IO-Link data table

GENERAL INFORMATION	
Communication mode IO-Link	COM2
Min. cycle time	2.3 ms
SIO mode	Supported
Length process data	8 Bit
Vendor ID	1832 / 0x0728
Device ID	102 / 0x000066
Data storage	Supported
Specification IO-Link	1.1

PROCESS DATA IN

SENSOR PROFILE

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

PROCESS DATA OUT

(Not supported)

Byte x							
7	6	5	4	3	2	1	0
X	X	X	X	X	X	X	X

IDENTIFICATION DATA

Index (dec/hex)	Access(1)	Data type	Length	Sub-index	Default value	Value Range	Object Name	Description
16 / 0x10	R	StringT	11 Bytes	0	TMSS France	-	Vendor Name	The vendor name that is assigned to a Vendor ID.
17 / 0x11			12 Bytes	0	Simply easy!	-	Vendor Text	Additional information about the vendor.
18 / 0x12			20 Bytes	0	XUM5APYBM8 XUM5APYBL03M12 XUM6APYBM8 XUM6APYBL03M12 XUB5APYNM12 XUB5BPYNM12 XUB6APYNM12 XUB6APYWM12 XUB6BPYNM12 XUB6BPYWM12 XUN5APYNM12 XUN6APYNM12		Product Name	The parameter Product Name contains the complete product name (Commercial Reference).
19 / 0x13			20 Bytes	0			Product ID	The parameter Product ID contains the vendor specific product or type identification of the device.
20 / 0x14			18 Bytes	0	Proximity sensor	-	Product Text	Additional product information for the device.
21 / 0x15			16 Bytes	0	-	-	Serial Number	Unique, vendor-specific identifier of the individual device.
22 / 0x16			8 Bytes	0	-	-	Hardware Revision	Unique, vendor-specific identifier of the hardware revision of the individual device (For example: 01.00.00).
23 / 0x17			8 Bytes	0	-	-	Firmware Revision	Unique, vendor-specific identifier of the firmware revision of the individual device (For example: 01.03.00).

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	-	128 = Device Reset 129 = Application Reset 130 = Restore Factory Settings 131 = Back-to-box	System Command	128: Shutdown sensor with 200ms delay / Restart the sensor 129: This feature resets only the technology-specific application to its default state without interrupting communication or requiring a shutdown. Unlike a factory reset, identification parameters remain unchanged. 130: Restore factory settings 131: It restores all factory settings and the sensor goes in a “wait for power cycle” state. If the master is not updated to last specifications, this command could be visualized in a wrong way. Use ISDU to send the command.

DETECTION PARAMETERS (1/2)

Index (dec/hex)	Access(1)	Data type	Length	Sub-index	Default value	Value Range	Object Name	Description
Teach in Status								
59 / 0x3B	R	RecordT	1 Byte	0	-	-	Teach-in status	The parameter "Teach-in Status" provides feedback on the status and the results of the teach-in process (SP1 Single Value Teach / index 2). This status information is split into "Teach State" and "Teach Flags".
		UIntegerT	4 Bits	1	0	0 = IDLE 1 = SP1 SUCCESS 7 = ERROR	Status	Teach State result: 0 = IDLE, teach not yet done 1 = SP1 SUCCESS, the teach process for the detection point 1 is succeeded 7 = ERROR, If no object in front of the sensor / out of the sensing range / Object too close
		BooleanT	1 Bit	2	0	false = Setpoint1 not taught or not successful true = Setpoint1 successfully taught	Flag SP1	Teach flag for SP1
Detection point								
2 / 0x02	W	UIntegerT	1 Byte	0	-	65 = Teach SP1	System Command	65: Teach the target on SP1
81 / 0x51	R/W	UIntegerT	1 Byte	0	0	0 = External 255 = IO-Link	Setpoints setting: IO-Link/External Selection	Define the setpoints configuration (EXTERNAL or IO-LINK)
60 / 0x3C	R/W	RecordT	2 Bytes	0	-	-	Setpoints of BDC1	The following 2 parameters define the detection point for BDC1
		UIntegerT	1 Byte	1	100	0...100	Setpoint 1	BDC1 Setpoint 1 (set in “IO-Link” first in Index 81) The unit of the value is in percentage.
	R	UIntegerT	1 Byte	2	0	0	Setpoint 2	BDC1 Setpoint 2 (Not supported)
Detection signal								
100 / 0x64	R	Float32T	4 Bytes	0	-	0.0 ... 10.0	Read energy quantity	Read the energy quantity received to ensure a reliable detection.
101 / 0x65	R	UIntegerT	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 > 5.0)

