

TREP_TB_003060_BI10U-M18-IOL6X2-H1141

EIL-1782 | Passed

About

Status	✔ Passed
Person	Maser, Vitali
Approvals	✔ Vetter, Michael
Date	2019-06-28
Change request or Project	New function added
Specifications	W:GOEILE_REPORTSSensorenInduktivMProx_BIXXU_MXX-IOLFW_TestBI10U-M18-IOL6X2-H1141V4.1.2.0Funktionsbeschreibung_MPROX_JO_LINK_FUNKTION_V_2_1_2.docx W:GOEILE_REPORTSSensorenInduktivMProx_BIXXU_MXX-IOLFW_TestBI10U-M18-IOL6X2-H1141V4.1.2.0UPROX_IOL-Bugs.docx See Attachment under EIL-1782- TREP_TB_003060_BI10U-M18-IOL6X2-H1141
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1 Scope

In the firmware version new functions are implemented. New functions are "operating hours monitor", "switching counter monitor", "operating hours monitor alert", "switching counter monitor alert". The function for output 2 (index 0x69, subindex 4) has been extended with "Inspection Alert" and "Temperature or Inspection Alert".

Significance of the new functions

Operating hours monitor - The number of operating hours of the sensor can be read out.

Switching counter monitor - The number of switching cycles/attenuation of the sensor can be read out.

Operating hours monitor alert- The number of operating hours can be parameterized, from which the sensor reports an "Inspection Alert" in the process data.

Switching counter monitor alert - The number of switching cycles/attenuations can be parameterized, above which the sensor reports an "Inspection Alert" in the process data.


2 Result

2.1 Firmware and hardware to be released

2.1.1 Tested firmware and hardware

No.	Articlenumber	Description	FW-Version	Build-Number	HW-Version	ECR-/SAP-Number
 EIL-1783	1644875	BI10U-M18-IOL6X2-H1141	4.1.2.0	-	Stücklisten Nr.: 127767801 *-, LP 07635100	TB_003060

2.1.2 Validation list device (Revisions that the test results are also valid for)

Tested device	Derived devices
 EIL-1783	1644873 BI6U-M12-IOL6X2-H1141
	1644874 BI6U-MT12-IOL6X2-H1141
	1644876 BI10U-MT18-IOL6X2-H1141
	1644882 BI20U-M30-IOL6X2-H1141
	1644883 BI20U-MT30-IOL6X2-H1141
	1625871 NI50U-CK40-IOL6X2-H1141
	1625872 NI50U-QV40-IOL6X2-H1141
	100000266 BI15U-EM30WD-IOL6X2-H1141
	100006589 BI8U-EM18WD-IOL6X2-H1141
	100015372 BI4U-EM12WD-IOL6X2-H1141

2.2 Files to be released

2.2.1 Actually tested file revisions

No.	File type	File name	File version
EIL-1783	IODD	Turck-uprox-20191011-IODD1.0.1;Turck-uprox-20191011-IODD1.1	V02.1002

2.3 Open issues

Turck Mantis Bugtracking System: Project: B00085_M-PROX

Issue No.: 2188; 2220; 2181.

Issue No.: 2220 - Error occurs with the USB master from version 3.0.2/1.2.B, with the setting in the data storage Auto Upload.
With version 1.2.7 the error does not occur.

Issue No.: 2188 - The data transmission via the IO-Link coupler does not work correctly if the parameter Out_1 is set to NPN.

Issue No.: 2188 - For one of the sensors, the counters for operating hours and switching cycles were set to zero.
The error could no longer be readjusted.

2.4 Conclusion and recommendations

The R&D Integration Laboratory recommend to release BI10U-M18-IOL6X2-H1141 with the firmware version 4.1.2.0 and IODD version V02.1001 of the inductive sensor. The new firmware version 4.1.2.0 of the inductive sensors is based on the firmware version 3.1.20.2, which passed all tests of the IO-Link test specification and the Turck Specific Standard, only the tests with the TMG IO-Link protocol tester, IO-Link Validation, Parameter test had to be repeated. The open issues is accepted by PM and project management. A new manufacturer's declaration should be issued.

