7.3.2 Error with fault/warning number

Version: 09.02.04

Reader's note

- In some instances, the space retainers (e.g. \%u) are specified for the texts of the individual faults and warnings.
  In online operation with SimoCom U instead of a space retainer, an appropriate value is displayed.
- The complete list is updated corresponding to the Edition of this documentation (refer to the Edition in the header lines) and corresponds to the software release of "SIMODRIVE 611 universal" documented here.
  The individual faults/warnings are not coded dependent on the software release.

000 Alarm diagnostics not possible

Cause
– Communications to the drive have been interrupted.
– Different versions of the "SimoCom U" start-up and parameterizing tool and the drive.

Remedy
– Check the communications to the drive (cable, interfaces, ...)
– The V_611U<Version>.acc file on the hard disk of the PG/PC should be adapted to the drive as follows:
  – Exit "SimoCom U"
  – Delete the V_611U<Version>.acc file (search and delete the file)
  – Restart "SimoCom U" and go online
  The V_611U<Version>.acc file is now re-generated and is harmonized to the drive version.

Never delete the file V000000.acc!

001 The drive does not have firmware

Cause
No drive firmware on the memory module.

Remedy
– Load the drive firmware via SimoCom U
– Insert the memory module with firmware

Acknowledgement
POWER ON

Stop response
STOP II (SRM, SLM) STOP I (ARM)

002 Computation time overflow. Suppl. info: \%X

Cause	The computation time of the drive processor is no longer sufficient for the selected functions in the specified cycle times. Supplementary information: only for siemens-internal error diagnostics
Remedy	Disable functions which take up a lot of computation time, e.g.: – Variable signaling function (P1620) – Trace function – Start-up with FFT or analyzing the step response – Speed feedforward control (P0203) – Min/Max memory (P1650.0) – DAC output (max. 1 channel) Increase cycle times: – Current controller cycle (P1000) – Speed controller cycle (P1001) – Position controller cycle (P1009) – Interpolation cycle (P1010)
Acknowledgement	POWER ON
Stop response	STOP VIII

003 NMI due to watchdog. Suppl. info: \%X

Cause	The watchdog timer on the control module has expired. The cause is a hardware fault in the time basis on the control module. Supplementary information: only for siemens-internal error diagnostics
Remedy	– Replace control module
Acknowledgement	POWER ON
Stop response	STOP VIII

004 Stack overflow. Suppl. info: \%X

Cause	The limits of the internal processor hardware stack or the software stack in the data memory have been violated. The cause is probably a hardware fault on the control module. Supplementary information: only for siemens-internal error diagnostics
Remedy	– Power down/power up drive module – Replace control module
Acknowledgement	POWER ON
Stop response	STOP VIII

005 Illegal Opcode, Trace, SWI, NMI (DSP). Suppl. info: \%X

Cause	The processor has detected an illegal command in the program memory. Supplementary information: only for siemens-internal error diagnostics
Remedy	– Replace control module
Acknowledgement	POWER ON
Stop response	STOP VIII

006 Checksum test error. Suppl. info: \%X

Cause	During the continuous check of the checksum in the program/data memory, a difference was identified between the reference and actual checksum. The cause is probably a hardware fault on the control module. Supplementary information: only for siemens-internal error diagnostics
Remedy	– Replace control module
Acknowledgement	POWER ON
Stop response	STOP VIII

007 Error when initializing. Supplementary info: \%X

Cause	An error occurred when loading the firmware from the memory module. Cause: Data transfer error, FEPROM memory cell defective Supplementary information: only for siemens-internal error diagnostics
Remedy	Carry-out RESET or POWER-ON. If a download is still unsuccessful after several attempts, the memory module must be replaced. If this is unsuccessful the control module is defective and must be replaced.
Acknowledgement	POWER ON
Stop response	STOP VIII

020 NMI due to cycle failure

Cause	Basic cycle has failed. Possible causes: EMC faults, hardware fault, control module
Remedy	– Check the plug-in connections – Implement noise suppression measures (screening, check ground connections) – Replace control module
Acknowledgement	POWER ON
Stop response	STOP VIII

025 SSI interrupt

Cause	An illegal processor interrupt has occurred. An EMC fault or a hardware fault on the control module could be the reason.
Remedy	– Check the plug-in connections – Replace control module
Acknowledgement	POWER ON
Stop response	STOP VIII

026 SCI interrupt

Cause: An illegal processor interrupt has occurred. An EMC fault or a hardware fault on the control module could be the reason.

Remedy:
– Check the plug-in connections
– Replace control module

Acknowledgement: POWER ON

Stop response: STOP VIII

027 HOST interrupt

Cause: An illegal processor interrupt has occurred. An EMC fault or a hardware fault on the control module could be the reason.

Remedy:
– Check the plug-in connections
– Replace control module

Acknowledgement: POWER ON

Stop response: STOP VIII

028 Actual current sensing during power-up

Cause: When the current actual value sensing runs up, or in cyclic operation at pulse inhibit, a 0 current is expected. The drive system then identifies that no currents are flowing (excessive deviation to the theoretical center frequency). It is possible that the hardware for the current actual value sensing is defective.

Remedy:
– Check the plug-in connections
– Check whether the control module is correctly inserted
– Replace control module
– Replace the power section

Acknowledgement: POWER ON

Stop response: STOP II (SRM, SLM) STOP I (ARM)

029 Incorrect measuring circuit evaluation. Suppl. info: \%X

Cause: The motor measuring system has a motor encoder with voltage output which requires a measured circuit evaluation with voltage input, or a resolver with appropriate evaluation. Another measuring circuit evaluation was identified.
Supplementary information: only for siemens-internal error diagnostics

Remedy:
– Check the plug-in connections
– Implement noise suppression measures (screening, check ground connections, ...)
– Control module and encoder must be the same type (sin/cos or resolver)
– Replace control module

Acknowledgement: POWER ON

Stop response: STOP II (SRM, SLM) STOP I (ARM)

030 S7 communication error. Supplementary info: \%X

Cause: A fatal communication error was identified, or the drive software is no longer consistent. The cause is erroneous communications or a hardware fault on the control module.
Supplementary information: only for siemens-internal error diagnostics

Remedy:
– Implement noise suppression measures (screening, check ground connections, ...)
– Replace control module

Acknowledgement: POWER ON

Stop response: STOP II (SRM, SLM) STOP I (ARM)

031 Internal data error. Suppl. info: \%X

Cause: Error in the internal data, e.g. errors in the element/block lists (incorrect formats, ...). The drive software is no longer consistant. The cause is propably a hardware fault on the control module.
Supplementary information: only for siemens-internal error diagnostics

Remedy:
– Re-load drive software
– Replace control module

Acknowledgement: POWER ON

Stop response: STOP II (SRM, SLM) STOP I (ARM)

032 Incorrect number of current setpoint filters

Cause: An illegal number of current setpoint filters was entered (> 4) (maximum number = 4).

Remedy: Correct number of current setpoint filters (P1200).

Acknowledgement: POWER ON

Stop response: STOP II (SRM, SLM) STOP I (ARM)

033 Incorrect number of speed setpoint filters

Cause: An inadmissible number of speed setpoint filters (> 2) was entered (max. number = 2).

Remedy: Correct number of speed setpoint filters (P1500)

Acknowledgement: POWER ON

Stop response: STOP II (SRM, SLM) STOP I (ARM)

034 Axis count function has failed

Cause: The function for determining the number of axes that physically exist on the power section has calculated an illegal value.

Remedy: Check that the control module is correctly inserted in the power section or whether the power section is defective.

Acknowledgement: POWER ON

Stop response: STOP II (SRM, SLM) STOP I (ARM)

035 Error when saving the user data. Supplementary info: \%X

Cause: An error occurred when saving the user data in the FEPROM on the memory module.
Cause: Data transfer error, FEPROM memory cell defective
Note: The user data which was last saved, is still available as long as a new data backup was unsuccessful.
Supplementary information: only for siemens-internal error diagnostics

Remedy: Initiate another data backup.
If data backup is still unsuccessful after several attempts, then the memory module must be replaced. If the user data, valid up to the error, is to be used in the new memory module, then it must be read out via SimoCom U before the memory module is replaced, and loaded again after it has been replaced.

Acknowledgement: POWER ON

Stop response: STOP II (SRM, SLM) STOP I (ARM)

036 Error when downloading the firmware. Suppl. info: \%X

Cause: An error occurred when loading a new firmware release.
Cause: Data transfer error, FEPROM memory cell defective
Note: As the previously used firmware was erased when downloading, the drive expects a new firmware download after RESET or POWER ON.
Supplementary information: only for siemens-internal error diagnostics

Remedy: Execute RESET or POWER ON.
If a download is still unsuccessful after several attempts, the memory module must be replaced. If this is unsuccessful the control module is defective and must be replaced.

Acknowledgement: POWER ON

Stop response: STOP II (SRM, SLM) STOP I (ARM)

037 Error when initializing the user data. Supplementary info: \%X

Cause: An error occurred when loading the user data from the memory module.
Cause: Data transfer error, FEPROM memory cell defective
Supplementary information: only for siemens-internal error diagnostics

Remedy: Execute POWER ON.
If a download is still unsuccessful after several attempts, the memory module must be replaced. If this is unsuccessful the control module is defective and must be replaced.

Acknowledgement: POWER ON

Stop response: STOP II (SRM, SLM) STOP I (ARM)

039 Error during power section identification. Supplementary info: \%X

Cause	Supplementary information 0x100000: More than 1 power section type was identified. 0x200000: No power section type was identified, although it would have been possible. 0x30xxxx: The identified power module differs from the entered PM (P1106). To xxxx: the code of the identified PM is entered here. 0x400000: Different power section codes (P1106) are entered for this 2-axis module.
Remedy	– Execute RESET or POWER ON – Check whether the control module is correctly inserted in the power module
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

040 Expected option module is not available.

Cause	The parameterization (P0875) expects an option module which is not available on this control module.
Remedy	Compare the type of the expected option module (P0875) with the type of the inserted option module (P0872) and check/replace the inserted option module or cancel the option module with P0875 = 0.
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

041 The firmware does not support the option module. Suppl. info: \%u

Cause
Supplementary info = 1:
An option module is inserted (P0872) or parameterized (P0875), which is not supported by the firmware release of the control module.

Remedy
Supplementary info = 1:
– Upgrade the firmware
– Use a legal option module
– Cancel the option module with P0875 = 0
Supplementary info = 2:
– Use a permissible option module (DP3)
– Cancel the option module with P0875 = 0
Supplementary info = 3:
– Replace the option module hardware DP1 by option module DP2 or DP3, without changing the drive parameters and the master configuring. The parameter for the expected option module remains at P0875 = 2.

Acknowledgement
POWER ON

Stop response
STOP II (SRM, SLM) STOP I (ARM)

042 Internal software error. Supplementary info \%u

Cause
There is an internal software error.
Supplementary information: only for siemens-internal error diagnostics

Remedy
– Execute POWER ON-RESET (press button R)
– Re-load the software into the memory module (execute software update)
– Contact the Hotline
– Replace control module

Acknowledgement
POWER ON

Stop response
STOP II (SRM, SLM) STOP I (ARM)

043 Firmware, option module

Cause
The option module does not contain the currently required firmware.

Remedy
Use a module with suitable firmware or upgrade the firmware

Acknowledgement
POWER ON

Stop response
STOP II (SRM, SLM) STOP I (ARM)

044 Connection to the option module failed. Supplementary info \%X

Cause
The BUS coupling has failed.

Remedy
– Execute POWER ON-RESET (press button R)
– Replace option module

Acknowledgement
POWER ON

Stop response
STOP II (SRM, SLM) STOP I (ARM)

045 Expected option module is axially unequal

Cause	The option module type, expected from the parameterization, is different for the two axes of a two-axis module.
Remedy	Set the expected option module type in P0875 the same for both axes, or cancel for axis B by setting P0875 to 0.
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

048 Illegal status PROFIBUS hardware

Cause	An illegal status of the PROFIBUS controller was recognized.
Remedy	– Execute POWER-ON RESET – Check the PROFIBUS unit screw connection – Replace drive module
Acknowledgement	POWER ON
Stop response	STOP II

101 Target position block \%n < plus software limit switch

Cause	The target position specified in this block lies outside the range limited by P0316 (plus software limit switch).
Remedy	– Change the target position in the block – Set the software limit switches differently
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP VI

102 Target position block \%n < minus software limit switch

Cause	The target position specified in this block lies outside the range limited by P0315 (minus software limit switch).
Remedy	– Change the target position in the block – Set the software limit switches differently
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP VI

103 Block number \%n: Direct output function not possible

Cause	For the SET_O or RESET_O command, an illegal value was entered in P0086:64 (command parameter).
Remedy	Enter value 1, 2 or 3 in P0086:64 (command parameter).
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP V

104 Block \%n: There is no jump target

Cause	A jump is programmed to a non-existent block number in this traversing block.
Remedy	Program the existing block number.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP VI

105 Illegal mode specified in block \%n

Cause	Illegal data is in P0087:64/P0097 (mode). A data position in P0087:64/P0097 has an inadmissible value. For the commands SET_O and RESET_O, the CONTINUE EXTERNAL block change enable is not permissible. For MDI: The configuration of the external block change P0110 is incorrect. The external block change is only permissible with P0110 = 2 or 3. Block change enable only with ”END” or ”CONTINUE EXTERNAL”. For axis couplings: For COUPLING_IN/COUPLING_OUT via a traversing block (P0410 = 3, 4 or 8), a block change enable with CONTINUE FLYING is not possible.
Remedy	Check and correct P0087:64/P0097.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP VI

106 Block \%n: ABS_POS mode not possible for linear axis

Cause	For a linear axes, the positioning mode ABS_POS was programmed (only for rotary axes).
Remedy	Change P00987:64/P0097 (mode).
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP VI

107 Block \%n: ABS_NEG mode not possible for a linear axis

Cause	For a linear axes, the positioning mode ABS_NEG was programmed (only for rotary axes).
Remedy	Change P00987:64/P0097 (mode).
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP VI

108 Block number \%n available twice

Cause	There are several traversing blocks with the same block number in the program memory. The block numbers must be unique over all traversing blocks.
Remedy	Assign unique block numbers.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP VI

109 External block change not requested in block \%n

Cause	External block change was not requested for a traversing block with block step enable CONTINUE EXTERNAL and P0110 (configuration of external block change) = 0.
Remedy	Remove the cause that the signal edge is missing at the input terminal or for a PROFIBUS control signal STW1.13 or for the appropriate fieldbus signal.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP V

110 Selected block number \%n does not exist

Cause	A block number was selected which is not available in the program memory or has been suppressed.
Remedy	Select the existing block number. Program the traversing block with the selected block number.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP VI

111 GOTO in block number \n not permissible

Cause	The step command GOTO may not be programmed for this block number.
Remedy	Program another command.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP VI

112 Activate traversing task and start referencing, handwheel simultaneously

Cause	A positive signal edge was simultaneously detected for the input signals ”Activate traversing task” and ”Start referencing” and ”Activate handwheel”. At power-on or POWER-ON RESET, if both input signals have a ”1” signal, then for both signals a 0/1 edge (positive edge) is simultaneously identified.
Remedy	Reset both input signals, and re-start the required function after the fault has been acknowledged.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP IV

