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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

7.3.2 Fault with fault/warning number

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 faults and warnings listed in the following are valid for all software releases of "SIMODRIVE 611 universal".

The complete list is updated corresponding to the edition of this documentation (refer to the edition in the header lines) and corresponds here to the documented software releases of "SIMODRIVE 611 universal".

The individual faults/alarms are not identified as a function of the software release.

000 No error

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 II (SRM, SLM) STOP I (ARM)

007 Error when initializing. Supplementary info: \%X

Cause An error occurred when loading the firmware from the memory module.

Cause: Data transfer error, FEPRM 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 II (SRM, SLM) STOP I (ARM)

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 II (SRM, SLM) STOP I (ARM)

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 II (SRM, SLM) STOP I (ARM)

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 II (SRM, SLM) STOP I (ARM)

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007 Error when initializing. Supplementary info: \%X

Cause An error occurred when loading the firmware from the memory module.

Cause: Data transfer error, FEPRM 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 II (SRM, SLM) STOP I (ARM)

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 II (SRM, SLM) STOP I (ARM)

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 II (SRM, SLM) STOP I (ARM)

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 II (SRM, SLM) STOP I (ARM)

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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 consistent. The cause is probably 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)

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

Cause An error occurred when saving the user data in the FEPRM on the memory module.

Cause: Data transfer error, FEPRM 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, FEPRM 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, FEPRM 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)

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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 the memory module
- 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 PROFIBUS connection failed. Supplementary info %X

Cause The PROFIBUS connection 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)

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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 %u > 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 %u < 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 %u: 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

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104 Block %u: jump destination does not exist

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 in the block %u specified

Cause Illegal information is in P0087:64 (mode). A position of P0087:64 has an illegal value.

Remedy Check P0087:64 and correct.

Acknowledgement RESET FAULT MEMORY

Stop response STOP VI

106 Block %u: Mode ABS_POS for linear axis not possible

Cause For a linear axes, the positioning mode ABS_POS was programmed (only for rotary axes).

Remedy Change P0087:64 (mode).

Acknowledgement RESET FAULT MEMORY

Stop response STOP VI

107 Block %u: Mode ABS_NEG for linear axis not possible

Cause For a linear axes, the positioning mode ABS_NEG was programmed (only for rotary axes).

Remedy Change P0087:64 (mode).

Acknowledgement RESET FAULT MEMORY

Stop response STOP VI

108 Block number %u 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

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 %u illegal

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 simultaneously

Cause For the "activate traversing task" and "start referencing" input signals, a positive edge was simultaneously identified.

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

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

113 Activate the traversing task and jog simultaneously

Cause For the "activate traversing task" and "Jog 1" or "Jog 2" input signals, a positive edge was simultaneously identified.

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 step enable END in block number %u 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 %u < traversing range start

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

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118 Target position block %u < traversing range end

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 and Jog 2 simultaneously active

Cause The "Jog 1" and "Jog 2" input signals 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)

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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 %u: ABS_POS for rotary axis without modulo conversion not possible

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 %u: ABS_NEG for rotary axis without modulo conversion not possible

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

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128 Block %u: Target position outside the modulo range

Cause The programmed target position (P0081:64) is outside the modulo range set (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 when moving: Terminal 48, 63, 64, 663, 65.x, PROFIBUS 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

131 Following error too high 太高的下列错误

Cause Possible causes are:引起可能的原因是

- the torque or acceleration capability of the drive is exceeded 转力矩或推进力的加速能力被超过转力矩或推进力
- position measuring system fault 位置测定的系统过失
- the position control sense is not correct (P0231) 位置控制感觉不是正确的
- mechanical system blocked 机械的系统被阻塞
- excessive traversing velocity or excessive position setpoint differences 过度的穿越速度过度的位置setpoint不同

Remedy Check the above causes and remove.

Acknowledgement RESET FAULT MEMORY 承认重新设定过失记忆

Stop response STOP II 停止回应停止2

过失错误处理诊断

过失错误目录

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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

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)

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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 correct P1021, 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 the block %u

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

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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

Acknowledgement RESET FAULT MEMORY

Stop response STOP II

145 Fixed endstop not reached

Cause In a traversing block with the command FIXED ENDSTOP, the fixed endstop was not reached. The fixed endstop lies outside the position programmed in this block.

Remedy Check programming

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 when moving to fixed endstop: Terminal 48, 63, 64, 663, 65.x, PROFIBUS 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

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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.

