SINUMERIK® Documentation

Printing history

The editions listed below have been published prior to the current edition.

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

Status code in the "Remarks" column:
A .... New documentation
B .... Unrevised reprint with new order number
C .... Revised version with new issue

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.

<table>
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<tr>
<th>Edition</th>
<th>Order No.</th>
<th>Note</th>
</tr>
</thead>
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<tr>
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<td>A</td>
</tr>
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<td>C</td>
</tr>
</tbody>
</table>

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Other functions not described in this documentation can possibly also be performed on the control system. However, the customer is not entitled to demand these functions when the new equipment is supplied or servicing is carried out.

Although we have checked the contents of this publication for agreement with the hardware and software described, since differences cannot be totally ruled out, the information in this publication is checked at regular intervals and necessary corrections will be included in the next releases. Suggestions for improvement are always welcome. Subject to change without prior notice.

Order No. 6FC5698-2AA20-0BP1
Printed in the Federal Republic of Germany

Siemens-Aktiengesellschaft
Preface

The present description is intended to be used as a reference manual. It allows the operator on the machine tool to:

- access special cases in the operation of the machine correctly;
- to learn the response of the system/installation to the particular special case;
- to use the possibilities of continuing work after the special case;
- to follow notes for further references.

Scope

Object of the present description are the alarms occurring in the areas NC kernel (NCK),Profibus, cycles and PLC. Further alarms may occur in the HMI area (Human Machine Interface). They are announced to the user by self-explaining alarm lines displayed on the operator panel. These alarms are not part of this Diagnostics Guide.

For special cases in conjunction with the integrated PLC, please refer to the relevant SIMATIC S7-200 system documentation.

Sorting

The alarms are sorted in the Diagnostics Guide by ascending alarm numbers with gaps between them.

Safety

Danger

Please always check the situation of the particular system/installation carefully on the basis of the alarms occurred. Eliminate the causes for the occurrence of the alarms and acknowledge them as described. Otherwise, danger will result for machine, workpiece, saved settings and - under certain circumstances - even for your health.

NC alarms

Table 1_1 Alarm number ranges

<table>
<thead>
<tr>
<th>Alarm number range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>000 000 - 009 999</td>
<td>General alarms</td>
</tr>
<tr>
<td>010 000 - 019 999</td>
<td>Channel alarms</td>
</tr>
<tr>
<td>020 000 - 029 999</td>
<td>Axis / spindle alarms</td>
</tr>
<tr>
<td>030 000 - 099 999</td>
<td>Functional alarms</td>
</tr>
<tr>
<td>060 000 - 064 999</td>
<td>SIEMENS cycle alarms</td>
</tr>
<tr>
<td>065 000 - 069 999</td>
<td>User cycle alarms</td>
</tr>
</tbody>
</table>
### Table 1_2
#### Alarm number ranges (cont'd.)

<table>
<thead>
<tr>
<th>Alarm Range</th>
<th>Description</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 000 - 100 999</td>
<td>Basic system</td>
<td>HMI0</td>
</tr>
<tr>
<td>101 000 - 101 999</td>
<td>Diagnosis</td>
<td></td>
</tr>
<tr>
<td>102 000 - 102 999</td>
<td>Services</td>
<td></td>
</tr>
<tr>
<td>103 000 - 103 999</td>
<td>Machine</td>
<td></td>
</tr>
<tr>
<td>104 000 - 104 999</td>
<td>Parameters</td>
<td></td>
</tr>
<tr>
<td>105 000 - 105 999</td>
<td>Programming</td>
<td></td>
</tr>
<tr>
<td>106 000 - 106 999</td>
<td>Reserve</td>
<td></td>
</tr>
<tr>
<td>107 000 - 107 999</td>
<td>OEM</td>
<td></td>
</tr>
<tr>
<td>110 000 - 110 999</td>
<td>Reserved</td>
<td></td>
</tr>
<tr>
<td>120 000 - 120 999</td>
<td>Reserved</td>
<td></td>
</tr>
</tbody>
</table>

### Table 1_4
#### Alarm number ranges (cont'd.)

<table>
<thead>
<tr>
<th>Alarm Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 000 - 499 999</td>
<td>General alarms</td>
</tr>
<tr>
<td>700 000 - 799 999</td>
<td>User area</td>
</tr>
</tbody>
</table>
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## Alarms

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## Glossary / Abbreviations

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Alarms with alarm number 1xxx are system errors that indicate *internal error states*. The internal error number transmitted provides the developer important information with regard to the error cause and the error location.

These system errors are not described in detail. If they occur with the supplied control systems at all, please contact the following hotline, specifying the alarm number, the alarm text and the internal system error number contained therein:

**Hotline Germany**

Siemens AG, A&D MC  
Tel. +49 (0) 180 525 80 08  
Fax +49 (0) 180 525 80 09

**Hotline China**

Siemens Numerical Control Ltd.  
Development & Engineering Division  
Tel. (025) 2 18 18 88 (Ext. 305)  
Fax (025) 2 18 16 66
1.1 Overview of NC alarms

2000  Sign-of-life monitoring PLC
Explanation  The PLC must provide a sign of life within a defined period of time. If not, this alarm is generated.
Reaction  NC Start inhibited.
          NC not ready.
          NC Stop at alarm.
          Alarm display.
          Interface signals are set.
Remedy  This alarm also occurs as a consequence of PLC Stop.
          (PLC Stop via Programming Tool,
           PLC Stop from start-up switch,
           PLC Stop caused by an alarm)
          If none of the above mentioned cases exists, please contact the hotline indicated in the beginning of this publication and specify the operating system error number.
Program continuation by  Power ON

2001  PLC not booted
Explanation  The PLC must provide at least one sign of life within the defined period of time after POWER ON.
Reaction  NC Start inhibited.
          NC not ready.
          NC Stop at alarm.
          Alarm display.
          Interface signals are set.
Remedy  Contact the hotline indicated in the beginning of this publication.
Program continuation by  Power ON

2140  The current position of the service switch will clear the SRAM with the next POWER ON (general reset active)
Explanation  The initialization switch is currently set to "General reset". As a consequence, the SRAM of the module is cleared with the next module reset; as a result, the NC data memory is lost.
Reaction  Alarm display.
          Interface signals are set.
          NC not ready.
Remedy  Reset the initialization switch back to "1".
Program continuation by  Use the "Cancel" key to cancel the alarm. No further operation required.

3000  EMERGENCY STOP
Explanation  The EMERGENCY STOP request is present at the NC/PLC interface (V 26000000.1).
Reaction  NC Start inhibited.
          NC not ready
NC Stop at alarm
Alarm display
Interface signals are set.

Remedy
Check whether an EMERGENCY STOP cam has been approached or an EMERGENCY STOP button has been tripped. Check the PLC user program.
Correct the EMERGENCY STOP cause and acknowledge EMERGENCY STOP via the PLC/NC user interface (V 26000000.2).

Program continuation by
Use the RESET key to cancel the alarm. Restart the 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 using the MD 20070 AXCONF_MACHAX_USED must be carried out without gaps. Any gaps will be detected when the system boots (POWER ON) and be displayed as an alarm.

Reaction
Alarm display.
Interface signals are set.
NC not ready.
NC Start inhibited.
NC Stop at alarm.

Remedy
Please inform the authorized personnel/customer service.

Configure MD 20070 AXCONF_MACHAX_USED for the axis assignment of the channel without gaps, i.e. with ascending axis indices, a machine axis has to be assigned until zero (no machine axis) is entered for the first time. In this case, all MDs that have higher indices must also be loaded with zero.

The sequence order of the machine numbers is not relevant.

<table>
<thead>
<tr>
<th>Channel Index</th>
<th>1st Channel</th>
<th>Machine Axis Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>AXCONF_MACHAX_USED [CH1, AX1] = 1</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>AXCONF_MACHAX_USED [CH1, AX2] = 2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>AXCONF_MACHAX_USED [CH1, AX3] = 3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>AXCONF_MACHAX_USED [CH1, AX4] = 4</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>AXCONF_MACHAX_USED [CH1, AX5] = 5</td>
</tr>
</tbody>
</table>

Assignment of the channel axes to the machine axes

Program continuation by
Power ON

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

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

Only axes activated in the channel via MD 20070 AXCONF_MACHAX_USED [kx]=m may be declared geometry axes via MD 20050 AXCONF_GEOAX_ASSIGN_TAB [gx]=k.

gx ... Geometry axis index  k ... Channel axis no.
kx ... Channel axis index  m ... Machine axis no.
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<table>
<thead>
<tr>
<th>MD 20050 AXCONF_GEOAX_ASSIGN_TAB</th>
<th>MD 20070 AXCONF_MACHAX_USED</th>
</tr>
</thead>
<tbody>
<tr>
<td>(contains channel axis no. k)</td>
<td>(contains machine axis no. m)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Geometry Axis Index</th>
<th>1. Channel</th>
<th>Channel Axis Index</th>
<th>1. Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Assignment of the geometry axes to the channel axes

**Reaction**
- Alarm display.
- Interface signals are set.
  - NC not ready.
  - NC Start inhibited.
  - NC Stop at alarm.

**Remedy**
- Please inform the authorized personnel/customer service.
- Check MD 20050 AXCONF_GEOAX_ASSIGN_TAB and MD 20070 AXCONF_MACHAX_USED and correct them if necessary.

The basis is the MD array MD 20070 AXCONF_MACHAX_USED in which the machine axis number to be controlled by this channel is entered channel-specifically. The resulting "channel axes" are assigned a name by MD 20080 AXCONF_CHANAX_NAME_TAB and assigned to a geometry axis via MD 20050 AXCONF_GEOAX_ASSIGN_TAB by entering the relevant channel axis in this MD array for each geometry axis.

**4004**

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

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

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

**Reaction**
- Alarm display.
- Interface signals are set.
  - NC not ready.
  - NC Start inhibited.
  - NC Stop at alarm.

**Remedy**
- Correct MD 20050 AXCONF_GEOAX_ASSIGN_TAB.

**Program continuation by**
- Power ON

**4010**

**Machine data %1[%2] contains an illegal identifier**

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

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

2. The identifier must start with 2 random uppercase letters, but not with the $ character (reserved).

3. The identifier must not be a vocabulary word of the NC language (e.g. SPOS).

**Reaction**
- Alarm display.
- Interface signals are set.
- NC not ready.
- NC Start inhibited.
- NC Stop at alarm.

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

*Machine axes: MD 10000 AXCONF_MACHAX_NAME_TAB*

**Program continuation by**
- Power ON

### 4011

**Explanation**

Channel %1 Machine data %2[%3] contains an illegal identifier

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

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


2. The identifier must start with 2 random uppercase letters, but not with the $ character (reserved for system variables).

3. The identifier must not be a vocabulary word of the NC language (e.g. SPOS).

**Reaction**
- Alarm display.
- Interface signals are set.
- NC not ready.
- NC Start inhibited.
- NC Stop at alarm.

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

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

**Program continuation by**
- Power ON

### 4020

**Explanation**

Identifier %1 used repeatedly in machine data %2

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

When defining the names in the NC tables (arrays) for machine axes, an identifier was used which already exists in the control system.

**Reaction**
- Alarm display.
- Interface signals are set.
- NC not ready.
NC Start inhibited.
NC Stop at alarm.

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

Program continuation by
The RESET key must be used in all channels of this mode group to cancel this alarm.

4021

**Channel %1 Identifier %2 used repeatedly in machine data %3**

---

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

When defining the names in the channel-specific tables for **geometry axes and channel axes**, an identifier was used which already exists in the control system.

**Reaction**
Alarm display.
Interface signals are set.
NC not ready.
NC Start inhibited.
NC Stop at alarm.

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

Program continuation by
Power ON

4030

**Channel %1 Missing identifier in machine data %2[%3]**

---

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

Due to the axis configuration in MD 20070 **AXCONF_MACHAX_USED** and MD 20050 **AXCONF_GEOAX_ASSIGN_TAB**, an axis identifier is expected for the MD displayed.

**Reaction**
Alarm display.
Interface signals are set.
NC not ready.
NC Start inhibited.
NC Stop at alarm.

Remedy
Please inform the authorized personnel/customer service.
Check the axis configuration and enter the missing axis identifier in the MD or - if you wish the axis to be omitted - specify machine axis 0 for this channel axis in MD 20070 **AXCONF_MACHAX_USED**. If the axis is a geometry axis which will not be used (with exclusively 2-axis machining, e.g. with turning machines), the channel axis 0 must additionally entered in MD 20050 **AXCONF_GEOAX_ASSIGN_TAB** for the appropriate geometry axis.

Program continuation by
Power ON
### 4032

**Channel %1 Wrong identifier for transverse axis in %2**

**Explanation**

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

Due to the axis configuration in MD 20150 `GCODE_RESET_VALUES` or MD 20100 `DIAMETER_AX_DEF`, a transverse axis identifier is expected in the specified place.

**Reaction**

Alarm display  
Interface signals are set  
NC Stop at alarm  
NC not ready  
NC Start inhibited

**Remedy**

Please inform the authorized personnel/customer service.  
Add the correct identifier.

**Program continuation by**

Power ON

### 4040

**Channel %1 axis identifier %2 inconsistent with machine data %3**

**Explanation**

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

The use of the axis identifier specified in the displayed MD is not consistent with the axis configuration of the channel specified in MD 20070 `AXCONF_MACHAX_USED` and MD 20050 `AXCONF_GEOAX_ASSIGN_TAB`.

**Reaction**

Alarm display  
Interface signals are set  
NC not ready  
NC Start inhibited  
NC Stop at alarm

**Remedy**

Please inform the authorized personnel/customer service.  
Check the identifiers used in MD 10000 `AXCONF_MACHAX_NAME_TAB`, MD 20080 `AXCONF_CHANAX_NAME_TAB` and/or MD 20050 `AXCONF_GEOAX_NAME_TAB` and correct them if necessary.

**Program continuation by**

Power ON

### 4050

**NC code identifier %1 was not reconfigured to %2**

**Explanation**

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

The NC code could not be renamed for one of the following reasons:

- The old identifier does not exist any more.
- The new identifier is assigned to a different type area.

NC codes/vocabulary words can be reconfigured via machine data provided that the type area is not left.

**Type 1:** "Real" G codes: G02, G17, G33, G64, ...

**Type 2:** Known G codes: CIP, TRANS, ...

**Reaction**

Alarm display  
Interface signals are set  
NC not ready  
NC Start inhibited  
NC Stop at alarm
Remedy

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

The list must be structured as follows:

<table>
<thead>
<tr>
<th>Even address: Identifier to be changed</th>
<th>Odd address: New identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>e.g.: <code>NC_USER_CODE_CONF_NAME_TAB[10]</code> = &quot;ROT&quot;</td>
<td><code>NC_USER_CODE_CONF_NAME_TAB[11]</code> = &quot; &quot;</td>
</tr>
</tbody>
</table>

will cancel the ROT function in the control system

Program continuation by Power ON

4060 Default machine data have been loaded

Explanation

Booting with the default values by:

- operator action (e.g. start-up switch)
- MD 11200 `INIT_MD`
- loss of the retentive data
- operator action - booting with saved data, without saving the data first

Reaction

Alarm display.

Remedy

After the default machine data have been loaded, the particular MD for your particular system/installation must be entered/loaded.

Program continuation by

Use the "Cancel" key to cancel the alarm. Reload your own machine data.

4062 Data backup copy has been loaded

Explanation

The used data saved to flash have been loaded into the SRAM.

Reaction

Alarm display.

Remedy

Reload your own machine data.

Program continuation by

Use the RESET key to cancel the alarm.

4065 Battery-backed memory is restored from backup copy (risk of data loss !)

Explanation

When booting, a possible inconsistency has been detected in the battery-backed memory.

The battery-backed memory was initialized using the last backup copy. As a result, the changes in the battery-backed memory carried out since the last update of the backup copy are lost. The cause of this procedure is to be searched for in exceeding of the buffer time. Please make sure that the required on-time of the control system, which is specified in your Start-up Guide, is not exceeded.

The current backup copy of the battery-backed memory was created using the internal data backup carried out last using the softkey "Save data" in the HMI.

Reaction

Alarm display
Interface signals are set.
NC Start inhibited

Remedy

Restart the control system.

Program continuation by
Unit machine data changed

The control system uses internal physical units (mm, degrees, s, for distances to go, velocities, accelerations and the like). With programming or data back-up, some of these values are input/output using other units (rpm, 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 numbers 0 ... 10) if the relevant masking bit is set to “1”.

If the masking bit is set to “0”, the scaling is carried out using the internal default factors.

The following machine data influence the scaling of other MDs:

<table>
<thead>
<tr>
<th>MD 10220</th>
<th>SCALING_USER_DEF_MASK</th>
</tr>
</thead>
<tbody>
<tr>
<td>MD 10230</td>
<td>SCALING_FACTORS_USER_DEF</td>
</tr>
<tr>
<td>MD 10240</td>
<td>SCALING_SYSTEM_IS_METRIC</td>
</tr>
<tr>
<td>MD 10250</td>
<td>SCALING_VALUE_INCH</td>
</tr>
<tr>
<td>MD 30300</td>
<td>IS_ROT_AX</td>
</tr>
</tbody>
</table>

After these data have been changed, the NC must be rebooted. Only then the input of dependent data will be executed correctly.

Reaction  
Alarm display.

Remedy  
Please inform the authorized personnel/customer service.
If the alarm has been displayed after downloading a consistent MD file, the download operation must be repeated and the NC is rebooted. (Scaling-dependent machine data in the file are always put in front of the scaling factors).

Program continuation by  
Use the “Cancel” key to cancel the alarm. No further operation required.

Machine data %1 (and possible further) not changed due to missing access rights %2

Explaination  
%1 = string: MD identifier
%2 = write protection level of the MD

When executing a TOA file, it has been tried to program a data whose protection level is higher than the access authorization currently set at the control system. The relevant data has not been programmed. This alarm is only generated with the first write access violation detected.

Reaction  
Alarm display.

Remedy  
Either set the required access level via the password or delete the appropriate machine data from the MD file.

Program continuation by  
Use the “Cancel” key to cancel the alarm. No further operation required.

%1 Machine data could not be changed with access right %2

Explaination  
%1 = number of MD
%2 = set access right

When executing a TOA file, it has been tried to program a data whose protection level is higher than the access authorization currently set at the control system. The appropriate data have not been programmed. This alarm is issued when acknowledging alarm 4075. It can only be canceled with POWER ON.
10.02 1 Alarms

Reaction  Remedy  Program continuation by

Alarm display.  Either set the required access level via the password or using the keyswitch or delete the appropriate machine data from the MD file.  Power ON

4077  

Explanation  

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

%1 = new value of the machine data  
%2 = machine data number  
%3 = number of bytes requested in excess  
%4 = type of memory  

It was tried to assign the specified memory-configuring machine data a new value.  
The change will not be executed, since it would result in deleting the user memory. The change requires more user memory than provided.  
The third parameter specifies the number of bytes by which the maximum user memory has been exceeded.  
The fourth parameter specifies the type of the memory whose limit is exceeded:  
"D" stands for the dynamic or non-backed user memory (there are, e.g. the LUD variables, this also includes the IPO buffer size). The size of this memory type is defined by the current memory configuration and by the value of MD18210 MM_USER_MEM_DYNAMIC.  
"S" stands for the static or battery-backed user memory (typically, there are the part programs, but also the compensation data, R parameters, tool data); this memory type is also defined by the current memory configuration and by the value of MD 18230 MM_USER_MEM_BUFFERED.  

Reaction  Remedy  Program continuation by

Alarm display.  If the change was not desired, then simply continue.  Use the "Cancel" key to cancel the alarm. No further operation required.  

4090  

Explanation  

Too many errors when booting  

More than <n> errors have occurred when the control system has booted.  

Reaction  Remedy  Program continuation by

Alarm display.  NC Start inhibited  Set the machine data correctly.
4110  IPO cycle factor increased to %1 ms
Explanation %1 = string (new IPO cycle)
The IPO cycle divider was set to a value which was no integer multiple of the position control divider.
The divider (MD 10070 IPO_SYSCLASS_TIME_RATIO) was increased.
In the case of systems working with Profibus DP, IPO_SYSCLASS_TIME_RATIO has been modified due to the changed DP cycle (MD 10050 SYSCLASS_CYCLE_TIME) in SDB1000.

Reaction Alarm display.
Remedy The machine data 10070 IPO_SYSCLASS_TIME_RATIO was adapted accordingly.
Program continuation by Use the RESET key to cancel the alarm. Restart the part program.

4111  Increase PLC clock to %1 ms
Explanation The PLC clock divider was set to a value which was no integer multiple of the IPO clock divider.
The divider (MD 10074 PLC_IPO_TIME_RATIO) was increased.

Reaction Alarm display.
Remedy Adapt the machine data accordingly.
Program continuation by Power ON

4112  Servo clock changed to %1 ms
Explanation %1 = string (new servo cycle)
In the case of systems working with Profibus DP, IPO10060 _SYSCLASS_TIME_RATIO has been modified in SDB1000 due to the changed DP cycle (MD 10050 SYSCLASS_CYCLE_TIME).

Reaction Alarm display.
Remedy The machine data 10060 POSCTRL_SYSCLASS_TIME_RATIO was adapted accordingly.
Program continuation by Use the RESET key to cancel the alarm. Restart the part program.

4113  Sysclock changed to %1 ms
Explanation %1 = string (new PLC cycle)
The MD 10050 SYSCLASS_CYCLE_TIME has been modified due to the changed DP clock in SDB1000.

Reaction Alarm display.
Remedy The machine data 10050 IPO_SYSCLASS_CYCLE_TIME was adapted accordingly.
Program continuation by Use the RESET key to cancel the alarm. Restart the part program.

4114  Error in DP clock of SDB1000
Explanation %1 = string (new PLC cycle)
The DP clock in SDB1000 is faulty and can no longer be set.
The default value of $MN_SYSCLASS_CYCLE_TIME will be set.

Reaction Alarm display.
<table>
<thead>
<tr>
<th>Remedy</th>
<th>Program continuation by</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4150</strong></td>
<td>Correct SDB1000 accordingly.</td>
</tr>
<tr>
<td><strong>Explanation</strong></td>
<td>Power ON</td>
</tr>
<tr>
<td>%1=channel number</td>
<td></td>
</tr>
<tr>
<td><strong>Channel %1 Invalid M function subroutine call configured</strong></td>
<td></td>
</tr>
<tr>
<td>In MD 10715 M_NO_FCT_CYCLE for configuring the subroutine call via M function, an M function was specified which is occupied by the system and cannot be replaced by a subroutine call (M0 to M5, M17, M19, M30, M40 to M45, M70). With the external language active, M96 – M99 are also disabled.</td>
<td></td>
</tr>
<tr>
<td><strong>Reaction</strong></td>
<td></td>
</tr>
<tr>
<td>Alarm display.</td>
<td></td>
</tr>
<tr>
<td>NC Start inhibited</td>
<td></td>
</tr>
<tr>
<td>Interface signals are set</td>
<td></td>
</tr>
<tr>
<td>NC not ready</td>
<td></td>
</tr>
<tr>
<td>NC Stop at alarm</td>
<td></td>
</tr>
<tr>
<td><strong>Remedy</strong></td>
<td>Configure an M function in MD 10715 M_NO_FCT_CYCLE, which is not occupied by the system (M0 to M5, M17, M19, M30, M40 to M45, M70).</td>
</tr>
<tr>
<td><strong>4152</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Explanation</strong></td>
<td>Illegal configuration of the function &quot;Block display with absolute values&quot;</td>
</tr>
<tr>
<td></td>
<td>The function &quot;Block display with absolute values&quot; was configured illegally:</td>
</tr>
<tr>
<td></td>
<td>- An illegal block length was set via $MC_MM_ABSBLOCK:</td>
</tr>
<tr>
<td></td>
<td>When booting, the machine data is checked for the following range of values:</td>
</tr>
<tr>
<td></td>
<td>0, 1, 128 ... 512</td>
</tr>
<tr>
<td></td>
<td>- An illegal display range was set via</td>
</tr>
<tr>
<td></td>
<td>$MC_MM_ABSBLOCK_BUFFER_CONF[]. When booting, the machine data is checked for the following upper/lower limits:</td>
</tr>
<tr>
<td></td>
<td>0 &lt;= $MC_MM_ABSBLOCK_BUFFER_CONF[0] &lt;= 8</td>
</tr>
<tr>
<td></td>
<td>In case of violation of the limits, alarm 4152 is issued.</td>
</tr>
<tr>
<td><strong>Reaction</strong></td>
<td></td>
</tr>
<tr>
<td>Alarm display.</td>
<td></td>
</tr>
<tr>
<td>Interface signals are set.</td>
<td></td>
</tr>
<tr>
<td>Channel not ready.</td>
<td></td>
</tr>
<tr>
<td>NC Stop at alarm.</td>
<td></td>
</tr>
<tr>
<td>NC Start inhibited.</td>
<td></td>
</tr>
<tr>
<td><strong>Remedy</strong></td>
<td>Dimension the block length/display range within the permitted limits.</td>
</tr>
<tr>
<td><strong>Program continuation by</strong></td>
<td>Power ON</td>
</tr>
<tr>
<td><strong>4160</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Explanation</strong></td>
<td>Channel %1 Invalid M function number configured for spindle switching</td>
</tr>
<tr>
<td>%1=channel number</td>
<td></td>
</tr>
<tr>
<td>In MD 20094 SPIND_RIGID_TAPPING_M_NR for configuring the M function number for switching the spindle to the axis mode, an M function was specified which is occupied by the system and cannot be used for switching (M1 ... M5, M17, M30, M40 ... M45).</td>
<td></td>
</tr>
<tr>
<td><strong>Reaction</strong></td>
<td></td>
</tr>
<tr>
<td>Alarm display.</td>
<td></td>
</tr>
<tr>
<td>Interface signals are set.</td>
<td></td>
</tr>
<tr>
<td>Channel not ready.</td>
<td></td>
</tr>
<tr>
<td>NC Start inhibited.</td>
<td></td>
</tr>
<tr>
<td>NC Stop at alarm.</td>
<td></td>
</tr>
<tr>
<td><strong>Remedy</strong></td>
<td>Configure an M function in MD 20094 SPIND_RIGID_TAPPING_M_NR, which is not occupied by the system (M1 to M5, M17, M19, M30, M40 to M45, M70).</td>
</tr>
</tbody>
</table>
### 4182
#### Explanation
Channel %1 Illegal M auxiliary function number in %2%3; MD reset

%1 = channel number
%2 = machine axis identifier
%3 = MD index if necessary

A number which is occupied by the system and cannot be used for an assignment was specified for configuring an M function.

(M0 ... M5, M17, M30, M40 ... M45 and - when working with ISO dialect - also M98,M99).

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

#### Reaction
Alarm display.
Interface signals are set.
Channel not ready.
NC Start inhibited in this channel
NC Stop at alarm.

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

#### Program continuation
Use the RESET key to cancel the alarm. Restart the part program.

### 4183
#### Explanation
Channel %1 M auxiliary function number %2 used repeatedly (%3 and %4)

%1 = channel number
%2 = M auxiliary function number
%3 = machine axis data identifier
%4 = machine data identifier

A number in the specified machine data was used repeatedly for configuring an M function.

#### Reaction
Alarm display.
Interface signals are set.
Mode group not ready.
Channel not ready.
NC Start inhibited in this channel
NC Stop at alarm.

#### Remedy
Check the specified machine data and provide for an unambiguous assignment of the M auxiliary function numbers.

#### Program continuation
Power ON

### 4200
#### Explanation
Channel %1 Geometry axis %2 may not declared a rotary axis

%1 = channel number
%2 = axis name:

The geometry axes constitute a Cartesian coordinate system; therefore, the declaration of a geometry axis as a rotary axis will result in a definition conflict.

#### Reaction
NC not ready.
NC Stop at alarm.
NC Start inhibited.
Alarm display.
Interface signals are set.

#### Remedy
Please inform the authorized personnel/customer service.
Remove the rotary axis declaration of this machine axis.
To do so, determine the geometry axis index for the displayed geometry axis via the machine data array 20060 \texttt{AXCONF\_GEOAX\_NAME\_TAB}. The channel axis number is stored in the MD array 20050 \texttt{AXCONF\_GEOAX\_ASSIGN\_TAB} via the same index. The channel axis number minus 1 results in the channel axis index under which the machine axis number is found in the MD array 20070 \texttt{AXCONF\_MACHAX\_USED}.

**Program continuation by**

**4210**

\textbf{Channel \%1 spindle \%2 Rotary axis declaration missing}

\begin{itemize}
  \item \%1 = channel number
  \item \%2 = axis name, spindle number
\end{itemize}

If you wish to operate a machine axis as a spindle, this machine axis must be declared as a rotary axis.

\textbf{Reaction}

NC not ready.
NC Stop at alarm.
NC Start inhibited.
Alarm display.
Interface signals are set.

\textbf{Remedy}

Please inform the authorized personnel/customer service.
Set the rotary axis declaration for this machine axis in the axis-specific MD 30300 \texttt{IS\_ROT\_AX}.

**Program continuation by**

**4215**

\textbf{Channel \%1 spindle \%2 Modulo axis declaration missing}

\begin{itemize}
  \item \%1 = channel number
  \item \%2 = axis name, spindle number
\end{itemize}

The spindle functionality requires a modulo axis (positions in \(\text{deg}\)).

\textbf{Reaction}

NC not ready.
NC Stop at alarm.
NC Start inhibited.
Alarm display.
Interface signals are set.

\textbf{Remedy}

Please inform the authorized personnel/customer service.
Set MD 30310 \texttt{ROT\_IS\_MODULO}.

**Program continuation by**

**4220**

\textbf{Channel \%1 spindle \%2 declared repeatedly}

\begin{itemize}
  \item \%1 = channel number
  \item \%2 = axis name, spindle number
\end{itemize}

The spindle exists in the channel repeatedly.

\textbf{Reaction}

Alarm display.
Interface signals are set.
NC not ready.
NC Start inhibited.
NC Stop at alarm.

\textbf{Remedy}

Please inform the authorized personnel/customer service.
The spindle axis number is stored in the axis-specific MD array 35000 \texttt{SPIND\_ASSIGN\_TO\_MACHAX}. Which channel this machine axis / spindle will be assigned can be seen from the machine axis index. (The machine axis number is to be found in the MD array 20070 \texttt{AXCONF\_MACHAX\_USED}).
4225  Channel %1 axis %2 Rotary axis declaration missing
Explanation %1 = channel number  
%2 = axis name, axis number  
The modulo functionality requires a rotary axis (positions in [deg]).
Reaction  
NC not ready.  
NC Stop at alarm.  
NC Start inhibited.  
Alarm display.  
Interface signals are set.
Remedy  
Please inform the authorized personnel/customer service.  
Set MD 30300 IS_ROT_AX.
Program continuation by  
Power ON

4230  Channel %1 In current channel status, data cannot be changed from external source
Explanation %1 = channel number  
This data may not be entered during part program execution (e.g. setting data for the spindle speed limitation or for the dry run feed).
Reaction  
Alarm display.
Remedy  
Change the data to be entered before starting the part program.
Program continuation by  
Use the "Cancel" key to cancel the alarm. No further operation required.

4240  Computation time overflow on the IPO or position controller level, IP %1
Explanation %1 = program position  
The settings for the interpolation and position control clock have been modified prior to the last booting such that now too few computation time is available for the cyclic tasks to be performed.  
The alarm occurs immediately after booting if too few computing time is available for a task even with standing axes and the NC program not started. The task overflow, however, may also only occur if computation-time intensive NC functions are called during the program execution.
Reaction  
NC not ready.  
NC Start inhibited.  
NC Stop at alarm.  
The NC switched to the follow-up mode.  
Alarm display.  
Interface signals are set.
Remedy  
Please inform the authorized personnel/customer service.  
Optimize the clock time in NC MD 10050 SYSCLK_CYCLE_TIME,  
MD 10060 POSCTRL_SYSCLK_TIME_RATIO and/or  
MD 10070 IPO_SYSCLK_TIME_RATIO more cautiously.  
The test should be carried out using an NC program which constitutes a maximum possible load for the control system. For reasons of safety, the ties determined in this way should be provided with a safety reserve of 15 ... 25%.
Program continuation by  
Power ON
**4310**

**Illegal declaration in MD %1 index %2**

**Explanation**

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

The values of the machine data must be written in the ascending sequence order.

**Reaction**

NC not ready.  
NC Stop at alarm.  
NC Start inhibited.  
Alarm display.  
Interface signals are set.

**Remedy**

Correct the MD accordingly.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

---

**4340**

**Channel %1 Invalid transformation type in transformation no. %2.**

**Explanation**

%1 = channel number  
%2 = transformation name

An invalid number, i.e. a number not defined was entered in one of the machine data TRAFO_TYPE_1 ... TRAFO_TYPE_8. This alarm will also occur if a certain transformation type is not possible for the control system type specified.

**Reaction**

Alarm display  
Interface signals are set  
NC stop at alarm  
Channel not ready  
Mode group not ready  
NC Start inhibited

**Remedy**

Enter a valid transformation type.

**Program continuation by**

Power ON

---

**4343**

**Channel %1 It was tried to change the machine data of an active transformation.**

**Explanation**

%1 = channel number

It was tried to change the machine data of an active transformation in order to enable them via RESET or NEWCONFIG.

**Reaction**

Alarm display  
Interface signals are set  
NC Stop at alarm at the end of the block  
Interpreter stop

**Remedy**

Set valid machine data.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

---

**4346**

**Channel %1 Faulty geometry axis assignment in machine data %2[%3]**

**Explanation**

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

The machine data TRAFO_GEOAX_ASSIGN_TAB_1/2 contains an invalid entry. The following error causes are possible:
- The entry refers to a channel axis not existing.
### Alarms

The entry is zero (no axis) although the transformation requires the appropriate axis as a geometry axis.

<table>
<thead>
<tr>
<th>Reaction</th>
<th>Alarm display. Interface signals are set. Reorganize also the correction block. NC Stop at alarm at the end of the block.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remedy</td>
<td>Correct the entry in TRAFO_GEOAX_ASSIGN_TAB_1/2 or TRAFO_AXES_IN_1/2.</td>
</tr>
<tr>
<td>Program continuation by</td>
<td>Use the RESET key to cancel the alarm. Restart the part program.</td>
</tr>
</tbody>
</table>

#### 4347

<table>
<thead>
<tr>
<th>Explanation</th>
<th>Channel %1 Faulty channel axis assignment in machine data %2[%3]</th>
</tr>
</thead>
<tbody>
<tr>
<td>%1</td>
<td>channel number</td>
</tr>
<tr>
<td>%2</td>
<td>name of the machine data</td>
</tr>
<tr>
<td>%3</td>
<td>transformation number</td>
</tr>
</tbody>
</table>

- The entry refers to a channel axis not existing.
- The entry is zero (no axis) although the transformation requires the appropriate axis as a channel axis.

<table>
<thead>
<tr>
<th>Reaction</th>
<th>Alarm display. Interface signals are set. Reorganize also the correction block. NC Stop at alarm at the end of the block.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remedy</td>
<td>Correct the entry in TRAFO_AXES_IN_1/2.</td>
</tr>
<tr>
<td>Program continuation by</td>
<td>Use the RESET key to cancel the alarm. Restart the part program.</td>
</tr>
</tbody>
</table>

#### 4400

<table>
<thead>
<tr>
<th>Explanation</th>
<th>MD change results in reorganization of the battery-backed memory (loss of data)</th>
</tr>
</thead>
</table>

An MD configuring the battery-backed memory was changed. Booting the NC with the changed data will reorganize the battery-backed memory, resulting in a loss of all battery-backed user data (part programs, tool data, GUD, LEC, ...).

<table>
<thead>
<tr>
<th>Reaction</th>
<th>Alarm display.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remedy</td>
<td>If the control system contains user data that have not been saved, a data backup must be carried out before the NC is next booted. The reorganization of the memory can be avoided by resetting the altered MD to the value during the last booting manually.</td>
</tr>
<tr>
<td>Program continuation by</td>
<td>Use the “Cancel” key to cancel the alarm. No further operation required.</td>
</tr>
</tbody>
</table>

#### 4502

<table>
<thead>
<tr>
<th>Explanation</th>
<th>Channel %1 Anachronism: %2(%3) -&gt; %4</th>
</tr>
</thead>
<tbody>
<tr>
<td>%1</td>
<td>channel number</td>
</tr>
<tr>
<td>%2</td>
<td>string: MD identifier</td>
</tr>
<tr>
<td>%3</td>
<td>string: MD identifier</td>
</tr>
<tr>
<td>%4</td>
<td>string: MD identifier</td>
</tr>
</tbody>
</table>

The reset behavior of the 6th or 8th G group has been defined in MD 20110 RESET_MODE_MASK, bit4 and bit5 to date; now, this setting is made in MD 20152 GCODE_RESET_MODE.
To be able to handle "old" data backups with full compatibility, the "old" values are taken from MD 20110 \texttt{RESET\_MODE\_MASK} and entered in MD 20152 \texttt{GCODE\_RESET\_MODE}.

**5000**

**Explanation**
The communication job (data exchange between NC and HMI, such as loading of an NC part program) cannot be carried out due to insufficient memory. Cause: Too many parallel communication jobs.

**Reaction**
Alarm display.

**Remedy**
No remedial action possible - the operator action that resulted in the alarm message must be repeated. Use "Cancel" to cancel the alarm.

**Program continuation by**
Use the "Cancel" key to cancel the alarm. No further operation required.

**6000**

**Explanation**
The memory management was not able to carry out the mapping of the NC user memory using the values in the machine data. The reason is that the entire memory is used by the NC user both as a dynamic memory and a static memory (e.g., for: number of tool offsets, number of directories and files, etc.).

**Reaction**
Alarm display.
Interface signals are set.
NC Start inhibited.
NC Stop at alarm.

**Remedy**
Redefine the memory mapping.
It is not possible to specify a certain MD as an alarm cause for the NC user memory mapping. Therefore, the MD that has caused the alarm must be determined on the base of the default values in the machine data and by modifying the user-specific memory mapping step by step.

In most cases, not only an individual MD is selected too large, and it is therefore recommended to reduce the memory area in several MDs correspondingly.

**Program continuation by**
Use the RESET key to cancel the alarm. Restart the part program.

**6010**

**Explanation**
\%1 = channel number
\%2 = string (block name)
\%3 = internal error identifier

The data management has detected an error in the boot sequence. A possible reason is that the specified data block was not created. The type of the error can be derived from the error number. An error number >100000 indicates to a persisting system error. Otherwise, the user memory area has been dimensioned too small. In this case, the (user) error numbers have the following meaning:
<table>
<thead>
<tr>
<th>Error number</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No more memory capacity</td>
</tr>
<tr>
<td>2</td>
<td>Number of maximum possible symbols exceeded</td>
</tr>
<tr>
<td>3</td>
<td>Index 1 outside the valid range of values</td>
</tr>
<tr>
<td>4</td>
<td>Name already exists in the channel</td>
</tr>
<tr>
<td>5</td>
<td>Name already exists in the NC</td>
</tr>
</tbody>
</table>

If the alarm occurs after loading cycle programs, macro definitions or definitions for global user data (GUD), the machine data for the user memory configuration have been dimensioned not correctly. In all the other cases, modifications to machine data that are already correct result in errors in the user memory configuration.

The following block names (2nd parameter) are known in the NC (both system and user data blocks in total; if problems occur only in the user data blocks, as a rule, these can be eliminated by user intervention)

- _N_NC_OPT - system-internal: Option data, NC-global
- _N_NC_SEA - system-internal: Setting data, NC global
- _N_NC_GD1 - user: 1st GUD block defined by _N_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-globally
- _N_NC_GD6 - user: 6th GUD block defined by _N_GUD6_DEF, NC-globally
- _N_NC_GD7 - user: 7th GUD block defined by _N_GUD7_DEF, NC-globally
- _N_NC_GD8 - user: 8th GUD block defined by _N_GUD8_DEF, NC-globally
- _N_NC_GD9 - user: 9th GUD block defined by _N_GUD9_DEF, NC-globally
- _N_NC_MAC - user: Macro definitions
- _N_NC_FUN - user: Cycle programs
Alarms

- _N_CHc_OPT - system-internally: Option data, channel-specific
- _N_CHc_SEA - system-internal: Setting data, channel-specific
- _N_CHc_SEA - system-internal: Machine data, channel-specific
- _N_CHc_SEA - system-internal: Protection areas, channel-specific
- _N_CHc_SEA - 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-internally: Option data, axial
- _N_AXa_SEA - system-internal: Setting data, axial
- _N_AXa_SEA - system-internal: Machine data, axial
- _N_AXa_EEC - system-internal:
  - Leadscrew error compensation data, axial
- _N_AXa_QEC - system-internal: Quadrant error compensation data, axial
- _N_TOt_TOC - system-internal: Toolholder data, TOA-specific
- _N_TOt_TOA - system-internal: Tool data, TOA-specific
- _N_TOt_TMA - system-internal: Magazine data, TOA-specific

_c = channel number
_a = machine axis number
_t = TOA unit number

Reaction
There are further internal system data blocks with identifiers.
Alarm display.
Interface signals are set.
NC not ready.
NC Start inhibited.
NC Stop at alarm.

Remedy
Either correct the machine data or undo the changes.
Please inform the authorized personnel/customer service.

- There are two decisive machine data for cycle programs:
  MD 18170 **MM_NUM_MAX_FUNC_NAMES** = max. number of all cycle programs
  Error number = 2 indicates that the value concerned is too small
  MD 18180 **MM_NUM_MAX_FUNC_PARAM** = max. number of all parameters defined in the cycle programs
  Error number = 2 indicates that the value concerned is too small
  (if this MD is changed, the data contained in the battery-backed memory remain stored)

- The following applies to macro definitions:
  MD 18160 **MM_NUM_USER_MACROS** = max. number of all macro definitions
  Error number = 2 indicates that the value concerned is too small
(if this MD is changed, the data contained in the battery-backed memory remain stored)

- The following applies to GUD variables:
  MD 18118 **MM_NUM_GUD_MODULES** = max. number of GUD data blocks per area (NC/channel) (if GD1, GD2, GD3, GD9 are to be defined, the value must be =9 and not =4)
  MD 18120 **MM_NUM_GUD_NAMES_NCK** = max. number of all NC-global GUD variables
  Error number = 2 indicates that the value concerned is too small
  MD 18130 **MM_NUM_GUD_NAMES_CHAN** = max. number of all channel-specific GUD variables in the channel
  Error number = 2 indicates that the value concerned is too small
  MD 18150 **MM_GUD_VALUES_MEM** = entire value memory of all GUD variables together
  Error number = 1 indicates that the value concerned is too small

**Power ON**

**6020** Machine data changed - memory remapped

**Explanation** Machine data defining the NC user memory have been changed. The data management has remapped the memory according to the changed machine data.

