

IO-Link data table

GENERAL INFORMATION

Communication mode IO-Link	COM 2
Min. cycle time	2.3 ms
SIO mode	Supported
Length process data	8 Bit
Vendor ID	297 / 0x0129
Device ID	100 / 0x000064 (Thru Beam) 101 / 0x000065 (Reflex)
Data storage	Supported
Specification IO-Link	1.1

PROCESS DATA

SENSOR PROFILE

Byte 0							
7	6	5	4	3	2	1	0
X	X	X	X	X	X	X	Switching Q1

IDENTIFICATION DATA

Index (dec/hex)	Access ⁽¹⁾	Data type	Length	Sub-index	Default value	Value Range	Object Name	Description
16 / 0x10	R	StringT	64 Bytes	0	Schneider Electric	-	Vendor Name	Manufacturer name
17 / 0x11				0	https://www.tesensensors.com/	-	Vendor Text	Manufacturer website
18 / 0x12				0	XUB2APYNM12R / XUB9APYNM12 XUB2APYWM12R / XUB9APYWM12		Product Name	The parameter Product Name contains the complete product name (Commercial Reference).
19 / 0x13				0	XUB2BPYNM12R / XUB9BPYNM12 XUB2BPYWM12R / XUB9BPYWM12 XUN2APYNM12R / XUN9APYNM12		Product ID	The parameter Product ID contains the vendor specific product or type identification of the device.
20 / 0x14				0	Thru Beam Receiver / Reflex Sensor	-	Product Text	The parameter Product Text contains additional product information for the device.
22 / 0x16				0	-	-	Hardware Revision	Unique, vendor-specific identifier of the hardware revision of the individual device (For example: HW-V1.0).
23 / 0x17				0	-	-	Firmware Revision	Unique, vendor-specific identifier of the firmware revision of the individual device (For example: FW-V1.0).
24 / 0x18	R/W	StringT	32 Bytes	0	***	-	Application Specific Tag	The parameter Application Specific Tag is dedicated for the user application. It can be used as a "tag function" (role of the Device) or a "tag location" (location of the Device).

SYSTEM COMMAND

Index (dec/hex)	Access ⁽¹⁾	Data type	Length	Sub-index	Default value	Value Range	Object Name	Description
2 / 0x02	W	UIntegerT	1 Byte	0	-	130	System command	130 = Restore factory settings

DETECTION PARAMETERS

Index (dec/hex)	Access ⁽¹⁾	Data type	Length	Sub-index	Default value	Value Range	Object Name	Description
Detection point								
81 / 0x51	R/W	UIntegerT	1 Byte	0	0	0 = External 255 = IO-Link	BDC1 setpoints setting: IO-Link/External Selection	Define the way to configure the BDC1 setpoints (by IO-Link or externally).
60 / 0x3C	R/W	Record	2 Bytes	0	-	-	Setpoints of BDC1	The following 2 parameters define the detection point for BDC1
		UIntegerT	1 Byte	1	0	0...100	Setpoint 1	BDC1 Setpoint 1 (set in "IO-Link" first in Index 81)
		UIntegerT	1 Byte	2	0	0...100	Setpoint 2	BDC1 Setpoint 2 (Only for XU●8 BGS)
Detection signal								
100 / 0x64	R	Float32	4 Bytes	0	-	0 ... 100	Read energy quantity	Read the energy quantity received to ensure a reliable detection.
101 / 0x65	R	StringT	1 Byte	0	-	0 = Not Enough 1 = Limit 2 = Acceptable 3 = Excellent	Energy quantity result	Provides a feedback on the energy quantity received by levels: • 0 = Not Enough (energy quantity between 0.0 and 1.5) • 1 = Limit (energy quantity between 1.5 and 2.5) • 2 = Acceptable (energy quantity between 2.5 and 5.0) • 3 = Excellent (energy quantity between 5.0 and 100)
Potentiometer setting								
80 / 0x50	R/W	UIntegerT	1 Byte	0	255	0 = Lock 255 = Unlock	Product settings lock	Lock all the settings of the product (potentiometer value and the input wires value).

