Revision Information ACP10 V5.04.2

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Requests and problems by product/component

NC Software - ACP10

ACP10 Important Information

ID#526575 : Important Information
ACP10 versions V3.17.0 or higher can be used for SG4 ARM target systems
The following libraries are available for ARM target systems:
- Acp10_MC
- Acp10man
- Acp10dc
- Acp10sim
- Acp10par
- NoGlobal
- SafeMC
- MC_RegMa
- MC_SimIf

Note:
For ARM target systems with a Cortex A8 core (e.g. C30), these libraries cannot be used.

ID#462060 : Important Information
ACP10 versions V2.51.3 up to V2.99.9
ACP10 versions V2.51.3 up to V2.99.9 contain extensions and bug fixes based on ACP10 V2.51.2.
Extensions and bug fixes that are listed for ACP10 V2.51.3 up to V2.99.9, do not apply to ACP10 versions starting with V3.10.0.

ID#443215 : Important Information
ACP10 software from V3.10.0 on can be used only for SG4 target systems with POWERLINK network
The following platforms are no longer supported:
- SGC target systems
- SG3 target systems
- SG4 target systems with CAN network

ID# 400103307, 400220918 : Important Information
ACOPOS with SafeMOTION: Error 7048 or 7066 after ACOPOS startup
In rare cases, encoder initialization takes too long when using ACOPOS drives with SafeMOTION. This causes the following errors, which cannot be acknowledged:
- 7048: Error during the reading of encoder memory
- 7066: Encoder: Encoder not ready
This problem is especially prevalent in applications with many SafeMOTION axes and a large SafeLOGIC cycle time. In some cases, it is possible to get around this problem by reducing the SafeLOGIC cycle time.
The probability of this problem occurring has been reduced by increasing the timeout value for encoder initialization in the ACP10 software:
- Before ACP10 V2.38.0: Timeout 30 sec.
- ACP10 V2.38.0 - V2.40.x: Timeout 60 sec.
- ACP10 V2.41.0 - V2.52.3: Timeout 90 sec.
- Beginning with V2.52.4: Timeout 150 sec.
- ACP10 V3.10.0 - V3.18.0: Timeout 90 sec.
- Beginning with ACP10 V3.18.1: Timeout 150 sec.

ID#264882 : Important Information
ACOPOSmulti 8BVx0xx0HxxSx.000-1: Increased thermal load on components in the power supply for IGBT driver circuits (only in V2.25.0, V2.26.0, V2.26.1, V2.26.2, V2.26.3, V2.27.0, V2.27.1 and V2.28.0)
In ACOPOSmulti modules 8BV0220HxxSx.000-1, 8BV0330HxxSx.000-1, 8BV0440HxxSx.000-1, 8BV0880HxxSx.000-1, 8BV0220HS0.001-1, 8BV0440HS0.001-1, 8BV0880HS0.001-1, 8BV0220HWS0.001-1, 8BV0440HWS0.001-1, 8BV0880HWS0.001-1 using the versions listed above increases the thermal load on components in the power supply for IGBT driver circuits. This can cause an error message or even a defect in the module hardware. The modules also display a significant increase in 24V power consumption.
The defect of an ACOPOSmulti module caused by the problem described above can lead to the following errors:
- 6045: Power stage: X5 connection: No power flow
- 6052: Power stage: High-side: Overcurrent
- 6053: Power stage: Low-side: Overcurrent
When using inverter modules, this can cause the motor to spin out. When using power supply modules, this can cause the fuses connected upstream to be triggered.

Note:
If there is no defect of an ACOPOSmulti module, then it is only necessary to upgrade to an ACP10 software version in which the problem has been corrected. No other measures are necessary.
SG4 target system, POWERLINK: Task class as output cycle trigger is possible with ACP10 software from V2.28.0 on

In Automation Studio V3.0.0 with AR versions from V3.08 on, in the POWERLINK configuration a task class can be selected as output cycle trigger (by default the output cycle trigger is carried out by the system tick). This selection is supported in ACP10 software starting with V2.28.0. In versions before V2.28.0, selecting a task class as output cycle trigger will cause the ACOPOS startup to be aborted with the following error:
- 32223: Error calling plGetNodeInfo(), Status of plGetNodeInfo(): 20935

SG4 target system, POWERLINK: SDM Motion is supported from ACP10 Software V2.27.0 on

With Automation Studio V3.0.90 and AR versions from V3.08 on, Motion functions are available in the SDM (System Diagnostics Manager). These functions are supported from ACP10 Software V2.27.0 on.

SG4 target system, POWERLINK: PDO errors with certain AR versions

The following error can occur if ACP10 software for POWERLINK is used for ACOPOS with 8AC114.60-2 with AR version F3.01:
- 32244: No PDO defined in the cyclic frame for this channel: NC object is disabled
If this error occurs with AR version F3.01, then another AR version must be used.

The following errors can occur if V2.09.0 or later of ACP10 software for Powerlink is used with AR versions H2.95 - K2.95 for SG4:
- Error calling ncaccess() or ncalloc(): Error in NC structure of the NC objects:
- 32244: No PDO defined in the cyclic frame for this channel: NC object is disabled
If the errors listed above occur, then an AR version earlier than H2.95 or later than K2.95 must be used.

SG4 target system: ACP10 software versions for different AR versions

For AR versions A3.08 or higher only the ACP10 versions V2.22.0 or higher can be used.
ACP10 software versions V2.21.0 or higher can be used only with AR versions V2.82 or higher.
If an ACP10 software version V2.21.0 or higher is used with AR versions before V2.82, then "ACP10MAN: SG4 AR < V2.82" will be entered in the AR logger and the initialization of ACP10 software will be aborted.
For AR versions before V2.82 only the ACP10 software versions before V2.21.0 can be used.

SGC target system: ACP10 software versions for different AR versions

ACP10 software versions V2.19.0 or higher must be used for AR versions V2.30 and higher (otherwise global PVs cannot be used as NC object).
If an ACP10 software version V2.19.0 or higher is used with AR versions before V2.30, then "ACP10MAN: SGC AR < V2.30" will be entered in the AR logger and the initialization of ACP10 software will be aborted.
ACP10 software versions V2.05.0 or higher must be used for AR versions E2.00 and higher.
If an ACP10 software version V2.05.0 or higher is used with AR versions before E2.00, then "ACP10MAN: SGC AR < E2.00" will be entered in the AR logger and the initialization of ACP10 software will be aborted.
ACP10 software versions V2.03.0 - V2.03.3 must be used for AR versions before A2.00.
If an ACP10 software version V2.03.0 - V2.03.3 is not used for AR versions before A2.00, then "ACP10MAN: SGC AR < A2.00" will be entered in the AR logger.

IMPORTANT:
ACP10 software versions V2.03.4 - V2.04.3 with AR versions A2.00 - D2.00 must not longer be used for SGC target systems.

ACOPOS with SafeMOTION: Warning 35241 was erroneously reported
From now on, the following warning is no longer transferred from the safety logbook to the NC structure of the associated NC objects:
- 35241: SMC FFS: Function block switched back into IDLE state

DIO interface 8EAC0130.000-1 and 8EAC0134.000-1: Inverted counting direction of the incremental encoder input (only in V5.08.0)
The counting direction of the incremental encoder input (ABR encoder) was incorrectly inverted.
ID#660625 : solved problem, solved since V5.08.1

"NCSYS download via broadcast" was wrongly not activated

If the data for BRMOD_NCSYS and BRMOD_BSL was read with the ParID ACOPOS_IDENT_DATA, then "NCSYS download via broadcast" was wrongly never activated (NCSYS_DL_BROADCAST=No), if no NCSYS was present on the ACOPOS ("BRMOD_VERSION=0x0000"). This resulted in a much longer duration of the NCSYS download.

Now in this case, "NCSYS download via broadcast" is correctly activated (NCSYS_DL_BROADCAST=Yes), if BRMOD_VERSION greater or equal 0x2310 for BRMOD_BSL is contained in the ident data.

ID#400300860 : solved problem, solved since V5.08.1

Motor current flow test: Error 6045 (only in V5.05.1 - V5.08.0)

It could happen that the following error was erroneously reported when switching on the controller:
- 6045: Power unit: Connector X5: No current flow

ID#658450 : solved problem, solved since V5.08.1

DIO interface 8EAC0130.000-1: FIFO buffer overflow with warnings 39308 and 39309 (only in V5.03.0 - V5.08.0)

In the event of a short circuit to GND or an overload on a DO, warnings 39308 and 39309 were incorrectly and continuously reported. This resulted in error 1001 (FIFO buffer overflow error).

ACP10 V5.08.0

ID#653245 : Information valid since V5.08.0

Change in behavior with configured short-circuit braking torque

A higher configured value for the short-circuit braking torque ("KSCTRL_TORQUE_LIM") than the optimally calculated braking torque for permanent magnet synchronous motors (PMSM) is limited with the optimum short-circuit current for the optimally calculated short-circuit braking torque.

ID#652555 : solved problem, solved since V5.08.0

Faulty torque limiting and torque control in simulation mode (only in V5.03.0 - V5.07.x)

If no motor parameters were transferred in simulation mode, then the torque limiter and the torque controller did not work correctly.

ID#651180 : new function since V5.08.0

ACOPOS P3: Fan control: Silent operation with FAN_CTRL_MODE = 1

In "silent mode" (FAN_CTRL_MODE = 1) the "fan boost" is now disabled when the 24 V power supply is switched on. "Silent mode" is now also supported for 8EAC122.xxx-x plug-in modules.

ID#642640 : solved problem, solved since V5.08.0

Faulty torque limiting and torque control in multi-motor operation (only in V5.03.0 - V5.07.x)

If the motor data record was switched with parameter MOTOR_DATA_IDX in multi-motor operation (operation of several motors on one inverter), then the torque limiter and the torque controller did not work correctly.

ACP10 V5.07.0

ID# 400280161, 400285185, 400283577 : solved problem, solved since V5.07.0

8BVPxxxxxxxx.xxx-x, 8B0Pxxxxxxxx.xxx-x: Error 7217

If an ACOPOSmulti power supply module was operated with a high mains voltage (e.g. 3x480VAC), it was possible that the following error was reported by mistake:
- 7217: DC bus: Nominal voltage detection: Voltage too high

ID#400234099 : solved problem, solved since V5.07.0

POWERLINK: poll-response chaining with network coupling: Drive and PLC no longer booting after warm restart

If poll-response chaining was enabled and there was a network coupling to the poll-response MN, boot problems could occur with the PLC or drive during the warm restart.

ID# 400283141, 400284205 : solved problem, solved since V5.07.0

DIO interface 8EAC0130.000-1: Faulty function on axis 2 and 3 (only in V5.04.0 - V5.06.x)

Using the inputs and outputs of 8EAC0130.000-1 was not possible for Axis 2 and 3.

ID#637545 : solved problem, solved since V5.07.0

ACOPOS simulation with standard mode: Homing procedure with reference pulse was not terminated

In the ACOPOS simulation with mode "Standard", a homing procedure with activated reference pulse (ref_pulse=ncON) was not terminated.
Position controller: Deactivated feed forward control with small values of prediction time and total delay time

Prediction time (POS_CTRL_T_PREDICT) or total delay time values (POS_CTRL_T_TOTAL), less than half the position controller cycle time, have been rounded to zero. The thus deactivated feed forward could lead to problems especially with ACOPOS simulation and ACP10SDC with task class cycle times greater than 800µs. For example, the following error could occur with the command CMD_CYC_ABS_V_MOVE:

- 67: Necessary parameter is missing or is invalid. Info: Parameter ID = 102

Now these small parameter values are rounded up to the position controller cycle time (or task class cycle time). However, with exactly zero, the feedforward control can still be deactivated.

Homing procedure, variants without movement: Status “in position” was not reset

For the following homing variants, the status “in position” (target position reached) was not reset:
ncDIRECT without reference pulse, ncHOME_OFFSET, ncHOME_OFFSET + ncCORRECTION.

Configuration of 8EAC0130.000-1: Error in ACOPOS Simulation

To configure the plug-in module 8EAC0130.000-1, DIO ParIDs are transferred to the ACOPOS module. This caused the following error when using the ACOPOS simulation:

- 1: Invalid parameter ID

ACP10 V5.0.6.1

BBVxxxxxxxDx.xxx-x, 80VxxxxxD.xxxx-xx: Error 1016 when configuring the motors

The following error could be reported if both motors were configured simultaneously for 2-axis modules BBVxxxxxxxDx.xxx-x and 80VxxxxxD.xxxx-xx:

- 1016: Maximum cycle time exceeded - CPU load too high

Stepper phasing: Incorrect commutation offset

If a loop filter (set current filter) with a small bandwidth or long rise time was active during stepper phasing, it was possible that an incorrect commutation offset was calculated.

Holding brake mistakenly not closed after errors 6052, 6053, 6054, 9300 and 7200 (only in V5.04.0, V5.04.1, V5.05.0, V5.05.1, V5.05.2, V5.06.0)

With the following errors, the holding brake was mistakenly not closed after a movement abort:

- 6019: ACOPOS: Overcurrent
- 6052: Power unit: High side: Overcurrent
- 6053: Power unit: Low side: Overcurrent
- 6054: Power unit: Overcurrent
- 9300: Current controller: Overcurrent
- 7200: DC bus: Overvoltage

POWERLINK, poll-response chaining: Sporadic errors during network coupling (only in V5.03.0 - V5.06.0)

If poll-response chaining was enabled, POWERLINK couplings from neighboring stations could cause POWERLINK packets to fail. This could lead to the following errors:

- 1013: Station not available for network communication
- 5110: Curve coupling aborted: Cyclical position setpoints missing
- 32252: NcNetCyc: Unexpected response (invalid counter value)

Feed-forward control parameters no longer effective after autotuning (only in V5.0.6.0)

After executing an autotuning function, parameter FFCTRL_FRICTION_C0 was incorrectly initialized with FLT_MAX. As a result, parameters FFCTRL_TORQUE_POS and FFCTRL_TORQUE_NEG were no longer effective.

With EnDat 2.2, the errors only occurred if the configuration of the encoder interface did not match the configuration of the encoder interface in SafeDESIGNER.

The error occurred from version 1.10.2.0 of 8ESMC931x.
ACOPOSmicro: POWERLINK faults during power failure, delayed triggering of watchdog

If an ACOPOSmicro was disconnected from the supply voltage while POWERLINK nodes continued to communicate in the network, disturbances could occur in the POWERLINK network. The disturbances could cause the following error messages for stations on the POWERLINK network:
- 32189: Timeout for cyclic data from drive
- 1012: Failure of cyclic network communication

The triggering of the watchdog could cause a delay until the reset of the ACOPOSmicro.

8BVPxxxxxxxx.xxx-x: Error 6054 or 7221 when switching on the controller

If the mains frequency was outside the ranges 50 +/- 5% and 60 +/- 5% Hz, the following errors were possibly mistakenly reported when the controller was switched on:
- 6054: Power stage: Overcurrent
- 7221: Mains: Failure

ACOPOSmotor 8DIxxx.xxxxxxxxx-x: DC bus voltage measurement

In rare cases, it could happen that error "7200: DC bus: Overvoltage" was reported too early.

ACOPOSP3: Fan control: Silent operation with FAN_CTRL_MODE = 1

If parameter FAN_CTRL_MODE is set to value 1 and all inverters of the module are switched off, then fan control characteristics with reduced noise development ("silent mode") are used. If a plug-in module is connected or the module does not support silent mode, the following error is reported when setting parameter FAN_CTRL_MODE to value 1:
- 1027: Function is not available for this hardware

At the time of the firmware release, silent mode was only supported by the following modules: 8EI1X6xxxx.xxxx-x, 8EI2X2xxxx.xxxx-x, 8EI4X5xxxx.xxxx-x, 8EI8X8xxxx.xxxx-x

Holding brake mistakenly not closed after errors 6052, 6053, 6054, 6019, 9300 and 7200 (only in V5.04.0, V5.04.1, V5.05.0, V5.05.1, V5.05.2, V5.06.0)

With the following errors, the holding brake was mistakenly not closed after a movement abort:
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- 6052: Power unit: High side: Overcurrent
- 6053: Power unit: Low side: Overcurrent
- 6054: Power unit: Overcurrent
- 9300: Current controller: Overcurrent
- 7200: DC bus: Overvoltage

Motor current flow test: Error 6045

With low DC bus voltages (< 100V) and motors with high inductance, it was possible that the following error was incorrectly reported when the controller was switched on:
- 6045: Inverter: Output: No current flow

If the encoder was used before the state "NotErrENC = TRUE" (see I/O Mapping of the SafeMOTION module), the following error could be reported:
- 7032: Encoder: Incremental signal amplitude too small (Disturbance, no connection)

Field weakening, induction motor: Error 1002 when setting Bit8 of parameter FCTRL_MODE (only in V3.14.0 - V5.04.x)

If in the case of induction motors when writing the mode of the field weakening controller Bit8 (field weakening at zero speed) was set, the following error was mistakenly reported:
- 1002: Parameter outside the valid range
Setup for controller (autotuning): Passive FF tuning

For passive FF tuning the following new values are offered for the autotuning mode "setup.controller.mode":
- ncFF = ncPASSIVE
- ncFF_POS_MOVE = ncPASSIVE
- ncFF_NEG_MOVE = ncPASSIVE

After start of the setup function with mode "ncFF ... + ncPASSIVE", the movements for parameter identification must be carried out by the user.
To finish the setup function, the following NC action must be called:
- ncSETUP + ncCONTROLLER, ncFINISH

ID#400299679 : solved problem, solved since V5.05.0
CMD_MOVE_STOP_A2, CMD_MOVE_HALT_A2: Warning message if maximum deceleration exceeded

With commands CMD_MOVE_STOP_A2 "Stop movement" and CMD_MOVE_HALT_A2 "Basis movement halt", the specified deceleration parameter is limited to AXLIM_A2_POS or AXLIM_A2_NEG depending on the direction. If exceeded, a warning message is no longer issued.
If the deceleration parameter is NULL, braking is now performed with the direction-dependent maximum value (also without warning).
The following warning was previously reported:
36001: Parameter limited to valid range.
This primarily affects PLCopen function blocks MC_Halt and MC_Stop.

ID#601005 : new function since V5.05.0
Simulation mode: New variant "only set value generation"

With NC action "ncSIMULATION,ncSWITCH_ON+ncSET_GEN_ONLY", the simulation mode can be switched on with variant "only set value generation".

With this variant a simpler model is used, which reduces the probability of errors, especially during active movements.

ID#400251128 : new function since V5.05.0
8BVVxxxxxxS.xxx.x: EnDat 2.2 with SafeMOTION: Network initialization accelerated

When using ACOPOSmulti drives with 8BVSV2SAFE1-1, network initialization was accelerated for the following cases:
- Encoder not connected
- Encoder defective
- Unconfirmed change of encoder

For this new function at least version 1.10.1.5 of 8BVSV2SAFE1-1 must be used.