**Reaction** Alarm display.

**Remedy** No remedial action required. Re-enter the required user data.

**Program continuation by** Use the RESET key to cancel the alarm. Restart the part program.

**6030** User memory limit has been adapted

**Explanation** When booting, the data management checks the really existing, physical user memory (DRAM, DPRAM and SRAM) against the values in the system-specific machine data MD 18210 **MM_USER_MEM_DYNAMIC**, MD 18220 **MM_USER_MEM_DPR** and MD 18230 **MM_USERMEM_BUFFERED**.

**Reaction** Alarm display.

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

**Program continuation by** Use the RESET key to cancel the alarm. Restart the part program.

**6035** System has only %2 kB free user memory of the type "%3" instead of only %1 kB

**Explanation** %1 = free memory capacity in kB defined for the control system model concerned %2 = real maximum capacity of free memory in kB %3 = memory type, "D" = not battery-backed, "S" = battery-backed

This alarm may only occur after a 'cold restart' (= NCK booting with the default machine data). The alarm is only a note; the NCK functions are not affected. This alarm indicates that the NCK has fewer user memory than intended by Siemens for this control system variant. The value of the really free user memory can also be taken from the machine data $MN_INFO_FREE_MEM_DYNAMIC, $MN_INFO_FREE_MEMS_TATIC.
Siemens delivers the NCK with default settings which depending on the particular model provide a certain (free) memory for the specific settings of the particular applications. Original NCK systems are set by default such that this alarm does not occur in cold restart.

**Reaction**

Alarm display.

**Remedy**

- This message may have the following possible causes:
  - The NCK is run on a hardware that is not intended for this NCK release (in other words, that has insufficient memory capacity).
  - If the particular application can manage with the remaining free user memory (in other words, can be started up without errors), the message can also simply be ignored.

Use the RESET key to cancel the alarm.

**Program continuation by**

**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

Tool monitoring:
The operator is referred to the fact the specified D compensation of the tool monitored with reference to the time or count has reached its prewarning limit.

If possible, the D number is specified; if not, the 4th parameter will be 0.

The particular type of the tool monitoring is a property of the tool (see $TC_TP9).

If you do not work with replacement tools, the specification of the duplo number has no further meaning.

The alarm is triggered either via MMC or PLC (= OPI). The channel context is not defined. For this reason, the TO unit is specified.

**Reaction**

Alarm display.

**Remedy**

only intended for information; the user will decide what to do.

**Program continuation by**

Use the “Cancel” key to cancel the alarm. No further operation 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:
The operator is referred to the fact the specified D compensation of the tool monitored with reference to the time or count has reached its prewarning limit.

If possible, the D number is specified; if not, the 4th parameter will be 0.

The particular type of the tool monitoring is a property of the tool (see $TC_TP9).

If you do not work with replacement tools, the specification of the duplo number has no further meaning.

This alarm is caused within the framework of the NC program execution.
Alarm display.
Interface signals are set.

Only intended for information; the user will decide what to do.

Use the "Cancel" key to cancel the alarm. No further operation required.

**6412**

**Explanation**

%1 = TO unit
%2 = tool identifier (name)
%3 = duplo number
%4 = D number

Tool monitoring:
The operator is referred to the fact the specified D compensation of the tool monitored with reference to the time or count has reached its monitoring limit.
If possible, the D number is specified; if not, the 4th parameter will be 0.
The particular type of the tool monitoring is a property of the tool (see $TC_TP9).
If you do not work with replacement tools, the specification of the duplo number has no further meaning.
The alarm is triggered either via MMC or PLC (= OPI). The channel context is not defined. For this reason, the TO unit is specified.

**6413**

**Explanation**

%1 = TO unit
%2 = tool identifier (name)
%3 = duplo number
%4 = D number

Tool monitoring:
The operator is referred to the fact the specified D compensation of the tool monitored with reference to the time or count has reached its monitoring limit.
If possible, the D number is specified; if not, the 4th parameter will be 0.
The particular type of the tool monitoring is a property of the tool (see $TC_TP9).
If you do not work with replacement tools, the specification of the duplo number has no further meaning.
This alarm is caused within the framework of the NC program execution.
6430 Workpiece counter: Overflow of table of monitored cutting edges

Explanation
No further cutting edges can be entered in the workpiece counter table. You can store as many cutting edges for the workpiece counter as totally possible in the NCK.
In other words: If each cutting edge of every tool is used for a workpiece exactly once, the limit is reached.
If at the same time several workpieces are machined at several toolholders/spindles, cutting edges can be stored for the workpiece counter for the whole range of workpieces using MD18100 MM_NUM_CUTTING_EDGES_IN_TOA.
If the alarm occurs, this means that cutting edges which will be used as of now are no longer monitored for their count; this applies until the table is emptied, e.g. via the NC language command SETPIECE or the relevant job from the MMC, PLC (PI service).

Reaction
Alarm display.
Interface signals are set.
NC Start inhibited.

Remedy
- Decrementing workpiece counter forgotten?
  If so, program SETPIECE in the part program or include the appropriate command in the PLC program.
- If the part program or the PLC program is correct, more memory should be freed for the cutting edges using the machine data $MN_MM_NUM_CUTTING_EDGES_IN_TOA (this can only be done by persons who have the appropriate access rights).

Program continuation by Use the "Cancel" key to cancel the alarm. No further operation required.

6431 Illegal function; tool management / monitoring not activated

Explanation
A function of the data management has been called which is not available due to the tool management or tool monitoring not enabled; this may pertain, e.g. to the language commands GETT, SETPIECE, GETSELT, NEWT, DELT.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
- Please inform the authorized personnel/customer service.
- Check the desired configuration of the CNC. Are tool management or tool monitoring necessary, but not activated?
- Is a part program used what is designed for a CNC with tool management/tool monitoring? And even this program is started on a CNC not providing tool management/tool monitoring. This is not possible! Either run the part program on an appropriate CNC or modify the part program.
- Activate the tool management/tool monitoring by setting the appropriate machine data; see $MN_MM_TOOL_MANAGEMENT_MASK, $MC_TOOL_MANAGEMENT_MASK.
- Check whether the required option is set.

Program continuation by Use the "Cancel" key to cancel the alarm. No further operation required.
Function cannot be executed; no tool is mounted on the spindle; channel %1

Explanation
%1 = channel number
You have probably tried to carry out an operation in the part program of the appropriate channel, which requires a tool mounted on the toolholder/spindle. This can be, e.g. the workpiece count monitoring function.

Reaction
Alarm display.
Interface signals are set.

Remedy
• Select a different function, a different toolholder/spindle or mount a tool on the toolholder/spindle.

Program continuation by
Use either the "Cancel" key or press NC START to cancel the alarm.

NC memory limit reached

Explanation
Too many programs have been loaded. The job cannot be executed.
During the commissioning, this may pertain to files of the NC file system (part of the NC memory), such as initialization files, NC programs etc.

Reaction
Alarm display.

Remedy
Delete or unload files (e.g. part programs).

Program continuation by
Use the "Cancel" key to cancel the alarm. No further operation required.

Too many part programs in NC memory

Explanation
The number of the files in the NC file system (part of the NC memory) has reached the maximum.

Reaction
Alarm display.

Remedy
Delete or unload files (e.g. part programs).

Program continuation by
Use the "Cancel" key to cancel the alarm. No further operation required.

Too many files in directory

Explanation
The number of files in a directory of the NC memory has reached the maximum.

Reaction
Alarm display.

Remedy
Delete or unload files (e.g. part programs) from the directory concerned.

Program continuation by
Use the "Cancel" key to cancel the alarm. No further operation required.

Too many directories in NC memory

Explanation
The number of the directories in the NC file system (part of the NC memory) has reached the maximum.

Reaction
Alarm display.

Remedy
Delete or unload directories not needed (e.g. workpiece).

Program continuation by
Use the "Cancel" key to cancel the alarm. No further operation required.
Too many subdirectories
The number of subdirectories in a directory of the NC has reached the maximum.

Alarm display.
Please inform the authorized personnel/customer service.
Delete or unload subdirectories from the directory concerned.
Use the “Cancel” key to cancel the alarm. No further operation required.

Illegal data format
Illegal data are entered in a file of the NC; this may occur, e.g. if binary data are loaded into the NC as an ASCII file.

Alarm display.
Mark the file as binary data (e.g. via the extension .BIN)
Use the “Cancel” key to cancel the alarm. No further operation required.

NC memory limit reached
The DRAM file system of the NC is full. The job cannot be executed. Too many system files have been created in the DRAM.

Alarm display.
Start fewer “Program execution from an external source” processes.

NC card memory limit reached
The NC card file system of the NC is full. No further data can be stored on the NC card.

Alarm display.
Delete data from the PCMCIA card.
Use the “Cancel” key to cancel the alarm. No further operation required.

Too many files opened on the NC card
Too many files on the NC card are accessed at the same time.

Alarm display.
Repeat the action later.
Use the “Cancel” key to cancel the alarm. No further operation required.

Invalid NC card format
The NC card cannot be accessed because of the invalid NC card format.

Alarm display.
Replace the NC card.
Use the “Cancel” key to cancel the alarm. No further operation required.
**6630**
**NC card hardware defective**
Explanation: The NC card cannot be accessed because the card is defective.
Reaction: Alarm display.
Remedy: Replace the PCMCIA card.
Program continuation by: Use the “Cancel” key to cancel the alarm. No further operation required.

**6640**
**NC card not plugged**
Explanation: The NC card cannot be accessed because no card is inserted.
Reaction: Alarm display.
Remedy: Insert the NC card.
Program continuation by: Use the “Cancel” key to cancel the alarm. No further operation required.

**6650**
**Write protection of NC card active**
Explanation: Writing to the NC card is not possible since the write protection is active.
Reaction: Alarm display.
Remedy: Deactivate the write protection.
Program continuation by: Use the “Cancel” key to cancel the alarm. No further operation required.

**6660**
**Flash File System option not set**
Explanation: Writing to the NC card is not possible since the relevant option is not set.
Reaction: Alarm display.
Remedy: Buy the option.
Program continuation by: Use the “Cancel” key to cancel the alarm. No further operation required.

**6670**
**Data are being read from NC card**
Explanation: This alarm is issued while the contents of the NC card are being read. During this time, the FFS cannot be accessed.
Reaction: Alarm display.
Remedy: Wait until reading is finished.
Program continuation by: The alarm display will disappear with the alarm cause. No further operation required.

**6671**
**Data are being written to NC card**
Explanation: This alarm is issued while the contents of the NC card are being written. During this time, the flash file system (FFS) cannot be accessed. If POWER OFF is provided during the time when the alarm exists, the contents of the NC card are destroyed!
Reaction: Alarm display.
Remedy: Wait until writing is finished.
Program continuation by: The alarm display will disappear with the alarm cause. No further operation required.
6693
Explanation
File %1 is lost
%1 = file name

Reaction
The file change could not correctly be completed due to power failure. The file is lost.
Alarm display.
Interface signals are set.
NC not ready.
NC Start inhibited.

Remedy
Reload the file.

Program continuation by
Power ON

6698
Explanation
Unknown NC card (%1/%2). Writing not possible.
%1 = string: NC card number
%2 = string: Manufacturer code

Reaction
Alarm display.

Remedy
Either install a compatible NC card or, after consultation of SIEMENS, enter the new manufacturer code/device code in MD 11700 PERMISSIVE_FLASH_TAB.

Program continuation by
Use the "Cancel" key to cancel the alarm. No further operation required.

8040
Explanation
MD %1 reset; appropriate option not set
%1 = string: MD identifier

Reaction
Alarm display.

Remedy
Please inform the authorized personnel/customer service.
Please contact your machine manufacturer or a sales representative from A&D MC of SIEMENS AG for ordering the required option.

Program continuation by
Use the "Cancel" key to cancel the alarm. No further operation required.

8041
Explanation
Axis %1: MD %2 reset; appropriate option not sufficient
%1 = axis number
%2 = string: MD identifier

Reaction
Alarm display.
Interface signals are set.
NC Start inhibited.
NC Stop at alarm.
NC not ready.
Under certain circumstances, it can be switched across all channels via MD.

Program continuation by
Power ON

10203
Explanation
Channel %1 NC start not possible without reference point
%1 = channel number

NC START has been pressed either in MDA or AUTOMATIC mode, and at least one axis to be referenced has not reached its reference point.
Referencing start can be initiated either channel or axis-specifically.

1. **Channel-specific reference-point approach:** The rising edge of the interface signal "Activate referencing" (V 32000001.0) starts an automatic cycle that starts the axes of the channel in the order specified in the axis-specific MD 34 110 REFP_CYCLE_NR (axis order for channel-specific referencing).

   -1: Axis is not involved in channel-specific referencing, but has to be referenced for NC start.

   0: Axis is not involved in channel-specific referencing, but must be referenced for NC start.

   1-4: Starting order for channel-specific referencing (axes/channels with the same number are started simultaneously)

2. **Axis-specific referencing:** Press the direction key corresponding to the approach direction specified in the axis-specific MD 34 010 REFP_CAM_DIR_IS_MINUS (Approach reference point in the minus direction).

Press NC START to cancel the alarm and continue the program execution.

**Channel %1 Press NC START to continue the program**

%1 = channel number

After block search with calculation, the control system is in the desired state. The program can now be started with NC Start or in the state first changed by Overwrite/Jog.

**Reaction**

Alarm display.

**Remedy**

NC Stop at alarm.

**Program continuation by**

Press NC START to cancel the alarm and continue the program execution.

**Channel %1:Command % 2 denied**

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

The channel has received a command which cannot be executed.

**Reaction**

Alarm display.

**Remedy**

Press RESET.

**Program continuation by**

Use the "Cancel" key to cancel the alarm. No further operation required.

**Channel %1 Auto Repos function not enabled**

%1 = channel number

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

**Reaction**

Alarm display.

**Remedy**

This is only a note.

**Program continuation by**

Use the "Cancel" key to cancel the alarm. No further operation required.
10601 Channel %1 block %2 End-of-block velocity when thread cutting is zero
Explanation
%1 = channel number
%2 = block number, label
This alarm occurs only if several blocks with G33 follow one after another. The end-of-block velocity in the specified block is zero although still one more velocity block follows. Possible causes are, for example:
• G09
• Auxiliary function after a motion
• Output of auxiliary function prior to the motion of the subsequent block
Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.
Remedy
Modify the NC part program (do not program “Stopping at end of block” G09).
Change the general machine data 11110 AUXFU_GROUP_SPEC [n] for selecting the output time of an auxiliary function group from “Auxiliary function output prior to/after the movement” to “Auxiliary function output during the motion”.
Bit 5 = 1: Auxiliary function output prior to the motion
Bit 6 = 1: Auxiliary function output during the motion
Bit 7 = 1: Auxiliary function output after the motion
Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

10604 Channel %1 block %2 Thread pitch increase too high
Explanation
%1 = channel number
%2 = block number, label
The increase in the thread pitch results in an axis overload. The check assumes a spindle override of 100%.
Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.
Remedy
Reduce spindle speed, thread pitch increase or path length in the part program.
Program continuation by
Press NC START to cancel the alarm and continue the program.

10605 Channel %1 block %2 Thread pitch reduction too high
Explanation
%1 = channel number
%2 = block number, label
The reduction in the thread pitch results in axis standstill in the thread block.
Reaction
Alarm display
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.
Remedy
Reduce the increase in the thread pitch or the path length in the part program.
Program continuation by
Press NC START to cancel the alarm and continue the program.
10607  
**Explanation**  
Channel %1 block %2 Thread cannot be executed with frame  
%1 = channel number  
%2 = Block number, label  
The current frame falsifies the reference between thread length and thread pitch.  
**Reaction**  
Alarm display.  
Interface signals are set.  
NC Stop at alarm at block end.  
NC Start inhibited.  
**Remedy**  
Carry out thread cutting with G33, G34, G35 without frame.  
Use G63 or G331/G332.  
**Program continuation by**  
Press the RESET key to cancel the alarm. Restart the part program.

10620  
**Explanation**  
Channel %1 block %3 axis %2 reaches software limit switch %4  
%1 = channel number  
%2 = axis name, spindle number  
%3 = block number, label  
%4 = string  
During the traversing movement, it is detected that the software limit switch has been overtraveled in the displayed direction. The overshooting of the traversing range could not yet be detected in the block preparation, since a motion overlay by the handwheel takes place.  
**Reaction**  
Alarm display.  
Interface signals are set.  
NC Start inhibited.  
**Remedy**  
Depending on the cause that initiated the alarm, use the following remedy:  
1. Handwheel override: Undo the motion overlay and avoid/reduce it when repeating the program.  
2. Transformation: Check the set/programmed zero offset (current frame). If the values are correct, offset the tool mounting device to avoid that always the same alarm is generated (with recurring abnormal program termination).  
**Program continuation by**  
Use the RESET key to cancel the alarm. Restart the part program.

10621  
**Explanation**  
Channel %1 %2 rests on software limit switch %3  
%1 = channel number  
%2 = axis name, spindle number  
%3 = string  
The specified axis is already on the displayed software limit position.  
**Reaction**  
Alarm display.  
**Remedy**  
Check the machine data  
MD 36110 POS_LIMIT_PLUS/MD 36130 POS_LIMIT_PLUS2 and MD 36100 POS_LIMIT_MINUS/MD 36120 POS_LIMIT_MINUS2  
for the software limit switches.  
Check the axis-specific interface signals "2nd software limit switch plus" (V 380x1000.3) and "2nd software limit switch minus" (V 380x1000.2) to make sure that the 2nd software limit switch is selected.  
**Program continuation by**  
The alarm display will disappear with the alarm cause. No further operation required.
**10630**

**Explanation**

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

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

The specified axis violates the working area limitation. This is only detected in the main run, since either the minimum axis values could not be determined prior to the transformation or an overlaid movement is present.

**Reaction**

Alarm display.  
Interface signals are set.  
NC Stop at alarm at block end.  
NC Start inhibited.

**Remedy**

Program a different motion or do not carry out an overlaid motion.

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

---

**10631**

**Explanation**

Channel %1 axis %2 stands on working area limitation %3

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

In the JOG mode, the specified axis reaches the positive working area limitation.

**Reaction**

Alarm display.

**Remedy**

Check the setting data

SD 43420 WORKAREA_LIMIT_PLUS and  
SD 43430 WORKAREA_LIMIT_MINUS for the working area limitation.

**Program continuation by**

The alarm display will disappear with the alarm cause. No further operation required.

---

**10720**

**Explanation**

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

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

The path programmed for the axis violates the software limit switch currently active. (The 2nd 2nd software limit switch becomes active with the interface signal “2nd software limit switch plus/minus” in V 380x1000 and .3). The alarm is activated when preparing the part program block.

**Reaction**

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

**Remedy**

Check the position specified for the axis in the part program.

Check the machine data

MD 16100 POS_LIMIT_MINUS/MD 36120 POS_LIMIT_MINUS2 and  
MD 36110 POS_LIMIT_PLUS/MD 36130 POS_LIMIT_PLUS2 for the software limit switches.

Check the axis-specific interface signals “2nd software limit switch minus” (V 380x1000.23) to make sure that the 2nd software limit switch is selected.

Check the currently active zero offsets via the current frame.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the 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 -)

If you detect during the block preparation that the programmed path will lead the axis across the working area limitation, this alarm is generated.

**Reaction**

Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.

**Remedy**

a) Check the NC program for correct position data.

b) Check the zero offsets (current frame).

c) Correct the working area limitation with G25 or

d) Correct the working area limitation via setting data or

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

**Program continuation by**

Press NC START to cancel the alarm and continue the 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 determining the approach or retraction tangent.

**Reaction**

Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.
NC Stop at alarm at block end.

**Remedy**

Modify the part program.

**Program continuation by**

Press NC START to cancel the alarm and continue the program.

10741  Channel %1 block %2 Direction reversal in SAR infeed motion

**Explanation**

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

A safety clearance has been programmed whose direction vertically to the machining plane lies not between the start and end points of the SAR contour.

**Reaction**

Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.
NC Stop at alarm at block end.

**Remedy**

Modify the part program.

**Program continuation by**

Press NC START to cancel the alarm and continue the program.
10742  Channel %1 block %2 SAR distance invalid or not programmed

Explanation
%1 = channel number
%2 = block number, label
Possible causes are:
The parameter DISR was not specified in an SAR block or its value is less than or equal to 0.
When approaching or retracting along a circle and the tool radius compensation active, the radius of the SAR contour internally created is negative. The SAR contour internally created is a circle with a radius - when corrected using the current correction radius (total of tool radius and OFFN offset value), results in the tool center point path with the programmed radius DISR.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.
NC Stop at alarm at block end.

Remedy
Modify the part program.

Program continuation by
Press NC START to cancel the alarm and continue the program.

10743  Channel %1 block %2 SAR programmed repeatedly

Explanation
%1 = channel number
%2 = block number, label
You had tried to activate an SAR motion before an SAR motion first activated was completed.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.
NC Stop at alarm at block end.

Remedy
Modify the part program.

Program continuation by
Press NC START to cancel the alarm 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 is not defined with smooth approach / retraction (SAR).
Possible causes:
The approach block in the program is not followed by a block with traversing information.
No block with traversing information was programmed in the program prior to a traversing block.
The tangent to be used for the SAR motion stands vertically to the current machining plane.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.
NC Stop at alarm at block end.

Remedy
Modify the part program.
Program continuation by

10745

Channel %1 block %2 SAR end position not unambiguous

Explanation

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

Both in the SAR block and in the subsequent block, the position was pro-
grammed vertically to the machining direction, and in the SAR block, no posi-
tion was specified for the machining plane.

Reaction

Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.
NC Stop at alarm at block end.

Remedy
Modify the part program.
Either remove the position specification for the infeed axis from the SAR block
or from the subsequent block, or program a position in the machining plane
also in the SAR block.

Program continuation by

10746

Channel %1 block %2 Preprocessing stop with SAR

Explanation

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

A preprocessing stop was inserted between an SAR block and the subsequent
block defining the tangent direction or between an SAR retraction block and
the subsequent block defining the end position.

Reaction

Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.
NC Stop at alarm at block end.

Remedy
Modify the part program.

Program continuation by

10747

Channel %1 block %2 Retraction direction not defined with SAR

Explanation

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

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

Reaction

Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.
NC Stop at alarm at block end.

Remedy
Modify the part program.
The following changes are possible:

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

Program continuation by
Press NC START to cancel the alarm and continue the program.

10750
Channel %1 block %2 tool radius compensation activated without tool no.

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

A tool T.. must be selected so that the control system can take into account the appropriate compensation values.

Each tool (T number) is automatically assigned a compensation data block (D1) containing the compensation data. A tool can be assigned max. 9 compensation data blocks by specifying the desired data block with the D number. (D1 - D9).

The tool radius compensation (TRC) will be taken into account if the function G41 or G42 is programmed. The compensation values are to be found in the parameter P6 (geometry value) and P15 (wear value) of the active compensation data block Dx.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.
NC Stop at alarm at block end.

Remedy
Before calling the TRC using G41/G42, program a tool no. under the address T....

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

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

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

The 'bottle neck detection' (calculation of the intersection point of the following, corrected traversing blocks) was not able to calculate an intersection point for the overviewed number of traversing blocks, resulting in the risk that one of the equidistant paths will violate the workpiece contour.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.
NC Stop at alarm at block end.

Remedy
Check the part program and modify the program (if possible) such that inner corners with paths shorter than the compensation value are avoided. (Outer corners are not critical, since the equidistants are extended or intermediate blocks are inserted so that an intersection point is always provided).

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.
10752

**Channel %1 block %2 Overflow of local block buffer in tool radius compensation**

**Explanation**

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

The tool radius compensation must buffer an alternating number of intermediate blocks in order to be able to calculate the equidistant tool path for each NC block. The size of the buffer memory cannot easily be determined. It depends on the number of blocks without traversing information in the compensation level and the number of contour elements to be inserted.

The size of the buffer memory is fixed by the system and cannot be altered via MD.

**Reaction**

Alarm display.  
Interface signals are set.  
Reorganize also the correction block.  
NC Start inhibited.  
NC Stop at alarm at block end.

**Remedy**

Reduce the buffer memory which has been occupied by modifying the NC program. This can be achieved if you avoid the following:

- blocks without traversing information in the compensation plane
- blocks that contain contour elements with variable curves (e.g. ellipses) and curve radii which are smaller than the compensation radius. (Such blocks are split into several partial blocks).

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

10753

**Channel %1 block %2 Tool radius compensation can only be selected in a linear block**

**Explanation**

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

Tool radius compensation with G41/G42 may only be selected in blocks with the G function G00 (rapid traverse) or G01 (feed) active. At least one axis of the plane G17 to G19 must be written in the block that contains G41/G42; it is always recommended to program both axes, since usually also both axes traverse when selecting the compensation.

**Reaction**

Alarm display.  
Interface signals are set.  
Reorganize also the correction block.  
NC Start inhibited.  
NC Stop at alarm at block end.

**Remedy**

Correct the NC program; replace the compensation selection with a block with linear interpolation.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.
10754  **Channel %1 block %2 Tool radius compensation can only be deselected in a linear block**

**Explanation**

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

The deselection of the tool radius compensation by G40 may only be carried out in blocks in which the G function G00 (rapid traverse) or G01 (feed) is active.

At least one axis of the plane G17 to G19 must be written in the block that contains G40; it is always recommended to program both axes, since usually also both axes traverse when deselecting the compensation.

**Reaction**

Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.
NC Stop at alarm at block end.

**Remedy**

Correct the NC program; relocate the compensation deselection to a block with linear interpolation.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

---

10755  **Channel %1 block %2 Tool radius compensation cannot be enabled in current starting point using KONT**

**Explanation**

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

When activating the cutter radius compensation via KONT, the starting point of the approach block is within the compensation circle, thus already violating the contour.

If the cutter radius compensation is selected using G41/G42, the approach behavior (NORM or KONT) will determine the compensation motion if the current actual position is after the contour. If KONT is active, a circle with the cutter radius is drawn around the programmed starting point (= end point of the approach block). The tangent that leads through the current actual position and that does not violate the contour is the approach movement.

If the starting point is within the compensation circle and around the target point, the tangent will lead through this point.

**Reaction**

Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.
NC Stop at alarm at block end.

**Remedy**

Place the selection of the cutter radius compensation such that the starting point of the approach movement will be outside the compensation circle around the target point (programmed traversing movement > compensation radius). The following possibilities are provided:

- Selection in the previous block
- Insert intermediate block
- Select approach behavior NORM

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.
10756  Channel %1 block %2 Tool radius compensation cannot be disabled at current starting point using KONT

Explanation

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

When deselecting the cutter radius compensation, the programmed end point is within the compensation circle. If this point would really be approached without compensation, a contour violation would be the consequence.

If the cutter radius compensation is disabled using G40, the starting behavior (NORM or KONT) will determine the compensation movement if the programmed end point is after the contour. If KONT is active, a circle with the cutter radius is drawn around the point at which the compensation is still active. The tangent that leads through the programmed end position and that does not violate the contour is the starting movement.

If the programmed end point is within the compensation circle around the target point, no tangent will lead through this point.

Reaction

Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.
NC Stop at alarm at block end.

Remedy

Place the deselection of the cutter radius compensation such that the programmed end point is outside the compensation circle around the last active compensation point. The following possibilities are provided:

- Deselection in the next block
- Insert intermediate block
- Select starting behavior NORM

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

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

Explanation

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

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

In a block with variable tool radius compensation, a compensation must be possible either in any or none place of the contour from the programmed area using the smallest and the largest compensation value. No point on the contour is admitted, in which the bend radius is within the variable compensation area.

If the compensation value changes its sign within a block, both sides of the contour will be checked; otherwise, only the compensation side.

Reaction

Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.
NC Stop at alarm at block end.

Remedy

Either use a smaller cutter or take into account a part of the cutter radius already in the contour programming.

Program continuation by

Press NC START to cancel the alarm 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 permissible number of empty blocks is limited

**Reaction**

Alarm display.  
Interface signals are set.  
Reorganize also the correction block.  
NC Start inhibited.  
NC Stop at alarm at block end.

**Remedy**

1. Modify the part program:  
2. Check whether SBL2 is selected. When SBL2 is active, a block from each part program line is generated resulting in that the permissible number of empty blocks between two traversing blocks can be exceeded.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

10763

**Channel %1 block %2 Path component of block in compensation plane becomes zero.**

**Explanation**

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

Because of the collision monitoring with tool radius compensation, the path component of the block in the compensation plane becomes zero. If no information with regard to the motion perpendicular to the compensation plane is contained in the original block, the block is skipped.

**Reaction**

Alarm display.

**Remedy**

- The behavior at narrow places which cannot be machined with the active tool is correct.  
- Modify the part program.  
- If necessary use a tool with a smaller radius.

**Program continuation by**

Use the “Cancel” key to cancel the alarm. No further operation required.

10764

**Channel %1 block %2 Discontinuous path with active tool radius compensation**

**Explanation**

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

This alarm occurs if the tool radius compensation is active and the starting point used for the calculation of the compensation is not equal to the end point of the previous block.

**Reaction**

Alarm display.  
Interface signals are set.  
Reorganize also the correction block.  
NC Start inhibited.  
NC Stop at alarm at block end.

**Remedy**

Modify the part program.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.
10776
Channel %1 block %2 axis %3 must be a geometry axis with tool radius compensation

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

This alarm occurs if an axis for which a tool radius compensation is required is not a geometry axis.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.
NC Stop at alarm at block end.

Remedy
Modify the part program.

Program continuation by
Press NC START to cancel the alarm 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 compensation suppression with tool radius compensation active is limited.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.
NC Stop at alarm at block end.

Remedy
• Modify the part program.
• Check whether SBL2 is selected. When SBL2 is active, a block from each part program line is generated resulting in that the permissible number of empty blocks between two traversing blocks can be exceeded.

Program continuation by
Press NC START to cancel the alarm and continue the program execution.

10778
Channel %1 block %2 Preprocessing stop with active tool radius compensation

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

If preprocessing stop is detected with the tool radius compensation active (either programmed by the user or generated internally), this alarm is generated, since in this situation machine movements might occur which are not intended by the user (completing radius compensation and re-approaching the contour). Program execution can be continued by pressing CANCEL and re-start.

Reaction
Alarm display.

Remedy
• Press CANCEL and START to continue.
• Modify the part program.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.
10780  Channel %1 block %2 Preprocessing stop with active tool radius compensation

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

If preprocessing stop is detected with the tool radius compensation active (either programmed by the user or generated internally), this alarm is generated, since in this situation machine movements might occur which are not intended by the user (completing radius compensation and re-approaching the contour).

Press CANCEL and restart the system to continue.

Reaction
Alarm display.
NC Stop at alarm at block end.

Remedy
- Press CANCEL and START to continue.
- Modify the part program.

Program continuation by
Use the "Cancel" key to cancel the alarm. No further operation required.

10790  Channel %1 block %2 Plane change when programming straight lines with angles

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

When programming two straight lines with angle specification, you have changed the active plane between the first and the second partial blocks.

Reaction
Alarm display.
Interface signals are set.
NC Stop at alarm.
Under certain circumstances, it can be switched over for several channels via MD.
The NC will switch to the follow-up mode.

Remedy
Modify the part program.

Program continuation by
Press NC START to cancel the alarm and continue the program.

10791  Channel %1 block %2 Invalid angles when programming straight lines

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

When programming a contour definition consisting of two straight lines and specifying angles, no intermediate point could be found.

Reaction
Alarm display.
Interface signals are set.
NC Stop at alarm.
Under certain circumstances, it can be switched over for several channels via MD.
The NC will switch to the follow-up mode.

Remedy
Modify the part program.

Program continuation by
Press NC START to cancel the alarm and continue the program.
10792  
Channel %1 block %2 Illegal interpolation type when programming straight lines with angles  
Explanation  
%1 = channel number  
%2 = block number, label  
When programming two straight lines with specifying angles, only spline or linear interpolation is permitted. Circular or polynomial interpolation are not allowed.  
Reaction  
Alarm display.  
Interface signals are set.  
NC Stop at alarm.  
Under certain circumstances, it can be switched over for several channels via MD.  
The NC will switch to the follow-up mode.  
Remedy  
Modify the part program.  
Program continuation by  
Press NC START to cancel the alarm and continue the program.  

10793  
Channel %1 block %2 Second block of linear interpolation with angles missing  
Explanation  
%1 = channel number  
%2 = block number, label  
When programming two straight lines with specifying the angles, the second block is missing. This case occurs if the first partial block is at the same time the last block of a program or if the first partial block is followed by a block with preprocessing stop.  
Reaction  
Alarm display.  
Interface signals are set.  
NC Stop at alarm.  
Under certain circumstances, it can be switched over for several channels via MD.  
The NC will switch to the follow-up mode.  
Remedy  
Modify the part program.  
Program continuation by  
Press NC START to cancel the alarm and continue the program.  

10794  
Channel %1 block %2 Angle specification is missing in straight interpolation with angles  
Explanation  
%1 = channel number  
%2 = block number, label  
When programming two straight lines with specifying the angles, the angle specification in the second block is missing. This error may only occur if in the previous block an angle, but not an axis of the active plane has been programmed. Another possible error cause may be that it was intended to program an individual straight line with angle in the previous block. In this case, (exactly) one axis of the active plane must be programmed in this block.  
Reaction  
Alarm display.  
Interface signals are set.  
NC Stop at alarm.  
Under certain circumstances, it can be switched over for several channels via MD.  
The NC will switch to the follow-up mode.  
Remedy  
Modify the part program.
Press NC START to cancel the alarm and continue the program.

10795  
Channel %1 block %2 End point specification in angle programming inconsistent

Explanation
%1 = channel number  
%2 = block number, label  
When programming a straight line, both positions of the active plane and an angle have been specified (the position of the end point is thus overdetermined), or the position of the programmed coordinate cannot be reached with the specified angle. To program a contour definition consisting of two straight lines using angles, this specification of two axis positions in the plane and of an angle in the second block is admissible. The error can therefore also occur if the previous block could not be interpreted as the first partial block of such a contour definition due to a programming error. In this case, a block will be interpreted as the first block of a contour definition, which consists of two blocks, if an angle, but not an axis of the active plane has been programmed and if the block concerned is not already the second block of a contour definition.

Reaction  
Alarm display.
Interface signals are set.
NC Stop at alarm.
Under certain circumstances, it can be switched over for several channels via MD.
The NC will switch to the follow-up mode.

Remedy  
Modify the part program.

Program continuation by

Press NC START to cancel the alarm 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) was programmed although no master spindle is defined from which the speed could be taken.
The MD 20090 SPIND_DEF_MASTER_SPIND for the default setting or the vocabulary word SETMS are provided for the definition in the part program so that each spindle of the channel can be redefined to a master spindle.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.

Remedy
Set the master spindle to an appropriate default value using MD 20090 SPIND_DEF_MASTER_SPIND[n]=m (n ... channel index, m ... spindle no.) or define it in the NC program using an appropriate identifier before a G function is programmed which requires a master spindle.
The machine axis which is to be operated as a spindle must be assigned a spindle number specified in MD 35000 SPIND_ASSIGN_TO_MACHAX[n]=m (n ... machine axis index, m ... spindle no.), in addition, it must be assigned to a channel (channel axis index 1 or 2) via the MD 20070 AXCONF_MACHAX_USED[n]=m (n ... channel axis index, m ... machine axis index).
**10820**

**Channel \%1 No rotary axis/spindle \%2 defined**

**Explanation**

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

A revolutionsal feedrate was programmed for path and synchronous axes or for an axis/spindle, but the rotary axis from which the feedrate is to be derived is not available.

**Reaction**

Alarm display.  
Interface signals are set.  
Reorganize also the correction block.  
NC Start inhibited.

**Remedy**

Correct the part program or set setting data 43300 ASSIGN_FEED_PER_REV_SOURCE correctly.

Program continuation by  
Press NC START to cancel the alarm and continue the program.

**10860**

**Channel \%1 block \%2 No feedrate programmed**

**Explanation**

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

An interpolation type other than G00 (rapid traverse) is active in the displayed block. No F value programmed.

**Reaction**

Alarm display.  
Interface signals are set.  
Reorganize also the correction block.  
NC Start inhibited.

**Remedy**

Program the feedrate value with reference to the interpolation type used.

- **G93:** The feedrate is specified under F as a time-reciproverse value 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 a revolutionsal feedrate in [mm/rev] under address F.
- **G96:** The feedrate is programmed in [m/min] as a cutting speed in [mm/rev] under address S.m It results from the current spindle speed.

Program continuation by  
Use the RESET key to cancel the alarm. Restart the part program.

**10862**

**Channel \%1 block \%2 Master spindle also used as a path axis**

**Explanation**

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

A path has been programmed, which also contains master spindle as a path axis.  
The path velocity, however, is derived from the master spindle speed (e.g. G95).

**Reaction**

Alarm display.  
Interface signals are set.  
Reorganize also the correction block.  
NC Start inhibited.

**Remedy**

Modify the program such that no reference to itself is possible.
Press NC START to cancel the alarm and continue the program.

**10870**

**Explanation**

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

When the constant cutting speed is selected using the function G96, the spindle speed is controlled via the position of the transverse axis such that the cutting speed programmed under S [mm/min] will result at the tool edge.

In MD 20100 DIAMETER_AX_DEF[n,m]=x (n .. channel index, m .. spindle index, x .. axis name), the name of the transverse axis [string] can be specified for each of the 5 spindles used for the speed calculation.

\[ S \ [1/min] = \frac{S_{G96}[m/min] \times 1000}{D_{Planachse}[mm]} \times \pi \]

**Reaction**

Alarm display.  
Interface signals are set.  
Reorganize also the correction block.  
NC Start inhibited.

**Remedy**

Enter the name of the transverse axis in MD 20100 DIAMETER_AX_DEF for the spindles used.

Use the RESET key to cancel the alarm. Restart the part program.

**Program continuation by**

**10880**

**Explanation**

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

Too many blocks without contour information are programmed between two blocks which contain contour elements and which are to be linked with a chamfer or a radius (CHF, RND).

**Reaction**

Alarm display.  
Interface signals are set.  
Reorganize also the correction block.  
NC Start inhibited.

**Remedy**

Modify the part program such that the permissible number of empty blocks is not exceeded.

Use the RESET key to cancel the alarm. Restart the part program.

**Program continuation by**

**10881**

**Explanation**

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

The number of empty blocks without contour information between two blocks which contain contour elements and which are to be linked with a chamfer or radius (CHF, RND) is so large that the internal buffer memory is too small.

**Reaction**

Alarm display.  
Interface signals are set.  
Reorganize also the correction block.  
NC Start inhibited.

**Remedy**

Modify the part program such that the number of empty blocks is reduced.
Alarms

Press NC START to cancel the alarm and continue the program.

10882
Channel %1 block %2 Activation of chamfers or radii (not modally) without traversing motion 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:
- no straight line or circle contour exists in the plane
- a motion exists outside the plane
- the plane has been changed
- the permissible number of empty blocks without traversing information (dummy blocks) has been exceeded

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.

Remedy
Correct the part program, taking into account the error mentioned above.

Program continuation
Use the RESET key to cancel the alarm. Restart the part program.

10883
Channel %1 block %2 Chamfer or radius must be reduced.

Explanation
%1 = channel number
%2 = block number, label
This alarm is generated if - when inserting chamfers or radii of at least one of the blocks involved is so short that the contour element to be inserted must be reduced with reference to the value actually programmed. This alarm occurs only if bit 4 is set in the machine data $MN_ENABLE_ALARM_MASK. Otherwise, the chamfer or rounding is adapted with generating an alarm.

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

Remedy
Modify the NC program or press CANCEL or START or only START to continue the NC program without any changes.

Program continuation
Press the "Cancel" key to cancel the alarm. No further operation required.

10900
Channel %1 block %2 No S value programmed for constant cutting rate

Explanation
%1 = channel number
%2 = block number, label
If G96 is active, the constant cutting rate under address S is missing.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Start inhibited.

Remedy
Either program a constant cutting rate under S in [m/min] or deselect function G96. For example, with G97, the previous feedrate remains stored, but the spindle will go on rotating at the current speed.

Program continuation
Press NC START to cancel the alarm and continue the program.
10910  Channel %1 block %2 Extreme velocity increase in one path axis

**Explanation**

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

With transformation selected, an extreme increase in the velocity occurs in one or several axes, e.g. since the path runs in the vicinity of the pole.

**Reaction**

Alarm display.

**Remedy**

Subdivision of the NC block into several blocks (e.g. 3) to keep the path section with the increased speed as short as possible, achieving a short time for it. In this case, the remaining blocks will be traversed at the programmed velocity.

**Program continuation by**

Use the "Cancel" key to cancel the alarm. No further operation required.

10911  Channel %1 block %2 Transformation does not permit passing the pole

**Explanation**

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

The specified course of the curve passes through the pole of the transformation.

**Reaction**

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

**Remedy**

Modify the part program.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

10914  Motion not possible with transformation active - in channel %1, block %2

**Explanation**

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

The specified motion is not possible due to the machine kinematics. Transformation-depending error causes may be:

TRANSMIT:
A (circular) area exists around the pole to which positioning is not possible. This area is due to the fact that 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..).
  - How the tool length compensation is taken into account depends on the work plane selected (see G17..).
  - The machine will stop before the faulty block.

**Reaction**

Alarm display  
Interface signals are set  
NC Start inhibited

**Remedy**

Modify the part program.  
Change the tool length compensation specified incorrectly.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.
10930 Channel %1 block %2 Illegal type in stock removal contour

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

The contour of the stock removal cycle (CYCLE 95) contains travel commands other than: G00, G01, G02, G03, CIP or CT. The contour program may only contain contour elements consisting of these G commands (i.e., no thread blocks, no spline blocks, etc.).

**Reaction**
- Alarm display.
- Interface signals are set.
- NC Start inhibited.

**Remedy**
- Program only path elements for the stock removal contour, which consist of straight lines and arcs.

**Program continuation by**
- Use the RESET key to cancel the alarm. Restart the part program.

10931 Channel %1 block %2 Error in programmed stock removal contour

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

The stock removal contour (CYCLE 95) contains the following errors:
- full circle
- intersecting contour elements
- wrong start position

**Reaction**
- Alarm display.
- Interface signals are set.
- NC Start inhibited.

**Remedy**
- Correct the errors mentioned above in the program for the contour to be machined.

**Program continuation by**
- Use the RESET key to cancel the alarm. Restart the 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 has been interrupted during the preparation phase of the stock removal contour.