(1) R = Read / W = Write

DATA PARAMETERS								
Index (dec/hex)	Access ⁽¹⁾	Data type	Length	Sub- index	Default value	Value Range	Object Name	Description
Read operating data								
103 / 0x67	R	UIntegerT	4 Bytes	0	-	0 ... 2 ³² -1	Operating Hours	Number of operating hours. The data can only be read; no reset possible
102 / 0x66	R	UIntegerT	4 Bytes	0	-	0 ... 2 ³² -1	Change State Number	Number of output change status (On & Off). Passing a target increases the object value twice.
107 / 0x6B	W	UIntegerT	1 Byte	0	-	255 = Reset	Reset Change of States Counter	Reset the change of states counter to 0.
FUNCTION PARAMETERS								
Index (dec/hex)	Access ⁽¹⁾	Data type	Length	Sub- index	Default value	Value Range	Object Name	Description
Timer configuration								
90 / 0x5A	R/W	UIntegerT	1 Byte	0	0	0 = No Timer 1 = On/Off Delay 2 = Rising Edge Delayed One Shot 3 = Falling Edge Delayed One Shot	Timer Selection	Defines which Timer Function should be applied on the output.
91 / 0x5B	R/W	UIntegerT	2 Bytes	0	0	0ms, 5ms, 10ms, 25ms, 50ms, 100ms, 250ms, 500ms,	T1	Defines the value of T1 for Timer Function.
92 / 0x5C	R/W	UIntegerT	2 Bytes	0	0	1000ms, 2500ms, 5000ms, 10000ms, 25000ms	T2	Defines the value of T2 for Timer Function.
Dirty lens warning								
104 / 0x68	R/W	UIntegerT	2 Bytes	0	130 (130%)	100 ... 1000 = 100% ... 1000%	Dirty Lens Warning Threshold	Threshold expressed in percentage of the excess gain in order to determine if the device lens is dirty or not. Possible Values are between 100% and 1000%.
105 / 0x69	R	UIntegerT	1 Byte	0	-	0 = OFF 255 = ON	Dirty Lens Warning	Alarm used to know if the device lens is dirty or not. Equal to On when current excess gain is less than Dirty Lens Warning Threshold value.
Other function								
14 / 0x0E	R	ArrayT of Octet-StringT3	Variable	0	0x01, 0x01, 0x00	-	PDInput-Descriptor	Mandatory for Common Profile, not implemented in diffuse sensor.
106 / 0x6A	W	UIntegerT	1 Byte	0	-	0 = OFF 255 = ON	Light beam control	Turn off or on the Transmission LED of the Sensor (Only for XU●9 Reflex).
OUTPUT PARAMETERS								
Index (dec/hex)	Access ⁽¹⁾	Data type	Length	Sub- index	Default value	Value Range	Object Name	Description
Output behaviour								
71 / 0x47	R/W	UIntegerT	1 Byte	0	0	0 = External 255 = IO-Link	BDC1 Switchpoint logic setting: IO-Link/External Selection	Define the way to configure NO/NC function (by IO-Link or through IN wire).
61 / 0x3D	R/W	RecordT	4 Bytes	0	-	-	Switch Parameters of BDC1	The following 3 parameters define the switching behavior of a BDC1 (output 1)
		UIntegerT	1 Byte	1	0	0 = Not inverted (NO) 1 = Inverted (NC)	Switchpoint logic	The parameter "Switchpoint logic" defines whether the switching information is transmitted in inverted or not inverted manner. Select the output function between NO (Normally Open) and NC (Normally Closed). Select first Index 71=IO-link.
		UIntegerT	1 Byte	2	1	0 = Deactivated 1 = Single point mode 2 = Window mode 3 = Two points mode	Switchpoint mode	Select the detection mode: 1= Single point mode is selected when one point of detection is needed 2 = Window mode is selected when detection is needed between two detection points called nearpoint and far point (Only for XU●8 BGS) 3 = Two points mode (Only for XU●8 BGS)
		UIntegerT	2 Bytes	3	0	0	Switchpoint hysteresis	The parameter "Switchpoint hysteresis" defines whether a hysteresis is associated with the Setpoints SP1 and SP2. The layout of the hysteresis in respect to SP1 and SP2, for example symmetrical, right-aligned, or left-aligned, etc. is manufacturer / vendor specific. It cannot be defined in the FunctionClass. The interpretation of the hysteresis values (relative or absolute) is also manufacturer/vendor specific. (Only for XU●8 BGS)
Output configuration								
70 / 0x46	R/W	UIntegerT	1 Byte	0	128	0 = NPN 128 = AUTODETECT 255 = PNP	Output function type	Define the output function type of the sensor (NPN / AUTODETECT / PNP).
40 / 0x28	R	UIntegerT	1 Byte	0	-	0 = OFF 1 = ON	PD Input	Last valid process input data of the device.

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