correction of the commutation position with the zero mark is selected in p0404, then a difference of a maximum of +/- 60 ° electrical is permitted.

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Remedy:
- check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- if the Hall sensor is used as equivalent C/D track, check the connection.
- check the C or D track connection.
- replace the encoder or encoder cable.

F32131 Encoder 2: Deviation, position incremental/absolute too large

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: When cyclically reading the absolute position, an excessively high deviation to the incremental position was detected. The absolute position that was read is rejected.
Limit value for the deviation:
- EnDat encoder: Is supplied from the encoder and is a minimum of 2 quadrants (e.g. EQI 1325 = 2 quadrants, EQN 1325 = 50 quadrants).
- other encoders: 15 pulses = 60 quadrants.
Fault value (r0949, decimal):
Deviation in quadrants (1 pulse = 4 quadrants).

Remedy:
- check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check whether the coding disk is dirty or there are strong ambient magnetic fields.

F32150 Encoder 2: Initialization error

Reactions: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: Encoder functionality selected in p0404 is not operating correctly.
Fault value (r0949, hexadecimal):
The fault value is a bit field. Every set bit indicates functionality that is faulted.
The bit assignment corresponds to that of p0404 (e.g. bit 5 set: Error C/D track).

Remedy:
- check that p0404 is correctly set.
- check the encoder type used (incremental/absolute value) and for SMCxx, the encoder cable.
- if relevant, note additional fault/error messages that describe the fault in detail.

A32405 (F, N) Encoder 2: Encoder evaluation temperature too high

Reaction: NONE

Acknowledge: NONE

Cause: The encoder evaluation for a motor with DRIVE-CLiQ has detected an excessively high temperature.
The fault threshold is 125 ° C.
Alarm value (r2124, decimal):
Measured board/module temperature in 0.1 °C.

Remedy: Reduce the ambient temperature for the DRIVE-CLiQ connection of the motor.

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

Reaction upon N: NONE

Acknowledge upon N: NONE

A32410 (F, N) Encoder 2: Serial communications

Reaction: NONE

Acknowledge: NONE

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Cause: Serial communication protocol transfer error between the encoder and evaluation module SMCxx.
Alarm value (r2124, binary):
Bit 0: Alarm bit in the position protocol.
Bit 1: Incorrect quiescent level on the data line.
Bit 2: EnDat encoder does not response (does not supply a start bit).
Bit 3: CRC error: The checksum in the protocol from the encoder does not match the data.
Bit 4: Incorrect encoder acknowledgement: The encoder incorrectly understood the task (request) or cannot execute it.
Bit 5: Internal error in the EnDat driver: An illegal mode command was requested.
Bit 6: Position value longer than 40 bits.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder.

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

Reaction upon N: NONE

Acknowledge upon N: NONE

A32411 (F, N) Encoder 2: EnDat encoder signals alarms

Reaction: NONE

Acknowledge: NONE

Cause: The error word of the EnDat encoder has alarm bits that have been set.
Alarm value (r2124, binary):
Bit 0: Frequency exceeded (speed too high).
Bit 1: Temperature exceeded.
Bit 2: Control reserve, lighting system exceeded.
Bit 3: Battery discharged.
Bit 4: Reference point passed.

Remedy: Replace encoder.

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

Reaction upon N: NONE

Acknowledge upon N: NONE

A32414 (F, N) Encoder 2: Amplitude error track C or D (C^2 + D^2)

Reaction: NONE

Acknowledge: NONE

Cause: The amplitude (C^2 + D^2) of track C or D is not within the tolerance bandwidth.
The nominal signal must be in the range 375 mV to 600 mV (500 mV -25 % / +20 %).
On the other hand, the response thresholds are < 230 mV and > 750 mV (frequency characteristic).
This fault also occurs if the A/D converter is overcontrolled.
If the amplitude is not within the tolerance bandwidth, then it cannot be used to initialize the start position.
Alarm value (r2124, decimal):
Low word: Signal level of the C track (16 bits with sign).
High word: Signal level, track D (16 bits with sign).
A signal level of 500 mV corresponds to the numerical value 5333 hex = 21299 dec.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).
- check the Hall sensor box.

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

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Reaction upon N: NONE
Acknowledge upon N: NONE

N32415 (F, A) Encoder 2: Amplitude alarm, track A or B (A^2 + B^2)

Reaction: NONE
Acknowledge: NONE
Cause: The amplitude (A^2 + B^2) of track A or B is not within the tolerance bandwidth.
SMC20:
The nominal signal level is at 500 mV (500 mV -25 % / +20 %). The response threshold is < 300 mV.
SMC10:
The nominal signal level is at 2900 mV (2.0 Vrms). The response threshold is < 1414 mV (1.0 Vrms).
Alarm value (r2124, decimal):
Low word:
Amplitude square root(A*A + B*B).
SMC20:
A signal level of 500 mV peak value corresponds to the numerical value 299A hex = 10650 dec.
SMC10:
A signal level of 2900 mV peak value corresponds to the numerical value 3333 hex = 13107 dec.
High word:
Angle 0 to 65535 corresponds to 0 to 360 degrees of the fine position. Zero degrees is at the negative zero crossover of track B.
Remedy: - check the speed range, frequency characteristic (amplitude characteristic) of the measuring equipment is not sufficient for the speed range.
- check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).
- dirty code disk.
- aged lighting system.

Reaction upon F: A_INFEED: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
SERVO: NONE (DCBRAKE, ENCODER, OFF1, OFF2, OFF3, STOP1, STOP2)
Acknowledge upon F: IMMEDIATELY
Reaction upon A: NONE
Acknowledge upon A: NONE

A32418 (F, N) Encoder 2: Half the speed difference per sampling rate exceeded (p0492/2)

Reaction: NONE
Acknowledge: NONE
Cause: The speed difference between two sampling cycles has exceeded half the value of parameter p0492.
The error is only evaluated for HTL/TTL encoders.
Alarm value (r2124, decimal):
Speed difference per current controller clock cycle in increments.
Remedy: Check the tachometer feeder cable for interruptions.
Check the grounding of the tachometer shielding.
If required, increase the setting of p0492.

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
Acknowledge upon F: IMMEDIATELY
Reaction upon N: NONE
Acknowledge upon N: NONE

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A32419 (F, N) Encoder 2: Track A or B outside the tolerance range

Reaction: NONE

Acknowledge: NONE

Cause: The amplitude, phase or offset correction for track A or B is at the limit.
Amplitude error correction: Amplitude B / Amplitude A = 0.78 ... 1.27
Phase: <84 degrees or >96 degrees
SMC20: Offset correction: +/-140 mV
SMC10: Offset correction: +/-650 mV
Alarm value (r2124, hexadecimal):
xxx1: Minimum of the offset correction, track B
xxx2: Maximum of the offset correction, track B
xx1x: Minimum of the offset correction, track A
xx2x: Maximum of the offset correction, track A
x1xx: Minimum of the amplitude correction, track B/A
x2xx: Maximum of the amplitude correction, track B/A
1xxx: Minimum of the phase error correction
2xxx: Maximum of the phase error correction

Remedy: - check mechanical mounting tolerances for encoders without their own bearings (e.g. toothed-wheel encoders).
- check the plug connections (also the transition resistance).
- check the encoder signals.
- replace the encoder or encoder cable.

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

Reaction upon N: NONE

Acknowledge upon N: NONE

A32429 (F, N) Encoder 2: Position difference, track C/D and A/B too large

Reaction: NONE

Acknowledge: NONE

Cause: The error of track C/D is greater than +/-15 ° mechanical or +/-60 ° electrical.
One period of track C/D corresponds to 360 ° mechanical.
One period of the Hall signal corresponds to 360 ° electrical.
The monitoring responds if, for example, Hall sensors are connected as C/D equivalent with the incorrect rotational sense or supply values that are not accurate enough.
Alarm value (r2124, decimal):
Measured deviation as mechanical angle (16 bits with sign, 182 dec corresponds to 1 °).

Remedy: - track C or D not connected.
- correct the sense of rotation of a Hall sensor that may be connected as equivalent C/D track.
- check that the encoder cables are routed in compliance with EMC.
- check the adjustment of the Hall sensor.

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

Reaction upon N: NONE

Acknowledge upon N: NONE

A32431 (F, N) Encoder 2: Difference, absolute/incremental position too large

Reaction: NONE

Acknowledge: NONE

Cause: When cyclically reading the absolute position, an excessively high difference to the incremental position was detected.
Alarm value (r2124, decimal):
Deviation in quadrants (1 pulse = 4 quadrants).

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Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- coding disk dirty or strong magnetic fields.

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

Reaction upon N: NONE

Acknowledge upon N: NONE

F32801 Encoder 2 DRIVE-CLiQ: Sign-of-life missing

Reactions: NONE

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.

Remedy: - check the electrical cabinet design and cable routing for EMC compliance
- replace the component involved.
See also: p9916

F32802 Encoder 2: Time slice overflow

Reactions: NONE

Acknowledge: IMMEDIATELY

Cause: Time slice overflow, encoder 2.
Fault value (r0949, decimal):
9: Time slice overflow of the fast (current controller clock cycle) time slice.
10: Time slice overflow of the average time slice.
12: Time slice overflow of the slow time slice.
999: Timeout when waiting for SYNO, e.g. unexpected return to non-cyclic operation.

Remedy: Reduce the current controller frequency.

F32804 Encoder 2: CRC CODE RAM

Reactions: NONE

Acknowledge: IMMEDIATELY

Cause: The checksum via the CODE-RAM of the sensor module has changed in operation.
Fault value (r0949, hexadecimal):
Difference between the checksum at POWER ON and the actual checksum.

Remedy: Hardware defect: Replace the sensor module.
Firmware error: If required, upgrade the firmware.