3 Overview of the test results

3.1 BI10U-M18-IOL6X2-H1141 (EIL-1783)

Testcase (Revision)	Testrun (Revision)	DuT	Result
EIL-1190 IO-Link declaration of conformity (159164)	TR0106 (199637)	HW-Version: Stücklisten Nr.: 127767801 *-; LP 07635100 FW-Version: 4.1.1.2 Build Number: - Derivation EIL-2589	
EIL-406 IO-Link Parameter Test (124773)	TR0106 (199696)	HW-Version: Stücklisten Nr.: 127767801 *-; LP 07635100 FW-Version: 4.1.1.2 Build Number: - Derivation EIL-2589	
EIL-507 IODD Checker (116753)	TR0111 (202631)	EIL-1783	
EIL-409 IO-Link Device Test System (TMG) (116753)	TR0111 (202632)	EIL-1783	
EIL-1151 Test strategy for IO-Link Devices Verification (159060)	TR0106 (199654)	HW-Version: Stücklisten Nr.: 127767801 *-; LP 07635100 FW-Version: 4.1.1.2 Build Number: - Derivation EIL-2589	
EIL-1068 Test strategy for IO-Link Devices Validation (221555)	TR0106 (199649)	HW-Version: Stücklisten Nr.: 127767801 *-; LP 07635100 FW-Version: 4.1.1.2 Build Number: - Derivation EIL-2589	
EIL-777 IO-Link Integrationstest (156468)	TR0106 (199648)	HW-Version: Stücklisten Nr.: 127767801 *-; LP 07635100 FW-Version: 4.1.1.2 Build Number: - Derivation EIL-2589	
EIL-1807 Operating Hours Monitor Alert (191759)	TR0106 (202600)	HW-Version: Stücklisten Nr.: 127767801 *-; LP 07635100 FW-Version: 4.1.1.2 Build Number: - Derivation EIL-2589	
EIL-1788 Switching Counter Monitor Alert (191633)	TR0106 (199635)	HW-Version: Stücklisten Nr.: 127767801 *-; LP 07635100 FW-Version: 4.1.1.2 Build Number: - Derivation EIL-2589	
EIL-1808 Tempertur alert (191788)	TR0080 (191804)	HW-Version: Stücklisten Nr.: 127767801 *-; LP 07635100 FW-Version: 4.0.2.2 Build Number: - Derivation EIL-2297	
EIL-1787 Switching Counter Monitor (191860)	TR0080 (191865)	HW-Version: Stücklisten Nr.: 127767801 *-; LP 07635100 FW-Version: 4.0.2.2 Build Number: - Derivation EIL-2297	
EIL-506 EMV-Test unter IO-Link-Kommunikation (116752)	TR0080 (191881)	HW-Version: Stücklisten Nr.: 127767801 *-; LP 07635100 FW-Version: 4.0.2.2 Build Number: - Derivation EIL-2297	
EIL-1964 IO-Link database entry (196038)	TR0106 (199653)	HW-Version: Stücklisten Nr.: 127767801 *-; LP 07635100 FW-Version: 4.1.1.2 Build Number: -	

3.1.1 Devices or components tested with

Test Run TR0106

Articlenumber	Description	Software-Version	Hardware-Version / ECO-Number
	CPU 315-2 PN/DP	3.2.8	
	TMG-USB IO-Link Master V2 TS	2.1.2/1.2.0	
	ET200SP IM155-6PN ST	3.3	
	Siemens IO-Link Master:	2.2.1	
	USB IOL-Master V1.1	2.1.7/ 1.2. A ; 3.0.3/1.2.B	
	USB IOL-Master V1.0	1.0. A	
	BL67-PG-EN	2.1.3.0	VN 02-01
	BL67-GW-EN	3.3.6.0	VN03-04
	BL20-PG-EN-V3	1.0.7.0	VN01-00
	BL20-E-GW-EN	3.3.17.0	
	BL67-4IOL	1.7.3.0	VN 01-00
	BL20-4IOL	1.7.3.0	VN 00-40
	TBEN-S2-4IOL	3.3.1.0	-
	TBEN-L4-8IOL	3.2.5.0	
	TBEN-L1-FDIO	1.0.14.0	
	Beckhoff IO-Link Master: EP6224-2022	1.1.0.9	
	NICS-M30-IOL2P8-0,3-RKC4.4T (IO-Link Koppler)	-	-
	NICP-M30-IOL2P8X-H1141 (IO-Link Koppler)	-	-