ID#400224079 : solved problem, solved since V5.05.0
8BVSV2SAFE1-1: EnDat 2.2 with SafeMOTION: Error 7014 or 7015 after ACOPOS startup

If the encoder was used before the state "NotEnENC = TRUE" (see I/O Mapping of the SafeMOTION module), one of the following errors could have been reported:
- 7014: Encoder: CRC error during parameter transfer
- 7015: Encoder: Timeout error during parameter transfer

In addition, at least version 1.10.1.5 of 8BVSV2SAFE1-1 must be used to solve this problem

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ID#665080 : solved problem, solved since V5.04.2
Holding brake mistakenly not closed after errors 6052, 6053, 6054, 6019, 9300 and 7200 (only in V5.04.0, V5.04.1, V5.05.0, V5.05.1, V5.05.2, V5.06.0)

With the following errors, the holding brake was mistakenly not closed after a movement abort:
- 6019: ACOPOS: Overcurrent
- 6052: Power unit: High side: Overcurrent
- 6053: Power unit: Low side: Overcurrent
- 6054: Power unit: Overcurrent
- 9300: Current controller: Overcurrent
- 7200: DC bus: Overvoltage

ACPO10 V5.04.1

ID#610185 : solved problem, solved since V5.04.1
ACPOPOSmicro: Status of enable input delayed (only in V5.02.1 - V5.04.0)

After activating the enable input, the corresponding status in the cyclic status bits was set delayed.

ID#400251096 : solved problem, solved since V5.04.1
POWERLINK: Error 32280 after CMD_SW_RESET

In rare cases it could happen after CMD_SW_RESET that the POWERLINK communication to ACOPOS modules could not be re-established.
In this case, the following error was entered in the network command trace after CMD_SW_RESET:
32280: Timeout for enable of acyclic network communication

At the drive, this error caused all LEDs to glow statically, with the exception of the Link LEDs

Among other things, CMD_SW_RESET is executed if:
a CPU restart was performed
- a new firmware has been transferred to the drive

ACP10 V5.04.0

ID#600530 : solved problem, solved since V5.04.0
Incorrect torque after switching on controller while axis was moving
If the controller was switched on while the axis was moving, an invalid current offset was calculated. As a result, it could happen that an incorrect torque was generated depending on the angle.

ID#598815 : solved problem, solved since V5.04.0
Motor temperature measurement: External temperature sensor on EnDat 2.2 encoder: Error 9010, 9012 or 9013 (only in V3.16.0 - V5.03.x)
If the motor temperature sensor was connected to the external temperature sensor input of an EnDat 2.2 encoder and bit15..8 in parameter MOTOR_TEMPSENS_TYPE was set to 0x10 instead of 0x11, then at least one of the following errors was incorrectly reported:
- 9010: Temperature sensor (Motor|Choke|External): Overtemperature
- 9012: Temperature sensor (Motor|Choke|External): Not connected or destroyed
- 9013: Temperature sensor (Motor|Choke|External): Short circuit

ID#595435 : new function since V5.04.0
ACOPOS simulation with mode "Complete": Modification of simulated DC bus voltage
When using the ACOPOS simulation with mode "Complete", from now on the simulated DC bus voltage (UDC_ACT) is set to the nominal DC bus voltage (UDC_NOMINAL).

ID#592730 : solved problem, solved since V5.04.0
Incorrect movement when activating the pitch error and backlash compensation with mode 4
When activating the pitch error and backlash compensation while the controller is switched on in the mode "direction-independent compensation with speed correction" (PBC_MODE = 4) a short motor movement could occur.

ID#400250231 : new function since V5.04.0
8EIxxxxxxxx.xxxx-x: External braking resistor: Current flow test on axes 2 and 3
The current flow test for external braking resistance is now also performed on axes 2 and 3. The following error is now reported on axes 2 and 3:
- 38008: Bleeder: No current flow

ID#577325 : solved problem, solved since V5.04.0
Autotuning of speed controller: Error 10100 for motors with very low moment of inertia
When executing the setup function in mode "ncSPEED+...", for motors with a very low moment of inertia (e.g. 8WS series motors) it could happen that the function was aborted with error "10100: Parameter identification: Quality factor not fulfilled". From now on, appropriate values will be identified for these motors.

ID#400223067 : new function since V5.04.0
Setup for movement parameters to determine the jolt time
Setup for movement parameters to determine the jolt time
New substructure "setup.move" with following components:
mode: Mode (ncSETUP_MOVE_T_JOLT for the identification of jolt time)
start_dir: Start direction (ncPOSITIVE/ncNEGATIVE)
fix_dir: Fixed direction (ncOFF/ncON)
s_max: Maximum movement distance
New NC action "ncSETUP+ncMOVE,ncSTART"

ID#400213671 : new function since V5.04.0
Two-encoder control for load simulation
From now on, the configuration of a two-encoder control is possible for following simulation variants
- Simulation mode on the drive
- ACOPOS simulation on PLC with mode "Complete"
For configuration, the parameter SIM_LOADENC_S_ACT_PARID (Simulation mode: Parameter ID for the encoder of load position) must be set equal to the parameter PCTRL_S_ACT_PARID.

ACP10 V5.03.3

ID#606900 : solved problem, solved since V5.03.3
ACOPOS P3 plug-in modules 8EAC0151.00x-1: Default setting of maximum frequency for RS422 mode too high
For the 8EAC0151.001-1 and 8EAC0151.003-1 plug-in modules, the default maximum frequency setting for the RS422 mode was set too high by mistake.
This default setting has now been reduced from 10MHz to 200kHz and can be increased up to 6.25MHz using
ENCOD2_OUTPUT_FREQUENCY.

ID#606505 : solved problem, solved since V5.03.3
ACOPOS P3 plug-in module 8EAC0130.000-1: Reduced immunity
In rare cases, an external source of electromagnetic interference could have caused a malfunction of the 8EAC0130.000-1 plug-in module.

ACP10 V5.03.1
ID#594990 : solved problem, solved since V5.03.1
ENCOD0: Network encoder: Wrong position in mode "Absolute encoder" (only in V5.02.0 - V5.03.0)
When using network encoder mode "Absolute encoder", the position detection did not work without reporting an error.
For positions less than one encoder revolution, the output position remained frozen. For positions greater than one encoder revolution, the output position has been increased by a certain value with every POWERLINK cycle.

80Vxxxxxx.xxxx-xx: Error 9003 and Warning 41002 were reported mistakenly
At low temperatures above 0°C, the following error and warning have been mistakenly reported:
- 9003: Heatsink temperature sensor: Not connected or damaged
- 41002: Heatsink temperature sensor: Not connected or damaged

ACP10 V5.03.0
ID#585500 : new function since V5.03.0
Setup for the controller (autotuning): Identification of parameters for model-based control
To identify the parameters for model-based control, the following new values are offered for autotuning mode "setup.controller.mode":
ncTUNE_MODEL_2MASS:
Identification of the model parameters for a 2-mass load model
ncSPEED+ncTUNE_FBCTRL_MODEL_2MASS +ncUSE_FILTER_PAR:
Identification of the speed controller parameters with feedback control for a 2-mass load model

ID#585495 : new function since V5.03.0
Model-based control
In the NC structure for NC objects with type "ncAXIS", substructure "controller" has been extended with following components for controlling a 2-mass load model:
ff.mode: Mode for feed forward control
fb: Substructure for feedback control
model: Substructure with the model parameters
With "ff.mode=ncMODEL_2MASS" or "fb.mode=ncMODEL_2MASS", model-based control can be activated with the defined model parameters.

ID#400244699 : new function since V5.03.0
ACOPOS hardware information: "model_number" for motors extended
Data type "ACP10_HWINFO_type" for ACOPOS hardware information:
Array "motor[x]. model_number" has been extended from 20 to 36 bytes so that the maximum possible 32 characters for motor model numbers can be displayed completely.

ID#400242000 : solved problem, solved since V5.03.0
Torque limiter: Warning 38001 was incorrectly reported
It was possible in rare cases that the following warning was incorrectly reported when writing to parameter LIM_T1_POS, LIM_T1_NEG, LIM_T2_POS, LIM_T2_NEG, LIM_T1_POS_OVR, LIM_T1_NEG_OVR, LIM_T2_POS_OVR or LIM_T2_NEG_OVR:
- 38001: Torque limiter: Limit value higher than maximum value

ID#400241930 : solved problem, solved since V5.03.0
880Pxxxxxx.xxxx-x, 8EIxxxxxx.xxxx-x: Chopper output enabled in error
The chopper output was enabled in error if the external braking resistor was not configured (BLEEDER_SELECTOR_EXT = 0) and the DC link voltage was increased (UDC_ACT > UDC_BLEEDER_ON).
Due to the error correction, the following error may be reported in the event of a wired but unconfigured external braking resistor:
- 7200: DC bus: Overvoltage

ID#576790 : new function since V5.03.0
Read drive parameter via service interface without recording in the network trace
With NC action "ncSERVICE,ncREAD+ncNO_NET_TRACE", a parameter can be read from the drive without the associated data records being recorded in the network trace.
Exceptions:
The call of this NC action is entered in the network trace if the result status is not equal to "ncOK". The data records for parameter request and parameter response are entered in the network trace if an error occurs during the read operation or the parameter data type is not BOOL, SINT, USINT, INT, UINT, DINT, UDINT, REAL or LREAL.

ACPI0 V5.02.1
ID#400244959 : solved problem, solved since V5.02.1
SDM Hardware Tree: Information about motors were not displayed (only in V3.10.0 - 5.020)
The hardware information for motors were incorrectly not entered in the AR Hardware Tree, so that it were not displayed under Plugged in the Hardware Tree view in the SDM (System Diagnostics Manager).

ID#400237775 : solved problem, solved since V5.02.1
Encoder interfaces 8AC121.60-x, 8BAC0121.000-x and 8CVixxxH1xxxx.xx-1 with HIPERFACE: Incorrectly calculated encoder position (only in V2.26.0 - V5.02.0)
The encoder position was sometimes initialized incorrectly by 1/4 of a signal period.

ID#576965 : solved problem, solved since V5.02.1
Error 6067 when simulating a dynamical system using ACOPOS function block DYNSYS (only in V5.00.0 - V5.02.0)
When simulating a dynamical system using the ACOPOS function block DYNSYS without observer option (DYNSYS_MODE <= 5), the error 6067 "Error during initialization of the dynamical system" was mistakenly reported.

ID#400230524 : solved problem, solved since V5.02.1
80Vxxxxxxx.xxx-xx: Change of current controller behavior after reactivation of the enable input
After reactivation of the enable input, it was possible that the current measurement and voltage output of the inverter were not executed synchronously. This could lead to an increased tendency to oscillate of the current controller and to current measurement errors.

ACPI0 V5.02.0
ID#574565 : new function since V5.02.0
U/f control: Errors 9030 and 9070 and warnings 41031 and 41070 at standstill and low speeds
When calculating U/f characteristic curves "ncLINEAR" and "ncQUADRATIC", the boost voltage is 1.22 times too high. In addition, the boost voltage is initialized 1.41 times too high when the characteristic curves are configured automatically ("controller.uf.auto_config = ncMOTOR_PAR").
This can cause the following errors or warnings to be reported:
- 9030: Junction temperature model: Stop limit exceeded
- 9070: Motor temperature model: Stop limit exceeded
- 41031: Junction temperature model: Warning limit exceeded
- 41070: Motor temperature model: Warning limit exceeded
The following new variants are now provided for "controller.uf.type" to correct the errors listed above:
- ncLINEAR + ncCORRECTION
- ncLINEAR2 + ncCORRECTION
- ncQUADRATIC + ncCORRECTION

ID#570625 : new function since V5.02.0
Gearbox for load simulation
The following components of the new substructure "simulation.parameter.gear" can be used to parameterize a gearbox for load simulation:
direction: Direction
in_revs: Input revolutions
out_revs: Output revolutions
These parameters are transferred to the drive when calling the NC actions or the PLCopen MC FB to initialize the simulation parameters, if one of the following values is selected for "simulation.parameter.mode":
ncSIM_MASS1_GEAR: 1-mass load model with gearbox
ncSIM_MASS2_GEAR: 2-mass load model with gearbox

ID#400238158 : new function since V5.02.0
Encoder interfaces AC121.60-x, 8BAC0121.000-x and 8CVixxxH1xxxx.xx-1 with HIPERFACE: Support of the encoder type LinCoder L230
When using this type of encoder, the following error has been reported so far:
- 7062: Encoder: Encoder is not supported

ID#400225228 : new function since V5.02.0
ENCOD0, Virtual encoder: The network encoder mode is now also supported for ACOPOS-2
Supported encoders:
- Incremental encoders
- Incremental encoders with reference track
- Incremental encoders with absolute information
Not supported encoders:
- Absolute encoders

ID#400230209 : solved problem, solved since V5.02.0
Encoder interfaces 8AC130.60-1, 8BAC0130.00x-1, 8BAC0133.000-1 with emulation: Reset of ENCOD_OUT_PARID
When writing to ENCODx_COUNT_DIR, SCALE_LOAD_UNITS or SCALE_LOAD_MOTOR_REV, encoder emulation was switched off
(ENCOD_OUT_PARID = 0). It had to be set up again. Parameter ENCOD_OUT_PARID is now kept, and a new setup is not necessary.

ID#400230342 : new function since V5.02.0
New NC structure component "stop.quickstop.t_jolt" for the NC object with type "ncAXIS"
With this component, the jolt time for the Quickstop can be defined. This jolt time is taken into consideration, if
"stop.quickstop.decel_ramp=ncA_LIMIT+ncQUICKSTOP_T_JOLT" is selected.

ID#400140629 : solved problem, solved since V5.02.0
HIPERFACE encoder with AC121.60-x, 8BAC0121.000-x or 8CVIxxxxH1xxxx.xx-1: Errors 7022 and 7038
During initialization of HIPERFACE encoders, Bit5 "Encoder initialization active" was not set in the status bits. If parameters were transferred to
the ACOPos that lead to the use of the encoder position, the following errors could occur:
- 7022: Encoder: Initialization is active
- 7038: Encoder: Position value not synchronous with absolute value

ACP10 V5.01.1
ID#400235028 : solved problem, solved since V5.01.1
Warning 33002 when initializing the "Maximum Torque per Current (MTPC)" functionality
When initializing the "Maximum Torque per Current (MTPC)" functionality, depending on the motor parameters the Warning 33002
"Floating-Point exception" could had occurred.

ID#565000 : solved problem, solved since V5.01.1
8BAC0125.000-1, 8BVIxxxxxxSA.xxx-x: UP/DN LEDs lit up continuously (only in V3.18.0 - V5.01.0)
When using sinusoidal encoders, SSI encoders or SSI sine encoders, the UP/DN LEDs lit permanently in some modules and showed no
change in position.

ACP10 V5.01.0
ID#506115 : solved problem, solved since V5.01.0
CMD_MOVE_STOP_A2, CMD_MOVE_HALT_A2: Wrong verification of the deceleration parameter
For the commands CMD_MOVE_STOP_A2 (stop movement) and CMD_MOVE_HALT_A2 (halt basis movement), the transferred deceleration
parameter was always checked for AXLIM_A2_POS (maximum deceleration in positive direction). The deceleration parameter is now checked
direction-dependent for AXLIM_A2_POS or AXLIM_A2_NEG and limited accordingly when exceeded with a warning message.

ID#400230282 : solved problem, solved since V5.01.0
Homing with hardware limit switch LIMIT_SWITCH_IGNORE=1: Homing procedure not exited
Homing mode ncEND_SWITCH did not work if parameter LIMIT_SWITCH_IGNORE=1 (ignore limit switch) was set.

ID#552250 : Information valid since V5.01.0
Error texts: Group "Encoders": Changed additional information for "Slot" in "Encoders"
Error texts that belong to the encoders group and contained the slot number as additional information now contain the encoder number
instead.

ID#543580 : solved problem, solved since V5.01.0
Incorrect calculation of power inverter junction temperature (only in V2.25.0 - V5.00.x)
The junction temperature of the power inverter (TEMP_JUNCTION) was calculated incorrectly if PWM was inverted (PWM_CONFIG = 1).
On multi-axis modules, PWM for axis 2 is inverted automatically (from V2.37.0). Due to the error correction, the following warnings/errors may be reported when using highly loaded power inverters with inverted PWM:
- 41031: Junction temperature model: Warning limit exceeded
- 9030: Junction temperature model: Stop limit exceeded
- 9031: Junction temperature model: Switch off limit exceeded

ID# 400223693, 400229474 : solved problem, solved since V5.01.0
SafeMOTION: 2 encoder control: Error 35252 with gear ratio between motor and load encoder
If the 2-encoder control was active with gear ratio between motor and load encoder, and the shaft break monitoring was activated on the
SafeMOTION module, the following errors were reported:
From now on, the use of a gear ratio between the motor and the load encoder is possible. Due to this extension, errors 35198 and 35252 are no longer reported even if the direction of rotation of the motor and load encoder is unequal. Thus the ParID SAFEMC_COUNT_DIR_CORR is obsolete and has been removed.

ACPI V5.00.2

ID#400224746 : solved problem, solved since V5.00.2
88B1xxxxxxxS.xxx.x: EnDat 2.2 with SafeMOTION: Error writing B&R user data block (only in V3.18.0 - V5.00.1)
When the user data block was used with EPROM_ID 1 and EPROM_BLOCK_INDEX 2, the data was written into the wrong address area. Existing motor data were partially overwritten and invalidated. The function was not supported before V3.18.0.

ID#557330 : solved problem, solved since V5.00.2
Error when using an EnDat encoder without 1Vpp signal at an EnDat 2.1 encoder interface (only in V5.00.0 - V5.00.1)
If an EnDat encoder without analog sine signals was operated on an EnDat 2.1 encoder interface (8BAC120.60-1, 8BAC0125.000-1, 8BAC0125.001-1 or 8CVIxxxxx1xxxx.xx-x), the following errors were reported:
- 7032: Encoder: Incremental signal amplitude too small (Disturbance, no connection)
- 7038: Encoder: Position value not synchronous with absolute value
- 7048: Error during the reading of encoder memory

ID#556045 : solved problem, solved since V5.00.2
Error when activating the pitch error and backlash compensation in the mode "direction-dependent compensation as a function of the reference position"
When activating the first time the pitch error and backlash compensation while the controller is switched on or when switching on the first time the controller with activated pitch error and backlash compensation in the mode "direction-dependent compensation as a function of the reference position" (PBC_MODE = 5) the following parameterizations led to a short motor movement:
- a+ unequal to zero with start with positive edge
- a- unequal to zero with start with negative edge
If additionally a noise limit was set (PBC_NOISELIMIT unequal to zero), the compensation failed.

