



FT 25-RH-PNSL-...

096-00014 19.02.2019-01
www.sensopart.com

GENERAL INFORMATION	
Communication mode IO-Link	COM 2
Min. cycle time	2.3 ms
SIO mode	supported
Length process data	16 Bit
Vendor ID	347 (0x01 0x5B)
Device ID	5633 / 5377
Data storage	supported
Specification IO-Link	1.1

PROCESS DATA													
SMART-SENSOR PROFILE													
Byte 0								Byte 1					
7	6	5	4	3	2	1	0	7	6	5	4	3	2
MSB D7	D6	D5	D4	D3	D2	D1	LSB D0	X	X	X	X	X	Signal quality
Signal quality 0 ... 100 %								Switching output Q ₂					
Signal quality score - adjustable via index 0xC4								Switching output Q ₁					
Switching output 2 - only virtual													
Switching output 1 - corresponds to switching output Q ₁ in SIO-mode													

IDENTIFICATION DATA						
Index dec / hex	Access	Data type	Length		Description	Comment
16 / 0x10	Read	String	Max. 64 Byte		Vendor name	SensoPart Industriesensorik GmbH
17 / 0x11					Vendor text	www.sensopart.com
18 / 0x12					Product name	FT 25-RH-PNSL-...
19 / 0x32					Product ID	608-11051 608-11052 608-11053 608-11054 608-11055 608-11056 608-11057
20 / 0x11					Product text	Device specific
23 / 0x17					Firmware revision	1.0

SMART SENSOR PROFILE PARAMETER								
Index in dec / hex	Access	Data type	Length	Subindex	Default value	Range	Description	Comment
12 / 0x0C	Read / write	Uint	16 Bit		0x00 0x00	D0, D1, D3	Lock functions	D0 - parameter write access D1 - data storage lock D3 - local user interface lock
24 / 0x18	Read / write	StringT	32 characters		**** ...		Application text	Free text, e.g. item designation
58 / 0x3A	Read / write	Uint	8 Bit		0	0, 1, 2	Teach channel	0 / 1 = switching channel 1 2 = switching channel 2
59 / 0x3B	Read	Uint	8 Bit				Teach-in status	
							Define switching output Q ₁ (physical pin)	
60 / 0x3C	Read / write	Uint	16 Bit	1	2000	100 ... 2000	Switching point 1	In 1/10 mm (e.g. 10 mm = 100 1/10 mm)
				2	2000	100 ... 2000	Switching point 2	In 1/10 mm (e.g. 10 mm = 100 1/10 mm)
							Set-Up switching output Q ₁ (physical pin)	
61 / 0x3D	Read / write	Uint	8 Bit	1	0	0, 1	NO / NC	0 = NO, 1 = NC
				2	1	0, 1, 2, 3	Switching mode	0 - disable 1 - single-point mode 2 - window mode ¹⁾ 3 - two-point mode ¹⁾
				3	0	0	Hysteresis	Not adjustable
							Define switching output Q ₂ (only virtual via IO-Link)	
62 / 0x3E	Read / write	Uint	16 Bit	1	2000	100 ... 2000	Switching point 1	Needed for single, window and two-point mode, in 1/10 mm (e.g. 10 mm = 100 1/10 mm)
				2	2000	100 ... 2000	Switching point 2	Needed for window and two-point mode, in 1/10 mm (e.g. 10 mm = 100 1/10 mm)
							Set-Up switching output Q ₂ (only virtual via IO-Link)	
63 / 0x3F	Read / write	Uint	8 Bit	1	0	0, 1	NO / NC	0 = NO, 1 = NC
				2	0	0, 1, 2, 3	Switching mode	0 - disable 1 - single-point mode 2 - window mode ¹⁾ 3 - two-point mode ¹⁾
				3	0	0	Hysteresis	Not adjustable

¹⁾ Min. difference between both switchpoints 1 mm

PARAMETER									
Index dec / hex	Access	Data type	Length	Subindex	Default value	Range	Description	Comment	
88 / 0x58	Read	Uint	32 Bit	1			Read operating data		
							Counter operating hours	No reset possible	
				2			Counter switch cycle	No reset possible	
95 / 0x5F	Read	String		1	10 ... 200 mm		Read sensor characteristics		
				5			Operating range		
				6			Type of light		
				7			No-load current		
				9			Switching frequency		
							Ambient temperature		
							Signal quality level		
196 / 0xC4	Read / write	Uint	8 Bit		10	10 ... 90	Signal quality level	If below 10 % no stable detection	
208 / 0xD0	Read / write	Uint	16 Bit	1	0	0 ... 65535	Smart functions Q ₁ (physical pin)		
				2	0	0 ... 65535	Counter		
				3	0	0 ... 65535	On delay	In ms, adjustable in 1 ms	
				4	0	0 ... 65535	Off delay	In ms, adjustable in 1 ms	
				5	0	0 ... 65535	Impulse	In ms, adjustable in 1 ms	
						0 ... 500	Monitoring frequency	In 1/10 Hz, adjustable in 0.1 Hz steps ²⁾	
209 / 0xD1	Read / write	Uint	16 Bit	1	0	0 ... 65535	Smart functions Q ₂ on virtual switching output Q ₂		
				2	0	0 ... 65535	Counter		
				3	0	0 ... 65535	On delay	In ms, adjustable in 1 ms	
				4	0	0 ... 65535	Off delay	In ms, adjustable in 1 ms	
				5	0	0 ... 65535	Impulse	In ms, adjustable in 1 ms	
						0 ... 500	Monitoring frequency	In 1/10 Hz, adjustable in 0.1 Hz steps ²⁾	
							Function switching output Q ₁		
213 / 0xD5	Read / write	Uint	8 Bit	1	2	0, 1, 2	PNP / NPN	0 = NPN 1 = PNP 2 = auto-detect	
							Control input ³⁾		
221 / 0xDD	Read / write	Uint	8 Bit	1	1	0, 1	Control input PIN 2	0 = PIN 2 disable 1 = PIN 2 active	

SYSTEM COMMANDS									
Index dec / hex	Access	Data type	Length		Function dec / hex	Range	Description	Comment	
2 / 0x02	Read / write	Uint	8 Bit		64 / 0x40		Teach apply	Adopt teach values on sensor	
					65 / 0x41		Single value teach - switching point 1	The switching point is on the teach value	
					66 / 0x42		Single value teach - switching point 2		
					67 / 0x43		Two value teach - teachpoint 1 for switching point 1		
					68 / 0x44		Two value teach - teachpoint 2 for switching point 1	The switching point is in the middle of both teachpoints	
					69 / 0x45		Two value teach - teachpoint 1 for switching point 2		
					70 / 0x46		Two value teach - teachpoint 2 for switching point 2		
					71 / 0x47		Dynamic teach - switching point 1 - start	The switching point is in the middle of the min. / max. value	
					72 / 0x48		Dynamic teach - switching point 1 - stop		
					73 / 0x49		Dynamic teach - switching point 2 - start		
					74 / 0x4A		Dynamic teach - switching point 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	Default: deactivated ⁴⁾
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; default: deactivated ⁴⁾

²⁾ Differs to real frequency ± 10 %

³⁾ Only 4-pin version

⁴⁾ For activation use function 0x51