Test Run TR0111

Articlenumber	Description	Software-Version	Hardware-Version / ECO-Number
	CPU 315-2 PN/DP	3.2.8	
	TMG-USB IO-Link Master V2 TS	2.1.2/1.2.0	
	ET200SP IM155-6PN ST	3.3	
	Siemens IO-Link Master:	2.2.1	
	USB IOL-Master V1.1	2.1.7/ 1.2. A ; 3.0.3/1.2.B	
	USB IOL-Master V1.0	1.0. A	
	BL67-PG-EN	2.1.3.0	VN 02-01
	BL67-GW-EN	3.3.6.0	VN03-04
	BL20-PG-EN-V3	1.0.7.0	VN01-00
	BL20-E-GW-EN	3.3.17.0	
	BL67-4IOL	1.7.3.0	VN 01-00
	BL20-4IOL	1.7.3.0	VN 00-40
	TBEN-S2-4IOL	3.3.1.0	-
	TBEN-L4-8IOL	3.2.5.0	
	TBEN-L1-FDIO	1.0.14.0	
	Beckhoff IO-Link Master: EP6224-2022	1.1.0.9	
	NICS-M30-IOL2P8-0,3-RKC4.4T (IO-Link Koppler)	-	-
	NICP-M30-IOL2P8X-H1141 (IO-Link Koppler)	-	-

Test Run TR0080

Articlenumber	Description	Software-Version	Hardware-Version / ECO-Number
	CPU 315-2 PN/DP	3.2.8	
	TMG-USB IO-Link Master V2 TS	2.1.2/1.2.0	
	ET200SP IM155-6PN ST	3.3	
	Siemens IO-Link Master:	2.2.0	
	USB IOL-Master V1.1	2.1.7/ 1.2. A	
	USB IOL-Master V1.0	1.0. A	
	BL67-PG-EN	2.1.5.3	VN 02-01
	BL67-GW-EN	3.3.6.0	VN03-04
	BL20-PG-EN-V3	1.0.7.0	VN01-00
	BL67-4IOL	1.7.3.0	VN 01-00
	BL20-4IOL	1.7.3.0	VN 00-40
	TBEN-S2-4IOL	3.3.1.0	-
	TBEN-L4-8IOL	3.2.5.0	
	TBEN-L1-FDIO	1.0.14.0	
	Beckhoff IO-Link Master: EP6224-2022	1.1.0.9	
	NICS-M30-IOL2P8-0,3-RKC4.4T (IO-Link Koppler)	-	-
	NICP-M30-IOL2P8X-H1141 (IO-Link Koppler)	-	-

3.1.2 Files tested with

Test Run TR0106 - Re-Test_1 BI10U-M18-IOL6X2-H1141

File type	File name	File version
GSDML	GSDML-V2.3Siemens-ET200SP-20130104.xml	V2.3
GSDML	GSDML-V2.3-turck-tben_s2_4IOL-20171017-010407.xml	V2.3
GSDML	GSDML-V2.3-turck-tben_lx_8IOL-20161121-010407.xml	V2.3
GSDML	GSDML-V2.3-turck-bl67-gw-en_201604017-010304.xml	V2.3
GSD	TRCKFF2D.gsd	V1.0.4.0

Test Run TR0111 - Re-Test_2 BI10U-M18-IOL6X2-H1141

File type	File name	File version
GSDML	GSDML-V2.3Siemens-ET200SP-20130104.xml	V2.3
GSDML	GSDML-V2.3-turck-tben_s2_4IOL-20171017-010407.xml	V2.3
GSDML	GSDML-V2.3-turck-tben_lx_8IOL-20161121-010407.xml	V2.3
GSDML	GSDML-V2.3-turck-bl67-gw-en_201604017-010304.xml	V2.3
GSD	TRCKFF2D.gsd	V1.0.4.0

Test Run TR0080 - BI10U-M18-IOL6X2-H1141

File type	File name	File version
GSDML	GSDML-V2.3Siemens-ET200SP-20130104.xml	V2.3
GSDML	GSDML-V2.3-turck-tben_s2_4IOL-20171017-010407.xml	V2.3
GSDML	GSDML-V2.3-turck-tben_bx_8IOL-20161121-010407.xml	V2.3
GSDML	GSDML-V2.3-turck-b67-gw-en_201604017-010304.xml	V2.3
GSD	TRCKFF2D.gsd	V1.0.4.0