**Reaction**
- Alarm display.
- Interface signals are set.
- NC Start inhibited.

**Remedy**
- Do not admit interruption in the stock removal cycle CYCLE 95 during the contour preparation.

**Program continuation by**
- Use the RESET key to cancel the alarm. Restart the part program.

10933 Channel %1 block %2 Contour program contains too few contour blocks

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

The program in which the stock removal contour is programmed contains less than 3 blocks with motions in both axes in the machining plane. The stock removal cycle (CYCLE 95) was canceled.
10.02 1 Alarms

Reaction | Alarm display. Interface signals are set. NC Start inhibited.

Remedy | Enlarge the program with the stock removal contour to at least 3 NC blocks with axis motions in both axes of the current machining plane.

Program continuation by | Use the RESET key to cancel the alarm. Restart the part program.

**10934** Channel %1 block %2 Array for contour segmentation is dimensioned 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).

Reaction | Alarm display. Interface signals are set. NC Start inhibited.

Remedy | Reduce the number of blocks in the contour program. Check the division of the contour into several programs.

Program continuation by | Use the RESET key to cancel the alarm. Restart the 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 be programmed in an NC block only once so that the block information remains unambiguously (e.g. X... T... F... etc. G, M functions).

Reaction | Alarm display. Interface signals are set. Correction block.

Remedy | Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.
- Remove addresses from the NC program which are used repeatedly (except those for which repeated value assignments are allowed).
- Check whether the address (e.g. the axis name) is specified via a user-defined variable (possibly not easily to be seen if the assignment of the axis name to the variable is only carried out by arithmetic operations in the program).

Program continuation by | Press NC START to cancel the alarm and continue the program execution.

**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

It is defined for each address type how often it may occur in an NC block (for example, all axes together form an address type, which is also subject to a block limit).
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Reaction  Alarm display.
Remedy  Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

Program continuation by

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 every of these address modifications can be applied to every address type. Which of them can be used for the individual address types, is specified in the Programming Guide. If this address modification is applied to illegal address types, this alarm is generated, e.g.:
N10 G02 X50 Y60 I=DC(20) J30 F100
; Interpolation parameter with DC.

Reaction  Alarm display.
Remedy  Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

Program continuation by

12050  Channel %1 block %2 DIN address %3 not configured
Explanation  %1 = channel number
%2 = block number, label
%3 = NC address in source text block
The name of the NC address (e.g. X, U, X1) is not defined in the control system.

Reaction  Alarm display.
Remedy  Study the Programming Guide and the machine data with reference to the addresses really configured and their meaning and correct the NC block accordingly.

Program continuation by
### 12060

**Channel %1 block %2 Same G group programmed repeatedly**

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

The G functions that can be used in the part program are divided into groups which are **syntax-defining** or **non syntax-defining**. Only one G function each from each G group may be programmed. The functions within a group are mutually exclusive.

The alarm concerns only the non-syntax defining G functions. If several G functions from these groups are called in an NC block, the **last** function of a group will be active (all previous functions are ignored).

**G FUNCTIONS:**

<table>
<thead>
<tr>
<th>Syntax-defining G functions</th>
<th>Non-syntax defining G functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st to 4th G groups</td>
<td>5th to nth G groups</td>
</tr>
</tbody>
</table>

Assignment of the G groups

**Reaction**

Alarm display.  
Interface signals are set.  
Correction block.

**Remedy**

Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

No remedial action required. However, it should be checked whether the last programmed G function is really the desired one.

**Program continuation by**

Press NC START to cancel the alarm and continue the program execution.

### 12070

**Channel %1 block %2 Too many syntax-defining G functions**

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

**Syntax-defining G functions** define the structure of the part program block and of the addresses contained in it. **Only one** syntax-defining G function may be programmed in an NC block. The G functions of the 1st ... 4th G groups are syntax-defining.

**Reaction**

Alarm display.  
Interface signals are set.  
Correction block.

**Remedy**

Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

Analyze the NC block and distribute the G functions over several NC blocks.

Press NC START to cancel the alarm and continue the program execution.

### 12080

**Channel %1 block %2 Syntax error in text %3**

%1 = channel number  
%2 = block number, label  
%3 = source text area

The grammar of the block has been violated at the displayed text position. The exact error cause cannot be specified more exactly, since there are too many possible error causes.

**Example 1:**

N10 IF GOTOF ... ; the jump condition is missing!
Example 2:
N10 R-50 =12 ; faulty arithmetic parameter number

Reaction
Alarm display.
Interface signals are set.
Correction block.

Remedy
Press NC STOP and select the "Correction block" function using the
PROGRAM CORRECTION softkey. The correction cursor will be positioned on
the block to be corrected.

Analyze the block and correct it using the syntax diagram specified in the Pro-
gramming Guide.

Program continuation
by
Press NC START to cancel the alarm and continue the program execution.

12090
Channel %1 block %2 Parameter %3 not expected.

Explanation
%1 = channel number
%2 = block number, label
%3 = illegal parameter in the text
The programmed function is predefined and does not allow parameters in its
call. The first unexpected parameter will be displayed.

Reaction
Alarm display.
Interface signals are set.
Correction block.

Remedy
Press NC STOP and select the "Correction block" function using the
PROGRAM CORRECTION softkey. The correction cursor will be positioned on
the block to be corrected.

Program a function without parameter transfer.

Program continuation
by
Press NC START to cancel the alarm and continue the program execution.

12100
Channel %1 block %2 Number of passes %3 not permitted

Explanation
%1 = channel number
%2 = block number, label
%3 = number of passes
Subroutines called using MCALL are modally effective, i.e. each block con-
taining positional data is automatically followed by a single subroutine pass.
The programming of a number of passes under address P is therefore not ad-
missible.
The modal call will act until a new MCALL is programmed, either with or without
a new subroutine name (deletion function).

Reaction
Alarm display.
Interface signals are set.
Correction block.

Remedy
Press NC STOP and select the "Correction block" function using the
PROGRAM CORRECTION softkey. The correction cursor will be positioned on
the block to be corrected.

Program the subroutine call without number of passes.

Program continuation
by
Press NC START to cancel the alarm and continue the program execution.
**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 allowed with the valid syntax-defining G function.

**Example:** G1 I10 X20 Y30 F1000;  
It is not permitted to program linear block parameters in the linear block.

**Reaction**

Alarm display.  
Interface signals are set.  
Correction block.

**Remedy**

Press NC STOP and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

Check the block structure and correct it as required by the program.

**Program continuation by**

Press NC START to cancel the alarm and continue the program execution.

**12120**

**Channel %1 block %2 G function not programmed separately**

**Explanation**

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

The G function programmed in this block must be written in a separate block. General addresses or synchronous actions may not 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: It is not permitted to program M functions in a G4 block.

**Reaction**

Alarm display.  
Interface signals are set.  
Correction block.

**Remedy**

Program the G function in a separate block.

**Program continuation by**

Press NC START to cancel the alarm and continue the program execution.

**12140**

**Channel %1 block %2 Functionality %3 not implemented**

**Explanation**

%1 = channel number  
%2 = block number, label  
%3 = software construct in source text

The full version of the control system provides functions which are not implemented in the current variant.

**Reaction**

Alarm display.  
Interface signals are set.  
Correction block.

**Remedy**

Press NC STOP and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

Remove the displayed function from the program.

**Program continuation by**

Press NC START to cancel the alarm and continue the program execution.
12150

Channel %1 block %2 Operation %3 not compatible with this 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 a value assignment).

Reaction
Alarm display.
Interface signals are set.
Correction block.

Remedy
Press the NC STOP key and select the "Correction block" function using the
PROGRAM CORRECTION softkey. The correction cursor will be positioned on
the block to be corrected.

Modify the definition of the variables used such that the desired operations can
be carried out.

Program continuation by
Press NC START to cancel the alarm and continue the program execution.

12160

Channel %1 block %2 Range of values exceeded

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

The constant programmed for the variable exceeds the value range which has
been defined by the data type in advance.

Reaction
Alarm display.
Interface signals are set.
Correction block.

Remedy
Press the NC STOP key and select the "Correction block" function using the
PROGRAM CORRECTION softkey. The correction cursor will be positioned on
the block to be corrected.

Correct the value of the constants or adapt the data type accordingly. If the
value for an integer constant is too large, it can also be specified by appending
a decimal point as a real constant.

Example:
R1 = 9 876 543 210 correct to: R1 = 9 876 543 210.

Program continuation by
Press NC START to cancel the alarm and continue the program execution.

12170

Channel %1 block %2 Name %3 defined repeatedly

Explanation
%1 = channel number
%2 = block number, label
%3 = symbol in the block

The symbol used in the error message has already been defined in the running
part program.

Please take into account that user-defined identifiers may occur repeatedly if
the multiple definition is carried out in other programs (subroutines), i.e. local
variables with the same name may be defined again if the program (subrou-
tine) has been quitted or is already completed.

This applies both to user-defined symbols (labels, variables) and for machine
data (axes, DIN addresses and G functions).

Reaction
Alarm display.
Interface signals are set.
Correction block.
Remedy

The symbol that the database management already knows will be displayed. Use the program editor to search for this symbol in the definition part of the current program. The 1st or 2nd symbol must be assigned different names.

Program continuation

Press NC START to cancel the alarm and continue the program execution.

**12180**  
**Channel %1 block %2 Illegal linking of operators %3**

Explanation

%1 = channel number  
%2 = block number, label  
%3 = linked operators

The term 'operator linking' denotes binary and unary operators written one after the other, without using brackets.

**Example:**

N10 R1=R2-(R3) ; Correct notation  
N10 R1=R2--R3 ; error!

Reaction

Alarm display.  
Interface signals are set.  
Correction block.

Remedy

Formulate the expression correctly and unambiguously using brackets; this will increase both the clarity and the legibility of a program.

Program continuation

Press NC START to cancel the alarm and continue the program execution.

**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 using the DEF statement cannot be created, as:

- it is already defined (e.g. as a variable or function)  
- the internal memory is no longer sufficient (e.g. in case of large fields)

Reaction

Alarm display.  
Interface signals are set.  
Correction block.

Remedy

Carry out the following checks:

- Use the text editor to check whether the name to be assigned has already been used in the current program cycle (main program and called subroutines).  
- Estimate how much memory is required by the symbols already defined; one possibility of reducing it is to use fewer global and more local variables.

Program continuation

Press NC START to cancel the alarm and continue the program execution.

**12260**  
**Channel %1 block %2 Too many initialization values specified%3**

Explanation

%1 = channel number  
%2 = block number, label  
%3 = source string

When initializing a field (field definition and value assignment to individual field elements), more initialization values exist than field elements.

**Example:**

N10 DEF INT OTTO[2,3]=(..., ..., {more than 6 values})
Reaction

Alarm display. Interface signals are set. Correction block.

Remedy

Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

Check in the NC program whether:
1. the number of field elements \((n,m)\) has been specified correctly when defining the field elements (DEF INT FELDNAME\([n,m]\), e.g. a field with 2 lines and 3 columns: \(n=2, m=3\)).
2. the value assignment has been carried out correctly when initializing (the values of the individual field elements are separated by a comma, variables of the type REAL by a decimal point)

Program continuation by

Press NC START to cancel the alarm and continue the program execution.

12261

**Channel \(\%1\) block \(\%2\) \(\%3\) may not be initialized**

**Explanation**

\(\%1\) = channel number  
\(\%2\) = block number, label  
\(\%3\) = source string

Variables of the type "frame" may not be initialized in the definition - example:  
DEF FRAME LOCFRAME = CTRANS(X,200).

It is also not possible to define default values when initializing fields in the program sequence with axes using SET.

Reaction

Alarm display. Interface signals are set. Correction block.

Remedy

carry out the initialization in a separate block in the execution part of the program:  
DEF FRAME LOCFRAME LOCFRAME = CTRANS(X,200)

When using axis variables:  
DEF AXIS AXIS_VAR [10] AXIS_VAR [5] = SET (X, , Y) - to be replaced by:  

Program continuation by

Press NC START to cancel the alarm and continue the program execution.

12290

**Channel \(\%1\) block \(\%2\) Arithmetic variable \(\%3\) not defined**

**Explanation**

\(\%1\) = channel number  
\(\%2\) = block number, label  
\(\%3\) = source string of arithmetic variable

Only the R parameters are predefined as arithmetic variables - all the other arithmetic variables must be defined before using them with the DEF instruction. The number of arithmetic parameters is defined via machine data. The names must be unambiguous and only be used in the control system once (exception: local variable).

Reaction

Alarm display. Interface signals are set. Correction block.
Remedy

Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

Define the desired variable in the definition part of the program (possibly in the calling program if you wish to program a global variable).

Program continuation by

Press NC START to cancel the alarm and continue the program execution.

12300

Channel %1 block %2 Call-by-reference parameter missing in 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, which no current parameter has been assigned.

The assignment is carried out when calling the subroutine because of the position of the variable name and not because of the name!

Example:

Subroutine:  
(2 call-by-value parameters X and Y,  
1 call-by-reference parameter Z)

PROC XYZ (INT X, INT Y, VAR INT Z)
  M17
ENDPROC

Main program:

N10 DEF INT X
N11 DEF INT Y
N11 DEF INT Z
  N50 XYZ (X, Y) ;REF parameter Z missing
  or
  N50 XYZ (X, Z) ;REF parameter Y missing

Reaction

Alarm display.
Interface signals are set.
Correction block.

Remedy

Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

Assign all REF parameters (call-by-reference parameters) of the subroutine a variable when calling. The standard formal parameters (call-by-value parameters) need not be assigned a variable; these are assigned 0 by default.

Program continuation by

Press NC START to cancel the alarm and continue the program execution.
### 12320

**Explanation**

Channel %1 block %2 parameter %3 is no variable

%1 = channel number  
%2 = block number, label  
%3 = source string

When calling the subroutine, a REF parameter has been assigned not a constant, but a constant or the result of a mathematic expression even if only variable identifiers are permitted.

**Examples:**

N10 XYZ (NAME_1, 10, OTTO)  
N10 XYZ (NAME_1, 5 + ANNA, OTTO)

**Reaction**

Alarm display.

Interface signals are set.

Correction block.

**Remedy**

Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

Remove the constant or the mathematic expression from the NC block.

**Program continuation by**

Press NC START to cancel the alarm and continue the program execution.

### 12330

**Explanation**

Channel %1 block %2 invalid parameter type %3

%1 = channel number  
%2 = block number, label  
%3 = source string

When calling a procedure (of a subroutine), it is detected that the type of the actual parameter cannot be converted into the type of the formal parameter. There are 2 possible cases:

- **Call-by-reference parameter:** Actual parameter and formal parameter must be exactly of the same type, e.g. STRING, STRING.
- **Call-by-value parameter:** Generally, actual parameter and formal parameter could be different if a conversion would basically be possible. In the present case, however, the types are generally not compatible, e.g. STRING → REAL.

<table>
<thead>
<tr>
<th>to</th>
<th>REAL</th>
<th>INT</th>
<th>BOOL</th>
<th>CHAR</th>
<th>STRING</th>
<th>AXIS</th>
<th>FRAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>from</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>yes</td>
</tr>
</tbody>
</table>

Table Type conversion

1) Value ->0 corresponds to TRUE, value ==0 corresponds to FALSE.
2) String length 0 => FALSE, otherwise TRUE
3) When converting the type from REAL to INT, it is rounded up with a fraction value >=0.5, otherwise, it is rounded off
Reaction
Alarm display.
Interface signals are set.
Correction block.

Remedy
Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

Check the transfer parameter of the subroutine call and define it as a call-by-value or call-by-reference parameter, depending on its use.

Program continuation by
Press NC START to cancel the alarm and continue the program execution.

**12340**

**Explanation**

Channel %1 block %2 Too many parameters %3

%1 = channel number
%2 = block number, label
%3 = source string

When calling a function or a procedure (whether predefined or user-defined), more parameters have been transferred than defined.

Predefined functions and procedures:
The number of parameters is fixed in the NC.

User-defined functions and procedures:
The number of parameters (via type and name) is defined when defining the parameters.

Reaction
Alarm display.
Interface signals are set.
Correction block.

Remedy
Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

Check whether the right procedure/function has been called. Program the number of parameters according to the procedure/function.

Program continuation by
Press NC START to cancel the alarm and continue the program execution.

**12360**

**Explanation**

Channel %1 block %2 Invalid parameter dimension %3

%1 = channel number
%2 = block number, label
%3 = source string

Check the following error possibilities:
1. The current parameter is a field, but a formal parameter is a variable.
2. The current parameter is a variable, but a formal parameter is a field.
3. The current and the formal parameters are fields, but with dimensions not to be agreed.

Reaction
Alarm display.
Interface signals are set.
Correction block.

Remedy
Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

Correct the NC part program depending on the error cause specified above.

Program continuation by
Press NC START to cancel the alarm and continue the program execution.
12380 Channel %1 block %2 Maximum memory capacity reached

**Explanation**

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

The data definitions of this block cannot be carried out, since the maximum available memory provided by the data management is exhausted or cannot store any more data. This alarm may also occur if several subroutine calls are processed in succession, without generating a block with effect on the machine (motion, dwell time, M function).

**Reaction**

- Alarm display.
- Interface signals are set.
- Correction block.

**Remedy**

Please inform the authorized personnel/customer service. Reduce the number of variables, reduce the fields or enlarge the capacity of the database management.

**Program continuation by**

Press NC START to cancel the alarm and continue the program execution.

12400 Channel %1 block %2 field %3 Element does not exist

**Explanation**

- %1 = channel number
- %2 = block number, label
- %3 = source string

This can have the following causes:

- Illegal index list; an axis index is missing
- Field index does not match with variable definition
- When initializing the field, you tried to access a variable not using the standard access with SET or REP.
  - Single character access or missing indices are not possible.

When initializing this field, you addressed a field that does not exist.

**Reaction**

- Alarm display.
- Interface signals are set.
- Correction block.

**Remedy**

Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

- **Field initialization**: Check the field index of the addressed element. The 1st field element will receive index [0,0], the 2nd [0,1], etc. The right field index (column index) will be incremented first. This means that the 2nd row, the 4th element is addressed via index [1,3] (The indices start with zero).

- **Field definition**: Check the field size. The 1st number specifies the number of elements in the 1st dimension (number of rows), the 2nd number the number of elements in the 2nd dimension (number of columns). A field with 2 rows and 3 columns must be defined using the specification [2,3].

**Program continuation by**

Press NC START to cancel the alarm and continue the program execution.
10.02  Alarms

12410 Channel %1 block %2 Invalid index type in text %3

**Explanation**

%1 = channel number  
%2 = block number, label  
%3 = source string

When assigning a value to an element of a field variable, the field index was specified illegally.

Only the following is permitted as a field index (in square brackets):

- **Axis identifier** if the field variable was defined as data type FRAME
- **Integer values** with all the other data types.

**Reaction**

Alarm display.  
Interface signals are set.  
Correction block.

**Remedy**

Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

Correct the indices of the field element with reference to the variable definition or define the field variable otherwise.

**Program continuation by**

Press NC START to cancel the alarm and continue the program execution.

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 destination possesses a name which is longer than the 32 characters permitted.

**Reaction**

Alarm display.  
Interface signals are set.  
Correction block.

**Remedy**

Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

The symbol to be created or the jump destination with program jumps (label) must be selected within the system conventions, i.e. the name must start with two letters (but the 1st character may not be a § character) and may not be longer than 32 characters.

**Program continuation by**

Press NC START to cancel the alarm and continue the program execution.

12430 Channel %1 block %2 Invalid index specified

**Explanation**

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

When specifying the array index (in the field definition), an index was used which is outside the permissible range.

**Reaction**

Alarm display.  
Interface signals are set.  
Correction block.

**Remedy**

Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

Specify the field index within the permissible range.  
Range of values per field dimension: 1 ... 32 767.
Program continuation by

Press NC START to cancel the alarm and continue the program execution.

**12440**

Channel %1 block %2 Maximum number of formal parameters exceeded

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

When defining a procedure (of a subroutine) or an EXTERNAL statement, more than 127 formal parameters were specified.

**Example:**

```
PROC ABC (FORMPARA1, FORMPARA2, ...
    ... FORMPARA127, FORMPARA128, ...
)
```

EXTERN ABC (FORMPARA1, FORMPARA2, ...
    ... FORMPARA127, FORMPARA128, ...
)

Reaction

Alarm display.
Interface signals are set.
Correction block.

Remedy

Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

Check whether really all parameters must be transferred. If so, a reduction of the number of formal parameters can be achieved by using global variables or R parameters or by summarizing parameters of the same type in an array and transferring them in this way.

Program continuation by

Press NC START to cancel the alarm and continue the program execution.

**12450**

Channel %1 block %2 Label defined repeatedly

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

The label of this block already exists.

If you compile the NC program off-line, the entire program is compiled block by block. Multiple designations are detected with 100 % safety, what in the case of online compilation is not necessarily the case. (Only the current program sequence is compiled here, i.e. program branches currently not passed will not be considered and may therefore have programming errors).

Reaction

Alarm display.
Interface signals are set.
Correction block.

Remedy

Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction pointer is positioned on the block in which the displayed label occurs for the second time.

Use the editor to browse the part program where the designation you are looking for occurs for the 1st time, and change one of the two names.

Program continuation by

Press NC START to cancel the alarm and continue the program execution.
12460 Channel %1 block %2 Maximum number of symbols containing %3 exceeded
Explanation
%1 = channel number
%2 = block number, label
%3 = source string
The max. number of variable definitions, cycle programs, cycle parameters, which can be stored in the data management of the control system, has been exceeded.
If the alarm occurs in conjunction with 15175 (cycles have been reloaded), the memory provided is not sufficient. A possible remedy is to modify the machine data.
If this alarm occurs in conjunction with alarm 15180 (downloading of initial.ini failed), the name of the block that caused the error is to be found in this alarm. (for a list of the names and their meaning -> see Documentation on alarm 6010)
Reaction
Alarm display.
Interface signals are set.
Correction block.
Remedy
Please inform the authorized personnel/customer service.
Reduce the number of symbols in the block (possibly also by making use of the array technique or by using R parameters) or adapt the machine data accordingly (if you possess the appropriate access right).
GUD blocks may cause errors only when downloading the initial.ini file.
Cycle program definitions are reloaded with each POWER ON/NC RESET. That means these blocks may cause errors only in conjunction with this process.
See also the explanations on alarm 6010.
Program continuation
by
Press NC START to cancel the alarm and continue the program execution.

12470 Channel %1 block %2 Unknown G function %3
Explanation
%1 = channel number
%2 = block number, label
%3 = source string
A non-defined G function has been programmed in the displayed block.
Reaction
Alarm display.
Interface signals are set.
Correction block.
Remedy
Press the NC STOP key and select the “Correction block” function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.
Decide on the basis of the Programming Guide of the machine manufacturer whether the G function displayed is generally not existing or a reconfiguration of a standard G function has been carried out.
Remove the G function from the part program or program the function call as specified in the Programming Guide of the machine manufacturer.
Program continuation
by
Press NC START to cancel the alarm and continue the program execution.

12475 Channel %1 block %2 Invalid G function number %3 programmed
Explanation
%1 = channel number
%2 = block number, label.
%3 = G code number
With indirect G code programming, an illegal G function number (parameter 3) was programmed for a G group. Only the G function numbers specified in the Programming Guide, Section 12.3 "List of G functions/preparatory functions" are permitted.

**Reaction**
- Alarm display.
- Interface signals are set.
- Reorganize also the correction block.

**Remedy**
- Correct the part program.

**Program continuation by**
- Press NC START to cancel the alarm and continue the program.

---

**12480**

**Explanation**

Channel %1 block %2 Subroutine %3 already defined

- %1 = channel number
- %2 = block number, label
- %3 = source string

The name used in the PROC or EXTERN statement is already defined in another call description (e.g. for cycles).

**Example:**

EXTERN CYCLE85 (VAR TYP1, VAR TYP2, ...)

**Reaction**
- Alarm display.
- Interface signals are set.
- Correction block.

**Remedy**
- Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

Select a program name that has not yet been used as an identifier. (Theoretically, it would also be possible to match the parameter declaration of the EXTERN statement to the existing subroutine to avoid the alarm. In this case, however, the definition would be carried out twice completely identically).

**Program continuation by**
- Press NC START to cancel the alarm and continue the program execution.

---

**12490**

**Explanation**

Channel %1 block %2 Illegal access right %3

- %1 = channel number
- %2 = block number, label
- %3 = source string

The desired access level has not been set. The desired protection class is out of the admissible value range.

**Reaction**
- Alarm display.
- Interface signals are set.
- Correction block.

**Remedy**
- Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

- Using the operator panel, set the current protection level at least to the level at which the variable will have the highest level.

- Program the protection level within permitted range of values.

- Program new protection levels below the old values.

**Program continuation by**
- Press NC START to cancel the alarm and continue the program execution.
**12500**

**Explanation**

Channel %1 block %2 %3 is not possible in this block

%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 position (the term 'blocks' covers all blocks that occur in the NC).

**Types of blocks:**

**Program block**
contains a main program and a subroutine

**Data block**
contains macro and variable definitions, as well as calls an M, H or E function

**Initialization block**
contains only selected language elements for data initialization

**Reaction**
Alarm display.  
Interface signals are set.  
Correction block.

**Remedy**
Press NC STOP and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

Remove the displayed language element (vocabulary word) including its parameters from this block and insert it in the relevant block.

**Program continuation**
by

Press NC START to cancel the alarm and continue the program execution.

**12520**

**Explanation**

Channel %1 block %2 Too many tool data %3

%1 = channel number  
%2 = block number, label  
%3 = source string

A maximum of 5 tool compensation parameters may be used per block in the part program, tool compensation file (..._TOA) and in the initialization file (..._INI).

**Example:**

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 ...

**Reaction**
Alarm display.  
Interface signals are set.  
Correction block.

**Remedy**
Press NC STOP and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

- Split the part program block over several blocks.
- If necessary use local variables for storing intermediate results.

**Program continuation**
by

Press NC START to cancel the alarm and continue the program execution.
12540 Channel %1 block %2 is too long or too complex
Explanation
%1 = channel number
%2 = block number, label
The maximum internal block length after processing by the translator may not exceed 200 characters.

Reaction
Alarm display. Interface signals are set.
Correction block.

Remedy
Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.
- Split the program block into several partial blocks.

Program continuation by
Press NC START to cancel the alarm and continue the program execution.

12550 Channel %1 block %2 Name %3 not defined or option not existing
Explanation
%1 = channel number
%2 = block number, label
%3 = source string
The displayed identifier has not yet been defined prior to its use.

Reaction
Alarm display. Interface signals are set.
Correction block.

Remedy
Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.
- Correct the used name (typing mistake)
- Check the definition of variables and subroutines
- Check the options.

Program continuation by
Press NC START to cancel the alarm and continue the program execution.

12560 Channel %1 block %2 Programmed value %3 out of permissible limits
Explanation
%1 = channel number
%2 = block number, label
%3 = source string
When assigning the values, the admissible range of values for the data type has been exceeded.

Reaction
Alarm display. Interface signals are set.
Correction block.

Remedy
Press the NC STOP key and select the "Correction block" function using the PROGRAM CORRECTION softkey. The correction cursor will be positioned on the block to be corrected.

Carry out the value assignment within the range of values permitted for the particular data type; if necessary use a different type to enlarge the range of values.

Program continuation by
Press NC START to cancel the alarm and continue the program execution.
12590  
**Channel %1 block %2 Cannot create global user data**

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

The number of global user data blocks is defined in the machine data. The directory&_N_DEF_DIR contains a file with definitions for global user data whose block number is greater than the number of blocks specified in the MD.

**Reaction**
Alarm display.  
Interface signals are set.  
Correction block.

**Remedy**
Please inform the authorized personnel/customer service.

**Program continuation by**
Press NC START to cancel the alarm and continue the program execution.

12600  
**Channel %1 block %2 Invalid line checksum**

**Explanation**  
%1 = channel number  
%2 = block number

When executing an INI file or executing a TEA file, an invalid line checksum has been detected.

**Reaction**
Alarm display.  
Interface signals are set.  
Interpreter stop.  
NC Start inhibited.

**Remedy**
Correct the INI file or correct the MD and create a new INI file (via 'upload').

**Program continuation by**
Power ON

12630  
**Channel %1 block %2 Illegal skipping label / label in control structure**

**Explanation**  
%1 = channel number  
%2 = block number

Blocks that contain control structures (FOR, ENDIF, etc.) may not be skipped and may not contain labels.

**Reaction**
Alarm display.  
Interface signals are set.  
Correction block.

**Remedy**
Correct the part program.  
Simulate a skipping label by IF request. Write the label in a separate block before the control structure block.

**Program continuation by**
Press NC START to cancel the alarm and continue the program execution.

12640  
**Channel %1 block %2 Nesting conflict with control structures**

**Explanation**  
%1 = channel number  
%2 = block number

Error in program sequence: Opened control structures (IF-ELSE-ENDIF, LOOP-ENDLOOP etc.) are not completed, or there is no loop start to the programmed loop end.

**Example:**
LOOP ENDIF ENDLOOP

**Reaction**
Alarm display.  
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
Correct the part program such that also all opened control structures are completed.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

12641
Channel %1 block %2 Max. nesting depth for control structures exceeded

Explanation
%1 = channel number
%2 = block number
Max. nesting depth of control structures (IF-ELSE-ENDIF, LOOP-ENDLOOP etc.) exceeded. The max. nesting depth is currently 8.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
Correct the part program. If necessary relocate parts to a subroutine.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

12661
Channel %1 block %2 technology cycle %3:No further subroutine call possible

Explanation
%1 = channel number
%2 = block number
%3 = name of technology cycle call
It is not possible to call a subroutine or another technology cycle in a technology cycle.

Reaction
Alarm display.
Interface signals are set.
Correction block.

Remedy
Modify the part program.

Program continuation by
Use the RESET key to cancel the alarm.

12700
Channel %1 %2 Programming of a contour definition not allowed, since modal subroutine active

Explanation
%1 = channel number
%2 = block number, label
A block containing a contour definition is programmed in the external language mode, and at the same time, a modal cycle is active. Contour definition programming may not be used in external language mode if a modal cycle is active because of ambiguous address assignment (e.g. R=radius for contour definition or retraction plane for drilling cycle).

Reaction
Alarm display.
Interface signals are set.
Correction block.

Remedy
Modify the part program.

Program continuation by
Use the "Cancel" key to cancel the alarm.
**12701**

**Channel %1 block %2 Illegal interpolation type for contour definition active**

**Explanation**

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

In a contour definition block, not G01 is active as the interpolation function. In a contour definition block, the linear interpolation must always be selected with G01. G00, G02, G03, G33 etc. are not permitted.

**Reaction**  
Alarm display.  
Interface signals are set.  
Correction block

**Remedy**  
Modify the part program. Program linear interpolation G01.

**Program continuation by**  
Press NC START to cancel the alarm and continue the program.

---

**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 either not permitted in the external language mode or is unknown. In the external language mode, only SIEMENS mode language elements are permitted, which are used for subroutine calls (except Lxx), and the language constructs for repeating parts of the program using REPEAT (UNTIL):

**Reaction**  
Alarm display.  
Interface signals are set.  
Correction block

**Remedy**  
Modify the part program.

**Program continuation by**  
Use the “Cancel” key to cancel the alarm.

---

**12722**

**Channel %1 block %2 Several ISO_2/3 macro or cycle calls in the block**

**Explanation**

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

Cycle and macro calls are programmed in a block together, e.g., cycle calls using G81 ... G89 together with an M macro in a block or G65/G66 macro calls together with M macros in a block. Only one macro or cycle call is admitted in an NC block.

**Reaction**  
Alarm display.  
Interface signals are set.  
Correction block

**Remedy**  
Distribute cycle and macro calls over several blocks.

**Program continuation by**  
Press NC START to cancel the alarm and continue the program execution.

---

**14000**

**Channel %1 block %2 Illegal end of file**

**Explanation**

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

M02 or M30 is expected as the end of files of main programs; in subroutines M17. The block preparation (data management) does not provide a subsequent block even if no end of file was programmed in the previous block.

**Reaction**  
Alarm display.  
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
Check whether the end of program has been forgotten to be entered, or whether a jump to a program section which contains the end-of-block character is carried out in the last program block.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

14001
Channel %1 block %2 Illegal end of block
%1 = channel number
%2 = block number, label
A system-internal data manipulation (e.g. reloading from an external) can be followed by a partial file, without LF as the last character.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
Read out the part program and use a text editor to modify the program (e.g. insert blanks or comments in front of the displayed block) to have a modified structure of the part program when re-reading the part program.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

14010
Channel %1 block %2 Illegal default parameter in subroutine call
%1 = channel number
%2 = block number, label
When calling a subroutine with parameter transfer, parameters have been omitted which cannot be replaced by default parameters (call-by-reference parameters or parameters of the type AXIS. The remaining missing parameters is assigned the value 0 or frames from the unit frame by default).

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
Assign the parameters not yet defined values in the subroutine call.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

14011
Channel %1 block %2 Program %3 does not exist or not released for execution
%1 = channel number
%2 = block number, label
%3 = program name
The called program (main program or subroutine) has been called from the part program currently running (main program or subroutine). However, either it does not exist in the NC memory, or the option for the used function is not enabled.

Reaction
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 called program.
3. Check whether the program has been transferred into the NC memory.
4. Check the options or upgrade/set them.

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

**14012**

**Channel %1 block %2 Maximum subroutine level exceeded**

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

The maximum nesting depth of 8 program levels has been exceeded.

Subroutines that have a maximum nesting depth of 7 subroutines can be called from the main program.

**Explanation**

When a subroutine is called, the programmed number of passes P is either zero or negative.

**Reaction**

Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

**Remedy**

Modify the machining program such that the nesting depth is reduced, e.g. use the editor to copy a subroutine of the next nesting depth into the calling program and remove the call for this subroutine. This will reduce the nesting depth by one program level.

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

**14013**

**Channel %1 block %2 Illegal number of subroutine passes**

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

When a subroutine is called, the programmed number of passes P is either zero or negative.

**Explanation**

The selected part program is not in the NC memory.

**Reaction**

Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

**Remedy**

Reload the desired program into the NC memory or check the name of the directory (workpiece overview) and correct it.

Program continuation by

Use the "Cancel" key to cancel the alarm. Restart the part program.

**14014**

**Channel %1 Selected program or access rights do not exist**

%1 = channel number

**Explanation**

The user has no execution rights for the file.

**Reaction**

Alarm display.

**Remedy**

Reload the desired program into the NC memory or check the name of the directorio (workpiece overview) and correct it.

Program continuation by

Use the "Cancel" key to cancel the alarm. Restart the part program.
Alarms

Interface signals are set.
Interpreter stop.
NC Start inhibited.

Alter the user rights.

Use the RESET key to cancel the alarm. Restart the part program.

Channel %1 block %2 Error calling subroutine using M/T function

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

The following conflict has been found when calling a subroutine using an M or T function: In the block referenced using the parameter %2,
- a replacement of an M or T function has already been activated
- a modal subroutine call is active
- a subroutine return is programmed
- an M98 subroutine call is active (only on external language mode)

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.

Remedy
Principally, the M or T function can only be replaced if a subroutine call or subroutine return is not already carried out due to other program constructs.
The part program must be corrected accordingly.

Program continuation by
Use the “Cancel” key to cancel the alarm.

Channel %1 block %2 Syntax error calling subroutine using M/T function

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

When calling the subroutine using an M function with parameter transfer, an illegal syntax has been detected:
- Address extension not programmed as a constant.
- M function value not programmed as a constant.

Note:
If a parameter transfer has been programmed for an M function replacement via MD $MN_M_NO_FCT_CYCLE_PAR, the limitation applies to this M function that both an address extension and an M function value must be programmed as a constant when replacing.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.

Remedy
Modify the programming of the M function.

Program continuation by
Press NC START to cancel the alarm and continue the program.
14020  
**Channel %1 block %2 Invalid value or illegal number of parameters when calling the function or procedure**

**Explanation**

%1 = channel number  
%2 = block number, label  
- When calling a function or procedure, an illegal parameter value has been specified.  
- When calling a function or procedure, an illegal number of actual parameters has been programmed.

**Reaction**  
Alarm display.  
Interface signals are set.  
Interpretor stop.  
NC Start inhibited.

**Remedy**  
Modify the part program.

**Program continuation by**  
Press NC START to clear the alarm. Restart the part program.

---

14021  
**Channel %1 block %2 Invalid value or illegal number of parameters when calling the function or procedure**

**Explanation**

%1 = channel number  
%2 = block number, label  
- When calling a function or procedure, an illegal parameter value has been specified.  
- When calling a function or procedure, an illegal number of actual parameters has been programmed.

**Reaction**  
Alarm display.  
Interface signals are set.  
Interpretor stop.  
NC Start inhibited.

**Remedy**  
Modify the part program.

**Program continuation by**  
Use the RESET key to cancel the alarm. Restart the part program.

---

14040  
**Channel %1 block %2 Error in end point of circle**

**Explanation**

%1 = channel number  
%2 = block number, label  
With circular interpolation, the distance either between the circle radii for start point and end point or the distance between the circle center points is greater than defined in the machine data.  
1. With radius programming, start and end points are identical so that the position of the circle is not defined by start or end point.  
2. Radii: The NC will calculate the radii for start and end points from the current start point and the remaining programmed circle parameters. The alarm message is provided if the difference of the circle radii is either  
   - greater than the value in MD 21000 `CIRCLE_ERROR_CONST` (in case of small radii if the programmed radius is less than the quotient of MD 21000 `CIRCLE_ERROR_CONST` divided by MD 21010 `CIRCLE_ERROR_FACTOR`), or  
   - greater than the value in MD 21010 `CIRCLE_ERROR_CONST` (in case of large radii if the programmed radius is greater than the quotient of MD 21000 `CIRCLE_ERROR_CONST` divided by MD 21010 `CIRCLE_ERROR_FACTOR`).
3. **Center points**: A new circle center will be calculated using the circle radius to the starting point. The circle center will be located on the mid-perpendicular established on the connecting straight line of circle start and circle end points. The angle, which is specified in arc dimension, between the two straight lines from the starting point to the center point either calculated in the way described or programmed must be less than the root from 0.001 (corresponds to approx. 1.8 degrees).

**Reaction**
- Alarm display.
- Interface signals are set.
- Interpreter stop.
- NC Start inhibited.

**Remedy**
- Please inform the authorized personnel/customer service.
- Check MD 21000 `CIRCLE_ERROR_CONST` and MD 21010 `CIRCLE_ERROR_FACTOR`. If the values are within reasonable limits, program the end-of-circle point or the circle center point more exactly.
- Use the RESET key to cancel the alarm. Restart the part program.

**Program continuation by**

**14045**

**Channel %1 block %2 Error programming a tangential circle**

**Explanation**

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

This alarm may have the following causes:

- When programming a tangential circle, you did not have programmed the tangent direction, e.g. since prior to the current block no other traversing block was programmed.

- A circle can be generated from start and end points, as well as from the tangent direction, since viewed from the start point, the end point is in the opposite direction specified by the tangent.

- No tangential circle can be generated, since the tangent stands vertically on the active plane.

- In the special case that the tangential circle changes to a straight line, several full circle turns have been programmed using TURN.

**Reaction**
- Alarm display.
- Interface signals are set.
- Reorganize also the correction block.
- NC Start inhibited.
- NC Stop at alarm at block end.

**Remedy**
- Modify the part program.
- Press NC START to cancel the alarm and continue the program.

**14048**

**Channel %1 block %2 Invalid number of revolutions in circle programming**

**Explanation**

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

When programming a circle, a negative number of full revolutions has been specified.

**Reaction**
- Alarm display.
- Interface signals are set.
- Interpreter stop
- NC Start inhibited

**Remedy**
- Modify the part program.
14050
**Channel %1 block %2 Nesting depth for arithmetic operations exceeded**

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

To calculate arithmetic expressions in NC block, an operand stack of fixed size is used. With very complex expressions, this stack might overflow.

**Reaction**
- Alarm display.
- Interface signals are set.
- Interpreter stop.
- NC Start inhibited.

**Remedy**
- Distribute complex arithmetic expressions over several, more simply structured arithmetic blocks.

**Program continuation by**
- Use the RESET key to cancel the alarm. Restart the part program.

14051
**Channel %1 block %2 Arithmetic error in part program**

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

- With the calculation of an arithmetic expression, an overflow occurred (e.g. division by zero).
- The value range that can be represented for a certain data type has been exceeded.

**Reaction**
- Alarm display.
- Interface signals are set.
- Reorganize also the correction block.

**Remedy**
- Analyze the program and correct the faulty program section.

**Program continuation by**
- Press NC START to cancel the alarm and continue the program.

14060
**Channel %1 block %2 Illegal skip level with split block skipping**

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

With "skipped block skipping", a skip level greater than 1 has been specified (In package 1, the specification of a value for the skip level is already denied by the converter as a syntax error, i.e. only one Skip Block level ON/OFF is possible).

**Reaction**
- Alarm display.
- Interface signals are set.
- Interpreter stop.
- NC Start inhibited.

**Remedy**
- Enter skip level (number after slash) 1.

**Program continuation by**
- Use the RESET key to cancel the alarm. Restart the part program.
**14070**

**Channel %1 block %2 Insufficient variable memory for subroutine call**

**Explanation**

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

A subroutine you have called cannot be executed (opened) since either the internal data memory generally to be created is not sufficient or the available local memory space is too small for the local program variables. This alarm may only occur in MDA.

**Reaction**

Alarm display.  
Interface signals are set.  
Interpreter stop.  
NC Start inhibited.

**Remedy**

Analyze the relevant section of the part program:

1. Was always the optimum data type selected for variable definitions? (e.g. REAL for data bits would be bad - better: BOOL)  
2. Could local variables be replaced by global variables?

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

---

**14080**

**Channel %1 block %2 Jump destination not found**

**Explanation**

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

The jump target of conditioned and unconditioned jumps with in the program must be a block with a label (symbolic name instead of block number). If no jump target with the specified label is found when searching in the programmed direction, this alarm is displayed.

**Reaction**

Alarm display.  
Interface signals are set.  
Interpreter stop.  
NC Start inhibited.

**Remedy**

Check the NC program for the following possible errors:

1. Check whether the target designation is identical to the label.  
2. Is the jump direction correct?  
3. Has the label been completed with a colon?

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

---

**14082**

**Channel %1 block %2 Program section not found**

**Explanation**

%1 = channel number  
%2 = block number, label  
%3 = start or end label

Either the starting point for the program repetition with CALL <program name> BLOCK <start label> TO <end label> was not found or the same program part repetition was called recursively.

**Reaction**

Alarm display.  
Interface signals are set.  
Reorganize also the correction block.

**Remedy**

Check the start and end labels for the program repetition in the user program.