113 Activate traversing task and jog, handwheel simultaneously

Cause	A positive signal edge was simultaneously detected for the input signals ”Activate traversing task” and ”Jog 1”, ”Jog 2” and ”Activate handwheel”. At power-on or POWER-ON RESET, if both input signals have a ”1” signal, then for both signals a 0/1 edge (positive edge) is simultaneously identified.
Remedy	Reset both input signals, and re-start the required function after the fault has been acknowledged.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP IV

114 Block change enable END in block number \%n expected

Cause	The traversing block with the highest block number does not have END as block step enable.
Remedy	– Program this traversing block with block step enable END. – Program the GOTO command for this traversing block. – Program additional traversing blocks with higher block number and program the block step enable END (highest block number) in the last block.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP VI

115 Traversing range start reached

Cause	The axis has moved to the traversing range limit in a block with the command ENDLOS_NEG (–200 000 000 MSR).
Remedy	– Acknowledge fault – Move away in the positive direction (e.g. jog)
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP V

116 Traversing range end reached

Cause	The axis has moved to the traversing range limit in a block with the command ENDLOS_POS (200 000 000 MSR).
Remedy	– Acknowledge fault – Move away in the negative direction (e.g. jog)
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP V

117 Target position block \%n < start of the traversing range

Cause	The target position specified in this block lies outside the absolute traversing range (–200 000 000 MSR).
Remedy	Change the target position in the block
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP VI

118 Target position block \%n < end of the traversing range

Cause	The target position specified in this block lies outside the absolute traversing range (200 000 000 MSR).
Remedy	Change the target position in the block
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP VI

119 PLUS software limit switch actuated

Cause	For a block with the ENDLOS_POS command, the axis has actuated the plus software limit switch (P0316) for absolute or relative positioning. The behavior for software limit switch reached, can be set using P0118.0.
Remedy	– Acknowledge fault – Move away in the negative direction, jog mode
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP V

120 MINUS software limit switch actuated

Cause	For a block with the ENDLOS_NEG command, the axis has actuated the minus software limit switch (P0315) for absolute or relative positioning. The behavior for software limit switch reached, can be set using P0118.0.
Remedy	– Acknowledge fault – Move away in the positive direction, jog mode
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP V

121 Jog 1, jog 2 or handwheel simultaneously active

Cause	The input signals ”jog 1”, ”jog 2” or ”activate handwheel” were simultaneously activated.
Remedy	– Reset both input signals – Acknowledge the fault – Activate the required input signal
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

122 Parameter \%u: value range limits violated

Cause	The value range limit of the parameter was violated when the dimension system was changed over from inches to millimeters.
Remedy	Place the parameter value within the value range.
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

123 Linear encoder for the selected dimension system illegal

Cause	For a linear encoder, the dimension system was set to degrees.
Remedy	Change the dimension system setting (P0100).
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

124 Referencing and jog simultaneously started

Cause	For the ”start referencing” and ”Jog 1” and ”Jog 2” input signals, a positive edge was simultaneously identified.
Remedy	Reset both input signals, and re-start the required function after the fault has been acknowledged.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP V

125 Falling edge of the reference cam not identified

Cause	When moving away from the reference cams, the traversing range limit was reached, as the 1/0 edge of the reference cam was not identified.
Remedy	Check the ”reference cam” input signal and repeat the reference point approach.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II (SRM, SLM) STOP I (ARM)

126 Block \%n: ABS_POS for rotary axis, is not possible without modulo conversion

Cause	The ABS_POS positioning mode is only permitted for a rotary axis with activated module conversion (P0241 = 1).
Remedy	Use the valid positioning mode for this axis type.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP VI

127 Block \%n: ABS_NEG for rotary axis is not possible without modulo conversion

Cause	The ABS_NEG positioning mode is only permitted for a rotary axis with activated modulo conversion (P0241 = 1).
Remedy	Use the valid positioning mode for this axis type.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP VI

128 Block \%n: Target position lies outside the modulo range

Cause	The programmed target position (P0081:64/P0091) is outside the selected modulo range (P0242).
Remedy	Program valid target position.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP VI

129 Maximum velocity for a rotary axis with modulo conversion too high

Cause	The programmed maximum velocity (P0102) is too high to correctly calculate the modulo offset. The maximum velocity may only be so high, that 90% of the modulo range (P0242) can be traveled through within one interpolation cycle (P1010).
Remedy	Reduce maximum velocity (P0102).
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP V

130 Controller or pulse enable withdrawn in motion

Cause	Possible causes are: – One of the following enable signals was withdrawn while moving: Terminals 48, 63, 64, 663, 65.x, PROFIBUS or bus enable signals, PC enable from SimoCom U – Another fault has occurred, which causes the controller or pulse enable to be withdrawn – The drive is in the power-on inhibit state
Remedy	– Set the enable signals or check the cause of the first fault which occurred and remove – Remove the power-on inhibit with the edge (0 —> 1) at control word STW1.0 or terminal 65. – Withdraw the power-on inhibit from the fieldbus signal.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

131 Following error too high

Cause	Possible causes are: – The torque or acceleration capability of the drive is exceeded – Position measuring system fault – The position control sense is not correct (P0231) – Mechanical system blocked – Excessive traversing velocity or excessive position setpoint differences
Remedy	Check the above causes and remove.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

132 Drive located after the minus software limit switch

Cause	The axis was moved to the minus software limit switch (P0315), jog mode. The fault can also occur if the software limit switches are inactive if the position actual value falls below the limit value of –200 000 000 MSR, that corresponds to 555 revolutions for a rotary axis.
Remedy	Return the drive into the traversing range using jog button 1 or 2. Then acknowledge the fault.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP III

133 Drive located after the plus software limit switch

Cause	The axis was moved to the plus software limit switch (P0316), jog mode. The fault can also occur if the software limit switches are inactive if the position actual value exceeds the limit value of 200 000 000 MSR, that corresponds to 555 revolutions for a rotary axis.
Remedy	Return the drive into the traversing range using jog button 1 or 2. Then acknowledge the fault.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP III

134 Positioning monitoring has responded

Cause	The drive has not yet reached the positioning window (P0321) after the positioning monitoring time (P0320) has expired. Possible causes: – Positioning monitoring time (P0320) parameters too low – Positioning window (P0321) parameters too low – Position loop gain (P0200) too low – Position loop gain (P0200) too high (instability/tendency to oscillate) – Mechanical block
Remedy	Check above parameters and correct.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

135 Standstill monitoring has responded

Cause	The drive has left the standstill window (P0326) after the standstill monitoring time (P0325) has expired. Possible causes are: – Position actual value inversion (P0231) incorrectly set – Standstill monitoring time (P0325) parameters too low – Standstill window (P0326) parameters too low – Position loop gain (P0200) too low – Position loop gain (P0200) too high (instability/tendency to oscillate) – Mechanical overload – Check connecting cable motor/converter (phase missing, exchanged)
Remedy	Check above parameters and correct.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

136 Conv.factor,feedforward contr.speed,parameter set \%d,cannot be represented

Cause	The conversion factor in the position controller between velocity and speed cannot be displayed. This factor depends on the following parameters: – Spindle pitch (P0236), for linear axes – Gearbox ratio (P0238:8/P0237:8).
Remedy	Check the above mentioned parameters and correct.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

137 Conv.factor,pos.contr.output,parameter set \%d,cannot be represented

Cause	The conversion factor in the position controller between the following error and the speed setpoint cannot be displayed. This factor depends on the following parameters: – Spindle pitch (P0236) (for linear axes) – Gearbox ratio P0238:8/P0237:8 – Position control loop gain P0200:8
Remedy	Check the above mentioned parameters and correct.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

138 Conversion factor between the motor and load too high

Cause	The conversion factor between the motor and load is greater than 2 to the power of 24 or less than 2 to the power of –24.
Remedy	Check the following parameters and correct: P0236, P0237, P0238, P1005, P1024
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II (SRM, SLM) STOP I (ARM)

139 Modulo range and ratio do not match

Cause	For multi-turn absolute value encoders, the ratio between the encoder and load must be selected so that the complete encoder range is an integer multiple of the modulo range. The following condition must be fulfilled: P1021 * P0238:8 / P0237:8 * 360 / P0242 must be integer numbers.
Remedy	– Check and correctP1021, P0238:8, P0237:8 – Adapt the modulo range (P0242)
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

140 Minus hardware limit switch

Cause	A 1/0 edge was identified at the ”Minus hardware limit switch” input signal.
Remedy	Return the drive into the traversing range using jog button 1 or 2. Then acknowledge the fault.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP III

141 Plus hardware limit switch

Cause	A 1/0 edge was identified at the ”Plus hardware limit switch” input signal.
Remedy	Return the drive into the traversing range using jog button 1 or 2. Then acknowledge the fault.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP III

142 Input I0.x not parameterized as equivalent zero mark

Cause	When entering an external signal as equivalent zero mark (P0174 = 2), input I0.x must be assigned ”equivalent zero mark” function (Fct. No.:79). if a direct measuring system is used, input I0.B must be assigned the ”equivalent zero mark” function (Fct. No.: 79).
Remedy	– Motor measuring system: P0660 = 79 – Direct measuring system: P0672 = 79
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP IV

143 Endless traversing and external block change in block \%n

Cause	The block change enable CONTINUE_EXTERNAL for the ENDLESS_POS or ENDLESS_NEG command is only permitted with P0110 = 0 or 1.
Remedy	Block change enable or change P0110.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP VI

144 Switching-in/switching-out MDI erroneous

Cause	In the active traversing program, MDI was switched-in or, in the active MDI block, MDI was switched-out.
Remedy	Acknowledge fault Change P0110
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

145 Fixed endstop not reached

Cause	In a traversing block with the FIXED ENDSTOP command, the fixed endstop was not reached. The fixed endstop lies outside the position programmed in this block. After interrupting the traverse to fixed endstop function, the drive was forced out of the position (support position).
Remedy	Check programming Increase kP0326 if the drive was forced out of the position.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP V

146 Fixed endstop, axis outside the monitoring window

Cause	In the ”Fixed endstop reached” status, the axis has moved outside the defined monitoring window.
Remedy	– Check P0116:8 (fixed endstop, monitoring window) – Check mechanical system
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

147 Enable signals withdrawn at the fixed endstop

Cause	Possible causes are: – One of the following enable signals was withdrawn while traversing to the fixed endstop: Terminals 48, 63, 64, 663, 65.x, PROFIBUS and bus enable signals, PC enable from SimoCom U – Another fault has occurred, which causes the controller or pulse enable to be withdrawn
Remedy	Set the enable signals and check the cause of the first fault and remove.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

148 Velocity in block \%n outside the range

Cause	The velocity, specified in this block lies outside the range (1 000 to 2 000 000 000 c*MSR/min).
Remedy	Change the velocity in the block
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP VI

149 Incorrect data for modulo axis with absolute encoder. Supplementary info \%u

Cause	Data error for modulo drive with absolute encoder and any gear factor. – Data was not able to be saved after power-on. – Absolute position was not able to be read-out of the encoder. Supplementary information: only for siemens-internal error diagnostics
Remedy	– Adjust the drive by setting the absolute value. – Check the switching threshold in P1162 (minimum DC link voltage). – Check the hysteresis of the DC link voltage monitoring in P1164.
Acknowledgement	POWER ON
Stop response	STOP V

150 External position reference value < max. traversing range suppl. info \%u

Cause	The external position reference value has exceeded the upper traversing range limit. Supplementary info = 0: Limit exceeded after the coupling factors P0401/P0402 identified, i.e. P0032 > 200 000 000 MSR. Supplementary info = 1: Limit exceeded after the coupling factors P0401/P0402 identified, i.e. P0032 * P0402 / P0401 > 200 000 000 MSR.
Remedy	Return the external position reference value to the value range. Then acknowledge the fault.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

151 External position reference value < min. traversing range suppl. info \%u

Cause	The external position reference value has fallen below the lower traversing range limit. Supplementary info = 0: Limit fallen below after the coupling factors P0401/P0402 identified, i.e. P0032 < – 200 000 000 MSR. Supplementary info = 1: Limit fallen below after the coupling factors P0401/P0402 identified, i.e. P0032 * P0402 / P0401 < – 200 000 000 MSR.
Remedy	Return the external position reference value to the value range. Then acknowledge the fault.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

152 Pos.ref.val. and act.val. output via the bus interf. limited. Suppl. info \%X

Cause

The output of the position reference value, position actual value or position correction value is parameterized via PROFIBUS or the bus interface. However, the value to be output can no longer be represented in 32 bits and was therefore limited to the maximum values 0x7fffffff or 0x80000000. The traversing range which can be displayed is given by
Lower limit: – 2147483648 * P896 / P884
Upper limit: + 2147483647 * P896 / P884
The supplementary information explains which process data has violated the lower or upper limit:

Supplementary info	process data	Violation
xx1	Position reference value Xset (No. 50208)	Upper limit exceeded
xx1	Position reference value Xset (No. 50208)	Lower limit fallen below
x1x	Position actual value Xact (No. 50206)	Upper limit exceeded
x2x	Position actual value Xact (No. 50206)	Lower limit fallen below
1xx	Position correction value dxKorr (No. 50210)	Upper limit exceeded
2xx	Position correction value dxKorr (No. 50210)	Lower limit fallen below

Remedy

– Move drive back e.g. by jogging in the representable traversing range.
– Adapt the lower and upper limit to the required traversing range using P884 and P896.

Acknowledgement

RESET FAULT MEMORY

Stop response

STOP III

160 Reference cam not reached

Cause

After starting the reference point approach, the axis moves through the distance in P0170 (max. distance to the reference cam) without finding the reference cam.

Remedy

– Check the ”reference cam” signal
– Check P0170
– If it is an axis without reference cam, then set P0173 to 1

Acknowledgement

RESET FAULT MEMORY

Stop response

STOP V

161 Reference cams too short

Cause

When the axis moves to the reference cam, and does not come to a standstill at the cam, then this error is signaled, i.e. the reference cam is too short.

