JXM-IO-E30

Version update from V2.23.0.00 to V2.24.0.00

Revision 1.14

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1 Changes to 2.24.0.00

Overview
Version 2.24.0.00

The following table gives an overview of newly added or enhanced features and fixed software bugs:

Description	New	Enhanced	Fixed
new: Parameter CONFIGURATION as stored in EEPROM will now be reset upon OS update.	✓		
fix: DS401: (outputs) SDOWrite of O_DIGITAL was overwritten by RPDO1.			✓
fix: (digital inputs) parameters TIMEOUT_TIME, GATE_TIME and RESOLUTION are now always readable.			✓
fix: (digital inputs) initial value of I_COUNTER is now 0 (was -1) when ENC_PNP is configured.			✓
fix: (outputs) I_DIGITAL is now readable when the port is configured as digital output.			✓
fix: (outputs) parameters MIN_CURRENT and OPEN_CIRCUIT_DETECTION: When writing an invalid value, the value was not reset, so an SDORead would have returned an errouneous value.			✓
fix: RPDO packages with a length of zero didn't trigger an emergency message.			✓

2 Changes to 2.23.0.00

**Overview
Version 2.23.0.00**

The following table gives an overview of newly added or enhanced features and fixed software bugs:

Description	New	Enhanced	Fixed
Fix: Supply voltage fluctuations could indicate repeated partial resets. As a result the I2C bus malfunctioned, which also affected EEPROM communication. Error pattern: The node is reacting normally, but the LED matrix won't light up.			✓

3 Changes to 2.22.0.00

Overview
Version 2.22.0.00

The following table gives an overview of newly added or enhanced features and fixed software bugs:

Description	New	Enhanced	Fixed
Fix: A downgrade to OS versions lesser than 2.17.0.00 is now possible again.			✓
Fix: JXM-IO-EX30: LED-Matrix: Status LEDs of AI ports, when configured as AI_VOLTAGE, now are switched on correctly.			✓
Fix: JXM-IO-EX30: LED-Matrix: Status LEDs of AI ports, when configured as AI_CURRENT, now are reset after an OVERCURRENT event.			✓
Fix: JXM-IO-EX30: DS401: Reading of sub indexes of object 0x6411, is now successful.			✓
Fix: JXM-IO-EX30: DS401: When customizing the default configuration of RPDO1, writing O_DIGITAL in the target output is now successful.			✓
Fix: JXM-IO-EX30: DS401: According to default configuration, TPDO1 now transmits I_DIGITAL values of DI ports.			✓
New: JXM-IO-EX30: DS401: PDOs now are automatically active when going OPERATIONAL.	✓		
Fix: PDO Subindex 2 now returns the configured transmit type CANOPEN_ASYNPDO (0xFE).			✓

4 Changes to 2.20.0.00

**Overview
Version 2.20.0.00**

The following table gives an overview of newly added or enhanced features and fixed software bugs:

Description	New	Enhanced	Fixed
The LED matrix now also works on a JXM-IO-EX30.			✓
JXM-IO-EX30 extended by DS401 functionality.		✓	
Fix: TPDO now send 0 when calibration and scaling lead to negative values.			✓

5 Changes to 2.17.0.00

Overview
Version 2.17.0.00

The following table gives an overview of newly added or enhanced features and fixed software bugs:

Description	New	Enhanced	Fixed
The green LED now also works on a JXM-IO-EX30.			✓

6   Changes to 2.16.0.00

Overview Version 2.16.0.00

The following table gives an overview of newly added or enhanced features and fixed software bugs:

Description	New	Enhanced	Fixed
Fix direction of I_COUNTER and I_DIRECTION when digital inputs are configured as rotary encoder and RESOLUTION is set to 2.			✓
Fix I_PERIODIC_TIME previously was updated after GATE_TIME. Now the calculations triggered, when a flank is counted during frequency measuring.			✓
Fix the maximum value of DITHER_FREQUENCY to 8000.			✓
Fix the update time of TPDO4. Before, when four TPDO were configured, TPDO4 experienced delays up to 2s.			✓

7 Changes to 2.15.0.00

Overview
Version 2.15.0.00

The following table gives an overview of newly added or enhanced features and fixed software bugs:

Description	New	Enhanced	Fixed
Fix broken OS update when Node-ID is changed by Config pin and or system parameter.			✓
Fix CAN settings if corrupted in EEPROM.			✓
Fix minimal accepted value of GATE_TIME from 1000ms to 10ms.			✓