**Program continuation by**

Press NC START or RESET to cancel the alarm and continue the program.
1 Alarms

14085 Channel %1 block %2 Illegal statement
Explanation %1 = channel number
%2 = block number, label
The statement 'TML()' may only used in the subroutine using the T command.
Reaction Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Stop at alarm at end of block.
Remedy Modify the part program.
Program continuation Press NC START to cancel the alarm and continue the program.
by

14088 Channel %1 block %2 %3 Illegal statement
Explanation %1 = channel number
%2 = block number, label
%3 = axis name, spindle number
The statement 'TML()' may only used in the subroutine using the T command.
Reaction Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Stop at alarm at end of block.
Remedy Modify the part program.
Program continuation Press NC START to cancel the alarm and continue the program.
by

14089 Channel %1 block %2 %3 Illegal function, index:%3
Explanation %1 = channel number
%2 = block number, label
%3 = index
A function was programmed or initiated which is not permitted in the context of
the current program. The function in question is encrypted in the parameter
"Index":
Index = 1: "RET" command was programmed on the main program level.
Reaction Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.
Remedy Index = 1: Replace the RET command by M17/M30.
Program continuation Use the RESET key to cancel the alarm. Restart the part program.
by

14092 Channel %1 block %2 %3 Illegal axis type
Explanation %1 = channel number
%2 = block number, label
%3 = axis name, spindle number
Reaction Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.
Remedy Correct the part program.
Program continuation Use the RESET key to cancel the alarm. Restart the part program.
by
14095  
**Channel %1 block %2 Radius too small for radius programming**

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

On radius programming, a radius too small has been specified, i.e. the programmed radius is less than the half distance between start and end points.

**Reaction**  
Alarm display.  
Interface signals are set.  
Reorganize also the correction block.

**Remedy**  
Modify the part program.

**Program continuation**  
Press NC START to cancel the alarm and continue the program.

14096  
**Channel %1 block %2 Type conversion not permitted**

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

During the program execution, data have been linked due to a variable/value assignment or due to an arithmetic operation such that they have to be converted to another type. When doing so, the range of values would be exceeded.

<table>
<thead>
<tr>
<th>Variable Type</th>
<th>Property</th>
<th>Range of Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>REAL</td>
<td>Fractional numbers with decimal point</td>
<td>± (2⁻¹⁰²²₂⁺¹⁰²³)</td>
</tr>
<tr>
<td>INT</td>
<td>Integer numbers with sign</td>
<td>± (2³¹⁻¹)</td>
</tr>
<tr>
<td>BOOL</td>
<td>Truth value TRUE, FALSE</td>
<td>0, 1</td>
</tr>
<tr>
<td>CHAR</td>
<td>1 ASCII character</td>
<td>0 - 255</td>
</tr>
<tr>
<td>STRING</td>
<td>String (max. 100 values)</td>
<td>0 - 255</td>
</tr>
<tr>
<td>AXIS</td>
<td>Axis addresses</td>
<td>Only axis names</td>
</tr>
<tr>
<td>FRAME</td>
<td>Geometrical specifications</td>
<td>as distances traversed by the axes</td>
</tr>
</tbody>
</table>

Ranges of values for the individual variable types

<table>
<thead>
<tr>
<th>from</th>
<th>to</th>
<th>REAL</th>
<th>INT</th>
<th>BOOL</th>
<th>CHAR</th>
<th>STRING</th>
</tr>
</thead>
<tbody>
<tr>
<td>REAL</td>
<td></td>
<td></td>
<td>yes</td>
<td></td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>INT</td>
<td></td>
<td>yes</td>
<td></td>
<td>yes</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>BOOL</td>
<td></td>
<td>yes</td>
<td>yes</td>
<td></td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>CHAR</td>
<td></td>
<td>yes</td>
<td>yes</td>
<td></td>
<td></td>
<td>yes</td>
</tr>
<tr>
<td>STRING</td>
<td>-</td>
<td></td>
<td></td>
<td>yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Type conversion  
1) Value <>0 corresponds to TRUE, value ==0 corresponds to FALSE.  
2) String length 0 => FALSE, otherwise TRUE.  
3) if only 1 character

No conversion can be carried out from and to the types AXIS and FRAME.
10.02 1 Alarms

Reaction  
Alarm display.  
Interface signals are set.  
Reorganize also the correction block.

Remedy  
Modify the program part such that the range of values is not exceeded, e.g.  
change the variable definition.

Program continuation by  
Press NC START to cancel the alarm and continue the program.

**14098**  
**Explanation**  
Channel %1 block %2 Conversion error: No valid number found  
%1 = channel number  
%2 = block number, label  
The string is not a valid INT or REAL number.

**Reaction**  
Alarm display.  
Interface signals are set.  
Interpreter stop.  
NC Start inhibited.

**Remedy**  
Modify the part program. If it is an input, it is possible to check via the prede-  
defined function ISNUMBER (with the same parameter) whether the string con-  
tinutes a number.

**Program continuation by**  
Use the RESET key to cancel the alarm. Restart the part program.

**14130**  
**Explanation**  
Channel %1 block %2 Too many initialization values specified  
%1 = channel number  
%2 = block number, label  
When assigning the field via SET, more initialization values have been specified for the program execution than field elements exist.

**Reaction**  
Alarm display.  
Interface signals are set.  
Interpreter stop.  
NC Start inhibited.

**Remedy**  
Reduce the number of initialization values.

**Program continuation by**  
Use the RESET key to cancel the alarm. Restart the part program.

**14160**  
**Explanation**  
Channel %1 block %2 No geometry axis specified for tool length compensa-  
tion  
%1 = channel number  
%2 = block number, label  
If with tool length compensation using H word and G43/G44 in ISO_mode  
variant C is activated via MD 20380 TOOL_CORR_MODE (the tool length is  
effective along the programmed axis), exactly one geometry axis must be pro-  
grammed together with H if MD 20384 TOOL_CORR_MULTIPLE_AXES =  
TRUE is not set. This alarm is output if either none or more than one geometry  
axis is programmed together with H.  
It is permitted to program several axes if the MD 20384  
TOOL_MULTIPLE_AXES = TRUE was set.  
If no axis is specified, this is always an error.

**Reaction**  
Alarm display.  
Interface signals are set.  
Reorganize also the correction block.  
NC Stop at alarm.

**Remedy**  
Change MD 20380 MCTOOL_CORR_MODE or modify the part program.
Alarms

10.02

Program continuation by

14165 
Channel %1 block %2 Tool compensation selected 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.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Stop at alarm.

Remedy
Modify the part program.

Program continuation by

14170 
Channel %1 block %2 Illegal interpolation type with tool length compensation

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

If a tool compensation is activated in the ISO M language mode (G43/G44), linear interpolation type must be activated.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Stop at alarm.

Remedy
Modify the part program.

Program continuation by

14180 
Channel %1 block %2 H number not defined

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

The specified H number is not assigned a tool (ISO M).

Reaction
Interface signals are set.
Reorganize also the correction block.
NC Stop at alarm.
Alarm display.

Remedy
Modify the part program.

Program continuation by

14185 
Channel %1 Block %2 D number not defined

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

The specified H number is not assigned a tool (language mode ISO M).

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Stop at alarm.

Remedy
Modify the part program.
Program continuation
by

14190
Explanation
Channel \( \%1 \) block \( \%2 \) H number with G49
\( \%1 = \) channel number
\( \%2 = \) block number, label
Both G49 (selection of tool length compensation) and H word unequal to H0
are programmed.

Reaction
Alarm display
Interface signals are set.
Reorganize also the correction block.
NC Stop at alarm.

Remedy
Modify the part program.

Program continuation
by

14195
Explanation
Channel \( \%1 \) block \( \%2 \) D number with G49
\( \%1 = \) channel number
\( \%2 = \) block number, label
Both G49 (selection of tool length compensation) and D word unequal to D0
are programmed.

Reaction
Interface signals are set.
Reorganize also the correction block.
NC Stop at alarm.

Remedy
Modify the part program.

Program continuation
by

14197
Explanation
Channel \( \%1 \) block \( \%2 \) Both the D and the H number are programmed
\( \%1 = \) channel number
\( \%2 = \) block number, label
Both the D and the H words are programmed.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.
NC Stop at alarm.

Remedy
Modify the part program.

Program continuation
by

14198
Explanation
Channel \( \%1 \) block \( \%2 \) Illegal change of tool direction with tool offset
\( \%1 = \) channel number
\( \%2 = \) block number, label
If an offset is active in the tool direction, no block may be loaded
with which the assignment of the offset axis to the channel axes
changes (plane change, tool change milling tool <-> turning tool, ge-
ometry axis change)
10.02  Alarms

**Reaction**
- Alarm display.
- Interface signals are set.
- NC Start inhibited
- Reorganize also the correction block.
- NC Stop at alarm at block end.

**Remedy**
- Modify the part program.
- Reduce the offset in the tool direction to zero.

**Program continuation by**
Press NC START to cancel the alarm and continue the program.

---

**14199 Channel %1 block %2 Illegal plane change when working with tool with diameter component**

**Explanation**
- %1 = channel number
- %2 = block number, label
- If a tool possesses a wear or a length component which is evaluated as a diameter value (bit 0 and / or bit 1 is set in MD $MC_TOOL_PARAMETER_DEF_MASK) and bit 2 is additionally set in this MD, then the tool concerned may only be used in the plane which is active when selecting the tool. A plane change will result in an alarm.

**Reaction**
- Alarm display.
- Interface signals are set.
- Interpreter stop.
- NC Start inhibited.

**Remedy**
- Modify the part program.
- Reset bit 2 in MD $MC_TOOL_PARAMETER_DEF_MASK.

**Program continuation by**
Press NC START to cancel the alarm and continue the program.

---

**14200 Channel %1 block %2 Negative polar radius**

**Explanation**
- %1 = channel number
- %2 = block number, label
- When specifying the end point of a traversing block with G00, G01, G02 or G03 using polar coordinates, the polar radius specified at vocabulary word RP=... is negative.

**Definition:**
- **Specification of the end-of-block point** with pole angle and pole radius with reference to the current pole (G functions: G00/G01/G02/G03).
- **Redefinition of the pole** with pole angle and pole radius with reference to the reference point selected using the G function.
  - G110 ... last programmed point of the plane
  - G111 ... zero point of the current WCS
  - G112 ... last pole

**Reaction**
- Alarm display.
- Interface signals are set.
- Interpreter stop.
- NC Start inhibited.

**Remedy**
- Correct the NC part program accordingly - admissible 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 specified using the polar angle AP=...).

**Program continuation by**
Use the RESET key to cancel the alarm. Restart the part program.
14210 Channel %1 block %2 Pole angle too large

Explanation

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

When specifying the end point of a traversing block with G00, G01, G02 or G03 using polar coordinates, the traversing range of the polar angle has been exceeded, which is programmed at the vocabulary word AP=... It covers the range from -360 to +360 degrees with a resolution of 0.001 degrees.

Definition:

• Specification of the end-of-block point with pole angle and pole radius with reference to the current pole (G functions: G00/G01/G02/G03).

• Redefinition of the pole with pole angle and pole radius with reference to the reference point selected using the G function.
  
  G110 ... to the last programmed point of the plane
  G111 ... to the zero point of the current workpiece coordinate system (WCS)
  G112 ... to the last pole

Reaction

Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy

Correct the NC part program accordingly - the admissible input range for the polar angle is between the values -360 degrees and +360 degrees with a resolution of 0.001 degrees.

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

14250 Channel %1 block %2 Negative pole radius

Explanation

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

When redefining the pole with G110, G111 or G112 using polar coordinates, the pole radius specified at the vocabulary word RP=... is negative. Only positive, absolute values are admitted.

Definition:

• Specification of the end-of-block point with pole angle and pole radius with reference to the current pole (G functions: G00/G01/G02/G03).

• Redefinition of the pole with pole angle and pole radius with reference to the reference point selected using the G function.
  
  G110 ... last programmed point of the plane
  G111 ... zero point of the current WCS
  G112 ... last pole

Reaction

Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy

Correct the NC part program accordingly - admissible inputs for the pole radius are only positive, absolute values that specify the distance between the reference point and the new pole (the direction is specified using the pole angle AP=...).

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.
14260  Channel %1 block %2 Pole angle too large
Explanation
%1 = channel number
%2 = block number, label

When redefining the pole with G110, G111 or G112 using polar coordinates, the range of values of the pole angle has been exceeded, which is specified at the vocabulary word AP=.... It covers the range from -360 to +360 degrees with a resolution of 0.001 degrees.

Definition:

• **Specification of the end-of-block point** with pole angle and pole radius with reference to the current pole (G functions: G00/G01/G02/G03).

• **Redefinition of the pole** with pole angle and pole radius with reference to the reference point selected using the G function.

| G110 ... | last programmed point of the plane |
| G111 ... | zero point of the current WCS        |
| G112 ... | last pole                           |

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
Correct the NC part program accordingly - the admissible input range for the pole angle is between the values -360 degrees and +360 degrees with a resolution of 0.001 degrees.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

14270  Channel %1 block %2 Pole incorrectly programmed
Explanation
%1 = channel number
%2 = block number, label

When defining the pole, an axis has been programmed, which is not part of the selected machining plane.

The programming using polar coordinates always refers to the plane enabled using G17 to G19. This also applies to the definition of a new pole with G110, G111 or G112.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
Correct the NC part program accordingly - only the two geometry axes forming the current processing plane may be programmed.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

14280  Channel %1 block %2 Polar coordinates incorrectly programmed
Explanation
%1 = channel number
%2 = block number, label

The end point of the displayed block was programmed both in the polar coordinate system (with AP=..., RP=...) and in the Cartesian coordinate system (axis addresses X, Y, ...).

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.
## Remedy
Correct the NC part program accordingly - the axis movement may only be specified **in a coordinate system**.

## Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

### 14400
**Channel %1 block %2 Tool radius compensation active when switching the transformation**

**Explanation**
- `%1` = channel number
- `%2` = block number, label

The transformation may only be switched with the tool radius compensation active.

**Reaction**
- Alarm display.
- Interface signals are set.
- Reorganize also the correction block.

**Remedy**
- Use **G40** (in a block with G00 or G01) to carry out a tool radius compensation in the NC part program prior switching the transformation.

**Program continuation by**
- Press NC START to cancel the alarm and continue the program.

### 14401
**Channel %1 block %2 Transformation not existing**

**Explanation**
- `%1` = channel number
- `%2` = block number, label

The desired transformation is not available.

**Example:**
The following was programmed: N220 TRACYLI(3) ;transformation. no. 3-ON
But, only the transformations 1 and 2 exist.

**Reaction**
- Alarm display.
- Interface signals are set.
- Interpreter stop.
- NC Start inhibited.

**Remedy**
- Please inform the authorized personnel/customer service.
- Modify the part program, but program only defined transformations.
- Check MD 24100 TRAFO_TYPE_n (assigns the transformation to the appropriate part program statement).

**Program continuation by**
- Use the RESET key to cancel the alarm. Restart the part program.

### 14404
**Channel %1 block %2 Illegal parameterization for transformation**

**Explanation**
- `%1` = channel number
- `%2` = block number, label

An error has occurred when selecting the transformation.

Possible error causes are generally:
- An axis traversed by the transformation is not released:
- because it is occupied by another channel (-> enable the axis)
- is in the Spindle mode (-> enable the axis via SPOS)
- is in the POSA mode (-> enable it via WAITP)
- is a concurring POS axis (-> enable it via WAITP)
- The parameterization via machine data is faulty.
• Axis or geometry axis assignment to the transformation is faulty,
• machine data is faulty (→ change machine data, cold restart)

Please note: Axes not enabled are not reported via
EXINAL_TRANSFORM_PARAMETER = 14404, but via
EXINAL_ILLEGAL_AXIS = 14092 or BSAL_SYSERRCHAN_RESET = 1011.

Transformation-depending error causes may be:
TRAORI:

TRANSMIT:
• The current machine axis position cannot be used for selection (e.g. se-
  lection in the pole) (→ change the position slightly)
• The parameterization via machine data is faulty.
• Particular prerequisite at machine axis not fulfilled (e.g. rotary axis is no
  modulo axis) (→ change machine data, cold restart)

TRACYL:
• The programmed parameter is not permitted when selecting a transforma-
  tion.

Only with the compile cycle "OEM transformation" active:
• The axes involved in the transformation must be referenced!

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.

Remedy
Please inform the authorized personnel/customer service.
Either modify the part program or change the machine data.

Only with the compile cycle "OEM transformation" active:
Before selecting the transformation, first reference the axes involved in the
transformation.

Program continuation
by
Press NC START to cancel the alarm and continue the program.

14500
Channel %1 block %2 Illegal DEF or PROC statement in the part program

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

NC part programs with high-level language elements are divided into a defini-
tion part which is written first and is followed by a program part. The transition
is not specially marked - no definition statement may follow after the 1st pro-
gram command.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.

Remedy
Put the definition and PROC statements to the beginning of the program.

Program continuation
by
Press NC START to cancel the alarm and continue the program.

14510
Channel %1 block %2 PROC statement missing in subroutine call

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

When calling a subroutine with parameter transfer ("call-by-value" or "call-by-
reference"), the called subroutine must start with a PROC statement.
Reaction | Alarm display. Interface signals are set. Reorganize also the correction block.
--- | ---
Remedy | Carry out the definition in the subroutine according to the type you are using.
1. Conventional subroutine structure (without parameter transfer):
   % SPF 123456
   : M17
2. Designing the subroutine with vocabulary word and subroutine name (without parameter transfer):
   PROC UPNAME
   : M17
   ENDPROC
3. Designing the subroutine with vocabulary word and subroutine name (with "call-by-reference" parameter transfer):
   PROC UPNAME (VARNAME1, VARNAME2, ...)
   : M17
   ENDPROC
4. Designing the subroutine with vocabulary word and subroutine name (with "call-by-reference" parameter transfer):
   PROC UPNAME (Typ1 VARNAME1, Typ2 VARNAME2, ...)
   : M17
   ENDPROC

Press NC START to cancel the alarm and continue the program.

**14520**

Channel %1 block %2 Illegal DEF or PROC statement in the definition program

Explanation

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

The PROC statement may only be written in the beginning of a subroutine.

**Reaction** | Alarm display. Interface signals are set. Reorganize also the correction block.
--- | ---
**Remedy** | Modify the NC part program accordingly.

**Program continuation by**

Press NC START to cancel the alarm and continue the program.

**14530**

Channel %1 block %2 EXTERN and PROC statements do not match

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 always exist (fixed cycles), the call interfaces are determined by the control system when booting. Otherwise, an EXTERN statement must be programmed in the calling program.

**Example:**

N123 EXTERN UPNAME (TYP1, TYP2, TYP3, ...)

It is imperative that the type of the variable matches or is compatible with the type specified in the definition (PROC statement); the name can be different.
10.02 1 Alarms

Reaction | Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy | Check whether the variable types of the EXTERN and of the PROC statements match with each other and correct them if necessary.

Program continuation by | Use the RESET key to cancel the alarm. Restart the part program.

14600 | Channel %1 block %2 Cannot create reloading buffer
Explanation | %1 = channel number
%2 = block number, label
When loading the INITIAL_INI block, the reload buffer could not be created because of insufficient memory in the RAM of the NC.

Reaction | Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy | Provide for free memory space in the NC area, for example, by deleting part programs no longer used.

Program continuation by | Use the RESET key to cancel the alarm. Restart the part program.

14601 | Channel %1 block %2 Reload buffer could not be cleared
Explanation | %1 = channel number
%2 = block number, label
The reload buffer for "Execution from external" could not be cleared; probable cause:
- HMI-PLC communication not completed.

Reaction | Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy | All reload buffers are cleared on Power On.

Program continuation by | Use the RESET key to cancel the alarm. Restart the part program.

14700 | Channel %1 block %2 Timeout at command to interpreter
Explanation | %1 = channel number
%2 = block number, label
The runtime has exceeded in case of control system-internal commands, such as part program selection, Reset or a modification to configuration-specific machine data.

Reaction | Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy | Please inform the authorized personnel/customer service.
If the runtime error occurred due to a load on the system currently too large (e.g. in the HMI area), it is possible that the program/operation will be carried out correctly if it is repeated.
Otherwise, contact the A&D system administration, describing the error situation as exact as possible, using the following address:
10.02 1

Siemens AG, System Administration for A&D MC Products, hotline
(tel.: see p. 1-9)

Program continuation
by

Power ON

14701 Channel %1 block %2 Number of available NC blocks reduced by %3

%1 = channel number
%2 = block number, label
%3 = number of blocks not available

After Reset, it was detected that the number of available blocks has been reduced in comparison with the last RESET. The cause is a system error. Acknowledge this alarm to continue the execution of the part program.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
The same procedure as with system errors.

Program continuation
by

Use the RESET key to cancel the alarm. Restart the part program.

14710 Channel %1 block %2 Error in initialization sequence with function %3

%1 = channel number
%2 = block number, label
%3 = index for section

When the control system boots and is reset, initialization blocks are generated. Due to incorrect machine data settings, errors might occur.

Parameter %3 indicates in which section of ini block generation the error occurred:
Section 0: Error synchronizing leader/main run
Section 1: Error selecting the tool length compensation
Section 2: Error selecting the transformation
Section 3: Error selecting the zero offset

During booting, the cycle interfaces are additionally read in. If an error occurs during this process, “Section 5” is signaled.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
With sections 0 - 3: Load standard machine data
With section 5: Reload cycles

Program continuation
by

Use the RESET key to cancel the alarm. Restart the part program.

14750 Channel %1 block %2 Too many auxiliary functions programmed

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

More than 10 auxiliary functions have been programmed in a block.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.
Remedy

Check whether all auxiliary functions are necessary in the block; modal functions need not be repeated. Either create your own auxiliary function block or distribute the auxiliary functions over several blocks.

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

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 into groups via machine data completely variably if required. Auxiliary functions are summarized in groups such that several individual functions of a group mutually exclude. Within a group, only one auxiliary function is reasonable and permitted.

Reaction

Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy

Please inform the authorized personnel/customer service.
Program only one auxiliary function or auxiliary function group. (For group division see Programming Instructions of the machine manufacturer.)

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

14762 Channel %1 block %2 Too many PLC variables programmed

Explanation

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

The number of the programmed PLC variables in auxiliary functions has programmed the maximum permissible number; the number is defined via the MD 28150 MM_NUM_VDIVAR_ELEMENTS.

Reaction

Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.
NC Stop at alarm.

Remedy

Either modify the part program or change the machine data.

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

14770 Channel %1 block %2 Auxiliary function incorrectly programmed

Explanation

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

The permissible number of 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).

With the user-defined auxiliary functions, the maximum number of auxiliary functions per group is defined for all auxiliary functions in the NC system settings using machine data 11100 AUXFU_MAXNUM_GROUP_ASSIGN (default value: 1).

For each user-defined auxiliary function that is to be assigned a group, the assignment is made using 4 machine data.
MD22010 AUXFU_ASSIGN_TYPE: Auxiliary function type, e.g. M
MD 22000 AUXFU_ASSIGN_GROUP: Desired group
MD 22020 AUXFU_ASSIGN_EXTENSION: an extension (if required)
MD 22030 AUXFU_ASSIGN_VALUE: Function value

**Reaction**
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

**Remedy**
Correct the part program - max. 16 auxiliary functions, max. 5 M functions per NC block, max. 1 auxiliary function per group.

**Program continuation by**
Use the RESET key to cancel the alarm. Restart the part program.

**14780**
*Channel %1 block %2 Unreleased option used*

**Explanation**
%1 = channel number
%2 = block number, label
An option not released is used in the block.

**Reaction**
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

**Remedy**
Modify the part program; acquire the option.

**Program continuation by**
Use the RESET key to cancel the alarm. Restart the part program.

**14800**
*Channel %1 block %2 Programmed path velocity less than 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 from 0.001 to 999 999.999 [mm/min, mm/rev, degrees/min, degrees/rev] for the metric input system and from 0.000 1 to 39 999.999 9 [inch/min, inch/rev] for the inch input system.

**Reaction**
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

**Remedy**
Program the path velocity (geometrical sum of the velocity components of the geometry axes involved) within the limits specified above.

**Program continuation by**
Use the RESET key to cancel the alarm. Restart the part program.

**14810**
*Channel %1 block %2 Negative axis velocity programmed for positioning axis %3*

**Explanation**
%1 = channel number
%2 = block number, label
%3 = axis
A negative feedrate (FA value) was programmed for the axis currently running as a positioning axis. The positioning velocity may be programmed in the range from 0.001 to 999 999.999 [mm/min, mm/rev, degrees/min, degrees/rev] for the metric input system and from 0.000 1 to 39 999.999 9 [inch/min, inch/rev] for the inch input system.
10.02 Alarms

Reaction

Alarm display.
Interface signals are set.
Reorganize also the correction block.

Remedy

Program the positioning velocity within the limits specified above.

Program continuation by

Press NC START to cancel the alarm and continue the program.

14811 Channel %1 block %2 Invalid range of values for acceleration of axis/spindle %3

Explanation

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

The permissible input range for the programmable acceleration was not observed; possible values are between 1 and 200 percent.

Reaction

Alarm display.
Interface signals are set.
Reorganize also the correction block.

Remedy

Adapt the range of values as specified in the Programming Guide.

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

14815 Channel %1 block %2 Negative thread pitch change programmed

Explanation

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

A negative thread pitch was programmed.

Reaction

Alarm display.
Interface signals are set.
Reorganize also the correction block.

Remedy

Correct the value assignment. The programmed F value should be greater than zero. Zero is permissible, but without effect.

Program continuation by

Press NC START to cancel the alarm and continue the program.

14820 Channel %1 block %2 Maximum spindle speed for the constant cutting speed programmed with a negative value

Explanation

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

You can program a maximum spindle speed for the function "Constant cutting rate G96" using the key word LIMS=... The value range is between 0.1 - 999999.9 [rev/min].

Reaction

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 specified above. The key word LIMS is modal and can be written either in front of the block with the selection of the constant cutting rate or in the block.

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.
14840  
**Channel %1 block %2 Value for constant cutting rate out of range**

**Explanation**

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

The programmed cutting rate is out of the input range.

**Reaction**

Alarm display.  
Interface signals are set.  
Interpreter stop.  
NC Start inhibited.

**Remedy**

Program the cutting rate under address S within the permissible value range.

**Program continuation**

Use the RESET key to cancel the alarm. Restart the part program.

---

14900  
**Channel %1 block %2 Both center and end points programmed**

**Explanation**

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

When the circle was programmed using the aperture angle, the circle center point and, in addition, the circle end point has also been programmed. The circle is thus overdetermined. Only one of the two points may be programmed.

**Reaction**

Alarm display.  
Interface signals are set.  
Interpreter stop.  
NC Start inhibited.

**Remedy**

Select the programming variant at which the dimensions can be accepted from the workpiece drawing reliably (in order to avoid errors in the calculation).

**Program continuation**

Use the RESET key to cancel the alarm. Restart the part program.

---

14910  
**Channel %1 block %2 Invalid circle aperture angle**

**Explanation**

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

When programming the circle using the opening angle, a negative aperture angle or an aperture angle >= 360 degrees has been programmed.

**Reaction**

Alarm display.  
Interface signals are set.  
Interpreter stop.  
NC Start inhibited.

**Remedy**

Program the aperture angle within the permitted value range of 0.0001 - 359.9999 [degrees].

**Program continuation**

Use the RESET key to cancel the alarm. Restart the part program.

---

14920  
**Channel %1 block %2 Intermediate point of circle incorrect**

**Explanation**

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

When programming a circle via an intermediate point, all 3 points (start, end and intermediate point) are on a straight line, and the intermediate point (programmed by the interpolation parameters I, J, K) is not between the start and the end point.
Alarm display. Interface signals are set. Interpreter stop. NC Start inhibited.

Either place the position of the intermediate point with the parameters I, J and K such that its position will be really between the circle start and the end point, or sacrifice of this kind of circle programming and program the circle with radius and opening angle or center point parameters.

Use the RESET key to cancel the alarm. Restart the part program.

Channel %1 block %2 Different unit system settings

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

The INCH or METRIC statement describes the unit system where the data records have been read from the control system. To prevent that data that have been intended only for a certain unit system are not incorrectly interpreted, a data record will be supposed if there is only one match is assumed between the above mentioned statement and the currently active unit system setting.

Alarm display. Interface signals are set. Interpreter stop. NC Start inhibited.

Either change the unit system or load the data record matching with the unit system settings.

Use the RESET key to cancel the alarm. Restart the part program.

Channel %1 block %2 REORG abortion due to log file overflow

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

For synchronization between executing program leader and main run using REORG, the control system requires modification data that are managed in a log file. The alarm displays that no more logfile capacity is available in the channel for the block mentioned above.

Alarm display. Interface signals are set. Interpreter stop. NC Start inhibited.

Please inform the authorized personnel/customer service. No remedy is possible for further execution of the current part program, but it is possible to:

- reduce the logfile requirements by:
  - reducing the distance between leader and main run by appropriate leader stops STOPRE.

Use the RESET key to cancel the alarm. Restart the modified (as specified under “Remedy”) part program.
15110  \textbf{Channel \%1 block \%2 REORG not possible}

Explanation
\begin{align*}
\%1 &= \text{channel number} \\
\%2 &= \text{block number, label}
\end{align*}

For synchronization between executing program leader and main run using REORG, the control system requires modification data that are managed in a log file. The alarm displays that no more log file capacity is available in the channel for the block mentioned above.

The alarm message indicates that the log file has been deleted to provide more additional memory for preparing the program. REORG of the leader memory to the next coincidence no longer possible.

Reaction
Alarm display.

Remedy
Please inform the authorized personnel/customer service.

No remedy is possible for further execution of the current part program, but it is possible to:
- reduce the log file requirements by:
  - reducing the distance between leader and main run by appropriate leader stops \texttt{STOPRE}.

Program continuation by
The alarm display will disappear with the alarm cause. No further operation required.

15150  \textbf{Channel \%1 block \%2 Reloading from external source was canceled}

Explanation
\begin{align*}
\%1 &= \text{channel number} \\
\%2 &= \text{block number, label}
\end{align*}

Execution from external source was canceled because the reloading buffer contains not a sufficient number of machine function blocks (traversing blocks, auxiliary function, dwell time etc.). Background: Releasing of the machine function blocks already executed will release memory capacity in the reloading buffer. If no more machine function blocks are released, nothing can be re-loaded any more - and no deadlock situation will result.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
Insert machine function blocks into the part program.
- Enlarge the reloading buffer ($\text{MN}_{-}\text{MM}_{-}\text{EXT}\_\text{PROG\_BUFFER\_SIZE}$).

Program continuation by
Use the \texttt{RESET} key to cancel the alarm. Restart the part program.

15160  \textbf{Channel \%1 block \%2 Leader configured incorrectly}

Explanation
\begin{align*}
\%1 &= \text{channel number} \\
\%2 &= \text{block number, label}
\end{align*}

The following deadlock was detected in the interpreter:
A block element is needed, the block element memory, however, is empty, and there is no chance to get new block elements by processing the leader/main run queue, since this queue is also empty.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
Please inform the authorized personnel/customer service.
Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

15170

Channel %1 block %2 program %3 could not be compiled

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

An error occurred in the compilation mode. The (compiler) message displayed after the error refers to the program specified here.

Reaction
Alarm display.
Remedy
Correct the part program.
Program continuation by
Use the "Cancel" key to cancel the alarm. No further operation required.

15175

Channel %1 block %2 program %3 No interfaces could be created

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

An error has occurred during the interface creation mode. The (compiler) message displayed after the error refers to the program specified here.

Reaction
Alarm display.
Remedy
Correct the part program.
Program continuation by
Use the "Cancel" key to cancel the alarm. No further operation required.

15180

Channel %1 block %2 Program %3 could not be processed as an INI file

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

Errors occurred reading in data as an INI file. The displayed error message refers to the program specified here.

Reaction
Alarm display.
Remedy
Correct the part program.
Program continuation by
Use the "Cancel" key to cancel the alarm. No further operation required.

15185

Channel %1 %2 Error in INI file

%1 = channel number
%2 = number of detected errors

Errors have been detected when executing an INI file.

Reaction
Alarm display.
Interface signals are set.
NC Start inhibited.
Remedy
Please inform the authorized personnel/customer service. Correct the INI file or correct the MD and create a new INI file (via "upload").
Program continuation by
Power ON
15190
Channel %1 block %2 No free memory for subroutine call
%1 = channel number
%2 = block number, label

The following deadlock was detected in the interpreter:
Memory for calling the subroutine is required. The module memory, however, is empty, and there is no chance that the module memory becomes free by processing the leader/main run queue, since this queue is also empty.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
Program preprocessing stop STOPRE before calling the subroutine.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

15300
Channel %1 block %2 Invalid number of block repetitions with block search
%1 = channel number
%2 = block number, label

A negative number of passes has been input in the P column (number of passes) when the function "Block search with calculation" was executed. The permissible value range is P 1 - P 9 999.

Reaction
Alarm display.

Remedy
Enter only positive numbers of passes within the value range.

Program continuation by
Use the "Cancel" key to cancel the alarm. No further operation required.

15320
Channel %1 block %2 Illegal block search job
%1 = channel number
%2 = block number, label

The block search job (type of the search destination) is less than 1 or greater than 5. It is entered in the Type column of the search window. Permissible search jobs are:

<table>
<thead>
<tr>
<th>Type</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Find block number</td>
</tr>
<tr>
<td>2</td>
<td>Find label</td>
</tr>
<tr>
<td>3</td>
<td>Find string</td>
</tr>
<tr>
<td>4</td>
<td>Find program name</td>
</tr>
<tr>
<td>5</td>
<td>Find line number in file</td>
</tr>
</tbody>
</table>

Reaction
Alarm display.

Remedy
Alter search job.

Program continuation by
Use the "Cancel" key to cancel the alarm. No further operation required.

15330
Channel %1 block %2 Illegal block number as a search target
%1 = channel number
%2 = block number, label

Syntax error! Only positive integer numbers are permitted as block numbers. With main blocks, a "." and with auxiliary blocks, an "N" must be put before the block number.
Reaction: Alarm display.
Remedy: Repeat your entry with the corrected block number.
Program continuation by

15340
Explanation: Channel %1 block %2 Illegal label as a search target
%1 = channel number
%2 = block number, label
Syntax error! A label must contain at least 2 and not more than 32 characters whereby the first two characters must be letters or underscores. Labels must end in a colon.

Reaction: Alarm display.
Remedy: Repeat your entry with the corrected label.
Program continuation by

15350
Explanation: Channel %1 block %2 Search target not found
%1 = channel number
%2 = block number, label
The specified program has been browsed up to the end of the program without finding the preselected search target.

Reaction: Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.
Remedy: Check the part program, alter the search target (type error in part program) and restart search.
Program continuation by

15370
Explanation: Channel %1 search target not found with block search
%1 = channel number
An invalid search target (e.g. negative block number) has been specified for block search.

Reaction: Alarm display.
Remedy: Check specified block number, label or string. Repeat your entry with the correct search target.
Program continuation by

Use the "Cancel" key to cancel the alarm. No further operation required.
**15380**

**Explanation**
Channel %1 block %2 Illegal incremental programming in axis %3

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

After "Block search at the end-of-block point", the transformation has changed. The position acquired during the block search cannot be traversed by increments.

**Reaction**
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

**Remedy**
- Select a search target where the axes are programmed using absolute dimensions.
- Disable adding of the acquired block search position via $SC_TARGET_BLOCK_INCR_PROG = FALSE.
- Use block search with calculation "at the contour".

**Program continuation by**
Use the RESET key to cancel the alarm. Restart the part program.

---

**15400**

**Explanation**
Channel %1 block %2 Selected initial ini block does not exist

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

The operator has selected anINI block for a read, write or processing function, which:
1. does not exist in the NCK area, or
2. which does not have the required protection level required to execute the function.

**Reaction**
Alarm display.

**Remedy**
Please inform the authorized personnel/customer service.
Check whether the selected INI block is stored in the file system of the NCK. The protection level must be at least the same (or higher) than the protection level defined when creating the file for the read, write or processing function.

**Program continuation by**
Use the RESET key to cancel the alarm. Restart the part program.

---

**15410**

**Explanation**
Channel %1 block %2 Initialization file contains illegal M function

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

The only M function permitted in an Init block is the end of program with M02, M17 or M30.

**Reaction**
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

**Remedy**
Remove all M functions from the Init block (except for the end-of-block character).

Init blocks may only contain value assignments (and global data definitions if not defined once more in a program executed later), but no movement or synchronous actions.
### Alarms

15420  
**Channel %1 block %2 Instruction not accepted in current mode**  
**Explanation**  

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

When executing an Init block, the interpreter has found an illegal instruction (e.g. traversing instruction).

**Reaction**  
Alarm display.  
Interface signals are set.  
Interpreter stop.  
NC Start inhibited.

**Remedy**  
Remove all movement functions and auxiliary functions from the Init block (except for the end-of-block character).

Init blocks may only contain value assignments (and global data definitions if not defined once more in a program executed later), but no movement or synchronous actions.

**Program continuation**  
Use the RESET key to cancel the alarm. Restart the part program.

15450  
**Channel %1 block %2 Compiled program could not be saved**  
**Explanation**  

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

A compiled program could not be saved in the compilation mode.  
This may have one of the following reasons:  
- Lack of memory capacity  
- Intermediate code line (Compilat) too long

**Reaction**  
Alarm display.

**Remedy**  
Provide for space in the user memory or modify the part program (not so complex).

**Program continuation**  
Use the "Cancel" key to cancel the alarm. No further operation required.

15460  
**Channel %1 block %2 syntax conflict with modal G functions**  
**Explanation**  

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

The addresses programmed in the block are not compatible with the modal, syntax-defining G function.

**Example:** N100 G01 ... I .. J.. K.. LF

**Reaction**  
Alarm display.  
Interface signals are set.  
Interpreter stop.  
NC Start inhibited.

**Remedy**  
Correct the displayed block; match G functions with addresses in the block with each other.

**Program continuation**  
Use the RESET key to cancel the alarm. Restart the part program.
15700  
**Explanation**  
Channel %1 block %2 Illegal cycle alarm number  
%1 = channel number  
%2 = block number, label  
A SETAL command with a cycle alarm number less than 60 000 or greater than 67 999 has been programmed.  
Alarm reaction of SIEMENS standard cycles:  
No.'s 61 000 - 61 999: Interpreter stop; deletion with Reset  
No.'s compensation block; use "Cancel" to cancel the alarm.  
**Reaction**  
Alarm display.  
Interface signals are set.  
Interpreter stop.  
NC Start inhibited.  
**Remedy**  
Program the alarm number in the SETAL instruction in the right range.  
**Program continuation**  
Use the RESET key to cancel the alarm. Restart the part program.  

15800  
**Explanation**  
Channel %1 block %2 Wrong starting conditions for CONTPRON  
%1 = channel number  
%2 = block number, label  
The start conditions for contour preparation (CYCLE 95) are faulty:  
G40 (deselection of tool radius compensation) is not active  
**Reaction**  
Alarm display.  
Interface signals are set.  
Interpreter stop.  
NC Start inhibited.  
**Remedy**  
Modify the part program: Deselect tool radius compensation with G40.  
**Program continuation**  
Use the RESET key to cancel the alarm. Restart the part program.  

15810  
**Explanation**  
Channel %1 block %2 Incorrect array dimension with CONTPRON  
%1 = channel number  
%2 = block number, label  
The number of columns in a contour table is a fixed value. For the current value, refer to the current Technology Programming Instructions.  
**Reaction**  
Alarm display.  
Interface signals are set.  
Interpreter stop.  
NC Start inhibited.  
**Remedy**  
Correct the field definition for the contour table.  
The number of rows can be freely defined and corresponds to the number of contour elements (circles, straight lines). The number of columns is fixed (as per 6/94: number of columns = 11).  
**Program continuation**  
Use the RESET key to cancel the alarm. Restart the part program.  

15900  
**Explanation**  
Channel %1 block %2 Illegal sensor  
%1 = channel number  
%2 = block number, label  
A sensor not existing was selected in the part program for measuring with deletion of the distance to go.
10.02 Alarms

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.

Remedy
Modify the part program.

Program continuation
by
Use the RESET key to cancel the alarm. Restart the part program.

15910
Channel %1 block %2 Illegal sensor

Explanation
%1 = channel number
%2 = block number, label
A sensor not existing was selected in the part program for measuring without
deletion of the distance to go.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.

Remedy
Modify the part program.

Program continuation
by
Use the RESET key to cancel the alarm. Restart the part program.

15950
Channel %1 block %2 No traversing motion programmed

Explanation
%1 = channel number
%2 = block number, label
Measuring with deletion of the distance to go was selected in the part program,
without specifying the axis, or the programmed traversing motion is zero.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.

Remedy
Modify the part program.

Program continuation
by
Use the RESET key to cancel the alarm. Restart the part program.

15960
Channel %1 block %2 No traversing motion programmed

Explanation
%1 = channel number
%2 = block number, label
Measuring without deletion of the distance to go was selected in the part pro-
gram, without specifying the axis, or the programmed traversing motion is zero.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.

Remedy
Modify the part program.

Program continuation
by
Use the RESET key to cancel the alarm. Restart the part program.

16020
Channel %1 in block %2 cannot be repositioned.

Explanation
%1 = channel number
%2 = block number, label
Faulty programming or operation: A block is to be approached, for which no re-
approach information is provided.

Reaction
Alarm display.
Interface signals are set.
10.02

Interpret stop.
NC Start inhibited.

Remedy
Modify the part program if necessary.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

**16100**

**Explanation**
Channel %1 block %2 axis %3 does not exist in the channel

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

Faulty programming:
The spindle number is not known in this channel.
The alarm may occur in conjunction with dwell time or a spindle function.

**Reaction**
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

**Remedy**
Please inform the authorized personnel/customer service.
Check the part program to make sure that the programmed spindle number is correct or the program runs in the right channel.
Check MD 35000 SPIND_ASSIGN_TO_MACHAX for all machine axes to find out whether one of them contains the programmed spindle number. This machine number must be entered in a channel axis of MD 20070 AXCONF_MACHAX_USED.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

**16410**

**Explanation**
Channel %1 block %2 axis %3 is no geometry axis

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

A geometry axis was programmed, to which no machine axis can be mapped.

**Example:** Polar coordinate system with X, Z and C axes

**Reaction**
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

**Remedy**
Do not program the appropriate axis as a geometry axis.

**Program continuation by**
Use the RESET key to cancel the alarm. Restart the part program.

**16420**

**Explanation**
Channel %1 block %2 axis %3 programmed repeatedly

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

It is not allowed to program an axis repeatedly.