F32805 Encoder 2: Incorrect EPROM checksum

Reactions: NONE

Acknowledge: IMMEDIATELY

Cause: Internal parameter data is corrupted.
Fault value (r0949, hexadecimal):
01: EEPROM access error.
02: Too many blocks in the EEPROM.

Remedy: Replace the module.

F32806 Encoder 2: Initialization unsuccessful

Reactions: NONE

Acknowledge: IMMEDIATELY

Cause: The encoder was not successfully initialized.
Fault value (r0949, hexadecimal):
1, 2, 3: Encode initialization with the motor rotating.

Remedy: Acknowledge the fault.

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F32820 Encoder 2 DRIVE-CLiQ: Telegram error

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved.
Fault value (r0949, hexadecimal):
01: CRC error.
02: Telegram is shorter than specified in the length byte or in the receive list.
03: Telegram is longer than specified in the length byte or in the receive list.
04: The length of the receive telegram does not match the receive list.
05: The type of the receive telegram does not match the receive list.
06: The address of the encoder in the telegram and in the receive list do not match.
07: The encoder expects a SYNC telegram, but the receive telegram is not a SYNC telegram.
08: The encoder does not expect a SYNC telegram, but the receive telegram is a SYNC telegram.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance.
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9916

F32835 Encoder 2 DRIVE-CLiQ: Cyclic data transfer error

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.

Remedy: - carry-out a POWER ON.
- replace the component involved.
See also: p9916

F32836 Encoder 2 DRIVE-CLiQ: Send error for DRIVE-CLiQ data

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

F32837 Encoder 2 DRIVE-CLiQ: Component faulted

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

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F32845 Encoder 2 DRIVE-CLiQ: Cyclic data transfer error

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9916

F32850 Encoder 2: Internal software error in the sensor module

Reactions: A_INFEED: OFF2
SERVO: ENCODER

Acknowledge: power on

Cause: Internal software error in the sensor module of encoder 2.
Fault value (r0949, decimal):
1: Background time slice is blocked.
2: Checksum over the code memory is not OK.
10000: OEM memory of the EnDat encoder contains data that cannot be interpreted.

Remedy: - replace the sensor module.
- if required, upgrade the firmware in the sensor module.
- contact the Hotline.

F32860 CU DRIVE-CLiQ: Telegram error

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved.
Fault value (r0949, hexadecimal):
11: CRC error and the receive telegram is too early.
01: CRC error.
12: The telegram is shorter than that specified in the length byte or in the receive list and the receive telegram is too early.
02: Telegram is shorter than specified in the length byte or in the receive list.
13: The telegram is longer than that specified in the length byte or in the receive list and the receive telegram is too early.
03: Telegram is longer than specified in the length byte or in the receive list.
14: The length of the receive telegram does not match the receive list and the receive telegram is too early.
04: The length of the receive telegram does not match the receive list.
15: The type of the receive telegram does not match the receive list and the receive telegram is too early.
05: The type of the receive telegram does not match the receive list.
16: The address of the encoder in the telegram and in the receive list does not match and the receive telegram is too early.
06: The address of the encoder in the telegram and in the receive list do not match.
19: The error bit in the receive telegram is set and the receive telegram is too early.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9915

F32885 CU DRIVE-CLiQ: Cyclic data transfer error

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

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Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.
1A: Sign-of-life bit in the receive telegram not set and the receive telegram is too early.
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.
62: Error at the transition to cyclic operation.

Remedy: - check the power supply voltage of the component involved.
- carry-out a POWER ON.
- replace the component involved.
See also: p9915

F32886 CU DRIVE-CLiQ: Error when sending DRIVE-CLiQ data

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

F32887 CU DRIVE-CLiQ: Component faulted

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.
60: Response received too late during runtime measurement.
61: Time taken to exchange characteristic data too long.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

F32895 CU DRIVE-CLiQ: Cyclic data transfer error

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9915

F32897 DRIVE-CLiQ: No communications to the components

Reactions: ENCODER

Acknowledge: power on (IMMEDIATELY)

Cause: Communications with the DRIVE-CLiQ component specified by the fault value is not possible.
One cause can be, e.g. that a DRIVE-CLiQ cable has been withdrawn.
Fault value (r0949, decimal):
Component ID.

Remedy: - check the DRIVE-CLiQ connections.
- carry-out a POWER ON.

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F32899 (N, A) Encoder 2: Unknown fault

Reaction: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: A fault occurred on the sensor module for encoder 2 that cannot be interpreted by the control unit firmware.
This can occur if the firmware on the sensor module for encoder 2 is more recent than the firmware on the control unit.
Fault value (r0949, decimal):
Fault number.
If required, the significance of this new fault can be referred to in a more recent description of the control unit.

Remedy: - replace the firmware on the sensor module by an older firmware version (r0148).
- upgrade the firmware on the control unit (r0018).

Reaction upon N: NONE

Acknowledge upon N: NONE

Reaction upon A: NONE

Acknowledge upon A: NONE

F32905 Encoder 2: Parameteriz. error

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A parameter of encoder 2 was detected as being incorrect.
It is possible that the parameterized encoder type does not match the connected encoder.
The parameter involved can be determined as follows:
- determine the parameter number using the fault value (r0949).
- determine the parameter index (p0188).
Fault value (r0949, decimal):
Parameter number.

Remedy: - check whether the connected encoder type matches the encoder that has been parameterized.
- correct the parameter specified by the fault value (r0949) and p0188.

A32920 (F) Encoder 2: Temperature sensor fault

Reaction: NONE

Acknowledge: NONE

Cause: When evaluating the temperature sensor, an error occurred.
Alarm value (r2124, decimal):
1: Wire breakage or sensor not connected (KTY: R > 1630 Ohm).
2: Measured resistance too low (PTC: R < 30 Ohm, KTY: R < 340 Ohm).

Remedy: - check that the encoder cable is the correct type and is correctly connected.
- check the temperature sensor selection in p0600 to p0603.
- replace the sensor module (hardware defect or incorrect calibration data).

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

A32999 (F, N) Encoder 2: Unknown alarm

Reaction: NONE

Acknowledge: NONE

Cause: A alarm has occurred on the sensor module for encoder 2 that cannot be interpreted by the control unit firmware.
This can occur if the firmware on the sensor module for encoder 2 is more recent than the firmware on the control unit.
Alarm value (r2124, decimal):
Alarm number.
If required, the significance of this new alarm can be referred to in a more recent description of the control unit.

Remedy: - replace the firmware on the sensor module by an older firmware version (r0148).
- upgrade the firmware on the control unit (r0018).

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Reaction upon F:	NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
Acknowledge upon F:	IMMEDIATELY (power on)
Reaction upon N:	NONE
Acknowledge upon N:	NONE

F33100 Encoder 3: Zero mark clearance error

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The measured zero mark clearance does not correspond to the parameterized zero mark clearance (p0425 for rotating encoders).
Fault value (r0949, decimal):
Last measured zero mark clearance in increments (4 increments = 1 encoder pulse).

Remedy:
- check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- check the encoder type (encoder with equidistant zero marks).
- adapt the parameter for the clearance between zero marks (p0425).
- replace the encoder or encoder cable.

F33101 Encoder 3: Zero mark failed

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The 1.5 x parameterized zero mark clearance was exceeded (p0425 for rotating encoders).
Fault value (r0949, decimal):
Number of increments after POWER ON or since the last zero mark that was detected (4 increments = 1 encoder pulse).

Remedy:
- check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- check the encoder type (encoder with equidistant zero marks).
- adapt the parameter for the clearance between zero marks (p0425).
- replace the encoder or encoder cable.

F33110 Encoder 3: EnDat communications error

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: Serial communication protocol transfer error between the encoder and evaluation module SMCxx.
Fault value (r0949, binary):
Bit 0: Alarm bit in the position protocol.
Bit 1: Incorrect quiescent level on the data line.
Bit 2: EnDat encoder does not response (does not supply a start bit).
Bit 3: CRC error: The checksum in the protocol from the encoder does not match the data.
Bit 4: Incorrect encoder acknowledgement: The encoder incorrectly understood the task (request) or cannot execute it.
Bit 5: Internal error in the EnDat driver: An illegal mode command was requested.
Bit 6: Position value longer than 40 bits.

Remedy: Re fault value:
Bit 0 = 1: Encoder defective. F31111 may provide additional details.
Bit 1 = 1: Incorrect encoder type / replace the encoder or encoder cable.
Bit 2 = 1: Incorrect encoder type / replace the encoder or encoder cable.
Bit 3 = 1: EMC / connect the cable shield, replace the encoder or encoder cable.
Bit 4 = 1: EMC / connect the cable shield, replace the encoder or encoder cable, replace the sensor module.
Bit 5 = 1: EMC / connect the cable shield, replace the encoder or encoder cable, replace the sensor module.
Bit 6 = 1: The sensor module does not support this encoder.

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F33111 Encoder 3: Absolute value encoder EnDat, internal fault/error

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The EnDat encoder fault word contains fault bits that have been set.
Fault value (r0949, binary):
Bit 0: Lighting system failed.
Bit 1: Signal amplitude too low.
Bit 2: Position value incorrect.
Bit 3: Encoder power supply overvoltage condition.
Bit 4: Encoder power supply undervoltage condition.
Bit 5: Encoder power supply overcurrent condition.
Bit 6: The battery must be changed.