$P0032 > 200\,000\,000 \text{ MSR}$.

Supplementary info = 1:

Limit exceeded after the coupling factors P0401/P0402 identified, i.e.

$P0032 * P0402 / P0401 > 200\,000\,000 \text{ MSR}$.

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.
 $P0032 < -200\,000\,000 \text{ MSR}$.

Supplementary info = 1:

Limit fallen below after the coupling factors P0401/P0402 identified, i.e.
 $P0032 * P0402 / P0401 < -200\,000\,000 \text{ MSR}$.

Remedy Return the external position reference value to the value range. Then acknowledge the fault.

Acknowledgement RESET FAULT MEMORY

Stop response STOP II

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152 Pos. ref. value and actual value output limited via PROFIBUS. Suppl. info %X

Cause The output of the position reference value, position actual value or position offset value is parameterized via PROFIBUS. 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 Pos. correction value dxKorr (No. 50210) Upper limit exceeded

2xx Pos. 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

7

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

162 No zero reference pulse present

Cause After the reference cam was left, the axis moved through the distance in P0171 (max. distance between reference cam/zero pulse) without finding the zero pulse.

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

(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 IV

7

7-622

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

172 External block change for coupling not possible

Cause If there is an existing coupling, traversing blocks with external block

enable are only permis39 J E st 2 Tc9-19(i9v4(f)-o/F1 21.959Jw)14(a)52TJ

EQ

q

0 0 595.

V%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

7

7-623

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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:

Master drive: Output via ZSW1.15, QZSW.1 or output terminal function 69

Slave drive: Reading-in via STW1.15, QSTW.1 or input terminal function

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 number" function.

Acknowledgement RESET FAULT MEMORY

Stop response STOP IV

7

7-624

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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.

Supplementary 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

7

7-625

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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

Cause Conversion factors for spindle positioning was not able to be initialized

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 parameter
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 away from an SW/HW end switch with incremental jog.

Remedy 1. Commission the drive in the positioning mode.

2. Move back with jog key 1 or 2 with velocity.

Acknowledgement RESET FAULT MEMORY

Stop response STOP VI

7

7-626

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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

1st input signal "Spindle positioning on" is set, or

2. Still no zero mark found.

Remedy Maintain the following sequence:

Execute 1st 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 –

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. 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

Acknowledgement POWER ON

Stop response parameterizable

7

7-628

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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

7

7-629

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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

7

7-630

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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

7

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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

7

7-632

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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

Cause For a 2-axis module (e.g. S10) in the n set mode and for a 3-axis 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, which differs from the parameterized position controller clock cycle (P1009) of the axis in the positioning mode. The position controller clock cycle of the master in the n set mode, is obtained from the DP clock cycle (T595.26(cT 0 0 595.319 841.679 reo)0 5970 0 0 Twqwt0Tabtan10(he2(i)7(p10(heos)-1e

bus configuring (parameterization) are aligned with the position controller clock cycle P1009.

Acknowledgement POWER ON

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

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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

7

7-634

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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

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

Remedy Check the master and bus connection to the master. As soon as cyclic data transfer runs again, the fault can be acknowledged.

Acknowledgement RESET FAULT MEMORY

Stop response STOP II

7

7-635

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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 permissible

Cause In the IM mode, open–loop torque–controlled operation was selected via the input terminal or via PROFIBUS–DP.

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

7

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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

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)
- Use 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

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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 large torque reduction via the analog inputs or via PROFIBUS. On PROFIBUS, this effect especially occurs when changing over from positioning operation to operation with speed setpoint input (check whether a torque reduction has been entered. Diagnostics via 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?
- Use 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

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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)
- Use 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

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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)

Acknowledgement RESET FAULT MEMORY

Stop response parameterizable

612 Illegal current during rotor position identification

Cause 1. Current was $\geq 1.2 * 1.05 * P1107$ while rotor position identification was active

2. Current was $\geq P1104$ 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

7

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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 connectors withdrawn (X411), are approximately

580 ohm measured between PIN 13 and PIN 25 of the encoder cable at 20 degrees C?

– Check that the measuring system connector is correctly located at the drive (X411)

–

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 connectors withdrawn (X411), are approximately 580 ohm measured between PIN 13 and PIN 25 of the encoder cable at 20 degrees C?
- Check that the measuring system connector is correctly located at the drive (X411)
- 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

7

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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

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 FEPRAM 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)

7

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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 (62.5us) for single-axis positioning or for speed setpoint input

4 (125us) 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 us), 4 (125us), 8 (250us), 16 (500us).