**Reaction**
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

**Remedy**
Delete addresses programmed repeatedly.
Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

16440

Channel %1 block %2 Rotation programmed for geometry axis that does not exist

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

A rotation was programmed, which will rotate a geometry axis that does not exist.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.

Remedy
Modify the part program.

Program continuation by

Press NC START to cancel the alarm and continue the program.

16500

Channel %1 block %2 Chamfer or radius negative

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

A negative chamfer or rounding has been programmed under the vocabulary words CHF= .., RND=...

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
Use only positive values to program chamfers, roundings and modal roundings.

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

16510

Channel %1 block %2 No transversal axis existing

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

The diameter programming was activated using the vocabulary word DIAMON although no transversal axis is programmed in this NC block.

If the diameter axis is no geometry axis, with the default setting DIAMON, the alarm will already occur when the control system is turned.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
Please inform the authorized personnel/customer service.
Activate the modally active G function only in NC blocks which contain a transversal axis or disable the diameter programming via DIAMOF.

Select DIAMOF for the default setting in the machine data 20150 GCODE_RESET_VALUES[28].

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.
16700
Explanation
Channel %1 block %2 axis %3 Invalid feed type
%1 = channel number
%2 = block number, label
%3 = axis name, spindle number
The feed for a thread cutting function has been programmed with an invalid unit.

1. **G33 (thread with constant pitch)** and feed have not been programmed with G94 or G95.
2. **G33 (thread with constant pitch)** is active (maintained) and, in addition, G63 is programmed in a following block → conflict! (G63 is in the 2nd, and G33, G331, as well as G332 are in the 1st G group).
3. **G331 or G332 (rigid tapping)** and feed have not been programmed with G94.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
Use only feed type G94 or G95 for thread cutting functions.
Use G01 to deselect the thread cutting function after G33 and before G63.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

16715
Explanation
Channel %1 block %2 axis %3 Master spindle not at a standstill
%1 = channel number
%2 = block number, label
%3 = spindle number
The spindle must be at a standstill when the function is in use (G74, reference point approach).

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
Program M5 or SPOS in the part program before the faulty block.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

16720
Explanation
Channel %1 block %2 axis %3 Thread pitch is zero
%1 = channel number
%2 = block number, label
%3 = axis name, spindle number
In a thread block with **G33** (thread with constant lead) or G331 (rigid tapping), no pitch was programmed.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
The thread lead for the specified geometry axis must be programmed with the corresponding interpolation parameter.

\[ \begin{align*}
X & \rightarrow I \\
Y & \rightarrow J \\
Z & \rightarrow K
\end{align*} \]
Use the RESET key to cancel the alarm. Restart the part program.

**Channel %1 block %2 axis %3 Wrong parameter(s)**

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

With G33 (thread cutting with constant lead), the lead parameter has not been assigned to the axis defining the velocity.

With longitudinal and transversal threads, the thread lead for the specified geometry axis is programmed with the corresponding interpolation parameter.

X ÆÆÆÆ I  
Y ÆÆÆÆ J  
Z Æ K

With tapered threads, the address I, J, K depends on the address with the larger path (thread length). A 2nd pitch for the other axis, however, will **not be specified**.

**Reaction**

Alarm display.  
Interface signals are set.  
Interpreter stop.  
NC Start inhibited.

**Remedy**

Assign the pitch parameters of the axis defining the velocity.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

**Channel %1 block %2 No geometry axis programmed**

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

With thread cutting (G33) or rigid tapping (G331, G332), no geometry axis was programmed. The geometry axis, however, is absolutely necessary if an interpolation parameter was specified.

Example:

N100 G33 Z400 K2 ; Pitch 2 mm, end of thread Z=400 mm  
N200 SPOS=0 ; Switch spindle to axis mode  
N201 G90 G331 Z-50 K-2 ; Tapping to Z=-50, CCW rotation  
N202 G332 Z5 ; Retraction, automatic direction reversal  
N203 S500 M03 ; Spindle back to spindle mode

**Reaction**

Alarm display.  
Interface signals are set.  
Interpreter stop.  
NC Start inhibited.

**Remedy**

Specify a geometry axis and the appropriate interpolation parameter.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

**Channel %1 block %2 axis %3 SPCON not programmed**

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

The programmed function (rotary axis, positioning axis) requires the spindle to be in the position control mode.
Reaction: Alarm display. Interface signals are set. Reorganize also the correction block.

Remedy: Program the position control of the spindle with SPCON in the previous block.

Program continuation by: Press NC START to cancel the alarm and continue the program.

**16751**

**Explanation:**

Channel %1 block %2 spindle/axis %3 SPCOF cannot be executed

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

The programmed function requires the spindle to be in the control mode. Do not deselect the position control in the positioning or axis mode.

**Reaction:**

Alarm display. Interface signals are set. Interpreter stop. NC Start inhibited.

**Remedy:**

In the previous block, switch the spindle to the control mode. This can be done using M3, M4 or M5 for the spindle concerned.

Program continuation by: Use the RESET key to cancel the alarm. Restart the part program.

**16760**

**Explanation:**

Channel %1 block %2 axis %3 S value missing

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

The spindle speed for rigid tapping chuck (G331 or G332) has not been specified.

**Reaction:**

Alarm display. Interface signals are set. Interpreter stop. NC Start inhibited.

**Remedy:**

Program the spindle speed under address S in [r.p.m.] (despite the axis mode); the direction of rotation results from the sign of the spindle pitch.

Positive pitch: Direction of rotation as with M03
Negative pitch: Direction of rotation as with M04

Program continuation by: Use the RESET key to cancel the alarm. Restart the part program.

**16762**

**Explanation:**

Channel %1 block %2 spindle %3 Thread function active

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

Faulty programming: The spindle function cannot be executed at the moment. The alarm occurs if the spindle is linked with axes via interpolation.

**Reaction:**

Alarm display. Interface signals are set. Interpreter stop. NC Start inhibited.

**Remedy:**

Modify the part program. Deselect thread cutting or tapping.
Program continuation by

16763

Channel %1 block %2 axis %3 Illegal speed programmed (zero or negative)

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

A speed (S value) with zero value or negative value has been programmed.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
The programmed speed (S value) must be positive. Depending on the particular application, zero can also be accepted (e.g. G25 S0).

Program continuation by

Use the RESET key to cancel the alarm.

16770

Channel %1 block %2 axis %3 No measuring system installed

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

A position was programmed for the axis which requires a measuring system.

Acc. to MD 30 200 NUM_ENCS, this machine axis has no measuring system.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
Remove the appropriate function (e.g. SPOS) from the part program or enter an existing measuring system in MD 30 200 NUM_ENCS.

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

16800

Channel %1 block %2 Traversing instruction DC/CDC not allowed for axis %3

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

The vocabulary word DC (Direct Coordinate) may only be applied to rotary axes. It results in approaching the programmed absolute position using the shortest way.

Example: N100 C=DC(315)

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
Please inform the authorized personnel/customer service.
Replace the vocabulary word DC in the displayed NC block by AC (Absolute Coordinate).

If the alarm display is based on an incorrect axis definition, the axis can be declared a rotary axis using the axis-specific machine data MD 30300 IS_ROT_AX.
Related machine data:

MD 30310 ROT_IS_MODULO
MD 30320 DISPLAY_IS_MODULO

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

16810

Channel %1 block %2 Traversing instruction ACP not allowed for axis %3

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

The vocabulary word ACP (Absolute Coordinate Positive) are only allowed for modulo axes. It results in approaching the programmed absolute position in the specified direction.

Reaction

Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy

Please inform the authorized personnel/customer service.
Replace the vocabulary word ADC in the displayed NC block by AC (Absolute Coordinate).

If the alarm display is based on an incorrect axis definition, the axis can be declared a rotary axis with modulo conversion using the axis-specific machine data MD 30300 IS_ROT_AX and MD 30310 ROT_IS_MODULO.

Related machine data:

MD 30 320 DISPLAY_IS_MODULO

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

16820

Channel %1 block %2 Traversing instruction ACN not allowed for axis %3

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

The vocabulary word ACN (Absolute Coordinate Positive) is only allowed for modulo axes. It results in approaching the programmed absolute position in the specified direction.

Reaction

Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy

Please inform the authorized personnel/customer service.
Replace the vocabulary word ADN in the displayed NC block by AC (Absolute Coordinate).

If the alarm display is based on an incorrect axis definition, the axis can be declared a rotary axis with modulo conversion using the axis-specific machine data MD 30300 IS_ROT_AX and MD 30310 ROT_IS_MODULO.

Related machine data:

MD 30 320 DISPLAY_IS_MODULO

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.
### 16830

**Explanation**

Channel %1 block %2 Invalid position programmed for axis/spindle %3

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

A position for the modulo axis has been programmed out of the range 0 ... 359.999.

**Reaction**

Alarm display.  
Interface signals are set.  
Interpreter stop.  
NC Start inhibited.

**Remedy**

Program a position within the range 0 ... 359.999.  
Use the RESET key to cancel the alarm. Restart the part program.

**Program continuation by**

### 16903

**Explanation**

Channel %1 Program control:Action %2 not allowed in the current state

%1 = Channel number  
%2 = Action number/action name (see Section 1.5 "Action List")

The action concerned cannot be processed at the moment. This can occur when importing machine data, for example.

**Reaction**

Alarm display.

**Remedy**

Wait until the previous process is completed or press RESET to cancel and repeat the operating action.

**Program continuation by**

Use the "Cancel" key to cancel the alarm. No further operation required.

### 16904

**Explanation**

Channel %1 Program control:Action %2 not allowed in the current state

%1 = Channel number  
%2 = Action number/action name (see Section 1.5 "Action List")

The operation/process in question (program, Jog, block search, reference point, ...) cannot be started or continued in the current state.

**Reaction**

Alarm display.

**Remedy**

Check program state and channel state.

**Program continuation by**

Use the "Cancel" key to cancel the alarm. No further operation required.

### 16905

**Explanation**

Channel %1 Program control:Action %2 not allowed

%1 = Channel number  
%2 = Action number/action name (see Section 1.5 "Action List")

The execution cannot be started or continued. A start will only be accepted if an NCK function can be started.  
Example: A start is accepted in Jog mode, for example, if the function generator is active or a Jog movement has been stopped by the Stop key beforehand.

**Reaction**

Alarm display.

**Remedy**

Check program state and channel state.

**Program continuation by**

Use the "Cancel" key to cancel the alarm. No further operation required.
16906  Channel %1 Program control: Action %2 is canceled because of an active alarm
Explanation
%1 = Channel number
%2 = Action number/action name (see Section 1.5 "Action List")
The action has been canceled due to an alarm.
The execution cannot be started or continued. A start will only be accepted if an NCK function can be started.
Reaction
Remedy
Program continuation by

16907  Channel %1 action %2 only possible in Stop condition
Explanation
%1 = Channel number
%2 = Action number/action name (see Section 1.5 "Action List")
The action may only be carried out in Stop condition.
Reaction
Remedy
Program continuation by

16908  Channel %1 action %2 only possible in 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 executed at RESET or at the end of the block.
Reaction
Remedy
Program continuation by

16909  Channel %1 action %2 is not permitted in current mode
Explanation
%1 = Channel number
%2 = Action number/action name (see Section 1.5 "Action List")
Another mode must be activated for the activated function.
Reaction
Remedy
Program continuation by

16911  Channel %1 Switching to another mode is not permitted
Explanation
%1 = Channel number
Switching from Overstore to another operating mode is not permitted.
Reaction
Remedy
Program continuation by
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16912 Explanation

**Channel %1 Program control:Action %2 only possible in RESET state**

%1 = Channel number  
%2 = Action number/action name (see Section 1.5 "Action List")

This action can only be carried out in Reset condition.
Example: A program selection by HMI or channel communication (INIT) can only be carried out in the RESET state.

**Reaction**
Alarm display.

**Remedy**
RESET or wait until the processing is completed.

**Program continuation by**
Use the “Cancel” key to cancel the alarm. No further operation required.

16913 Explanation

**Mode group %1 channel %2 Mode switching:Action %3 not permitted**

%1 = channel number  
%2 = mode group number  
%3 = action number/action name (see Section 1.5 "Action List")

Switching to the desired mode is not allowed; switching is only allowed in Reset state.

**Example:**
The program execution is stopped in AUTO mode by NC Stop. Then, a mode change to JOG is carried out program state “interrupted”. From this operating mode, you can change only to AUTO mode, but not to MDA!

**Reaction**
Alarm display.

**Remedy**
Either press the Reset key, thus resetting the program execution, or select the mode in which the program execution has been executed until this moment.

**Program continuation by**
Use the “Cancel” key to cancel the alarm. No further operation required.

16914 Explanation

**Mode group %1 channel %2 Mode switching:Action %3 not permitted**

%1 = channel number  
%2 = mode group number  
%3 = action number/action name (see Section 1.5 "Action List")

Illegal mode switching, e.g.: AUTO → MDAREF

**Reaction**
Alarm display.

**Remedy**
Check operation or selected mode.

**Program continuation by**
Use the “Cancel” key to cancel the alarm. No further operation required.

16915 Explanation

**Channel %1 action %2 not permitted in current block**

%1 = Channel number  
%2 = Action number/action name (see Section 1.5 "Action List")

If traversing blocks are interrupted by ASUPs, the continuation of the interrupted program (reorganization of block execution) must be possible after the end of the ASUP.
The 2nd parameter describes the action that wanted to interrupt the block execution.

**Reaction**
Alarm display.

**Remedy**
Continue program execution up to a reorganized NC block or modify part program.

**Program continuation by**
Use the “Cancel” key to cancel the alarm. No further operation required.
16916
Explaination
Channel %1 repositioning:Action %2 not allowed in the current state
%1 = Channel number
%2 = Action number/action name (see Section 1.5 "Action List")
Repositioning of block execution is currently not possible. Mode change cannot be carried out.
The 2nd parameter describes the action recommended to use for repositioning.
Reaction
Alarm display.
Remedy
Continue the program to an NC block which can be repositioned, or modify the part program.
Program continuation by
Use the "Cancel" key to cancel the alarm. No further operation required.

16919
Explaination
Channel %1 action %2 is not allowed because of an alarm
%1 = Channel number
%2 = Action number/action name (see Section 1.5 "Action List")
The action cannot be executed due to an alarm or the channel is in the error status.
Reaction
Alarm display.
Remedy
Press the RESET key.
Program continuation by
Use the "Cancel" key to cancel the alarm. No further operation required.

16920
Explaination
Channel %1 action %2 is already active
%1 = Channel number
%2 = Action number/action name (see Section 1.5 "Action List")
An identical action is still being executed.
Reaction
Alarm display.
Remedy
Wait until the previous operation is completed and then repeat the action.
Program continuation by
Use the "Cancel" key to cancel the alarm. No further operation required.

16922
Explaination
Channel %1 subroutines:action %2 Maximum nesting depth exceeded
%1 = Channel number
%2 = Action number/action name (see Section 1.5 "Action List")
The current operation can be interrupted by various actions. Depending on the action, control-internal programs are activated. These programs can be interrupted in similar fashion as the NC program. For memory reasons, random nesting depths of the control-internal programs are not possible.
Example:
The current program execution is interrupted by an interrupt. Any program executions activated prior to this program activation are interrupted by interrupts of a higher priority. Possible actions are Dry Run, Single Block Decoding, Clear Distance to Go, etc.
Reaction
Alarm display.
Interface signals are set.
NC Start inhibited.
NC Stop at alarm.
Remedy
Press the RESET key.
Before starting the program, check the program nesting depth and avoid interruption.

**Example:** It is not recommended to interrupt the approach block of a repositioning process.

**Program continuation**

Use the “Cancel” key to cancel the alarm. No further operation required.

**16923**

**Explanation**

**Channel %1 Program control:Action %2 not allowed in the current state**

%1 = Channel number

%2 = Action number/action name (see Section 1.5 “Action List”)

Current program execution cannot be stopped, as merely a preprocessing process is active.

This applies, e.g. to the loading machine data and block search until the searched target is found.

**Reaction**

Alarm display.

Interface signals are set.

**Remedy**

Press Reset to cancel.

**Program continuation**

Use the “Cancel” key to cancel the alarm. No further operation required.

**16924**

**Explanation**

**Channel %1 caution:Program test will change tool management data**

%1 = Channel number

When testing the program, the workpiece data are modified. The data cannot automatically be corrected when the program test is completed.

This error message prompts the operator to make a backup copy of the data and to reload them after the program has been tested.

**Reaction**

Alarm display.

**Remedy**

Please inform the authorized personnel/customer service.

Save the tool data to HMI and reload/recopy them after “ProgtesOff”.

**Program continuation**

Use the “Cancel” key to cancel the alarm. No further operation required.

**16925**

**Explanation**

**Channel %1 Program control:Action %2 not allowed in the current state**

%1 = Channel number

%2 = Action number/action name (see Section 1.5 “Action List”)

The action has been denied, since a mode change or submode change (switchover to AUTOMATIC, MDA, JOG) is currently carried out.

**Example:**

This alarm message appears if the Start button is pressed when switching a mode or submode, e.g. from AUTOMATIC to MDA before the NC has confirmed the mode selection.

**Reaction**

Alarm display.

**Remedy**

Repeat the action.

**Program continuation**

Use the “Cancel” key to cancel the alarm. No further operation required.

**16927**

**Explanation**

**Channel %1 action %2 not allowed during active interrupt handling**

%1 = Channel number

...
%2 = action number/action name (see Section 1.5 "Action list")

The action may not be activated when handling an interrupt (e.g., mode switching).

<table>
<thead>
<tr>
<th>Reaction</th>
<th>Alarm display.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remedy</td>
<td>RESET or wait until the interrupt processing is completed.</td>
</tr>
<tr>
<td>Program continuation by</td>
<td>Use the &quot;Cancel&quot; key to cancel the alarm. No further operation required.</td>
</tr>
</tbody>
</table>

### Channel %1 interrupt handling: Action %2<ALNX> not possible

%1 = channel ID
%2 = action number/action name (see Section 1.5 "Action List")

A program interruption to a block that cannot be reorganized has been activated.

Examples of possible program interruption in this case:
- Travel to fixed stop
- Vdi channel: delete distance to go
- Vid axial: delete distance to go
- Measuring
- Software limit
- Axis change
- Axis from follow-up mode
- Servo Disable
- Gear step change: Actual gear step unequal to set gear step

The block concerned is:
- a block acquired during the block search (except the last block acquired);
- block from Overstore Off.

| Reaction | Alarm display.
Interface signals are set.
NC Start inhibited.
NC Stop at alarm. |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Remedy</td>
<td>Do no initiate this event in this block.</td>
</tr>
<tr>
<td>Program continuation by</td>
<td></td>
</tr>
</tbody>
</table>

### Channel %1: Predecessor and current block %2 must be separated by an executable block

%1 = channel number
%2 = block number

The language function MSG must be packed into separate NC blocks. To avoid velocity dips, these blocks will be added to the following NC block internally in the NC (with WAITMC, to the previous NC block). For this reason, an executable block (no arithmetic block) must always be between the NC blocks.

An executable NC block contains, e.g. traversing movements, an auxiliary function, Stopre, dwell time,....

| Reaction | Alarm display.
The interface signals will be set.
Reorganize also the correction block.
NC Stop at alarm. |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Remedy</td>
<td>Program an executable NC block between the previous block and the current NC block.</td>
</tr>
<tr>
<td>Program continuation by</td>
<td>Press NC START to clear the alarm. Restart the part program.</td>
</tr>
</tbody>
</table>
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16931  Channel %1 subroutines: action %2 Maximum nesting depth exceeded

%1 = Channel number
%2 = Action number/action name (see Section 1.5 "Action List")

The current operation can be interrupted by various actions. Depending on the action, internal programs are activated. These can be interrupted in the same manner as the user program. For memory reasons, any nesting depth of these programs is not possible.

**Example:**
Do not interrupt the approach block of a repositioning process repeatedly, but wait until the approach block is executed. Possible actions are mode change, SlashON/Off

**Reaction**
Alarm display.

**Remedy**
Initiate block change and repeat the action.

**Program continuation by**
Use the "Cancel" key to cancel the alarm. No further operation required.

16932  Channel %1 Conflict activating user data of the type %2

%1 = channel number
%2 = data type

The function "Activate user data" (PI service _N_SETUDT) will modify a data record (tool compensation, settable zero offset or base frame) which is also written by the part program blocks being prepared.

In case of a conflict, the value entered by the MMC is reset.

Parameter %2 specifies the data record concerned:
1: active tool compensation
2: base frame
3: active zero offset

**Reaction**
Alarm display.

**Remedy**
Check the inputs on the MMC and repeat them if necessary.

**Program continuation by**
Use the "Cancel" key to cancel the alarm. No further operation required.

16934  Channel %1 interrupt handling: Action %2<ALNX> not possible due to STOP

%1 = channel ID
%2 = action number/action name (see Section 1.5 "Action List")

Reorg events are, e.g. subroutine cancelation, deletion of the distance to go and interrupts, axis replacement, quitting of the follow-up mode.

In this situation, two Reorg events occur at the same time. The 2nd Reorg event occurs at the same time as the 1st block which was generated by the previous event. (e.g.: Axis replacement is enforced 2x quickly in succession).

Axis change in the channels results in Reorg, from which an axis is removed without preparation.

To execute the sequence mentioned above, exactly this block must be stopped so that the Ipo buffer cannot be filled any longer. This can be carried out using the Stop key or by StopAll, by an alarm with configuration of interpreter stop or by decoding single block.

**Reaction**
Alarm display.

Interface signals are set.
NC Start inhibited.
NC Stop at alarm.

Remedy
Program must be aborted using Reset.

Program continuation by

16936
Explanation
Channel %1 action %2<ALNX> not possible due to active dry run feed
%1 = channel ID
%2 = action number/action name
The action is not allowed since dry run feed is currently active.

Reaction
Alarm display.

Remedy
Program must be aborted using Reset.

Program continuation by
Use the "Cancel" key to cancel the alarm. No further operation required.

16937
Explanation
Channel %1 action %2<ALNX> not possible due to program test
%1 = channel ID
%2 = action number/action name
The action is not allowed since program test is currently active.

Reaction
Alarm display.

Remedy
Deactivate the program test.

Program continuation by
Use the "Cancel" key to cancel the alarm. No further operation required.

16938
Explanation
Channel %1 action %2<ALNX> canceled due to active gear stage change
%1 = channel ID
%2 = action number/action name (see Section 1.5 "Action List")
Reorg events are, e.g. subroutine cancellation, deletion of the distance to go and quitting of the follow-up status.
These events wait until the gear stage change is completed. The maximum waiting time, however, has elapsed.

Reaction
Alarm display.
Interface signals are set.
NC Start inhibited.
NC Stop at alarm.

Remedy
Program must be aborted using Reset.

Program continuation by
Use the RESET key to cancel the alarm.

16939
Explanation
Channel %1 action %2<ALNX> denied due to active gear stage change
%1 = channel ID
%2 = action number/action name (see Section 1.5 "Action List")
Reorg events which are possible in the stopped condition, such as mode switching, wait until the gear stage change is completed. The maximum waiting time, however, has elapsed.

Reaction
Alarm display.
Interface signals are set.

Remedy
Repeat the action.
Use the RESET key to cancel the alarm.

**16940**

**Explanation**

Channel %1 action %2<ALNX> wait for gear stage change

%1 = channel ID
%2 = action number/action name (see Section 1.5 "Action List")

Reorg events wait until the gear stage change is completed. During the waiting time, this alarm is displayed.

**Reaction**

Alarm display.
Display of a warning message.

**Remedy**

It is a self-clearing note.

**Program continuation by**

The alarm display will disappear with the alarm cause. No further operation required.

**16941**

**Explanation**

Channel %1 action %2<ALNX> denied since no program event executed

%1 = channel ID
%2 = action number/action name

The setting of the machine data $MC_PROG_EVENT_MASK requires an Asup to be initiated automatically in case of RESET or PowerOn. The Asups initiated implicitly are generally called "Event-controlled program call" or "Program event".

In the alarm situation, however, this Asup could not be activated; therefore, the action (usually, the part program start) must be denied.

Reasons why the Asup could not be initiated:
1. The Asup program does not exist (/ N CMA DIR/ _N_PROG_EVENT_SPF)
2. READY missing (because of alarm)

**Reaction**

Alarm display.

**Remedy**

- Load the program.
- Check $MN_ASUP_START_ASK.
- Acknowledge the alarm.

**Program continuation by**

Use the "Cancel" key to cancel the alarm. No further operation required.

**17001**

**Explanation**

Channel %1 block %2 No more memory for tool/magazine data

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

The number of the tool data in the NC is limited.

**Reaction**

Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

**Remedy**

Delete tools not used.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.
17010  Channel %1 block %2 No more memory available
Explanation  %1 = channel number  %2 = block number, label
When executing/importing files of the active user memory, it was detected that
the memory available is not sufficient (e.g. for creating the tool offset memory).
Reaction  Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.
Remedy  Make more memory space available for subroutine calls and tool offsets.
Program continuation by  Use the RESET key to cancel the alarm. Restart the part program.

17020  Channel %1 block %2 Illegal array - index1
Explanation  %1 = channel number  %2 = block number, label
A read or write access to a field variable (e.g. arithmetic parameter) with invalid
1st field index has been programmed.
e.g. R2000 = 5; parameter number 2000 not defined
Reaction  Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.
Remedy  Correct the specification of the field elements for the access instruction with
respect to the defined size.
Program continuation by  Use the RESET key to cancel the alarm. Restart the part program.

17030  Channel %1 block %2 Illegal array index2
Explanation  %1 = channel number  %2 = block number, label
A read or write access to a field variable has been programmed with invalid
2nd field index has been programmed. Field index programmed. Valid field
indices are within the defined field size and the absolute limits (0 - 32 766).
Reaction  Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.
Remedy  Correct the specification of the field elements for the access instruction with
respect to the defined size.
Program continuation by  Use the RESET key to cancel the alarm. Restart the part program.

17040  Channel %1 block %2 Illegal axis array - index1
Explanation  %1 = channel number  %2 = block number, label
A read or write access was programmed to an axial variable with which the axis
name can no longer unambiguously be mapped to a machine axis.
Reaction  Alarm display.
Interface signals are set.
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Interpreter stop.
NC Start inhibited.

Remedy

Use the machine axis name as the axis index.

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

17050

Channel %1 block %2 Illegal value

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

When accessing an individual frame element, a frame component other than TRANS, ROT, SCALE or MIRROR was addressed.

The frame components are either selected using the vocabulary words:

- TR for the offset (TRANS, internally 0)
- RT for the rotation (ROT, internally 1)
- SC for the scaling (SCALE, internally 3)
- MI for mirroring (MIRROR, internally 4)

or specified directly as an integer value 0, 1, 3, 4.

Example:
Access to the rotation around the X axis of the frame which can currently be set.

R10=$P_UIFR[2, X, RT] can also be programmed as:
R10=$P_UIFR[2, X, 1]

Reaction

Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy

Address frame components only using the appropriate vocabulary words; program the scaling factor within the limits of 0.000 01 up to 999.999 99.

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

17070

Channel %1 block %2 Data is write-protected

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

You have tried to write into a write-protected variable or an MD, for which you have no right to access.

Reaction

Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy

Remove the write accesses to write-protected variables from the NC program or the machine data file.

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

17080

Channel %1 block %2 Value less than lower limit

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

You have tried to write into an MD with a value less than the defined lower limit.
**17090**  
**Channel %1 block %2 Value greater than upper limit**  
**Explanation**  
%1 = channel number  
%2 = block number, label  
You have tried to write into an MD with a value greater than the defined upper limit.

**Reaction**  
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

**Remedy**  
Please inform the authorized personnel/customer service.
Determine the input limits of the MD and carry out value assignment within these limits.

**Program continuation by**  
Use the RESET key to cancel the alarm. Restart the part program.

**17095**  
**Channel %1 block %2 Invalid value**  
**Explanation**  
%1 = channel number  
%2 = block number, label  
You have tried to write an invalid value, e.g. zero, to a machine data.

**Reaction**  
Alarm display.
Interface signals are set.
Reorganize also the correction block.

**Remedy**  
Correct the value assignment, e.g. a value within the range of value, which is equal to zero.

**Program continuation by**

**17160**  
**Channel %1 block %2 No tool selected**  
**Explanation**  
%1 = channel number  
%2 = block number, label  
You have tried to access the current tool compensation data although no tool has been selected.

**Reaction**  
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

**Remedy**  
Program or activate a tool compensation in the NC part program.

**Example:** N100 G... T5 D1 ... LF

**Program continuation by**  
Use the RESET key to cancel the alarm. Restart the part program.
17180

**Channel %1 block %2 Illegal D number**

**Explanation**

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

In the displayed block, a D number (edge number) is accessed which is not initialized and therefore does not exist.

**Reaction**

Alarm display.  
Interface signals are set.  
Interpreter stop.  
NC Start inhibited.

**Remedy**

Check tool call in NC part program:

- Correct cutting edge number D.. programmed?  
  If no edge number is specified, D1 is automatically active.  
- All tool parameters defined?  
  The dimensions of the tool edge must have been entered beforehand either via the operator panel or the V24 interface.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the 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 D number has been programmed, which the NC does not know. By default, the D number refers to the specified T number. If the function "Flat D number" is active, T=1 is output.

**Reaction**

Alarm display.  
Interface signals are set.  
Reorganize also the correction block.

**Remedy**

If the program is not correct, then use the correction block to eliminate the error and continue the program.  
If the data record is missing, load a data record for the corresponding T/D into the NC (via HMI, with "Overstore") and then continue the program.

**Program continuation by**

Press NC START to cancel the alarm and continue the program execution.

17188

**Channel %1 D number %2 defined with tools no. %3 and %4**

**Explanation**

%1 = channel number  
%2 = offset number D  
%3 = T number of first tool  
%4 = T number of second tool

No unambiguity of the a/m D number %2 in the tool list of channel %1 is guaranteed.  
The a/m T numbers %3 and %4 have one compensation each with number %2.

**Reaction**

Alarm display.  
Interface signals are set.

**Remedy**

1. Provide for unambiguity of the D numbers in the TO unit.  
2. If no unambiguity is required in the following, do not use the command in question.

**Program continuation by**

The alarm display will disappear with the alarm cause. No further operation required.
17190  Channel %1 block %2 Illegal T number
Explanation
  %1 = channel number
  %2 = block number, label
  In the displayed block, a T number (tool number) is accessed which is not initialized and therefore does not exist.

Reaction
  Alarm display.
  Interface signals are set.
  Interpreter stop.
  NC Start inhibited.

Remedy
  Check tool call in NC part program:
  • Correct tool number T... programmed?
  • Tool parameters P1 - P25 defined?
    The dimensions of the tool edge must have been entered beforehand either via the operator panel or the V24 interface.

Program continuation
by
  Use the RESET key to cancel the alarm. Restart the 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 was programmed, which the NC does not know.

Reaction
  Alarm display.
  Interface signals are set.
  Reorganize also the correction block.

Remedy
  If the program pointer is positioned on an NC block that contains the a/m identifier:
  If the program is not correct, then use the correction block to eliminate the error and continue the program.
  If the data record is missing, create a data record. That means: Load the data record of the tool including all defined D numbers into the NC (via HMI) and continue the program.
  If the program pointer is positioned on an NC block that does not contain the a/m T identifier:
    The error already occurred earlier in the program when programming T, the alarm, however, is only output with the change command.
  
  If there is an error in the program - T5 programmed instead of T55 - , then you can correct the current block using the correction block; i.e. if only M06 is written, you can correct the current block into T55 M06. The wrong line T5 will remain in the program unless canceled via RESET or end of program.

Program continuation
by
  Press NC START to cancel the alarm and continue the program execution.

17194  Channel %1 block %2 No suitable tool found
Explanation
  %1 = channel number
  %2 = block number, label
  • It was tried to access a tool not defined.
  • The specified tool does not allow an access.
  • A tool with the desired properties is not available.

Reaction
  Alarm display.
  Reorganize also the correction block.
  Interface signals are set.
Channel %1 block %2: Tool cannot be deleted

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

You have tried to remove the tool data for a workpiece currently being machined from the part program. Tool data for workpieces currently being machined must not be deleted.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
Deselect tool.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

Channel %1 block %2 Variable access not possible

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

The variable cannot be read/written directly from the part program.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
Modify the part program.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

Channel %1 block %2 Tool does not exist

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

Whenever it is tried to use a T no. to access a tool not (yet) defined.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
Correct the NC program.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

Channel %1 block %2 call-by-reference: Illegal variable

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

Machine data and system variables may not be transferred as a call-by-reference parameter.
10.02 1 Alarms

Reaction  
Alarm display.  
Interface signals are set.  
Reorganize also the correction block.

Remedy  
Modify the NC program: Either assign the value of the machine data or of the system variable to a program-local variable or transfer it as a parameter.

Program continuation by  
Press NC START to cancel the alarm and continue the program.

17610  
Channel %1 block %2 Positioning axis %3 cannot take part in the transformation

Explanation  
%1 = channel number  
%2 = block number, label  
%3 = axis name, spindle number  
The axis addressed via the vocabulary word POS or POSA is involved in the active transformation. It can therefore not be traversed as a positioning axis.

Reaction  
Alarm display.  
Interface signals are set.  
Reorganize also the correction block.

Remedy  
Remove the POS or POSA statement from the part program block or deselect the transformation first using TRAFOOF.

Program continuation by  
Press NC START to cancel the alarm and continue the program.

17620  
Channel %1 block %2 Fixed-point approach not possible for transformed axis %3

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) which is involved in the active transformation. Thus, fixed-point approach will not be executed.

Reaction  
Alarm display.  
Interface signals are set.  
Reorganize also the correction block.

Remedy  
Remove the G75 statement from the part program block or deselect the transformation first using TRAFOOF.

Program continuation by  
Press NC START to cancel the alarm and continue the program.

17630  
Channel %1 block %2 Referencing not possible for transformed axis %3

Explanation  
%1 = channel number  
%2 = block number, label  
%3 = axis name, spindle number  
In the displayed block, an axis is reference point approach (G74) is programmed for the fixed-point approach (G75) which is involved in the active transformation. Thus, the reference point approach will not be executed.

Reaction  
Alarm display.  
Interface signals are set.  
Reorganize also the correction block.

Remedy  
Remove the G74 statement or the machine axes involved in the transformation from the part program block or first deselect the transformation using TRAFOOF.
Program continuation by

Press NC START to cancel the alarm and continue the program.

17640

Channel %1 block %2 Spindle mode not possible for transformed axis %3

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

The axis programmed for the spindle mode is involved in the current transformation as a geometry axis. This is not permissible.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.

Remedy
First deactivate the transformation.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

17650

Channel %1 block %2 Machine axis %3 cannot be programmed

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

the machine axis cannot be used with the transformation active.
Possibly, the function can also be programmed in another coordinate system.
The appropriate axis identifier is used to select the coordinate system.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.

Remedy
Either disable the transformation or use a different coordinate system.

Program continuation by
Press NC START to cancel the alarm and continue the program.

18100

Channel %1 block %2 FXS[ ] was assigned an illegal value

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

Currently, only the values:
0: "Deselect travel to fixed stop"
1: "Select travel to fixed stop" are valid.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.

Program continuation by
Press NC START to cancel the alarm and continue the program.

18101

Channel %1 block %2 FXST[ ] was assigned an illegal value

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

Currently, only the range of values 0.0 ... 100.0 is valid.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.
18102
**Channel %1 block %2 FXSWU was assigned an illegal value**

Explanation
%1 = channel number
%2 = block number, label
Currently, only positive values including zero are valid.

Reaction
Alarm display.
Interface signals are set.
Reorganize also the correction block.

Program continuation
Press NC START to cancel the alarm and continue the program.

18310
**Channel %1 block %2 frame:Illegal rotation**

Explanation
%1 = channel number
%2 = block number, label
Rotations not possible with global frames.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.
NC Stop at alarm.

Remedy
Modify the part program.

Program continuation
Use the RESET key to cancel the alarm. Restart the part program.

18311
**Channel %1 block %2 frame:Illegal instruction**

Explanation
%1 = channel number
%2 = block number, label
Reading or writing a frame that does not exist.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.
NC Stop at alarm.

Remedy
Modify the part program.

Program continuation
Use the RESET key to cancel the alarm. Restart the part program.

18314
**Channel %1 block %2 frame:Type conflict**

Explanation
%1 = channel number
%2 = block number, label
It is not possible to link global frames and channel-specific frames.
The alarm also occurs if a global frame is programmed with a channel/axis identifier and no machine axis exists for this channel axis.
Channel-specific frames cannot be programmed using machine axis identifiers if there is no channel axis assigned to the machine axis.

Reaction
Alarm display.
Interface signals are set.
Interpreter stop.
NC Start inhibited.
NC Stop at alarm.
Remedy: Modify the part program.
Program continuation by: Use the RESET key to cancel the alarm. Restart the part program.

20000

**Explanation:**

Channel %1 axis %2 Reference cam not reached

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

After starting reference point approach, the rising edge of the reducing cam must be reached within the distance defined in MD 34 030 REFP_MAX_CAM_DIST (phase 1 of referencing). (This error occurs only with incremental encoders).

**Reaction:**

NC Stop at alarm.
NC Start inhibited.
Alarm display.
Interface signals are set.

Remedy:

Please inform the authorized personnel/customer service.
This may have three possible error causes:

1. The value in MD 34 030 REFP_MAX_CAM_DIST is too small.
   Determine the maximum possible path from the beginning of referencing to the reducing cam and compare with the value in MD 34 030 REFP_MAX_CAM_DIST; if necessary increase the MD.

2. The cam signal does not reach the PLC input unit.
   Actuate the reference-point switch manually and check the input signal at the NC/PLC interface (Path: switch! plug! Cable!PLC input! user program).

3. The reference-point switch is not actuated by the cam.
   Check the vertical distance between reducing cam and actuating switch.

Program continuation by: Use the RESET key to cancel the alarm. Restart the part program.

20001

**Explanation:**

Channel %1 axis %2 Cam signal missing

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

At the beginning of phase 2 of reference-point approach, the signal from the reducing cam is no longer available.

Phase 2 of reference-point approach starts when the axis stops on the reducing cam after decelerating. Then the axis starts in the opposite direction to select the next zero mark of the measuring system when leaving/re-approaching (negative/positive edge) the reducing cam.

**Reaction:**

NC Stop at alarm.
NC Start inhibited.
Alarm display.
Interface signals are set.

Remedy:

Check whether the deceleration distance from the starting velocity is greater than the reference cam - in this case, the axis can only stop behind the cam.
User longer cams.

When the axis has stopped on the cam, check whether the signal "DELAYED REFERENCE-POINT APPROACH" (V380x1000.7) is still provided.

- Hardware: wire break? short circuit?
- Software: user program?

Program continuation by: Use the RESET key to cancel the alarm. Restart the part program.
20002

**Explanation**

Channel %1 axis %2 Zero mark missing

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

The zero mark of the incremental position encoder is not within the defined path.

Phase 2 of reference point approach ends if the zero mark of the encoder has been detected after the rising edge of the PLC interface signal "DELAYED REFERENCE POINT APPROACH" (V 380x1000.7) has provided trigger start. The maximum distance to be traversed between trigger start and the following zero mark is defined in MD 34 060 REFP_MAX_MARKER_DIST.

The monitoring prevents the zero mark signal from being overtraveled and the next zero mark signal from being evaluated as a reference-point signal! (insufficient cam adjustment or too large delay by the PLC user program).

**Reaction**

NC Stop at alarm.
NC Start inhibited.
Alarm display.
Interface signals are set.

**Remedy**

Check the cam adjustment and provide for sufficient distance between the end of the cam and the zero mark signal following after the end of the cam. The distance must be longer than the distance which the axis can traverse within the PLC cycle time.

Increase MD 34 060 REFP_MAX_MARKER_DIST, but the value may not be higher than the distance between 2 zero marks. This would possibly switch off the monitoring!

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

20004

**Explanation**

Channel %1 axis %2 Reference mark missing

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

The required 2 reference marks of the distance-coded length measuring system have not been found within the defined search path (axis-specific MD 34 060 REFP_MAX_MARKER_DIST).

Distance-coded scales do not need reducing cams. (But if any, it will be evaluated.) The conventional direction key defines the search direction.

The search path MD 34060 REFP_MAX_MARKER_DIST, within 2 reference marks are expected, counts from the start point.

**Reaction**

NC Stop at alarm.
NC Start inhibited.
Alarm display.
Interface signals are set.

**Remedy**

Please inform the authorized personnel/customer service.
Determine the distance between 2 odd reference marks (reference-point interval). Then enter this value (in the case of Heidenhain scales, 20.00 mm) in MD 34 060 REFP_MAX_MARKER_DIST.

Check the reference track of the scale incl. evaluation electronics.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.
**20005**

**Channel %1 axis %2 Reference point approach was canceled**

<table>
<thead>
<tr>
<th>%1 = channel number</th>
</tr>
</thead>
<tbody>
<tr>
<td>%2 = axis name, spindle number</td>
</tr>
</tbody>
</table>

The channel-specific referencing could not be completed for all axes specified (e.g.: cancelation due to: Servo Enable not provided, measuring system switchover, release of direction key, and the like).

**Reaction**

- NC Stop at alarm.
- NC Start inhibited.
- Alarm display.
- Interface signals are set.

**Remedy**

Check possibilities of canceling:
- Servo enable missing (V 380x0001.1)
- Traversing keys + or - missing (V 380x0004.6 and .7)
- Feed override = 0

Which axes are involved in channel-specific referencing is determined by the axis-specific MD 34 110 **REFP_CYCLE_NR**.

-1: No channel-specific referencing, NC start without referencing
0: No channel-specific referencing, NC start with referencing
1-8: Channel-specific referencing. The entered number corresponds to the referencing order. (When all axes with contents 1 have reached the reference point, the axes with contents 2 will start, etc.).

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

---

**20006**

**Channel %1 axis %2 reference point shutdown velocity not reached**

<table>
<thead>
<tr>
<th>%1 = channel number</th>
</tr>
</thead>
<tbody>
<tr>
<td>%2 = axis name, spindle number</td>
</tr>
</tbody>
</table>

During the 2nd phase of reference-point approach (waiting for zero mark), the end of the cam has been reached, but the reference-point approach speed was not in the tolerance window. (This is possible if the axis rests already at the end of the cam. Phase 1 is thus considered as already completed and will not be started).

The 2nd phase is aborted (in this case, before the cam) and the reference point approach is automatically restarted with phase 1. If the approach speed is also not reached with the 2nd attempt, the reference point approach is finally aborted and an alarm is displayed.

**Approach speed:** MD 34 040 **REFP_VELO_SEARCH_MARKER**
**Speed tolerance:** MD 35 150 **SPIND_DES_VELO_TOL**

**Reaction**

- NC Stop at alarm.
- NC Start inhibited.
- Alarm display.
- Interface signals are set.

