Known Anomalies

Lexium 28

LXM28 FW V1.50.34 Release Note

Schneider Electric
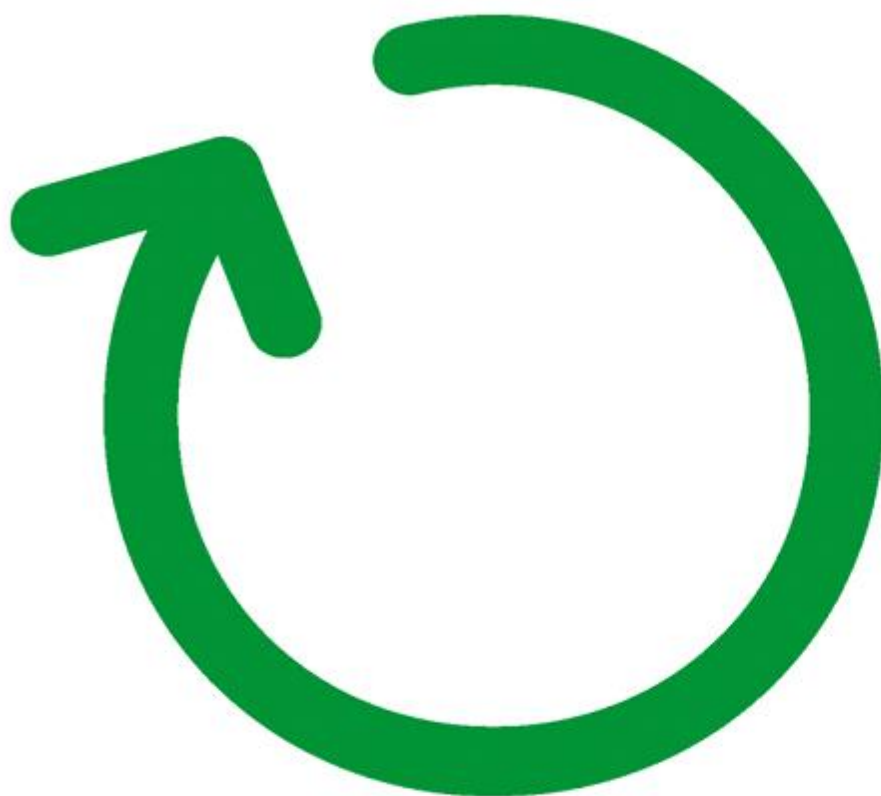
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Failure to use Schneider Electric software or approved software with our hardware products may result in injury, harm, or improper operating results.

Failure to observe this information can result in injury or equipment damage.

Contents

Introduction

The present document provides an overview of known anomalies or frequently asked questions.

The description of the anomalies is structured as follows:

- Title

- Marginalia
  The Marginalia is for a fast orientation and contains information, on how the user can filter the listed anomalies. Following aspects are included:

- IPR number (IPR = ???)
  All the anomalies receive a clear number when they are registered. After this number they are administrated, so that they can be identified again.

- Error affected controller/drives types (optional)
  A listing of the controller/drive types takes place, if the anomaly only affects part of the controllers/drive. If all controller/drive types are affected, no explicit listing takes place.

- Firmware versions affected by the error

- Description
  The actual anomaly description takes place here. In many cases a "Workaround" is added, that describes a preliminary solution.

Firmware versions

The identification of the error affected software versions is explained in form of examples as follows:

From: V00.20.40
To: V00.20.42

This anomaly occurs starting V00.20.40 and exists in all the following versions, including the version V00.20.42. The anomaly has been removed in all versions after V00.20.42.

From: -
To: V00.20.02

The anomaly occurs in all versions, including V00.20.02. The anomaly has been removed in all versions after V00.20.02.

From: V00.16.40
To: -

The anomaly occurs as of version V00.16.40 in every following released versions.

From: V00.16.30
To: V00.20.xx

This anomaly occurs starting V00.16.30 and exists in all the following versions of the firmware group V20.

From: V00.15.00
To: V00.20.01
OK: V00.15.03
OK: V00.16.43

This anomaly occurs starting V00.15.00 and exists in all the following versions, including the version V00.20.01. The anomaly has been removed in all versions after V00.20.01. Additional corrections were implemented in versions V00.15.03 and V00.16.43.