ACPI V5.00.1

ID#400214766 : solved problem, solved since V5.00.1
"homing.status.ok=ncFALSE" was sometimes delayed
If the cyclic status bit "Home position valid" (Bit9 in STATUS_CYCLIC_BITs) was cleared (e.g. after detection of an encoder error on the ACOPOS), "homing.status.ok=ncTRUE" remained set as long as an NC action with a movement command was processed. "homing.status.ok=ncFALSE" was set only after the processing of such an NC action was completed.
This problem occurred during the processing of the following NC actions:
- ncMOVE, ncSTOP
- ncBASIS Move, ncHALT
- ncHOMING, ncSTART (+ ncINIT)
- ncREL_MOVE (+ ...), ncSTART (+ ncINIT)
- ncABS_MOVE (+ ...), ncSTART (+ ncINIT)
- ncPOS_MOVE, ncSTART (+ ncINIT)
- ncNEG_MOVE, ncSTART (+ ncINIT)
- ncPAR_LIST, ncSERVICE + ncINIT with "move.mode=ncPAR_LIST_MOVE"

Effects on PLCopen function blocks:
MC_BR_ReadDriveStatus: The output "HomingOk" changed with delay from TRUE to FALSE.
MC_ReadActualPosition, MC_BR_ReadCyclicPosition: The output "Valid" changed with delay from TRUE to FALSE.
MC_Home: Homing with "HomingMode" mcHOME_RESTORE_POS could lead to an incorrect position.

ID#400224973 : solved problem, solved since V5.00.1
POWERLINK, cyclic network coupling of data points using bit offset sometimes did not work
Configuring a coupling with the parameter CYCLIC_DP_DATA_OFFSET could sometimes lead to an error. In the case of network couplings with POWERLINK cycle times greater than 400µs, it was possible that an error was reported incorrectly. If the coupling was configured again, no further error was reported and the coupling was possible.
The configuration of couplings with parameter CYCLIC_DP_DATA_OFFSET is used by the following NC action and PLCopen function blocks:
- ncNETWORK+ncSERVICE, ncACP_PAR_RECEIVE
- MC_Cam
- MC_GearIn
- MC_GearInPos
- MC_BR_CamIn
- MC_BR_GearIn
- MC_BR_AutoControl
- MC_BR_InitAutoData
- MC_BR_InitAutoPar
- MC_BR_AutoCamDwell
- MC_BR_CamDwell
- MC_BR_CamTransition
- MC_BR_CrossCutterControl
- MC_DigitalCamSwitch
- MC_BR_DigitalCamSwitch
- MC_BR_InitMasterParIDTransfer
ID#400225033 : solved problem, solved since V5.00.1

Error when activating the pitch error and backlash compensation (only in V3.18.0 - V5.00.0)

The first activation of the pitch error and backlash compensation (PBC_MODE! = 0) with activated controller and without initialization (by PBC_MODE = 0) caused the drive to fail.

The problem can be avoided if an initialization by PBC_MODE = 0 is carried out beforehand.

ID#400222521 : solved problem, solved since V5.00.1

Position controller: Velocity jump after switchover of PCTRL_S_ACT_PARID

When starting a movement command, a velocity jump was possible if the parameter ID for the actual position (PCTRL_S_ACT_PARID) was set beforehand. The velocity jump corresponded to the actual velocity at the time of the switchover. Disruptive effects resulted in connection with PLCopen function block MC_BR_VelocityControl in particular.

ID#547820 : solved problem, solved since V5.00.1

Torque limiter, induction motor: Invalid TLIM_STAT

If the torque limiter was operated in mode TLIM_MODE = 2 on induction motors, then the status bits in parameter TLIM_STAT were mistakenly not set.

ID#400225766 : solved problem, solved since V5.00.1

Motor temperature measurement: Error 9012 mistakenly not reported

If the wiring of the motor temperature sensor was interrupted, then error 9012 was mistakenly not reported for the following configurations:
8Bxxxxxxxxxx.xxx-x, 8Cxxxxxxxxxx.xxx-x, 80Vxxxxxx.xxxx-xx and 8EIxxxxxxxx.xxxx.x with PTC switch
8EIxxxxxxxx.xxxx.x with thermistor

ACP10 V3.18.2

ID#400223233 : solved problem, solved since V3.18.2

8EIxxxxXxxxxxx.xxx-1: Error 35508 with additional information 115 erroneously reported

During high speeds, accelerations or short circuit stop, it was possible that the SafeMOTION module erroneously switched to state "FUNCTIONAL FAIL SAFE" and the following errors were reported:
- 6058: Enable1: Voltage dip
- 6059: Enable2: Voltage dip
- 35508: SMC FFS: Internal error, FPGA communication

ID#547465 : solved problem, solved since V3.18.2

DC bus overvoltage monitoring: Limit value erroneously set too high (only in V3.17.0, V3.17.1, V3.17.2, V3.18.0, V3.18.1)

Failure of the DC bus voltage limitation (chopper, braking resistor, etc.) sometimes caused the hardware to become stressed or damaged. Modules 8Bxxxxxxxxxx.xxx-x (ACOPOSmulti), 8Cxxxxxxxxxx.xxx-x (ACOPOSremote), 8Dxxxxxx.xxxx-xx and 8EIxxxxxxxx.xxxx.x (ACOPOS P3) were affected.

Note:
The problem was also solved with V3.17.3.

ID#400224856 : solved problem, solved since V3.18.2

ACP10SIM: Error 1 when using parameter IDs

When writing the parameters NCOD_SUPPLY_VOLTAGE or ENCOD2_SUPPLY_VOLTAGE, the following error was reported mistakenly:
- 1: Invalid parameter ID

ID#545575 : solved problem, solved since V3.18.2

8AC125.60-1: Warning when using Hiperface encoders (only in V3.18.0 - V3.18.1)

When using SinCos/SSI encoders at high speed the following warning was wrongly reported:
- 39001: Encoder: Position correction active

ID#400222677 : solved problem, solved since V3.18.2

Induction motor: Switching off controller did not work

Sometimes the controller was not switched off like it should have been after command "Switch off controller" or a movement stop. Cyclic status bit "Controller on" (bit 8 in STATUS_CYCLIC_BITS) was not set to 0.
Homing with ncHOME_OFFSET + ncCORRECTION: Error 5025 if simulation mode active on ACOPOS drive

The following error was possible when homing with ncHOME_OFFSET + ncCORRECTION while simulation mode was active:
- 5025: Homing offset with counting range correction cannot be set.
Now when simulation mode is active, only the homing offset is set and no correction is performed (similar to ACP10SIM).

ACP10 V3.18.1
ID#539025 : solved problem, solved since V3.18.1
ACOPOS P3: The BiSS encoder interface did not work (only in V3.18.0)
The following error was reported:
- 7022: Encoder: Initialization is active

ACP10 V3.18.0
ID#537840 : solved problem, solved since V3.18.0
Load simulation with simulation mode ncSIM_2MASS: Effects on drive functions
When setting the mode of the load simulation on the drive (SIM_MODE) to ncSIM_2MASS, it could happen that drive functions (e.g. auto tuning, or display functionalities in case of ACOPOS P3) were blocked and not correctly executed.

ID#537620 : solved problem, solved since V3.18.0
Parameter identification of the inverter characteristic curve of ACOPOS P3 leads to a false result (only in V3.17.0 - V3.17.2)
The determination of the parameter of the inverter characteristic curve leads to a false result.

ID#536440 : solved problem, solved since V3.18.0
8Vxxxx.xx-x: Errors 1 and 1017 when using parameter IDs (only in V3.15.0 - V3.17.9)
The following errors were mistakenly reported, for example, when using parameters MAINS_U1, MAINS_U2, MAINS_U3 and RECT_CURR:
- 1: Invalid parameter ID
- 1017: Invalid parameter ID for cyclic read access

ID#535915 : Information valid since V3.18.0
DIO interface on AC130, AC131: Removed obsolete parameter IDs
The following obsolete parameter IDs have been removed:
PARID_DIO_STATE (358) replaced by function block - DIO_IN
PARID_DIO_CONFIG (360) replaced by function block - DIO_DIR
PARID_CMD_DO_SET (361) replaced by function block - DIO_CMD_SET_OUT
PARID_CMD_DO_CLR (362) replaced by function block - DIO_CMD_CLR_OUT

ID#535760 : new function since V3.18.0
80Vxxxxxx.xxxx-x: Reduction of current load on 24V ENABLE connection
The current load on the 24V ENABLE connection is now reduced when switching on the controller.

ID#532245 : solved problem, solved since V3.18.0
Illegal movement when controller set up (autotuning) in mode "ncFF..." with "operating_point = ncTUNE_V_CONSTANT"
If autotuning is performed in mode "ncFF..." with "operating_point = ncTUNE_V_CONSTANT", a one-time movement of TUNE_S_MAX units occurred. The following error was also reported: "10100: Parameter identification: Quality criteria violation". In the event of "ncFF", the permissible range "-TUNE_S_MAX/2 ... +TUNE_S_MAX/2" was violated.

ID#532015 : solved problem, solved since V3.18.0
Not all calculated parameters were updated after autotuning with mode "ncISQ_F1_NOTCH"
After completing the autotuning function with mode "ncISQ_F1_NOTCH (+ ncISQ_F2_NOTCH + ncISQ_F3_NOTCH)"
, the following parameters in the NC structure are now updated with the values read from the drive:
- "controller.speed.kv" with the value from "SCTRL_KV"
- "controller.speed.tm" with the value from "SCTRL_TN"
- "controller.speed.t_filter" with the value from "SCTRL_TI_FIL"

Note:
In V3.16.0 and later, these parameters on the drive are set to zero after completing the autotuning function with mode "ncISQ_F1_NOTCH (+ ...)". Because the associated parameters in the NC structure were not updated, they could have had a different value than was on the drive.

ID#400216654 : solved problem, solved since V3.18.0
Holding brake control: Error 6027 when writing to parameter CMD_BRAKE
If automatic holding brake control had been switched off (bit 0 in BRAKE_MODE deleted) and the controller had been switched off, then the following error was erroneously reported when writing to parameter CMD_BRAKE:
- 6027: Holding brake: Manual operation not permitted
ID# 400194393, 400191526 : solved problem, solved since V3.18.0

8BVPxxxxxxxx.xxx-x, 8BVIxxxxxxSx.xxx-x: Channel 2 (axis 2): Status bit “Drive ready” unstable

The cyclic status bit “Drive ready” (bit19 in STATUS_CYCLIC_BITS) was sometimes unstable on channel 2 (axis 2).

ID#400209403 : solved problem, solved since V3.18.0

Cam automat: Faulty limiting of AUT_CAM_MA_S_REL when setting within curve

When starting the automat immediately in a state, the relative master position in the cam was not limited to the cam period on the master side. As a result, values for AUT_CAM_MA_S_REL that were too high sometimes caused a position jump and very long abort times. The following errors could also be reported, for example:

5102: Too many changes of cam per cycle (master period too short)
5036: Acceleration stop limit exceeded

ID#400145538 : solved problem, solved since V3.18.0

Hardware limit switch: Limit switch ignored after command “stop movement”

The deceleration ramp of a stop command was not interrupted by a limit switch signal. A limit switch can now decelerate faster if braking is not yet taking place with the axis limits.

ACP10 V3.17.3

ID#546635 : solved problem, solved since V3.17.3

DC bus overvoltage monitoring: Limit value erroneously set too high (only in V3.17.0, V3.17.1, V3.18.0, V3.18.1)

Failure of the DC bus voltage limitation (chopper, braking resistor, etc.) sometimes caused the hardware to become stressed or damaged. Modules 8Bxxxxxxxxxxx.xxx-x (ACOPOSmulti), 8Cxxxxxxxxxxx.xxx-x (ACOPOSremote), 8Dxxxxxxxxxxxxxx-x (ACOPOSmotor), 80Vxxxxxx.xxxx-xx (ACOPOSmicro) and 8EIxxxxxxxx.xxxx.x (ACOPOS P3) were affected.

ID#400215051 : solved problem, solved since V3.17.3

ACP10SDC, EncIf1, EncIf2: Error in the absolute position

It was possible that the multi turn part of the position was incorrectly calculated for a 32-bit encoder.

ID#400218797 : solved problem, solved since V3.17.3

8BVIxxxxxxSA.xxx.x: SinCos encoder interface SafeMOTION: Deviation of position during homing with reference pulse

It was possible that the reference pulse was not recorded exactly. This resulted in a deviation of the position by a maximum ¾ of a signal period. When using distance coded reference marks, the deviation could also be the reference mark base distance.

ACP10 V3.17.2

ID#536350 : solved problem, solved since V3.17.2

ACOPOS P3: Plug-in cards are not supported in devices with BSL versions from V3.16.0 to V3.17.1

ACOPOS P3 drives will stop the boot process if:
- a BsLoader (BRMOD_BSL) with version from V3.16.0 to V3.17.1 is on the device
- no operating system (BRMOD_NCSYS) is present on the drive
- a plug-in card is inserted in the option slot

When the error occurs, usually the network initialization is aborted with the following error, although for the ACOPOS module “POWERLINK_PLSTATE=0x0005” (cyclic POWERLINK communication is active) is indicated:
- 32204: Timeout while reading par. via acyclic channel (is the drive in the network ?)

In rare cases, during the network initialization the following POWERLINK_PLSTATE values are indicated again and again:
- 0x0002 Firmware update active
- 0x0004 The cyclic copy jobs are activated
- 0x0006 The station is no longer online but was already ACTIVE

Workaround:
To solve the problem, an operating system (BRMOD_NCSYS) must be transferred to the drive. This can be done with the following steps:
- Power OFF of the ACOPOS P3
- Remove the plug card
- Power ON of the ACOPOS P3
- CPU restart

ACP10 V3.17.1

ID#400199024 : solved problem, solved since V3.17.1

8B0P0110xxxx.xxx-x: Power failure of 24 V rail power supply after software reset

If the 24 VDC power supply is provided via connector X1 (non-AC power system), all 24 V consumers were erroneously cut off after a software reset (e.g. warm/cold restart of the controller).

ID#400212000 : solved problem, solved since V3.17.1
When using distance-coded reference marks (DCM), the following error was reported:
- 5035: Reference marks not detected

Encoder interfaces 8EAC0122.00x-1, 8BAC0122.000-1, 80VD100Px.C02x-xx with resolver: Errors 5034, 4005, 6057 (only in V3.15.0 - V3.17.0)

The following mistaken errors were possibly reported after setting the encoder type (PARID_ENCODx_TYPE):
- 5034: Homing procedure not possible: Encoder error
- 4005: Controller cannot be switched on: Drive in error state
- 6057: Position loop controller: Load encoder error

NC data objects are now generated with property "project-independent"

Property "project-independent" is now set for NC data objects that are newly generated on the target system. As a result, they will not be deleted during a transfer if they do not exist in the Automation Studio project (if no "initial transfer" is performed).

ACP10 V3.17.0

The following libraries are available for ARM target systems:
- Acp10_MC
- Acp10man
- Acp10sdc
- Acp10sim
- Acp10par
- NcGlobal
- SafeMC
- MC_RegMa
- MC_SmIf

Note:
For ARM target systems with a Cortex A8 core (e.g. C30), these libraries can not be used.

ACP10SIM: Page fault exception if over 200 axes
If 200 or more simulated ACOPOS axes were used, a page fault exception occurred during the startup phase.

ID#519680 : solved problem, solved since V3.17.0
Controller setup (autotuning): Error 71 with "operating_point = ncTUNE_V_CONSTANT" if axis operated without encoder
Until now, a setup function with "operating_point=ncTUNE_V_CONSTANT" and an axis operated without an encoder was always aborted with the following error if the value of "limit.v_pos" or "limit.v_neg" was zero:
- 71: Value of required parameter too small, info: Parameter ID = 1102.
The identification speed is now defined from parameter "limit.v_pos" or "limit.v_neg" based on the sign of parameter "v_max_percent".

ID#400209881 : solved problem, solved since V3.17.0
Basis movements: Incorrect acceleration for one sampling cycle
When starting a basis movement in the negative direction from standstill, an incorrect parameter was used for acceleration for one sampling cycle. "Deceleration in positive direction" (BASIS_Move_A2_POS) was used instead of "Acceleration in negative direction" (BASIS_Move_A1_NEG). This error had a considerable effect particularly with zero jerk time and very different values for acceleration and deceleration.

ID#479665 : new function since V3.17.0
Setup for controller (autotuning): "+ncTUNE_TN" for mode "ncSPEED"
The following values can now be defined for "mode":
- ncSPEED + ncTUNE_TN
- ncSPEED + ncTUNE_TN + ncUSE_FILTER_PAR
- ncSPEED + ncTUNE_TN + ncISQ_F1_NOTCH
With "+ncTUNE_TN" additionally the integral action time of the speed controller will be determined.

ID# 400026817, 400010828 : new function since V3.17.0
Increased maximum value for jolt time
Jolt time "t_jolt" has been increased to the following maximum values:
- ACOPOS, ACOPOSmulti, ACOPOSmicro: From 0.2 s to 0.4 s
- ACOPOS P3: From 0.2 s to 4.0 s
- ACP10SDC, ACP10SIM: From 500 to 1000 times the task class cycle time

ACP10 V3.16.1
ID#400209708 : solved problem, solved since V3.16.1
ACP10SIM: 8BVPxxxxxxxx.xxx-x: Boost converter: Error 1 when writing parameter (only in V3.16.0)
When writing the parameters UCTRL_UDC_REF, UCTRL_ISQ_REF, UCTRL_UDC_REF_PARID, UCTRL_ISQ_ADD_PARID or MAINS_FREQ_TOL, the following error was reported mistakenly:
- 1: Invalid parameter ID

ID#400208663 : solved problem, solved since V3.16.1
Error 1002 when writing to parameter TEMP_MOTOR_MODEL_MODE (only in V3.15.0 - V3.16.0)
When writing the value 2 or 3 to parameter TEMP_MOTOR_MODEL_MODE, the following error was sometimes reported by mistake:
- 1002: Parameter outside the valid range

ID#400205624 : solved problem, solved since V3.16.1
ACOPOS P3 display: Error "UART timeout" displayed when establishing communication with display
Error "UART timeout" sometimes occurred when connecting the ACOPOS P3 display to the ACOPOS P3. The error could be corrected by resetting the ACOPOS P3.

ID#514920 : solved problem, solved since V3.16.1
Error 9012 if parameter MOTOR_TEMPSENS_TYPE changed to value 0xFFFF
The following error was mistakenly reported if parameter MOTOR_TEMPSENS_TYPE was changed to value 0xFFFF:
- 9012: Temperature sensor (Motor|Choke|External): Not connected or destroyed

ID#513365 : solved problem, solved since V3.16.1
Possible to switch on controller without valid motor data (only in V3.15.0 - V3.16.0)
If only one motor parameter was transferred to the drive, then the controller could be switched on by mistake.

ACP10 V3.16.0
ID#532010 : solved problem, solved since V3.16.0
Some speed controller parameters were not set to zero after autotuning with mode "ncISQ_F1_NOTCH"
After completing the autotuning function with mode "ncISQ_F1_NOTCH + ncISQ_F2_NOTCH + ncISQ_F3_NOTCH", the following parameters are now set to zero as described in the documentation:
- SCTRL_KV
- SCTRL_TN
- SCTRL_TI_FIL

ID#511825 : solved problem, solved since V3.16.0
Heat sink temperature measurement: Error 9002 changed to warning 41002
If the measured heat sink temperature falls below the lower limit value, then warning 41002 is now reported instead of error 9002. A movement abort is no longer initiated, and the controller status remains unchanged.