8 Changes to 2.13.0.00

**Overview
Version 2.13.0.00**

The following table gives an overview of newly added or enhanced features and fixed software bugs:

Description	New	Enhanced	Fixed
The Node-ID of variants JXM-IO-EX30 and JXM-IO-EW30 does no longer depend on whether VBAT_PWR is connected.			✓

9 Changes to 2.12.0.00

Overview Version 2.12.0.00

The following table gives an overview of newly added or enhanced features and fixed software bugs:

Description	New	Enhanced	Fixed
IDX 0x2108...0x210B: fix immediate emergency message when configuring DI as frequency input. Now emergency timeout message will only be sent after the timeout_time has been exceeded. Also, change maximum timeout_time from 1000ms to 2^16ms.			✓
IDX 0x2108…0x210B: Use of AB track sensor. (requires the combination of two ports using one Interface) New subindexes: I_DIRECTION (22), ENC_PNP (26) and RESOLUTION (68). Uses subindexes: I_COUNTER (17) and TIMEOUT_TIME (59). Subindex 26: Interface. Subindex 17: Input value tick count (overflow at 0 -1 and UINT32_MAX +1). Subindex 22: Input value direction (0=stop, 1=forward, 2=backward). Subindex 68: Parameter resolution in ppr (0=1/4, 1=1/2, 2=full) Subindex 59: Parameter period after which the direction signals stop.	✓		
IDX 1016: Heartbeat monitoring may trigger switch to NMT_STOPPED when timeout occurred. Subindex 0 number of monitorable Node-IDs. (RO) Subindex 1…4 set the Node-ID to be monitored as well as the timeout time.	✓		
The Node-ID of variants JXM-IO-EX30 and JXM-IO-EW30 does no longer depend on whether or not VBAT_PWR is connected.			✓

10 Changes to 2.11.0.00

**Overview
Version 2.11.0.00**

The following table gives an overview of newly added or enhanced features and fixed software bugs:

Description	New	Enhanced	Fixed
IDX 0x210C…0x2119: Additional feature. When set to HSxD, the functionality can be read back in I_DIGITAL.		✓	
IDX 0x210C…0x2119: change default of OPENCIRCUIT_DETECTION from 2=PERMANENT to 1=STARTUP. Open circuit will now only be detected during startup.	✓		
IDX 0x210C…0x2115: Fixed PWM frequency from minimal 100Hz to minimal 5 Hz.			✓
IDX 0x2100…0x2107: fix faulty check when voltage EMCY-messages are re/set.			✓
IDX all: added internal Watchdog to reboot system in case main thread execution is halted/blocked.	✓		
Fixed bug in TPDOs where the configured INHIBIT_TIME for certain values was additional 10ms longer.			✓
IDX 0x2000, SubIDX 10 to 12: Added 100mV Hysteresis. When SPWR is monitored by TPDO this prevents the TPDO form constantly triggering.	✓		
Pdated CAN driver	✓		

11 Changes to 2.09.0.00

Overview Version 2.09.0.00

The following table gives an overview of newly added or enhanced features and fixed software bugs:

Description	New	Enhanced	Fixed
IDX 0x210C…0x2119: A bug when resetting set points of outputs is now fixed. When changing to state OPERATIONAL, set points are now reset to 0 in all cases.			✓
IDX 0x210C…0x2119: MIN_CURRENT (SubIndex 64, uint16, r/w) and OpenLoadDetection (automatically executed at system start) can now be turned off. This is controlled via the new SubIndex 65, OPENCIRCUIT_DETECTION. OPENCIRCUIT_DETECTION accepts the values 0=all off, 1=OpenLoadDetection is executed once during startup, 2=OpenLoadDetection and MIN_CURRENT are both active.	✓	✓	

12 Changes to 2.07.0.00

**Overview
Version 2.07.0.00**

The following table gives an overview of newly added or enhanced features and fixed software bugs:

Description	New	Enhanced	Fixed
IDX 0x210C…0x2119: Set point values for Output ports (SubIndexe 30, 31 und 32, uint8, uint16 und uint16, r/w) now can only be set in state OPERATIONAL. In PreOPERATIONAL and when entering state OPERATIONAL set point values will be set to 0 always. This way, when entering state OPERATIONAL, sudden, uncontrolled actions of connected actors are prevented.	✓		