**Remedy**

Please inform the authorized personnel/customer service.

MD for the approach speed MD 34 040 Reduce **REFP_VELO_SEARCH_MARKER** and/or increase the MD for the speed tolerance MD 35 150 **SPIND_DES_VELO_TOL**.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.
20007

Channel %1 axis %2 Reference point approach requires 2 measuring systems
Explanation %1 = channel number
%2 = axis name, spindle number
The setting MD 34200 ENC_REFP_MODE = 6 requires 2 encoders!
Reaction NC Stop at alarm.
NC Start inhibited.
Alarm display.
Interface signals are set.
Remedy Please inform the authorized personnel/customer service.
Either modify referencing mode MD 34200 ENC_REFP_MODE or install and configure a second encoder.
Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

20008

Channel %1 axis %2 Reference point approach requires a second referenced measuring system
Explanation %1 = channel number
%2 = axis name, spindle number
The setting MD 34200 ENC_REFP_MODE = 6 is not applicable to this control system.
Reaction NC Stop at alarm.
NC Start inhibited.
Alarm display.
Interface signals are set.
Remedy Modify referencing mode via MD 34200 ENC_REFP_MODE.
Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

20050

Channel %1 axis %2 Handwheel traversing active
Explanation %1 = channel number
%2 = axis name, spindle number
The axes cannot be traversed using the conventional method, since traversing is still being carried out via the handwheel.
Reaction Alarm display.
Remedy Decide whether you want to traverse the axis via the direction keys or via the handwheel. Exit handwheel traverse, if necessary with “Clear axis distance to go” (V 380x0002.2).
Program continuation by
The alarm display will disappear with the alarm cause. No further operation required.

20051

Channel %1 axis %2 Handwheel traversing not possible
Explanation %1 = channel number
%2 = axis name, spindle number
The axis is already traversed via the direction keys; traversing via handwheel is thus no longer possible.
Reaction Alarm display.
Remedy Decide whether you want to traverse the axis via the direction keys or via the handwheel.
The alarm display will disappear with the alarm cause. No further operation required.

**20052**

**Channel %1 axis %2 already active**

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

The axis is to be traversed as a machine axis in the JOG mode using the direction keys on the machine control panel. This, however, is not possible because:

1. it is already traversed as a geometry axis  
   (V32001000.6 V32001000.7,  
   V32001004.6 V32001004.7 or  
   V32001008.6 V32001008.7)  
2. it is already traversed as a machine axis  
   (V38000004.6 V38000004.7) or  
3. a frame is valid for a rotated coordinate system and another geometry axis involved is already traversed in the JOG mode using the direction keys.

**Reaction**  
Alarm display.

**Remedy**  
Stop traversing via the channel or axis interface or stop the other geometry axis.

**Program continuation by**  
Use the "Cancel" key to cancel the alarm. No further operation required.

**20055**

**Channel %1 Master spindle does not exist in the JOG mode**

%1 = channel number  

The displayed axis is to be traversed as a machine axis at revolutional feedrate in the JOG mode, but no master spindle is defined from which the actual speed could be derived.

**Reaction**  
Alarm display.  
Interface signals are set.

**Remedy**  
Please inform the authorized personnel/customer service.  
If the revolutional feedrate is also to be active in the JOG mode, a master spindle must be defined via the channel-specific machine data 20090 **SPIND_DEF_MASTER_SPIND**. Then, in the **PARAMETERS** operating area, use the softkeys "SETTING DATA" and "JOG DATA" to open a screen in which you will select the G function **G95**. Then you can enter the JOG feedrate in [mm/rev]. (If 0 mm/rev. is selected for the JOG feedrate, the control system will use the value from the axis-specific MD 32050 **JOG_REV_VELO** or - in the case of rapid traverse override - 32040 **JOG_REV_VELO_RAPID**).  
The revolutional feedrate in the JOG mode is deactivated by using the **G94** function instead of the **G94** function.

**Program continuation by**  
Use the "Cancel" key to cancel the alarm. No further operation required.
20056  Channel %1 axis %2 No revolutional feedrate since axis/spindle %3 stopped

Explanation
%1 = channel number
%2 = axis name, spindle number
%3 = axis name, spindle number
An axis is to be traversed at revolutional feedrate in the JOG mode, but the
feedrate of the spindle/axis from which the feedrate is to be derived is 0.

Reaction
Alarm display.

Remedy
Traverse the spindle/axis from which the feedrate is to be derived.

Program continuation by
The alarm display will disappear with the alarm cause. No further operation required.

20057  Channel %1 block %2 Revolutional feedrate for axis/spindle %3 <= zero.

Explanation
%1 = channel number
%2 = block number, label
%3 = axis name, spindle number
Revolutional feedrate was programmed for an axis/spindle, but no velocity was
programmed or the programmed value is less than zero.

Reaction
Alarm display
Interface signals are set
NC Stop at alarm
NC not ready
NC Start inhibited
Channel processing not ready

Remedy
Please inform the authorized personnel/customer service.
Correct the part program.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

20058  Channel %1 axis %2 Revolutional feedrate:Illegal feedrate 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 points
to itself. The resulting coupling cannot be executed.

Reaction
Alarm display.

Remedy
The spindle/axis from which the feedrate is to be derived points to itself.

Program continuation by
The alarm display will disappear with the alarm cause. No further operation required.

20060  Channel %1 axis %2 cannot be traversed as a geometry axis

Explanation
%1 = channel number
%2 = axis name:
The axis is currently not in the "Geometry axis" status. It can therefore not be
traversed as a geometry axis in the JOG mode.

If the abbreviation WCS (workpiece coordinate system) appears in the Position
display window, only the geometry axes can be traversed using the direction
keys. (MCS ... machine coordinate system; using the direction keys of the
machine control panel, all machine axes can now be traversed).
**20062**

**Channel %1 axis %2 already active**

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

The displayed axis already traverses as a machine axis. It can therefore not be run as a geometry axis.

In the JOG mode, an axis can be traversed using two different interfaces.

1. **as a geometry axis** via the channel-specific interface  
   1. GEO axis: V32001000.6 and .7  
   2. GEO axis: V32001000.6 and .7  
   3. 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

The standard machine control panel cannot be used to run a machine axis both as a machine and geometry axis.

**Reaction**  
Alarm display.

**Remedy**  
Start the geometry axis only when the traversing motion as a machine axis is completed.

**Program continuation**  
Use the “Cancel” key to cancel the alarm. No further operation required.

---

**20065**

**Channel %1 Master spindle not defined for geometry axes in the JOG mode**

%1 = channel number

The displayed axis is to be traversed as a geometry axis at revolution feedrate in the JOG mode, but no master spindle is defined from which the actual speed could be derived.

**Reaction**  
Alarm display.

**Remedy**  
If the revolutional feedrate is also to be active in the JOG mode, a master spindle must be defined via the channel-specific machine data 20090 SPIND_DEF_MASTER_SPIND. Then, in the PARAMETERS operating area, use the softkeys "SETTING DATA" and "JOG DATA" to open a screen in which you will select the G function G95. Then you can enter the JOG feedrate in [mm/rev]. (If 0 mm/rev. is selected for the JOG feedrate, the control system will use the value from the axis-specific MD 32050 JOG_REV_VELO or - in the case of rapid traverse override - 32040 JOG_REV_VELO_RAPID).

The revolutional feedrate in the JOG mode is deactivated by using the G94 function instead of the G94 function.

**Program continuation**  
Use the “Cancel” key to cancel the alarm. No further operation required.
**20090**

**Axis %1 Traversing to fixed stop not possible. Check programming and axis data.**

**Explanation**

%1 = axis name, spindle number

1. The function “Travel to fixed stop” was programmed with FXS[AX]=1, but this function is not (yet) supported by the axis. Check MD 37000 FIXED_STOP_MODE. This function is not available for simulated axes.

2. No motion was programmed for the AX axis when selecting it. AX is a machine axis identifier.

3. A traversing motion must always be programmed in the selection block for the axis/spindle for which the function is activated.

**Reaction**

Mode group not ready.
Under certain circumstances, it can be switched across all channels via MD.
Channel not ready.
NC Start inhibited.
NC Stop at alarm.
Alarm display.
Interface signals are set.

**Remedy**

Please inform the authorized personnel/customer service.

- Check axis type
- Check MD 37000
- Is the programming of a motion of the machine axis missing in the selection block?

**Program continuation by**

Use the RESET key to cancel the alarm.

---

**20091**

**Axis %1 has not reached the fixed stop**

**Explanation**

%1 = axis name, spindle number

When trying to approach a fixed stop, either the programmed end position was reached or the traversing motion was canceled.
This alarm can be skipped via the machine data $MA_FIXED_STOP_ALARM_MASK.

**Reaction**

Mode group not ready.
Under certain circumstances, it can be switched across all channels via MD.
Channel not ready.
NC Start inhibited.
NC Stop at alarm.
Alarm display.
Interface signals are set.

**Remedy**

Correct the part program and its settings accordingly:

- Was the traversing block canceled?
- If the axis position is to correspond to the programmed end position, then correct the end position.
- If the programmed end position is located in the part, check the triggering criterion.
- Was the contour deviation resulting in the triggering overdimensioned? Is the torque limit set too high?

**Program continuation by**

Use the RESET key to cancel the alarm.

---

20092
**Axis %1 Travel to fixed stop still active**

**Explanation**
%1 = axis name, spindle number

It was tried to move the axis traveled to fixed stop while it stands at the stop or when the selection is not yet completed.

**Reaction**
Under certain circumstances, it can be switched across all channels via MD.
Channel not ready.
NC Start inhibited.
NC Stop at alarm.
Alarm display.
Interface signals are set.

**Remedy**
Please inform the authorized personnel/customer service.
Check the following:

- Is the axis at the fixed stop also moved due to a traversing motion of geometry axes?
- Is a deselection carried out although the axis stands at the fixed stop?
- Was the selection interrupted via RESET?
- Has the PLC switched the acknowledgment signals?

**Program continuation by**
Use the RESET key to cancel the alarm.

---

**20093**

**Axis %1 Zero speed monitoring at stop has tripped**

**Explanation**
%1 = axis name, spindle number

The position of the axis since the selection has been carried out is across the zero speed window.

**Reaction**
Under certain circumstances, it can be switched across all channels via MD.
Channel not ready.
NC Start inhibited.
NC Stop at alarm.
Alarm display.
Interface signals are set.

**Remedy**
Please inform the authorized personnel/customer service.

- Check the mechanics, e.g. stop broken?
- Has the part to be clamped given?
- Position window for the zero speed monitoring too small
  (37020 MD: $MA_FIXED_STOP_WINDOW_DEF)
  (43520 Setting Data: $SA_FIXED_STOP_WINDOW).
  Default value 1 mm each.

**Program continuation by**
Use the RESET key to cancel the alarm.

---

**20094**

**Axis %1 Function was canceled**

**Explanation**
%1 = axis name, spindle number

The function was canceled.

Possible reasons are:

- As a result of a pulse inhibitor, the torque can no longer be established.
- The PLC has reset the acknowledgments.

The alarm can be reconfigured using MD ALARM_REACTION_CHAN_NOREADY (channel not ready).

**Reaction**
Mode group not ready.
Under certain circumstances, it can be switched across all channels via MD.
Channel not ready.
NC Start inhibited.
NC Stop at alarm.
Alarm display.
Interface signals are set.

Remedy
Is there a pulse inhibit provided from the infeed/regenerative feedback unit or from the LPC? Have the acknowledgment bits been deleted by the PLC even if no deselection was requested by the NCK?

Program continuation by
The RESET key must be used in all channels of this mode group to cancel this alarm.

21610
Channel %1 axis %2 %3 frequency exceeded
%1 = channel number
%2 = axis name, spindle number
%3 = string (encoder number)
The admissible maximum frequency of the active encoder specified in the axis-specific machine data 36 300 ENC_FREQ_LIMIT [n] (n ... encoder number, 1 or 2) (axis-specific interface signal V390x0000.2) has been exceeded. The reference of the actual value to the mechanical carriage position could have been lost.
The alarm can be reconfigured using MD 11412 ALARM_REACTION_CHAN_NOREADY (NC not ready).

Reaction
Alarm display.
Interface signals are set.
NC not ready.
Under certain circumstances, it can be switched across all channels via MD.
NC Stop at alarm.
NC Start inhibited.

Remedy
Check MD 36300 ENC_FREQ_LIMIT [0].

Program continuation by
The RESET key must be used in all channels of this mode group to cancel this alarm.

21612
Channel %1 axis %2 VDI signal 'Servo enable' reset during the traversing motion
%1 = channel number
%2 = axis name, spindle number
The Servo Enable interface signal (V 380x0002.1) has been set to zero for the displayed axis, although an axis of the geometry group has been moved.
As axes of the geometry compound, the axes entered in the MD array 20050 AXCONF_GEOAX_ASSIGN_TAB are considered. Servo Enable must be provided for all existing geometry axes, irrespective whether they are currently moving or not.

Reaction
NC Start inhibited.
Alarm display.
Interface signals are set.
NC Stop at alarm.

Remedy
Check the interface signal "Servo enable" (V 380x0002.1, e.g. using the PLC status display in the DIAGNOSIS operating area). Trace the signal back to the sections in the PLC user program from which the signal is linked and set/deleted.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.
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" (V 380x1000.0 or 1) has been set at the NC/PLC interface.

Reaction

Alarm display.  
NC Start inhibited.

Remedy

1. With axes already approached to the reference point, software switch 1 or 2 should respond before the hardware limit switch is reached.  
Check **POS_LIMIT_PLUS, POS_LIMIT_MINUS, POS_LIMIT_**PLUS2 and **POS_LIMIT_MINUS2** (MD 36 100 - 36 130), as well as the interface signal for the selection 1st/2nd software limit switch (V 380x1000.2 and .3) and correct if necessary (PLC user program).

2. If the axis has not yet been approached to the reference point, you can leave the hardware limit switch in the JOG mode in the opposite direction.

3. Check the PLC user program and the link from the switch to the PLC input unit if the axis has not at all reached the hardware limit switch.

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

21617

**Channel %1 block %2 Transformation does not permit passing the pole**

Explanation

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

The specified course of the characteristic passes the pole or a forbidden area of the transformation.

Reaction

Alarm display.  
Interface signals are set.  
NC Stop at alarm.  
NC Start inhibited.

Remedy

Modify the part program (if the alarm has occurred in the AUTO mode).

To retract from the alarm position, deselect the transformation (RESET alone is not sufficient if the transformation remains active even after RESET).

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

21619

**Channel %1 block %2 Transformation active: Motion not possible**

Explanation

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

The specified motion is not possible due to the machine kinematics. Transformation-depending error causes may be:

TRANSMIT:  
A (circular) area exists around the pole to which positioning is not possible. This area is due to the fact that 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..).

How the tool length compensation is taken into account depends on the work plane selected (see G17...).
The machine stops at the margin of the area to which no positioning is possible.

**Reaction**
- Alarm display
- Interface signals are set
- NC Stop at alarm
- NC Start inhibited

**Remedy**
- Modify the part program.
- Change the tool length compensation specified incorrectly.
- Please note: RESET alone is not sufficient even if the transformation remains also active after RESET.

**Program continuation by**
- Use the RESET key to cancel the alarm. Restart the part program.

---

**21700**

**Channel %1 block %3 axis %2 Probe already deflected, signal transition not possible**

**Explanation**
- %1 = channel number
- %2 = axis name, spindle number
- %3 = block number

The probe programmed with the vocabulary word MEAS or MEAW is already deflected and has switched. For another measuring process, the probe signal must be reset (rest position of probe).

The axis display is not yet relevant; an axis-specific evaluation is planned for later development stages.

**Reaction**
- Alarm display.
- Interface signals are set.
- NC Stop at alarm.
- NC Start inhibited.

**Remedy**
- Check the starting position of the measuring process and/or check the sensing probe signals. Cable and plug o.k.?

**Program continuation by**
- Use the RESET key to cancel the alarm. Restart the part program.

---

**21701**

**Channel %1 block %3 axis %2 Measuring not possible**

**Explanation**
- %1 = channel number
- %2 = axis name, spindle number
- %3 = block number

**Measuring stage 2** (MEASA, MEAWA, MEAC)

The programmed measuring job is faulty.

Possible causes:
- illegal measuring mode
- invalid sensing probe
- invalid encoder
- invalid number of measuring edges
- the same measuring edges can only be programmed in the mode 2
- invalid FIFO number
- The number of programmed FIFOs does not correspond to the number of sensing probes used in the measuring job.

Further causes
- A measuring job is already active (e.g. from a synchronized action).
**1 Alarms**

**Reaction**
Alarm display.
Interface signals are set.
NC Stop at alarm.
NC Start inhibited.

**Remedy**
Correct the measuring jobs.

**Program continuation by**
Use the RESET key to cancel the alarm. Restart the part program.

**21702**
**Channel %1 block %3 axis %2 Measuring was canceled**

**Explanation**
%1 = channel number
%2 = axis name, spindle number
%3 = block number
The measuring block is completed (the programmed end position of the axis was reached), but the activated sensor has not yet responded.

**Reaction**
Alarm display.

**Remedy**
Check the traversing motion in the measuring block.
- Must the activated sensor have in any case been switched up to the specified axis position?
- Sensor, cable(s), cable distributor, terminal connections o.k.?
Either program all GEO axes explicitly or program the traversing movement using the POS[axis] command.

**Program continuation by**
Use the "Cancel" key to cancel the alarm. No further operation required.

**21703**
**Channel %1 block %3 axis %2 Probe not yet deflected, illegal signal transition**

**Explanation**
%1 = channel number
%2 = axis name, spindle number
%3 = block number
The selected probe is not (!) deflected and can therefore not acquire a measured value from the deflected to the non-deflected state.

**Reaction**
Alarm display.
Interface signals are set.
NC Stop at alarm.
NC Start inhibited.

**Remedy**
- Check probe
- Check starting position for measuring
- Check program

**Program continuation by**
Use the RESET key to cancel the alarm. Restart the part program.

**21800**
**Channel %1 Number of required workpieces = %2 reached**

**Explanation**
%1 = channel number
%2 = required workpieces
This alarm is activated via the MD 27880 PART_COUNTER, bit 1: The number of workpiece counted ($AC_ACTUAL_PARTS or $AC_SPECIAL_PARTS) is equal to or already greater than the programmed value for the number of required workpieces ($AC_REQUIRED_PARTS). At the same time, the channel VDI signal "Required number of workpieces reached" is output. The value of the workpieces counted $AC_ACTUAL_PARTS is set to zero whereas the value of $AC_SPECIAL_PARTS is kept.
<table>
<thead>
<tr>
<th>Reaction</th>
<th>Alarms display</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Interface signals are set</td>
</tr>
<tr>
<td></td>
<td>NC not ready</td>
</tr>
</tbody>
</table>

**Remedy**

No program interruption. Clear alarm display.

**Program continuation by**

Press the "Cancel" key to cancel the alarm.

---

### 22000

**Explanation**

Channel %1 block %3 spindle %2 No gear stage change possible

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

Automatic gear change selection with M40 has been programmed. The new M word is not in the currently selected gear stage, but the spindle is not in "control mode".

The automatic gear stage change (M40 in conjunction with the spindle speeds under address S) requires "control mode" of the spindle.

**Reaction**

Alarm display.

Interface signals are set.

NC Stop at alarm.

NC Start inhibited.

**Remedy**

Change to control mode of spindle in front of the S word that requires gear stage change.

The following is used to switch to the control mode:

- M03, M04, M05 or M41 .. M45 from axis mode and positioning mode
- Interface signal "Gear switched" (V 38032000.3) from the oscillation mode

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

---

### 22010

**Explanation**

Channel %1 block %3 spindle %2 Actual gear stage does not correspond to requested gear stage.

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

The required gear stage change has been completed. The actual gear stage signaled (activated) from the PLC does not match with the nominal gear stage requested from the NC.

**Note:** It is recommended to use always the requested gear stage.

**Reaction**

Alarm display.

**Remedy**

Correct the PLC program.

**Program continuation by**

Use the "Cancel" key to cancel the alarm. No further operation required.
22011  
Channel %1 block %3 spindle %2 Switching to programmed gear stage not possible  

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

When deselecting the DryRun and Program Test functions, it is not possible to switch a gear stage change in the REPOS module back to a gear stage earlier programmed. This is the case if the spindle in the deselection block is active not in the speed-controlled mode, but as a following axis or within a transformation. Switching back of a gear stage change when deselecting the function mentioned above is avoided by resetting bit2 of the machine data 35035 SPIND_FUNCTION_MASK.

Reaction  
Alarm display.

Remedy  
Change the deselection block or the block search target block to speed-controlled mode (M3, M4, M5, SBCOF).  

Program continuation by

Use the "Cancel" key to cancel the alarm. No further operation required.

22020  
Channel %1 block %3 spindle %2 Gear stage change position not reached  

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

By configuring MA_GEAR_STEP_CHANGE_ENABLE[AXn] = 2, the spindle is traversed to the position stored in MA_GEAR_STEP_CHANGE_POSITION[AXn] prior to the actual gear stage change. The requested gear stage change position was not reached.

Reaction  
Channel not ready.  
NC Start inhibited in this channel.  
NC Stop at alarm.  
Alarm display.  
Interface signals are set.

Remedy  
Correct the sequence in the PLC.

Program continuation by

Use the RESET key to cancel the alarm. Restart the part program.

22050  
Channel %1 block %3 spindle %2 No transition from speed control to position control mode  

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

- Oriented spindle stop (SPOS) was programmed, but no spindle encoder is defined.  
- When position control is switched on, the spindle speed is greater than the limit speed of the measuring system.

Reaction  
NC Start inhibited.  
NC Stop at alarm.  
Alarm display.  
Interface signals are set.

Remedy  
Spindle without installed encoder: Do not use NC language elements that require encoder signals.  

Spindle with installed encoder: Enter spindle encoder via MD 30200 NUM_ENCS.
Use the RESET key to cancel the alarm. Restart the 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

When determining the reference point, the spindle rotated a larger path than defined in the axis-specific MD 34060 `REFP_MAX_MARKER_DIST`, without receiving a reference mark signal. The check is carried out when the spindle is positioned with SPOS or SPOSA if the spindle has first not been run with speed control (S=...).

**Reaction**

NC Start inhibited.  
NC Stop at alarm.  
Alarm display.  
Interface signals are set.

**Remedy**

Please inform the authorized personnel/customer service.  
Check machine data 34060 `REFP_MAX_MARKER_DIST` and correct it if necessary. The entered value specifies the distance to be traversed between two zero reference marks in [mm] or [degrees].

Use the RESET key to cancel the alarm. Restart the part program.

22052

**Channel %1 block %2 axis %3 No standstill at block change**

**Explanation**

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

The spindle displayed was programmed either as a spindle or as an axis although a positioning process arising from the previous block is still running (with SPOSA ... Position spindle across block limits).

**Example:**

N100 SPOSA [2] = 100  
N125 S2 = 1000 M2 = 04 ; error if spindle S2 programmed in  
; block N100 is still running!

**Reaction**

NC Start inhibited.  
NC Stop at alarm.  
Alarm display.  
Interface signals are set.

**Remedy**

Before reprogramming the spindle/axis after the SPOSA statement, waiting for the programmed spindle position should be triggered via a WAITS command.

**Example:**

N100 SPOSA [2] = 100  
N125 WAITS (2)  
N126 S2 = 1000 M2 = 04

Use the RESET key to cancel the alarm. Restart the part program.

22053

**Channel %1 block %3 spindle %2 Referencing mode is not supported**

**Explanation**

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

With SPOS and using an absolute encoder, only referencing mode MD 34200 `ENC_REFP_MODE = 2` is supported! `ENC_REFP_MODE = 6` is generally not supported by SPOS!
NC Start inhibited.
NC Stop at alarm.
Alarm display.
Interface signals are set.

Change setting of MD 34200 ENC_REFP_MODE, switch to JOG + REF and then approach the reference point.

Use the RESET key to cancel the alarm. Restart the part program.

**Reaction**

**Remedy**

**Program continuation by**

**22055**

Channel %1 block %3 spindle %2 Configured positioning speed too large

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

The current position is not referenced with the encoder position although reference is made to it.

Alarm display.

Correct the part program. Establish the zero mark position either by positioning, rotation (at least 1 revolution) in the speed-controlled mode or via G74 before enabling the function generating the alarm.

Use the "Cancel" key to cancel the alarm. No further operation required.

**Reaction**

**Remedy**

**Program continuation by**

**22062**

Channel %1 axis %2 Reference point approach: Zero mark searching speed (MD) is not reached

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

The configured zero mark searching speed is not reached.

Alarm display.
Interface signals are set.
NC Start inhibited
NC Stop at alarm

Check the active speed limitation.
Configure the lower zero mark searching speed in MD 34040 REFP_VELO_SEARCH_MARKER. Check the tolerance range for the actual speed MD 35150 SPIND_DES_VELO_TOL. Set a different referencing mode MD 34200 ENC_REFP_MODE=7.

Use the RESET key to cancel the alarm. Restart the part program.

**Reaction**

**Remedy**

**Program continuation by**

**22064**

Channel %1 axis %2 Reference point approach: Zero mark searching speed (MD) too high

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

The configured zero mark searching speed is too high. The encoder frequency for the active measuring system is exceeded.

Alarm display.
Interface signals are set.
NC Start inhibited
NC Stop at alarm

Configure the lower zero mark searching speed in MD 34040 REFP_VELO_SEARCH_MARKER. Check encoder limit frequency configuration 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 by

Use the RESET key to cancel the alarm. Restart the part program.

22067

Channel %1 tool management: Tool change not possible, since no tool ready for use is in tool group %2

Explanation

%1 = channel ID
%2 = string (identifier)

The desired tool change is not possible. The specified tool group does not possess a replacement tool ready for use which could be loaded. Possibly, all tools which could be used have been set to the "Disabled" status by the tool monitoring.

Reaction

Interface signals are set.
Alarm display.
NC Start inhibited.
NC Stop at alarm at block end.
Stop at alarm.

Remedy

• Make sure that a tool ready for use is contained in the specified tool group at the time when the requesting tool change occurs.
• This can be achieved, e.g. by replacement of disabled tools
• or also by enabling a tool manually.
• Check whether the tool data are defined correctly.
Have all tools of the group which are intended for work been defined using the specified identifier? Have they all been loaded?

Program continuation by

Use the RESET key to cancel the alarm. Restart the 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 defined in the axis-specific MD 35100 SPIND_VELO_LIMIT plus the tolerance set in MD 35150 SPIND_DES_VELO_TOL.

If the drive manufacturer has carried out the optimization correctly, this alarm cannot occur!

Reaction

Alarm display.
Interface signals are set.
NC not ready.
NC Stop at alarm.
NC Start inhibited.

Remedy

Check start-up and optimization data against the Start-Up Guide of the drive manufacturer and correct them.
Increase the tolerance window in MD 35150 SPIND_DES_VELO_TOL.

Program continuation by

Use the RESET key to cancel the alarm.
22101 Channel %1 block %3 spindle %2 Maximum speed for actual-value coupling 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 for one of the functions G33 (thread cutting with encoder), G95 (revolution feedrate) or G96 (constant cutting rate). The spindle synchronization got lost as a result of this.

Reaction
Alarm display.
Interface signals are set.
NC Stop at alarm.
NC Start inhibited.

Remedy
Check whether the encoder has been enabled by the interface signal: position measuring system V380x0001.5 or whether the limit frequency for this encoder has been loaded with the correct default value in MD 36300 ENC_FREQ_LIMIT[0].

Check the maximum spindle speed in the axis-specific MD 35130 GEAR_STEP_MAX_VELO_LIMIT and correct (reduce) it if necessary.

Program continuation by
Program an upper spindle speed limitation with G26 S.. in the previous NC block which must be below the maximum encoder limit frequency.

Use the RESET key to cancel the alarm. Restart the part program.

22200 Channel %1 block %3 spindle %2 Axis stop when tapping

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

The drilling axis has been stopped via the NC/PLC interface during tapping with compensation chuck (G63) - the spindle continues rotating. As a result, the thread and possibly also the tap have been damaged.

Reaction
Alarm display.
Interface signals are set.
NC Start inhibited.

Remedy
Provide for an interlock in NC user program so that no axis stop can be initiated when tapping is active. If the tapping operation is to be aborted in critical machine conditions, spindle and axis must be stopped at the same time if possible. Slight deviations will be compensated by the compensation chuck.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

22250 Channel %1 spindle %2 Axis stopped in thread cutting

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

The thread cutting axis has been stopped during an active thread block.

The stop can be caused by VDI signals resulting in feed interruption.

Reaction
Alarm display.
Interface signals are set.
NC Start inhibited.

Remedy
Check the axis/spindle-specific stop signals (V 380x0004.3).

Program continuation by
Use the RESET key to cancel the alarm. Restart the 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** is selected and several thread blocks are linked with each other, machining breaks lasting as long as the next following block is executed with NC restart arise at the end of blocks.

When the control system is operated in normal single block mode, a higher-level logic stops the program only at the end of those blocks at which no contour falsifications or contour errors might occur. In the case of chained thread blocks, this is after the last thread block!

**Reaction**
Alarm display.

**Remedy**
- If only one thread block is programmed, the alarm message can be ignored.
- In the case of several thread blocks following one after another, do not execute this machining step in the automatic mode **DECODING SINGLE BLOCK**.

**Program continuation by**
Press NC START to cancel the alarm and continue the program execution.

### 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 for thread cutting G33 is so high that the maximum axis velocity is exceeded due to the programmed thread pitch.

**Reaction**
Alarm display.

**Remedy**
Program either a lower spindle speed or a speed limitation via G26 S ... or reduce the spindle speed prior to the thread block via SD 43 220 **SPIND_MAX_VEL0_G26** or the spindle override.

**Program continuation by**
Use the "Cancel" key to cancel the alarm. No further operation required.

### 22275
**Channel %1 block %2 Zero velocity of velocity axis reached at position %3**

**Explanation**
- %1 = channel number
- %2 = block number, label
- %3 = position

When thread cutting using G35 axis standstill was reached at the specified position, caused by the linear reduction of the thread pitch. The standstill position of the thread axis depends on:
- the programmed pitch reduction
- the thread length.

**Reaction**
Alarm display.

**Remedy**
Change at least one of the a/m influencing factors.

**Program continuation by**
Use the "Cancel" key to cancel the alarm. No further operation required.

### 22280
**Channel %1 in block %2: Progr. acceleration-up travel too short %3; %4 required**

**Explanation**
- %1 = channel number
- %2 = block number, label
- %3 = prog. acceleration travel

<table>
<thead>
<tr>
<th>Explanation</th>
<th>Reaction</th>
<th>Remedy</th>
<th>Program continuation by</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>22260</strong> Channel %1 spindle %2 Thread might be damaged</td>
<td>Alarm display.</td>
<td>If only one thread block is programmed, the alarm message can be ignored. In the case of several thread blocks following one after another, do not execute this machining step in the automatic mode <strong>DECODING SINGLE BLOCK</strong>.</td>
<td>Press NC START to cancel the alarm and continue the program execution.</td>
</tr>
<tr>
<td><strong>22270</strong> Channel %1 block %2 spindle %3 Spindle speed too high for thread cutting</td>
<td>Alarm display.</td>
<td>Program either a lower spindle speed or a speed limitation via G26 S ... or reduce the spindle speed prior to the thread block via SD 43 220 <strong>SPIND_MAX_VEL0_G26</strong> or the spindle override.</td>
<td>Use the &quot;Cancel&quot; key to cancel the alarm. No further operation required.</td>
</tr>
<tr>
<td><strong>22275</strong> Channel %1 block %2 Zero velocity of velocity axis reached at position %3</td>
<td>Alarm display.</td>
<td>Change at least one of the a/m influencing factors.</td>
<td>Use the &quot;Cancel&quot; key to cancel the alarm. No further operation required.</td>
</tr>
<tr>
<td><strong>22280</strong> Channel %1 in block %2: Progr. acceleration-up travel too short %3; %4 required</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
%4 = required acceleration travel

To be able to observe the programmed acceleration travel, the thread axis was overloaded with regard to the acceleration. To be able to accelerate the axis with the configured dynamics, the length of the acceleration travel must be at least as large as specified in the parameter %4.

Reaction  
Alarm display.

Remedy  
Adapt the SD 42010 THREAD_RAMP_DISP accordingly.

Program continuation by  
Use the “Cancel” key to cancel the alarm. No further operation required.

**25000**  
**Axis %1 Hardware error active encoder**

Explanation  
%1 = axis name, spindle number

The signals of the position actual encoder (interface signal V 380x001.5) currently active are missing, are not in phase or have a short-circuit/short circuit to ground.

Reaction  
NC not ready.
NC Start inhibited.
NC Stop at alarm.
The NC switched to the follow-up mode.
Alarm display.
Interface signals are set.
The axes are no longer synchronized with the machine actual value (reference point).

Remedy  
Check the contacts of the measuring circuit connector. Check the encoder signals; in case of errors, change the encoder.

Program continuation by  
Power ON

**25010**  
**Axis %1 Measuring system contaminated**

Explanation  
%1 = axis name, spindle number

The encoder used for the position control provides a contamination signal (only with measuring systems generating a contamination signal).

Reaction  
NC not ready.
NC Start inhibited.
NC Stop at alarm.
The NC switches to the follow-up mode.
Alarm display.
Interface signals are set.
The axes are no longer synchronized with the machine actual value (reference point).

Remedy  
Check the measuring system with respect of the settings of the measuring system manufacturer.

Program continuation by  
Use the RESET key to cancel the alarm. Restart the part program.

**25011**  
**Axis %1 Measuring system contaminated**

Explanation  
%1 = axis name, spindle number

The encoder not used for the position control provides a contamination signal (only with measuring systems generating a contamination signal).

Reaction  
Alarm display.
Remedy

Please inform the authorized personnel/customer service.
Check the measuring system with respect of the settings of the measuring system manufacturer.

Program continuation

Use the "Cancel" key to cancel the alarm. No further operation required.

Axis %1 Zero mark monitoring

%1 = axis name, spindle number

The pulses of the position encoder between 2 zero mark pulses are counted (hardware function). It is checked whether the encoder always provides the same number of pulses between the zero marks. As soon as a deviation in the 4 less-significant bits of the counter is ignored, an alarm is output.

NC not ready.
NC Start inhibited.
NC Stop at alarm.
The NC switches to the follow-up mode.
Alarm display.
Interface signals are set.
The axes are no longer synchronized with the machine actual value (reference point).

Remedy

The deviations might have been caused by transmission errors, interference, encoder hardware errors or errors in the evaluation electronics of the encoder used for position control. Therefore, the following should be checked in the actual value branch:

1. Transmission path: Check the actual value connector on the motor for correct contacting; check encoder cable for continuity, short circuit and short circuit to ground (loose contact?).

2. Encoder pulses: Encoder supply within tolerance limits?

3. Evaluation electronics: Change/reconfigure the drive module used.
The monitoring can be switched off by setting MD 36310 310 ENC_ZERO_MONITORING to "0".

Use the RESET key to cancel the alarm. Restart the part program.

Program continuation

Axis %1 Zero mark monitoring

%1 = axis name, spindle number

The monitoring refers to the encoder not used by the position control! (IS DB 31 - 48, DBX 1.5 = 0 or 1.6 = 0)

The pulses of the position encoder between 2 zero mark pulses are counted (hardware function). It is checked in the interpolation clock matrix (default setting 4 ms) whether the encoder always provides the same number of pulses between the zero marks. If a deviation is registered in the 4 less-significant bits of the counter, an alarm is output.

Reaction

Alarm display.

Remedy

Please inform the authorized personnel/customer service.
The deviations might have been caused by transmission errors, interference, encoder hardware errors or errors in the evaluation electronics of the encoder used for position control. Therefore, the following should be checked in the actual value branch:

1. Transmission path: Check the actual value connector on the motor and
   on the FDD module for correct contacting; check encoder cable for continuity, short circuit and ground connection (loose contact?).
2. **Encoder pulses:** Encoder supply within tolerance limits?

3. **Evaluation electronics:** Change/reconfigure the drive module used.

The monitoring can be deactivated by setting the machine data `ENC_ZERO_MON_ACTIVE [n]=...` (n ... encoder number: 1, 2) to 0.

**Program continuation by**

Use the "Cancel" key to cancel the alarm. No further operation required.

### 25030

**Axis %1 Actual velocity alarm limit**

**Explanation**

%1 = axis name, spindle number

The actual velocity of the axis is checked cyclically in IPO clock. If there is no error, the actual speed can never be higher than defined in the axis-specific MD 36200 200 `AX_VELO_LIMIT` (threshold value for speed monitoring). This threshold value specified in [mm/min, rev./min] must be entered by approx. 5 ... 10 % greater than it may occur with the maximum traversing rate. Drive errors might result in exceeding the speed what causes the alarm.

**Reaction**

NC not ready.
NC Start inhibited.
NC Stop at alarm.
The NC switches to the follow-up mode.
Alarm display.
Interface signals are set.

**Remedy**

Check speed setpoint cable (bus cable).
Check actual values and position-control direction.
Change position-control direction if the axis rotates uncontrolled axis-specific MD 32110 110 `ENC FEEDBACK_POL = < -1, 0, 1, →`
Increase monitoring limit value in MD 36200 200 `AX_VELO_LIMIT`.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

### 25040

**Axis %1 Zero speed control**

**Explanation**

%1 = axis name, spindle number

The NC monitors holding of the position at standstill. The monitoring is started after an axis-specific time set in MD 36040 040 `STANDSTILL_DELAY_TIME` after the interpolation has been completed. It is checked continuously whether the axis remains within its tolerance threshold set in MD 36030 030 `STANDSTILL_POS_TOL`.

The following cases are possible:

1. The interface signal `SERVO ENABLE (V 380x0002.1)` is zero, as the axis is clamped mechanically. Mechanic influences (e.g. high forces due to machining) cause the axis to leave its permissible position tolerance.

2. With the position control circuit closed (without clamping) - interface signal `SERVO ENABLE (V 380x0002.1)` IS "1" - high mechanical forces with low gain in the open-loop position control circuit cause the axis to leave its po-

**Reaction**

NC not ready.
NC Start inhibited.
NC Stop at alarm.
The NC switches to the follow-up mode.
Alarm display.
Interface signals are set.

**Remedy**

- Check MD 36040 `STANDSTILL_DELAY_TIME` and MD 36030 `STANDSTILL_POS_TOL` and increase it as necessary.
- Estimate the **machining** force and - if necessary - reduce them by reducing the feedrate/increasing the speed.
- Increase the **clamping pressure**.
- Increase the **gain** in the position control loop by enhancing the optimization (loop gain factor MD 32200 POSCTRL_GAIN).

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

### 25050

**Axis %1 Contour monitoring**

%1 = axis name, spindle number

The NC calculates the actual value for each interpolation intermediate point (setpoint) of an axis, which should result from an internal model. If the difference amount between this calculated actual value and the real machine actual value is greater than the amount set in MD CONTOUR_TOL, the program is aborted and the alarm output.

**Reaction**

- NC not ready
- Under certain circumstances, it can be switched for several channels via MD.
- NC not ready.
- NC Start inhibited.
- NC Stop at alarm.
- The NC switches to the follow-up mode.
- Alarm display.
- Interface signals are set.

**Remedy**

- **Check the tolerance value in** MD 36400 CONTOUR_TOL to see whether the programmed value is too small.
- **Check the optimization of the position controller (loop-gain factor** in MD 32 200 POSCTRL_GAIN) to make sure that the axis follows the setpoint setting without exceeding the amplitude. Otherwise, speed controller optimization must be enhanced or the loop-gain factor (Kv factor) be reduced.
- **Check the acceleration in** MD 32 300 MAX_AX_ACCEL. If the current limits are reached because of too high acceleration, the open-loop position control is disconnected as a result. The "lost" actual value is recovered in the form of an overshoot as soon as the open-loop position control circuit is closed again.
- **Improve the speed controller optimization.**
- **Check the mechanics (smooth running, rotational masses).**

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

### 25060

**Axis %1 Speed setpoint limitation**

%1 = axis name, spindle number

The speed setpoint has exceeded its upper limit longer than allowed.

The maximum set speed is limited to a certain percentage value using the axis-specific MD 36210 CTRLOUT_LIMIT. The input value of 100% corresponds to the rated speed of the motor and thus the rapid traverse rate.

Short-time overshooting is tolerated provided they do not last longer than admitted by the axis-specific MD 36220 CTRLOUT_LIMIT_TIME. During this time, the set value is limited to the set maximum value (MD 36210 CTRLOUT_LIMIT).

**Reaction**

- NC not ready
- Under certain circumstances, it can be switched for several channels via MD.
- NC Start inhibited.
NC Stop at alarm.
The NC switches to the follow-up mode.
Alarm display.
Interface signals are set.

Remedy
If the drive controller is set correctly and normal machining conditions are provided, this alarm should not occur.

- **Check the actual values**: local heavy running of the carriage, speed dip and torque peak in case of workpiece/tool contact, traversing to a fixed obstacle, etc.
- **Check the direction of the position control**: Does the axis move uncontrolled?
- Check the speed setpoint cable.

Program continuation by
Use the RESET key to cancel the alarm.

---

### 25070
**Axis %1 Drift limit too large**

**Explanation**
%1 = axis name, spindle number

Only with analog drives.

The permissible maximum value of the drift (internal drift value integrated to the automatic drift compensation) has been exceeded during compensation!
The permissible maximum value is defined in the axis-specific MD 36710 710 
**DRIFT_LIMIT**. The drift value itself is not limited.

Automatic drift compensation: MD 36700 700 **DRIFT_ENABLE** = 1
The deviation of the actual position to the set position (drift) is automatically checked cyclically in IPO clock and automatically compensated to zero by slowly integrating an internal drift value.

Manual drift compensation: MD 36700 700 **DRIFT_ENABLE** = 0
A static offset can be added to the speed setpoint in MD 36 720 
**DRIFT_VALUE**. It will not be included in the speed monitoring, since it acts as a voltage zero offset.

**Reaction**
Alarm display.

**Remedy**
Readjust drift compensation with automatic drift compensation on the drive switched off until the following error is approximately zero. Then reactivate automatic drift compensation to compensate dynamic drift changes (heating).

**Program continuation by**
Use the "Cancel" key to cancel the alarm. No further operation required.

---

### 25080
**Axis %1 Positioning monitoring**

**Explanation**
%1 = axis name, spindle number

The axis of blocks in which "exact stop" is active must have reached the exact positioning window after the positioning time set in the axis-specific MD 36 020 
**POSITIONING_TIME**.