ID#400203877 : solved problem, solved since V3.16.0
BBVxxxxxxxxDx.xxx-x: Simulation mode: Error 7219
If simulation mode was started on only one axis (CMD_SIMULATION = 258) after writing to parameter UDC_DETECTION, then it was possible that the following error was mistakenly reported when switching on the controller for the real axis:
- 7219: DC bus: Precharge: Voltage too low

ID#511100 : new function since V3.16.0
Improved simulation of induction motors
Changes have been made to the induction motor model on ACOPOS modules and the "Complete" mode in the ACP10SIM library in order to more closely approximate the real system.

ID#400203981 : solved problem, solved since V3.16.0
BBBPxxxxxxx.xxx-x: Brake resistance: Error 7227
Although no brake resistor was connected and configured, the following error could be mistakenly reported. 7227: Bleeder: Overcurrent

ID#400200487 : solved problem, solved since V3.16.0
ARsim: Certain timing settings could lead to a deadlock for "ncGLOBAL,ncLOAD" and "ncGLOBAL,ncSAVE"
When using ARsim, the following timing settings could cause the problem, that a deadlock occurred after calling the NC actions "ncGLOBAL,ncLOAD" or "ncGLOBAL,ncSAVE":
- Idle taskclass: Equal to the NC Manager task class
- Taskclass idle time: Not zero
The PLCopen MC function blocks MC_BR_LoadAxisPar and MC_BR_SaveAxisPar were also affected by this problem.
With older versions of the ACP10 software this problem can be avoided by selecting another task class than the NC Manager taskclass for "Idle task class" or by setting "Task class idle time" to zero.

ACP10 V3.15.1
ID#506700 : solved problem, solved since V3.15.1
ACP10SIM: "page fault exception" using CONTROLLER_MODE = ncUF (only in V3.15.0)

ID#503090 : solved problem, solved since V3.15.1
ACP10SIM: Error 6036 when switching on controller (only in V3.15.0)
Although a valid motor parameter set was transferred to the drive, the following error was wrongly reported when switching on the controller:
- 6036: Motor parameters missing or invalid

ID#400195163 : solved problem, solved since V3.15.1
ACOPOS, POWERLINK with DNA: Sporadic startup problems on ACOPOS devices when using DNA (dynamic node allocation) When using DNA, it is possible that drives are no longer included in cyclic network communication after a software reset.

ACP10 V3.15.0
ID#400199823 : solved problem, solved since V3.15.0
If a thermo switch (normally open or normally closed) was used as the motor temperature sensor, the following errors were mistakenly reported:
- 9010: Temperature sensor (Motor|Choke|External): Stop limit exceeded
- 9013: Temperature sensor (Motor|Choke|External): Short circuit

ID#400199416 : solved problem, solved since V3.15.0
Torque limiter: Torque limits mistakenly modified
If value 1 was written to parameter TLIM_MODE, then torque limits LIM_T1_POS, LIM_T2_POS, LIM_T1_NEG and LIM_T2_NEG were mistakenly set to the predefined maximum value. It was possible for manually configured torque limits to be overwritten.
This error occurred primarily in connection with the following PLCopen function blocks:
- MC_LimitLoad
- MC_BR_LimitLoad
- MC_BR_LimitLoadCam

ID#400199837 : new function since V3.15.0
Temperature monitoring: Faster error acknowledgment
When monitoring temperatures TEMP_MOTOR, TEMP_MOTOR_MODEL, TEMP_BLEEDER and TEMP_HEATSINK, the ovetemperature error state is now ended when the temperature falls to 90% of the limit temperature instead of 70%.

ID#500615 : solved problem, solved since V3.15.0
ACOPOS P3 encoder interface 8EAC0122.00x1 with resolver: Position offset by synchronization error of the plugin module (only in V3.14.x)
It could occur that the position differed by half a signal period.

ID#400198068 : solved problem, solved since V3.15.0
8Vxxxx.xx-x: Field weakening: Parameter FWCTRL_ISD0, FWCTRL_SPEED0 or FCTRL_IM_LIM_MIN invalid (only in V2.45.0 - V2.52.0 and V3.10.0 - V3.14.x)
When writing parameter FWCTRL_ISD0, FWCTRL_SPEED0 and FCTRL_IM_LIM_MIN, it was possible that the values to not be correctly assigned to the ACOPOS drive.

ID# 4001999313 : solved problem, solved since V3.15.0
Wrong text for “NetworkInit” caused exception on the target system
A wrong text for “NetworkInit” (for example “BasicInitOff” instead of “BasisInitOff”) resulted in an exception (divide error) for axes that are operated via ACP10SDC or ACP10SIM (also when using ARsim).
Now in this case the following error is output:
- 32167: The text defined with NetworkInit is invalid

ID#499245 : solved problem, solved since V3.15.0
8BVxxxxxxxx.xxx-x: Faulty calculation of rectifier temperature (RECT_TEMP)
In rare cases the following errors or warning was falsely registered:
- 9094: Rectifier temperature model: Stop limit exceeded
- 9095: Rectifier temperature model: Switch off limit exceeded
- 41092: Rectifier temperature model: Warning limit exceeded

ID#496885 : new function since V3.15.0
Heat sink temperature measurement, error 9002: Reaction changed
If the measured heat sink temperature falls below the lower limit value, then now only the error 9002 is reported. A movement abort is no longer initiated, and the controller status remains unchanged.

ID#496360 : solved problem, solved since V3.15.0
Motor temperature model: Error 9070, 9071 or warning 41070 after failure of the motor temperature measurement
It was possible that the motor temperature model was initialized with a value that was too high after failure of the motor temperature measurement. As a result, one of the following errors or the following warning was mistakenly reported:
- 9070: Motor temperature model: Stop limit exceeded
- 9071: Motor temperature model: Switch off limit exceeded
- 41070: Motor temperature model: Warning limit exceeded

ID# 400196196, 400195965 : solved problem, solved since V3.15.0
Homing with reference switch gate, without direction reversal: Speed was not reduced at the reference switch (only in V3.13.0 - V3.14.x)
A homing procedure with reference switch gate and fixed direction did not reduce to trigger speed when the reference switch was reached.

ID#400195332 : solved problem, solved since V3.15.0
ACOPOS: Error using CONTROLLER_MODE = ncUF and plug-in slot 4 (only in V2.44.0 - V3.14.x)
If a plug-in card is plugged in slot 4 and CONTROLLER_MODE = ncUF is used, error 1003 is reported:
-1002: Parameter outside the valid range

ID#400195690 : solved problem, solved since V3.15.0
SafeMOTION: 2-encoder control: Error 35252 with opposite direction of rotation of motor and load encoder
When in active 2-encoder control the rotational direction of the motor encoder was not equal to the rotational direction of the load encoder, and the shaft break monitoring was activated on the SafeMOTION module, the following errors were reported:
-35198: SMC Functional Fail Safe: Encoder error was detected
-35252: SMC: Position lag error limit exceeded
With PartID SAFEMC_COUNT_DIR_CORR (ncINVERSE) this now can be corrected.

ID#400195313 : new function since V3.15.0

ACP10SIM: The value range for UDC NOMINAL was increased to 780V.

ID#494565 : solved problem, solved since V3.15.0

Determination of ACOPOS hardware information: ACOPOS P3 plug-in card was not displayed

After call of the NC action "ncSERVICE, ncACOPOS_INFO" the information for an ACOPOS P3 plug-in card 8EACxxxx.xxx-x was not displayed, all following components remained empty:
- card[i].model_number
- card[i].serial_number
- card[i].revision

Also affected by this problem was the FB MC_BR_GetHardwareInfo as well as the Hardware Tree view in SDM (System Diagnostics Manager).

ID#492130 : solved problem, solved since V3.15.0

Basic network initialization after "ncNETWORK, ncINIT" falsely with ACOPOS reset (only in V2.47.0 - V2.52.0 and V3.10.0 - V3.14.x)

For the NC object with type "ncNET_GLOBAL" the NC action "ncNETWORK, ncINIT" is offered for the basic network initialization without ACOPOS reset.

After this NC action was called, the ACOPOS startup falsely was carried out for all ACOPOS modules. For those ACOPOS modules, for which the cyclic network communication was active, falsely a reset was applied.

From now on, after call of this NC action the ACOPOS startup correctly is carried out only for those ACOPOS modules, for which the cyclic network communication is not active.

ID# 400192384, 400106871, 400190996 : solved problem, solved since V3.15.0

Error 4007 when switching off closed-loop control

In certain circumstances, switching off closed-loop control can cause error 4007 "Lag error abort limit exceeded". This error occurred in the last phase of the switch-off procedure and especially under the following conditions:
Axis without holding brake, influence of external forces such as return spring or "hanging" load", sufficiently small lag error abort limit AXLIM_DS_STOP.

ID#489005 : new function since V3.15.0

Trigger an error reaction on the drive: New types for real axes

With NC action "ncMESSAGE,ncCMD_ERROR" from now on for real axes the following new types for the parameter "message.cmd_error.type" can be used:
- ncCMD_ERROR_COAST_TO_STANDSTILL: Error, coast to standstill (with controller OFF)
- ncCMD_ERROR_INDUCTION_HALT: Error, induction halt (with controller OFF)

ID#481245 : solved problem, solved since V3.15.0

EnDat motors: Error 6036 mistakenly NOT reported

If an EnDat motor was used and an incomplete set of motor parameters transferred over the network, then it was possible that the following error was mistakenly NOT reported when switching on the controller:
- 6036: Missing or invalid motor parameters

ACP10 V3.14.3

ID#492790 : solved problem, solved since V3.14.3

ACOPOSmulti encoder interface 8BAC0122.000-1 with resolver: Incremental position offset (only in V3.14.0 - 3.142)

With plug-in modules 8BAC0122.000-1 up to revision C0 the incremental position could differ by half a signal period.

ACP10 V3.14.2

ID# 400185351, 400182012 : solved problem, solved since V3.14.2

Motor temperature model: Error 9070, 9071 or warning 41070

On motors with temperature sensor lines connected to the motor encoder (e.g. EnDat 2.2), it was possible that the motor temperature model was initialized with a value that was too high during startup. As a result, one of the following errors or the following warning was mistakenly reported:
- 9070: Motor temperature model: Slop limit exceeded
- 9071: Motor temperature model: Switch off limit exceeded
- 41070: Motor temperature model: Warning limit exceeded

ID#480480 : new function since V3.14.2

Multi-axis Trace, new mechanism: Recording of trace data starts simultaneously on all channels

Until now, recording of trace data for the channel for which the trigger object is defined, was started always immediately after the defined trigger event has been detected. For all other channels recording was started delayed, i.e. after receiving the trigger which was sent via broadcast by the NC manager. This delay can be compensated by setting parameter "Net Trigger Delay" (or "l_add_net_trigger" in application
programs) to a corresponding negative value.

The previous mechanism described above will continue to be used if parameter “Net Trigger Delay” is set to a value less than or equal to zero.

New mechanism:
If parameter “Net Trigger Delay” is set to a value greater than zero, now also on the trigger channel the recording starts after the trigger sent by the NC manager has been received. In addition, the value of “Net Trigger Delay” is ignored in this case (set internally to zero). Please note, that on the trigger channel recording of trace data starts now also delayed by that time, which is required by the NC Manager for trigger distribution. This can be compensated for by reducing the trigger delay time accordingly.

IMPORTANT:
In ACP10 versions V3.14.0 and V3.14.1, the new mechanism is used in any case (also if parameter Net Trigger Delay” is set to a value less than or equal to zero).

ACPI0 V3.14.1

ID#400188450 : solved problem, solved since V3.14.1

8AC126.60-1: EnDat 2.2: Error in temperature evaluation (only in V2.48.0 - V2.51.x and V3.10.0 - V3.14.0)

An error occurs on the 8AC126.60-1 under the following conditions when reading out the encoder temperature or a temperature sensor connected to the encoder:
- Slot 2: Available or occupied by 8AC14x.6x-x
- Slot 3: 8AC126.60-1 used for motor encoder

This results in the following error on motors with a single-cable solution:
- 9090: Motor encoder temperature sensor: Temperature value not valid

ID#40190445 : solved problem, solved since V3.14.1

ACOPOSmulti with SafeMOTION: EnDat 2.2: Incorrect position after using simulation mode (only in V3.14.0)
The position was calculated incorrectly after switching off simulation mode with "CMD_SIMULATION = ncSWITCH_OFF".

ID#40187676 : solved problem, solved since V3.14.1

Logger errors for cypCreateDynamicProg()

If the installation of cyclic tasks with cypCreateDynamicProg() failed, so far the following errors were written into the logger:
10560 NC manager error (see "ASCII data"), ASCII data: <TaskName>: Installation
10560 NC manager error (see 'ASCII Data'), ASCII Data: cypCreateDynamicProg failed (too less cyclic objects configured?)

The installation of cyclic tasks with cypCreateDynamicProg() does also fail, if the required task class is not configured. From now on, this case is also considered in the ASCII Data of the logger errors:
10560 NC manager error (see "ASCII Data"), ASCII Data: <TaskName>: installation: cypCreateDynamicProg() failed
10560 NC manager error (see "ASCII Data"), ASCII Data: Too few cyclic objects configured or task class Cyclic #<TcNo> not configured

For example, when installation of Acp10NcLinkTask fails, then the following errors are displayed:
10560 NC manager error (see "ASCII Data"), ASCII Data: <TaskName>: installation: cypCreateDynamicProg() failed
10560 NC manager error (see "ASCII Data"), ASCII Data: Too few cyclic objects configured or task class Cyclic #3 not configured

ID#400188333 : solved problem, solved since V3.14.1

ARsim: With certain timing settings, commands were blocked in NC Test or NC Trace

When using ARsim, the following timing settings could cause the problem, that commands were blocked in NC Test or NC Trace:
- Idle task class: Cyclic # 3
- Task class idle time: Not zero

If this problem occurred, the following message was displayed in Automation Studio:
Message from '<NcObject>':
The status of the NC object '<NcObject>' is '0'
Would you like to cancel the operation ?

With older versions of the ACP10 software this problem can be avoided by selecting another task class than "Cyclic # 3" for "Idle task class" or by setting "Task class idle time" to zero.

ACP10 V3.14.0

ID#480965 : solved problem, solved since V3.14.0

Encoder interfaces 8EAC0122.00x-1, 8BAC0122.000-1, 80VD100Px.C02x-xx with resolver: Under certain circumstances, the error 7033 has been incorrectly reported (only in V3.10.0 - V3.13.x)

By parameterization of the encoder (Parameter SCALE_ENCOD_INCR or ENCOD_POLEPAIRS) the error 7033 could be mistakenly reported.

ID#480155 : solved problem, solved since V3.14.0

Parallel Cam Profile download: Acyclic communication was permanently blocked after error 32205

If the error 32205 (timeout while writing parameters over acyclic channel) occurred during the transfer of a cam profile's data segment, then subsequently acyclic communication was blocked permanently.

The problem occurred only then, if in the ACP10 configuration "Cam Profile Download, Parallel transfer of Cam profile data=Yes" was selected and the Cam Profile data were passed as a data buffer (via "data_adr" and "data_len").

ID#400180141 : solved problem, solved since V3.14.0
ACOPOS modules 8Vxxxx.xx-x and 8Exxxxxxxxxxx.xxx-x: External braking resistor: Warning 38008

If an external braking resistor with high electrical resistance was used, warning 38008 may have been reported by mistake.

ID#400184635 : solved problem, solved since V3.14.0

8AC126.60-1: EnDat 2.2: Error 9089 at an ambient temperature below 0 degrees

The ParID ENCOD_TEMP returns the value 429496704 at an ambient temperature below 0 degrees.
This can result in the following error:
- 9089: Motor encoder temperature sensor: Stop limit exceeded

ID#476165 : solved problem, solved since V3.14.0

No error message on failure of heat sink temperature sensor (only in V2.48.0 - V2.51.4 and V3.10.0 - V3.13.x)

No error is reported and should be for the following modules when the heat sink temperature sensor fails:
- 8DVxxxxxxxx.xx-x
- 8BVxxxxxxxxxxx.xxx-x
- 8CVxxxxxxxxxxx.xx-x
- 8DIxxxxx.xxxxxx-x

ID#471790 : solved problem, solved since V3.14.0

Suppression of periodical disturbances: change of initialization

When writing the mode of the suppression of periodical disturbance functionality (SCTRL_RC_MODE), the parameters SCTRL_RC_PAR0 and SCTRL_RC_PAR1 were incorrectly reset.

ID#400180973 : solved problem, solved since V3.14.0

Encoder compensation: Error 67 and 7100 during initialization

The following error could occur when writing the ENCOD_DAT_A0, ENCOD_DAT_A1 and ENCOD_DAT_A2 parameters.
67: Necessary parameter is missing or is invalid. Info: Parameter ID = 1174
This error occurred primarily with ACP10SIM axes.
Only with ACP10SIM axes the following error occurred when writing the ENCOD_COMP_MODE=3 parameter.
7100: Parameter function not supported. (Module ?).

ACP10 V3.13.1

ID#474505 : solved problem, solved since V3.13.1

ACOPOSmotor 8DIxxx.xxxxxxxxxx-x, POWERLINK: Error establishing connection with drive (only in V3.11.0 - V3.13.0)

In rare cases, it was possible that the node number was read out incorrectly when booting the drive (node number = 0). As a result, the drive was incorrectly booted using DNA (Dynamic Node Allocation). This was indicated by a solid red POWERLINK LED and a blinking red axis LED.

ID#473075 : solved problem, solved since V3.13.1

Parallel Cam Profile download: Warning caused erroneously error status

Previously, if a warning (error number >32767) occurred during the transfer of a cam profile's data segment, then the download was falsely aborted with "status.error=ncTRUE". From now on, the download is completed with "status.ok=ncTRUE".

The problem occurred only then, if in the ACP10 configuration "Cam Profile Download, Parallel transfer of Cam profile data=Yes" was selected and the Cam Profile data were passed as a data buffer (via "data_adr" and "data_len").

ID#472530 : solved problem, solved since V3.13.1

ACOPOS P3: 8EAC0122.xxx-x: Errors 6061 and 38005 when switching on controller

If no motor data was configured, then errors 6061 and 38005 were reported instead of error 6036 when switching on the controller.
- 6061: CTRL Speed controller: Limit speed exceeded
- 38005: Motor test: Speed is too high during switch on
- 6036: Motor parameters missing or invalid

ID#400180765 : solved problem, solved since V3.13.1

Determination of ACOPOS hardware information: Information about motors wrong (only in V3.11.0 - V3.13.0)

The information about motors were displayed incorrectly. The model number and the revision remained empty. As serial number the last characters of the model number were displayed.

This problem occurred with the following functions for determination of ACOPOS hardware information:
- nc_action(ncSERVICE,ncACOPOS_INFO)
- FB MC_BR_GetHardwareInfo

ACP10 V3.13.0

ID#400174883 : solved problem, solved since V3.13.0

EnDat 2.2 encoder: Error after a reset of the multi turn position (only in V2.49.0 - V3.12.x)
After resetting the multi turn position of an EBI-encoder (motor option B1) with "ENCOD_CMD=1" a multi turn reset was performed at each further startup of the drive.