Known Anomalies (Released Products)

1 LXM28 Firmware

1.1 Input/Output-Functions

1.1.1 Limitations of Output Function CAP_OK

From: FW1.30.21
To: -

The behaviour of the output function CAP_OK is not fully implemented. Therefore, use the library function blocks MC_Touchprobe or MC_Touchprobe_LXM28.

1.1.2 Limitations of Parameter P1-01.D

From: FW1.30.30
To: -

The parameter P1-01.D which set automatically the "Signal input functions and signal output functions after operating mode switching", won't assigned this function if an input function is already assigned.

1.1.3 Limitations of Input Function CLRPOSDEV

From: FW1.30.30
To: -

The input function "CLRPOSDEV" which clears the ´Position Deviation´ between the reference position and the actual position to zero may not work under some condition.

This behaviour is linked to operation mode "PT or PS"

1.1.4 Limitations of Output Function SON

From: FW1.30.30
To: -

When enabling the drive, the output SON is set to true before the drive is actually ready to move.

This behavior is only related to motors with brake.

1.1.5 Limitations of Input Function CLRPOS

From: FW1.30.30
To: -

The digital Input function "CLRPOS" which is used to set the position deviation to "0" is not fully implemented in PT & PS operation mode.

1.1.6   Limitation of Pulse Input Inhibit Function

From: FW1.50.34
To: -

Pulse input inhibit function(P2-65 bit 11) may not works property when P2-68 bit Y is equal to 0.

1.2   P-Parameter

1.2.1   Modification of Parameter / Power Off

From: FW1.30.21
To: -

When modifying or saving parameters, it is necessary to wait a short time (5…10s) before removing power to the drive.

1.2.2   Limitation of Parameter P6-01.CD

From: FW1.30.30
To: -

The behavior of the parameter P6-01.CD are not fully implemented and may not work under some condition.

1.2.3   Restriction of Parameter P6-01

From: FW1.30.30
To: -

Parameter P6-01 - "Start Homing after first enable" does not work when the brake output is configured.

1.2.4   Behavior of Parameter P1-34/P1-35

From: FW1.30.30
To: -

In velocity mode if an analog value is set for the target velocity, the values of the parameter P1-34/P1-35 are not limited to 2000 (ms). Greater values are allowed.

1.2.5   Limitation of the Parameter P1-09 and P1-10 in Velocity Mode

From: FW1.50.34
To: -

For lower speed in velocity mode triggeing the parameter P1-09 and P1-10 may not work properly.

1.2.6   Limitation of the Parameter P5-07

From: FW1.50.34
To: -

When using the HMI, if the parameter P5-07 is used to select the data set, the parameter P2-30 need to be used to enabled and disabled the drive.

1.2.7   Behavior of Parameter P2-68Y

From: FW1.50.34
To: -

In operation mode torque, the parameter P2-68Y for "Auto Fault Reset LIM" may not work properly.

1.2.8   Restriction of Parameter P1-55

From: FW1.50.34
To: -

When the drive is used in DS402 without Drive Profile Lexium, if homing velocity is higher than velocity Limitation (P1-55) the drive may go in AL007.

1.3   Operation Modes

1.3.1   (Info) Change "on the fly" not implemented.

From: FW1.14.7 (Drive FW)
To: -

The operation mode can not be changed "on the fly".

1.3.2   Limitations related to AUTOR function

From: FW1.30.21
To: -

In case AUTOR function uses absolute move, a homing is mandatory to start the function. If no homing is performed, absolute move is not possible but no Alert message is shown. To re-activate AUTOR a homing is mandatory.

1.3.3   Limitation of the opmode parameter

From: FW1.30.3
To: -

If the drive is enabled, changing the opmode may causes jumps of the Motor.

1.3.4 Command Panel Limitation for Position Control

From: FW1.30.30
To: -

When the LXM28 operate in PT/V/PS mode, the position control by command panel may not work correctly.

1.3.5 Behavior of PS Command under S/SZ/PT Mode

From: FW1.30.30
To: -

While the drive operate in S/SZ/PT mode under some condition the drive can still execute PS command.

1.3.6 Parameter in PT Mode

From: FW1.30.30
To: -

If you change the operation mode parameter to PT mode, it is necessary to make power cycle before modifying other parameter.
Ignoring this instruction may cause the drive not to start in PT mode after the next power cycle.

