

IO-Link Parameters

GENERAL INFORMATION

Communication mode IO-Link	COM 2
Min. cycle time	2,3 ms
SIO mode	Supported
Length process data	16 Bit
Vendor ID	297 (0x01 0x29)
Device ID	105 = XUK8TAKSMM12 106 = XUK8TAKDMM12
Data storage	Supported
Specification IO-Link	1.1

PROCESS DATA

SMART SENSOR PROFILE

Byte 0								Byte 2							
7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
MSB D7	D6	D5	D4	D3	D2	D1	LSB D0	X	X	X	X	X	Signal quality	Switching output Q2	Switching output Q1
Signal quality 0 ... 100 %															
Signal quality bit - adjustable via index 0xC4															
Switching output 2 - XUK8TAKDMM12 corresponds to Q2 in SIO-mode, XUK8TAKSMM12 only virtual															
Switching output 1 - corresponds to switching output Q1 in SIO-mode															

IDENTIFICATION DATA

Index dec / hex	Access (1)	Data type	Length	Subindex	Object Name	Description
16 / 0x0010	R	String	Max. 64 Byte	1	Vendor Name	Schneider Electric
17 / 0x0011					Vendor Text	www.tesensors.com
18 / 0x0012					Product Name	XUK8TAKSMM12/XUK8TAKDMM12
19 / 0x0013					Product ID	XUK8TAKSMM12/XUK8TAKDMM12
20 / 0x0014					Product Text	0 ... 5000 mm, Q1, (Q2), IN, Auto / PNP / NPN, M12, 5-pin / 4-pin
23 / 0x0017					Firmware Revision	2.0

SMART SENSOR PROFILE PARAMETER

Index in dec / hex	Access (1)	Data type	Length	Subindex	Default value	Range	Description	Comment
12 / 0x000C	R / W	Unit	16 Bit	1	0x00 0x00	D1, D3	Lock functions	D1 - data storage lock D3 - local user interface lock
24 / 0x0018	R / W	StringT	32 characters		**** ...****		Application text	Free text, e.g. item designation
58 / 0x003A	R / W	Unit	8 Bit		0	0, 1 ,2	Teach channel	0/1 = switching channel 1 2 = switching channel 2
59 / 0x003B	R	Unit	8 Bit				Teach status	
Define switching output Q1								
60 / 0x3C	R / W	Unit	16 Bit	1	3000	60 (2) ... 5000	Switchpoint 1	Needed for single, window and two point mode, indicated in mm
				2	3100	60 (2) ... 5000	Switchpoint 2	Needed for window and two point mode, indicated in mm
Set-up switching output Q1								
61 / 0x3D	R / W	Unit	8 Bit	1	0	0, 1	NO / NC	0 = NO, 1 = NC
				2	1	0 ... 3	Switching mode	0 = Off 1 = Single Point Mode 2 = Window Mode (3) 3 = Two Point Mode (3)
Define switching output Q2 – XUK8TAKSMM12 only virtual via IO-Link								
62 / 0x3E	R / W	Unit	16 Bit	1	3000	60 (2) ... 5000	Switchpoint 1	Needed for single, window and two point mode, indicated in mm
				2	3100	60 (2) ... 5000	Switchpoint 2	Needed for window and two point mode, indicated in mm
Set-up switching output Q2 – XUK8TAKSMM12 only virtual via IO-Link								
63 / 0x3F	R / W	Unit	8 Bit	1	0	0, 1	NO / NC	0 = NO, 1 = NC
				2	0 = XUK8TAKSMM12 1 = XUK8TAKDMM12	0 ... 3	Switching mode	0 = Off 1 = Single Point Mode 2 = Window Mode (3) 3 = Two Point Mode (3)
			16 Bit	3	0	0	Hysteresis	Not adjustable

(1) R = Read / W = Write

(2) Deviation of the set value < 100 mm up to 30 mm, for exact switching behaviour teach via system command

(3) Min. difference between both switchpoints 80 mm.