Remedy: Re fault value, bit 0 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 1 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 2 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 3 = 1:
5 V power supply voltage fault.
When using an SMC. Check the plug-in cable between the encoder and SMC or replace the SMC.
When a motor encoder with a direct DRIVE-CLiQ connection is used: Replace the motor.
Re fault value, bit 4 = 1:
5 V power supply voltage fault.
When using an SMC. Check the plug-in cable between the encoder and SMC or replace the SMC.
When a motor encoder with a direct DRIVE-CLiQ connection is used: Replace the motor.
Re fault value, bit 5 = 1:
Encoder is defective. Replace the encoder, where the motor encoder has a direct DRIVE-CLiQ socket: Replace the motor.
Re fault value, bit 6 = 1:
The battery must be changed - only for encoders with battery back-up.

F33115 Encoder 3: Amplitude error track A or B (A^2 + B^2)

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: SMC20:
The nominal signal level of the encoder must lie in the range 375 mV to 600 mV (500 mV -25 % / +20 %).
On the other hand, the response thresholds are < 230 mV and > 750 mV (frequency characteristic).
SMC10:
The nominal signal level is at 2900 mV (2.0 Vrms). The response thresholds are at < 1070 mV and > 3535 mV.
Fault value (r0949, decimal):
Low word:
Signal level, track A (16 bits with sign).
High word:
Signal level, track B (16 bits with sign).
SMC20:
A signal level of 500 mV peak value corresponds to the numerical value 5333 hex = 21299 dec.
SMC10:
A signal level of 2900 mV peak value corresponds to the numerical value 6666 hex = 26214 dec.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).

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F33116 Encoder 3: Amplitude error, monitoring track A + B

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The amplitude of the rectified encoder signals A and B is not within the tolerance bandwidth (hardware monitoring).
The nominal signal level of the encoder must lie in the range 375 mV to 600 mV (500 mV -25 % / +20 %).
On the other hand, the hardware response thresholds are at < 176 mV and > 1.35 V.
Fault value (r0949, decimal):
Low word: Signal level, track A (16 bits with sign).
High word: Signal level, track B (16 bits with sign).
A signal level of 500 mV corresponds to the numerical value 5333 hex = 21299 dec.
These analog values are not measured at the same time with the hardware fault output.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).

F33117 Encoder 3: Inversion error, signals A and B

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: For a square-wave signal encoder (TTL. bipolar. double ended) the A* and B* signals are not inverted with respect to signals A and B.

Remedy: Check the setting of p0405: p0405.2 = 1 is only possible if the encoder is connected at X520.
Check the encoder/cable: Does the encoder supply TTL signals and the associated inverted signals?

F33118 Encoder 3: Speed difference outside the tolerance range

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: The speed difference between two sampling cycles has exceeded the value in p0492.
The error is only evaluated for HTL/TTL encoders.
Fault value (r0949, decimal):
Speed difference per current controller clock cycle in increments.

Remedy: - check the tachometer feeder cable for interruptions.
- check the grounding of the tachometer shielding.
- if required, increase the maximum speed difference per sampling cycle (p0492).

F33120 Encoder 3: Power supply volt

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: Encoder power supply voltage fault.
Note:
If the encoder cables 6FX2002-2EQ00-.... and 6FX2002-2CH00-.... are interchanged, this can result in the encoder being destroyed because the pins of the operating voltage are reversed.
Fault value (r0949, binary):
Bit 0: Undervoltage condition on the sense line (threshold 4.75 V).
Bit 1: Encoder power supply voltage overcurrent condition (threshold 450 mA).

Remedy: For fault value, bit 0 = 1:
- correct encoder cable connected?
- check the plug connections of the encoder cable.
- SMC30: Check the parameterization (p0404.22).
For fault value, bit 1 = 1:
- correct encoder cable connected?
- replace the encoder or encoder cable.

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F33130 Encoder 3: Zero mark does not match position of C/D track

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: After initializing the rotor position using the C/D track or using Hall signals, the zero mark was detected outside the permissible range. This zero mark is rejected.
The deviation may be up to 18 ° mechanical or up to 60 ° electrical.
Fault value (r0949, decimal):
Normalization: 32768 = 180 °
High word:
Mechanical zero mark position determined.
If the initialization via a C/D track is selected in p0404, then it is checked whether the zero mark occurs in an angular range of +/-18 ° mechanical.
Low word:
Deviation of the zero mark from the expected position as electrical angle.
If the correction of the commutation position with the zero mark is selected in p0404, then a difference of a maximum of +/- 60 ° electrical is permitted.

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- if the Hall sensor is used as equivalent C/D track, check the connection.
- check the C or D track connection.
- replace the encoder or encoder cable.

F33131 Encoder 3: Deviation, position incremental/absolute too large

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: When cyclically reading the absolute position, an excessively high deviation to the incremental position was detected. The absolute position that was read is rejected.
Limit value for the deviation:
- EnDat encoder: Is supplied from the encoder and is a minimum of 2 quadrants (e.g. EQI 1325 = 2 quadrants, EQN 1325 = 50 quadrants).
- other encoders: 15 pulses = 60 quadrants.
Fault value (r0949, decimal):
Deviation in quadrants (1 pulse = 4 quadrants).

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check whether the coding disk is dirty or there are strong ambient magnetic fields.

F33150 Encoder 3: Initialization error

Reaction: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: Encoder functionality selected in p0404 is not operating correctly.
Fault value (r0949, hexadecimal):
The fault value is a bit field. Every set bit indicates functionality that is faulted.
The bit assignment corresponds to that of p0404 (e.g. bit 5 set: Error C/D track).

Remedy: - Check that p0404 is correctly set.
- check the encoder type used (incremental/absolute value) and for SMCxx, the encoder cable.
- if relevant, note additional fault/error messages that describe the fault in detail.

A33405 (F, N) Encoder 3: Encoder evaluation temperature too high

Reaction: NONE

Acknowledge: NONE

Cause: The encoder evaluation for a motor with DRIVE-CLiQ has detected an excessively high temperature.
The fault threshold is 125 ° C.
Alarm value (r2124, decimal):
Measured board/module temperature in 0.1 °C.

Remedy: Reduce the ambient temperature for the DRIVE-CLiQ connection of the motor.

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Reaction upon F:	NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
Acknowledge upon F:	IMMEDIATELY
Reaction upon N:	NONE
Acknowledge upon N:	NONE

A33410 (F, N) Encoder 3: Serial communications

Reaction: NONE

Acknowledge: NONE

Cause: Serial communication protocol transfer error between the encoder and evaluation module SMCxx.
Alarm value (r2124, binary):
Bit 0: Alarm bit in the position protocol.
Bit 1: Incorrect quiescent level on the data line.
Bit 2: EnDat encoder does not response (does not supply a start bit).
Bit 3: CRC error: The checksum in the protocol from the encoder does not match the data.
Bit 4: Incorrect encoder acknowledgement: The encoder incorrectly understood the task (request) or cannot execute it.
Bit 5: Internal error in the EnDat driver: An illegal mode command was requested.
Bit 6: Position value longer than 40 bits.

Remedy:
- check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder.

Reaction upon F:	NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
Acknowledge upon F:	IMMEDIATELY
Reaction upon N:	NONE
Ackn. upon N:	NONE

A33411 (F, N) Encoder 3: EnDat encoder signals alarms

Reaction: NONE

Acknowledge: NONE

Cause: The error word of the EnDat encoder has alarm bits that have been set.
Alarm value (r2124, binary):
Bit 0: Frequency exceeded (speed too high).
Bit 1: Temperature exceeded.
Bit 2: Control reserve, lighting system exceeded.
Bit 3: Battery discharged.
Bit 4: Reference point passed.

Remedy: Replace encoder.

Reaction upon F:	NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
Acknowledge upon F:	IMMEDIATELY
Reaction upon N:	NONE
Acknowledge upon N:	NONE

A33414 (F, N) Encoder 3: Amplitude error track C or D (C^2 + D^2)

Reaction: NONE

Acknowledge: NONE

Cause: The amplitude (C^2 + D^2) of track C or D is not within the tolerance bandwidth.
The nominal signal must be in the range 375 mV to 600 mV (500 mV -25 % / +20 %).
On the other hand, the response thresholds are < 230 mV and > 750 mV (frequency characteristic).
This fault also occurs if the A/D converter is overcontrolled.
If the amplitude is not within the tolerance bandwidth, then it cannot be used to initialize the start position.
Alarm value (r2124, decimal):
Low word: Signal level of the C track (16 bits with sign).
High word: Signal level, track D (16 bits with sign).
A signal level of 500 mV corresponds to the numerical value 5333 hex = 21299 dec.

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Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).
- check the Hall sensor box

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

Reaction upon N: NONE

Acknowledge upon N: NONE

N33415 (F, A) Encoder 3: Amplitude alarm, track A or B (A^2 + B^2)

Reaction: NONE

Acknowledge: NONE

Cause: The amplitude (A^2 + B^2) of track A or B is not within the tolerance bandwidth.
SMC20:
The nominal signal level is at 500 mV (500 mV -25 % / +20 %). The response threshold is < 300 mV.
SMC10:
The nominal signal level is at 2900 mV (2.0 Vrms). The response threshold is < 1414 mV (1.0 Vrms).
Alarm value (r2124, decimal):
Low word:
Amplitude square root(A*A + B*B).
SMC20:
A signal level of 500 mV peak value corresponds to the numerical value 299A hex = 10650 dec.
SMC10:
A signal level of 2900 mV peak value corresponds to the numerical value 3333 hex = 13107 dec.
High word:
Angle 0 to 65535 corresponds to 0 to 360 degrees of the fine position. Zero degrees is at the negative zero crossover of track B.

Remedy: - check the speed range, frequency characteristic (amplitude characteristic) of the measuring equipment is not sufficient for the speed range.
- check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- check the encoder module (e.g. contacts).
- dirty code disk
- aged lighting system.