Thus it could happen that the errors 39003, 39006 and 39034 were reported.

Homing with reference switch gate without direction reversal: Incorrect speed when starting on reference switch

With the following settings, reduction to the trigger speed took place already on the negative reference switch edge:
Start direct on switch, fixed direction and reference switch edge is equal to the starting direction.

Temperature monitoring: Diagnostic parameter names changed

Temperature monitoring: The parameter names of the following diagnostic parameters have been changed:
- TEMP_RECTIFIER -> RECT_TEMP,
- UDC RECT_CURR -> RECT_CURR,
- TEMP_MAINRELAY -> DCREL_TEMP,
- TEMP_CONNECTOR -> DCCON_TEMP,
- TEMP_CAPACITOR -> DCCAP_TEMP,
- TOTALPOWER -> INVR_TPOW,
- TOTALPOWER_CONT_LOAD -> INVR_TPOW_CONT_LOAD,
- TOTALPOWER_CONT_LIM -> INVR_TPOW_CONT_LIM,
- TOTALPOWER_PEAK_LOAD -> INVR_TPOW_PEAK_LOAD,
- TOTALPOWER_PEAK_LIM -> INVR_TPOW_PEAK_LIM

Drive identification: Determining jolt time with "PIDENT_MODE = 60"

The jolt time can be identified with "PIDENT_MODE = 60". The PIDENT_S parameter defines the permitted movement distance. The PIDENT_SUB_MODE parameter can be used to define the direction of movement:
0: Bidirectional movement, start in the positive direction
1: Bidirectional movement, start in the negative direction
2: Movement only in the positive direction
3: Movement only in the negative direction

After identification is completed, the AXLIM_T_JOLT parameter is initialized with the identified value.

Setup for controller (autotuning): New parameters "signal_type", "signal_f_start", "signal_f_stop" and "signal_time"

If "signal_type = ncSIGNAL_CHIRP" or "signal_type = ncSIGNAL_CHIRP_TRAPEZOID", then a chirp signal is used for the setup function instead of a PRBS for excitation. In this case, "signal_f_start" defines the starting frequency of the excitation signal, "signal_f_stop" defines its stopping frequency and "signal_time" defines its duration.

*signal_type = ncSIGNAL_CHIRP_TRAPEZOID* leads to trapezoidal smoothing of the amplitude at the beginning and end of the chirp signal.
With "signal_type = ncSIGNAL_CHIRP" this is not performed.

If "signal_f_stop = 0", then the following default value is used for the stopping frequency:
- 1250 for "ncPOSITION" or "ncTEST_POSITION" mode
- 2500 otherwise

If "signal_f_start = 0", then the value for the starting frequency is calculated from the defined stopping frequency. If "signal_time = 0", then the duration of the excitation signal is calculated from the defined stopping frequency.

ACP10 V3.12.1

ID#466475 : solved problem, solved since V3.12.1

Encoder interfaces AC121.60-x, 8BAC0121.000-x and 8CVIxxxH1xxxx.xx-1 with HIPERFACE: Remanent error 7029 or 7030 (only in V3.10.0 - V3.12.0)

It was possible that error 7029 or 7030 was no longer reset.

ACP10 V3.12.0

ID#463415 : solved problem, solved since V3.12.0

ACP10SIM: Setup for Controller (Autotuning) did not work (only in V3.11.0 - V3.11.x)

The execution of the function Setup for Controller was not finished due to a missing status.

ID#462260 : new function since V3.12.0

ACOPOS P3 Technology Guarding

License verification with the Technology Guard now is carried out for axis functions of ACOPOS P3 modules that require licensing.

The following licenses are defined for ACOPOS P3 modules:
- 1TGACP0000.00-01: ACP P3 TG - Single Technology feature
- 1TGACP3SMC0.00-01: ACP P3 TG - Single Networked SafeMOTION feature
- 1TGACP0000.00-99: ACP P3 TG - Technology feature flat rate
The "flat rate" license "1TGACP000.00-99" for an axis of an ACOPOS P3 module can be selected in the hardware configuration under "License required axis functions". With the default setting, the single licenses "1TGACPxxxx.00-01" are verified for each axis function used that requires licensing.

ID#461565 : solved problem, solved since V3.12.0

Setup for controller (autotuning): Error 10100 with "operation_point = ncTUNE_V_CONSTANT"

Up to now a setup function with "operation_point = ncTUNE_V_CONSTANT" was aborted with error 10100, the speed and the acceleration override value did not remain on 100% during the entire setup function.

For "operation_point = ncTUNE_V_CONSTANT" now is guaranteed, that the speed and the acceleration override value remain on 100% during the setup function. Before starting the setup function, the value 100% for the speed and acceleration override is transferred to the drive and the transfer of the override value contained in the NC structure is disabled. After end of the setup function, the transfer of the override value contained in the NC structure is reactivated.

ID#400170972 : solved problem, solved since V3.12.0

ACOPOSmulti, ACOPOSmicro, ACOPOS P3: Configured and connected ACOPOS modules not identified correctly (only in V2.47.0 - V2.52.1 and V3.10.0 - V3.11.x)

Because the module code is read incorrectly during the boot phase, the module was not shown under "Plugged" in System Diagnostics Manager (SDM) or an undefined string was displayed. The incorrect determination of the hardware information only affected the display of the module information.

ACP10 V3.11.2
ID#463045 : solved problem, solved since V3.11.2

ACOPOS P3: Continuous total power and peak total power monitoring: Faulty calculation of load

The continuous total power load (TOTALPOWER_CONT_LOAD, ParID 1545) and peak total power load (TOTALPOWER_PEAK_LOAD, ParID 1546) were calculated as being too low.

The error correction may cause the following warnings or errors to be reported:
- 41095: DC bus: Continuous total power: Warning limit exceeded
- 41096: DC bus: Peak total power: Warning limit exceeded
- 9100: DC bus: Continuous total power: Stop limit exceeded
- 9102: DC bus: Peak total power: Stop limit exceeded

ACP10 V3.11.1
ID#461160 : solved problem, solved since V3.11.1

Encoder interfaces 8BAC0122:000-1, 80VD100Px.C02x-xx with resolver: Incorrect determination of resolver transformation ratio (only in V3.10.0 - 3.11.0)

Error 7031 could be reported by mistake for resolvers with a transformation ratio (parameter ENCOD_TRANS_RATIO) not equal to 0.5.

ACP10 V3.11.0
ID#400170822 : new function since V3.11.0

Holding brake: Releasing with CMD_BRAKE = ncSWITCH_OFF not working

During a power failure with a switched-off controller, the holding brake output was incorrectly cyclically set to 0. The holding brake could therefore not be released with CMD_BRAKE = ncSWITCH_OFF.

ID#458625 : solved problem, solved since V3.11.0

ACOPOS P3: Continuous current and peak current monitoring: Faulty calculation of load at standstill

At a standstill, the continuous current load (LOAD_CONT_CURR) and peak current load (LOAD_PEAK_CURR) were calculated as being too low.

The error correction may cause one of the following warnings to be reported:
- 41061: ACOPOS continuous current: Warning limit exceeded
- 41051: ACOPOS peak current: Warning limit exceeded

ID#457080 : solved problem, solved since V3.11.0

ACOPOS P3: Simulation mode: Error 41097, 9104 and 9105

In simulation mode, it could happen that the following errors were mistakenly reported:
- 41097: DC connector temperature model: Warning limit exceeded
- 9104: DC connector temperature model: Stop limit exceeded
- 9105: DC connector temperature model: Switch off limit exceeded

ID#400171088 : solved problem, solved since V3.11.0

SG4 target system, POWERLINK: Error 32251 or 32252 (only in V2.28.0 - V3.10.x)

Under the following conditions one of the errors 32251 or 32252 could occur when transferring parameter lists:
- The cycle time of the NC Manager task class is equal to the POWERLINK cycle time
- The tolerance time of the NC Manager task class is greater than the cycle time

ID#454675 : Information valid since V3.11.0
ACOPOS "IPL" function block: Added mode 4 and changed failure behavior

Addition of mode 4:
This new mode allows quadratic interpolation without overshoot on the output. The delay time is somewhat increased compared to mode 2, however.

Change in failure behavior:
If the changes on the event input fail, the output now remains "frozen" after the extrapolation time instead of reverting back to the last input value.

ID# 400155920, 400154658 : solved problem, solved since V3.11.0
80VD100PD.C088-01, 80VD100PS.C08X-01: Incorrect position calculation
At high signal frequencies, the position was incorrectly calculated for 80VD100PD.C088-01 and 80VD100PS.C08X-01 ACOPOSmicro modules.

ID#400168969 : solved problem, solved since V3.11.0
8BP0110xxxx.xxx-x: Error 7227
In rare cases the following error was falsely registered:
- 7227: Bleeder: Overcurrent

ID#400169146 : solved problem, solved since V3.11.0
8BPVxxxxxxx.xxx-x: The reactive current compensation (ICTRL_ISD_REF) was too small by a factor of 1.2 at a mains frequency of 60 Hz

ID# 400168882, 400168593 : new function since V3.11.0
8BP0110xxxx.xxx-x: 25 VDC rail voltage not enabled, incorrect behavior
If booting took place without external 24 VDC (with AC mains) and the module was then supplied externally with 24 VDC, then the 25 VDC rail voltage was not enabled.
If 24 V was supplied externally and the internally generated 25 VDC rail voltage failed, then the 25 VDC rail voltage was permanently shut off, which was incorrect.

ACPO Smicro

ID#400178061 : solved problem, solved since V3.10.0
ACP10Sim with ARsim: Jumps to the monitor position setpoint and incorrect error messages
Jumps in the monitor data and incorrect error messages may occur if the cyclic task class is interrupted by a background task. These problems occurred primarily in ARsim V4.22 and higher.

ID#452525 : Information valid since V3.10.0
Encoder interfaces 8BAC0122.000-1, 80VD100Px.C02x-xx with resolver: Resolver transformation ratio
The resolver transformation ratio is now determined automatically. The ENCOD_TRANS_RATIO parameter therefore no longer has an effect. This measure normally results in increased availability.

ID#445680 : new function since V3.10.0
Setup for controller (autotuning): New parameter "kv_max" for defining maximum proportional amplification
This parameter defines the maximum value for the proportional amplification in the "ncSPEED" and "ncPOSITION" modes.
If "kv_max = 0.0", then the value 2000 is used for the autotuning function, which corresponds to the previously fixed maximum value.

ID#445615 : Information valid since V3.10.0
Setup for controller (autotuning): Acceleration value for some setup functions changed
For the following setup functions, the limit values for acceleration (AXLIM_Ax_xxx) are now used (previously the base movement parameter BASIS_MOVE_Ax_xxx):
- "ncSPEED + ..." mode with "operating_point = ncTUNE_V_CONSTANT"
- "ncISQ_F1_NOTCH + ..." mode with "operating_point = ncTUNE_V_CONSTANT"
- "ncPOSITION" mode with "operating_point = ncTUNE_V_CONSTANT"
- "ncFF..." mode for axes operating without an encoder (ELC)

ID#400160925 : solved problem, solved since V3.10.0
ENCODE0, virtual encoder in network encoder mode: Error 4007 during homing
Error 4007 "Lag error stop limit exceeded" could occur under the following circumstances:
- Virtual encoder in network encoder mode
- Two-encoder control with ENCODE0_S_ACT_FILTER as position encoder
- Homing while control enabled
This error occurred primarily in connection with the MC_BR_InitReceiveNetworkEnc PLCopen function block. Error 4007 did not occur when using ENCODE0_S_ACT as the position encoder.

ID#443220 : Information valid since V3.10.0
ACP10 software from V3.10.0 on can be used only for SG4 target systems with POWERLINK network
The following platforms are no longer supported:
- SGC target systems
- SG3 target systems
- SG4 target systems with CAN network

**ID#43210 :** Information valid since V3.10.0

Incompatible changes: Removed obsolete functions and parameter IDs

- Support for CAN network cards AC110 and AC140
- Support for old POWERLINK V1 network card AC112
- Special Cam Profile Automat CMD_CAM_START
- Old drum sequencer CMD_DRUMSEQ
- Old position latch functions LATCH1/2_WINDOW_POS
- Parameter normalization SCALE_R4_PARID
- Mode for external cyclic setpoint generation CMD_CYC_SET_VALUE_MODE
- Old homing functions CMD_ENCOD2/3_HOMING
- Old toggle for cyclic monitor data CYCL_MON_REQU1/2
- Configurable error messages MSG_CONF_ERROR_NUMBER: Warnings 64500..64619
- Old functions of hardware inputs POS/NEG_LIMIT_SWITCH_HW, TRIGGER_STOP_MODE
- Delayed speed feed-forward control with switch for controller mode PCTRL_MODE_SWITCH=1
- Speed control with CONTROLLER_MODE=2
- Current control with CONTROLLER_MODE=12 and CONTROLLER_MODE=12+ncFF
- ParIDs for PCTRL_S_ACT_PARID that do not belong to an encoder position
- T_PREDICT not equal to cycle time with CONTROLLER_MODE=ncPOSITION+ncFF
- Implicit re-enabling of network coupling through use of MA1/2/3/4/5_CYCLIC_POS
- AIO function block for optional analog inputs on the X2 connector for 8BVIxxxxxxxx.xx1-x

**ID#438680 :** new function since V3.10.0
ACOPOS P3: The error 7211 is now reported even when the controller is off.

**ID#400157408 :** new function since V3.10.0
Setup for controller (autotuning): New parameter "a" to shorten the execution time in the mode "ncFF ..."

This parameter defines the acceleration used for the autotuning function. If "a = 0.0", then the acceleration value is determined as previously. In "ncFF..." mode, for example, this results in an iterative increase in acceleration for as long as movements are being started and a particular current value has not yet been reached. This iterative process now no longer needs to be carried out in "ncFF..." mode if the "a" parameter is used to define an acceleration value other than zero, which considerably reduces the duration of the autotuning function.

**ID#400156949 :** solved problem, solved since V3.10.0
ISO ripple compensation: Error 67 during initialization

The following error could occur when writing the ISQ_RIPPLE_DAT_F, ISQ_RIPPLE_DAT_A and ISQ_RIPPLE_DAT_B parameters. 67: Necessary parameter is missing or is invalid. Info: Parameter ID = 882
This error occurred primarily with ACP10SIM axes.

ACP10 V2.52.6

**ID#400234099 :** solved problem, solved since V2.52.6
POWERLINK, poll-response chaining with network coupling: Drive and PLC no longer booting after warm restart

If poll-response chaining was enabled and there was a network coupling to the poll-response MN, boot problems could occur with the PLC or drive during the warm restart.

**ID#400251096 :** solved problem, solved since V2.52.6
POWERLINK: Error 32280 after CMD_SW_RESET (only in V2.51.0 - V2.52.5)

In rare cases it could happen after CMD_SW_RESET that the POWERLINK communication to ACOPOS modules could not be re-established. In this case, the following error was entered in the network command trace after CMD_SW_RESET: 32280: Timeout for enable of acyclic network communication

At the drive, this error caused all LEDs to glow statically, with the exception of the Link LEDs

Among other things, CMD_SW_RESET is executed if:
- a CPU restart was performed
- a new firmware has been transferred to the drive

ACP10 V2.52.5

**ID# 400223693, 400229474 :** solved problem, solved since V2.52.5
SafeMOTION: 2 encoder control: Error 35252 with gear ratio between motor and load encoder

If the 2-encoder control was active with gear ratio between motor and load encoder, and the shaft break monitoring was activated on the SafeMOTION module, the following errors were reported:
- 35198: SMC Functional Fail Safe: Encoder error was detected
- 35252: SMC: Position lag error limit exceeded

From now on, the use of a gear ratio between the motor and the load encoder is possible.
Due to this extension, errors 35198 and 35252 are no longer reported even if the direction of rotation of the motor and load encoder is unequal. Thus the ParID SAFEMC_COUNT_DIR_CORR is obsolete and has been removed.

ID#400214766 : solved problem, solved since V2.52.5

"homing.status.ok=ncFALSE" was sometimes delayed

If the cyclic status bit "Home position valid" (Bit9 in STATUS_CYCLIC_BITS) was cleared (e.g. after detection of an encoder error on the ACOPOS), "homing.status.ok=ncTRUE" remained set as long as an NC action with a movement command was processed. "homing.status.ok=ncFALSE" was set only after the processing of such an NC action was completed.

This problem occurred during the processing of the following NC actions:
- ncMOVE, ncSTOP
- ncBASIS_MOVE, ncHALT
- ncHOMING, ncSTART (+ncINIT)
- ncREL_MOVE (+...), ncSTART (+ncINIT)
- ncABS_MOVE (+...), ncSTART (+ncINIT)
- ncPOS_MOVE, ncSTART (+ncINIT)
- ncNEG_MOVE, ncSTART (+ncINIT)
- ncPAR_LIST, ncSERVICE +ncINIT with "move.mode=ncPAR_LIST_MOVE"

Effects on PLCopen function blocks:
MC_BR_ReadDriveStatus: The output "HomingOk" changed with delay from TRUE to FALSE.
MC_ReadActualPosition, MC_BR_ReadCyclicPosition: The output "Valid" changed with delay from TRUE to FALSE.
MC_Home: Homing with "HomingMode" m$HOME_RESTORE_POS could lead to an incorrect position.

ID#400224973 : solved problem, solved since V2.52.5

POWERLINK, cyclic network coupling of data points using bit offset sometimes did not work

Configuring a coupling with the parameter CYCLIC_DP_DATA_OFFSET could sometimes lead to an error. In the case of network couplings with POWERLINK cycle times greater than 400µs, it was possible that an error was reported incorrectly. If the coupling was configured again, no further error was reported and the coupling was possible.

The configuration of couplings with parameter CYCLIC_DP_DATA_OFFSET is used by the following NC action and PLCopen function blocks:
- ncNETWORK+ncSERVICE, ncACP_PAR.receive
- MC_CamIn
- MC_GearIn
- MC_GearInPos
- MC_BR_CamIn
- MC_BR_GearIn
- MC_BR_AutoControl
- MC_BR_InitData
- MC_BR_InitDataPar
- MC_BR_CamDwell
- MC_BR_CamTransition
- MC_BR_CrossCutterControl
- MC_BR_DigitalCamSwitch
- MC_BR_DigitalCamSwitch
- MC_BR_InitMasterParIDTransfer
- MC_BR_InitReceiveParID
- MC_BR_InitSendReceiveNetworkData
- MC_BR_InitSendReceiveNetworkEnc
- MC_BR_MoveCyclicPosition
- MC_BR_MoveCyclicPositionExt
- MC_BR_MoveCyclicVelocity
- MC_BR_MoveCyclicVelocityExt

ACP10 V2.52.4
ID#535790 : new function since V2.52.4

80Vxxxxx.xxxx-x: Reduction of current load on 24V ENABLE connection

The current load on the 24V ENABLE connection is now reduced when switching on the controller.