Remedy

– Set P0163 (reference point approach velocity) to a lower value
– Increase P0104 (maximum deceleration)
– Use larger reference cam

Acknowledgement

RESET FAULT MEMORY

Stop response

STOP V

162 No zero reference pulse present

Cause	– After the reference cam has been left, the axis has moved through the distance in P0171 (max. distance between the reference cam/zero pulse), without finding a zero pulse. – For distance-coded measuring system (from SW 8.3 onwards): The maximum permissible distance (clearance) between two reference marks was exceeded.
Remedy	– Check the encoder with reference to the zero mark – Set P0171 to a higher value
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP V

163 Encoderless operation and operating mode do not match

Cause	Encoderless operation was parameterized (P1006) and the ”Positioning” mode selected.
Remedy	Set operating mode ”speed/torque setpoint” (P0700 = 1)
Acknowledgement	POWER ON
Stop response	STOP V

164 Coupling released during the traversing job.

Cause	The coupling was disconnected while a traversing task was running
Remedy	First exist the traversing task and then disconnect the coupling.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP III

165 Absolute positioning block not possible

Cause	Traversing blocks with absolute position data are not permitted while the axis coupling is activated.
Remedy	Correct traversing block
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP IV

166 Coupling not possible

Cause	– No coupling can be established in the actual operating status. – For P0891=2 or 3, it is not possible to couple using the input signal ”Activate coupling through I0.x” (fast input).
Remedy	– Check the coupling configuration (P0410) – Set angular encoder interface (P0890, P0891) – Check the source of the external position reference value and input signal source.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP VI

167 Activate coupling signal present

Cause	– The input signal ”Activate coupling” is present. An edge of the input signal is necessary to activate the coupling. – In the jog mode, while traversing, the input signal ”coupling on” was entered. – The ”coupling in” input signal was entered in handwheel operation.
Remedy	Reset ”Activate coupling” input signal Acknowledge fault Set the input signal again to switch-in the coupling
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

168 Overflow, buffer memory

Cause	Occurs for couplings with queue functionality. A maximum of 16 positions can be saved in P0425:16.
Remedy	Ensure that maximum 16 positions are saved.
Acknowledgement	POWER ON
Stop response	STOP IV

169 Coupling trigger missed

Cause	Occurs for couplings with queue functionality. Synchronizatin is requested using the KOPPLUNG_ON command and it is identified that the position at which the coupling is switched-in, has already bee passed.
Remedy	Ensure that the slave drive was stationary for at least 1 IPO clock cycle (P1010), before the coupling for the next element in the position memory must be switched-in.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP IV

170 Coupling switched-out during the traversing program

Cause	While the drive was executing a traversing program, the ”Activate coupling” input signal was reset.
Remedy	Only switch-out the coupling if the traversing program has been completed.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP IV

171 Coupling not possible

Cause	While the drive was executing a traversing program, the ”Active coupling” input signal was set.
Remedy	Only switch-in the coupling if the traversing program has been completed.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP V

172 External block change for coupling not possible

Cause	If there is an existing coupling, traversing blocks with external block enable are only permitted if P0110 = 2.
Remedy	Correct traversing program Change P0110 (configuration, external block change)
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP IV

173 Coupling and traverse to endstop simultaneously

Cause	Not possible to simultaneously couple and traverse to the endstop.
Remedy	Correct traversing program
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP V

174 Passive referencing not possible

Cause	For the passive referencing, the encoder interface must be switched as input and the ”Positioning” mode must be set.
Remedy	– Set the ”Positioning” mode (P0700) – Set angular encoder interface (P0890, P0891)
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP IV

175 Passive referencing not realized. Supplementary info: \%u

Cause	While the master drive corrects the zero mark offset, the slave drive must pass over a zero mark. Supplementary information 0 = Reference cam not found 1 = Reference cam not left 2 = Zero reference pulse not found
Remedy	Ensure that the cam of the slave drive is located between the cam and the reference point of the master drive. Appropriately shift the cam and/or increase the reference point offset (P0162) at the master drive. If the zero pulse is not found, the reference point offset (P0162) must also be increased at the master drive.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP IV

176 Absolute encoder must be adjusted

Cause	Passive referencing with absolute encoders (e.g. EnDat encoders) is only possible after the encoder has been adjusted.
Remedy	Adjust the drive by setting the absolute value.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP IV

177 Start-up passive referencing P179 not possible

Cause	The start-up help for passive referencing determines the reference point offset in P0162 in the slave drive. The following prerequisites must be available: – (permanent) position coupling exists to the master drive – Master drive must be precisely at its reference point – Slave drive has passed the zero mark.
Remedy	– Establish a coupling at the slave drive: PosStw.4 or input terminal function 72/73 – Reference the master drive: STW1.11 or input terminal function 65 at the master drive – ”Wiring” check: The requirement for passive referencing must be transferred from the master to the slave drive: Masterdrive: Output via ZSW1.15, QZsw.1 or output terminal function 69 Slave drive: read-in via STW1.15, QStw.1 or input terminal function 69
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

180 Teach-in without reference point

Cause	Teach-in only possible for a referenced axis.
Remedy	Request reference axis and teach in
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP IV

181 Teach-in block invalid

Cause	The specified teach-in block is invalid.
Remedy	Specify the valid and existing traversing block.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP IV

182 Teach-in standard block invalid

Cause	The specified teach-in standard block is invalid.
Remedy	Specify the valid and existing traversing block.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP IV

183 Teach-in block not found

Cause	The specified teach-in block is not found.
Remedy	Select the valid and existing traversing block. Activate ”Automatically search for block numer” function.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP IV

184 Teach-in standard block not found

Cause	The specified teach-in standard block is not found.
Remedy	Generate the required standard block for the specified block number Enter the correct block number.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP IV

185 Positioning mode invalid

Cause	For the ”Spindle positioning” function, the positioning mode (P0087) is not valid.
Remedy	Program traversing block positioning as absolute, absolute positive or absolute negative.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

186 Spindle cannot be referenced, supplementary info \%d

Cause: For the ”Spindle positioning” function, an error has occurred while positioning.

Suppl. info	Significance
0	The distance between the last two zero marks was not correct.
1	For two revolutions a zero mark was no longer detected, which was in a tolerance bandwidth of P0126.

Remedy	Check cable and connections.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

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187 Conversion factor spindle pos. cannot be represented, supplementary info \%d

Cause: Conversion factors for spindle positioning was not able to be intialized
Supplementary info, ones and tens position:
00: Conversion factor, velocity to speed too small
01: Conversion factor, velocity to speed too high
02: Conversion factor, adaptation filter too low (–> increase P0210)
03: Conversion factor, adaptation filter too high (–> reduce P0210)
04: Conversion factor, pre-control balancing filter too low (–> increase P0206)
05: Conversion factor, pre-control balancing filter too high (–> reduce P0206)
06: Conversion factor, sum delay too small
07: Conversion factor, sum delay too large
08: Conversion factor, following error model too small
09: Conversion factor, following error model too large
The hundreds position of the supplementary info contains the parmeter set involved.

Remedy: Check and correct specified parameters.

Acknowledgement: RESET FAULT MEMORY

Stop response: STOP II

188 Spindle positioning: P\%d illegal

Cause: Spindle positioning requires the following parameteriation:
P0241 = 1
P0100 = 3

Remedy: Correct the specified parameter or cancel spindle positioning by setting P0125 to 0.

Acknowledgement: RESET FAULT MEMORY

Stop response: STOP II

189 Jogging, incremental invalid

Cause: 1. Jogging incremental is not valid in this mode.
2. An attempt was made to move an axis away from a software limit switch using incremental jogging – however the axis is not at the software limit switch, but behind it.
3. An attempt was made while executing one or several traversing blocks (also via an axis coupling) to activate incremental jogging.

Remedy: 1. Commission the drive in the positioning mode.
2. Move back with jog key 1 or 2 with velocity.
3. Interrupt traversing blocks with the operating condition, reject traversing task.

Acknowledgement: RESET FAULT MEMORY

Stop response: STOP VI

190 Actual firmware does not support spindle positioning

Cause	This firmware does not support the spindle positioning function.
Remedy	Set parameter P0125 to 0
Acknowledgement	POWER ON
Stop response	STOP II

191 Zero mark setting unsuccessful

Cause	It is not possible to set the internal zero mark, if 1. Input signal ”Spindle positioning on” is set, or 2. Still no zero mark found.
Remedy	Maintain the following sequence: 1. Execute spindle positioning —> zero mark found 2. Withdraw input signal ”spindle positioning on” 3. Set the internal zero mark (P0127=1).
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

192 Max. search velocity too high

Cause	The maximum search velocity for spindle positioning is greater than the maximum motor speed.
Remedy	Reduce parameter P0133 or reduce the velocity in the traversing block.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

193 Zero mark not found

Cause	The zero mark (encoder or equivalent zero mark, e.g. BERO) was not found. Gearbox ratio (mechanical system) was not correctly parameterized using parameter P0237/P0238.
Remedy	– Check the equivalent zero mark (BERO) function, if required, replace the BERO – Readjust the clearance when using BERO – Check the cabling – Correctly parameterize the gearbox ratio (mechanical system) using parameter P0237/P0238
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

194 Spindle positioning is only possible with motor 1

Cause	Spindle positioning is only possible with motor 1.
Remedy	Activate motor data set 1 before the spindle positioning command.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

195 Speed pre-control not permissible

Cause	Speed pre-control is not permissible with spindle positioning.
Remedy	Cancel the speed pre-control (P0203)
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

196 Illegal combination of input signals (warning \%u)

Cause	An illegal combination of signals is present at the inputs, at the Profibus control words or at the appropriate bus signals. The detailed cause of the error can be taken from the help text associated with the warning that is entered as supplementary information. This fault can be activated or suppressed using Parameter P338. Supplementary information: Warning number
Remedy	Change the input signals or suppress the fault using P338.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

501 Measuring circuit error, absolute current

Cause	1. The smoothed absolute current (P1254, current monitoring time constant) is greater than 120 % of the permissible power section current (P1107). 2. For an active rotor position identification, the permissible current threshold was exceeded. 3. The P gain of the controller (P1120) has been set too high.
Remedy	– Motor/controller data not correct – For active rotor position identification P1019 (current, rotor position identification) check and if required reduce – Reduce the P gain of current controller (P1120), check the current controller adaptation (P1180, P1181, P1182) – Replace control module – Replace the power section
Acknowledgement	POWER ON
Stop response	parameterizable

504 Measuring circuit error, motor measuring system

Cause
The encoder signal level is too low, faulted (incorrect shielding), or the cable breakage monitoring function has responded.
After separately shutting down the supply voltage at the drive, for SIMODRIVE 611 universal HRS with 1Vpp encoder or SIMODRIVE universalE HRS with 1Vpp encoder, this fault message can be output during the shutdown procedure without any significance for the control.

Remedy
– Use the original Siemens pre-assembled encoder cables (better screening)
– Check for sporadic interruptions (loose contact, e.g. when the drag cable is being moved)
– For toothed-wheel encoders, check the clearance between the toothed wheel and sensor
– Check the encoder, encoder cables and connectors between the motor and control module
– Check the screen connection at the front panel of the control module (top screw)
– Replace the encoder cables or the control module
– Exchange the encoder or motor
– If this fault was signaled without any significance, then it should either be acknowledged in the control or the drive and control should be powered-down together.

Acknowledgement
POWER ON

Stop response
parameterizable

505 Meas.circ.error motor meas.syst.abs.track

Cause
1. The motor absolute track (CD track) is monitored for an interrupted conductor. For optical encoders, the absolute track supports the evaluation of the mechanical position within one motor revolution.
2. For absolute encoders with EnDat interface, this fault displays an initialization error.
Note:
Additional information on the reason for the fault is included in P1023 (IM diagnostics).

Remedy
– Incorrect encoder cable type
– Check for sporadic interruptions (loose contact, e.g. when the drag cable is being moved)
– Remove noise which is coupled in due to inadequate screening of the cable by replacing the encoder cable
– Incorrect encoder type configured (e.g. ERN instead of EQN)
– Check the encoder, encoder cables and connectors between the motor and control module
– Replace control module
– Replace encoder

Acknowledgement
POWER ON

Stop response
parameterizable

507 Synchronization error rotor position

Cause	The difference between the actual rotor position and the new rotor position, which was determined by fine synchronization is greater than 45 degrees electrical. When commissioning a linear motor with rotor position identification (e.g. linear motor, 1FE1 motor), the fine synchronization was not adjusted.
Remedy	– Adjust the fine synchronization using P1017 (commissioning help function) – Check encoder cable, encoder cable connection and grounding (possibly EMC problems) – Check the shield contact, front panel, control module (upper screw) – Replace control module – Exchange the encoder or motor
Acknowledgement	POWER ON
Stop response	parameterizable

508 Zero mark monitoring, motor measuring system

Cause	The measured rotor position fluctuates between 2 encoder zero marks (encoder lines may have been lost). Note: The encoder monitoring function can be disabled using P1600.8.
Remedy	– Use the original Siemens pre-assembled encoder cables (better screening) – Check for sporadic interruptions (loose contact, e.g. due to cable drag movements) – For toothed-wheel encoders, check the clearance between the toothed wheel and sensor – Check the encoder, encoder cables and connectors between the motor and control module – Check the shield contact, front panel, control module (upper screw) – Replace the encoder cables or the control module – Replace control module – Exchange the encoder or motor
Acknowledgement	POWER ON
Stop response	parameterizable

509 Drive converter limiting frequency exceeded

Cause	The speed actual value has exceeded the maximum permissible value.
Remedy	– Encoder pulse number is too low, enter the actual encoder pulse number in P1005 – Stop the belt slipping in open-loop torque controlled mode (the belt slips) – Check P1400 (rated motor speed) – Check P1146 (maximum motor speed) – Check P1147 (speed limiting) – Check P1112 (motor pole pair number) – Check P1134 (rated motor frequency)
Acknowledgement	RESET FAULT MEMORY
Stop response	parameterizable

512 Measuring circuit error, direct measuring system

Cause	The encoder signal level is too low, faulted (incorrect shielding), or the cable breakage monitoring function has responded.
Remedy	– Use the original Siemens pre-assembled encoder cables (better screening) – Check for sporadic interruptions (loose contact, e.g. due to cable drag movements) – For toothed-wheel encoders, check the clearance between the toothed wheel and sensor – Check the encoder, encoder cables and connectors between the encoder and control module – Check the shield contact, front panel, control module (upper screw) – Replace the encoder cables or the control module – Replace encoder
Acknowledgement	POWER ON
Stop response	parameterizable

513 Measuring circuit error, direct measuring system absolute track

Cause	For absolute encoders with EnDat interface, this fault indicates an initialization error. Note: Additional information on the reason for the fault is included in P1033 (DM diagnostics).
Remedy	– Incorrect encoder cable type – Check for sporadic interruptions (loose contact, e.g. when the drag cable is being moved) – Remove noise which is coupled in due to inadequate screening of the cable by replacing the encoder cable – Incorrect encoder type configured (e.g. ERN instead of EQN) – Check the encoder, encoder cables and connectors between the encoder and control module – Replace control module – Replace encoder
Acknowledgement	POWER ON
Stop response	parameterizable

514 Zero mark monitoring, direct measuring system

Cause	A fluctuation in the measured values has occurred between 2 encoder zero marks (encoder pulses may have been lost). Note: The encoder monitoring can be disabled using P1600.14.
Remedy	– Use the original Siemens pre-assembled encoder cables (better screening) – Check for sporadic interruptions (loose contact, e.g. due to cable drag movements) – For toothed-wheel encoders, check the clearance between the toothed wheel and sensor – Check the encoder, encoder cables and connectors between the motor and control module – Check the shield contact, front panel, control module (upper screw) – Replace the encoder cables or the control module – Replace encoder
Acknowledgement	POWER ON
Stop response	parameterizable

515 Power module temperature, exceeded

Cause	The power section temperature is sensed using a temperature sensor on the heatsink. The drive is immediately shut down 20 seconds after the heatsink temperature alarm in order to prevent the power section being thermally destroyed (regenerative stop).
Remedy	Improve the drive module cooling, e.g. using: – Higher airflow in the switching cabinet, possibly cool the ambient air of the drive modules – Avoid many acceleration and braking operations which follow quickly one after the other – Check that the power section for the axis/spindle is adequate, otherwise use a higher-rating module – Ambient temperature too high (refer to the Planning Guide) – Permissible installation altitude exceeded (refer to the Planning Guide) – Pulse frequency too high (refer to the Planning Guide) – Check fan, if required, replace – Maintain the minimum clearance above and below the power section (refer to the Planning Guide)
Acknowledgement	POWER ON
Stop response	parameterizable