Reaction upon F: A_INFEED: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
SERVO: NONE (DCBRAKE, ENCODER, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

Reaction upon A: NONE

Acknowledge upon A: NONE

A33418 (F, N) Encoder 3: Half the speed difference per sampling rate exceeded (p0492/2)

Reaction: NONE

Acknowledge: NONE

Cause: The speed difference between two sampling cycles has exceeded half the value of parameter p0492.
The error is only evaluated for HTL/TTL encoders.
Alarm value (r2124, decimal):
Speed difference per current controller clock cycle in increments.

Remedy: Check the tachometer feeder cable for interruptions.
Check the grounding of the tachometer shielding.
If required, increase the setting of p0492.

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

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Reaction upon N: NONE
Acknowledge upon N: NONE

A33419 (F, N) Encoder 3: Track A or B outside the tolerance range

Reaction: NONE
Acknowledge: NONE
Cause: The amplitude, phase or offset correction for track A or B is at the limit.
Amplitude error correction: Amplitude B / Amplitude A = 0.78 ... 1.27
Phase: <84 degrees or >96 degrees
SMC20: Offset correction: +/-140 mV
SMC10: Offset correction: +/-650 mV
Alarm value (r2124, hexadecimal):
xxx1: Minimum of the offset correction, track B
xxx2: Maximum of the offset correction, track B
xx1x: Minimum of the offset correction, track A
xx2x: Maximum of the offset correction, track A
x1xx: Minimum of the amplitude correction, track B/A
x2xx: Maximum of the amplitude correction, track B/A
1xxx: Minimum of the phase error correction
2xxx: Maximum of the phase error correction
Remedy: - check mechanical mounting tolerances for encoders without their own bearings (e.g. toothed-wheel encoders).
- check the plug connections (also the transition resistance).
- check the encoder signals.
- replace the encoder or encoder cable.
Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
Acknowledge upon F: IMMEDIATELY
Reaction upon N: NONE
Acknowledge upon N: NONE

A33429 (F, N) Encoder 3: Position difference, track C/D and A/B too large

Reaction: NONE
Acknowledge: NONE
Cause: The error of track C/D is greater than +/-15 ° mechanical or +/-60 ° electrical.
One period of track C/D corresponds to 360 ° mechanical.
One period of the Hall signal corresponds to 360 ° electrical.
The monitoring responds if, for example, Hall sensors are connected as C/D equivalent with the incorrect rotational sense or supply values that are not accurate enough.
Alarm value (r2124, decimal):
Measured deviation as mechanical angle (16 bits with sign, 182 dec corresponds to 1 °).
Remedy: - track C or D not connected.
- correct the sense of rotation of a Hall sensor that may be connected as equivalent C/D track.
- check that the encoder cables are routed in compliance with EMC.
- check the adjustment of the Hall sensor.
Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)
Acknowledge upon F: IMMEDIATELY
Reaction upon N: NONE
Acknowledge upon N: NONE

A33431 (F, N) Encoder 3: Difference, absolute/incremental position too large

Reaction: NONE
Acknowledge: NONE

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Cause: When cyclically reading the absolute position, an excessively high difference to the incremental position was detected.
Alarm value (r2124, decimal):
Deviation in quadrants (1 pulse = 4 quadrants).

Remedy: - check that the encoder cables are routed in compliance with EMC.
- check the plug connections.
- replace the encoder or encoder cable.
- coding disk dirty or strong magnetic fields.

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

Reaction upon N: NONE

Acknowledge upon N: NONE

F33801 Encoder 3 DRIVE-CLiQ: Sign-of-life missing

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.

Remedy: - check the electrical cabinet design and cable routing for EMC compliance
- replace the component involved.
See also: p9916

F33802 Encoder 3: Time slice overflow

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: Time slice overflow, encoder 3.
Fault value (r0949, decimal):
9: Time slice overflow of the fast (current controller clock cycle) time slice.
10: Time slice overflow of the average time slice.
12: Time slice overflow of the slow time slice.
999: Timeout when waiting for SYNO, e.g. unexpected return to non-cyclic operation.

Remedy: Reduce the current controller frequency.

F33804 Encoder 3: CRC CODE RAM

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: The checksum via the CODE-RAM of the sensor module has changed in operation.
Fault value (r0949, hexadecimal):
Difference between the checksum at POWER ON and the actual checksum.

Remedy: Hardware defect: Replace the sensor module.
Firmware error: If required, upgrade the firmware.

F33805 Encoder 3: Incorrect EPROM checksum

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: Internal parameter data is corrupted.
Fault value (r0949, hexadecimal):
01: EEPROM access error.
02: Too many blocks in the EEPROM.

Remedy: Replace the module.

F33806 Encoder 3: Initialization unsuccessful

Reaction: NONE

Acknowledge: IMMEDIATELY

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Cause: The encoder was not successfully initialized.
Fault value (r0949, hexadecimal):
1, 2, 3: Encode initialization with the motor rotating.

Remedy: Acknowledge the fault.

F33820 Encoder 3 DRIVE-CLiQ: Telegram error

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved.
Fault value (r0949, hexadecimal):
01: CRC error.
02: Telegram is shorter than specified in the length byte or in the receive list.
03: Telegram is longer than specified in the length byte or in the receive list.
04: The length of the receive telegram does not match the receive list.
05: The type of the receive telegram does not match the receive list.
06: The address of the encoder in the telegram and in the receive list do not match.
07: The encoder expects a SYNC telegram, but the receive telegram is not a SYNC telegram.
08: The encoder does not expect a SYNC telegram, but the receive telegram is a SYNC telegram.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9916

F33835 Encoder 3 DRIVE-CLiQ: Cyclic data transfer error

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.

Remedy: - carry-out a POWER ON.
- replace the component involved.
See also: p9916

F33836 Encoder 3 DRIVE-CLiQ: Send error for DRIVE-CLiQ data

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

F33837 Encoder 3 DRIVE-CLiQ: Component faulted

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.

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Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

F33845 Encoder 3 DRIVE-CLiQ: Cyclic data transfer error

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9916

F33850 Encoder 3: Internal software error in the sensor module

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: power on

Cause: Internal software error in the sensor module of encoder 3.
Fault value (r0949, decimal):
1: Background time slice is blocked.
2: Checksum over the code memory is not OK.
10000: OEM memory of the EnDat encoder contains data that cannot be interpreted.

Remedy: - replace the sensor module.
- if required, upgrade the firmware in the sensor module.
- contact the Hotline.

F33860 CU DRIVE-CLiQ: Telegram error

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved.
Fault value (r0949, hexadecimal):
11: CRC error and the receive telegram is too early.
01: CRC error.
12: The telegram is shorter than that specified in the length byte or in the receive list and the receive telegram is too early.
02: Telegram is shorter than specified in the length byte or in the receive list.
13: The telegram is longer than that specified in the length byte or in the receive list and the receive telegram is too early.
03: Telegram is longer than specified in the length byte or in the receive list.
14: The length of the receive telegram does not match the receive list and the receive telegram is too early.
04: The length of the receive telegram does not match the receive list.
15: The type of the receive telegram does not match the receive list and the receive telegram is too early.
05: The type of the receive telegram does not match the receive list.
16: The address of the encoder in the telegram and in the receive list does not match and the receive telegram is too early.
06: The address of the encoder in the telegram and in the receive list do not match.
19: The error bit in the receive telegram is set and the receive telegram is too early.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9915

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F33885 CU DRIVE-CLiQ: Cyclic data transfer error

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.
1A: Sign-of-life bit in the receive telegram not set and the receive telegram is too early.
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.
62: Error at the transition to cyclic operation.

Remedy: - check the power supply voltage of the component involved.
- carry-out a POWER ON.
- replace the component involved.
See also: p9915

F33886 CU DRIVE-CLiQ: Error when sending DRIVE-CLiQ data

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

F33887 CU DRIVE-CLiQ: Component faulted

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.
60: Response received too late during runtime measurement.
61: Time taken to exchange characteristic data too long.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

F33895 CU DRIVE-CLiQ: Cyclic data transfer error

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: DRIVE-CLiQ communications error between the control unit and the encoder involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9915

F33897 DRIVE-CLiQ: No communications to the components

Reactions: ENCODER

Acknowledge: power on (IMMEDIATELY)

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Cause: Communications with the DRIVE-CLiQ component specified by the fault value is not possible.
One cause can be, e.g. that a DRIVE-CLiQ cable has been withdrawn.
Fault value (r0949, decimal):
Component ID.

Remedy: - check the DRIVE-CLiQ connections.
- carry-out a POWER ON.

F33899 (N, A) Encoder 3: Unknown fault

Reaction: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: A fault occurred on the sensor module for encoder 3 that cannot be interpreted by the control unit firmware.
This can occur if the firmware on the sensor module for encoder 3 is more recent than the firmware on the control unit.
Fault value (r0949, decimal):
Fault number.
If required, the significance of this new fault can be referred to in a more recent description of the control unit.

Remedy: - replace the firmware on the sensor module by an older firmware version (r0148).
- upgrade the firmware on the control unit (r0018).

Reaction upon N: NONE

Acknowledge upon N: NONE

Reaction upon A: NONE

Acknowledge upon A: NONE

F33905 Encoder 3: Parameteriz. error

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A parameter of encoder 1 was detected as being incorrect.
It is possible that the parameterized encoder type does not match the connected encoder.
The parameter involved can be determined as follows:
- determine the parameter number using the fault value (r0949).
- determine the parameter index (p0189).
Fault value (r0949, decimal):
Parameter number.

Remedy: - check whether the connected encoder type matches the encoder that has been parameterized.
- correct the parameter specified by the fault value (r0949) and p0189.

A33920 (F) Encoder 3: Temperature sensor fault

Reaction: NONE

Acknowledge: NONE

Cause: When evaluating the temperature sensor, an error occurred.
Alarm value (r2124, decimal):
1: Wire breakage or sensor not connected (KTY: R > 1630 Ohm).
2: Measured resistance too low (PTC: R < 30 Ohm, KTY: R < 340 Ohm).