ACP10 V2.52.3
ID#400203981 : solved problem, solved since V2.52.3

8B0Pxxxxxx.xxx-x: Brake resistance: Error 7227

Although no brake resistor was connected and configured, the following error could be mistakenly reported. 7227: Bleeder: Overcurrent

ID#511910 : solved problem, solved since V2.52.3

Heat sink temperature measurement: Error 9002 changed to warning 41002

If the measured heat sink temperature falls below the lower limit value, then warning 41002 is now reported instead of error 9002. A movement abort is no longer initiated, and the controller status remains unchanged.

ID#400200487 : solved problem, solved since V2.52.3

ARsim: Certain timing settings could lead to a deadlock for "ncGLOBAL,ncLOAD" and "ncGLOBAL,ncSAVE"
When using ARsim, the following timing settings could cause the problem, that a deadlock occurred after calling the NC actions "ncGLOBAL,ncLOAD" or "ncGLOBAL, ncSAVE":

- Idle taskclass: Equal to the NC Manager task class
- Taskclass idle time: Not zero

The PLCopen MC function blocks MC_BR_LoadAxisPar and MC_BR_SaveAxisPar were also affected by this problem.

With older versions of the ACP10 software this problem can be avoided by selecting another task class than the NC Manager taskclass for "Idle task class" or by setting "Task class idle time" to zero.

ID#400188333 : solved problem, solved since V2.52.3
ARsim: With certain timing settings, commands were blocked in NC Test or NC Trace

When using ARsim, the following timing settings could cause the problem, that commands were blocked in NC Test or NC Trace:

- Idle task class: Cyclic # 3
- Task class idle time: Not zero

If this problem occurred, the following message was displayed in Automation Studio:
Message from '<NcObject>':
The status of the NC object '<NcObject>' is '0'
Would you like to cancel the operation ?

With older versions of the ACP10 software this problem can be avoided by selecting another task class than "Cyclic # 3" for "Idle task class" or by setting "Task class idle time" to zero.

ID#510045 : solved problem, solved since V2.52.3
Parallel Cam Profile download: Warning caused erroneously error status

Previously, if a warning (error number >32767) occurred during the transfer of a cam profile's data segment, then the download was falsely aborted with "status.error=ncTRUE". From now on, the download is completed with "status.ok=ncTRUE".

The problem occurred only then, if in the ACP10 configuration "Cam Profile Download, Parallel transfer of Cam profile data=Yes" was selected and the Cam Profile data were passed as a data buffer (via "data_adr" and "data_len").

ACP10 V2.52.2

ID# 400192384, 400106871, 400190996 : solved problem, solved since V2.52.2
Error 4007 when switching off closed-loop control

In certain circumstances, switching off closed-loop control can cause error 4007 "Lag error abort limit exceeded". This error occurred in the last phase of the switch-off procedure and especially under the following conditions:
Axis without holding brake, influence of external forces such as return spring or "hanging" load", sufficiently small lag error abort limit AXILIM_DS_STOP.

ID#400170972 : solved problem, solved since V2.52.2
ACOPOSmulti, ACOPOSmicro, ACOPOS P3: Configured and connected ACOPOS modules not identified correctly (only in V2.47.0 - V2.52.1)

Because the module code is read incorrectly during the boot phase, the module was not shown under "Plugged" in System Diagnostics Manager (SDM) or an undefined string was displayed. The incorrect determination of the hardware information only affected the display of the module information.

ID#400199416 : solved problem, solved since V2.52.2
Torque limiter: Torque limits mistakenly modified

If value 1 was written to parameter TLIM_MODE, then torque limits LIM_T1_POS, LIM_T2_POS, LIM_T1_NEG and LIM_T2_NEG were mistakenly set to the predefined maximum value. It was possible for manually configured torque limits to be overwritten.
This error occurred primarily in connection with the following PLCopen function blocks:
- MC_LimitLoad
- MC_BR_LimitLoad
- MC_BR_LimitLoadCam

ACP10 V2.52.1

ID#400198068 : solved problem, solved since V2.52.1
8Vxxxx.xx-x: Field weakening: Parameter FWCTRL_ISD0, FWCTRL_SPEED0 or FCTRL_IM_LIM_MIN invalid (only in V2.45.0 - V2.52.0)

When writing parameter FWCTRL_ISD0, FWCTRL_SPEED0 and FCTRL_IM_LIM_MIN it was possible that the values to not be correctly assigned to the ACOPOS drive.

ID#400195690 : solved problem, solved since V2.52.1
SafeMOTION: 2-encoder control: Error 35252 with opposite direction of rotation of motor and load encoder

When in active 2-encoder control the rotational direction of the motor encoder was not equal to the rotational direction of the load encoder, and the shaft break monitoring was activated on the SafeMOTION module, the following errors were reported:
-35198: SMC Functional Fail Safe: Encoder error was detected
-35252: SMC: Position lag error limit exceeded
With ParID SAFEMC_COUNT_DIR_CORR (ncINVERSE) this now can be corrected.
ID#498215 : new function since V2.52.1

Heat sink temperature measurement, error 9002: Reaction changed

If the measured heat sink temperature falls below the lower limit value, then now only the error 9002 is reported. A movement abort is no longer initiated, and the controller status remains unchanged.

ID#492235 : solved problem, solved since V2.52.1

Basic network initialization after "ncNETWORK, ncINIT" falsely with ACOPOS reset (only in V2.47.0 - V2.52.0)

For the NC object with type "ncNET_GLOBAL" the NC action "ncNETWORK, ncINIT" is offered for the basic network initialization without ACOPOS reset.

After this NC action was called, the ACOPOS startup falsely was carried out for all ACOPOS modules. For those ACOPOS modules, for which the cyclic network communication was active, falsely a reset was applied.

From now on, after call of this NC action the ACOPOS startup correctly is carried out only for those ACOPOS modules, for which the cyclic network communication is not active.

ACP10 V2.52.0

ID#400188450 : solved problem, solved since V2.52.0

8AC126.60-1: EnDat 2.2: Error in temperature evaluation (only in V2.48.0 - V2.51.x)

An error occurs on the 8AC126.60-1 under the following conditions when reading out the encoder temperature or a temperature sensor connected to the encoder:

- Slot 2: Available or occupied by 8AC14x.6x-x
- Slot 3: 8AC126.60-1 used for motor encoder

This results in the following error on motors with a single-cable solution:

- 9090: Motor encoder temperature sensor: Temperature value not valid

ID#480160 : solved problem, solved since V2.52.0

Parallel Cam Profile download: Acyclic communication was permanently blocked after error 32205

If the error 32205 (timeout while writing parameters over acyclic channel) occurred during the transfer of a cam profile's data segment, then subsequently acyclic communication was blocked permanently.

The problem occurred only then, if in the ACP10 configuration "Cam Profile Download, Parallel transfer of Cam profile data=Yes" was selected and the Cam Profile data were passed as a data buffer (via "data_adr" and "data_len").

ID#400186456 : solved problem, solved since V2.52.0

ACP10SIM: Error 1002 during speed control with CONTROLLER_MODE=2 (only in V2.48.0 - V2.51.x)

ACP10 V2.51.5

ID#476565 : solved problem, solved since V2.51.5

No error message on failure of heat sink temperature sensor (only in V2.48.0 - V2.51.4)

No error is reported and should be for the following modules when the heat sink temperature sensor fails:

- 80Vxxxxxxxx.xxxx
- 8BVxxxxxxxx.xxxx
- 8OVxxxxxxxx.xxxx
- 8DIxxxx.xxxxxxx

ID#400169146 : solved problem, solved since V2.51.5

8BVPxxxxxxxx.xxxx: The reactive current compensation (ICTRL_ISD_REF) was too small by a factor of 1.2 at a mains frequency of 60 Hz

ID# 400168882, 400168593 : new function since V2.51.5

8BP010xxxx.xxxx-x: 25 VDC rail voltage not enabled, incorrect behavior

If booting took place without external 24 VDC (with AC mains) and the module was then supplied externally with 24 VDC, then the 25 VDC rail voltage was not enabled.

If 24 V was supplied externally and the internally generated 25 VDC rail voltage failed, then the 25 VDC rail voltage was permanently shut off, which was incorrect.

ID#400184635 : solved problem, solved since V2.51.5

8AC126.60-1: EnDat 2.2: Error 9089 at an ambient temperature below 0 degrees

The ParID ENCOD_TEMP returns the value 429496704 at an ambient temperature below 0 degrees.

This can result in the following error:

- 9089: Motor encoder temperature sensor: Stop limit exceeded

ACP10 V2.51.4

ID#462065 : solved problem, solved since V2.51.4

Setup for controller (autotuning): Error 10100 with "operation_point = ncTUNE_V_CONSTANT"
Up to now a setup function with "operation_point = ncTUNE_V_CONSTANT" was aborted with error 10100, the speed and the acceleration override value did not remain on 100% during the entire setup function.

For "operation_point = ncTUNE_V_CONSTANT" now is guaranteed, that the speed and the acceleration override value remain on 100% during the setup function. Before starting the setup function, the value 100% for the speed and acceleration override is transferred to the drive and the transfer of the override value contained in the NC structure is disabled. After end of the setup function, the transfer of the override value contained in the NC structure is reactivated.

ACP10 V2.51.3

ID# 400155920, 400154658 : solved problem, solved since V2.51.3

80VD100PD.C088-01, 80VD100PS.C08X-01: Incorrect position calculation

At high signal frequencies, the position was incorrectly calculated for 80VD100PD.C088-01 and 80VD100PS.C08X-01 ACOPOSmicro modules.

ACP10 V2.51.2

ID# 400167410, 400165392, 400168128 : solved problem, solved since V2.51.2

Error 7014 when using EnDat 2.2 encoders (only in V2.49.0 - V2.51.1)

In some cases (high ACOPOS CPU load), the following error could have occurred:
- 7014: Encoder: CRC error during parameter transfer
  SafeMC modules were not affected from this error.

ACP10 V2.51.1

ID#451070 : solved problem, solved since V2.51.1

ACOPOSmicro 80Vxxxx.xxxxx-xxxx: Holding brake: The voltage and current monitoring were mistakenly disabled (only in V2.51.0)

For motors with holding brake, the voltage and current monitoring of the holding brake were incorrectly disabled.
For motors without a holding brake the error 6030 was mistakenly reported.

ACP10 V2.51.0

ID#442830 : solved problem, solved since V2.51.0

8BVxxxxxxS.xxxx-x, SafeMC modules with EnDat 2.2: Encoder evaluation in permanent error state after failure of SafeMC firmware (only in V2.45.1 - V2.50.x)

It was possible in rare cases for encoder evaluation to remain in a permanent error state after a temporary failure of the SafeMC firmware. This error state could only be cleared by an ACOPOS reset or power OFF/ON.

ID#440950 : solved problem, solved since V2.51.0

Network initialization: "network.init_allowed = ncTRUE" was sometimes not set (only in V2.48.0 - V2.50.x)

If during the basic network initialization (startup function for all ACOPOS modules) an ACOPOS module was switched off or not connected to the network, then "network.init_allowed = ncTRUE" later was never set.

Now, in this case "network.init_allowed = ncTRUE" will be correctly set when the ACOPOS module is recognized subsequently as active on the network, after it has been switched on or connected to the network.

ID#400156002 : solved problem, solved since V2.51.0

Cam Profile Automat: Speed jumps on state transition of large master periods

With a state transition for curves with large master periods (beginning at 2000000 units), multiple speed jumps could occur. The extent of the jumps depended on the master speed and the ratio of the master and slave period. Interfering effects were especially prevalent in connection with the MC_GearIn, MC_BR_GearIn, MC_CamIn and MC_BR_CamIn PLCopen function blocks.

ID#437680 : solved problem, solved since V2.51.0

The TEMP_HEATSINK_MAX parameter was invalid (only in V2.48.0 - V2.50.x)

The TEMP_HEATSINK_MAX parameter was incorrectly and permanently set to the value 0.0.

ID#400155685 : solved problem, solved since V2.51.0

ACOPOSmulti: Error 74 when setting the MAINS_SWITCH_PARID parameter (only in V2.44.0 - V2.50.x)

The following error was reported incorrectly when setting the MAINS_SWITCH_PARID parameter via channel 2 (axis 2):
- 74: Parameter can only be written via channel 1 (axis 1)

ID#400151809 : solved problem, solved since V2.51.0

Temperature prediction: LOAD_CONT_CURR_PRED and TEMP_MOTOR_MODEL_PRED incorrect

If the motor temperature model was configured in mode 4 (TEMP_MOTOR_MODEL_MODE = 4), the LOAD_CONT_CURR_PRED parameter were erroneously and permanently set to the value 0.0 and the TEMP_MOTOR_MODEL_PRED parameter were set to an incorrect value.
HIPERFACE encoder with AC121.60-x, 8BAC0121.000 or 8CV1xxxx11xxxx.xx-1: Warning 39001 with position synchronization above the operating speed (only in V2.49.0 - V2.50.0)

Position synchronization was also active above the operating speed (movement speed up to which the absolute position can be reliably produced on the encoder), which sometimes led to an incorrect position.

ID#437030 : solved problem, solved since V2.50.1

Determining error texts: FB names with IDs > 126 were not displayed for PLCopen MC FB errors

PLCopen MC FB errors (error numbers 29200 .. 29699) provide the ID of the associated PLCopen FB used to display the name of the PLCopen FB when determining the error text.

This doesn't work for the following FB names with an ID > 126. For these, the ID was output instead of the name:
- 127: FB_MC_BR_OffsetVelocity
- 128: FB_MC_BR_OffsetZone
- 129: FB_MC_BR_SetupSynchronMotor
- 130: FB_MC_BR_CheckEndlessPosition
- 131: FB_MC_BR_ReadLoadSimInputData
- 132: FB_MC_BR_WriteLoadSimOutputData
- 133: FB_MC_BR_LimitLoad
- 134: FB_MC_BR_LimitLoad
- 135: FB_MC_BR_LimitLoadCam
- 136: FB_MC_BR_ResetAuxPar
- 137: FB_MC_BR_CfgPowerStageCheck
- 138: FB_MC_BR_InitEndlessPosAcpEnc
- 139: FB_MC_BR_NetworkInit
- 140: FB_MC_BR_CommandErr
- 141: FB_MC_BR_InitReceiveNetworkEnc
- 142: FB_MC_BR_ReadLoadSimTorque
- 143: FB_MC_BR_WriteLoadSimPosition
- 144: FB_MC_BR_WriteLoadSimTorque
- 145: FB_MC_BR_SetupFromParTabObj
- 146: FB_MC_BR_CamIn

Affected by this problem was the NC action "ncMESSAGE,ncTEXT" as well as the MC_ReadAxisError and MC_BR_ReadAxisError function blocks.

ACP10 V2.50.0

ID#449390 : Information valid since V2.50.0

Encoder interfaces AC121.60-x, 8BAC0121.000-x and 8CV1xxxx11xxxx.xx-1 with HIPERFACE: Modification for parameter ENCOD_LINE_CHK_IGNORE

Setting bit0 and bit1 of ENCOD_LINE_CHK_IGNORE from now on only affects analog errors. Bit2 and bit3 are now available for serial errors, bit4 and bit5 for HIPERFACE error bits.

ID#400156232 : solved problem, solved since V2.50.0

Cam Profile Automat: Speed jumps in software limit's area of influence (only in V2.45.0 - V2.49.1)

With automat movements, it was possible for jumps in the speed setpoint to take place in the software limit's area of influence. This error behavior occurred primarily with accelerations larger than the axis limit values, movements near the software limit and only when active checking of software limits was in place (SGEN_SW_END_IGNORE = 0). The following errors were also not reported in certain cases:
- 5003: "Positive SW limit reached"
- 5004: "Negative SW limit reached"

ID#435000 : solved problem, solved since V2.50.0

ISO-Ripple compensation and identification: Frequencies greater than 512 Hz incorrectly permitted

ISO-Ripple compensation: Frequencies greater than 512 Hz for compensation were incorrectly permitted even though they have no effect due to the compensation resolution.
ISO-Ripple identification: Frequencies higher than 512 Hz were identified incorrectly on motors with a high number of pole pairs even though they had no effect on compensation.

ID#400155130 : solved problem, solved since V2.50.0

Feed-forward torque control: Incorrect effect of feed-forward torque control with encoder counting direction ncINVERSE (only in V2.47.0 - V2.49.1)

The direction-dependent feed-forward torque control has an incorrect effect (FFCTRL_TORQUE_POS, FFCTRL_TORQUE_NEG) in position controller mode with feed-forward control (ncPOSITION+ncFF) with an inverted encoder counting direction.

ID#430845 : new function since V2.50.0

8B0P0110xxxx.xxx-x: 24 VDC auxiliary supply: Monitoring 25 VDC rail voltage

If 24 V is supplied with an auxiliary supply module (8B0C) and the 25 VDC rail voltage fails, then the following error is reported:
- 6020: Hardware: Error in 24 V power supply

ID#430135 : solved problem, solved since V2.50.0
Controller, PCTRL_ENABLE_PARID: Speed setpoint SCTRL_SPEED_REF not zero when position controller disabled

If the position controller was disabled with PCTRL_ENABLE_PARID before the controller was switched on, then a setpoint unequal to zero remained on the speed controller input. This speed setpoint came from the actual speed during the power on phase.

ID#400152435 : solved problem, solved since V2.50.0
Controller mode ncUF, slip compensation: Error 33002 in the event of unfavorable motor parameters
If slip compensation is enabled and the resistance/inductance values are very high, the following error could occur when controller is in ncUF mode:
- 33002: Floating point exception.

ID#400149661 : new function since V2.50.0
Motor holding brake test: The slew rate of the test torque can be set with the parameter BRAKE_TEST_TORQUE_RATE.

NC Software - ACP10SDC
ACP10SDC Important Information
ID#526585 : Important Information
ACP10SDC versions V3.17.0 or higher can be used for SG4 ARM target systems
Note:
For ARM target systems with a Cortex A8 core (e.g. C30), these library can not be used.

ID#217737 : Important Information
ACP10SDC is only supported with Automation Studio starting with V3.0.80.

ACP10SDC V5.04.0
ID#400258563 : solved problem, solved since V5.04.0
ACP10SDC: Error 1002 for CONFIG_MAxCYCLIC_POS because of too long PV name
The name of the SDC axis configuration PV can be explicitly defined by entering SDC_AX_HwPv="..." for an NC object in the "Additional Data" column in the NC mapping table. If SDC_AX_HwPv="..." is not defined for an NC object, the PV name is automatically defined by adding ".HW" to the NC object name.
If a PV name with more than 33 characters was defined, the following error could occur when using CONFIG_MAxCYCLIC_POS for this SDC axis, even though the values transferred with CONFIG_MAxCYCLIC_POS were correct:
- 1002: Parameter outside the valid range
Now the following warning is reported, if a PV name with more than 33 characters was defined:
- 64016: Name of SDC axis configuration PV is too long (PV is not used)

ACP10SDC V3.18.0
ID#532420 : solved problem, solved since V3.18.0
ACP10SDC: Position setpoint jump when switching on controller
When the motor made a movement in the switch-on phase, a position setpoint jump was possible.