591 Pos.contr.clock cycle not equal to DP clock cycle/master applic. clock cycle

Cause	For a 2-axis module, one axis is in the n-set mode and one axis in the positioning mode. For the axis in the n-set mode, a position controller clock cycle (of the master) is entered via the clock-cycle synchronous Profibus or the bus interface. This position controller clock cycle differs from the parameterized position controller clock cycle (P1009) of the axis in the positioning mode. The position controller clock cycle of the master is obtained, in the n-set mode, from the DP clock cycle (Tdp) or the clock cycle of the bus interface multiplied by the time grid Tmapc.
Remedy	For a clock cycle synchronous PROFIBUS (isochronous) or the bus interface, the clock cycles configured for the bus (parameterization) are aligned with the position controller clock cycle P1009 from the positioning axis and n-set axis.
Acknowledgement	POWER ON
Stop response	STOP II

592 Spindle positioning: Pos. contr. not equal to master application clock cycle

Cause	The function ”spindle positioning” requires, for a clock-cycle synchronous PROFIBUS or the bus interface, that the position controller clock cycle of the master matches the parameterized position controller clock cycle (P1009). The position controller clock cycle of the master is obtained from the DP clock cycle (Tdp) multiplied by the time grid Tmapc.
Remedy	For the clock-cycle synchronous PROFIBUS or the bus interface, the clock cycles configured for the bus (parameterization) are aligned with the position controller clock cycle P1009.
Acknowledgement	POWER ON
Stop response	STOP II

593 Fieldbus: Drive is not in synchronism. Supplementary info: \%X

Cause	Supplementary information 0x01: The master sign-of-life has more consecutive failures than permitted. The permissible sign-of-life errors are specified using P0879 bits 2–0 (configuration). 0x02: The Global Control telegram to synchronize the clock cycles has failed in operation for several consecutive DP clock cycles or in several DP clock cycles has violated the time grid specified using the parameterizing telegram (refer to times Tdp and Tpllw). If the complete DP communications permanently fails, at the latest after the response monitoring times specified when configuring the bus, fault 595 is also output.
Remedy	– Check whether communications is briefly or continuously interrupted. – Check whether the BUS master can operate in clock cycle synchronism and outputs the global control telegrams, necessary for clock cycle synchronous operation, in the equidistant DP clock cycle. – Check whether clock synchronism has been activated in the bus configuration, although it is not controlled by the master used. – Check whether the master sign-of-life is received and incremented in the parameterized clock cycle.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

595 Fieldbus: Cyclic data transfer was interrupted

Cause	The cyclic data transfer between the master and slave was interrupted due to the fact that cyclic frames were missing, or due to the reception of a parameterizing or configuring frame. Examples: – Bus connection interrupted – Master runs up again – Master has changed into the 'Clear' state For a passive axis, fault cannot be acknowledged using "RESET FAULT MEMORY".
Remedy	Check the master and bus connection to the master. As soon as cyclic data transfer runs again, the fault can be acknowledged. Set P0875 to 0 in the passive axis.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

596 PROFIBUS: Connection to the publisher \%u interrupted

Cause	Cyclic data transfer between this slave and a slave-to-slave communications publisher was interrupted as cyclic telegrams were missing. Examples: – Bus connection interrupted – Publisher failure – Master runs up again – The response monitoring (Watchdog) for this slave was de-activated via the parameterizing telegram (SetPrm) (Diagnostics: P1783:1 bit 3 = 0). Supplementary info: PROFIBUS address of the publisher
Remedy	Check the publisher and bus connections to the publisher, to the master and between the master and publisher. If the watchdog is de-activated, activate the response monitoring for this slave via Drive ES. As soon as cyclic data transfer runs again, the fault can be acknowledged.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

597 PROFIBUS: Drive not in synchronism. Supplementary information: \%X

Cause	Supplementary information 0x01: The master sign-of-life (STW2, bits 12–15) has more consecutive failures than permitted. The permissible sign-of-life error is specified using P0879 bit 2–0 (PROFIBUS configuration). 0x02: The Global Control Telegram to synchronize the clock cycles in operation has consecutively failed over several consecutive DP clock cycles, or has violated the time grid, specified by the parameterizing telegram (refer to times Tdp and Tpllw) over several consecutive DP clock cycles. If the complete DP communications continuously fails, in addition, fault 599 is output, at the latest after the watchdog monitoring time specified when the bus was configured.
Remedy	– Check whether communications is briefly or continuously interrupted. – Check whether the PROFIBUS master can operate in clock cycle synchronism and the Global Control Telegrams, required for clock cycle synchronous operation, are output in the equidistant DP clock cycle. – Check whether clock synchronism has been activated in the bus configuration, although it is not controlled by the master used. – Check whether the master sign-of-life (STW2, bits 12–15) is received and is incremented in the parameterized clock cycle.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II

598 PROFIBUS: Synchronization error. Supplementary info: \%X

Cause
Supplementary information
0x01:
The expected 1st global control clock cycle display did not occur within the waiting time.
0x02:
PLL synchronization unsuccessful
0x03:
When synchronizing to the clock cycle, the global control clock cycle had more consecutive failures than are permitted.
0x06:
The data frames w. the process data (setpoint direction) were only received after the time (To–125us) in the slave has expired.

Remedy
– Check whether the PROFIBUS master can operate in synchronism with the clock cycle, and that the necessary global-control frames are output for operation in synchronism with the clock cycle.
– Check whether clock synchronism has been activated in the bus configuration, although it is not controlled by the master used.
– Check whether the equidistant DP clock cycle, transferred with the parameterizing telegram, was actually set and activated at the master.
– Check whether the time Tdx, defined in the master software, corresponds to the actual data transfer time to all of the slaves and is less than the configured time (To–125us).

Acknowledgement
RESET FAULT MEMORY

Stop response
STOP II

599 PROFIBUS: Cyclic data transfer was interrupted

Cause
The cyclic data transfer between the master and slave was interrupted due to the fact that cyclic frames were missing, or due to the reception of a parameterizing or configuring frame.
Examples:
– Bus connection interrupted
– Master runs up again
– Master has changed into the ’Clear’ state
For a passive axis, fault cannot be acknowledged using ”RESET FAULT MEMORY”.

Remedy
Check the master and bus connection to the master. As soon as cyclic data transfer runs again, the fault can be acknowledged.
Set P0875 to 0 in the passive axis.

Acknowledgement
RESET FAULT MEMORY

Stop response
STOP II

601 Error in AD conversion, terminal 56/14 or 24/20

Cause	A timing error was identified when reading-out the A/D converter for terminal 56.x/14.x or 24.x/20.x. The read values are probably incorrect/faulty.
Remedy	Replace closed-loop control module
Acknowledgement	RESET FAULT MEMORY
Stop response	parameterizable

602 Open-loop torque controlled oper. w/o encoder is not perm.

Cause	In the IM mode, open-loop torque controlled operation was selected via an input terminal or via PROFIBUS-DP or the bus interface.
Remedy	Deselect the torque-controlled operation or leave the IM mode (changeover speed P1465).
Acknowledgement	RESET FAULT MEMORY
Stop response	parameterizable

603 Changeover to non-parameterized motor data set

Cause	An attempt was made to change over to a motor data set which was not parameterized.
Remedy	Parameterizing motor data set
Acknowledgement	RESET FAULT MEMORY
Stop response	parameterizable

604 Motor encoder is not adjusted

Cause	For an EnDat motor measuring system, it was identified that the serial number does not match that saved, i.e. the encoder has still not run with this drive.
Remedy	1FN3 linear motors (if P1075=1): Measure the rotor position offset to the EMF of the U_R phase and add to P1016 as the commutation angle offset. Then set P1017 to –1 in order to save the serial number of the EnDat encoder. otherwise: To determine commutation angle offset in P1016, initiate the rotor position identification routine via P1017=1. The rotor position identification routine is executed by acknowledging the fault and setting the enable signals. Note: also refer to description of P1017
Acknowledgement	RESET FAULT MEMORY
Stop response	parameterizable

605 Position controller output limited

Cause
The speed setpoint requested from the position controller lies above the max. motor speed.
Possible causes:
– Programmed velocity (P0082:64) too high
– Max. acceleration (P0103) or deceleration (P0104) too high
– Axis is overloaded or blocked

Remedy
– Check and correct the above parameter

Acknowledgement
RESET FAULT MEMORY

Stop response
parameterizable

606 Flux controller output limited

Cause
The specified flux setpoint cannot be realized, although maximum current is input.
– Motor data are incorrect
– Motor data and motor connection type (star/delta) do not match
– Motor has stalled because motor data are extremely inaccurate
– Current limit is too low for the motor (0.9 * P1238 * P1103 < P1136)
– Power section is too small

Remedy
– Correct the motor data
– If required use a larger power section

Acknowledgement
RESET FAULT MEMORY

Stop response
parameterizable

607 Current controller output limited

Cause
The entered setpoint cannot be impressed in the motor, although the maximum voltage has been entered. The cause could be that the motor is not connected, or a phase is missing.

Remedy
– Check the connecting cable, motor/drive converter (phase missing)
– Check the motor contactor
– DC link voltage present?
– Check the DC link busbar (check that the screws are tight)
– Uce monitoring function in the power section has responded (RESET by powering off/powering on)
– Replace the power section or control module

Acknowledgement
RESET FAULT MEMORY

Stop response
parameterizable

608 Speed controller output limited

Cause
The speed controller is at its limit for an inadmissibly long time (torque or current limit). The permissible time is defined in P1605, the upper speed limit when the monitoring responds, in P1606.
Synchronous motor:
In correct operation, the correctly optimized axis drive should never reach its current limit, not even with large speed changes (changing from rapid traverse in the positive direction to rapid traverse in the negative direction).

	P1605 = 200 ms P1606 = 8000 rev/min Induction motor: Acceleration and braking with the maximum torque/current are usual in operation, only a stalled drive (0 speed) is monitored. P1605 = 200 ms P1606 = 30 rev/min 1. At the first commissioning, after the software has been replaced or the software has been upgraded, after the parameters have been entered the ”calculate motor data” or ”calculate controller data” function was not executed. The drive then keeps the default values (for the values to be calculated this is zero) which can, under certain circumstances, result in this fault (P1605 and P1606 should be adapted to the mechanical and dynamic capabilities of the axis). 2. An undesirable input of a high torque reduction via the analog inputs or via PROFIBUS and the bus interface. For PROFIBUS and the bus interface, this effect especially occurs when changing from the positioning mode to the speed setpoint input mode (check as to whether a torque reduction is entered. Diagnostics using P1717, 0%: No torque, 100%: Full torque).
Remedy	– Check connecting cable motor/converter (phase missing, exchanged) – Check the motor contactor – Check the torque reduction (P1717) – DC link voltage present? – Check the DC link voltage (check that the screws are tight) – Unblock the motor – Is the motor encoder connected? – Check the motor encoder cable screen – Is the motor grounded (PE connection)? – Check the encoder pulse number (P1005) – Does the encoder cable fit to the encoder type? – Check the direction of rotation of the encoder tracks (e.g. toothed-wheel encoder, P1011) Adapt parameters P1605 and P1606 to the mechanical and dynamic capabilities of the axis. Check whether a torque reduction has been entered (diagnostics via P1717, 0%: no torque, 100%: full torque). For linear motors: – Check actual value inversion – Check the reduction in the maximum motor current (P1105) and if required increase the value – Check the power cable connection – For the parallel circuit configuration, are the motors correctly assigned and electrically connected? – Uce monitoring function in the power section has responded (RESET by powering off/powering on) – Replace the power section or control module
Acknowledgement	RESET FAULT MEMORY
Stop response	parameterizable

609 Encoder limit frequency exceeded

Cause	The speed actual value exceeds the encoder frequency. – Incorrect encoder – P1005 does not correspond to the no. of encoder pulses – Encoder defective – Motor cable defective or not properly attached – Shield on motor encoder cable is not connected – Defective control module
Remedy	– Enter correct encoder data/replace encoder – Check the encoder pulse number (P1005) – Attach motor cable correctly or replace – Connect the motor encoder cable screen – Reduce the speed setpoint input (P1401) – Replace control module
Acknowledgement	RESET FAULT MEMORY
Stop response	parameterizable

610 Rotor position identification has failed

Cause	if P1075=1 (technique based on saturation) A rotor position could not be determined from the measurement signals (motor current), as no significant saturation effects occurred. Also refer to parameter P1734 for detailed diagnostics. if P1075=3 (motion-based technique) 1. Current increase too low. 2. Maximum permissible duration exceeded. 3. No clear rotor position found.
Remedy	if P1075=1 – Increase current via P1019 – Check armature inductance (P1116) and if required, increase – Check the connecting cable, motor/drive converter (phase missing) – Check the motor contactor – DC link voltage present? – Check the DC link busbar (check that the screws are tight) – Uce monitoring function in the power section has responded (RESET by powering off/powering on) – Replace the power section or control module if P1075=3 To 1. – The motor is not correctly connected – The motor power connection must be checked To 2. – Remove disturbing external forces (e.g. axis couplings which are not released) – Identification technique must remain stable (P1076 must be reduced) – Use an encoder with higher resolution – Improve the encoder mounting (it is not stiff enough) To 3. – Remove disturbing external forces (e.g. axis couplings which are not released) – The axis must be able to freely move (e.g. the motor rotor may not be locked) – Reduce the high axis friction (increase P1019)
Acknowledgement	RESET FAULT MEMORY
Stop response	parameterizable

611 Illegal motion during rotor position identification

Cause	During the rotor position identification (motor current measurement), the motor rotated more than the value entered in P1020. The rotation could be caused by having powered on with the motor already rotating, or caused by the identification routine itself.
Remedy	if P1075=1 – If the interchange was caused by the identification itself and if the error occurs again, then reduce P1019 or increase P1020. – Lock the motor rotor during the identification routine. if P1075=3 – Increase the parameterized load mass (P1076) – Check the maximum permissible motion (P1020) and if required, increase – Reduce the current, rotor position identification (P1019) If the current and speed controller clock cycle have low values (62.5 microseconds), then it maybe necessary to increase P1019.
Acknowledgement	RESET FAULT MEMORY
Stop response	parameterizable

612 Illegal current during rotor position identification

Cause	1. Current was >= 1.2 * 1.05 * P1107 while rotor position identification was active 2. Current was >= P1104 while rotor position identification was active
Remedy	With the rotor position identification (P1011.12 and P1011.13) activated, if required, check and reduce P1019 (current, rotor position identification)
Acknowledgement	RESET FAULT MEMORY
Stop response	parameterizable

613 Shutdown limit, motor overtemperature (P1607) exceeded

Cause

The motor temperature (sensed via the temperature sensor KTY 84 and fed to the module via the motor encoder cable) has exceeded the temperature limit in P1607.

Remedy

– Avoid many acceleration and braking operations which follow one another quickly.
– Motor overload?
– Check whether the motor output is sufficient for the drive, otherwise use a more powerful motor, possibly together with a higher-rating power section.
– Check the motor data. The current could be too high due to incorrect motor data.
– Check the temperature sensor.
– Check the motor fan.
– Check the motor encoder cable.
– Motor encoder defective?
– Check and possibly reduce P1230 or P1235.