Exact stop coarse: MD 36000 000 **STOP_LIMIT_COARSE**
Exact stop fine: MD 36010 010 **STOP_LIMIT_FINE**

**Reaction**
NC not ready
Under certain circumstances, it can be switched for several channels via MD.
NC Start inhibited.
NC Stop at alarm.
The NC switched to the follow-up mode.
Alarm display.
Interface signals are set.
Remedy
Check whether the exact stop limits (coarse and fine) match with the dynamic possibilities of the axes; otherwise, increase them - possibly in conjunction with the positioning time defined in MD 36200 POSITONING_TIME.
Check the optimization of the speed controller/position controller; select the gain as high as possible.
Check the setting of the loop-gain factor (Kv factor) (MD 32200 POSCTRL_GAIN); increase if necessary.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

---

25110

**Explanation**
Axis %1 Selected encoder does not exist
%1 = axis name, spindle number
The selected encoder does not match with the maximum number of encoders specified in the axis-specific MD 30200 NUM_ENCS, i.e. the 2nd encoder does not exist.

**Reaction**
Alarm display.

**Remedy**
Please inform the authorized personnel/customer service. Enter the number of actual-value sensors for this axis in machine data 30200 NUM_ENCS ("number of encoders"),
Input value 0: Axis without encoder ### e.g. spindle
Input value 1: Axis with 1 encoder ### default setting
Input value 2: Axis with 2 encoders ### e.g. direct and indirect measuring systems

Program continuation by
Use the "Cancel" key to cancel the alarm. No further operation required.

---

25200

**Explanation**
Axis %1 Requested parameter set not permissible
%1 = axis name, spindle number
For the position control, a new parameter set has been requested, the number of which is beyond the permissible limit (8 parameter sets: 0 ... 7 available).

**Reaction**
NC Stop at alarm.
NC Start inhibited.
Alarm display. Interface signals are set.

**Remedy**
Please inform the authorized personnel/customer service. Check the axis/spindle-specific interface signals (V380x4001.0 - .2 "Select parameter records A, B, C").
A parameter set includes the 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 by
Use the RESET key to cancel the alarm. Restart the part program.
### 25201
**Axis %1 Drive fault**

**Explanation**

%1 = axis name, spindle number

The drive signals a fatal error of status class 1 (ZK1). The exact error cause can be derived from evaluating the additionally present drive alarms:

- Alarm 300 500
- alarms 300 502 - 300 505
- alarm 300 508
- alarm 300 608
- alarm 300 612
- alarm 300 614
- alarms 300 701 - 300 761
- alarm 300 799

**Reaction**

- NC not ready.
- Under certain circumstances, it can be switched across all channels via MD.
- NC Start inhibited.
- NC Stop at alarm.
- The NC switches to the follow-up mode.
- Alarm display.
- Interface signals are set.

**Remedy**

Evaluate the above mentioned drive alarms.

**Program continuation**

Use the RESET key to cancel the alarm.

### 25202
**Axis %1 Waiting for drive**

**Explanation**

%1 = axis name, spindle number

Drive group error (self-clearing)

**Reaction**

- Alarm display.
- Interface signals are set.

**Remedy**

- We will wait for the drive.
- This alarm reveals similar problems as alarm 25201 (see there).
- It is present continuously during ramp-up when the drive does not communi-
  cate (e.g. Profibus connector disconnected).
- Otherwise, the alarm is present only for a short time and is replaced in case of
  permanent problems with alarm 25201 after an internal time-out.

**Program continuation**

Use the RESET key to cancel the alarm.

### 26000
**Axis %1 Clamping monitoring**

**Explanation**

%1 = axis name, spindle number

The clamped axis has been pushed out of its position. The permissible deviation is defined in the axis-specific MD 36050 050 CLAMP_POS_TOL.

Axis clamping is activated by the axis-specific interface signal

V 380x0002.3: "Clamping running", "Clamping process running" activated.

**Reaction**

- NC not ready.
- NC Start inhibited.
- NC Stop at alarm.
- The NC switches to the follow-up mode.
- Alarm display.
- Interface signals are set.

**Remedy**

- Determine the deviation of the actual position to the setpoint position and -
  depending on this - either increase the permissible tolerance in the MD or
  provide for mechanical improvement of the clamping (e.g. increase clamping
  pressure).

**Program continuation**

Use the RESET key to cancel the alarm. Restart the part program.
26001

Axis %1 Parameterization error: Friction compensation

%1 = axis name, spindle number

It is not permitted to parameterize the adaptation characteristic in conjunction with quadrant error compensation, since the 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).

Reaction

Mode group not ready.
Under certain circumstances, it can be switched across all channels via MD.
Channel not ready.
NC Start inhibited.
NC Stop at alarm.
The NC switches to the follow-up mode.
Alarm display.
Interface signals are set.

Remedy

Please inform the authorized personnel/customer service.
Check the setting parameters of the quadrant error compensation (friction compensation); if necessary disable the compensation via MD 32500 FRICT_COMP_ENABLE.
Use the RESET key to cancel the alarm.

26002

Axis %1 encoder %2 parameterization error: Increments

%1 = axis name, spindle number
%2 = encoder number

1. Rotary measuring system (MD 31000 ENC_IS_LINEAR[] == FALSE)
The number of increments set in MD 31020 ENC_RESOL[] does not match with the number of increments set in the drive machine data MD1005, or one of the two MDs is zero.

2. Absolute measuring system with EnDat interface
(MD 30240 ENC_TYPE[] == 4)
With absolute encoders, the resolution of the incremental and of the absolute track, which is provided from the drive, is additionally checked for consistency.
- Motor measuring system: MD1005, MD1022
- Direct measuring system: MD1007, MD1032

The two drive machine data must be in a certain ratio one to another. Non-compliance with the below mentioned requirements results in an alarm.

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[] == FALSE)
MD1005/MD1022 == 4 * n [n=1,2,3,...] (motor measuring system)
MD10007/MD1032 == 4 * n [n=1,2,3,...] (direct measuring system)

Reaction

NC not ready.
Under certain circumstances, it can be switched across all channels via MD.
NC Start inhibited.
NC Stop at alarm.
The NC switches to the follow-up mode.
Alarm display.
Interface signals are set.
Remedy
Please inform the authorized personnel/customer service.
Correct the machine data.

In the case of absolute encoders, drive alarms (if any) indicating encoder problems should be evaluated. These could be the cause for faulty entries in MD 1022/MD1032, which could be read from the encoder itself.

Program continuation by

Power ON

26003 Axis %1 Parameterization error: Leadscrew pitch
Explanation %1 = axis name, spindle number
The pitch of the ballscrew/trapezoidal spindle set in the axis-specific MD 31030 LEADSCREW_PITCH is zero.

Reaction
NC not ready.
NC Start inhibited.
NC Stop at alarm.
The NC switches to the follow-up mode.
Alarm display.
Interface signals are set.

Remedy
Determine the lead of the ballscrew (according to the machine manufacturer's specifications or measure the pitch with the spindle cover removed) and enter the value in MD 31030 LEADSCREW_PITCH (in most cases, 10 or 5 mm/rev).

Program continuation by

Power ON

26004 Axis %1 encoder %2 parameterization error: Increment spacing with linear encoders
Explanation %1 = axis name, spindle number
%2 = encoder number
The scale division of the linear scale, which is set in the axis-specific MD 31010 ENC_GRID_POINT_DIST is zero.

Reaction
NC not ready.
Under certain circumstances, it can be switched across all channels via MD.
NC Start inhibited.
NC Stop at alarm.
The NC switches to the follow-up mode.
Alarm display.
Interface signals are set.

Remedy
Please inform the authorized personnel/customer service.
Enter a scale division of the linear scale according to the specifications of the machine manufacturer (or the measuring equipment manufacturer) in MD 31010 ENC_GRID_POINT_DIST.

Program continuation by

Power ON

26005 Axis %1 Parameterization error: Output evaluation
Explanation %1 = axis name, spindle number
The output evaluation of the analog speed setpoint, which is set in MD 32250 RATED_OUTVAL or MD 32260 RATED_VELO is zero.

Reaction
NC not ready.
Under certain circumstances, it can be switched across all channels via MD.
NC Start inhibited.
NC Stop at alarm.
The NC switches to the follow-up mode.
Alarms

Remedy
Enter the motor nominal speed in MD 32260 RATED_VELO.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

26006

Explanation
Axis %1 encoder %2 Encoder type/output type %3 not possible
%1 = axis name, spindle number
%2 = encoder number
%3 = encoder type/output type
Not every encoder type or output type is possible in the current software version.

MD 30240 ENC_TYPE
= 0 Simulation
= 1 Raw-signal encoder
= 2 Square-wave encoder
= 4 EnDat absolute encoder

MD 30130 CTRL_OUT_TYPE
= 0 Simulation
= 1 Default

Reaction
NC not ready.
Under certain circumstances, it can be switched across all channels via MD.
NC Start inhibited.
The NC switches to the follow-up mode.
Alarm display.
Interface signals are set.

Remedy
Check MD 32240 ENC_TYPE and/or MD 30130 CTRL_OUT_TYPE and correct if necessary.

Program continuation by
Power ON

26014

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

MD contains an invalid value.

Reaction
NC not ready.
NC Start inhibited.
The NC switches to the follow-up mode.
Alarm display.
Interface signals are set.

Remedy
Repeat your entry with the correct value and Power On.

Program continuation by
Power ON

26015

Explanation
Axis %1 Machine data %2 [%3] Illegal value
%1 = axis name, spindle number
%2 = string: MD identifier
%3 = index: MD array index

MD contains an invalid value.

Reaction
NC not ready.
NC Start inhibited.
The NC switches to the follow-up mode.
Alarm display.
Interface signals are set.
The NC switches to the follow-up mode.
Alarm display.
Interface signals are set.

Remedy
Repeat your entry with the correct value and Power On.

Program continuation by
Power ON

26016
Axis %1 machine data %2 [%2] Illegal value

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

Machine data contains an invalid value.

Reaction
NC not ready.
NC Start inhibited.
NC Stop at alarm.
The NC switches to the follow-up mode.
Alarm display.
Interface signals are set.

Remedy
Repeat your entry with the correct value and push RESET.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

26017
Axis %1 Machine data %2 [%3] Illegal value

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

Machine data contains an invalid value.

Reaction
Channel not ready.
NC Start inhibited.
NC Stop at alarm.
The NC switches to the follow-up mode.
Alarm display.
Interface signals are set.

Remedy
Repeat your entry with the correct value and push RESET.

Program continuation by
Use the RESET key to cancel the alarm. Restart the part program.

26018
Axis %1 Setpoint output of drive %2 used repeatedly

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

The same setpoint assignment has been used several times.
The machine data 30110 CTRLOUT_MODULE_NR contains the same value for different axes.

Reaction
NC not ready.
NC Start inhibited.
NC Stop at alarm.
The NC switches to the follow-up mode.
Alarm display.
Interface signals are set.

Remedy
Please inform the authorized personnel/customer service.
Avoid double assignment of the setpoint assignment by correcting the MD 30110 CTRLOUT_MODULE_NR.
**26020**

**Axis %1 encoder %2 Hardware error %3 reinitializing encoder**

**Explanation**

- %1 = axis name, spindle number
- %2 = encoder number
- %3 = error fine coding

Error when initializing or accessing the encoder (cf. additional information for the absolute encoder interface in the error fine identification).

**Reaction**

- NC not ready.
- Under certain circumstances, it can be switched across all channels via MD.
- NC Start inhibited.
- NC Stop at alarm.
- The NC switches to the follow-up mode.
- Alarm display.
- Interface signals are set.
- The axes are no longer synchronized with the machine actual value (reference point).

**Remedy**

- Please inform the authorized personnel/customer service.
- Eliminate the hardware error; if necessary change the encoder.

<table>
<thead>
<tr>
<th>Bit No.</th>
<th>Meaning</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bit 0</td>
<td>Failure of illumination</td>
<td></td>
</tr>
<tr>
<td>Bit 1</td>
<td>Signal amplitude too low</td>
<td></td>
</tr>
<tr>
<td>Bit 2</td>
<td>False position value</td>
<td></td>
</tr>
<tr>
<td>Bit 3</td>
<td>Overvoltage</td>
<td></td>
</tr>
<tr>
<td>Bit 4</td>
<td>Undervoltage</td>
<td></td>
</tr>
<tr>
<td>Bit 5</td>
<td>Overcurrent</td>
<td></td>
</tr>
<tr>
<td>Bit 6</td>
<td>Battery change required</td>
<td></td>
</tr>
<tr>
<td>Bit 7</td>
<td>Control check error</td>
<td></td>
</tr>
<tr>
<td>Bit 8</td>
<td>EnDat encoder: incorrect overlap</td>
<td></td>
</tr>
<tr>
<td>Bit 9</td>
<td>C/D track for ERN1387 encoder faulted, or EGN encoder connected or not correctly parameterized (not to EGN, MD 1011)</td>
<td></td>
</tr>
<tr>
<td>Bit 10</td>
<td>Protocol cannot be interrupted or old HW</td>
<td></td>
</tr>
<tr>
<td>Bit 11</td>
<td>SSI level identified on the data line or no encoder connected or incorrect encoder cable (ERN instead of EGN)</td>
<td></td>
</tr>
<tr>
<td>Bit 12</td>
<td>TIMEOUT when reading measured values</td>
<td></td>
</tr>
<tr>
<td>Bit 13</td>
<td>CRC error</td>
<td></td>
</tr>
<tr>
<td>Bit 14</td>
<td>Incorrect IPU submodule for direct measuring signal</td>
<td>Only for 611D expansion</td>
</tr>
<tr>
<td>Bit 15</td>
<td>Encoder defective</td>
<td></td>
</tr>
</tbody>
</table>

**Program continuation by**

Power ON
26022  **Axis %1 encoder %2 Measuring with simulated encoder not possible**

**Explanation**

%1 = NC axis number  
%2 = encoder number  

This alarm will occur at the control system when measuring without encoder hardware (simulated encoder).

**Reaction**

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

**Remedy**

Please inform the authorized personnel/customer service.  
- If possible modify the measuring movement such that the axis concerned need not traverse, and do not program this axis in the MEAS block. In this case, however, a measured value for this axis can also no longer be requested.  
- Make sure that the measuring operation is not carried out using simulated encoders (MD 30240 ENC_TYPE).

**Program continuation**

Use the RESET key to cancel the alarm. Restart the part program.

26025  **Axis %1 machine data %2 Value adapted**

**Explanation**

%1 = axis name, spindle number  
%2 = string: MD identifier  
%3 = index: MD array index  

The machine data contained an invalid value. It was therefore changed by the software internally to a valid value.

**Reaction**

Alarm display.

**Remedy**

Check the MD.

**Program continuation**

Use the RESET key to cancel the alarm. Restart the 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 became invalid, since a modified gear stage transmission ratio was detected between encoder and machining.

**Reaction**

NC not ready.  
Under certain circumstances, it can be switched across all channels via MD.  
NC Start inhibited.  
NC Stop at alarm.  
The NC switches to the follow-up mode.  
Alarm display.  
Interface signals are set.  
The axes are no longer synchronized with the machine actual value (reference point).

**Remedy**

Please inform the authorized personnel/customer service.  
Rereference/resynchronize the absolute encoder; mount the absolute encoder on the load side; configure it correctly (e.g. MD 31040 ENC_IS_DIRECT).

**Program continuation**

Use the RESET key to cancel the alarm.
26050  

**Explanation**  
Axis %1 Parameter set change from %2 to %3 not possible  

%1 = axis name, spindle number  
%2 = index: current parameter set  
%3 = index: New parameter record  

The parameter set change cannot be carried out without steps. The cause is to be found in the contents of the parameter record to be enabled, e.g. different load gear factors.

**Reaction**  
NC Start inhibited.  
NC Stop at alarm.  
Alarm display.  
The NC switches to the follow-up mode.  
Interface signals are set.  
Local reaction

**Remedy**  
-  
Program continuation by  
Use the RESET key to cancel the alarm. Restart the part program.

**React.**  
Use the "Cancel" key to cancel the alarm. No further operation required.

---

26052  

**Explanation**  
Channel %1 in block %2: Path velocity for auxiliary function output too high  

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

The alarm usually occurs in a block with auxiliary function output during the movement. In this case, the control system had to wait for the acknowledgment of the auxiliary function longer than planned.  
This alarm will also occur if unexpected control-internal inconsistencies block the continuous-path control mode (G64, G641, ...).  
The path interpolation will suddenly stop at the signaled block end (generatory stop). With the next block change, traversing will go on unless the sudden stop has not caused an error on the position controller (e.g. by a very sensitively set MD 36400 CONTOUR_TOL).

**Remedy**  
Program G09 in the signaled block to make sure that the path interpolation stops at the block end as scheduled.

**React.**  
Use the "Cancel" key to cancel the alarm. No further operation required.

---

26100  

**Explanation**  
Axis %1, drive %2 Sign of life failure  

%1 = axis name, spindle number  
%2 = drive number  

The drive control increments a sign-of-life cell in each control cycle, which is checked for a change by the servo in the interpolation cycle. If the cell remains unchanged, the alarm will be set.

**Reaction**  
NC not ready.  
NC Start inhibited.  
NC Stop at alarm.  
The NC switches to the follow-up mode.  
Alarm display.  
Interface signals are set.
Together with this alarm, further error messages (system errors, e.g. stack overflow) are displayed whose evaluation provides a conclusion to the error cause.

If this alarm occurs repeatedly, all the following alarm displays should be laid down in the form of a machine and program analysis, which should be as exact as possible, and be reported to Siemens AG, System Administration for A&DMC Products, hotline (tel. see page 9).

**26101**

**Axis %1, drive %2 does not communicate**

**Explantion**

%1 = axis name, spindle number  
%2 = drive number

The drive does not communicate.

**Reaction**

NC not ready.  
NC Start inhibited.  
NC Stop at alarm.  
The NC switches to the follow-up mode.  
Alarm display.  
Interface signals are set.  
The axes are no longer synchronized with the machine actual value (reference points).

**Remedy**

Check the bus configuration.  
Check connection (plug/connector disconnected, option module inactive etc.).

**Program continuation by**

Use the RESET key to cancel the alarm.

**26102**

**Axis %1, drive %2 Sign of life failure**

**Explantion**

%1 = axis name, spindle number  
%2 = drive number

The sign-of-life cell is no longer updated by the drive.

**Reaction**

NC not ready.  
NC Start inhibited.  
NC Stop at alarm.  
The NC switches to the follow-up mode.  
Alarm display.  
Interface signals are set.  
The axes are no longer synchronized with the machine actual value (reference points).

**Remedy**

Check the clock settings; if necessary extend the cycle time.  
Restart drive, check drive software.

**Program continuation by**

Use the RESET key to cancel the alarm.

**26105**

**Drive for axis %1 not found**

**Explantion**

%1 = axis name, spindle number

The drive parameterized for the specified axis could not be found. For example, a Profibus slave was parameterized in the NC which is not contained in the SDB1000.

**Reaction**

NC not ready.  
NC Start inhibited.  
NC Stop at alarm.  
The NC switches to the follow-up mode.
Alarm display.
Interface signals are set.

Remedy
Possible causes are:

1. By mistake, MD 30130 CTRLOUT_TYPE is unequal to 0; originally, it was intended to simulate the drive (=0).

2. MD 30110 CTRLOUT_MODULE_NR has been entered incorrectly, i.e. the logic drive numbers have been changed, or a drive number has been entered which does not exist at the bus (it is recommended to check, e.g. the number of slaves)

3. You are using a wrong SDB1000 or you have not selected identical addresses of input and output slots of the drives.

Program continuation
by
Power ON

26106
Encoder 2 for axis %1 not found

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

The drive parameterized for the specified axis could not be found. For example, a Profibus slave was parameterized in the NC which is not contained in the SDB1000.

Reaction
NC not ready.
NC Start inhibited.
NC Stop at alarm.
The NC switches to the follow-up mode.
Alarm display.
Interface signals are set.

Remedy
Possible causes are:

1. By mistake, MD 30240 ENC_TYPE is unequal to 0; originally, it was intended to simulate the encoder (=0).

2. MD 30220 ENC_MODULE_NR has been entered incorrectly, i.e. the logic drive numbers have been changed, or a drive number has been entered which does not exist at the bus (it is recommended to check, e.g. the number of slaves)

3. You are using a wrong SDB1000 or you have not selected identical addresses of input and output slots of the drives.

Program continuation
by
Power ON

300402
System error in drive coupling.Error codes %1, %2

Explanation
%1 = error code 1
%2 = error code 2

An internal software error or a fatal error status has occurred which can possibly be corrected by a hardware reset. The cause can generally only be found by the System Administration for A&DMC Products of Siemens AG, hotline (tel.: see page 11).

In case of the error combination (1077,X), the assignment of computational time for the drive communication subtask should be increased via MD10140 TIME_LIMIT_NETTO_DRIVE_TASK (possible up to 500ms).
If the above mentioned limit is exhausted and the alarm persists, MD10150
MNPREP_DRIVE_TASK_CYCLE_RATIO=1 can be additionally set. When
doing so, make sure that a reduction of MD10150 does not result in a reduction
of the time portion in the preparation in the non-cyclic time level, what, in turn,
may result in larger block cycle times.

Reaction
NC not ready.
NC Stop at alarm.
NC Start inhibited.
The NC switches to the follow-up mode.
Alarm display.
Interface signals are set.

Remedy
Report your error text to Siemens AG A&DMC, hotline
(tel.: see page 11).

Program continuation by
Power ON

**300410**
**Axis %1, drive %2 Error saving file (%3, %4)**

Explanation
%1 = NC axis number
%2 = drive number
%3 = error code 1
%4 = error code 2

A data block, e.g. the result of a measuring function, could not be saved in the
file system.

Reaction
Alarm display.
Interface signals are set.

Remedy
Provide for more space in the file system. In most cases, it is sufficient to de-
lete 2 NC programs or to provide for 4 - 8 KB more space.

Program continuation by
Use the RESET key to cancel the alarm.

**300411**
**Axis %1, drive %2 Error reading file (%3, %4)**

Explanation
%1 = NC axis number
%2 = drive number
%3 = error code 1
%4 = error code 2

A data block, e.g. a drive boot file, could not be read from the file system. The
data record or the file system is damaged.

Reaction
Alarm display.
Interface signals are set.

Remedy
If the error occurred on booting, i.e. pertains to a drive boot file, delete the boot
files and reload them from a data backup into the control system.

Program continuation by
Use the RESET key to cancel the alarm.

**300412**
**Error saving file (%1, %2)**

Explanation
%1 = error code 1
%2 = error code 2

A data block, e.g. the result of a measuring function, could not be saved in the
file system.

Reaction
Alarm display.
Interface signals are set.
Please inform the authorized personnel/customer service. Provide for more space in the file system. In most cases, it is sufficient to delete 2 NC programs or to provide for 4 - 8 KB more space.

Use the RESET key to cancel the alarm.

**300413**

**Explanation**

%1 = error code 1
%2 = error code 2

A data block, e.g. a drive boot file, could not be read from the file system. The data record or the file system is damaged.

**Reaction**

Alarm display.
Interface signals are set.

**Remedy**

If the error occurred on booting, i.e. pertains to a drive boot file, delete the boot files and reload them from a data backup into the control system.

Use the RESET key to cancel the alarm.

**300423**

**Measurement result could not be read (%1)**

%1 = error code

The result of a measuring process could not be read:
- Error code = 4: Not enough space for the measurement result
- Error code = 16: Measurement not yet completed

**Reaction**

Alarm display.
Interface signals are set.

**Remedy**

Repeat the measurement. If necessary change the measuring time.

Use the RESET key to cancel the alarm.

**300500**

**Axis %1, drive %2 System error drive, error codes %3, %4**

%1 = NC axis number
%2 = drive number
%3 = error code 1
%4 = error code 2

The drive is reporting a system error.

**Reaction**

NC not ready.
Under certain circumstances, it can be switched across all channels via MD.
Channel not ready.
NC Stop at alarm.
NC Start inhibited.
The NC switches to the follow-up mode.
Alarm display.
Interface signals are set.

**Remedy**

For notes with regard to the error codes, please refer to Section 1.7 "Error codes of alarm 300500" at the end of this publication.

NC RESET (POWER ON)
A more detailed search for the error cause can only be done by the developer team. To this aim, it is imperative to specify the error codes displayed. Reinitialize the drive.

Please inform the authorized personnel/customer service.
Siemens AG, System Administration for A&D MC Products, hotline (tel.: see Section 1.1).
Program continuation by: Power ON

Reaction: With feed drives: Generatory stop (corresponds to STOP B)
With main drives: Pulse inhibit and servo disable (corresponds to STOP A).

Explanation: This error occurs if the computational time of the drive processor is no longer sufficient for the clock cycle specified in the additional information.

<table>
<thead>
<tr>
<th>Error No.</th>
<th>Additional Information</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With 840D: 03</td>
<td>40</td>
<td>Monitoring cycle for SINUMERIK Safety Inte-</td>
</tr>
<tr>
<td>With 840C: F003</td>
<td></td>
<td>grated too small</td>
</tr>
<tr>
<td>...</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remedy: Increase either the appropriate clock or the underlying clock (e.g. current, speed, position control clock) or deselect functions not required.
1.2 Profibus Alarms

**Profibus DP: Boot error, cause %1 parameters %2 %3 %4**

%1 = error cause
%2 = parameter 1
%3 = parameter 2
%4 = parameter 3

Error on booting Profibus-DP Master.

<table>
<thead>
<tr>
<th>Error cause:</th>
<th>Par 1:</th>
<th>Par 2:</th>
<th>Par 3:</th>
</tr>
</thead>
<tbody>
<tr>
<td>01=DPM version</td>
<td>DPM version</td>
<td>DPA version</td>
<td></td>
</tr>
<tr>
<td>02=DPM boot timeout</td>
<td>DPM actual status</td>
<td>DPM set status</td>
<td></td>
</tr>
<tr>
<td>03=DPM boot status</td>
<td>DPM actual status</td>
<td>DPM set status</td>
<td>DPM error code</td>
</tr>
<tr>
<td>04=DPM boot error</td>
<td>DPM actual status</td>
<td>DPM set status</td>
<td>DPM error code</td>
</tr>
<tr>
<td>05=DPM-PLL sync error</td>
<td>DPM actual status</td>
<td>DPM set status</td>
<td>DPM error code</td>
</tr>
<tr>
<td>07=alarm source too long</td>
<td>Actual number</td>
<td>Setpoint number</td>
<td></td>
</tr>
<tr>
<td>08=unknown client</td>
<td>Client ID</td>
<td></td>
<td></td>
</tr>
<tr>
<td>09=client version</td>
<td>Client ID</td>
<td>Client version</td>
<td>DPA version</td>
</tr>
<tr>
<td>10=too many clients</td>
<td>Client number</td>
<td>Max. number of clients</td>
<td></td>
</tr>
</tbody>
</table>

Clients are the following components of the control system, which use Profibus DP:
- Client ID = 1: PLC
- Client ID = 2: NCK

Possible causes are:
- SDB1000 contains faulty data
- Hardware of NC component defective

**Reaction**

Alarm display
- Interface signals are set.
- NC not ready.
- NC start inhibited.

**Remedy**

Please carry out the following procedure:

1. Check the control project (in particular, SDB1000), check MD 11240; if you use a user-specific SDB1000, reload it.
2. If the error persists, save the file and restart the control system with the factory-set default values.
3. If the control system boots without errors, the user data should be re-loaded step by step.
4. If the error also persists when rebooting the control system with the default values, either reboot the control system from the PC Card or carry out a software update.
5. If the error nevertheless persists, change the hardware. If the error cannot be eliminated using procedure described above, contact the control system manufacturer, sending him the error text.

**380003**

**Explanation**

A fault has occurred at Profibus DP during cyclic operation.

<table>
<thead>
<tr>
<th>Error cause</th>
<th>Par 1:</th>
<th>Par 2:</th>
<th>Par 3:</th>
</tr>
</thead>
<tbody>
<tr>
<td>01=unknown alarm</td>
<td>Alarm class</td>
<td>Logical address</td>
<td></td>
</tr>
<tr>
<td>02=DPM cycle time-out</td>
<td>DPM actual status</td>
<td>DPM set status</td>
<td></td>
</tr>
<tr>
<td>03=DPM cycle status</td>
<td>DPM actual status</td>
<td>DPM set status</td>
<td>DPM error code</td>
</tr>
<tr>
<td>04=DPM cycle error</td>
<td>DPM actual status</td>
<td>DPM set status</td>
<td>DPM error code</td>
</tr>
<tr>
<td>05=not registered Client</td>
<td>Client number</td>
<td>Max. number of clients</td>
<td></td>
</tr>
</tbody>
</table>

Alarm class: (compare with alarm 380 060)

Predominantly, in case of error cause 01, possible causes can be:
- Data transfer on Profibus DP disturbed

In case of error causes 02, 03, 04:
- SDB1000 contains false data

In case of error causes 02, 03, 04, 05:
- Parts of the system program have been damaged

**Reaction**

Alarm display
Interface signals are set.
NC not ready.
NC start inhibited.

**Remedy**

In case of error cause 01:
- Check whether the electrical standards and instructions regarding faults with regard to Profibus DP are observed; check the cable routing.
- Check the terminators of the Profibus connectors (on the line ends - position CN; otherwise, position OFF prescribed)
- Check the slave in case of the error causes 02, 03, 04:
- Check SDB1000 in case of the error causes 02,03, 04, 05:
- To carry out the troubleshooting, proceed as with alarm 380001.

If the error cannot be eliminated using procedure described above, contact the control system manufacturer, sending him the error text.

Use the RESET key to cancel the alarm.

**Program continuation by**

Power ON
380020

Explanation

Profibus DP: SDB1000 error %1 for SDB source %2

%1 = error cause
%2 = SDB1000 source

SDB1000 for configuring Profibus DP faulty.

Error cause:
01=SDB1000 in SDB1000 source does not exist
02=SDB1000 in SDB1000 source too large.
03=SDB1000 in SDB1000 source cannot be activated.

SDB1000 source:
00=Default SDB1 (selection by MD 11240 = 0, if no user SDB1000 loaded in the control system)
01=default SDB1 (selection by MD 11240 = 1)
02=default SDB2 (selection by MD 11240 = 2)
...
100 = SDB1000 contained in battery-backed memories (SRAM)
101 = user SDB1000 contained in the file system
102 = SDB1000 loaded in the SRAM on booting

Reaction

Profibus is inactive or operates as per default SDB1000
Alarm display,
interface signals are set,
NC not ready,
NC Start inhibited

Remedy

- Check MD 11240.
- In the case SDB1000 source = 100: Reload the user SDB1000 into the passive file system /_N_IBN_DIR/_N_SDB1000_BIN.
- In case of SDB1000 source = 101: Check the backup batteries.
- In the case SDB1000 source = 102: To carry out the troubleshooting, proceed as with alarm 380 001.
- If alarm 380 021 is additionally signaled, proceed according to the provided notes.

If the error cannot be eliminated using procedure described above, contact the control system manufacturer, sending him the error text.

Program continuation by

Power ON

380021

Explanation

Profibus DP: Default SDB1000 has been loaded.

No user-specific SDB1000 exists.
Default SDB1000 was loaded on booting.

The NC can be started up without process I/O.

This alarm occurs when the NC is turned on for the first time or once when the SDB1000 stored in the battery-backed RAM is lost.

Reaction

Alarm display.

Remedy

Create the application-specific SDB1000 and load it into the control system or select and activate the default SDB1000 via MD 11240 PROFIBUS_SDB_NUMBER.

Restart the NC.

If the error occurs again when the NC is turned on the next time, the loaded SDB1000 is faulty and a new SDB1000 must be created.
Program continuation by

Use the "Cancel" key to cancel the alarm.

380040  
**Profibus DP: Configuration error %1, parameter %2**

**Explanation**
- %1 = error cause
- %2 = parameter

Profibus DP in SDB1000 was not created according to the Planning Guide of the NC used.

<table>
<thead>
<tr>
<th>Error cause:</th>
<th>Par 1:</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 = SDB1000 contains slave or diagnostics slot</td>
<td>Slave address</td>
</tr>
<tr>
<td>02 = SDB 1000 contains too many slot entries</td>
<td>Identifier</td>
</tr>
</tbody>
</table>

**Reaction**
- Alarm display
- Interface signals are set
- NC not ready
- NC Start inhibited.

**Remedy**
- Check whether SDB1000 contains a diagnostic slot for each slave and contains only application-relevant slave entries.
- In principle, it is possible to include a superset of slaves in SDB1000, which are partially relevant for different end variants of the product. This, however, results in overloading the NC with reference to memory and runtime requirements and should therefore generally be avoided. If this alarm occurs, SDB1000 should be reduced.
- If the alarm persist, please consult the control system manufacturer, sending him the error text.

Program continuation by

Power ON

380050  
**Profibus DP: Multiple assignment of inputs to address %1**

**Explanation**
- %1 = logical address

The assignment of the input data in the logical address range is assigned repeatedly. Logical address: Base address of the address range defined several times

**Reaction**
- Alarm display
- Interface signals are set
- NC not ready
- NC start inhibited.

**Remedy**
- Check the address space allocation as follows:
- Check the following machine data for multiple assignment:
  - MD 13050[1] - MD 13050[n]  \( n = \) largest axis index of control system
  - MD 12970, 12971 PLC address range of digital inputs
  - MD 12978, 12979 PLC address range of analog outputs

  If this parameterization does not contain any inconsistencies, compare these MD against the configuration in SDB1000. When doing so, make sure, in particular, that the individual ranges do not overlap, resulting from the configured slot lengths. After locating the error cause, modify the MD and/or SDB1000.

Program continuation by

Power ON
380051  
**Profibus DP: Multiple assignment of outputs to address \%1**

**Explanation**

\%1 = logical address

The assignment of the input data in the logical address range is assigned repeatedly.

Logical address: Base address of the address range defined several times

**Reaction**

Alarm display

Interface signals are set.

NC not ready.

NC start inhibited.

**Remedy**

Check the address space allocation as follows:

Check the following machine data for multiple assignment:

- MD 13050[1] - MD 13050[n]  \( n = \) largest axis index of control system
- MD 12974, 12975  PLC address range of digital inputs
- MD 12978, 12979  PLC address range of analog outputs

If this parameterization does not contain any inconsistencies, compare these MD against the configuration in SDB1000. When doing so, make sure, in particular, that the individual ranges do not overlap, resulting from the configured slot lengths. After locating the error cause, modify the MD and/or SDB1000.

**Program continuation by**

Power ON

380060  
**Profibus DP: Alarm \%1 on logical address \%2 from station not assigned**

**Explanation**

\%1 = alarm class

\%2 = logical address

SDB1000 contains a slave that is not assigned in the NC by MD parameterization (see Remedy for alarm 380 050/51). The slave is also connected to Profibus DB. Such a slave caused an alarm.

Alarm class:

- 01 = station recurrence (or coming)
- 02 = station failure

Working with the NC is possible.

**Reaction**

Alarm display.

**Remedy**

- Add the required MDs or
- modify SDB1000 or
- disconnect slave from Profibus DP or
- acknowledge the alarm.

**Program continuation by**

Use the "Cancel" key to cancel the alarm.

380070  
**Profibus DP: No input slot exists for the base address \%1 (length \%2)**

**Explanation**

\%1 = logic base address of the requested range

\%2 = size of range in bytes

An invalid base address has been defined for a digital input.

Either no configured slot at all exists for this base address, or the requested range protrudes the end of the slot.

**Reaction**

Alarm display

Interface signals are set.

NC not ready

NC Start inhibited
### 380071: Profibus DP: No output slot exists for the base address %1 (length %2)

**Explanation**

- %1 = logic base address of the requested range
- %2 = size of range in bytes

An invalid logical base address has been defined for a digital or analog input. Either no configured slot at all exists for this base address, or the requested range protrudes the end of the slot.

**Reaction**

- Alarm display
- Interface signals are set.
- NC not ready
- NC Start inhibited

**Remedy**

Check your hardware configuration for modules not plugged or defective and replace them.

If the error cannot be eliminated using procedure described above, contact the control system manufacturer, sending him the error text.

**Program continuation by**

- Power ON

### 380072: Profibus DP: Illegal output slot base address %1 (size %2)

**Explanation**

- %1 = logic base address of the requested range
- %2 = size of range in bytes

An invalid logical base address has been defined for a digital or analog output; the range is in the access area of the PLC (process output map, base addresses < 128).

**Reaction**

- Alarm display
- Interface signals are set.
- NC not ready
- NC Start inhibited

**Remedy**

Check your hardware configuration for modules not plugged or defective and replace them.

If the error cannot be eliminated using procedure described above, contact the control system manufacturer, sending him the error text.

**Program continuation by**

- Power ON

### 380075: Profibus DP: Failure DP I/Os slave %1

**Explanation**

- %1 = slave address

Failure of a Profibus slot used by the NCK for digital or analog I/Os

**Reaction**

- Alarm display.

**Remedy**

Check whether the Profibus slave functions correctly (make sure that all slaves are included into the bus - green LED).

**Program continuation by**

The alarm display will disappear with the alarm cause. No further operation required.
**380500**  
**Explanation**  
Profibus DP: Fault drive %1, code %2, value %3, time %4  
%1 = axis  
%2 = fault code of the drive (P824)  
%3 = fault value of the drive (P826)  
%4 = fault time of the drive (P825)  
Contents of the fault memory of the assigned drive

**Reaction**  
Alarm display.

**Remedy**  
For the fault codes/fault values, see drive documentation.

**Program continuation by**  
The alarm display will disappear with the alarm cause. No further operation required.
## 1.3 Cycle Alarms

### 60000

**Channel %1 block %2**

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

**Reaction**
- Alarm display.
- Interface signals are set.
- NC Start inhibited.

**Remedy**
- Use the RESET key to cancel the alarm. Restart the part program.

### 61000

**No tool offset active**

**Source (cycle)**
- SLOT1, SLOT2
- POCKET3, POCKET4
- CYCLE71
- CYCLE72
- CYCLE93 to CYCLE95

**Reaction**
- Block preparation in NC is canceled

**Remedy**
- Program a tool with tool offset in the called program.

**Program continuation by**
- Use the RESET key to cancel the alarm. Restart the part program.

### 61001

**Incorrect pitch**

**Source (cycle)**
- CYCLE84
- CYCLE840
- CYCLE97
- CYCLE376T

**Reaction**
- Block preparation in NC is canceled

**Remedy**
- Check the parameter for the thread size or check lead specification (are not consistent)

**Program continuation by**
- Use the RESET key to cancel the alarm. Restart the part program.

### 61002

**Type of machining incorrectly defined**

**Source (cycle)**
- SLOT1, SLOT2
- POCKET3, POCKET4
- CYCLE71
- CYCLE72
- CYCLE93
- CYCLE95
- CYCLE97

**Reaction**
- Block preparation in NC is canceled

**Remedy**
- The value of parameter VARI for the machining type is incorrectly set and must be altered.

**Program continuation by**
- Use the RESET key to cancel the alarm. Restart the part program.
**61003**  
**Source (cycle)**  
No feed programmed in the cycle  
*CYCLE71, CYCLE72, CYCLE381T to CYCLE384T, CYCLE383T to CYCLE385T, CYCLE381M, CYCLE383M, CYCLE384M, CYCLE387M*

**Reaction**  
Block preparation in NC is canceled

**Remedy**  
The parameter for the feed is incorrectly specified and must be modified.

**Program continuation by**  
Use the RESET key to cancel the alarm. Restart the part program.

**61009**  
**Source (cycle)**  
Active tool number = 0  
*CYCLE71, CYCLE72*

**Reaction**  
Block preparation in NC is canceled

**Remedy**  
No tool (T) is programmed prior to the cycle call.

**Program continuation by**  
Use the RESET key to cancel the alarm. Restart the part program.

**61010**  
**Source (cycle)**  
Finishing allowance too large.

**Reaction**  
Block preparation in NC is canceled

**Remedy**  
A scaling factor is active, what is not permissible for the cycle.

**Program continuation by**  
Use the RESET key to cancel the alarm. Restart the part program.

**61011**  
**Source (cycle)**  
Illegal scaling

**Reaction**  
Block preparation in NC is canceled

**Remedy**  
The finishing allowance at the root is larger than the overall depth; it must be reduced.

**Program continuation by**  
Use the RESET key to cancel the alarm. Restart the part program.

**61101**  
**Source (cycle)**  
Reference plane incorrectly defined  
*CYCLE71, CYCLE22, CYCLE81 to CYCLE88, CYCLE840, SLOT1, SLOT2, POCKET3, POCKET4*

**Reaction**  
Block preparation in NC is canceled

**Remedy**  
Either choose different values for reference and retraction planes when specifying the depth directly, or specify an absolute value for the depth.

**Program continuation by**  
Use the RESET key to cancel the alarm. Restart the part program.
### 61102  
**Source (cycle)**

| CYCLE86  
| CYCLE88  
| CYCLE840  
| CYCLE370T to CYCLE374T, CYCLE376T  
| CYCLE383T to CYCLE385T  
| CYCLE381M, CYCLE383M, CYCLE384M, CYCLE387M  
| POCKET3, POCKET4 |

**Reaction**
Block preparation in NC is canceled

**Remedy**
Parameter SDIR (or SDR in CYCLE840) must be programmed.

**Program continuation**
Use the RESET key to cancel the alarm. Restart the part program.

### 61103  
**Source (cycle)**

| HOLES1  
| HOLES2  

**Reaction**
Block preparation in NC is canceled

**Remedy**
No value for the number of drill holes programmed.

**Program continuation**
Use the RESET key to cancel the alarm. Restart the part program.

### 61104  
**Source (cycle)**

| SLOT1  
| SLOT2  

**Reaction**
Block preparation in NC is canceled

**Remedy**
Faulty parameterization of the milling pattern in the parameters that define the position of the grooves/slots on the circle and their form

**Program continuation**
Use the RESET key to cancel the alarm. Restart the part program.

### 61105  
**Source (cycle)**

| SLOT1, SLOT2  
| POCKET3, POCKET4  

**Reaction**
Block preparation in NC is canceled

**Remedy**
The milling cutter radius in the tool offset memory is greater than the pocket or groove width.  
Use smaller cutter or modify pocket width.

**Program continuation**
Use the RESET key to cancel the alarm. Restart the part program.

### 61106  
**Source (cycle)**

| HOLES2  
| SLOT1, SLOT2  

**Reaction**
Block preparation in NC is canceled

**Remedy**
Faulty parameterization of NUM or INDA  
The arrangement of the circle elements on a full circle is not possible.