Remedy: - check that the encoder cable is the correct type and is correctly connected.
- check the temperature sensor selection in p0600 to p0603.
- replace the sensor module (hardware defect or incorrect calibration data).

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY

A33999 (F, N) Encoder 3: Unknown alarm

Reaction: NONE

Acknowledge: NONE

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Cause: A alarm has occurred on the sensor module for encoder 3 that cannot be interpreted by the control unit firmware. This can occur if the firmware on the sensor module for encoder 3 is more recent than the firmware on the control unit.
Alarm value (r2124, decimal):
Alarm number.
If required, the significance of this new alarm can be referred to in a more recent description of the control unit.

Remedy: - replace the firmware on the sensor module by an older firmware version (r0148).
- upgrade the firmware on the control unit (r0018).

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY (power on)

Reaction upon N: NONE

Acknowledge upon N: NONE

F34207 (N, A) VSM: Temperature fault threshold exceeded

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: The temperature (r3666) measured using the voltage sensing module (VSM) has exceeded the threshold value (p3668).
This fault can only be initiated if the temperature evaluation was activated (p3665 = 2 for a KTY sensor or p3665 = 1 for a PTC sensor).
Fault value (r0949, decimal):
The hundred thousands and ten thousands position specifies the component number of the VSM where the fault occurred.

Remedy: - check the fan.
- reduce the power.

Reaction upon N: NONE

Acknowledge upon N: NONE

Reaction upon A: NONE

Acknowledge upon A: NONE

A34211 (F, N) VSM: Temperature alarm threshold exceeded

Reaction: NONE

Acknowledge: NONE

Cause: The temperature (r3666) measured using the voltage sensing module (VSM) has exceeded the threshold value (p3667).
Alarm value (r2124, decimal):
The hundred thousands and ten thousands position specifies the component number of the VSM where the fault occurred.

Remedy: - check the fan.
- reduce the power.

Reaction upon F: A_INFEED: NONE (OFF1, OFF2)
SERVO: NONE

Acknowledge upon F: IMMEDIATELY (power on)

Reaction upon N: NONE

Acknowledge upon N: NONE

F34801 VSM DRIVE-CLiQ: Sign-of-life missing

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY

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Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the voltage sensing module.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.

Remedy: - check the DRIVE-CLiQ connection.
- replace the terminal module.

F34802 VSM: Time slice overflow

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: Time slice overflow on the voltage sensing module.

Remedy: Replace the voltage sensing module.

F34803 VSM: Memory test

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: An error has occurred during the RAM test on the voltage sensing module.

Remedy: - check whether the permissible ambient temperature for the voltage sensing module is being maintained.
- replace the voltage sensing module.

F34804 VSM: CRC

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: A checksum error has occurred when reading-out the program memory on the VSM.

Remedy: - check whether the permissible ambient temperature for the voltage sensing module is being maintained.
- replace the voltage sensing module.

F34805 VSM: Incorrect EPROM checksum

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: Internal parameter data is corrupted.
Fault value (r0949, hexadecimal):
01: EEPROM access error.
02: Too many blocks in the EEPROM.

Remedy: - check whether the permissible ambient temperature for the module is maintained.
- replace the module.

F34806 VSM: Initialization

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: For the voltage sensing module (VSM), a fault has occurred while initializing.

Remedy: Replace the voltage sensing module.

A34807 (F, N) VSM: Sequence control, time monitoring

Reaction: NONE

Acknowledge: NONE

Cause: Error, timeout in the sequential control on the voltage sensing module (VSM).

Remedy: Replace the voltage sensing module.

Reaction upon F: NONE

Acknowledge upon F: IMMEDIATELY (power on)

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Reaction upon N: NONE
Acknowledge upon N: NONE

F34820 VSM DRIVE-CLiQ: Telegram error

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the voltage sensing module.
Fault value (r0949, hexadecimal):
01: CRC error.
02: Telegram is shorter than specified in the length byte or in the receive list.
03: Telegram is longer than specified in the length byte or in the receive list.
04: The length of the receive telegram does not match the receive list.
05: The type of the receive telegram does not match the receive list.
06: The address of the encoder in the telegram and in the receive list do not match.
07: The encoder expects a SYNC telegram, but the receive telegram is not a SYNC telegram.
08: The encoder does not expect a SYNC telegram, but the receive telegram is a SYNC telegram.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9916

F34835 VSM DRIVE-CLiQ: Cyclic data transfer error

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the voltage sensing module. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.

Remedy: - carry-out a POWER ON.
- replace the component involved.

F34836 VSM DRIVE-CLiQ: Send error for DRIVE-CLiQ data

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the voltage sensing module. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

F34837 VSM DRIVE-CLiQ: Component faulted

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.

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Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

F34845 VSM DRIVE-CLiQ: Cyclic data transfer error

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the voltage sensing module.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9916

F34850 VSM: Internal software error

Reaction: OFF1

Acknowledge: power on

Cause: An internal software error in the voltage sensing module has occurred.
Fault value (r0949, decimal):
1: Background time slice is blocked.
2: Checksum over the code memory is not OK.

Remedy: - replace the voltage sensing module.
- if required, upgrade the firmware in the voltage sensing module.
- contact the Hotline.

F34860 CU DRIVE-CLiQ: Telegram error

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the voltage sensing module.
Fault value (r0949, hexadecimal):
11: CRC error and the receive telegram is too early.
01: CRC error.
12: The telegram is shorter than that specified in the length byte or in the receive list and the receive telegram is too early.
02: Telegram is shorter than specified in the length byte or in the receive list.
13: The telegram is longer than that specified in the length byte or in the receive list and the receive telegram is too early.
03: Telegram is longer than specified in the length byte or in the receive list.
14: The length of the receive telegram does not match the receive list and the receive telegram is too early.
04: The length of the receive telegram does not match the receive list.
15: The type of the receive telegram does not match the receive list and the receive telegram is too early.
05: The type of the receive telegram does not match the receive list.
16: The address of the voltage sensing module in the telegram and in the receive list does not match and the receive telegram is too early.
06: The address of the voltage sensing module in the telegram and in the receive list do not match.
19: The error bit in the receive telegram is set and the receive telegram is too early.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9915

F34885 CU DRIVE-CLiQ: Cyclic data transfer error

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY

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Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the voltage sensing module. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.
1A: Sign-of-life bit in the receive telegram not set and the receive telegram is too early.
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.
62: Error at the transition to cyclic operation.

Remedy: - check the power supply voltage of the component involved.
- carry-out a POWER ON.
- replace the component involved.
See also: p9915

F34886 CU DRIVE-CLiQ: Error when sending DRIVE-CLiQ data

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the VSM involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

F34887 CU DRIVE-CLiQ: Component faulted

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.
60: Response received too late during runtime measurement.
61: Time taken to exchange characteristic data too long.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

F34895 CU DRIVE-CLiQ: Cyclic data transfer error

Reactions: A_INFEED: OFF2
SERVO: NONE

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the voltage sensing module.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9915

F34897 DRIVE-CLiQ: No communications to the components

Reaction: OFF2

Acknowledge: power on (IMMEDIATELY)

Cause: Communications with the DRIVE-CLiQ component specified by the fault value is not possible.
One cause can be, e.g. that a DRIVE-CLiQ cable has been withdrawn.
Fault value (r0949, decimal):
Component ID.

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Remedy: - check the DRIVE-CLiQ connections.
- carry-out a POWER ON.

F34899 (N, A) VSM: Unknown fault

Reactions: A_INFEED: NONE
SERVO: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: A fault occurred on the voltage sensing module that cannot be interpreted by the control unit firmware. This can occur if the firmware on the voltage sensing module is more recent than the firmware on the control unit.
Fault value (r0949, decimal):
Fault number.
If required, the significance of this new fault can be referred to in a more recent description of the control unit.

Remedy: - replace the firmware on the voltage sensing module by an older firmware version (r0xyz).
- upgrade the firmware on the control unit (r0018).

Reaction upon N: NONE

Acknowledge upon N: NONE

Reaction upon A: NONE

Acknowledge upon A: NONE

A34903 (F, N) VSM: Error I2C bus

Reaction: NONE

Acknowledge: NONE

Cause: An error has occurred in while accessing via the internal TM I2C bus.

Remedy: Replace the terminal module.

Reaction upon F: A_INFEED: NONE (OFF1, OFF2)
SERVO: NONE

Acknowledge upon F: IMMEDIATELY (power on)

Reaction upon N: NONE

Acknowledge upon N: NONE

A34904 (F, N) VSM: EEPROM

Reaction: NONE

Acknowledge: NONE

Cause: An error has occurred accessing the non-volatile memory on the terminal module.

Remedy: Replace the terminal module.

Reaction upon F: A_INFEED: NONE (OFF1, OFF2)
SERVO: NONE

Acknowledge upon F: IMMEDIATELY (power on)

Reaction upon N: NONE

Acknowledge upon N: NONE

A34905 (F, N) VSM: Parameter access

Reaction: NONE

Acknowledge: NONE

Cause: The control unit attempted to write an illegal parameter value into the voltage sensing module (VSM).

Remedy: - check whether the firmware version of the VSM (r0158) matches the firmware version of control unit (r0018).
- if required, replace the voltage sensing module.
Note:
The firmware versions that match each other are in the readme.txt file on the CompactFlash Card.

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Reaction upon F:	A_INFEED: NONE (OFF1, OFF2) SERVO: NONE
Acknowledge upon F:	IMMEDIATELY (power on)
Reaction upon N:	NONE
Acknowledge upon N:	NONE

A34920 (F, N) VSM: Temperature sensor fault

Reaction: NONE

Acknowledge: NONE

Cause: When evaluating the temperature sensor, an error occurred.
Alarm value (r2124, decimal):
1: Wire breakage or sensor not connected (KTY: R > 1630 Ohm).
2: Measured resistance too low (PTC: R < 30 Ohm, KTY: R < 340 Ohm).