1.3.7 Lexium Profile: Limitation at Enable

From: FW1.30.30
To: -

To enable the device in Lexium Profile object 430C 16#200 must be written by PDO. SDO is not supported at the moment.

1.3.8 Limitation of the Analog Output

From: FW1.30.30
To: -

In internal torque mode (P1-01=1005) the scaling factor of the analog output is not according to manual.

1.3.9 Noise Behavior in CSP Mode

From: FW1.30.30
To: -

In CSP mode some motor like the BCH2LD04XCA5C may make strange noise if they are connected to drive which use a baud rate less than 1000 kBits.

1.3.10 Behavior When Applying Negative Torque Under Velocity Mode

From: FW1.30.30
To: -

In operating mode velocity applying an analog input value below 0V generate a ripple on the axis when it move.

1.3.11   Restriction When Using "CTRG Start Data Set"

From: FW1.30.30
To: -

In operating mode position, by using "32 Data set" to control the motor if a time delay is entered in one path the axis does not start.

1.3.12   Limitation Changing the Operation Mode From Torque to Position in Dual Mode P-T

From: FW1.30.30
To: -

If motor with high load is used in torque mode and the axis is moving with 3000rpm, changing the operation mode to position may cause an error in the axis.

1.3.13   Limitation of "Halt" in Homing Mode

From: FW1.30.30
To: -

Stopping and restarting a homing process with "HALT" will cause the cancel of homing.

1.3.14   Behavior of Auto Recover from Limit Switch

From: FW1.30.30
To: -

When using motor recover from Limit Switch, set a slow acceleration in oder to avoid velocity jump.

1.3.15   Behavior of CTRG in PS Mode

From: FW1.50.19
To: -

In PS mode, when requesting absolute movements using CTRG, make sure that a valid homing has been successfully perform on the drive.

1.3.16   Limitation of Test Homing in PS Mode

From: FW1.50.19
To: -

Under some condition by test homing in PS mode, the motor does not move if home speed (P5-05) is bigger than maximum velocity (P1-55).

1.3.17   Behavior of Target Velocity Command in Velocity OP Mode

From: FW1.50.19
To: -

If ZeroClamp is activated and target velocity command set by analoge value or digital input remains unchanged, the target velocity status Value (P0-09 = 9 or P11-09) is set to "0" by the drive.

1.3.18 Behavior of the Exclusive Access on Modbus

From: FW1.50.19
To: -

In some case if the exclusive access is on modbus, trying to enable the drive by CAN work without any EMCY message.

1.3.19 Limitation of Zero Clamp in Torque Mode

From: FW1.50.19
To: -

In some case the zeroclamp function may not work on torque mode.

1.3.20 Behavior of Homing Velocity in PS mode

From: FW1.50.19
To: -

Using a homing velocity higher than the velocity limitation (P1-55) may cause the drive goes in AL007.

1.3.21 Behavior of ICMD in Easy Tuning

From: FW1.50.19
To: -

In easy tuning the peaks of ICMD may been detected once, a few times or no happens.

1.3.22 Behavior of theTrajectory Generator HDTUNEREFEN

From: FW1.50.19
To: -

During the second attempt by preforming comfort tuning, it may not be possible to preform it without doing a power cycle.

1.3.23 Behavior at High Pulses Frequency

From: FW1.50.19
To: -

When setting a high pulses frequency, the number of pulses count by the drive may differ in gear mode.

1.3.24 Behavior of the Homing Methods ZYX = 112 6 ZYX = 113

From: FW1.50.19
To: -

In PS or CAN mode homing methods ZYX=112 (CAN method 8) and ZYX=113 (CAN method 12) , the slow velocity may be applied instead of the high velocity.

1.4 Alarms, Alerts

1.4.1 Display of AL180

From: FW1.30.21
To: -

When the CANopen communication is interrupted due to a power off / power on cycle, AL180 is shown at the drive and stays active until a reset of the drive is executed.