Setting 2 (62.5us) is only permissible for single-axis operation.

Further, P1001 must be \geq 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 (4ms).

Further, the position control cycle must be an 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 (20ms).

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)

7

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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)

7

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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)

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.

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)

7

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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 (I_q) 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)

7

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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)

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)

7

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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

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)

7

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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 selected, but no PB option module 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] or 1030[3], resolver evaluation) cannot be set.

Remedy Parameterize the encoder type corresponding to the motor type and the control module.

Acknowledgement POWER ON

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

7

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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 For incremental measuring systems with sin/cos 1 Vpp without EnDat interface, a division factor cannot be set using P0892.

Remedy Set P0892 to 0 (factor, angular encoder pulse number/encoder pulse number).

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)

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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 $1 / (2 * P1001 * 31.23 \text{ microseconds})$.

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:

$P1520 * 0.01 * P1514 < 1 / (2 * P1001 * 31.25 \text{ microseconds})$

Speed setpoint filter 2:

$P1521 * 0.01 * P1517 < 1 / (2 * P1001 * 31.25 \text{ microseconds})$

Acknowledgement RESET FAULT MEMORY

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

7

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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 $P1521 \neq 100.0$

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: $P1212 \leq 2 * P1210$

Current setpoint filter 2: $P1215 \leq 2 * P1213$

Current setpoint filter 3: $P1218 \leq 2 * P1216$

Current setpoint filter 4: $P1221 \leq 2 * P1219$

Speed setpoint filter 1: $P1516 \leq 2 * P1514$

Speed setpoint filter 2: $P1519 \leq 2 * P1517$

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 $P1520 \neq 100.0$

Speed setpoint filter 2: $P1519 > 0.0$ or $P1521 \neq 100.0$

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: $P1515 \leq 2 * P1514 * 0.01 * P1520$

Speed setpoint filter 2: $P1518 \leq 2 * P1517 * 0.01 * P1521$

Current setpoint filter 1: $P1211 \leq 2 * P1210$

Current setpoint filter 2: $P1214 \leq 2 * P1213$

Current setpoint filter 3: $P1217 \leq 2 * P1216$

Current setpoint filter 4: $P1220 \leq 2 * P1219$

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)

7

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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)

7

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

775 SSI encoder incorrectly parameterized. Supplementary info \%

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)

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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)

7

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

784 No-load voltage, motor \%d invalid

Cause Error in no-load voltage P1135:

- $P1135 \leq 0$ or
- $P1135 > P1132$ or
- $P1135 * P1142 / P1400 + V_{ser.react.} > 450V$.

With $V_{ser.react.} = 0.181 * P1136 * P1142 * P1119$

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)

7

7-660

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

787 Induction motor oper.: feedforward control gain motor V/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, re-start

– 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)

7

7-661

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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:

"Positioning" 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)

7

7-662

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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)

7

7-663

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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 FEPRM 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 FEPRM. 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)

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 (edge), STW1.1: OC / OFF2, STW1.2: OC / OFF 3, STW1.3: Enable inverter/pulse inhibit)
- 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)
- 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

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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

7

7-666

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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

7-667

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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 T_{basedp} is not permissible (not equal to 125 us).

12 = The DP clock cycle T_{dp} is not permissible (less than 1 ms).

13 = The time T_{mapc} is less than $1 \cdot T_{dp}$ or greater than $14 \cdot T_{dp}$.

14 = The base time T_{baseio} is not permissible (not equal to 125us).

15 = Time T_i is greater than the DP clock cycle (T_{dp}).

16 = Time T_o is greater than the DP clock cycle (T_{dp}).

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).

21 = The time T_{dx} is greater than $(T_o - 125us)$ or greater than $(T_{dp} - 250us)$.

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

7

7-668

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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 of axes activated via P0875. Note: Communications with axis B are not automatically de-activated by 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 configuration 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, change the number axes, which are controlled via PROFIBUS, using P875.

Acknowledgement not required

Stop response STOP VII

7

7-669

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 evaluation can also be suppressed using P0879 bit 8.

Acknowledgement not required

Stop response STOP VII

7

7-670

833 PROFIBUS: No connection to the publisher %u

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

7

7-672

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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

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

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 $\neq 0$ 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

7

7-674

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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

7

7-675

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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.

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.

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

7

7-676

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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

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

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.

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.

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

7

7-677

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SIMODRIVE 611 universal Description of Functions (FBU) – 08.02 Edition

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