Remedy: - check that the sensor is connected correctly.
- replace sensor.

Reaction upon F:	A_INFEED: NONE (OFF1, OFF2) SERVO: NONE
Acknowledge upon F:	IMMEDIATELY (power on)
Reaction upon N:	NONE
Acknowledge upon N:	NONE

A34999 (F, N) VSM: Unknown alarm

Reaction: NONE

Acknowledge: NONE

Cause: A fault occurred on the voltage sensing module (VSM) an alarm has occurred that cannot be interpreted by the control unit firmware.
This can occur if the firmware on the module is more recent than the firmware on the control unit.
Alarm value (r2124, decimal):
Alarm number.
If required, the significance of this new alarm can be referred to in a more recent description of the control unit.

Remedy: - replace the firmware on the voltage sensing module by an older firmware version (r0xyz).
- upgrade the firmware on the control unit (r0018).

Reaction upon F:	A_INFEED: NONE (OFF1, OFF2) SERVO: NONE (OFF1, OFF2, OFF3)
Acknowledge upon F:	IMMEDIATELY (power on)
Reaction upon N:	NONE
Acknowledge upon N:	NONE

A35200 (F, N) TM: Calibration data

Reaction: NONE

Acknowledge: NONE

Cause: An error was detected in the calibration data of the terminal module.
Alarm value (r2124, decimal):
The hundred thousands and ten thousands location specifies the component Id of the terminal module where the fault occurred.
The thousands location specifies whether the analog input 0 (=0) or analog output 1 (= 1) is involved.
The hundreds location specifies the fault type:
0: No calibration data available.
1: Offset too high (> 100 mV).
The tens and ones location specifies the number of the input involved.

Remedy: Power-down the unit and power-up again.
If the fault is still present, replace the module/board.

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Reaction upon F:	NONE
Acknowledge upon F:	IMMEDIATELY (power on)
Reaction upon N:	NONE
Acknowledge upon N:	NONE

F35207 (N, A) TM: Temperature, threshold value exceeded

Reaction:	OFF2
Acknowledge:	IMMEDIATELY (power on)
Cause:	The temperature measured using the temperature sensing of the TM (r4105) has exceeded the threshold value to initiate this fault (p4102[1]). Please note that this fault can only be initiated if the temperature evaluation was activated (p4100 = 2 for KTY sensor or p4100 = 1 for PTC sensor). Fault value (r0949, decimal): The hundred thousands and ten thousands location specifies the component number of the TMxx where the fault occurred. Alarm: Please note that Fault F35207 only causes the drive to be shut down if there is at least one BICO interconnection between the drive and TM31.
Remedy:	- allow the temperature sensor to cool down. - if required, set the fault response to NONE (p2100, p2101).
Reaction upon N:	NONE
Acknowledge upon N:	NONE
Reaction upon A:	NONE
Acknowledge upon A:	NONE

A35211 (F, N) TM: Temperature threshold value exceeded

Reaction:	NONE
Acknowledge:	NONE
Cause:	The temperature measured using the temperature sensing of the TM (r4105) has exceeded the threshold value to initiate this alarm (p4102[0]). Alarm value (r2124, decimal): The hundred thousands and ten thousands location specifies the component number of the TMxx where the fault occurred.
Remedy:	Allow the temperature sensor to cool down.
Reaction upon F:	NONE
Acknowledge upon F:	IMMEDIATELY (power on)
Reaction upon N:	NONE
Acknowledge upon N:	NONE

F35220 (N, A) TM: Frequency limit reached for signal output

Reaction:	OFF1
Acknowledge:	IMMEDIATELY (power on)
Cause:	The signals output from the terminal module 41 (TM41) for tracks A/B have reached the limit frequency. The output signals are no longer in synchronism with the specified setpoint.
Remedy:	- enter a lower speed setpoint (p1155). - reduce the encoder pulse number (p0408).
Reaction upon N:	NONE
Acknowledge upon N:	NONE
Reaction upon A:	NONE
Acknowledge upon A:	NONE

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F35221 (N, A) TM: Setpoint - actual value deviation, outside the tolerance range

Reaction: OFF1

Acknowledge: IMMEDIATELY (power on)

Cause: The deviation between the setpoint and the output signals (track A/B) exceeds the tolerance of +/-3 %.

Remedy: - reduce the basic clock cycle (p0110, p0111).
- replace the module.

Reaction upon N: NONE

Acknowledge upon N: NONE

Reaction upon A: NONE

Acknowledge upon A: NONE

A35222 (F, N) TM: Encoder pulse number not permissible

Reaction: NONE

Acknowledge: NONE

Cause: The encoder pulse number entered does not match the permissible pulse number from a hardware perspective.
Fault value (r0949, decimal):
1: Encoder pulse number is too high.
2: Encoder pulse number is too low.
4: Encoder pulse number is less than the zero mark offset (p4426)

Remedy: Enter the encoder pulse number in the permissible range (p0408).

Reaction upon F: OFF1 (NONE, OFF2, OFF3)

Acknowledge upon F: IMMEDIATELY (power on)

Reaction upon N: NONE

Acknowledge upon N: NONE

A35223 (F, N) TM: ZM offset not permissible

Reaction: NONE

Acknowledge: NONE

Cause: The entered zero mark offset is not permissible.
Fault value (r0949, decimal):
1: Zero mark offset is too high.
See also: p4426

Remedy: Enter the zero mark offset in the permissible range (p4426).

Reaction upon F: OFF1 (NONE, OFF2, OFF3)

Acknowledge upon F: IMMEDIATELY (power on)

Reaction upon N: NONE

Acknowledge upon N: NONE

A35801 (F, N) TM DRIVE-CLiQ: Sign-of-life missing

Reaction: NONE

Acknowledge: NONE

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the terminal module involved.
Alarm value (r2124, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.

Remedy: - check the DRIVE-CLiQ connection.
- replace the component involved.
See also: p9916

Reaction upon F: NONE

Acknowledge upon F: IMMEDIATELY

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Reaction upon N: NONE
Acknowledge upon N: NONE

A35802 (F, N) TM: Time slice overflow

Reaction: NONE
Acknowledge: NONE
Cause: Time slice overflow on terminal module.
Remedy: Replace the terminal module.
Reaction upon F: NONE
Acknowledge upon F: IMMEDIATELY (power on)
Reaction upon N: NONE
Acknowledge upon N: NONE

A35803 (F, N) TM: Memory test

Reaction: NONE
Acknowledge: NONE
Cause: An error has occurred in the RAM test on the terminal module.
Remedy: - check whether the permissible ambient temperature for the terminal module is being maintained.
- replace the terminal module.
Reaction upon F: NONE
Acknowledge upon F: IMMEDIATELY (power on)
Reaction upon N: NONE
Acknowledge upon N: NONE

A35804 (F, N) TM: CRC

Reaction: NONE
Acknowledge: NONE
Cause: A checksum error has occurred when reading-out the program memory on the terminal module.
Fault value (r0949, hexadecimal):
Difference between the checksum at POWER ON and the actual checksum.
Remedy: - check whether the permissible ambient temperature for the terminal module is being maintained.
- replace the terminal module.
Reaction upon F: NONE
Acknowledge upon F: IMMEDIATELY (power on)
Reaction upon N: NONE
Acknowledge upon N: NONE

A35805 (F, N) TM: Incorrect EPROM checksum

Reaction: NONE
Acknowledge: NONE
Cause: Internal parameter data is corrupted.
Alarm value (r2124, hexadecimal):
01: EEPROM access error.
02: Too many blocks in the EEPROM.
Remedy: - check whether the permissible ambient temperature for the module is maintained.
- replace the module.
Reaction upon F: NONE
Acknowledge upon F: IMMEDIATELY (power on)

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Reaction upon N: NONE
Acknowledge upon N: NONE

A35807 (F, N) TM: Sequence control, time monitoring

Reaction: NONE
Acknowledge: NONE
Cause: Error, timeout, sequential control on the terminal module.
Remedy: Replace the terminal module.
Reaction upon F: NONE
Acknowledge upon F: IMMEDIATELY (power on)
Reaction upon N: NONE
Acknowledge upon N: NONE

F35820 TM DRIVE-CLiQ: Telegram error

Reaction: OFF1
Acknowledge: IMMEDIATELY
Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the terminal module involved.
Fault value (r0949, hexadecimal):
01: CRC error.
02: Telegram is shorter than specified in the length byte or in the receive list.
03: Telegram is longer than specified in the length byte or in the receive list.
04: The length of the receive telegram does not match the receive list.
05: The type of the receive telegram does not match the receive list.
06: The address of the terminal module in the telegram and in the receive list do not match.
07: Terminal module expects a SYNC telegram, but the receive telegram is not a SYNC telegram.
08: Terminal module does not expect a SYNC telegram, but the receive telegram is a SYNC telegram.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.
Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9916

F35835 TM DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF1
Acknowledge: IMMEDIATELY
Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the terminal module involved. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.
Remedy: - carry-out a POWER ON.
- replace the component involved.
See also: p9916

F35836 TM DRIVE-CLiQ: Send error for DRIVE-CLiQ data

Reaction: OFF1
Acknowledge: IMMEDIATELY
Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the terminal module involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.
Remedy: - carry-out a POWER ON.

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F35837 TM DRIVE-CLiQ: Component faulted

Reaction: OFF1

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

F35845 TM DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF1

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the terminal module involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9916

F35850 Terminal Module: Internal software error

Reaction: OFF1

Acknowledge: power on

Cause: An internal software error in the terminal module has occurred.
Fault value (r0949, decimal):
1: Background time slice is blocked.
2: Checksum over the code memory is not OK.