2 Libraries

2.1 CANopen

2.1.1 Function Block MC_Home

From: FW1.19.20
To: -

If there are devices configured but not present on the CANmotion bus, e.g.,
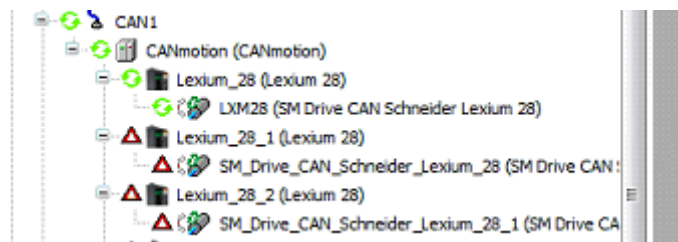
and you wish to start the bus regardless, disable the check box "Polling of optional slaves" which is part of the CANmotion settings (see below)
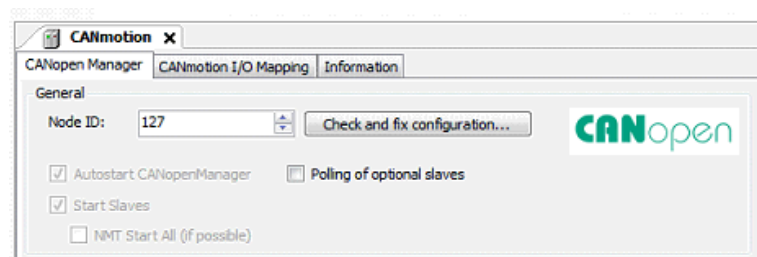
2.1.2 Limitations in Jog Mode

From: FW1.30.21
To: -

If the "Send PDO" : Modes of Operation Display 16#6061; is mapped then the Jod Mode is not working in DSP402 or Lexium Library.

2.1.3 Restriction of the I/O Configuration via CANopen

From: FW1.30.30
To: -

Under some condition the configuration of the I/O via canopen may not work properly

2.1.4 Limitation of SoMove Under CANopen Mode

From: FW1.30.30
To: -

In SoMove if the drive is configured in canopen mode, the limit faults can not be reset by command panel.

2.1.5 Behavior of Quickstop Ramp

From: FW1.30.30
To: -

In CANOpen mode QuickStop ramp may not work in case of velocity movement.

2.1.6 Restriction of Homing if Drive Reboot Without LimitSwitches Apply

From: FW1.30.30
To: -

In CANopen, setting the limit switches after doing a reboot may cause some homing modes to not start.

2.1.7 Restriction of LimitSwitch via CANopen

From: FW1.50.19
To: -

If AL014 or AL015 appears (for LimitSwitch interruption positive or negative), the alarm can be reseted. But if a movement is started again in the same direction, the alarm may remain in reset.

2.1.8 Limitation of MC_ReadMotionState_LXM28

From: FW1.50.19
To: -

If an axis movement is made by using MC_TorqueControl_LXM28, the behavior of the "ConstantVelocity" and "Accelerating" outputs of the FB MC_ReadMotionState_LXM28 may not work properly.

2.1.9 Restriction of Homing Offset Function in CANopen

From: FW1.50.19
To: -

In CANopen the homing offset function is not fully implemented whithin the function block MC_Home_LXM28.

2.1.10 Limitation of Homing Modes 8 and 12

From: FW1.50.19
To: -

If the reference switch is deactivated before the drive has found the index impulse of the motor, homing may stop immediately and the MC_Home reports an error.

2.1.11 Limitation of the parameter P1-45 in CANopen

From: FW1.50.19
To: -

In some condition, when the drive is controlled via CANopen in "Gear-Mode" the parameter P1-45 could be overwritte.

2.2 SoftMotion

2.2.1 Limitation when using Touchprobe TP1 and TP2

From: FW1.30.21
To: -

When using both touchprobes (TP1 & TP2) and TP2 has an error, also TP1 will likewise cease to function. This issue is dedicated to SoftMotion-Library.

3 DTM

3.1 DTM Scope: Digital In- and Output Trigger

From: FW1.30.21
To: -

The scope can not be triggered on a digital in- or output change.

3.2 Limitation of Online Window in SoMachine

From: FW1.30.30
To: -

SoMachine does not show the real motor in the online window.

3.3 Restriction Of Parameter P9-35

From: FW1.30.30
To: -

The Parameter P8-35 which can now be set by HMI don't accept the value 0x507 on DTM.

3.4 Duplicate Error Codes

From: FW1.30.30
To: -

The following error codes use the same number, but the content of the referring alarm/error is different:

16#011B (=decimal 283)
Alarm AL283   "Positive software limit switch triggered"
Error 283   "DRIVE_NOT_HOMED"

16#011D (= decimal 285)
Alarm AL285   "Negative software limit switch triggered"
Error 285   "SRVSNS_CRC_ERROR".