13 Changes to 2.06.0.00

**Overview
Version 2.06.0.00**

The following table gives an overview of newly added or enhanced features and fixed software bugs:

Description	New	Enhanced	Fixed
IDX 0x210C…0x2119: Output ports provide a cable break detection (SubIndex 64, uint16, r/w). Minimal current on default is 200mA for HS3CC and HS3C, else it's 500mA. When falling below the minimal current, an EMCY-message for the respective port is sent. Also the port state will read OPEN_CIRCUIT. Only available in state OPERATIONAL.	✓		
IDX 0x2000: Reduction of bus load, when diag indices 1 and/or 12 are being included in an TPDO.		✓	

14 Changes to 2.04.0.00

Overview Version 2.04.0.00

The following table gives an overview of newly added or enhanced features and fixed software bugs:

Description	New	Enhanced	Fixed
If an output is configured to DI_NPN or DI_PNP, a pull up resistor is switched on or off for the corresponding group. Now this only depends on the latest configured interface.			✓
IDX 0x1010: Changes of the HeartbeatTime will now be saved.		✓	
IDX 0x6000: Display of digital values was broken in revision 2.03.0.00. This has been fixed.			✓
IDX 0x4556: When saving unchanged system parameter, the CRC was altered. This has been fixed.			✓
CanOpen stack: has been enhanced. The DLC of PDOs now no more exceeds the number of bytes mapped.		✓	
IDX 0x210C…0x210F: If Setpoint O_HCURRENT was set to 0, the output didn't reach 0A. Instead the output stayed within the tolerance level. This has been fixed.			✓
Output ports are now only active in state OPERATIONAL.	✓		
Analogue input values now have noise cancelling. The default value is 1, meaning, no noise cancellation. You can configure this in subindex 63.	✓		

15 Changes to 2.03.0.00

**Overview
Version 2.03.0.00**

The following table gives an overview of newly added or enhanced features and fixed software bugs:

Description	New	Enhanced	Fixed
fixed: only on hardware revision 01.00 devices: current regulation function on PWMi_H3 was not functional. This software version does not affect devices with hardware revision 02.00 or above			✓

16 Changes to 2.02.0.00

Overview
Version 2.02.0.00

The following table gives an overview of newly added or enhanced features and fixed software bugs:

Description	New	Enhanced	Fixed
fixed: interrupting OS update resulted in an unusable device, that could only be repaired by the manufacturer.			✓

17 Changes to 2.00.0.00

Overview Version 2.00.0.00

The following table gives an overview of newly added or enhanced features and fixed software bugs:

Description	New	Enhanced	Fixed
implemented: AI_x analog input may be used as digital input by assigning interface type DI_PNP	✓		
implemented: Save / restore of configuration data using IDX 0x1010 / 0x1011	✓		
implemented: DI_P_1 useable as additional NPN input by assigning interface type DI_PNP (requires HW Rev. 02.00) Interface type FI_NPN may now be assigned too	✓		
implemented: reading of VBAT_ECU using diag object 0x2000/13 fixed: Node-ID now is calculated based on VBAT_ECU instead of VBAT_PWR (requires HW Rev. 02.00)	✓		✓
implemented: bitwise PDO mapping	✓		
fixed: Firmware updates may now be done using other baud rates than 250Kbit			✓
fixed: erroneous activation of PWMi_HS_3 after reset in firmware as well as in bootloader			✓
fixed: reading of status of SENSOR_SUPPLY was not implemented for outputs configured as digital inputs (DI_PNP)			✓
implemented: changed to newer version of CanOpenStack, improves over all stability	✓		
implemented: configurable Base/Node-ID in IDX 0x4556 (System parameter)	✓		
improved speed of current control by changes in default values			✓
implemented: P parameter of current control now independent of battery voltage	✓		
fixed: freeze (buffer overflow) due to high load of PDO-TX			✓
fixed: reading of SPWR_3 voltage returned SPWR_2 voltage in diag object (IDX 0x02000)			✓
fixed: parameter FILTER_DEEP didn't work for all outputs of DO_H3 and PWM_H7			✓
implemented: generation of errors OVERCURRENT and OVERVOLTAGE in analog inputs AI			✓
implemented: full functionality in regard of operating manual Version 1.20.2 (issued 2018-10-09)			
fixed: diag objects may now be mapped and transmitted via PDO			✓

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