Remedy: - replace the terminal module.
- if required, upgrade the firmware in the terminal module.
- contact the Hotline.

F35860 CU DRIVE-CLiQ: Telegram error

Reaction: OFF1

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the terminal module involved.
Fault value (r0949, hexadecimal):
11: CRC error and the receive telegram is too early.
01: CRC error.
12: The telegram is shorter than that specified in the length byte or in the receive list and the receive telegram is too early.
02: Telegram is shorter than specified in the length byte or in the receive list.
13: The telegram is longer than that specified in the length byte or in the receive list and the receive telegram is too early.
03: Telegram is longer than specified in the length byte or in the receive list.
14: The length of the receive telegram does not match the receive list and the receive telegram is too early.
04: The length of the receive telegram does not match the receive list.
15: The type of the receive telegram does not match the receive list and the receive telegram is too early.
05: The type of the receive telegram does not match the receive list.
16: The address of the terminal module in the telegram and in the receive list does not match and the receive telegram is too early.
06: The address of the terminal module in the telegram and in the receive list do not match.
19: The error bit in the receive telegram is set and the receive telegram is too early.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

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Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9915

F35885 CU DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF1

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the terminal module involved. The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.
1A: Sign-of-life bit in the receive telegram not set and the receive telegram is too early.
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.
62: Error at the transition to cyclic operation.

Remedy: - check the power supply voltage of the component involved.
- carry-out a POWER ON.
- replace the component involved.
See also: p9915

F35886 CU DRIVE-CLiQ: Error when sending DRIVE-CLiQ data

Reaction: OFF1

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the terminal module involved. Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

F35887 CU DRIVE-CLiQ: Component faulted

Reaction: OFF1

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.
60: Response received too late during runtime measurement.
61: Time taken to exchange characteristic data too long.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

F35895 CU DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF1

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the terminal module involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9915

F35897 DRIVE-CLiQ: No communications to the components

Reaction: OFF2

Acknowledge: power on (IMMEDIATELY)

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Cause: Communications with the DRIVE-CLiQ component specified by the fault value is not possible.
One cause can be, e.g. that a DRIVE-CLiQ cable has been withdrawn.
Fault value (r0949, decimal):
Component ID.

Remedy: - check the DRIVE-CLiQ connections.
- carry-out a POWER ON.

F35899 (N, A) TM: Unknown fault

Reaction: NONE

Acknowledge: IMMEDIATELY (power on)

Cause: A fault has occurred on the terminal module that cannot be interpreted by the control unit firmware.
This can occur if the firmware on the terminal module is more recent than the firmware on the control unit.
Fault value (r0949, decimal):
Fault number.
If required, the significance of this new fault can be referred to in a more recent description of the control unit.

Remedy: - replace the firmware on the terminal module by an older firmware version (r0158).
- upgrade the firmware on the control unit (r0018).

Reaction upon N: NONE

Acknowledge upon N: NONE

Reaction upon A: NONE

Acknowledge upon A: NONE

A35903 (F, N) TM: Error I2C bus

Reaction: NONE

Acknowledge: NONE

Cause: An error has occurred while accessing the internal I2C bus of the terminal module.

Remedy: Replace the terminal module.

Reaction upon F: NONE

Acknowledge upon F: IMMEDIATELY (power on)

Reaction upon N: NONE

Acknowledge upon N: NONE

A35904 (F, N) TM: EEPROM

Reaction: NONE

Acknowledge: NONE

Cause: An error has occurred accessing the non-volatile memory on the terminal module.

Remedy: Replace the terminal module.

Reaction upon F: NONE

Acknowledge upon F: IMMEDIATELY (power on)

Reaction upon N: NONE

Acknowledge upon N: NONE

A35905 (F, N) TM: Parameter access

Reaction: NONE

Acknowledge: NONE

Cause: The control unit attempted to write an illegal parameter value into the terminal module.

Remedy: - check whether the firmware version of the TM (r0158) matches the firmware version of control unit (r0018).
- if required, replace the terminal module.
Note:
The firmware versions that match each other are in the readme.txt file on the CompactFlash Card.

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Reaction upon F:	NONE
Acknowledge upon F:	IMMEDIATELY (power on)
Reaction upon N:	NONE
Acknowledge upon N:	NONE

A35906 (F, N) TM: 24 V power supply missing

Reaction:	NONE
Acknowledge:	NONE
Cause:	The 24 V power supply for the digital outputs is missing. Alarm value (r2124, hexadecimal): 01: TM17 24 V power supply for DI/DO 0 ... 7 missing. 02: TM17 24 V power supply for DI/DO 8 ... 15 missing. 04: TM15 24 V power supply for DI/DO 0 ... 7 (X520) missing. 08: TM15 24 V power supply for DI/DO 8 ... 15 (X521) missing. 10: TM15 24 V power supply for DI/DO 16 ... 23 (X522) missing. 20: TM41 24 V power supply for DI/DO 0 ... 3 missing.
Remedy:	Check the terminals for the power supply voltage (L1+, L2+, L3+, M).
Reaction upon F:	NONE
Acknowledge upon F:	IMMEDIATELY (power on)
Reaction upon N:	NONE
Acknowledge upon N:	NONE

A35907 (F, N) TM: Hardware initialization unsuccessful

Reaction:	NONE
Acknowledge:	NONE
Cause:	The terminal module was not successfully initialized. Alarm value (r2124, hexadecimal): 01: TM17 or TM41 - incorrect configuration request. 02: TM17 or TM41 - programming not successful. 04: TM17 or TM41 - invalid time stamp
Remedy:	Carry-out a POWER ON.
Reaction upon F:	NONE
Acknowledge upon F:	IMMEDIATELY (power on)
Reaction upon N:	NONE
Acknowledge upon N:	NONE

A35910 (F, N) TM: Module overtemperature

Reaction:	NONE
Acknowledge:	NONE
Cause:	The temperature in the module has exceeded the highest permissible limit.
Remedy:	- reduce the ambient temperature. - replace the terminal module.
Reaction upon F:	NONE
Acknowledge upon F:	IMMEDIATELY (power on)
Reaction upon N:	NONE
Acknowledge upon N:	NONE

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A35911 (F, N) TM: PROFIBUS: Clock synchronous operation sign-of-life missing

Reaction: NONE

Acknowledge: NONE

Cause: The maximum permissible number of errors in the master sign-of-life (clock synchronous PROFIBUS) has been exceeded in cyclic operation.
When the alarm is output, the module outputs are reset up to the next synchronization.

Remedy: - check the physical bus configuration (terminating resistor, shielding, etc.).
- check the interconnection of the master sign-of-life (r4201 via p0915).
- check whether the master correctly sends the sign-of-life (e.g. set-up a trace with r4201.12 ... r4201.15 and trigger signal r4301.9).
- check the bus and master for utilization level (e.g. bus cycle time Tdp was set too short).

Reaction upon F: NONE

Acknowledge upon F: IMMEDIATELY (power on)

Reaction upon N: NONE

Acknowledge upon N: NONE

A35920 (F, N) TM: Temperature sensor fault

Reaction: NONE

Acknowledge: NONE

Cause: When evaluating the temperature sensor, an error occurred.
Alarm value (r2124, decimal):
1: Wire breakage or sensor not connected (KTY: R > 1630 Ohm).
2: Measured resistance too low (PTC: R < 30 Ohm, KTY: R < 340 Ohm).

Remedy: - check that the sensor is connected correctly.
- replace sensor.

Reaction upon F: NONE

Acknowledge upon F: IMMEDIATELY (power on)

Reaction upon N: NONE

Acknowledge upon N: NONE

A35999 (F, N) TM: Unknown alarm

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred on the terminal module that cannot be interpreted by the control unit firmware.
This can occur if the firmware on the terminal module is more recent than the firmware on the control unit.
Alarm value (r2124, decimal):
Alarm number.
If required, the significance of this new alarm can be referred to in a more recent description of the control unit.

Remedy: - replace the firmware on the terminal module by an older firmware version (r0158).
- upgrade the firmware on the control unit (r0018).

Reaction upon F: NONE (DCBRAKE, OFF1, OFF2, OFF3, STOP1, STOP2)

Acknowledge upon F: IMMEDIATELY (power on)

Reaction upon N: NONE

Ackn. upon N: NONE

F40000 Fault on another drive object

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for a drive object with an object number greater than 62.
Fault value (r0949, decimal):
Drive object number with fault.

Remedy: Evaluate the fault buffer of the object specified in the fault value.