The motor temperature monitoring can be disabled with P1601 bit 13 = 1.

For linear motors:

– Check the parameters for the motor temperature monitoring
  P1602 (alarm threshold, motor overtemperature) = 120 degrees C
  P1603 (timer, motor temperature alarm) = 240 s
  P1607 (shutdown limit, motor temperature) = 155 degrees C
  P1608 (fixed temperature) = 0 degrees C
  P1608 = 0 —> Temperature sensing active
  P1608 > 0 —> Fixed temperature active
– If the temperature monitoring is exclusively realized using an external PLC, a fixed temperature must be entered into P1608 (e. g. 80 degrees C). This disables the drive temperature monitoring.
– Check the power connector at the motor
– Check the connection of the temperature sensor coupling cable at the end of the power cable; approximately 580 ohm must be measured at 20 degrees C
– With the measuring system connector withdrawn (X411 for 611U or MOT ENCODR for POSMO), is approx. 580 Ohm at 20 Degrees C measured between PIN 13 (611U) or 20 (POSMO) and PIN 25 (611U) or 21 (POSMO) of the encoder cable?
– Check the measuring system connector at the drive (X411 or MOT ENCODR) to ensure that it is correctly inserted
– Only KTY may be connected for drives connected in parallel
– If the temperature switch and temperature sensor are connected in series, the temperature sensor (NC contact) may have responded, or the temperature switch is defective

Acknowledgement

RESET FAULT MEMORY

Stop response

parameterizable

614 Delayed shutdown for motor overtemperature (P1602/P1603)

Cause

The motor temperature (sensed via the temperature sensor KTY 84 and fed to the module via the motor encoder cable) has exceeded the temperature in P1602 for a time longer than in P1603.

Remedy

– Avoid many acceleration and braking operations which follow one another quickly.
– Motor overload?
– Check whether the motor output is sufficient for the drive, otherwise use a more powerful motor, possibly together with a higher-rating power section.
– Check the motor data. The current could be too high due to incorrect motor data.
– Check the temperature sensor.
– Check the motor fan.
– Check the motor encoder cable.
– Motor encoder defective?
– Check and possibly reduce P1230 or P1235.

The motor temperature monitoring can be disabled with
P1601 bit 14 = 1.

For linear motors:
– Check the parameters for the motor temperature monitoring
  P1602 (alarm threshold, motor overtemperature) = 120 degrees C
  P1603 (timer, motor temperature alarm) = 240 s
  P1607 (shutdown limit, motor temperature) = 155 degrees C
  P1608 (fixed temperature) = 0 degrees C
  P1608 = 0 temperature sensing active
  P1608 > 0 fixed temperature active
– If the temperature monitoring is exclusively realized using an external PLC, a fixed temperature must be entered into P1608
  (e. g. 80 degrees C). This disables the drive temperature monitoring.
– Check the power connector at the motor
– Check the connection of the temperature sensor coupling cable at the end of the power cable; approximately 580 ohm must be measured at 20 degrees C
– With the measuring system connector withdrawn (X411 for 611U or MOT ENCODR for POSMO), is approx. 580 Ohm at 20 Degrees C measured between PIN 13 (611U) or 20 (POSMO) and
  PIN 25 (611U) or 21 (POSMO) of the encoder cable?
– Check the measuring system connector at the drive (X411 or MOT ENCODR) to ensure that it is correctly inserted
– Only KTY may be connected for drives connected in parallel
– If the temperature switch and temperature sensor are connected in series, the temperature sensor (NC contact) may have responded, or the temperature switch is defective

Acknowledgement

RESET FAULT MEMORY

Stop response

parameterizable

615 DM encoder limiting frequency exceeded

Cause	The speed actual value of the direct measuring system exceeds the permissible encoder limiting frequency. – Incorrect encoder – P1007 does not coincide with the encoder pulse number – Encoder defective – Defective encoder cable or not correctly retained – Encoder cable shield is not connected – Defective control module
Remedy	– Enter correct encoder data/replace encoder – Check encoder pulse number (P1007) – Correctly retain encoder cable/replace – Connect encoder cable shield – Reduce speed setpoint input – Replace control module
Acknowledgement	RESET FAULT MEMORY
Stop response	parameterizable

616 DC link undervoltage

Cause	The DC link voltage has exceeded the permissible lower limit P1162.
Remedy	– Check whether the line supply voltage is available – Check whether the pulsed resistor is overloaded
Acknowledgement	RESET FAULT MEMORY
Stop response	parameterizable

617 DC link overvoltage

Cause	The DC link voltage has exceeded the permissible upper limit P1163.
Remedy	– Check whether the line supply voltage is available – Reduce load duty cycle – Check P1163
Acknowledgement	RESET FAULT MEMORY
Stop response	parameterizable

680 Illegal motor code number

Cause	A motor code was entered in P1102 for which no data is available.
Remedy	– Commission the system again and enter the correct motor code number (P1102). – The ”SimoCom U” parameterizing and start-up tool includes motors that are still not known in this particular drive version. Either upgrade the drive version or enter the motor as non-listed motor.
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

681 Illegal power section code number

Cause: A power section code was entered in P1106, for which no data is available.

Remedy:
– Enter the correct power module code into P1106.
– For power modules with automatic identification, upgrade firmware.

Acknowledgement: POWER ON

Stop response: STOP II (SRM, SLM) STOP I (ARM)

682 Illegal encoder code number in P\%u

Cause: An encoder code was entered in P1006 or P1036, for which there is no data.
The direct measuring system (P0250/P0879.12) is activated, although an encoder was not specified in P1036.

Remedy: Enter the correct encoder code or the code for third-party encoders (99) in P1006 or P1036.
De-activate direct measuring system (P0250/P0879.12).

Acknowledgement: POWER ON

Stop response: STOP II (SRM, SLM) STOP I (ARM)

683 Calculate controller data was unsuccessful at first start-up (\%d)

Cause: An error occurred at the first start-up with ”calculate controller data”. Under fault conditions, the parameters for the current controller, flux controller and speed controller could not be optimally assigned.

Remedy: Read out the detailed error cause from P1080 and remove the cause. Then initiate ”calculate controller data” again with P1080 = 1. Repeat this operation, until no error is displayed in P1080. Then save in the FEPROM and execute a POWER ON-RESET.
Error coding in the supplementary info and P1080:
–15 magnetizing reactance (P1141) = 0
–16 leakage reactance (P1139/P1140) = 0
–17 rated motor frequency (P1134) = 0
–18 rotor resistance (P1138) = 0
–19 motor moment of inertia (P1117) = 0
–21 threshold speed for field weakening (P1142) = 0
–22 motor standstill current (P1118) = 0
–23 The ratio between the maximum motor current (P1104) and the motor stall current (P1118) is greater than the maximum value for the torque limit (P1230) and the power limit (P1235).
–24 The ratio between the rated motor frequency (P1134) and the rated motor speed (P1400) is inadmissible (pole pair number).

Acknowledgement: POWER ON

Stop response: STOP II (SRM, SLM) STOP I (ARM)

703 Invalid current controller cycle

Cause	An illegal value was entered in P1000.
Remedy	Enter a valid value in P1000. Permissible values for P1000 are: 2 (62.5 µs) for single-axis positioning or for speed setpoint input 4 (125 µs) in each operating mode
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

704 Invalid speed controller cycle

Cause	An illegal value was entered in P1001.
Remedy	Enter a valid value in P1001. Permissible values for P1001 are 2 (62.5 µs), 4 (125 µs), 8 (250 µs), 16 (500 µs). Setting 2 (62.5 µs) is only permissible for single-axis operation. Further, P1001 must be >= P1000.
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

705 Invalid position controller cycle

Cause	The monitoring function identified a position controller cycle (P1009) outside the permissible limits.
Remedy	Enter a valid value in P1009. Permissible values for P1009 lie between 32 (1 ms) and 128 (4 ms). Further, the position control cycle must be a integral multiple of the speed control cycle.
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

706 Invalid interpolation cycle

Cause	The monitoring has identified an interpolation cycle (P1010) outside the permissible limits, or an illegal ratio between the interpolation cycle and the position controller cycle (P1009).
Remedy	Enter a valid value in P1010 or correct P1009. Permissible values for P1010 lie between 128 (4ms) and 640 (20 ms) or, only for the 1-axis version, also 64 (2ms) if P1009 is also 64 (2 ms). Further, the interpolation cycle must be an integral multiple of the position controller cycle.
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

708 Axial deviations in current controller cycle

Cause	On a 2-axis module, the current controller cycle is different for both axes.
Remedy	Check P1000 and set the input values the same for both drives.
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

709 Axial deviations in speed controller cycle

Cause	On a 2-axis module, the speed controller cycle is different for both axes.
Remedy	Check P1001 and set the input values the same for both drives.
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

710 Axial deviations in position controller or interpolation cycle

Cause	For a 2-axis module, the position controller clock cycle (P1009) or the interpolation clock cycle (P1010) is different for the two axes.
Remedy	Check P1009/P1010 and set the input values for both drives the same.
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

716 Invalid torque constant

Cause	The ratio between the rated torque and rated current (torque constant [Nm/A]) in P1113 is incorrect (less than/equal to zero) or the ratio P1113/P1112 is greater than 70.
Remedy	Enter the valid torque/current ratio for the motor used in P1113 or enter a permissible ratio of P1113/P1112. Third-party motor: The torque constant should be determined from the motor data sheet. Siemens motor: The torque constant is defined by the motor code (P1102).
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

719 Motor not parameterized for delta operation

Cause	When the star-delta changeover is activated using P1013, the motor is not parameterized for delta operation (motor 2).
Remedy	Check and enter the parameters for delta operation (motor 2).
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

720 Invalid maximum motor speed

Cause	Due to the high maximum motor speed in P1401 and the speed controller cycle in P1001, high partial speeds can occur which can result in a format overflow.
Remedy	Check and correct P1401 and P1001. The drive software is designed for large reserve margins, so that the displayed alarm can only occur as a result of a parameterizing error. Example: For a speed controller cycle time of 125 microseconds, a motor speed of 480 000 RPM can still be processed correctly!
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II (SRM, SLM) STOP I (ARM)

721 Spindle speed too high

Cause	As a result of the high spindle speed and the interpolation clock cycle (P1010), the modulo value can no longer be correctly taken into account. The alarm is initiated, if jerky equalization motion occurs – e.g. due to incorrect parameter values.
Remedy	Shorten the interpolation clock cycle. If possible, increase the modulo range of the rotary axis (P0242). Calculating the spindle speed limit [RPM] = 7 / IPO clock cycle[ms] x 60 x 1000 (for the modulo range, 360 degrees = 1 spindle revolution) Example: IPO clock cycle = 4 ms, for max. 7 revolutions (up to 7 x modulo range) – a maximum spindle speed of 105000 RPM is obtained per IPO clock cycle.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II (SRM, SLM) STOP I (ARM)

722 Changeover speed/velocity too low

Cause	For the selected setting of P1466, the induced voltage is too low in the lower speed range in order to be able to reliably guarantee sensorless operation. The induced voltage must be at least 40 Volt (phase-to-phase, RMS) at the particular speed.
Remedy	The following should be ensured: Induction motor : P1466 >= 150 U/min Rotary synchronous motor: P1466 > 40000 / P1114 Linear motor: P1466 > 1386 / P1114
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

723 Axial deviations in STS configuration

Cause	On a 2-axis module, the gating unit configuration (P1003) is different for the two gating units.
Remedy	Check P1003 and set the bits for the two module axes the same (do not change the standard setting, this represents the optimum configuration).
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

724 Invalid motor pole pair number

Cause	Synchronous motors: – The pole pair number in P1112 is zero or negative. – Encoder with CD track (P1027.6 = 0): The pole pair number in P1112 is greater than 6. – Encoder without CD track or with Hall sensors (P1027.6 = 1): The motor pole pair number is dependent on the encoder pulse number (max. 4096 for P1005 >= 32768). Induction motors: – An invalid pole pair number was determined from P1134 and P1400. Motor with resolver: – The maximum motor pole pair number for the modules 6SN1118–*NK01–0AA0 or 6SN1118–*NJ01–0AA0 is 64, otherwise 4 or 6.
Remedy	Synchronous motors: – Check P1112, P1027 and P1014. Induction motors: – Determine and correctly enter rated speed and/or rated frequency.
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

725 Invalid encoder pulse number

Cause	The encoder pulse number of the motor measuring system (P1005) is set to zero.
Remedy	Harmonize the encoder pulse number of the motor measuring system in P1005 to the encoder used. The indirect motor measuring system must always be configured for synchronous and induction motors (exception: Induction motor operation). Standard setting: 2 048 increments/revolution
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

726 Invalid voltage constant

Cause	The voltage constant of the motor in P1114 is set to zero.
Remedy	Determine the voltage constant of the motor used, and enter in P1114. The voltage constant is measured as induced voltage (EMF) under no-load conditions at n = 1 000 RPM as RMS valued at the motor terminals (phase to phase). Third-party motor: The voltage constant should be determined from a motor data sheet. Siemens motor: The voltage constant is determined from the motor code (P1102).
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

727 Invalid combination of power section and synchronous motor

Cause	The power module has not been released for synchronous motors.
Remedy	– Check configuring – Use a valid power section
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

728 Torque/current adaptation factor too high

Cause	The adaptation factor between the setpoint torque and the torque generating current (Iq) in the speed controller is too high.
Remedy	Check P1103, P1107 and P1113 and if required, enter correct values. Third-party motor: The values should be determined from a motor data sheet. Siemens motor: The values are determined from the motor code (P1102).
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

729 Invalid motor stall current

Cause	The motor stall current (P1118) is less than or equal to zero.
Remedy	Determine the stall current of the motor used and enter in P1118. Third-party motor: The stall current should be determined from a motor data sheet. Siemens motor: The stall current is determined from the motor code (P1102).
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

731 Invalid rated output

Cause	The rated motor output (P1130) of the motor is less than or equal to zero.
Remedy	Determine the rated motor output of the motor used and enter in P1130. Third-party motor: The rated motor output should be determined from a motor data sheet. Siemens motor: The rated motor output is determined from the motor code (P1102).
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

732 Invalid rated speed

Cause	The rated motor speed (P1400) of the motor is less than or equal to zero.
Remedy	Determine the rated motor speed of the motor used and enter in P1400. Third-party motor: The rated motor speed should be determined from a motor data sheet. Siemens motor: The rated motor speed is determined from the motor code (P1102).
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

738 Incorrect mode, analog input for the equalization controller

Cause	If the equalization controller is parameterized with P1490 = 1 –> then P0612 must be parameterized with the value 3
Remedy	– P0612=3 or – P1490 not equal to 1
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

739 Incorrect axis number, equalization controller

Cause	If the equalization controller is parameterized with P1490 = 2 –> two active axes must be available on the module.
Remedy	– P1490 equal to 1 (coupling via analog terminals) or – Activate the 2nd axis or – Use a 2-axis module
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

742 V/f operation: Drive frequency, motor \%d not permissible

Cause	In V/f operation, only drive converter frequencies of 4 or 8 kHz are permissible.
Remedy	Change P100 or cancel V/f operation (P1014). When operating with several motors/motor data sets, also set P2100/P3100/P4100 to 4 or 8 kHz.
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