3.5 Limitation of Multiloader

From: FW1.50.34
To: -

Storing configuration parameter may not work properly after
- Exporting Paremeters configuration from SoMove
- FW update of the drive.

3.6 Limitation of File Export

From: FW1.50.34
To: -

File Export by SoMove may leads to an Error Message.

3.7 Value of Drive and Motor Current

From: FW1.50.34
To: -

Regarding the drive and motor current values please refer to the user guide section 4.2.

3.8 Behavior of the FB MC_ReaAxisError

From: FW1.50.34
To: -

Sometimes the FB MC_ReadAxisError may returns unknown errorID, in this case read the alarm displayed on the HMI.

3.9   Behavior of Multiloader in SoMove

From: FW1.50.34
To: -

If a Multi Loader file is downloaded by SoMove these two issues may appear.

- The ML file may not contain Motor data altough Motor was connected at the upload by ML.
- An Error Mesage may appears.

3.10   Behavior of SoMove Export ML file

From: FW1.50.34
To: -

In some case if a file which was exported by SoMove is downloaded to the drive, not all datas are transfered to the drive.

3.11   DTM Link User Manual

From: FW1.50.34
To: -

The user manuals in the following languages are not available: German, French, Italy and Spain.
Therefore the reffering links are not working. Please use the English version instead.

4   Documentation

4.1   Product manual

4.1.1   Missing Description

From: FW1.50.34
To: -

The Interplated Posistion Mode, Cyclic Synchrounous Position Mode and Touch Probe objects 60B8h, 60B9h are not documented. For more information refer to the CIA Standard.

4.1.2   CANopen Error Numbers for LIMT Switch Interruptions

From: FW1.50.34
To: -

To be able to read the folowing error code "AL014", "AL015", "AL283", "AL285", use the parameter 4001h and refer to the manual page 407.

4.1.3 Description of Parameter P2-65 Bit 7 & 8

From: FW1.50.34
To: -

The definition of the Bit 7 & 8 of the parameter P2-65 are follow:
Bit 7 = Activate/Deactivate "AL534 Error message"
Bit 8 = Activate/Deactivate "foldback current".

4.1.4 Description of Parameter P2-08

From: FW1.50.34
To: -

The Parameter P2-08 is defined as follow:
- value 400: deactivate forcing of digital outputs
- value 406: activate forcing of digital outputs
- value 999: drive service is active.

4.1.5 Description of the Parameter P1-69

From: FW1.50.34
To: -

The behavior of the parameter P1-69 is as follow:
If the value of this parameter is greater than P1-68, it overrides P1-68.

4.1.6 Description of the PDO Mapping

From: FW1.50.34
To: -

For the definition of the CANopen PDO mapping please refer to the previous manual version 2.1.

5 Hardware Function

5.1 Limitation of Esim

From: FW1.50.34
To: -

When using Esim output signal a quadratur error may occur.

5.2 Behavior after Disconnect the Encoder Cable

From: FW1.50.34
To: -

After disconnected and reconnected the encoder cable, you must disabled completly the MC_Power and perform the SMC3_ReintDrive before reseting the alarm message.

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5.3   Behavior after Storing Parameter in EEPROM

From: FW1.50.34
To: -

After storing parameter into the EEPROM, wait at least 5s before switching off the drive.

6   Appendix

6.1   Combabillity Drive FW vs Motor Encoder FW

	Drive FW	Encoder FW 2.0.07	Encoder FW 2.0.10	Encoder FW 2.0.12	Encoder FW 2.0.13
SELL Step 1	1.15.08	**OK**	**Potential Enc. Alert**	**Potential Enc. Alert**	**OK**
SELL Step 1.2	1.19.21	**OK**	**Potential Enc. Alert**	**Potential Enc. Alert**	**OK**
SELL Step 1.3	1.19.32	**OK**	**Potential Enc. Alert**	**Potential Enc. Alert**	**OK**
SELL Step 1.4	1.30.21	**OK**	**Ok**	**OK**	**OK**
SELL Step 1.4	1.30.30	**OK**	**Ok**	**OK**	**OK**
SELL Step 1.4	1.50.34	**OK**	**OK**	**OK**	**OK**