(1) R = Read / W = Write

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Telemecanique Sensors

DETECTION PARAMETERS (2/2)

Index (dec/hex)	Access(1)	Data type	Length	Sub-index	Default value	Value Range	Object Name	Description
Potentiometer setting								
83 0x53	R/W	UIntegerT	1 Byte	0	-	0...100	Read Target Position (%)	Return the potentiometer minimum value in % (0% means minimum position and 100% means maximum position) to detect the target. The value depends on the color & material of the object. If it is less to 1% the teaching will be in error 7. After a teach success, the value read from this index should correspond to "BDC1 Setpoint 1", index 60 sub-index 1.

DATA PARAMETERS

Index (dec/hex)	Access(1)	Data type	Length	Sub-index	Default value	Value Range	Object Name	Description
Read operating data								
36 / 0x24	R	UIntegerT	1 Byte	0	-	0 = Device is OK 1 = Maintenance required , 2 = Out of specification 3 = Functional check 4 = Failure	Device Status	Indicator for the current device condition and diagnosis state.
37 / 0x25	R	Array of 3-bytes OctetString	12 Bytes	-	-	-	Detailed Device Status	List of all currently pending events in the device.
40 / 0x28	R	UIntegerT	1 Bit	0	-	-	PD Input	Read last valid Process Data Input from PDin channel
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 of states counter	Number of output change status (On & Off). Passing a target increases the object value twice.
107 / 0x6B	W	UIntegerT	1 Byte	0	-	255 = Reset change of state counter	Reset change of state counter	Reset the change of states counter to default value

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 Delay / Off Delay Mode 2 = Rising Edge Delayed One Shot 3 = Falling Edge Delayed One Shot	Timer Function	Defines which Timer Function should be applied on the output.
91 / 0x5B	R/W	UIntegerT	2 Bytes	0	0	0, 5, 10, 25, 50, 100, 250, 500, 1000, 2500, 5000, 10000, 25000	T1	Defines the value of T1 for Timer Function (the unit of values is miliseconds).
92 / 0x5C	R/W	UIntegerT	2 Bytes	0	0		T2	Defines the value of T2 for Timer Function (the unit of values is miliseconds).
Other function								
12 / 0x0C	R/W	RecordT	2 Bytes	0	-	-	Device Access Locks	The access to the device parameters can be restricted by setting appropriate flags within this parameter.
				1	-	-	Parameter Write Access	This lock prevents the write access to all read/write parameters of the device except for the parameter 'Device Access Locks'. (subindex access not supported)
				2	-	-	Data Storage	This lock prevents the write access to the device parameters via the data storage mechanism. (subindex access not supported)
				3	-	-	Local Parameterization	This lock prevents the device settings from being changed via local operating elements on the device. (subindex access not supported)
				4	0	false (0) = Unlocked true (1) = Locked	Local User Interface	This lock prevents the access to the device settings and display via a local user interface. The user interface is disabled.
24 / 0x18	R/W	StringT	32 Bytes	0	***	-	Application-specific Tag	Possibility to mark a device with user- or application-specific information.
25 / 0x19	R/W	StringT	32 Bytes	0	***	-	Function Tag	The parameter Function Tag is dedicated for the user application. It can be used to set role of the device.
26 / 0x1A	R/W	StringT	32 Bytes	0	***	-	Location Tag	The parameter Location Tag is dedicated for the user application. It can be used to set the location of the device.

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 the BDC1 Switchpoint logic (by IO-Link or externally)
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 = NO 1 = 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.
	R	UIntegerT	1 Byte	2	1	1 = Single point	Switchpoint mode	Select the detection mode: 1= Single point mode is selected when one point of detection is needed
		UIntegerT	2 Bytes	3	0	0	Switchpoint hysteresis	Not available
Output configuration								
70 / 0x46	R/W	UIntegerT	1 Byte	0	128	0 = NPN 128 = AUTODETECT 255 = PNP	Output Switching Type	Define the output function type of the sensor (NPN / AUTODETECT / PNP).
58 / 0x3A	R/W	UIntegerT	1 Byte	0	0	0	Teach-in channel	Teach-in channel is addressing the output selected. Here only one channel can be used. Not configurable.

(1) R = Read / W = Write

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