**Program continuation**
Use the RESET key to cancel the alarm. Restart the part program.
1 Alarms

61107  First drilling depth incorrectly defined
Source (cycle) CYCLE83
Reaction Block preparation in NC is canceled
Remedy Modify the value for the first drilling depth (first drilling depth is opposite to the total drilling depth).
Program continuation by Use the RESET key to cancel the alarm. Restart the part program.

61108  No permissible values for parameters _RAD1 and _DP1
Source (cycle) POCKET3
        POCKET4
Reaction Block preparation in NC is canceled
Remedy The parameters _RAD1 and _DP for defining the path for depth infeed were incorrectly specified.
Program continuation by Use the RESET key to cancel the alarm. Restart the part program.

61109  Parameter _CDIR incorrectly defined
Source (cycle) POCKET3
        POCKET4
Reaction Block preparation in NC is canceled
Remedy The value of the parameter defining the milling direction _CDIR was incorrectly specified and must be modified.
Program continuation by Use the RESET key to cancel the alarm. Restart the part program.

61110  Finishing allowance on the root > depth infeed
Source (cycle) POCKET3
        POCKET4
Reaction Block preparation in NC is canceled
Remedy The finishing allowance on the root has been specified greater than the maximum depth infeed; either reduce the finishing allowance or increase the depth infeed.
Program continuation by Use the RESET key to cancel the alarm. Restart the part program.

61111  Infeed width > tool diameter
Source (cycle) CYCLE71
        POCKET3
        POCKET4
Reaction Block preparation in NC is canceled
Remedy The programmed infeed width is greater than the diameter of the active tool; it must be reduced.
Program continuation by Use the RESET key to cancel the alarm. Restart the part program.

61112  Tool radius negative
Source (cycle) CYCLE72
Reaction Block preparation in NC is canceled
The radius of the active tool is negative; this is not permissible.

**Remedy**

Use the RESET key to cancel the alarm. Restart the part program.

**61113**

**Source (cycle)**

POCKET3

**Reaction**

Block preparation in NC is canceled

**Remedy**

The parameter for the corner radius _CRAD was specified too large; it must be reduced.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

**61114**

**Source (cycle)**

CYCLE72

**Reaction**

Block preparation in NC is canceled

**Remedy**

The direction of machining of the cutter radius compensation G41/G42 was incorrectly programmed.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

**61115**

**Source (cycle)**

CYCLE72

**Reaction**

Block preparation in NC is canceled

**Remedy**

The mode of approaching to or retracting from the contour has been incorrectly defined; check parameter _AS1 or _AS2.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

**61116**

**Source (cycle)**

CYCLE72

**Reaction**

Block preparation in NC is canceled

**Remedy**

The approach or retraction travel is specified with zero; it must be increased; check parameter _LP1 or _LP2.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

**61117**

**Source (cycle)**

CYCLE71

**Reaction**

Block preparation in NC is canceled

**Remedy**

The radius of the active tool is negative or zero; this is not permissible.

**Program continuation by**

Use the RESET key to cancel the alarm. Restart the part program.

**61118**

**Source (cycle)**

CYCLE71

**Remedy**

Program continuation

by
<table>
<thead>
<tr>
<th>Reaction</th>
<th>Remedy</th>
<th>Program continuation by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block preparation in NC is canceled</td>
<td>The length or width of the milling face is not permissible; check the parameters <code>_LENG</code> and <code>_WID</code>.</td>
<td>Use the RESET key to cancel the alarm. Restart the part program.</td>
</tr>
<tr>
<td>Infeed width not programmed</td>
<td>CYCLE71</td>
<td></td>
</tr>
<tr>
<td>Block preparation in NC is canceled</td>
<td>With the simulation active without tool, a value for the infeed width <code>_MIDA</code> must always be programmed.</td>
<td>Use the RESET key to cancel the alarm. Restart the part program.</td>
</tr>
<tr>
<td>Finished part diameter too small</td>
<td>CYCLE94</td>
<td></td>
</tr>
<tr>
<td>Block preparation in NC is canceled</td>
<td>A finished-part diameter &lt; 3mm has been programmed. Increase value.</td>
<td>Use the RESET key to cancel the alarm. Restart the part program.</td>
</tr>
<tr>
<td>Tool width incorrectly defined</td>
<td>CYCLE93</td>
<td></td>
</tr>
<tr>
<td>Block preparation in NC is canceled</td>
<td>The tool width (recessing tool) is greater than the programmed groove width.</td>
<td>Use the RESET key to cancel the alarm. Restart the part program.</td>
</tr>
<tr>
<td>Groove shape incorrectly defined</td>
<td>CYCLE93 CYCLE374T</td>
<td></td>
</tr>
<tr>
<td>Block preparation in NC is canceled</td>
<td>Radii/chamfers on recess base do not match with groove width.</td>
<td>Use the RESET key to cancel the alarm. Restart the part program.</td>
</tr>
<tr>
<td>Active tool violates the programmed contour</td>
<td>CYCLE95</td>
<td>Contour violation in relief cut elements due to clear cutting angle of the tool used, i.e. use a different tool or check the contour subroutine.</td>
</tr>
<tr>
<td>Contour incorrectly programmed</td>
<td>CYCLE95</td>
<td></td>
</tr>
</tbody>
</table>
Block preparation in NC is canceled

Illegal relief cut element found

Use the RESET key to cancel the alarm. Restart the part program.

Error in contour preparation

CYCLE95

Block preparation in NC is canceled

Check contour subroutine

This alarm always occurs in conjunction with NCK alarms 10930 ... 10934, 15800 or 15810.

Use the RESET key to cancel the alarm. Restart the part program.

Starting point incorrectly defined

CYCLE95
CYCLE376T

Block preparation in NC is canceled

The start point reached prior to the cycle call is not outside the rectangle described by the contour subroutine.

Use the RESET key to cancel the alarm. Restart the part program.

Wrong tool point direction programmed

CYCLE94

Block preparation in NC is canceled

An edge position 1 .. 4 matching with the recess shape must be programmed.

Use the RESET key to cancel the alarm. Restart the part program.

Shape incorrectly defined

CYCLE94

Block preparation in NC is canceled

Check the parameters for the recess shape.

Use the RESET key to cancel the alarm. Restart the part program.

No infeed depth programmed

CYCLE374T

Change the infeed depth.

No intersection point found

CYCLE95

Block preparation in NC is canceled

No intersection point with the contour could be calculated. Check contour programming or change infeed depth.
<table>
<thead>
<tr>
<th>Program continuation</th>
<th>Use the RESET key to cancel the alarm. Restart the part program.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>61800</strong></td>
<td><strong>Channel %1 block %2: Ext. CNC system missing</strong></td>
</tr>
<tr>
<td><strong>Source (cycle)</strong></td>
<td>CYCLE328, CYCLE370T to CYCLE374T, CYCLE376T, CYCLE383T to CYCLE385T, CYCLE381M, CYCLE383M, CYCLE384M, CYCLE387M</td>
</tr>
<tr>
<td><strong>Remedy</strong></td>
<td>Set the machine data for an external language MD 18800 <strong>MM_LANGUAGE</strong> or the option bit 19800 <strong>ON_EXTERN_LANGUAGE</strong>.</td>
</tr>
<tr>
<td><strong>61801</strong></td>
<td><strong>Channel %1 block %2: Wrong G code selected</strong></td>
</tr>
<tr>
<td><strong>Source (cycle)</strong></td>
<td>CYCLE370T to CYCLE374T, CYCLE376T, CYCLE383T to CYCLE385T</td>
</tr>
<tr>
<td><strong>Explanation/remedy</strong></td>
<td>An illegal numerical value was programmed in the program call CYCLE ... &lt;value&gt;, or an invalid value was specified in the cycle setting data for the G code system. Correct the values.</td>
</tr>
<tr>
<td><strong>61802</strong></td>
<td><strong>Channel %1 block %2: Wrong axis type</strong></td>
</tr>
<tr>
<td><strong>Source (cycle)</strong></td>
<td>CYCLE328</td>
</tr>
<tr>
<td><strong>Explanation/remedy</strong></td>
<td>The programmed axis is assigned to a spindle.</td>
</tr>
<tr>
<td><strong>61803</strong></td>
<td><strong>Channel %1 block %2: Programmed axis does not exist</strong></td>
</tr>
<tr>
<td><strong>Source (cycle)</strong></td>
<td>CYCLE328</td>
</tr>
<tr>
<td><strong>Explanation/remedy</strong></td>
<td>The programmed axis does not exist in the system. Check MD 20050 ... MD20080.</td>
</tr>
<tr>
<td><strong>61804</strong></td>
<td><strong>Channel %1 block %2: Progr. position exceeds reference point</strong></td>
</tr>
<tr>
<td><strong>Source (cycle)</strong></td>
<td>CYCLE328</td>
</tr>
<tr>
<td><strong>Explanation/remedy</strong></td>
<td>The programmed intermediate position or current position is after the reference point.</td>
</tr>
<tr>
<td><strong>61805</strong></td>
<td><strong>Channel %1 block %2: Value programmed absolutely or incrementally</strong></td>
</tr>
<tr>
<td><strong>Source (cycle)</strong></td>
<td>CYCLE328, CYCLE371T to CYCLE374T, CYCLE376T, CYCLE383T, CYCLE384T</td>
</tr>
<tr>
<td><strong>Explanation/remedy</strong></td>
<td>The programmed intermediate position is programmed both absolutely and incrementally.</td>
</tr>
<tr>
<td><strong>61806</strong></td>
<td><strong>Channel %1 block %2: Wrong axis assignment</strong></td>
</tr>
<tr>
<td><strong>Source (cycle)</strong></td>
<td>CYCLE328</td>
</tr>
<tr>
<td><strong>Explanation/remedy</strong></td>
<td>The order of sequence of the axis is wrong.</td>
</tr>
</tbody>
</table>
Channel %1 block %2: Wrong spindle direction programmed (active)

CYCLE384M

Explanation/remedy: The programmed spindle direction is in conflict with the spindle direction intended for the cycle.

Channel %1 block %2: Final drilling depth or single drilling depth missing

CYCLE381M, CYCLE383M, CYCLE384M, CYCLE387M, CYCLE383T to CYCLE385T

Explanation/remedy: Total depth "Z" or single drilling depth "Q" missing in the G8x block (initial call)

Channel %1 block %2: Illegal drilling position

ISO shell cycles

Channel %1 block %2: ISO G code not possible

ISO shell cycles

Channel %1 block %2: Illegal ISO axis name

CYCLE370T to CYCLE374T, CYCLE376T, CYCLE383T to CYCLE385T

Explanation/remedy: An illegal numerical value was defined in the calling block.

Channel %1 block %2: Value(s) in external cycle call incorrectly defined

CYCLE370T to CYCLE374T, CYCLE376T

Explanation/remedy: An illegal ISO axis name was programmed in the calling block.

Channel %1 block %2: GUD value incorrectly defined

CYCLE376T

Explanation/remedy: An illegal numerical value was entered in the cycle setting data.

Channel %1 block %2: G40 not active

CYCLE374T, CYCLE376T

Explanation/remedy: G40 was not active prior to the cycle call.

Channel %1 block %2

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

Reaction: Alarm display.

Remedy: -
Program continuation by

**62100**
**Source (cycle)**
HOLE1
HOLE2
**Reaction**
Block preparation is aborted
**Remedy**
Before calling the drilling pattern cycle, no drilling cycle was called modally.
**Program continuation by**
Use the "Cancel" key to cancel the alarm. Press NC Start to continue the cycle.

**63000**
**Explanation**
**Reaction**
Alarm display.
**Remedy**
-
**Program continuation by**
Use either the "Cancel" key or press NC START to cancel the alarm.
1.4 ISO Alarms

10796
Explanation
Illegal axis names were 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 of a letter and a number, as well as lowercase letters are not permitted. The axis names can be freely distributed over the axes; the 1st axis need not be assigned axis name X.

Reaction
Alarm display
Interface signals are set
NC Start inhibited

Remedy
Adapt the axis names in the MD 20060 AXCONF_GEOAX_NAME_TAB[] and MD2080 AXCONF_CHANAX_NAME_TAB[] accordingly.

18200
Explanation
Channel %1 block %2 Language switchover not possible%3

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

It is currently not possible to switch to an external NC language due to reason (%3).

Reaction
Alarm display
Interface signals are set
NC Start inhibited
Interpreter stop

Remedy
In case of reason (%3) : Deselect the transformation and try to switch the language once more.

Program continuation by
Press NC START to cancel the alarm and continue the program.

18201
Explanation
Channel %1 block %2 G10 parameter %3 not programmed

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

The parameter P, R or L is not programmed for the G command.

Reaction
Alarm display
Interface signals are set
NC Start inhibited
Interpreter stop

Remedy
Add the missing parameter in the block.

Program continuation by
Press NC START to cancel the alarm and continue the program.
## 18202

**Explanation**

Channel %1 block %2 Skip only possible at the beginning of the block

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

The skip character / is not written at the beginning of the block.

**Reaction**

Alarm display
Interface signals are set
NC Start inhibited
Interpreter stop

**Remedy**

Remove the skip character or write it at the beginning of the block.

**Program continuation by**

Press NC START to cancel the alarm and continue the program.
1.5 PLC Alarms

400000 PLC Stop [type]
Explanation PLC is not in cyclic operation. Traversing with machine is not possible.
[ Type ]:
1 Ready (user program has not been started)
2 Break (user program has been interrupted)
3 Error (further PLC alarm with PLC Stop exists)
Reaction Alarm display.
Remedy Correct the other PLC alarm;
Switch-on menu stands on PLC Stop,
or test user program.
Program continuation by
• POWER ON
• Select the Start-up menu to continue
• Start via Programming Tool PT 802

400002 System error [type]
Explanation [ Type ] : Type number
This alarm refers you to internal error conditions, which in conjunction with the
error number contained in the error message provide information on the error
cause and the error location.
Reaction PLC stop
Remedy Please report this error with type number to Siemens.
For error cause refer to the specified software section in the displayed line
Program continuation by
• Power ON

400004 Code error:[ string ] network [ no.]
Explanation [ String ] : internal error code, block type
[ No. ] : Network number
The user program contains an operation which is not supported by the control
system.
Reaction PLC stop
Remedy Modify the user program and reload it.
Program continuation by
• Power ON

400005 Switch-On menu is on PLC Stop
Explanation The user program is not executed.
Reaction Alarm display.
Remedy Power ON
Program continuation by
• The alarm display will disappear with the alarm cause.
• Power ON
• Use the Start-up menu to continue.
10.02 1 Alarms

400006  Retentive PLC data lost
Explanation
This can have the following causes:
• Operator action (e.g. PLC general reset, boot with default values)
• Operator action - booting with saved data, without saving the data first
• Back-up time exceeded

Reaction
Alarm display.
Remedy
Update the required data.
Program continuation
Press CLEAR to clear the alarm.

400007  Operand error:[ string ] network [ no.]
Explanation
[ String ] : block type
[ No. ] : network number

Reaction
PLC stop
Remedy
Check the displayed variable in the user program for address range violation, invalid data type and alignment errors.
Program continuation
Power ON

400008  Programming tool version not compatible [version]
Explanation
This version is not compatible with the product stage of the control system.

Reaction
PLC stop
Remedy
Compile the user program with a compatible programming tool version and load it into the control system.
Program continuation
Power ON

400009  Computation time overflow on PLC level:[ string ] network [ no.]
Explanation
[ String ] : block type
[ Nr. ] : network number
Check the user program of the respectively displayed network.

Reaction
PLC stop
Remedy
Modify the user program.
Program continuation
Power ON

400010  Arithmetic error in the user program:[ type ] [ string ] network [ no.]
Explanation
Check the user program in the specified network.
Type 1: Division by zero with fixed-point arithmetics
Type 2: Floating point arithmetics
[ String ] Type number, block identifier
[ No. ] Network number

Reaction
PLC stop
Remedy
Modify the user program.
Program continuation
Power ON
400011  Permitted number of subroutine levels exceeded:
[ string ] network [ no.]

[ String ] : Block identifier
[ No. ] : Network number
Check the user program in the specified network.

Reaction PLC stop
Remedy Modify the user program.
Program continuation Power ON

400013  PLC user program faulty

The PLC user program in the control system is defective or missing.

Reaction PLC stop
Remedy Reload the PLC user program.
Program continuation Power ON

400014  Profibus DP boot sequence disturbed, types 1 - 4

Type 1: Profibus DP not booted
Type 2: Software version NC does not match with PLC software version
Type 3: Number of slots per function exceeded
Type 4: Profibus DP server not ready

Reaction PLC stop
Remedy Types 1 to 3: Report the error to SIEMENS.
Type 4: Check the 802D PCU hardware or change it or check MD 11240.
Program continuation Power ON

400015  Profibus DP I/O defective: Log. addr.[ x ] bus addr./slot: [ y/z ]

The PLC user program uses I/O addresses that do not exist.

[x ] Logical I/O address
[y] Slave number
[z] Slot number
Error causes:
- No voltage provided for Profibus I/O modules
- Slave bus address incorrectly set
- Profibus link defective
- Active MD 11240 (SDB Profibus configuration) is incorrectly set

Reaction PLC stop
Remedy Eliminate the error with reference to the particular error cause.
Program continuation Power ON
## 1.6 Action List

<table>
<thead>
<tr>
<th>No./Name</th>
<th>Explanation</th>
<th>Not allowed if</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. INIT</td>
<td>Carry out init phase (the tasks are initialized after Power On)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. RESET</td>
<td>Carry out RESET (VDI signal: after Reset, mode group reset (BAG RESET) or Power On)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. RESET_INITBLOCK</td>
<td>Activate Reset Init blocks (VDI signal: after Reset)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. PROG_END</td>
<td>Carry out RESET, end of program has been detected (NC block with M30)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. MODESWITCHTOAPROGMODE</td>
<td>Mode change to program mode MDA or Automatic (VDI signal: BAG signal)</td>
<td>1. the channel is active (program running, block search, loading of machine data) 2. the program has already been started in another program mode. 3. a channel has left the mode group because of an interrupt. 4. Overstore or Digitize has been selected.</td>
<td>➞ Press RESET to cancel the program or stop program (not on block search or machine data loading) ➞ Use the RESET key to cancel the program ➞ Press RESET to cancel the program or wait until interrupt is completed. ➞ Deselect Overstore, Digitize</td>
</tr>
<tr>
<td>6. MODESWITCHTOSAVEMODE</td>
<td>Automatic switching from an internal mode to the mode externally set (With TEACH_IN, after each Stop, it is tried to switch from the internal mode &quot;AUTOMATIC, MDA&quot; to TEACH_IN)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. MODESWITCHTOHANMODE</td>
<td>Mode change to a manual mode (VDI signal: JOG, TEACH_IN, REF)</td>
<td>1. nesting depth too high: Various events (e.g. interrupt) may interrupt execution of the current program. Depending on the particular event, ASUP programs are activated. These ASUP programs can be aborted in the same manner as the user program. For memory reasons, any nesting depth of the ASUP programs is not possible. 2. the channel is active (program running, block search, loading of machine data) 3. a channel has left the mode group because of an interrupt. 4. Overstore or Digitize has been selected.</td>
<td>➞ Press RESET to cancel the program ➞ Press RESET to cancel the program or stop program (not on block search or machine data loading) ➞ Press RESET to cancel the program or wait until the interrupt is completed. ➞ Deselect Overstore, Digitize</td>
</tr>
<tr>
<td>8. OVERSTOREON</td>
<td>Selection of Overstore mode (PI command)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. OVERSTOREOFF</td>
<td>Deselection of Overstore mode (PI command)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No./Name</td>
<td>Explanation</td>
<td>Not allowed if</td>
<td>Remedy</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>10. INTERRUPT</td>
<td>Carry out a user interrupt of the type &quot;ASUP&quot; (VDI signal, digital-analog interface, ASUP interface)</td>
<td>1. the channel is active because of block search or machine data loading</td>
<td>➞ Wait until block search or loading of machine data is completed, or press RESET to abort the program</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. the channel is stopped and the ASUP &quot;ASUP_START_MASK&quot; must be started and the current block cannot be reorganized.</td>
<td>➞ Activate block change until the NC block can be reorganized</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Digitalize is selected</td>
<td>➞ Deselect Digitalize</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. reference-point approach has not yet been carried out.</td>
<td>➞ Carry out reference-point approach or ignore this state using the machine data &quot;ASUP_START_MASK.&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. in case of a brake Reorg error</td>
<td>➞ Cancel the program.</td>
</tr>
<tr>
<td>11. INTERRUPTFASTLIFT-OFF</td>
<td>Carry out an ASUP user interrupt with rapid lift (VDI signal, ASUP interface, digital-analog interface)</td>
<td>See 10</td>
<td></td>
</tr>
<tr>
<td>12. INTERRUPTBLSYNC</td>
<td>Carry out an ASUP user interrupt at block end (VDI signal, ASUP interface, digital-analog interface)</td>
<td>See 10</td>
<td></td>
</tr>
<tr>
<td>13. FASTLIFTOFF</td>
<td>Carry out a fast retraction</td>
<td></td>
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</tr>
<tr>
<td>14. TM_MOVETOOL</td>
<td>Move tool (with tool management only) (PI command)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. DELDISTOGO_SYNC</td>
<td>Carry out &quot;Delete distance to go&quot; or axis synchronization (VDI signal: Delete distance to go or follow-up mode e.g., when starting axis control)</td>
<td>1. nesting depth too high: brake reorg error.</td>
<td>➞ Cancel the program.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. brake reorg error.</td>
<td>➞ Cancel the program.</td>
</tr>
<tr>
<td>16. PROGRESETREPEAT</td>
<td>Cancel the subroutine repetition (VDI signal: Delete number of subroutine passes)</td>
<td>1. nesting depth too high:</td>
<td>➞ Cancel the program.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. brake reorg error.</td>
<td>➞ Cancel the program.</td>
</tr>
<tr>
<td>17. PROGCANCELSUB</td>
<td>Cancel the subroutine execution. (VDI signal: program level abortion)</td>
<td>1. nesting depth too high:</td>
<td>➞ Cancel the program.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. brake reorg error.</td>
<td>➞ Cancel the program.</td>
</tr>
<tr>
<td>18. SINGLEBLOCKSTOP</td>
<td>Activate single block (VDI signal: Activate single block)</td>
<td></td>
<td>➞ Wait until the preceding Asup is completed, or abort program</td>
</tr>
<tr>
<td>19. SINGLEBLOCKOFF</td>
<td>Switch off single block. (VDI signal: Activate single block)</td>
<td></td>
<td>➞ Cancel the program.</td>
</tr>
<tr>
<td>20. SINGLEBLOCK_IPO</td>
<td>Activate main run single block. Activate OPI variable and VDI signal: Activate single block)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. SINGLEBLOCK_DECODIER</td>
<td>Activate decoding single block. Activate OPI variable and VDI signal: Activate single block)</td>
<td>1. nesting depth too high:</td>
<td>➞ Wait until the preceding Asup is completed, or abort program</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. brake reorg error.</td>
<td>➞ Cancel the program.</td>
</tr>
<tr>
<td>22. SINGLEBLOCK_MAINBLOCK</td>
<td>Activate main program single block. Activate OPI variable and VDI signal: Activate single block)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. SINGLEBLOCK_PATH</td>
<td>Activate &quot;traversing single block.&quot; Activate OPI variable and VDI signal: Activate single block)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No./Name</td>
<td>Explanation</td>
<td>Not allowed if</td>
<td>Remedy</td>
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</tr>
<tr>
<td>24. STARTPROG</td>
<td>Start program execution (VDI signal: NC Start)</td>
<td>1. program state active, 2. an alarm response is provided which prevents start or forces deceleration. 3. reference-point approach not yet carried out</td>
<td>⇒ - Carry out alarm clear condition ⇒ Approach reference point</td>
</tr>
<tr>
<td>25. CHANNELSTARTPROG</td>
<td>Start program execution (channel communication, NC block: Start)</td>
<td>1. program state active, 2. an alarm response is provided which prevents start or forces deceleration. 3. reference-point approach not yet carried out</td>
<td>⇒ Use WAIT to secure Start ⇒ Carry out alarm clear condition ⇒ Approach reference point ⇒ Select program mode</td>
</tr>
<tr>
<td>26. RESUMEPROG</td>
<td>Start continuation of program execution (VDI signal: NC Start)</td>
<td>1. program state active, 2. an alarm response is provided which prevents start or forces deceleration. 3. reference-point approach not yet carried out</td>
<td>⇒ - Carry out alarm clear condition ⇒ Approach reference point</td>
</tr>
<tr>
<td>27. RESUMEJOGREFDIGIT</td>
<td>Start continuation of selected program mode (Jog, Reference Point or Digitalize). (VDI signal: NC Start)</td>
<td>1. Jog movement active 2. an alarm response is provided which prevents start or forces deceleration.</td>
<td>⇒ - Carry out alarm clear condition</td>
</tr>
<tr>
<td>28. STARTDIGITIZE</td>
<td>Start program execution in Digitalize submode (VDI signal: NC Start)</td>
<td>1. Jog movement is active 2. an alarm response is provided which prevents start or forces deceleration. 3. reference-point approach is not yet carried out</td>
<td>⇒ - Carry out alarm clear condition ⇒ Approach reference point</td>
</tr>
<tr>
<td>29. STOPALL</td>
<td>Stop all axes. (VDI signal: Stop All or Reset key)</td>
<td></td>
<td></td>
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<tr>
<td>30. STOPPROG</td>
<td>Carry out program stop. (NC block: M0)</td>
<td></td>
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</tr>
<tr>
<td>31. STOPJOGREF</td>
<td>Stop JOG movement (VDI signal: NC Stop)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. STOPDIGITIZE</td>
<td>Stop digitalization. (VDI signal: NC Stop)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. STARTSIG</td>
<td>Start selected machining. (VDI signal: NC Start)</td>
<td>1. Process switch active (mode change, Digitalize ON/OFF, Overstore ON/OFF) 2. an alarm response is provided which prevents start or forces deceleration. 3. a process is running (NC program, block search, loading of machine data)</td>
<td>⇒ - Carry out alarm clear condition ⇒ -</td>
</tr>
<tr>
<td>34. STOPSIG</td>
<td>Stop active machining. (VDI signal: NC Stop)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35. INITIALINISTART</td>
<td>Start machine data processing (INI file is already in NCK). (PI command)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36. INITIALINEXTSTART</td>
<td>Start machine data processing (INI file is on an external source, e.g. on HMI). (PI command)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37. BAGSTOP_SLBTYPA</td>
<td>Stop due to single block mode. (VDI signal, individual type A, after stop in other channel of this mode group)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38. BAGSTOPATEND_SLBTYPB</td>
<td>Stop due to single block mode. (VDI signal, individual type B (any blocks), after stop at end of block in other channel of this mode group)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No./Name</td>
<td>Explanation</td>
<td>Not allowed if</td>
<td>Remedy</td>
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<td>-----------------------------------------------------------------------------</td>
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<td>---------------------------------------------</td>
</tr>
<tr>
<td>39. OVERSTORE_BUFFER_END_REACHED</td>
<td>Stop because end of overstore buffer &quot;_N_OSTOREXX_SYF&quot; has been reached.</td>
<td></td>
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</tr>
<tr>
<td>40. PREP_STOP</td>
<td>Start block search (NC block: Stopre)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41. PROG_STOP</td>
<td>Stop program execution at end of block (NC block: M00/M01)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42. STOPPROGABLOCK END</td>
<td>Stop program execution at end of block (alarm, VDI signal: NC stop at end of block)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>43. STOPPROGATASUP END</td>
<td>Stop at ASUP end, if start has been carried out from &quot;Stopped&quot;.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>44. PROGSELECT</td>
<td>Select program. (PI command)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45. PROGSELECTTEXT</td>
<td>Select the program which is already on an external source. (PI command)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>46. CHANNEL_PROG SELECT</td>
<td>Select program from a different channel. (channel communication, NC block: INIT)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>47. ASUPDEFINITION</td>
<td>Save definition of ASUP which can be activated. (PI command)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>48. NEWCONF</td>
<td>Sets all machine data with (NEW_CONF) attribute to active state (PI command)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>49. CLEARCANCELALARM</td>
<td>Clear all alarms with the reset condition CANCELCLEAR. (PI command, acknowledge Alarm key)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50. BLOCKSEARCHUN_CONTINUE</td>
<td>Continue block search. (NC block: STOPRE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>51. BLOCKSEARCHRUN_START</td>
<td>Start block search. (PI command)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>52. BLOCKSEARCHRUN_RESUME</td>
<td>Continue block search. (PI command)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>53. DIGITIZEON</td>
<td>Activate digitizing. (PI command)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>54. DIGITIZEOFF</td>
<td>Deactivate digitizing. (PI command)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55. FUNCTGENON</td>
<td>Start function generator. (PI command)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56. FUNCTGENOFF</td>
<td>Switch off the function generator. (PI command)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>57. WAITM</td>
<td>Wait for program marker. (channel communication, NC block: WAITM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>58. WAITE</td>
<td>Wait for program end. (channel communication, NC block: WAITE)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>59. INIT_SYNC</td>
<td>Program selection from another channel with synchronization. (channel communication, NC block: INIT)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60. HMICMD</td>
<td>Wait until acknowledgment is provided from HMI. (NC block, HMI_CMD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>61. PROGMODESLASHON</td>
<td>Activate block sip of blocks that can be skipped. (VDI signal: Skip block)</td>
<td>nesting depth too high:</td>
<td>Wait until the preceding Asup is completed, or abort program</td>
</tr>
<tr>
<td>No./Name</td>
<td>Explanation</td>
<td>Not allowed if</td>
<td>Remedy</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------------------------------------------------------------------</td>
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<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>62. PROGMODES/LASH OFF</td>
<td>Deactivate block skip of blocks that can be skipped. (VDI signal: Skip block)</td>
<td>nesting depth too high:</td>
<td>⇒ Wait until the preceding Asup is completed, or abort program.</td>
</tr>
<tr>
<td>63. PROGMODEDRYRUN ON</td>
<td>Activate test run (VDI signal: Rapid traverse superimposition)</td>
<td>1. nesting depth too high</td>
<td>⇒ Wait until the preceding Asup is completed, or abort program.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. brake reorg error.</td>
<td>⇒ Cancel the program.</td>
</tr>
<tr>
<td>64. PROGMODEDRYRUN OFF</td>
<td>Deactivate test run (VDI signal: Rapid traverse superimposition)</td>
<td>1. nesting depth too high</td>
<td>⇒ Wait until the preceding Asup is completed, or abort program.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. brake reorg error.</td>
<td>⇒ Cancel the program.</td>
</tr>
<tr>
<td>65. BLOCKREADINHIBIT ON</td>
<td>Activate read-in disable for main run block. (VDI signal: Read-in inhibit)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>66. BLOCKREADINHIBIT OFF</td>
<td>Deactivate read-in disable for main run block. (VDI signal: Read-in inhibit)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>67. STOPATEND_ALARM</td>
<td>Stop at end of block. (alarm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>68. STOP_ALARM</td>
<td>Stop all axes. (alarm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>69. PROGESTON</td>
<td>Activate program test. (VDI signal: Program test)</td>
<td>1. tool management is active.</td>
<td>⇒ Save tool data</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. the NCK channel condition is not READY</td>
<td>⇒ Press RESET to cancel the program or the process, or wait for the end of the program.</td>
</tr>
<tr>
<td>70. PROGSTOFF</td>
<td>Deactivate program test. (VDI signal: Program test)</td>
<td>the NCK channel condition is not READY</td>
<td>⇒ Press RESET to cancel the program or the process, or wait for the end of the program.</td>
</tr>
<tr>
<td>71. STOPATIPOBUFFER_ISEMPTY_ALARM</td>
<td>Stop at end of block preparation. (alarm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>72. STOPATIPOBUFF_EMTPY_ALARM_REORG</td>
<td>Stop at end of block preparation with following reorganization of block execution. (alarm)</td>
<td>nesting depth too high:</td>
<td>⇒ Wait until the preceding Asup is completed, or abort program.</td>
</tr>
<tr>
<td>73. CONDITIONAL_STOP_ATEND</td>
<td>Conditioned stop at block end. (If after continuation by NC Start a reason for stop “Stop at end of block” is still provided, Stop is carried out again.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>74. CONDITIONAL_SBL_DEC_STOPATEND</td>
<td>Conditioned stop at block end. (Despite Start, the interpreter or block search does not load a block into the main run)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>75. INTERPRETERSTOP_ALARM</td>
<td>Stop block search. (alarm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>76. RETREAT_MOVE_THREAD</td>
<td>Retraction movement in the case of G33 and stop.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>77. WAITMC</td>
<td>Conditioned waiting for program marker (NC block: WAITMC)</td>
<td></td>
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</tr>
<tr>
<td>78. SETM</td>
<td>Set marker. (NC block: SETM)</td>
<td></td>
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</tr>
<tr>
<td>79. CLEARM</td>
<td>Delete marker (NC block: CLEARM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80. BLOCK_SELECT</td>
<td>Select NC block. (PI command)</td>
<td></td>
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</tr>
<tr>
<td>81. LOCK_FOR_EDIT</td>
<td>Disable the currently executed NC program for editing. (PI command)</td>
<td></td>
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</tr>
<tr>
<td>No./Name</td>
<td>Explanation</td>
<td>Not allowed if</td>
<td>Remedy</td>
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</tr>
<tr>
<td>82. START_TEACHINPROG</td>
<td>Start a program in TEACHIN submode. (VDI signal: NC Start)</td>
<td>see 33 and 5</td>
<td></td>
</tr>
<tr>
<td>83. RESUME_TEACHINPROG</td>
<td>Continue a program in TEACHIN submode. (VDI signal: NC Start)</td>
<td>see 33 and 5</td>
<td></td>
</tr>
<tr>
<td>84. PURE_REORG</td>
<td>Reorganize block execution.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>85. INTERRUPT_TOPROG_NOREPOS</td>
<td>Activate an ASUP user interrupt in a manual mode. (VDI signal, ASUP, digital-analog interface)</td>
<td>See 10</td>
<td></td>
</tr>
<tr>
<td>86. INTERRUPT_START</td>
<td>Carry out an ASUP user interrupt. Is only carried out in channel state READY. (VDI signal, ASUP, digital-analog interface)</td>
<td>See 10</td>
<td></td>
</tr>
<tr>
<td>87. INTERRUPT_SIGNAL</td>
<td>Carry out a user interrupt of the type &quot;ASUP&quot; (VDI signal, ASUP, digital-analog interface) Group event for all interrupt signals. This event decides on the particular interrupt you wish to trigger. Possible options are: 10, 11, 12, 85, 86.</td>
<td>See 10</td>
<td></td>
</tr>
<tr>
<td>88. STOPBAG</td>
<td>Stop program execution (VDI signal: BAG_Stop)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>89. NEWCONF_PREP_STOP</td>
<td>Enable all machine data with the attribute (NEW_CONF). (NC block: NEW_CONF)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90. BLOCKSEARCHRUN_NEWCONF</td>
<td>Enable all machine data with the attribute (NEW_CONF). (NC block: NEW_CONF during block search)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>91. CONTINUE_INTERPR</td>
<td>BSALARMEVENTPAR_CONTINE_INTERPR Start continuation of interpreter processing (internal block search stop)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>92. SLAVEDATA</td>
<td>Locking for data saving the NC channel is not stopped.</td>
<td>the NC channel is not stopped.</td>
<td>Press Stop key/single block/Reset/StopAtEnd key (in Auto). Activate block change until the NC block can be reorganized</td>
</tr>
<tr>
<td>93. SET_USER_DATA</td>
<td>Enable the user data, i.e., new tool lengths changed via HMI come into effect in the current program immediately. 1. the NC channel is not stopped. 2. the channel is stopped and the current channel cannot be reorganized.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>94. PLCVERSION</td>
<td>Write user PLC version in version file.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95. CONVERT_SCALING_SYSTEM</td>
<td>BSALARMEVENTPAR_CONVERT_SCALING_SYSTEM Switch over PI-service unit system</td>
<td></td>
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</tr>
</tbody>
</table>
# Glossary / Abbreviations

## 2.1 Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>A</td>
<td>Output</td>
</tr>
<tr>
<td>DB</td>
<td>Data block</td>
</tr>
<tr>
<td>DIN</td>
<td>German Industrial Standards</td>
</tr>
<tr>
<td>DIO</td>
<td>Data Input/Output: Data transfer display</td>
</tr>
<tr>
<td>DRY</td>
<td>Dry Run: Dry run feed</td>
</tr>
<tr>
<td>E</td>
<td>Input</td>
</tr>
<tr>
<td>EIA code</td>
<td>Special tape code, number of holes per characters always odd</td>
</tr>
<tr>
<td>EPROM</td>
<td>Program memory with fixed program</td>
</tr>
<tr>
<td>E/R</td>
<td>Controlled Supply and Energy Recovery Module</td>
</tr>
<tr>
<td>ETC</td>
<td>ETC key: Extension of the softkey bar in the same menu</td>
</tr>
<tr>
<td>FFS</td>
<td>Flash File System</td>
</tr>
<tr>
<td>FRAME</td>
<td>Coordinate conversion with the components zero offset, rotation, scaling, mirror-imaging</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>TRC</td>
<td>Tool radius compensation</td>
</tr>
<tr>
<td>GUD</td>
<td>Global User Data: Global User Data</td>
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<tr>
<td>HMI</td>
<td>Human Machine Interface</td>
</tr>
<tr>
<td>HW</td>
<td>Hardware</td>
</tr>
<tr>
<td>IM</td>
<td>Interface module: Interface Module</td>
</tr>
<tr>
<td>IM-S/R</td>
<td>Interface module (S=send/R=receive) Interface module for send/receive mode</td>
</tr>
<tr>
<td>INC</td>
<td>Increment: Incremental dimension</td>
</tr>
<tr>
<td>ISO code</td>
<td>Special tape code, number of holes per character always even</td>
</tr>
<tr>
<td>K1...K4</td>
<td>Channel 1 to Channel 4</td>
</tr>
<tr>
<td>Kv</td>
<td>Loop-gain factor</td>
</tr>
<tr>
<td>Kū</td>
<td>Transmission ratio</td>
</tr>
<tr>
<td>LUD</td>
<td>Local User Data</td>
</tr>
<tr>
<td>MB</td>
<td>Megabyte</td>
</tr>
<tr>
<td>MD</td>
<td>Machine data</td>
</tr>
<tr>
<td>MCS</td>
<td>Machine coordinate system</td>
</tr>
<tr>
<td>MDA</td>
<td>Manual Data Automatic: Manual input</td>
</tr>
<tr>
<td>MLFB</td>
<td>Machine-readable product designation; order no.</td>
</tr>
<tr>
<td>MPF</td>
<td>Main Program File: NC part program (main program)</td>
</tr>
<tr>
<td>MPI</td>
<td>Multi Point Interface: Multi Point Interface</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>MCP</td>
<td>Machine control panel</td>
</tr>
<tr>
<td>NC</td>
<td>Numerical Control: CNC; numerical control system</td>
</tr>
<tr>
<td>NCK</td>
<td>Numerical Control Kernel: Numerical kernel with block preparation, traversing range etc.</td>
</tr>
<tr>
<td>OEM</td>
<td>Original Equipment Manufacturer</td>
</tr>
<tr>
<td>OP</td>
<td>Operator Panel: Operator Panel</td>
</tr>
<tr>
<td>PC</td>
<td>Personal Computer</td>
</tr>
<tr>
<td>PCMCIA</td>
<td>Personal Computer Memory Card International Association: Personal Computer Memory Card International Association:</td>
</tr>
<tr>
<td>PG</td>
<td>Programming Device</td>
</tr>
<tr>
<td>PLC</td>
<td>Programmable Logic Control</td>
</tr>
<tr>
<td>PRT</td>
<td>Program test</td>
</tr>
<tr>
<td>RAM</td>
<td>Random Access Memory</td>
</tr>
<tr>
<td>RPA</td>
<td>R parameter active: Memory area in NC for R parameter numbers</td>
</tr>
<tr>
<td>SBL</td>
<td>Single Block: Single block mode</td>
</tr>
<tr>
<td>SBL</td>
<td>Single Block Decoding</td>
</tr>
<tr>
<td>SEA</td>
<td>Setting data active: Memory area for setting data in the NC</td>
</tr>
<tr>
<td>SD</td>
<td>Setting data</td>
</tr>
<tr>
<td>PLC</td>
<td>Programmable Logic Controller</td>
</tr>
<tr>
<td>CRC</td>
<td>Cutter Radius Compensation</td>
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<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>LEC</td>
<td>Leadscrew error compensation</td>
</tr>
<tr>
<td>SSI</td>
<td>Serial Synchronous Interface: Serial Synchronous Interface</td>
</tr>
<tr>
<td>SW</td>
<td>Software</td>
</tr>
<tr>
<td>TEA</td>
<td>Testing data active: refers to the machine data</td>
</tr>
<tr>
<td>TO</td>
<td>Tool offset</td>
</tr>
<tr>
<td>TOA</td>
<td>Tool offset active: Memory area for tool offsets</td>
</tr>
<tr>
<td>V</td>
<td>Bit type PLC variable</td>
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## 2.2 Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
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<tbody>
<tr>
<td>User program</td>
<td>Total of all status bar graphs in an executable form in the PLC</td>
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<tr>
<td>Command</td>
<td>Statement in the user program</td>
</tr>
<tr>
<td>Operating mode</td>
<td>Mode of <em>program execution</em>, e.g. manual mode, automatic mode, corresponding to the machine operation</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>Detection of faulty processes during <em>machining,</em> displays undesired or unexpected phenomena during the process</td>
</tr>
</tbody>
</table>
| Multi-point interface | MPI  
Hardware module for online coupling with the user program            |
| Sensor        | Electric *element,* provides a *signal* to the *control system*            |
To
SIEMENS AG

A&D MC IS
Postfach 3180

D-91050 Erlangen, Germany

(Telephone: +49 (0) 180 / 538 – 8008 [hot-line]
Telefax: +49 (0) 9131 / 98 – 1145
Mailto: motioncontrol.docu@erlf.siemens.de)

Suggestions and/or corrections

<table>
<thead>
<tr>
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<th>Corrections</th>
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<tr>
<td>For publication/manual:</td>
<td>SINUMERIK 802D</td>
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<tr>
<td>User Documentation</td>
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<tr>
<th>From</th>
<th>Diagnostics Guide</th>
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<tr>
<td>Zip code:City:</td>
<td>Should you come across any printing errors when</td>
</tr>
<tr>
<td>Telephone:</td>
<td>reading this publication, please notify us on</td>
</tr>
<tr>
<td>Telefax:</td>
<td>this sheet. Suggestions for improvement are</td>
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<td></td>
<td>also welcome.</td>
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Suggestions and/or corrections