743 Function is not possible using this control board

Cause	”
Remedy	”
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

744 Motor changeover only permissible for the closed-loop speed controlled mode

Cause	Motor changeover (P1013) may only be activated in the closed-loop speed controlled mode (P0700 = 1).
Remedy	– Inhibit motor changeover (P1013 = 0) – Change over into the closed-loop speed controlled mode (P0700 = 1)
Acknowledgement	POWER ON
Stop response	STOP I

749 Speed measuring range is not sufficient

Cause	The maximum speed which can be achieved with speed feedback cannot be measured using the module.
Remedy	– Parameterize the encoder type corresponding to the type of motor and the control module. – Synchronous motor: P1147 * resolver pole pair number must be less than the limiting frequency of the control module (12 bit: 25402 RPM; 14 bit: 6350 RPM). – Induction motor : min (P1146, P1465) * resolver pole pair number must be less than the limiting frequency of the control module (12 bit: 25402 RPM; 14 bit: 6350 RPM).
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

751 Speed controller gain too high

Cause	P gain, speed controller for the lower speed range (P1407) and the upper speed range (1408) were selected to be too high.
Remedy	Reduce the P gain of the speed controller. Only optimized with the adaption disabled (P1413 = 0). The P gain (P1407) is then effective over the complete speed range. After the optimum setting has been found, adaption can be re-enabled (P1413 = 1) and the P gain optimized for the upper speed range (P1408).
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II (SRM, SLM) STOP I (ARM)

753 Current, rotor position identification less than the min. value

Cause	A current was parameterized in P1019 (current, rotor position identification) which is less than the minimum value permissible for the motor.
Remedy	Enter a current in P1019, which is not less than the permissible minimum value for the motor (40% for third-party synchronous linear motor). It may be necessary to use a larger power module. If permissible for the motor used, suppress the fault by setting P1012, bit 5. Caution: For motors with weak saturation effects (e.g. 1FN3 linear motors), as a result of the low identification current, orientation may be erroneous, thus resulting in uncontrolled motion.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II (SRM, SLM) STOP I (ARM)

756 Invalid speed hysteresis of the current setpoint smoothing

Cause	The hysteresis of the speed for the current setpoint smoothing (P1246) may not be greater than the threshold speed of the hysteresis (P1245), as otherwise a ”negative” lower speed would be obtained.
Remedy	P1246 (standard value: 50 [RPM]) must be entered lower than the threshold for the speeddependent setpoint smoothing (P1245, standard value: 4 000 [RPM]).
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II (SRM, SLM) STOP I (ARM)

757 PZD config.: illegal frame no. in P0922

Cause	The frame number set in P0922 is illegal or impermissible for the operating mode currently selected via P0700.
Remedy	Check P0922 and enter valid value.
Acknowledgement	POWER ON
Stop response	STOP II

758 Setpoint source incorrectly parameterized. Supplementary info \%u

Cause	The selected setpoint source in P0891 is invalid. 1 Internal coupling not possible for POSMO or single-axis module 2 Internal coupling not possible for drive A 3 Coupling via PROFIBUS-DP or the bus interface selected, but the matching option module is not inserted
Remedy	Check P891 and enter a valid value.
Acknowledgement	POWER ON
Stop response	STOP II

759 Encoder/motor types do not match

Cause	A linear motor was selected, and no linear scale configured (P1027.4 = 0). A rotating motor was selected and a linear scale configured (P1027.4 = 1). A resolver has been selected the pole pair number (P1018) of which is illegal. A pole pair number =1 or the pole pair number of the motor (P1112) is admissible. The maximum speed (P1146) cannot be measured with the resolver. The required resolution (1011[2] = 1 or 1030[2] = 1, resolver evaluation) cannot be set using this module. For this setting, either 6SN1118–*NK01–0AA0 or 6SN1118–*NJ01–0AA0 is required.
Remedy	– Parameterize the encoder type corresponding to the type of motor and the control module. – Use the required (6SN1118–*NK01–0AA0 or 6SN1118–*NJ01–0AA0) control module.
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

760 Pole pair width/scale graduations cannot be represented internally

Cause	For linear motors, the equivalent (internal) pole pair number and (internal) encoder pulse number are calculated from the pole pair width and grid division. In this case, the encoder pulse number must be an integer multiple of one or x pole pair widths. This error message is output if the pole pair width/grid division * x (up to x=4096) is not an integer multiple or if an internal encoder pulse number which was calculated is too high. A result with a tolerance of +/– 0.001 absolute is interpreted to be an integer.
Remedy	Long travel paths: A linear measuring system with an encoder mark number that is an integral divisor of x* pole pair widths should be used. Short travel paths: For short travel, only a low error can accumulate which has hardly any effect on the maximum achievable force and on the temperature rise, if the encoder pulse number fits with a deviation of more than +/–0.001 in the pole pair width. We then recommend that the pole pair width is slightly changed.
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

761 P0892 cannot be used with this measuring system

Cause: The following settings are permitted (Order No.[MLFB] 6SN1118–....):
Incremental measuring systems (7 bit) with sin/cos 1 Vpp without EnDat interface (..*NH00–0AA*, ..*NH10–0AA*) : 0
Incremental measuring systems (7 bits) with sin/cos 1 Vpp with EnDat interface (..*NH00–0AA*, ..*NH10–0AA*) : 0,1,2,3
Incremental measuring systems (11 bit) with sin/cos 1 Vpp (..*NH01–0AA*, ..*NH11–0AA*) : 0,1,2,3,4
resolver (12 bit) (..*NK00–0AA0 or ..*NJ00–0AA0) : 0,1,2,3
Resolver (12 bit) (..*NK01–0AA0 or ..*NJ01–0AA0) with 12-bit resolution (1011[2] = 0 or 1030[2] = 0) : 0,1,2,3,4,5
Resolver (14 bit) (..*NK01–0AA0 or ..*NJ01–0AA0) with 14-bit resolution (1011[2] = 1 or 1030[2] = 1) : –2,–1,0,1,2,3

Remedy: Set P0892 (factor, angular encoder pulse number/encoder pulse number) to a valid value.

Acknowledgement: POWER ON

Stop response: STOP II (SRM, SLM) STOP I (ARM)

762 P0893 cannot be used with this measuring system

Cause: For incremental measuring systems with sin/cos 1 Vpp without EnDat interface and for linear measuring systems with sin/cos 1 Vpp with EnDat interface, a zero pulse offset cannot be set via P0893.

Remedy: Set P0893 (angular encoder zero pulse offset) to 0.

Acknowledgement: POWER ON

Stop response: STOP II (SRM, SLM) STOP I (ARM)

764 Multiple assignment of terminal A or B (P0890)

Cause: When selecting 3 in P0890, from drive A or B (setpoint at terminal A and actual value at terminal B), it was identified, that terminal A or B were already being used by another drive. Thus, this configuration is not possible.

Remedy: Check the configuration of terminals A and B in P0890 and eliminate multiple assignments of both drives.

Acknowledgement: POWER ON

Stop response: STOP II (SRM, SLM) STOP I (ARM)

765 P0890 and P0891 configure both setpoint inputs

Cause: An actual value coupling is switched in (P0891 = 1) for drive B. Simultaneously, for the same drive, terminal A or B is parameterized as position setpoint input (P0890 = 2 or 3).

Remedy: Check the configuration of terminals A and B in P0890, compare with P0891 and eliminate multiple setpoint sources.

Acknowledgement: POWER ON

Stop response: STOP II (SRM, SLM) STOP I (ARM)

766 Blocking frequency > Shannon frequency

Cause: The bandstop frequency of a speed setpoint filter is greater than the Shannon sampling frequency from the sampling theorem.

Remedy: The bandstop frequency for P1514, filter 1 or P1517 for filter 2 must be less than the inverse value of two speed controller clock cycles 1/ (2 * P1001 * 31.23 microseconds).

Acknowledgement: RESET FAULT MEMORY

Stop response: STOP II (SRM, SLM) STOP I (ARM)

767 Natural frequency > Shannon frequency

Cause: The natural frequency of a speed setpoint filter is greater than the Shannon sampling frequency from the sampling theorem.

Remedy: The natural frequency of a speed setpoint filter must be lower than the reciprocal of two speed controller cycles.
Speed setpoint filter 1:
P1520 * 0.01 * P1514 < 1 / (2 * P1001 * 31.25 microseconds)
Speed setpoint filter 2:
P1521 * 0.01 * P1517 < 1 / (2 * P1001 * 31.25 microseconds)

Acknowledgement: RESET FAULT MEMORY

Stop response: STOP II (SRM, SLM) STOP I (ARM)

768 Numerator bandwidth > twice the blocking frequency

Cause: The numerator bandwidth of a current or speed setpoint filter is greater than twice the bandstop frequency.
This alarm is only generated for the general bandstop, if the following is valid:
Speed setpoint filter 1: P1516 > 2 * P1514 or P1520 <> 100.0
Speed setpoint filter 2: P1519 > 0.0 or P1521 <> 100.0
Current setpoint filter 1: P1212 > 0.0
Current setpoint filter 2: P1215 > 0.0
Current setpoint filter 3: P1218 > 0.0
Current setpoint filter 4: P1221 > 0.0

Remedy: The numerator bandwidth must be less than twice the bandstop frequency.
Current setpoint filter 1: P1212 <= 2 * P1210
Current setpoint filter 2: P1215 <= 2 * P1213
Current setpoint filter 3: P1218 <= 2 * P1216
Current setpoint filter 4: P1221 <= 2 * P1219
Speed setpoint filter 1: P1516 <= 2 * P1514
Speed setpoint filter 2: P1519 <= 2 * P1517

Acknowledgement: RESET FAULT MEMORY

Stop response: STOP II (SRM, SLM) STOP I (ARM)

769 Denominator bandwidth > twice the natural frequency

Cause	The denominator bandwidth of a current or speed setpoint filter is greater than twice the natural frequency. This alarm is only generated for the general bandstop, if the following is valid: Speed setpoint filter 1: P1516 > 2 * P1514 or P1520 <> 100.0 Speed setpoint filter 2: P1519 > 0.0 or P1521 <> 100.0 Current setpoint filter 1: P1212 > 0.0 Current setpoint filter 2: P1215 > 0.0 Current setpoint filter 3: P1218 > 0.0 Current setpoint filter 4: P1221 > 0.0
Remedy	The denominator bandwidth of a current or speed setpoint filter must be less than twice the natural frequency. Speed setpoint filter 1: P1515 <= 2 * P1514 * 0.01 * P1520 Speed setpoint filter 2: P1518 <= 2 * P1517 * 0.01 * P1521 Current setpoint filter 1: P1211 <= 2 * P1210 Current setpoint filter 2: P1214 <= 2 * P1213 Current setpoint filter 3: P1217 <= 2 * P1216 Current setpoint filter 4: P1220 <= 2 * P1219
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II (SRM, SLM) STOP I (ARM)

770 Format error

Cause	The calculated bandstop filter coefficients cannot be represented in the internal format.
Remedy	Change filter setting.
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II (SRM, SLM) STOP I (ARM)

771 Induction motor oper.: drive converter frequency motor \%d not permissible

Cause	In induction motor operation (selected by P1465 < P1146), drive converter frequencies of 4 or 8 kHz are permissible.
Remedy	– Change P1100 – Cancel induction motor operation (P1465 > P1146)
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II (SRM, SLM) STOP I (ARM)

772 Induction motor oper.: speed controller gain, motor \%d too high

Cause	The P gain of the speed controller (P1451) is too high.
Remedy	For the speed controller, enter a lower value for the P gain (P1451).
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II (SRM, SLM) STOP I (ARM)

773 Not permissible to active analog input

Cause	For this particular hardware version, it is not permissible to activate the analog input.
Remedy	– Set P0607 to 0 and P0612 to 0 or – Use the ”SIMODRIVE 611 universal” control module.
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

774 Induction motor oper.: changeover speed motor \%d not permissible

Cause	For mixed operation (with/without encoder) P1465 > 0, only closed-loop controlled induction motor operation is permissible (P1466 <= P1465).
Remedy	Eliminate error by selecting pure induction motor operation (P1465 = 0) or by canceling induction motor open-loop controlled operation (P1465 > P1466).
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II (SRM, SLM) STOP I (ARM)

775 SSI encoder incorrectly parameterized. Supplementary info \%u

Cause	Incorrect parameterization of the SSI absolute value encoder. Supplementary info = 0x1, 0x11 (indirect, direct measuring system): —> The single-turn resolution cannot be 0. Supplementary info = 0x2, 0x12 (indirect, direct measuring system): —> The number of parameterized bits is greater than the telegram length. Supplementary info = 0x3, 0x13 (indirect, direct measuring system): —> For linear encoders, it is not possible to have multi-turn resolution.
Remedy	For supplementary info 1 or 11: Check P1022 and P1032 For supplementary info 2 or 12: Check P1021, P1022, P1027.12 and P1027.14 with respect to P1028 and check P1031, P1032, P1037.12 and P1037.14 with respect to P1041 For supplementary info 3 or 13: Check P1021 and P1031
Acknowledgement	POWER ON
Stop response	STOP I

776 TTL encoder not possible for older basic module

Cause	For an old basic module, which does not support TTL encoders, a TTL encoder was selected as motor measuring system.
Remedy	Use a new basic module or incremental measuring system with sin/cos 1 Vpp.
Acknowledgement	POWER ON
Stop response	STOP I

777 Current for the rotor position identification too high

Cause	A current was parameterized in P1019, which is greater than the current which is permissible for the motor and the power section used.
Remedy	Reduce the current via P1019.
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

778 Impermissible converter frequency for rotor position ID

Cause	When selecting the rotor position identification (P1019), drive converter frequencies (P1100) of 4 or 8 kHz are permissible.
Remedy	Change the drive converter frequency or cancel the rotor position identification.
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

779 Motor moment of inertia, motor \%d invalid

Cause	The motor moment of inertia (P1117) is incorrect (less than/equal to zero).
Remedy	Enter the valid motor moment of inertia for the motor used, in P1117. Third-party motor: The motor moment of inertia should be determined from a motor data sheet. Siemens motor: The characteristic motor data should be determined from the motor code (P1102).
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II (SRM, SLM) STOP I (ARM)

780 No-load current, motor > rated motor current (motor \%d)

Cause	The motor no-load current (P1136) has been parameterized greater than the rated motor current (P1103).
Remedy	Enter the valid currents for the motor used in P1136 and P1103. Third-party motor: The required currents should be determined using a motor data sheet. Siemens motor: The currents are determined using the motor code (P1102).
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II (SRM, SLM) STOP I (ARM)

781 No-load current, motor \%d > rated power section current

Cause
The motor no-load current (P1136) has been set to higher values than the rated power section current.
before SW 2.4 the following is valid: Rated power section current = P1111
from SW 2.4 the following is valid: Rated power section current = P1111 * P1099

Remedy
– Enter the valid current for the motor used in P1136.
Third-party motor:
The required currents should be determined using a motor data sheet.
Siemens motor:
The currents are determined using the motor code (P1102).
– Reduce the power section pulse frequency P1100.
– Use a higher-rating power section (re-commission).