ID#490720 : solved problem, solved since V3.18.0
ACP10SDC, EncIf1, EncIf2: Position jump monitoring by iActPos
The current position value from the hardware module is now checked for plausibility. The following error is reported if a position jump is greater than 1/2 of SCALE_ENCOD_INCR. 7053: Encoder: Incremental position jump too large.

ACP10SDC V3.17.0
ID#526565 : new function since V3.17.0
ACP10SDC for SG4 ARM targets
ACP10SDC versions V3.17.0 or higher can be used for SG4 ARM target systems.
Note:
For ARM target systems with a Cortex A8 core (e.g. C30), these library can not be used.

ACP10SDC V3.14.0
ID#400186974 : solved problem, solved since V3.14.0
ACP10SDC, Homing: Wrong homing position
With following configuration a wrong homing position was determined:
- "Sensorless" mode (PCTRL_S_ACT_PARID=PARID_PCTRL_S_SET)
- Controller off
- Homing procedure ncDIRECT without reference pulse
ACP10SDC V2.50.0

ID#400131244 : solved problem, solved since V2.50.0
ACP10SDC, encoder interface: Error calculating absolute position with 32-bit encoders
An overflow of the incremental counter occurs in the encoder’s range of movement sometimes causes a position offset of one encoder rotation (or two encoder rotations) when homing with ncOFFSET (or ncOFFSET + ncCORRECTION).

NC Software - ACP10_MC

ACP10_MC Important Information

ID#526590 : Important Information
ACP10_MC versions V3.17.0 or higher can be used for SG4 ARM target systems
Note:
For ARM target systems with a Cortex A8 core (e.g. C30), this library can not be used.

ACP10_MC V5.08.0

ID#400289927 : solved problem, solved since V5.08.0
MC_BR_SetupController: Incorrect axis state if NC Test open
If MC_BR_SetupController was started with additive mode "mcPASSIVE" and NC Test for the same axis was opened at the same time, the axis state incorrectly changed to Homing. No movement could be started with function blocks.
In this case, the axis now remains in axis state Standstill.

ID#400289328 : solved problem, solved since V5.08.0
MC_Home: Incorrect default homing mode after network failure or drive reset
If homing mode "mcHOME_DEFAULT" was used for homing after a network failure or drive reset, then the homing mode used most recently before the network failure or drive reset was used.
Homing mode "mcHOME_DEFAULT" now always uses the one from the INIT parameter module.

ID#606050 : new function since V5.08.0
ACOPOS P3 plug-in module 8EAC0134.000-1
The plug-in module 8EAC0134.000-1 for ACOPOS P3 is now supported.
The following function blocks are affected by this update:
- MC_DigitalCamSwitch
- MC_BR_DigitalCamSwitch
- MC_ReadDigitalInput
- MC_ReadDigitalOutput
- MC_WriteDigitalOutput

ACP10_MC V5.06.2

ID#400289498 : solved problem, solved since V5.06.2
Incompatibility with mapp libraries (only in V5.06.1)
ACP10_MC V5.06.1 contained an incompatible change, which could cause problems in combination with the use of the MpAxisBasic function block.
For example, after setting the "Home" command, the homing procedure was not executed and "CommandBusy" remained permanently set.

ACP10_MC V5.06.1

ID#400272614 : solved problem, solved since V5.06.1
MC_BR_PowerMeter: Error 29217 mistakenly reported
If MC_BR_PowerMeter was enabled simultaneously with MC_Power for the same axis, MC_BR_PowerMeter reported error 29217 "Invalid input parameter" although all parameters were correct.

ID#400277971 : solved problem, solved since V5.06.1
MC_Home requiring long time in case of low system idle time
Under the following circumstances it could take a long time (several seconds) until output "Done" was set and the axis state changed from Homing to Standstill or Disabled:
- An address for restoring the position was initialized (using MC_BR_InitEndlessPosition).
- There was very little system idle time available on the PLC.
Communication with the drive is no longer carried out in the system idle time, but in the cyclic context.

ID#400239854 : solved problem, solved since V5.06.1
MC_Home with mcHOME_RESTORE_POS: Possible that position was restored incorrectly
The position of an axis could be incorrectly restored under the following conditions:
- The axis was already referenced.
- An error is entered in the axis structure (not acknowledged).
- MC_Home is called with HomingMode=mcHOME_RESTORE_POS.
- The counting direction of the axis is inverted or an encoder counting range limit is crossed.
- MC_Home is called again with HomingMode=mcHOME_RESTORE_POS.

ACP10_MC V5.06.0
ID#400258795 : solved problem, solved since V5.06.0
MC_Home with mcHOME_RESTORE_POS: Possible that position was restored incorrectly.

The procedure described below was able to restore an incorrect axis position.
- Failure and recovery of the network connection to the drive.
- Changing the axis state from ErrorStop with MC_Reset.
- Switching on the controller.
- No new homing with MC_Home.
- Moving the axis over half an encoder counting range.
- Warm restart of the PLC (optional).
- Restoring the position with MC_Home.HomingMode=mcHOME_RESTORE_POS.

ACP10_MC V5.05.0
ID#613770 : new function since V5.05.0
MC_BR_SetupController: Passive FF tuning.

The following new values for autotuning mode "Configuration.SetupControllerPar.Mode" are offered for passive FF tuning:
- mcFF + mcPASSIVE
- mcFF_POS_MOVE + mcPASSIVE
- mcFF_NEG_MOVE + mcPASSIVE

After starting the setup function with mode "mcFF... mcPASSIVE", the movements for parameter identification must be performed by the user.
To complete the setup function, MC_BR_SetupController must be enabled with "Command = mcFINISH".

ID#400262857 : solved problem, solved since V5.05.0
MC_BR_ReadDriveStatus: ControllerStatus of virtual axis FALSE too early.

If "MC_Power.Enable" was set to FALSE for a virtual axis during an active movement, then "ControllerStatus" from MC_BR_ReadDriveStatus incorrectly switched immediately to FALSE instead of at the end of the braking ramp.

ID#600730 : new function since V5.05.0
MC_BR_Simulation: New command for variant "only set value generation".

The following command is now available for MC_BR_Simulation:
mcSIMULATION_ON + mcSET_GEN_ONLY: Switch on simulation mode, only set value generation active.
With this variant a simpler model is used, which reduces the probability of errors, especially during active movements.

ACP10_MC V5.04.0
ID#605825 : solved problem, solved since V5.04.0
MC_SimIf library: Error 29235, if the mode of the ACOPOS simulation is not sufficient for operation.
If the function blocks of the MC_SimIf library are used for axes, which have activated the mode "Standard" for the ACOPOS simulation, all function blocks now report the error 29235: "The functionality is not available for the current axis type".

ID#604215 : solved problem, solved since V5.04.0
MC_BR_ReadCyclicPosition, MC_BR_ReceiveParIDOnPLC: Incorrect position values possible for periodic axes.
Under the following circumstances, function blocks MC_BR_ReadCyclicPosition and MC_BR_ReceiveParIDOnPLC (with "Mode" = mcPOSITION) could return incorrect position data:
- Several function blocks of the same type are active for the same axis.
- The axis is homed.
- The axis is moved by at least 2 period overflows.

After this procedure, the output position was incorrect and was corrected each cycle by one period until the position was correct again.

The same problem could occur if both function blocks were used for the same axis. In this case, the problem could also occur if the axis was homed again.
MC_Home: Error 29226 with filtered encoder position

MC_Home reported error “29226: Drive error. Call MC_BR_ReadAxisError for details.” if the following conditions applied:
- A filtered encoder position was used as the actual position of the position controller (PCTRL_S_ACT_PARID=ENCODx_S_ACT_FILTER).
- An address for the endless position was initialized (MC_BR_InitEndlessPosition).

ID#400251877 : new function since V5.04.0
MC_BR_TouchProbe: mcWITHOUT_PERIOD + mcUSE_AXIS_PERIOD and mcUPDATE_PERIOD permitted
For function block MC_BR_TouchProbe, additional modes mcUSE_AXIS_PERIOD and mcUPDATE_PERIOD can now also be used for "Mode" mcWITHOUT_PERIOD. The position of each trigger event (without window) is converted to a position within the axis period and output.

ID#400251609 : solved problem, solved since V5.04.0
MC_BR_MechPosDeviationComp: New modes for specifying axis positions and deviations
- mcDIR_DEPENDENT_AX_POS
- mcDIR_DEPENDENT_BACKLASH_AX_POS
- mcDIR_DEPENDENT_SET_POS_AX_POS
- mcDIR_INDEPENDENT_AX_POS
- mcDIR_INDEPENDENT_SPEED_AX_POS

ID#400250099 : solved problem, solved since V5.04.0
MC_Reset: Axis state changed too early to Not Errorstop
Under the following circumstances, the axis state was changed from Errorstop to Standstill and again to Errorstop:
- An error on the drive (e.g. lag error) led to the Errorstop state.
- MC_Reset.Execute=True and MC_Power.Enable=False were set simultaneously.
Now the axis state remains on Errorstop during the deceleration ramp and is then changed to Standstill or Disabled depending on the controller state.

ID#400247431 : solved problem, solved since V5.04.0
MC_Power: Axis state of virtual axis changed incorrectly
If function block MC_Power was called for a virtual axis on which a movement was active, error “29238: This function block cannot be used in the current state" was correctly reported. When resetting the enable input of MC_Power, the axis state was incorrectly changed to “Standstill" and the motion function block reported an error. The movement remained active, however.

ID#576595 : new function since V5.04.0
Library MC_SimIf: New function block MC_BR_WriteLoadSimTwoEncPos
This function block is required in the case of a two-encoder control to transfer the simulated position of the rotor and the simulated position of the load to the ACP10SIM axis used.

ID#400237863 : solved problem, solved since V5.04.0
Endless position protected against overwrite
The endless position data of axes and external encoders are now protected against being overwritten after homing, i.e. during operation. If the data is overwritten, error ”29488: Permanent variable for endless position was overwritten" is reported (MC_ReadAxisError or MC_Br_ReadAxisError) and entered in the network trace. The endless position data is corrected.
This change affects the endless position data saved to a permanent variable that was initialized using one of the following function blocks:
- MC_BR_InitEndlessPosition
- MC_BR_InitEndlessPosAcpEnc

ID#554080 : new function since V5.04.0
External encoders supported on ACOPOS P3
Function blocks MC_BR_HomeAcpEncoder and MC_BR_InitEndlessPosAcpEnc can now also be used for external encoders connected to the plug-in module of an ACOPOS P3.

ACP10_MC V5.03.0
ID#400249579 : solved problem, solved since V5.03.0
MC_Home with mcHOME_RESTORE_POS: Position could be restored incorrectly
The position of a periodic axis could be restored incorrectly under the following condition:
(2 * mcMAX_POSITION_CHANGE + period) > 2147483647

ID#400244699 : new function since V5.03.0
MC_BR_GetHardwareInfo: "ModelNumber” for motors extended
Array "ModelNumber” in data type MC_HARDWARE_INFO_MOTOR_REF has been extended from STRING[19] to STRING[35] so that the maximum possible 32 characters for motor model numbers can be displayed completely.
Cams: Up to 128 polynomials possible

Up to 128 polynomials can now be specified for cams. Only 64 polynomials were previously possible.

The following function blocks are affected by this update:
- MC_BR_DownloadCamProfileData
- MC_BR_CalcCamFromPoints
- MC_BR_CalcCamFromSections
- MC_BR_CalcPointsFromCam
- MC_BR_CalcSectionsFromCam
- MC_BR_GetCamMasterPosition
- MC_BR_GetCamSlavePosition
- MC_BR_MechPosDeviationComp
- MC_BR_SaveCamProfileObj

MC_BR_HomeAcpEncoder: Slot=0 working now for ACOPOS-2

With function block MC_BR_HomeAcpEncoder, the virtual encoder ("AcpEncoder.Slot"=0) of an ACOPOS-2 can now also be homed.

MC_BR_ReadParID: Read ParID without recording in the network trace

Using the new "DataType" ncPAR_TYP_VOID_NO_NET_TRACE, a ParID can be read from the drive without the associated data records being recorded in the network trace.

Exceptions:
The data records for parameter request and parameter response are entered in the network trace if an error occurs during the read operation or the parameter data type is not BOOL, SINT, USINT, INT, UINT, DINT, UDINT, REAL or LREAL.

ACOPOS P3 plug-in module 8EAC0130.000-1

The plug-in module 8EAC0130.000-1 for ACOPOS P3 is now supported.

The following function blocks are affected by this update:
- MC_DigitalCamSwitch
- MC_BR_DigitalCamSwitch
- MC_ReadDigitalInput
- MC_ReadDigitalOutput
- MC_WriteDigitalOutput

Motion function block: Incorrect error number on simultaneous call with "MC_Power.Enable = FALSE"

If a motion FB was activated during the same period of time in which the "Enable" input of the MC_Power was reset, the motion function block did not return the correct error number. Error "29207: This movement type is currently not allowed" is now reported in this case.

The following function blocks were affected by this problem:
- MC_MoveAbsolute
- MC_MoveAdditive
- MC_MoveVelocity
- MC_BR_MoveAbsoluteTriggStop
- MC_BR_MoveAdditiveTriggStop
- MC_BR_MoveVelocityTriggStop
- MC_Halt
ID#565070 : solved problem, solved since V5.02.0

MC_BR_RegMarkCapture002: No width evaluation with mcP_EDGE and mcN_EDGE

Width evaluation of the trigger signal was only enabled for MC_BR_RegMarkCapture002 if "Edge" = mcMIDDLE but not if "Edge" = mcP_EDGE or mcN_EDGE.

ID#400213848 : new function since V5.02.0

Ignoring trigger width evaluation when enabling function block

New parameter "DisableWidthEvaluationAtStart" can be used to ignore the trigger width evaluation if the trigger signal is already active when the function block is activated.

The following function blocks are affected by this change:
- MC_BR_TouchProbe ("TriggerInput")
- MC_BR_RegMarkCapture001 ("TriggerInput")
- MC_BR_RegMarkCapture002 ("AdvancedParameters")

ACP10_MC V5.01.1

ID#400231674 : solved problem, solved since V5.01.1

MC_BR_OffsetVelocity: Error 29229 when starting coupling

If input "Enable" of MC_BR_OffsetVelocity was set to TRUE and shortly thereafter set back to FALSE, it was possible that a coupling function block reported error "29229: Synchronized movement not possible" when subsequently starting a coupling. In addition, drive error "1002: Parameter outside the valid range" was reported.

ACP10_MC V5.01.0

ID#558215 : solved problem, solved since V5.01.0

MC_MoveAbsolute: mcSHORTEST_WAY + mcAUTOMAT_POS, half axis period

If exactly a half axis period was moved with MC_MoveAbsolute "Direction" = mcSHORTEST_WAY + mcAUTOMAT_POS, the movement takes place in the negative direction in contrast to "Direction" = mcSHORTEST_WAY. The movement now also takes place in the positive direction.

ID#400225992 : solved problem, solved since V5.01.0

Digital I/O function blocks overwriting I/O setting

Digital I/O function blocks used to always modify all I/O settings of a DIO card (8AC13x.xx-x, 8BAC0130.00x-1) for their functionality, which caused any settings made by the user to be overwritten. These function blocks now only change the settings of the I/O pair for which they are used.

The following function blocks are affected by this change:
- MC_DigitalCamSwitch
- MC_BR_DigitalCamSwitch
- MC_WriteDigitalOutput

ACP10_MC V5.00.1

ID#400226154 : solved problem, solved since V5.00.1

LimitLoad function block: Error 29302 after drive reset

If a drive was reset (switched off and back on) while a LimitLoad function block is active, the function block reported error "29302: One instance of the function block is already active on this axis" when re-enabled. This state could only be exited by restarting the PLC.

The following function blocks were affected by this problem:
- MC_LimitLoad
- MC_BR_LimitLoad
- MC_BR_LimitLoadCam

ID#400224791 : solved problem, solved since V5.00.1

LimitLoad function block: "Active" not set for induction motor

If a LimitLoad function block was used on an axis with an induction motor and the torque was limited in accordance with the function block inputs, then output "Active" was never set to TRUE.

The following function blocks were affected by this problem:
- MC_LimitLoad
- MC_BR_LimitLoad
The limit load function blocks used to report error “29238: Unable to use function block in current PLCopen state.” if they were enabled while MC_BR_VelocityControl was active. An error is no longer reported in this case.

The following function blocks are affected by this change:
- MC_LimitLoad
- MC_BR_LimitLoad
- MC_BR_LimitLoadCam

Only 31 characters taken into account for "Name" and "Device" of trace data objects

Using 32 characters for "Name" and "Device" for trace data objects sometimes caused problems. Now, only 31 characters are taken into account for both of these parameters.

Example of problems:
Using 32 characters for "Name" led to the filename being put together from "Name" + "Device".
Using 32 characters for "Device" caused the following error:
- 29295: An error has occurred. See "ErrorRecord" output for details

The following function blocks were affected by this problem:
- MC_BR_NetTrace
- MC_BR_ParTrace
- MC_BR_ParTraceConfig

An incorrect sign was used internally for parameter "ConstantBacklash". Compensation did not work as a result. When using "ConstantBacklash", parameter "PositionSource" improperly affected the sign used internally for the parameter value. The correct sign is now always used for "ConstantBacklash".

The following function blocks were affected by this problem:
- MC_BR_Phasing
- MC_BR_Offset
- MC_BR_OffsetZone

MC_WriteParameter previously did not report an error if parameter 1009 (mcAUT_POS_TOLERANCE) was written to a virtual axis although this parameter does not exist for virtual axes. The function block now reports error "29204: Invalid parameter number" in this case.

MC_WriteParameter: No error when writing parameter 1009 to virtual axis

With new mode mcDIR_DEPENDENT_SET_POSITION

With new mode mcDIR_DEPENDENT_SET_POSITION, the differential position is applied based on the position setpoint on an edge change, the load model is not used. In most cases, this mode results in more stable behavior between edges than mcDIR_DEPENDENT or mcDIR_DEPENDENT_BACKLASH.
Error “29217: Invalid input parameter” is now reported in this case.

ID#524155 : solved problem, solved since V3.17.1

"MC_BR_CamIn" reporting "CommandAborted" on axis error

"MC_BR_CamIn" used to set output "CommandAborted" on an axis error. Now outputs "Error"=TRUE and "ErrorID"=29229 ("Synchronized movement not possible") are set in this case.

ID#400208357 : solved problem, solved since V3.17.1

Necessary parameters not transferred

In very rare cases, it was possible that function blocks did not transfer necessary parameters if a function block from the list below was enabled immediately beforehand. This could lead to movements started in the incorrect direction, for example.