3.1.3 Software tools tested with**Test Run TR0106 - Re-Test_1 BI10U-M18-IOL6X2-H1141**

Name	Description	Software-Version
TMG IO-Link Device Test System	IO-Link Device Test System	V3.1.0.4
TIA Portal	Programming Environment	Version V14 SP1 Update 6
S7-PCT	Parametrization Environment	Version: 3.5 Update 1
PACTWARE 4.1 SP4	Parametrization Environment	Version: 4.1.0.50
Interpreter	Parametrization Environment	Version: 3.10.0.4020
DTM BL20/BL67/TBEN	Parametrization Environment	V1.0.2605
DTM USB 1.1	Parametrization Environment	Version 2.01.0010 /2016-10-18
DTM USB1.0	Parametrization Environment	Version 1.04.0002/2011-14-27
CoDeSys V2	Programming Environment	Version 2.3.9.35
Targets	Programming Environment	V2.2.0.0
Codesys V3.5	Programming Environment	SP8 Patsch 1
Packeg BboxPG-V3	Programming Environment	Version 1.0.5.0
Twin Cat	Programming Environment	V2.112254
System Manger (Twin Cat)	Programming Environment	V2.1.1.0

Test Run TR0111 - Re-Test_2_ BI10U-M18-IOL6X2-H1141

Name	Description	Software-Version
TMG IO-Link Device Test System	IO-Link Device Test System	V3.1.0.4
TIA Portal	Programming Environment	Version V14 SP1 Update 6
S7-PCT	Parametrization Environment	Version: 3.5 Update 1
PACTWARE 4.1 SP4	Parametrization Environment	Version: 4.1.0.50
Interpreter	Parametrization Environment	Version: 3.10.0.4020
DTM BL20/BL67/TBEN	Parametrization Environment	V1.0.2605
DTM USB 1.1	Parametrization Environment	Version 2.01.0010 /2016-10-18
DTM USB1.0	Parametrization Environment	Version 1.04.0002/2011-14-27
CoDeSys V2	Programming Environment	Version 2.3.9.35
Targets	Programming Environment	V2.2.0.0
Codesys V3.5	Programming Environment	SP8 Patsch 1
Packeg BboxPG-V3	Programming Environment	Version 1.0.5.0
Twin Cat	Programming Environment	V2.112254
System Manger (Twin Cat)	Programming Environment	V2.1.1.0

Test Run TR0080 - BI10U-M18-IOL6X2-H1141

Name	Description	Software-Version
TMG IO-Link Device Test System	IO-Link Device Test System	V3.1.0.3
TIA Portal	Programming Environment	Version V14 SP1 Update 6
S7-PCT	Parametrization Environment	Version: 3.5 Update 1
PACTWARE 4.1 SP4	Parametrization Environment	Version: 4.1.0.50
Interpreter	Parametrization Environment	Version: 3.10.0.4020
DTM BL20/BL67/TBEN	Parametrization Environment	V1.0.2605
DTM USB 1.1	Parametrization Environment	Version 2.01.0010 /2016-10-18
DTM USB1.0	Parametrization Environment	Version 1.04.0002/2011-14-27
CoDeSys V2	Programming Environment	Version 2.3.9.35
Targets	Programming Environment	V2.2.0.0
Codesys V3.5	Programming Environment	SP8 Patsch 1
Packeg BboxPG-V3	Programming Environment	Version 1.0.5.0
Twin Cat	Programming Environment	V2.112254
System Manger (Twin Cat)	Programming Environment	V2.1.1.0

3.1.4 Equipment tested with**Test Run TR0106 - Re-Test_1 BI10U-M18-IOL6X2-H1141**

Instrument type	Name	Turck inventory number
Adapter H0008	-	-
Netzteil	Statron	88044605
Netzteil	Statron	88044609

Test Run TR0111 - Re-Test_2_ BI10U-M18-IOL6X2-H1141

Instrument type	Name	Turck inventory number
Adapter H0008	-	-
Netzteil	Statron	88044605
Netzteil	Statron	88044609

Test Run TR0080 - BI10U-M18-IOL6X2-H1141

Instrument type	Name	Turck inventory number
Adapter H0008	-	-
Netzteil	Statron	88044605
Netzteil	Statron	88044609

4 Derivatives

EIL-2297 - 1783 - The results from the test with FW 4.0.2.2 can be transferred to FW 4.1.1.2. Since the FW change does not influence the tested TC [✓ Accepted]

EIL-2589 - No changes were made to the function in the FW, only firmware version number was changed to "0" (release status).

Two new device variants have been added to the IODD, no retest necessary. [✓ Accepted]