Acknowledgement
RESET FAULT MEMORY

Stop response
STOP II (SRM, SLM) STOP I (ARM)

782 Reactance motor \%d invalid

Cause
The stator leakage reactance (P1139) or the rotor leakage reactance (P1140) or the magnetizing reactance (P1141) of the motor is incorrect (less than/equal to zero).

Remedy
Determine the stator, rotor leakage reactance and magnetizing reactance of the motor used and enter in P1139, P1140 and P1141.
Third-party motor:
The values should be determined from a motor data sheet.
Siemens motor:
The values are determined from the motor code (P1102).

Acknowledgement
RESET FAULT MEMORY

Stop response
STOP II (SRM, SLM) STOP I (ARM)

783 Rotor resistance, motor \%d invalid

Cause
The rotor resistance (P1138, cold) of the motor is zero or there was a format overflow for an internal conversion.

Remedy
The following parameters can have incorrect values:
P1001 (speed controller cycle)
P1134 (rated motor frequency)
P1138 (rotor resistance)
P1139 (leakage stator reactance)
P1140 (leakage rotor reactance)
P1141 (magnetizing field reactance)
Check the parameter, and if required, correct using the motor data sheet.
The following condition must be fulfilled:
16 * P1001 * 0.00003125 * P1138 * 2PI * P1134 / (P1140 + P1141) < 1

Acknowledgement
RESET FAULT MEMORY

Stop response
STOP II (SRM, SLM) STOP I (ARM)

784 No-load voltage, motor \%d invalid

Cause	Error in no-load voltage P1135: – P1135 <= 0 or – P1135 > P1132 or – P1135 * P1142 / P1400 + Vser.react. > 450V. With Vser.react. = 0.181 * P1136 * P1142 * P1119
Remedy	Determine the no-load voltage of the installed motor and enter this in P1135. Third-party motor: The following parameters may have incorrect values: P1119 (inductance of the series reactor) P1132 (rated motor voltage) P1135 (no-load motor voltage) P1400 (rated motor speed) P1142 (threshold speed for field weakening) P1136 (no-load motor current) Check parameters and if required correct using a motor data sheet. Siemens motor: The no-load voltage is determined from the motor code (P1102).
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II (SRM, SLM) STOP I (ARM)

785 No-load current, motor \%d invalid

Cause	The no-load current (P1136) of the motor (ARM) is incorrect (less than/ equal to zero).
Remedy	Determine the no-load current of the motor used (ARM) and enter into P1136. Third-party motor: The no-load current should be determined from a motor data sheet. Siemens motor: The no-load current is determined from the motor code (P1102).
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II (SRM, SLM) STOP I (ARM)

786 Field-weakening speed, motor \%d invalid

Cause	The threshold speed for field weakening for induction motors (P1142) is incorrect (less than/equal to zero).
Remedy	Determine the threshold speed for field weakening for the motor used and enter in P1142. Third-party motor: The field weakening speed should be determined from a motor data sheet. Siemens motor: The field weakening speed is determined from the motor code (P1102).
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II (SRM, SLM) STOP I (ARM)

787 Induction motor oper.: feedforward control gain motor \%d cannot be displayed

Cause	The feedforward control gain for induction motors cannot be represented in the internal numerical format if the motor moment of inertia and rated motor torque were unfavorably selected.
Remedy	Operation without encoder: Reduce the encoder pulse number (P1005), as this is used in the internal numerical format. Operation with encoder: Reduce the speed controller cycle (P1001).
Acknowledgement	RESET FAULT MEMORY
Stop response	STOP II (SRM, SLM) STOP I (ARM)

788 P0891 for drive B only

Cause	An actual-value link has been activated (P0891 = 1) for drive A. The hardware does not permit this setting.
Remedy	Set P0891 to 0 for drive A.
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

789 Setpoint transfer SimoCom U ==> drive interrupted

Cause	The setpoint transfer from SimoCom U to the drive was interrupted, i.e. there is no longer an online connection. The Master Control was returned to the drive. Communication between the two communication partners was faulty. When traversing the drive via SimoCom U, other functions were executed on the PG/PC (e.g. open online help, open file), so that the drive can only be irregularly supplied from SimoCom U.
Remedy	– Check whether SimoCom U is still operating correctly, if required, restart – Check whether the communication connection is OK, if required, replace the connecting cable – When in the online mode, do not select any time-intensive functions
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

790 Illegal operating mode. Supplementary info: \%u

Cause	The selected operating mode (P0700) is not permitted for this module or axis. Supplementary info = 0x1: Operating mode ==0 selected on the 1st axis Supplementary info = 0x2: ”Positioing” operating mode selected for the Nset control module Supplementary info = 0x3: Operating mode is not possible with this firmware release Supplementary info = ”External position reference value” operating mode no longer possible.
Remedy	For supplementary info 1: Select valid operating mode (P0700 > 0) For supplementary info 2: Select Nset operating mode or use a positioning module. For supplementary info 3: Use a firmware release which supports this operating mode. For supplementary info 4: Select ”Positioning” operating mode.
Acknowledgement	POWER ON
Stop response	STOP I

791 TTL encoder interface incorrectly parameterized

Cause	The TTL encoder interface may only be parameterized as follows for this particular hardware version: Drive A: P0890 = 0 or 4, 0: Interface inactive, 4: TTL encoder input Drive B: P0890 = 0
Remedy	Set P0890 to permissible value.
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

792 Direct measuring system incorrectly parameterized. Supplementary info: \%u

Cause	It is not permitted to parameterize the direct measuring system. Supplementary info = 0x1: A direct measuring system cannot be used using this board. Supplementary info = 0x2: The direct measuring system cannot be simultaneously operated with drive B. Supplementary info = 0x3: The direct measuring system is active and drive A is set for encoderless operation (P1027 bit 5 = 1).
Remedy	For supplementary info 1: Use the required board. For supplementary info 2: – De-activate the direct measuring system for drive A (P0250/P0879.12 = 0) or – Switch drive B inactive (P0700 = 0) For supplementary info 3: – De-activate the direct measuring system for drive A (P0250/P0879.12 = 0) or – Commission the motor measuring system for drive A
Acknowledgement	POWER ON
Stop response	STOP I

793 Angular encoder signal waveform different for drive A and B

Cause	The input signal waveform for the angular encoder interface must be set the same for the drives.
Remedy	Check P0894 for both drives and set the same
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

794 P0890 = 3 not permitted for drive B

Cause	This angular encoder interface setting is not permitted for drive B.
Remedy	Check P0890 for drive B and set to a permissible value
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

795 Ang. encoder, pos. ref. value normalization factor too large. Suppl. info: \%u

Cause	The position reference value normalization for the angular encoder interface is not permissible. Supplementary info = 1 —> Condition P0401 * P0895 < 8388608 violated = 2 —> Condition P0402 * P0896 < 8388608 violated
Remedy	Check parameterization via P0401, P0402, P0895 and P0896. It may be possible to achieve the conditions above by shortening the numerator P0401 * P0895 with the denominator P0402 * P0896.
Acknowledgement	POWER ON
Stop response	STOP II

797 Error in center frequency measurement

Cause	The speed was too high during the center frequency measurement (current calibration). The center frequency is measured automatically at run-up, or when the pulses are inhibited.
Remedy	Power up the drive converter if the motor runs at a reduced speed.
Acknowledgement	POWER ON
Stop response	STOP I

798 Measured value memory active

Cause	The measured-value memory was active during power-up.
Remedy	Run up again.
Acknowledgement	POWER ON
Stop response	STOP I

799 FEPROM backup and HW Reset required

Cause	Parameters were re-calculated. Parameters must be saved and the module run up again after this new calculation.
Remedy	The newly calculated data should be saved in the FEPROM. The new parameters become effective the next time that the module runs up!
Acknowledgement	POWER ON
Stop response	STOP II (SRM, SLM) STOP I (ARM)

800 Minus hardware limit switch

Cause	A 1/0 edge was identified at the ”Minus hardware limit switch” input signal.
Remedy	– In the pos mode: Return the drive to the traversing range using jog key 1 or 2. – In the n-set mode: Enter a setpoint that opposes the approach direction.
Acknowledgement	not required
Stop response	STOP VII

801 Plus hardware limit switch

Cause	A 1/0 edge was identified at the ”Plus hardware limit switch” input signal.
Remedy	– In the pos mode: Return the drive to the traversing range using jog key 1 or 2. – In the n-set mode: Enter a setpoint that opposes the approach direction.
Acknowledgement	not required
Stop response	STOP VII

802 Drive rotates in response to angular encoder output parameters

Cause	The drive was not stationary as the zero pulse offset was programmed on the angular encoder interface. Low speeds are not critical, but the inaccuracy of the zero pulse position increases in proportion to speed.
Remedy	Ensure that the drive is at a standstill, or take into account a higher inaccuracy of the zero pulse.
Acknowledgement	not required
Stop response	STOP VII

804 Controller enable or on/off 1(edge) or on/off 2/3 missing

Cause	When starting a traversing block, the controller enable has not been set, or the controller enable is missing during a traversing program when re-starting the axis from standstill. Controller enable missing, i.e. one of the following signals missing: – PROFIBUS control signals (STW1.0: ON/OFF 1 (signal edge), STW1.1: OC/OFF2, STW1.2: OC/OFF 3, STW1.3: Enable inverter/pulse inhibit) and the appropriate signals of the bus interface – PC enable (SimoCom U) – Terminal 64 – Terminal 65.x
Remedy	Set the missing signal, and re-start the traversing block or enter a signal edge via PROFIBUS.
Acknowledgement	not required
Stop response	STOP VII

805 Pulse enable missing

Cause	When starting a traversing block, the pulse enable is not set, or the pulse enable is missing during a traversing program when re-starting the axis from standstill. Pulse enable missing, i.e. one of the following signals missing: – PROFIBUS control signals (STW1.1: OC/OFF 2, STW1.3: Enable inverter/pulse inhibit) or the appropriate signals of the bus interface – Terminal 48 (NE module) – Terminal NS1/NS2 (NE module) – Terminal 63 (NE module) – Terminal 663 (control module)
Remedy	Set the missing enable signal and then re-start the traversing block.
Acknowledgement	not required
Stop response	STOP VII

806 OC/reject traversing task missing

Cause	When starting a traversing block, the ”operating condition/reject traversing task” input signal is not set.
Remedy	Set the ”operating condition/reject traversing task” input signal and then re-start the traversing block.
Acknowledgement	not required
Stop response	STOP VII

807 OC/intermediate stop missing

Cause	When starting a traversing block the ”operating condition/intermediate stop” input signal is not set.
Remedy	Set the ”operating condition/intermediate stop” input signal and then re-start the traversing block.
Acknowledgement	not required
Stop response	STOP VII

808 Reference point not set

Cause	When starting a traversing block, a reference point is not set.
Remedy	Execute referencing or set a reference point using the ”set reference point” input signal.
Acknowledgement	not required
Stop response	STOP VII

809 Parking axis selected

Cause	When starting a traversing block or when starting referencing, the ”parking axis” function is selected.
Remedy	Cancel the ”parking axis” function and then re-start the required function.
Acknowledgement	not required
Stop response	STOP VII

814 Motor temperature, pre-alarm

Cause	The motor temperature is sensed via a temperature sensor (KTY84) and evaluated on the drive side. This alarm is output if the motor temperature reaches the alarm threshold motor overtemperature (P1602).
Remedy	– Avoid many acceleration and braking operations which follow one another quickly. – Check whether the motor output is sufficient for the drive, otherwise use a higher output motor, possibly in conjunction with a higher-rating power section. – Check the motor data. The motor current could be too high due to incorrect motor data. – Check the temperature sensor. – Check the motor fan.
Acknowledgement	not required
Stop response	STOP VII

815 Power module temperature, pre-alarm

Cause	The heatsink temperature of the power section is sensed using a thermosensor on the main heatsink. If the overtemperature condition remains, then the drive shuts down after approx. 20 s.
Remedy	Improve the drive module cooling, e.g. using: – Higher airflow in the switching cabinet, possibly cool the ambient air of the drive modules – Avoid many acceleration and braking operations which follow quickly one after the other – Check that the power section for the axis/spindle is adequate, otherwise use a higher-rating module – Ambient temperature too high (refer to the Planning Guide) – Permissible installation altitude exceeded (refer to the Planning Guide) – Pulse frequency too high (refer to the Planning Guide) – Check fan, if required, replace – Maintain the minimum clearance above and below the power section (refer to the Planning Guide)
Acknowledgement	not required
Stop response	STOP VII

816 Resolver sensing at its limit

Cause	At run-up, the speed with an existing resolver evaluation was extremely high. It is possible that this was not the actual speed, and that the resolver was not connected to the measuring circuit input.
Remedy	Insert the measuring circuit connector and enter a reset.
Acknowledgement	not required
Stop response	STOP VII

820 Power module in i2t limiting

Cause	The power module is being operated too long above the permissible load limit.
Remedy	– Avoid many acceleration and braking operations which follow quickly one after the other – Check that the power section for the axis/spindle is adequate, otherwise use a higher-rating module – Pulse frequency too high (refer to the Planning Guide) – Check P1260 and P1261
Acknowledgement	not required
Stop response	STOP VII

827 Fieldbus is not in the data exchange state

Cause	The bus interface is still not in the data exchange state or data exchange was interrupted. Causes: – The master has not yet run up, or has not yet established a connection to the slave. – The bus addresses differ in the master configuring and slave parameterization. – The bus connection has been physically interrupted. – The master is still in the clear condition. – An illegal parameterization or configuration was received. – A BUS address was assigned several times.
Remedy	Master, check the assignment of bus addresses and bus connection.
Acknowledgement	not required
Stop response	STOP VII

828 Fieldbus is not in clock-cycle synchronism to the master

Cause	The bus interface is in the data exchange state and was selected using the parameterizing telegram of the clock-cycle synchronous operation. It was not possible to synchronize to the clock cycle specified by the master and to the master sign of life. Causes: – The master does not send an equidistant global control frame although clock synchronism has been selected via the bus configuration. – The master uses another equidistant DP clock cycle than was transferred to the slave in the parameterizing telegram. – The master does not increment its sign-of-life in the configured time grid Tmapc.
Remedy	Check master application and bus configuration Check the consistency between the clock cycle input for the slave configuring and the clock cycle setting at the master. If the master (e.g. SIMATIC S7) does not transfer a sign-of-life, the sign-of-life evalution can also be suppressed using P0879 bit 8.
Acknowledgement	not required
Stop response	STOP VII

829 PROFIBUS: Illegal parameterization received. Reason: \%u

Cause

An illegal parameterizing frame was received via PROFIBUS. Cyclic data transfer cannot start.
Reasons:
8 = The parameterizing telegram has an illegal length
9 = The length data in the equidistant block is illegal
10 = A block header has an unknown ID.
11 = The basis time Tbasedp is not permissible (not equal to 125 µs).
12 = The DP clock cycle Tdp is not permissible (less than 1ms or greater than 32ms).
13 = The time Tmapc is less than 1*Tdp or greater than 14*Tdp.
14 = The base time Tbaseio is not permissible (not equal to 125 µs).
15 = Time Ti is greater than the DP clock cycle (Tdp).
16 = Time To is greater than the DP clock cycle (Tdp).
17 = For active Data Exchange, a new parameterization was received with different contents.
18 = Clock cycle synchronous operation was selected without a suitable option module having been activated (refer to P0875).
19 = IsoM_Req (state 3, bit 4) is requested in the DPV1 header without there being an isochron block (ID 0x04).
20 = Fail_Safe (state 1, bit 6), IsoM_Req (state 3, bit 4) or Prm_Structure (state 3, bit3) missing in the DPV1 header although an isochron block (ID 0x04) is available.
21 = The time Tdx is greater than (To – 125us) or greater than (Tdp – 250 µs).
22 = The time Tpllw is greater than 1us.
23 = Slave-to-slave communication access target address and length do not conform to word boundary.
24 = Maximum number (3 external + 1 internal) of slave-to-slave communication links has been exceeded.
25 = Maximum number (8) of accesses per link has been exceeded.
26 = Unknown version ID in the slave-to-slave communications block.
27 = The maximum overall length of the filter table has been exceeded.
31 = The permitted maximum length of the parameterizing telegram for the option module has been exceeded.
32 = The option module firmware does not support slave-to-slave communications

Remedy

Check the bus configuration at the master, and if required correct the parameterization.
If required, insert (reason 18) a suitable option module and activate.
If required, (reason 31 or reason 32) upgrade the option module firmware to a version greater than or equal to 04.01.