PARAMETER									
Index in dec / hex	Access (1)	Data type	Length	Subindex	Default value	Range	Description	Comment	
							Operating data		
88 / 0x58	R	Unit	32 Bit	1			Counter operating hours	No reset possible	
				2			Counter switch cycle	No reset possible	
							Electronic data sheet		
95 / 0x5F	R	String		1	0 ... 5000 mm		Operating range		
				4	20 mm		Hysteresis		
				5	Laser, red 655 nm, class 1		Type of light and laser class		
				6	≤ 60 mA		No-load current		
				7	≤ 500 Hz		Switching frequency		
				8	20 min.		Warm-up time		
				9	-40 ... +60 °C		Ambient temperature		
196 / 0xC4	R / W	Unit	8 Bit	1	10	10 ... 90	Signal quality level	%	
207 / 0xCF	R	Unit	8 Bit		-	0 ... 100	Current signal quality	%	
SmartFunctions switching output Q1									
208 / 0xD0	R / W	unit	16 Bit	1	0	0 ... 65535	Counter		
				2	0	0 ... 65535	On-delay	In ms, adjustable in 1ms	
				3	0	0 ... 65535	Off-delay	In ms, adjustable in 1ms	
				4	0	0 ... 65535	Impulse	In ms, adjustable in 1ms	
				5	0	0 ... 500	Monitoring frequency	1 step = 0.1 Hz (4)	
SmartFunctions switching output Q2 - XUK8TAKSMM12 on virtual switching output Q2									
209 / 0xD1	R / W	unit	16 Bit	1	0	0 ... 65535	Counter		
				2	0	0 ... 65535	On-delay	In ms, adjustable in 1ms	
				3	0	0 ... 65535	Off-delay	In ms, adjustable in 1ms	
				4	0	0 ... 65535	Impulse	In ms, adjustable in 1ms	
				5	0	0 ... 500	Monitoring frequency	1 step = 0.1 Hz (4)	
Function switching output Q1									
213 / 0xD5	R / W	unit	8 Bit	1	2	0 ... 2	PNP / NPN	0 = NPN 1 = PNP 2 = Autodetect	
Function switching output Q2 - only XUK8TAKSMM12									
214 / 0xD6	R / W	unit	8 Bit	1	2	0 ... 2	PNP / NPN	0 = NPN, 1 = PNP, 2 = Autodetect	
				2	0	0, 1	Function Q2	0 = Switching output Q2 1 = Antivalent Q1	
Control input									
221 / 0xDD	R / W	unit	8 Bit	1	1	0, 1	Control input	0 = Control input disable 1 = Control input enable	

SYSTEM COMMANDS									
Index in dec / hex	Access (1)	Data type	Length	Subindex	Function dec / hex	Range	Description	Comment	
2 / 0x02	W	Unit	8 Bit	1	64 / 0x40		Teach apply	Adopt teach values on sensor	
					65 / 0x41		Single value teach - switchpoint 1	The switchpoint is on the teach value	
					66 / 0x42		Single value teach - switchpoint 2		
					67 / 0x43		Two value teach - teachpoint 1 for switchpoint 1		
					68 / 0x44		Two value teach - teachpoint 2 for switchpoint 1	The switchpoint is in the middle of both teachpoints	
					69 / 0x45		Two value teach - teachpoint 1 for switchpoint 2	Teachpoint 1 and teachpoint 2 are both necessary	
					70 / 0x46		Two value teach - teachpoint 2 for switchpoint 2		
					71 / 0x47		Dynamic teach - switchpoint 1 - start		
					72 / 0x48		Dynamic teach - switchpoint 1 - stop		
					73 / 0x49		Dynamic teach - switchpoint 2 - start	The switchpoint is between the min. / max. value	
					74 / 0x4A		Dynamic teach - switchpoint 2 - stop		
					79 / 0x4F		Teach cancel		
					160 / 0xA0		Emitter off		
					161 / 0xA1		Emitter on		
					162 / 0xA2		Reset switching channel	Reset of current switching channel	
					175 / 0xAF		Detect sensor	1x activated - sensor flashes 60 s 2x activated - permanent flashing 3x activated - stop permanent flashing	
					128 / 0x80		Reset sensor		
					130 / 0x82		Factory setting		

EVENTS				
Event	Status value	Warning		
20480 / 0x5000	4	Error	Device hardware fault	
20497 / 0x5011	4	Error	Non-volatile memory loss	
65425 / 0xFF91	0	Notice	Data storage - upload request	
16384 / 0x4000	4	Error	Temperature fault	Temperature range exceeded

(1) R = Read / W = Write

(4) Differs to real frequency ±10 %