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F40002 Fault on drive object with object number 2

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40003 Fault on drive object with object number 3

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40004 Fault on drive object with object number 4

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40005 Fault on drive object with object number 5

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40006 Fault on drive object with object number 6

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40007 Fault on drive object with object number 7

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40008 Fault on drive object with object number 8

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

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F40009 Fault on drive object with object number 9

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40010 Fault on drive object with object number 10

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40011 Fault on drive object with object number 11

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40012 Fault on drive object with object number 12

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40013 Fault on drive object with object number 13

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40014 Fault on drive object with object number 14

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40015 Fault on drive object with object number 15

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

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F40016 Fault on drive object with object number 16

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40017 Fault on drive object with object number 17

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40018 Fault on drive object with object number 18

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40019 Fault on drive object with object number 19

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40020 Fault on drive object with object number 20

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40021 Fault on drive object with object number 21

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40022 Fault on drive object with object number 22

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

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F40023 Fault on drive object with object number 23

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40024 Fault on drive object with object number 24

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40025 Fault on drive object with object number 25

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40026 Fault on drive object with object number 26

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40027 Fault on drive object with object number 27

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40028 Fault on drive object with object number 28

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40029 Fault on drive object with object number 29

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

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F40030 Fault on drive object with object number 30

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40031 Fault on drive object with object number 31

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40032 Fault on drive object with object number 32

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40033 Fault on drive object with object number 33

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40034 Fault on drive object with object number 34

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40035 Fault on drive object with object number 35

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40036 Fault on drive object with object number 36

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

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F40037 Fault on drive object with object number 37

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40038 Fault on drive object with object number 38

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40039 Fault on drive object with object number 39

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40040 Fault on drive object with object number 40

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40041 Fault on drive object with object number 41

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40042 Fault on drive object with object number 42

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40043 Fault on drive object with object number 43

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

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F40044 Fault on drive object with object number 44

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40045 Fault on drive object with object number 45

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40046 Fault on drive object with object number 46

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40047 Fault on drive object with object number 47

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40048 Fault on drive object with object number 48

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40049 Fault on drive object with object number 49

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40050 Fault on drive object with object number 50

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

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F40051 **Fault on drive object with object number 51**

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40052 **Fault on drive object with object number 52**

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40053 **Fault on drive object with object number 53**

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40054 **Fault on drive object with object number 54**

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40055 **Fault on drive object with object number 55**

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40056 **Fault on drive object with object number 56**

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

F40057 **Fault on drive object with object number 57**

Reaction: NONE

Acknowledge: IMMEDIATELY

Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.

Remedy: Evaluate the fault buffer of the specified object.

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F40058 Fault on drive object with object number 58

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40059 Fault on drive object with object number 59

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40060 Fault on drive object with object number 60

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40061 Fault on drive object with object number 61

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

F40062 Fault on drive object with object number 62

Reaction: NONE
Acknowledge: IMMEDIATELY
Cause: A fault has occurred for the drive object with this object number.
Fault value (r0949, decimal):
First fault that has occurred for this drive object.
Remedy: Evaluate the fault buffer of the specified object.

A40100 Alarm on another drive object

Reaction: NONE
Acknowledge: NONE
Cause: An alarm has occurred for a drive object with an object number greater than 62.
Alarm value (r2124, decimal):
Drive object number with alarm.
Remedy: Evaluate the alarm buffer of the object specified in the fault value.

A40102 Alarm on drive object with object number 2

Reaction: NONE
Acknowledge: NONE
Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.
Remedy: Evaluate the alarm buffer of the specified object.

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A40103 Alarm on drive object with object number 3

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40104 Alarm on drive object with object number 4

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40105 Alarm on drive object with object number 5

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40106 Alarm on drive object with object number 6

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40107 Alarm on drive object with object number 7

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40108 Alarm on drive object with object number 8

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40109 Alarm on drive object with object number 9

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

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A40110 Alarm on drive object with object number 10

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40111 Alarm on drive object with object number 11

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40112 Alarm on drive object with object number 12

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40113 Alarm on drive object with object number 13

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40114 Alarm on drive object with object number 14

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40115 Alarm on drive object with object number 15

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40116 Alarm on drive object with object number 16

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

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A40117 Alarm on drive object with object number 17

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40118 Alarm on drive object with object number 18

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40119 Alarm on drive object with object number 19

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40120 Alarm on drive object with object number 20

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40121 Alarm on drive object with object number 21

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40122 Alarm on drive object with object number 22

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40123 Alarm on drive object with object number 23

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

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A40124 Alarm on drive object with object number 24

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40125 Alarm on drive object with object number 25

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40126 Alarm on drive object with object number 26

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40127 Alarm on drive object with object number 27

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40128 Alarm on drive object with object number 28

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40129 Alarm on drive object with object number 29

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40130 Alarm on drive object with object number 30

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

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A40131 Alarm on drive object with object number 31

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40132 Alarm on drive object with object number 32

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40133 Alarm on drive object with object number 33

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40134 Alarm on drive object with object number 34

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40135 Alarm on drive object with object number 35

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40136 Alarm on drive object with object number 36

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40137 Alarm on drive object with object number 37

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

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A40138 Alarm on drive object with object number 38

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40139 Alarm on drive object with object number 39

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40140 Alarm on drive object with object number 40

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40141 Alarm on drive object with object number 41

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40142 Alarm on drive object with object number 42

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40143 Alarm on drive object with object number 43

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40144 Alarm on drive object with object number 44

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

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A40145 Alarm on drive object with object number 45

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40146 Alarm on drive object with object number 46

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40147 Alarm on drive object with object number 47

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40148 Alarm on drive object with object number 48

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40149 Alarm on drive object with object number 49

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40150 Alarm on drive object with object number 50

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40151 Alarm on drive object with object number 51

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

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A40152 Alarm on drive object with object number 52

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40153 Alarm on drive object with object number 53

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40154 Alarm on drive object with object number 54

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40155 Alarm on drive object with object number 55

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40156 Alarm on drive object with object number 56

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40157 Alarm on drive object with object number 57

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40158 Alarm on drive object with object number 58

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

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A40159 Alarm on drive object with object number 59

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40160 Alarm on drive object with object number 60

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40161 Alarm on drive object with object number 61

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

A40162 Alarm on drive object with object number 62

Reaction: NONE

Acknowledge: NONE

Cause: An alarm has occurred for the drive object with this object number.
Alarm value (r2124, decimal):
First alarm that has occurred for this drive object.

Remedy: Evaluate the alarm buffer of the specified object.

F40801 CX32 DRIVE-CLiQ: Sign-of-life missing

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the controller extension involved.
The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.

Remedy: - carry-out a POWER ON.
- replace the component involved.
See also: p9916

F40820 CX32 DRIVE-CLiQ: Telegram error

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the controller extension involved.
Fault value (r0949, hexadecimal):
01: CRC error.
02: Telegram is shorter than specified in the length byte or in the receive list.
03: Telegram is longer than specified in the length byte or in the receive list.
04: The length of the receive telegram does not match the receive list.
05: The type of the receive telegram does not match the receive list.
06: The address of the controller extension in the telegram and in the receive list do not match.
07: Controller extension expects a SYNC telegram, but the receive telegram is not a SYNC telegram.
08: Controller extension does not expect a SYNC telegram, but the receive telegram is a SYNC telegram.

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09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9916

F40835 CX32 DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the controller extension involved.
The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.

Remedy: - carry-out a POWER ON.
- replace the component involved.
See also: p9916

F40836 CX32 DRIVE-CLiQ: Send error for DRIVE-CLiQ data

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the controller extension involved.
Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

F40837 CX32 DRIVE-CLiQ: Component faulted

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

F40845 CX32 DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the controller extension involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9916

F40860 CU DRIVE-CLiQ: Telegram error

Reaction: OFF2

Acknowledge: IMMEDIATELY

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Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the controller extension involved.
Fault value (r0949, hexadecimal):
11: CRC error and the receive telegram is too early.
01: CRC error.
12: The telegram is shorter than that specified in the length byte or in the receive list and the receive telegram is too early.
02: Telegram is shorter than specified in the length byte or in the receive list.
13: The telegram is longer than that specified in the length byte or in the receive list and the receive telegram is too early.
03: Telegram is longer than specified in the length byte or in the receive list.
14: The length of the receive telegram does not match the receive list and the receive telegram is too early.
04: The length of the receive telegram does not match the receive list.
15: The type of the receive telegram does not match the receive list and the receive telegram is too early.
05: The type of the receive telegram does not match the receive list.
16: The address of the controller extension in the telegram and in the receive list does not match and the receive telegram is too early.
06: The address of the controller extension in the telegram and in the receive list do not match.
19: The error bit in the receive telegram is set and the receive telegram is too early.
09: The error bit in the receive telegram is set.
10: The receive telegram is too early.

Remedy: - carry-out a POWER ON.
- check the electrical cabinet design and cable routing for EMC compliance
- check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
See also: p9915

F40885 CU DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the controller extension involved.
The nodes do not send and receive in synchronism.
Fault value (r0949, hexadecimal):
0A: The sign-of-life bit in the receive telegram is not set.
1A: Sign-of-life bit in the receive telegram not set and the receive telegram is too early.
21: The cyclic telegram has not been received.
22: Timeout in the telegram receive list.
40: Timeout in the telegram send list.
62: Error at the transition to cyclic operation.

Remedy: - check the power supply voltage of the component involved.
- carry-out a POWER ON.
- replace the component involved.
See also: p9915

F40886 CU DRIVE-CLiQ: Error when sending DRIVE-CLiQ data

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the controller extension involved.
Data were not able to be sent.
Fault value (r0949, hexadecimal):
41: Telegram type does not match send list.

Remedy: - carry-out a POWER ON.

F40887 CU DRIVE-CLiQ: Component faulted

Reaction: OFF2

Acknowledge: IMMEDIATELY

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Cause: Fault detected on the DRIVE-CLiQ component involved. Faulty hardware cannot be excluded.
Fault value (r0949, hexadecimal):
20: Error in the telegram header.
23: Receive error: The telegram buffer memory contains an error.
42: Send error: The telegram buffer memory contains an error.
43: Send error: The telegram buffer memory contains an error.
60: Response received too late during runtime measurement.
61: Time taken to exchange characteristic data too long.

Remedy: - check the DRIVE-CLiQ wiring (interrupted cable, contacts, ...).
- check the electrical cabinet design and cable routing for EMC compliance
- if required, use another DRIVE-CLiQ socket (p9904).
- replace the component involved.

F40895 CU DRIVE-CLiQ: Cyclic data transfer error

Reaction: OFF2

Acknowledge: IMMEDIATELY

Cause: A DRIVE-CLiQ communications error has occurred between the control unit and the controller extension involved.
Fault value (r0949, hexadecimal):
0B: Synchronization error during alternating cyclic data transfer.

Remedy: - carry-out a POWER ON.
See also: p9915

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