The following function blocks were affected by this problem:
- MC_BR_EventMoveAbsolute
- MC_BR_EventMoveAdditive
- MC_BR_EventMoveVelocity
- MC_BR_TorqueControl
- MC_BR_AutCommand
- MC_BR_AutControl
- MC_BR_CamIn
- MC_WriteParameter

ACP10_MC V3.17.0

ID#526570 : new function since V3.17.0

ACP10_MC for SG4 ARM targets

ACP10_MC versions V3.17.0 or higher can be used for SG4 ARM target systems.

Note:
For ARM target systems with a Cortex A8 core (e.g. C30), this library can not be used.

ID#400210409 : solved problem, solved since V3.17.0

MC_BR_MechPosDeviationComp: Error 29226 when using "ConstantBacklash"

Using parameter "ConstantBacklash" did not result in the desired behavior and could cause error “29226: Error on drive”. Call MC_(BR_)ReadAxisError for details”.

ID#515990 : new function since V3.17.0

MC_BR_MoveCyclicPosition/VelocityExt: New parameter "AdvancedParameters.DisableJoltTimeAtEnd"

When the function block is disabled, a deceleration ramp to standstill is implemented. New parameter "AdvancedParameters.DisableJoltTimeAtEnd" specifies whether jerk limitation is active during the deceleration ramp or not.
FALSE ... Jerk limitation active
TRUE ... Jerk limitation inactive

ID#512635 : new function since V3.17.0

MC_BR_SetupController: New values for "Configuration.SetupControllerPar.Mode"

The following values can now be defined for "Configuration.SetupControllerPar.Mode":
- mcSPEED + mcTUNE_TN
- mcSPEED + mcTUNE_TN + mcUSE_FILTER_PAR
- mcSPEED + mcTUNE_TN + mcISO_F1_NOTCH

With "+mcTUNE_TN" additionally the integral action time of the speed controller will be determined.

ACP10_MC V3.16.0

ID#400203022 : solved problem, solved since V3.16.0

Basic movement function block does not start in some cases after MC_MoveVelocity

If, after MC_MoveVelocity was activated with "Direction" = mcCURRENT_DIR and "Velocity" = 0, a different basic motion function block was started, it is possible that it started the movement with speed = 0. The axis did not move, and the function reported "Busy" = TRUE.

ID#400202876 : solved problem, solved since V3.16.0

Unexpected axis error after a network failure on ACOPOS modules with multiple channels

If function blocks that change the controller parameters were active on multiple channels on an ACOPOS module and a network error occurred, it was possible that invalid parameters were transferred to the drive when the network returned. The axis error numbers that could occur were "1: Invalid parameter ID" and "32191: This parameter ID is reserved for the PLCopen MC library", amongst others. After acknowledging the error messages, the axis could be operated without any problems.

The following function blocks were affected by this problem:
- MC_LimitLoad
ID#400201161 : solved problem, solved since V3.16.0
MC_BR_NetTrace: Execution of the function block could be delayed

If errors occur with function blocks that have no axis reference or an invalid axis reference specified, then this error is entered in the error FIFO for NC object ncNET_GLOBAL.

When executing function block MC_BR_NetTrace, the errors entered in NC object ncNET_GLOBAL were previously acknowledged before executing the requested command. This could, for example, cause execution of the function block to be delayed or even blocked if there are errors that occur cyclically and are entered in NC object ncNET_GLOBAL. From now on, the errors entered in NC object ncNET_GLOBAL are no longer acknowledged by MC_BR_NetTrace and the requested command is performed immediately.

ACP10_MC V3.15.0
ID#501515 : solved problem, solved since V3.15.0
Function blocks for torque limiting: Torque limits wrongly modified

If a function block for torque limiting was disabled ("Enable" = 0), then the torque limits were wrongly set to the predefined maximum value. Any previous change made to the torque limits by writing to parameters ACP10PAR_LIM_T1_POS, ACP10PAR_LIM_T2_POS, ACP10PAR_LIM_T1_NEG and ACP10PAR_LIM_T2_NEG was overwritten.

The following function blocks were affected by this problem:
- MC_LimitLoad
- MC_BR_LimitLoad
- MC_BR_LimitLoadCam

ID#400195061 : solved problem, solved since V3.15.0
MC_BR_InitReceiveParID: Page fault possible (only in V2.48.0 - V2.52.0 and V3.10.0 - V3.14.x)

A page fault occurred if the axis reference of an axis for which operation with PLCopen function blocks had been disabled (PLCopen_Disabled="1" set in NC Mapping table) was specified on input "Master".

ID#498325 : solved problem, solved since V3.15.0
MC_BR_MechPosDeviationComp: "AdvancedParameters.CamStartPosition" used incorrectly

Parameter "AdvancedParameters.CamStartPosition" was previously used with an incorrect sign, the correction values were shifted to the desired axis position.

ID#400192312 : new function since V3.15.0
New function block: MC_BR_ReadParList
This function block reads a parameter list.

ID#400191632 : new function since V3.15.0
MC_BR_MechPosDeviationComp: New parameters "Periodic" and "ConstantBacklash"

Two new functions have been added and the documentation updated accordingly. Periodic: Compensation for the predefined deviations takes place periodically. ConstantBacklash: Backlash is predefined as a fixed value (not in lists with positions and deviations).

ID#489960 : new function since V3.15.0
MC_BR_CommandError: New valid constants for "Command" for real axes

With MC_BR_CommandError from now on for real axes the following new constants for the input "Command" can be used:
- mcCMD_ERROR_COAST_TO_STANDSTILL: Error, coast to standstill (with controller OFF)
- mcCMD_ERROR_INDUCTION_HALT: Error, induction halt (with controller OFF)

ACP10_MC V3.14.2
ID#400192561 : solved problem, solved since V3.14.2
MC_BR_HomeAcpEncoder: Error at usage with SDC axes (only in V2.44.0 - V3.14.1)

If MC_BR_HomeAcpEncoder was called for an SDC axis, the FB always reported the error "29230: Internal error: Error transferring parameter list"

ACP10_MC V3.14.1
ID#400191397 : solved problem, solved since V3.14.1
MC_BR_CalcCamFromSections: Data type overflow for cam profile data

When calculating cam profile data, it was possible that the values of individual polynomial coefficients were outside of the range of the REAL data type depending on the parameters of the section. Using this data on an ACOPOSmulti, for example, resulted in a processor exception (Error code 33002: "Floating point exception").
MC_BR_AutControl: Possible error when setting/resetting signals in Stopping axis state (only in V2.49.1 - V3.14.0)
Setting and resetting signals or changing the "ParLock" input in the Stopping axis state while MC_BR_AutControl is still reporting "Running" sometimes caused error "29268: Function block aborted by another function block".

MC_BR_PowerMeter: Deadlock after simultaneous call of another function block
If MC_BR_PowerMeter was enabled simultaneously with another function block that transfers parameters to the same axis, it was possible that MC_BR_PowerMeter constantly reported "Busy" and didn't execute its function. In this state, all other function block using cyclic read/write data also constantly reported "Busy" and didn't execute their functions.

MC_BR_TorqueControl: No error with "mcV_LIMIT_OFF" mode
If the mode is set to "mcV_LIMIT_OFF", then error "29217: Invalid input parameter" is no longer output if "PosMaxVelocity" and "NegMaxVelocity" are null or have an invalid value.

MC_BR_AutCommand: Error 29226 caused by "EndAutomat" for virtual axis
If a Cam Profile Automat was active on a virtual axis and the "EndAutomat" input and "SetSignal" / "ResetSignal" input were set simultaneously, the function block reported error "29226: Drive error. Call MC_(BR_)ReadAxisError for details.". The Cam Profile Automat was not terminated in this case.

MC_LimitLoad: "Active" output sometimes not set
If MC_LimitLoad with "Direction" = mcCURRENT_DIR was used on an axis with an inverted counting direction, then it never set the "Active" output.
ID#457025 : solved problem, solved since V3.11.0

MC_BR_AutoCommand: Error message on axis error when Cam Profile Automat in StandBy
If MC_BR_AutoCommand was active, the Cam Profile Automat in "StandBy" and the PLCopen axis state on ErrorStop, the function block reports error "29226: Drive error. Call MC_(BR_)ReadAxisError for details.".
From now on, the function block only reports this error if the Cam Profile Automat is active ("Running" output set).

ID#452765 : solved problem, solved since V3.11.0

MC_Stop: Changes to behavior after abort by MC_Power after deceleration ramp and abort of MC_BR_SetupXxxx
If MC_Stop is aborted by MC_Power.Enable=FALSE after completion of the deceleration ramp, it used to report "Done" and the axis state switched to "Disabled".
From now on, MC_Stop reports "CommandAborted" in this case.
If MC_Stop aborted a MC_BR_SetupXxxx function block, the axis state switched immediately to "Disabled".
From now on, the axis state remains "Stopping" until MC_Stop.Execute=FALSE.

ID#400162575 : solved problem, solved since V3.11.0

MC_BR_AutoControl: Problem resetting outputs
If the "Enable" input of the function block is reset and it is aborted by MC_Power at the same time, then the "Running" output is not reset.

ID#400163682 : solved problem, solved since V3.11.0

Function blocks not reporting error if channel disabled in configuration
If channel 2 of an ACOPOSmulti device is disabled in the hardware configuration (Process Data Mapping.Configuration = "Single Axis"), all function blocks called for axes on this channel constantly reported "Busy" = TRUE.
From now on, all function blocks in this case will return error "29200: Axis object invalid".

ACP10_MC V3.10.0

ID#400166130 : solved problem, solved since V3.10.0

MC_BR_NetworkInit with mcSTOP command: Error 29282 although stop was carried out
If MC_BR_NetworkInit was called with the mcSTOP command, error "29282: Command can't currently be executed" was sometimes reported although network initialization was aborted.

ID#447105 : solved problem, solved since V3.10.0

MC_BR_VelocityControl: Faulty restoration of controller parameters (only in V2.49.1 - V2.51.x)
If the function block was aborted by MC_Power before the controller parameters were read, then zero values were written to the drive.

ID#445965 : new function since V3.10.0

MC_BR_InitReceiveNetworkData: Usable for SDC axes
MC_BR_InitReceiveNetworkData can now be used for SDC axes.

ID#44070 : solved problem, solved since V3.10.0

MC_BR_CamIn: Error with virtual slave axis and disabling the function block
If a virtual axis was specified as a slave axis reference, then error "29226: Drive error. Call MC_(BR_)ReadAxisError for details." is reported when disabling the function block.

ID#441095 : new function since V3.10.0

MC_BR_SetupController: New parameters "MaxPropAmplification" and "Acceleration"
MaxPropAmplification:
This parameter defines the maximum value for the proportional gain in the "mcSPEED" and "mcPOSITION" modes.
If "MaxPropAmplification = 0.0", then the value 2000 is used for the autotuning function, which corresponds to the previously fixed maximum value.
Acceleration:
This parameter defines the acceleration used for the autotuning function.
If "Acceleration = 0.0", then the acceleration value is determined as previously. In "ncFF..." mode, for example, this results in an iterative increase in acceleration for as long as movements are being started and a particular current value has not yet been reached.
This iterative process now no longer needs to be carried out in "ncFF..." mode if the "Acceleration" parameter is used to define an acceleration value other than 0, which considerably reduces the duration of the autotuning function.

ID#400156959 : solved problem, solved since V3.10.0

Some coupling function blocks not adhering exactly to MasterStartPosition
If coupling function blocks were enabled while the master axis was moving, then the cam profile was not started at the desired "MasterStartPosition", but somewhat later depending on the master's speed.
The following function blocks were affected by this problem:
- MC_BR_CamIn
- MC_BR_CamDwell
- MC_BR_AutoCamDwell
- MC_BR_CamTransition

ID#400156058 : solved problem, solved since V3.10.0
Offset and phasing function block: Incorrect ShiftMode behavior when using ShiftParID
When using “ShiftParID”, the “OffsetShiftMode” or “PhasingShiftMode” parameter influenced the behavior when restarting the axis coupling differently than described in the help system. Now the behavior when using “ShiftParID” is always the same as “OffsetShiftMode” or “PhasingShiftMode” mABSOLUTE_NO_RESET, i.e. no reset when restarting the coupling.

The following function blocks were affected by this problem:
- MC_BR_Phasing
- MC_BR_Offset
- MC_BR_OffsetZone

ID#433910 : solved problem, solved since V3.10.0
MC_BR_ReadCyclicPosition: Position outside period during homing
If a periodic axis was homed while MC_BR_ReadCyclicPosition was active, the “Position.Integer” output could take on a value outside the period; the ”Valid” output remained set to TRUE. Now the ”Valid” output is set to FALSE during the homing procedure, and ”Position.Integer” remains in the range of values 0 to Period-1.

ID#400151418 : new function since V3.10.0
MC_BR_CyclicWrite: Timing improved in specific cases
The timing of MC_BR_CyclicWrite was able to be improved in very specific conditions.

ACP10_MC V2.52.6
ID#400249579 : solved problem, solved since V2.52.6
MC_HOME with mcHOME_RESTORE_POS: Position could be restored incorrectly
The position of a periodic axis could be restored incorrectly under the following condition:
(2 x mcMAX_POSITION_CHANGE + period) > 2147483647

ACP10_MC V2.52.3
ID#516025 : new function since V2.52.3
When the function block is disabled, a deceleration ramp to standstill is implemented. New parameter “AdvancedParameters.DisableJoltTimeAtEnd” specifies whether jerk limitation is active during the deceleration ramp or not.
FALSE ... Jerk limitation active
TRUE ... Jerk limitation inactive

ACP10_MC V2.52.2
ID#504140 : solved problem, solved since V2.52.2
Function blocks for torque limiting: Torque limits wrongly modified
If a function block for torque limiting was disabled (“Enable” = 0), then the torque limits were wrongly set to the predefined maximum value. Any previous change made to the torque limits by writing to parameters ACP10PAR_LIM_T1_POS, ACP10PAR_LIM_T2_POS, ACP10PAR_LIM_T1_NEG and ACP10PAR_LIM_T2_NEG was overwritten.
The following function blocks were affected by this problem:
- MC_LimitLoad
- MC_BR_LimitLoad
- MC_BR_LimitLoadCam

ACP10_MC V2.52.1
ID#400195061 : solved problem, solved since V2.52.1
MC_BR_InitReceiveParID: Page fault possible (only in V2.48.0 - V2.52.0)
A page fault occurred if the axis reference of an axis for which operation with PLCopen function blocks had been disabled (PLCopen_Disabled="1" set in NC Mapping table) was specified on input ”Master”.

ACP10_MC V2.51.0
ID#441225 : solved problem, solved since V2.51.0
MC_BR_CalcCamFromPoints: Data type overflow for cam profile data
When calculating cam profile data, it was possible that the values of individual polynomial coefficients were outside of the range of the REAL data type depending on the master and slave positions and the interpolation mode used. Using this data on an ACOPOSmulti, for example,
resulted in a processor exception (Error code 33002: “Floating point exception”).

ID#437710 : solved problem, solved since V2.51.0

MC_BR_JogXxxx: Movement no longer started in certain circumstances if "Enable" was enabled

- The "Enable" input is reset and "JogPositive" or "JogNegative" remains set.
- The "Enable" input is set again before the movement has completely finished.

A new movement is only started by resetting and then setting again the "JogPositive" or "JogNegative" inputs.

In this case, the movement will be started again by setting the "Enable" input.

The following function blocks were affected by this problem:
- MC_BR_JogVelocity
- MC_BR_JogLimitPosition
- MC_BR_JogTargetPosition

ID#400155524 : solved problem, solved since V2.51.0

MC_Stop: Done not set for virtual axis, axis state staying on Stopping

If the controller is switched on for a virtual axis, a stop index is being used and MC_Stop is called, the function block does not report "Done".

The axis state remains Stopping.

ACP10_MC V2.50.0

ID#400154061 : solved problem, solved since V2.50.0

MC_BR_GearIn: Function block error displayed by MC_(BR)_ReadAxisError on abort

If MC_BR_GearIn was aborted by disabling MC_Power, then the "CommandAborted" output was set correctly; error "29206: The controller is off" was indicated on MC_(BR)_ReadAxisError, however.

An error is no longer indicated.

ID#400153484 : solved problem, solved since V2.50.0

MC_BR_AutCommand: Error 29238 when setting/resetting signals

The MC_BR_AutCommand function block returned error "29238: This function block cannot be used in the current state" if signals are being set or reset in the Disabled, Stopping or Homing states.

Basis motion function block: Parameter error after MC_BR_MoveCyclicXxxx and network communication reestablished

The following sequence resulted in FB error "29217: Invalid input parameter" and drive error "5026" or "5027: Basis movement parameters (with override) exceed speed/acceleration limit value”.
1. MC_BR_MoveCyclicXxxx was used with motion parameters that exceed the limit values (this is permitted)
2. A network error occurred
3. After network communication was reestablished, the errors were acknowledged and the controller was switched on
4. A basis motion FB was called with the basis motion parameters

ID#4001515185 : solved problem, solved since V2.50.0

MC_TouchProbe: Incorrect behavior on periodic axis with PLCopen factor

When MC_TouchProbe was used on a periodic axis with a PLCopen factor greater than 1, and if the trigger event occurred near the period transition, one of the following problems could occur:
- A "RecordedPosition" was not output at the trigger event (with "WindowOnly"=TRUE).
- A "RecordedPosition" larger than the period was output (with "WindowOnly"=FALSE).

ID#400150468 : solved problem, solved since V2.50.0

MC_BR_CamTransition: mcTRANSITION_OFF and changed parameter (in V2.47.0 - V2.49.x only)

If "TransitionMode" = mcTRANSITION_OFF, then changing a parameter ("InitData" = TRUE) produced the following behavior:
- The slave axis changed to a 1:1 coupling
- The function block no longer responded to control input ("LeadInSignal", "LeadOutSignal", "InitData") or control ParIDs ("LeadInParID", "LeadOutParID")

ID#423265 : solved problem, solved since V2.50.0

New PLCopen parameters mcAXIS_PERIOD_MAPPING and mcAXIS_FACTOR_MAPPING
There are two new PLCopen parameters that can be read with MC_ReadParameter and show the following:

**mcAXIS_PERIOD_MAPPING** ... Period configured for this axis in the NC mapping table

**mcAXIS_FACTOR_MAPPING** ... PLCopen factor configured for this axis in the NC mapping table

ID#420290 : solved problem, solved since V2.50.0

Function blocks for phase and offset shift: Error after toggling the "Enable" input

If the "Enable" input on phase and offset shift function blocks is set to FALSE for a task cycle and then back to TRUE, this could incorrectly cause the function block to report error 29276: "Phase shift already in progress". From now on, no error is reported and the new phase or offset shift takes place.

The following function blocks were affected by this problem:
- MC_BR_Phasing
- MC_BR_Offset
- MC_BR_OffsetVelocity
- MC_BR_OffsetZone

ID# 400127125, 400148736 : solved problem, solved since V2.50.0

MC_Home: Incorrect position of SDC axis and 32-bit encoder

Homing an SDC axis with "MC_Home.HomingMode" mcHOME_ABSOLUTE, mcHOME_ABSOLUTE_CORR and mcHOME_RESTORE_POS with an encoder whose counting range is exactly 32 bits sometimes caused an incorrect position by one or two encoder rotations.