Acknowledgement

not required

Stop response

STOP VII

830 PROFIBUS: Illegal configuration received. Reason: \%u

Cause

An illegal configuration frame was received via PROFIBUS. Cyclic data transfer cannot start.
Reasons:
1 = In the master, more axes are configured than are physically present in the power module.
2 = The number of the axes configured in the master is not equal to the number axes where the PROFIBUS DP option module is switched active via P0875. Note: Communications with axis B are not automatically de-activated even when switching axis B into a passive state.
3 = Configuration incomplete (too short) for one of the PPL types (only for vor P875 = 2).
4 = No PPO type detected (only for P875 = 2).
5 = Length calculation different between firmware and option module.
6 = For active data exchange, a new configuration was received with different length.
7 = Configuration contained unknown S7 ID.
19 = More PZD's have been configured than the maximum permissible.
20 = The configurtion contains an unknown special character (only axis separators are permitted).
22 = Target offset of slave-to-slave communications access exceeds the maximum number of PZDs
28 = Number of slave-to-slave communication IDs differs from the number of accesses in the parameterizing telegram.
29 = Setpoint PZDs are not uniformly supplied by the master or slave (drive) publisher.
30 = The permitted maximum length of the configuration telegram for the option module has been exceeded.

Remedy

Check the bus configuring at the master and if required correct.
If required, using P875, activate the option module PROFIBUS-DP, which are previously configured in the PROFIBUS Master for the number of axes involved.

Acknowledgement

not required

Stop response

STOP VII

831 PROFIBUS is not in the data transfer condition

Cause	The PROFIBUS is not in a data transfer status (data exchange) or data transfer was interrupted. Causes: – The master has not yet run up, or has not yet established a connection to the slave. – The bus addresses differ in the master configuring and slave parameterization. – The bus connection has been physically interrupted. – The master is still in the clear condition. – An illegal parameterization or configuration was received. – A PROFIBUS address was assigned several times.
Remedy	Master, check the assignment of bus addresses and bus connection.
Acknowledgement	not required
Stop response	STOP VII

832 PROFIBUS not clock-synchronous with the master

Cause	The PROFIBUS is in a data transfer status (data exchange) and has been selected via the parameterizing frame of synchronous operation. It could not yet be synchronized to the clock preset by the master resp. to the master sign-of-life. Causes: – The master does not send an equidistant global control frame although clock synchronism has been selected via the bus configuration. – The master uses another equidistant DP clock cycle than was transferred to the slave in the parameterizing telegram. – The master increments its sign-of-life (STW2 Bits 12–15) not in the configured time frame Tmapc.
Remedy	Check master application and bus configuration Check the consistency between the clock cycle input for the slave configuring and the clock cycle setting at the master. If the master (e.g. SIMATIC S7) does not transfer a sign-of-life, the sign-of-life evalution can also be suppressed using P0879 bit 8.
Acknowledgement	not required
Stop response	STOP VII

833 PROFIBUS: No connection to the publisher \%u

Cause	Cyclic data transfer between this slave and a slave-to-slave communications publisher was still not started or was interrupted. Examples: – Bus connection interrupted – Publisher failure – Master runs up again – The response monitoring (Watchdog) for this slave was de-activated via the parameterizing telegram (SetPrm) (Diagnostics: P1783:1 bit 3 = 0). Supplementary info: PROFIBUS address of the publisher
Remedy	Check the publisher and bus connections to the publisher, to the master and between the master and publisher. if the watchdog is de-activated, activate the response monitoring for this slave via Drive ES.
Acknowledgement	not required
Stop response	STOP VII

840 Teach-in for running traversing program

Cause	Teach-in was requested during a running traversing program.
Remedy	Exit the traversing program and re-request teach-in.
Acknowledgement	not required
Stop response	STOP VII

841 Teach-in for relative block

Cause	The traversing block as ”teach in block” is relative instead of absolute.
Remedy	Change the traversing block mode ”teach in block” from relative to absolute.
Acknowledgement	not required
Stop response	STOP VII

842 Teach-in for a relative standard block

Cause	The traversing block as ”teach in standard set”, is relative instead of absolute.
Remedy	Change the traversing block mode ”teach in standard block” from relative to absolute.
Acknowledgement	not required
Stop response	STOP VII

843 Search velocity too high

Cause	The search velocity for spindle positioning is too high for the selected maximum deceleration.
Remedy	Reduce search velocity P0082:64 or increase the maximum deceleration P0104.
Acknowledgement	not required
Stop response	STOP VII

845 Jogging not effective for active coupling

Cause	Jogging is not possible while a coupling is closed.
Remedy	Release the coupling and re-activate jogging.
Acknowledgement	not required
Stop response	STOP VII

849 PLUS software limit switch actuated

Cause	For a block with the ENDLOS_POS command, the axis has actuated the plus software limit switch (P0316) for absolute or relative positioning. The behavior for software limit switch reached, can be set using P0118.0.
Remedy	– Move away in the negative direction, jogging. – Move away in the negative direction using the traversing block.
Acknowledgement	not required
Stop response	STOP VII

850 MINUS software limit switch actuated

Cause	For a block with the ENDLOS_NEG command, the axis has actuated the minus software limit switch (P0315) for absolute or relative positioning The behavior for software limit switch reached, can be set using P0118.0.
Remedy	– Move away in the positive direction, jogging. – Move away in the positive direction using the traversing block.
Acknowledgement	not required
Stop response	STOP VII

864 Parameterization error in speed controller adaptation

Cause	The upper adaption speed (P1412) was parameterized with a lower value than the lower adaption speed (P1411).
Remedy	P1412 must contain a higher value than P1411.
Acknowledgement	not required
Stop response	STOP VII

865 Invalid signal number

Cause	The signal number for the analog output is not permissible. An analog value can be output for diagnostic, service and optimization tasks Term. 75.x/15, 16.x/15, DAC1, DAC2
Remedy	Enter valid signal number (refer to the Description of Functions SIMODRIVE 611 universal)
Acknowledgement	not required
Stop response	STOP VII

866 Parameterizing error, current controller adaption

Cause	For the current controller adaption, the upper current limit (P1181) was parameterized with a lower value than the lower current limit (P1180). Adaption is de-activated when the parameterizing error is output.
Remedy	P1181 must contain a higher value than P1180.
Acknowledgement	not required
Stop response	STOP VII

867 Generator mode: Response voltage > shutdown threshold

Cause	The sum of the values in P1631 + P1632 is greater than the value in P1633.
Remedy	Appropriately change P1631, P1632 and P1633. Note: P1631 to P1633 being prepared
Acknowledgement	not required
Stop response	STOP VII

868 Generator mode: Response voltage > monitoring threshold

Cause	The input value for the threshold voltage (P1631) is greater than the value in P1630.
Remedy	Change the drive parameters. Note: P1630 and P1631 being prepared
Acknowledgement	not required
Stop response	STOP VII

869 Reference point coordinate limited to modulo range

Cause	The reference point coordinate is internally limited to the modulo range.
Remedy	Enter a value in P0160 which lies within the modulo range (P0242).
Acknowledgement	not required
Stop response	STOP VII

870 Jerk: jerk time is limited

Cause	When calculating the jerk time T from the acceleration a and the jerk r, the result was an excessively high jerk time, so that the time is limited internally. The following is valid: T = a/r, where a: Acceleration (higher value from P0103 and P0104) r: Jerk (P0107)
Remedy	– Increase jerk (P0107) – Reduce maximum acceleration (P0103) or maximum deceleration (P0104)
Acknowledgement	not required
Stop response	STOP VII

871 Induction motor operation: drive converter frequency motor not permissible

Cause	In induction motor operation (selected by P1465 < P1146), drive converter frequencies of 4 or 8 kHz are permissible.
Remedy	– Change P1100 – Cancel induction motor operation (P1465 > P1146)
Acknowledgement	not required
Stop response	STOP VII

872 PARAMETERIZING ERROR: P gain, equalization controller too high

Cause	PARAMETERIZING ERROR: P gain, equalization controller does not fit into the format.
Remedy	– Change P1491
Acknowledgement	not required
Stop response	STOP VII

875 Axial deviations in fixed voltage

Cause	For the axes of a drive module, an unequal fixed voltage (P1161) has been set. As a fixed voltage <> 0 replaces the DC link voltage measured value, but the DC link voltage is only measured once for all drives of a drive module, the fixed voltage on all module axes must be equal, before it is accepted.
Remedy	Set the same fixed voltage (P1161) on all module axes.
Acknowledgement	not required
Stop response	STOP VII

876 Terminal function \%u in the actual mode illegal

Cause	The function number, used as input terminal or distributed input (P0888) may not be used in the actual mode.
Remedy	Change P0700 (operating mode) or enter a suitable function number in P0888 or P0660, P0661 etc.
Acknowledgement	not required
Stop response	STOP VII

877 Output function \%u not permissible in the actual operating mode

Cause	The function number, used as output, may not be used in the actual operating mode.
Remedy	Change P0700 (operating mode) or enter a suitable function number in P0680, P06981, etc.
Acknowledgement	not required
Stop response	STOP VII

878 Input I0.x not parameterized as equivalent zero mark

Cause	When entering an external signal as equivalent zero mark (P0174 = 2), input I0.x must be assigned ”equivalent zero mark” function (Fct. No.:79). if a direct measuring system is used, input I0.B must be assigned the ”equivalent zero mark” function (Fct. No.: 79).
Remedy	– Motor measuring system: P0660 = 79 – Direct measuring system: P0672 = 79
Acknowledgement	not required
Stop response	STOP VII

879 Time constant deadtime, speed feedforward control (P0205:\%u) too high

Cause	P0205:8 may not be greater than two position controller clock cycles. Higher values are internally limited.
Remedy	Reduce P0205:8 to max. two position controller clock cycles (P1009). Parameterize an addition delay via P0206:8.
Acknowledgement	not required
Stop response	STOP VII

881 PZD configuring: Signal number in P0915:\%u invalid

Cause	An undefined or illegal signal number in the current operating mode (P0700) was identified for the process data software. P0915:1 is not equal to 50001 (STW1). The process data for encoder 1 has been configured although encoderless operation is activated (P1011.5). The process data for encoder 2 were configured although the direct measuring system is not activated (P0879.12).
Remedy	Correct P0915:17
Acknowledgement	not required
Stop response	STOP VII

882 PZD configuring: Double word signal number in P0915:\%u invalid

Cause	For signals with double words (length = 32 bits), the corresponding signal identifier must be configured twice for adjacent process data. The following subparameter must therefore also be parameterized with the same signal number.
Remedy	Correct P0915:17
Acknowledgement	not required
Stop response	STOP VII

883 PZD configuring: Signal number in P0916:\%u invalid

Cause	An undefined or illegal signal number in the current operating mode (P0700) was identified for the process data software. P0916:1 is not equal to 50002 (ZSW1). The process data for encoder 1 has been configured although encoderless operation is activated (P1011.5). The process data for encoder 2 were configured although the direct measuring system is not activated (P0879.12).
Remedy	Correct P0916:17
Acknowledgement	not required
Stop response	STOP VII

884 PZD configuring: Double word signal number in P0916:\%u ivalid

Cause	For signals with double words (length = 32 bits), the corresponding signal identifier must be configured twice for adjacent process data. The following subparameter must therefore also be parameterized with the same signal number.
Remedy	Correct P0916:17
Acknowledgement	not required
Stop response	STOP VII

885 P1261 greater than 100.0 % not permissible

Cause	P1261 greater than 100.0 % is not permissible for permanent-magnet synchronous motors with field weakening (PE spindle, P1015 = 1). It is internally limited to 100.0 %.
Remedy	Set P1261 to max. 100.0 %.
Acknowledgement	not required
Stop response	STOP VII

886 Pre-tensioning torque greater than 16x rated torque

Cause	The parameterized pre-tensioning torque (P1493) is greater than 16x the standstill torque (SRM), rated motor torque (ARM) and standstill force (SLM) of the motor. Note: refer to the index entry ”Limits”
Remedy	Reduce pre-tensioning torque (P1493)
Acknowledgement	not required
Stop response	STOP VII

889 Fixed endstop, axis has not reached the clamping torque

Cause	The axis has reached the fixed endstop, but was not able to establish the programmed clamping torque.
Remedy	Check the parameters for the limits.
Acknowledgement	not required
Stop response	STOP VII

890 Acceleration – deceleration override incorrect

Cause	The acceleratino override or the deceleration override is not in the range from 1% to 100%. if the value > 100%, then it is limited to 100%. If the value < 1%, then limited to 1%. The traversing block is not interrupted.
Remedy	Check the programming of the acceleration override and deceleration override.
Acknowledgement	not required
Stop response	STOP VII

891 PLUS software limit switch actuated coupled

Cause	With the actual master drive velocity, this coupling axis will probably reach or pass the PLUS software limit switch. This warning is output if the coupled axis has fallen below 200% of the braking travel up to the PLUS software limit switch.
Remedy	Traverse the master drive so that this coupling axis goes into the permissible traversing range.
Acknowledgement	not required
Stop response	STOP VII

892 MINUS software limit switch actuated coupled

Cause	With the actual master drive velocity, this coupling axis will probably reach or pass the MINUS software limit switch. This warning is output if the coupled axis has fallen below 200% of the braking travel up to the MINUS software limit switch.
Remedy	Traverse the master drive so that this coupling axis goes into the permissible traversing range.
Acknowledgement	not required
Stop response	STOP VII

893 Function 73 only effective at terminal I0.x

Cause	The terminal function 73 ”Coupling on I0” is only effective at terminal I0.x.
Remedy	Assign terminal I0.x to function 73.
Acknowledgement	not required
Stop response	STOP VII

894 Inputs, optional TERMINAL module assigned twice

Cause	The input terminals on the optional TERMINAL module can only be used by one drive.
Remedy	Check and correct P0676 (A) and P0676 (B).
Acknowledgement	not required
Stop response	STOP VII

895 Outputs, optional TERMINAL module assigned twice

Cause	Only one drive can use the output terminals on the optional TERMINAL module.
Remedy	Check and correct P0696 (A) and P0696 (B).
Acknowledgement	not required
Stop response	STOP VII