



FT 25-RLHP-PNSL-...

096-00086 11.08.2022-00
www.sensopart.com

GENERAL INFORMATION	
Communication mode IO-Link	COM 2
Min. cycle time	3 ms
SIO mode	Supported
Length process data	PD_IN 8 Bit, PD_OUT 8 Bit
Vendor ID	347 (0x01 0x5B)
Device ID	38913 (0x9801)
Data storage	Supported
Specification IO-Link	1.1.3

PROCESS DATA - SMART-SENSOR-PROFILE							
PD_IN							
Byte 0							
7	6	5	4	3	2	1	0
Signal quality MSB	D2	D1	Signal quality LSB	X	Signal quality bit	SSC2	SSC1
Signal quality 0...10							
Signal quality bit							
SSC2							
SSC1							

PD_OUT							
Byte 0							
7	6	5	4	3	2	1	0
X	X	X	X	X	X	X	Emitter off
0 = Emitter on 1 = Emitter off							

IDENTIFICATION DATA						
Index dec/hex	Access	Data type	Length	Subindex	Description	Comment
16/0x10	Read	String	Max. 64 Byte	1	Vendor name	SensoPart Industriesensorik GmbH
17/0x11					Vendor text	www.sensopart.com
18/0x12					Product name	FT 25-RLHP-PNSL-...
19/0x13					Product ID	609-11022/609-11023/609-11024
20/0x14					Product text	Device specific
21/0x15					Serial number	Ch. no. „-“ 6 digit consecutive no.
23/0x17					Firmware revision	Device specific

PARAMETER								
Index dec/hex	Access	Data type	Length	Subindex	Default value	Range	Description	Comment
DeviceStatus								
36/0x24	Read	UIntegerT	8 Bit	1	Device specific	0, 1, 2, 3, 4	Device status	0 = Device is OK 1 = Maintenance required 2 = Out of specification 3 = Functional check 4 = Failure
DetailedDeviceStatus								
37/0x25	Read/write	ArrT<uint24>[8]	248 Bit	0			Detailed device status	Free text, e.g. item designation
ApplicationSpecificTag								
24/0x18	Read/write	StringT	32 Char	1	*****		Application specific tag	Teststring
CP Function Tag								
25/0x19	Read/write	StringT	32 Char	1	*****		Function tag	Teststring
CP Location Tag								
26/0x1A	Read/write	StringT	32 Char	1	*****		Location tag	Teststring
Teach select								
58/0x3A	Read/write	UIntegerT	8 Bit	1	0	0, 2	Teach channel	0 = SSC1 2 = SSC2
Teach result								
59/0x3B	Read	UIntegerT	4 Bit	1	0	0, 1, 2, 3, 4, 5, 7	Teach status	0 = Idle 1 = Teach successful 2 = Teach successful 3 = Teach successful 4 = Wait for command 5 = Busy 7 = Error
	Read	BooleanT	1 Bit	2	0	0, 1	Teach flag SP1 -> TP1	0 = - 1 = Teach successful
	Read	BooleanT	1 Bit	3	0	0, 1	Teach flag SP1 -> TP2	0 = - 1 = Teach successful
	Read	BooleanT	1 Bit	4	0	0, 1	Teach flag SP2 -> TP1	0 = - 1 = Teach successful
Read	BooleanT	1 Bit	5	0	0, 1	Teach flag SP2 -> TP2	0 = - 1 = Teach successful	

PARAMETER								
Index dec/hex	Access	Data type	Length	Subindex	Default value	Range	Description	Comment
SSC1 parameter								
60/0x3C	Read/write	IntegerT	32 Bit	1	15000	1000...15000	Switching point 1	Needed for single-point mode (no offset), window mode, two-point mode and single-point mode (offset - like physical teach button), 1/10 mm
	Read/write	IntegerT	32 Bit	2	15000	1000...15000	Switching point 2	Needed for window mode and two-point mode, 1/10 mm
SSC1 configuration								
61/0x3D	Read/write	UIntegerT	8 Bit	1	0	0, 1	Logic	0 = NO 1 = NC
	Read/write	UIntegerT	8 Bit	2	132	0, 1, 2, 3, 132	Mode	0 = Disable 1 = Single-point mode (no offset) 2 = Window mode 3 = Two-point mode 132 = Single-point mode (offset - like physical teach button)
	Read/write	IntegerT	32 Bit	3	0	0	Hysteresis	0 = Not adjustable
SSC2 parameter								
62/0x3E	Read/write	IntegerT	32 Bit	1	15000	1000...15000	Switching point 1	Needed for single-point mode (no offset), window mode, two-point mode and single-point mode (offset - like physical teach button), 1/10 mm
	Read/write	IntegerT	32 Bit	2	15000	1000...15000	Switching point 2	Needed for window mode and two-point mode, 1/10 mm
SSC2 configuration								
63/0x3F	Read/write	UIntegerT	8 Bit	1	0	0, 1	Logic	0 = NO 1 = NC
	Read/write	UIntegerT	8 Bit	2	132	0, 1, 2, 3, 132	Mode	0 = Disable 1 = Single-point mode (no offset) 2 = Window mode 3 = Two-point mode 132 = Single-point mode (offset - like physical teach button)
	Read/write	IntegerT	32 Bit	3	0	0	Hysteresis	0 = Not adjustable
Operating data								
88/0x58	Read	UIntegerT	32 Bit	1			Counter operating hours	No reset possible
	Read	UIntegerT	32 Bit	2			Counter switch cycle	No reset possible
Electronic data sheet								
95/0x5F	Read	StringT	13 Char	1	100...1500 mm		Operating range	
	Read	StringT	1 Char	2	-		Resolution	
	Read	StringT	1 Char	3	-		Linearity	
	Read	StringT	15 Char	4	4...34 mm (90%)		Hysteresis	
	Read	StringT	26 Char	5	Laser, red 655 nm, class 1		Type of light and laser class	
	Read	StringT	8 Char	6	<= 30 mA		No-load current	
	Read	StringT	10 Char	7	5...500 Hz		Switching frequency	
	Read	StringT	1 Char	8	-		Warm-up time	
	Read	StringT	12 Char	9	-20...+50°C		Ambient temperature	
	Read	StringT	1 Char	10	-		Output signal	
	Read	StringT	1 Char	11	-		Repeatability	
Threshold signal quality (main)								
196/0xC4	Read/write	UIntegerT	8 Bit	1	1	0...10	Threshold signal quality	
SSC1 smart functions								
208/0xD0	Read/write	UIntegerT	16 Bit	1	0	0...65535	Counter	
	Read/write	UIntegerT	16 Bit	2	0	0...65535	Switch-on delay	In ms, adjustable in 1 ms
	Read/write	UIntegerT	16 Bit	3	0	0...65535	Switch-off delay	In ms, adjustable in 1 ms
	Read/write	UIntegerT	16 Bit	4	0	0...65535	Impulse (one-shot)	In ms, adjustable in 1 ms
SSC2 smart functions								
209/0xD1	Read/write	UIntegerT	16 Bit	1	0	0...65535	Counter	
	Read/write	UIntegerT	16 Bit	2	0	0...65535	Switch-on delay	In ms, adjustable in 1 ms
	Read/write	UIntegerT	16 Bit	3	0	0...65535	Switch-off delay	In ms, adjustable in 1 ms
	Read/write	UIntegerT	16 Bit	4	0	0...65535	Impulse (one-shot)	In ms, adjustable in 1 ms
Function Pin 4								
213/0xD5	Read/write	UIntegerT	8 Bit	1	2	0, 1, 2	PNP/NPN	0 = NPN 1 = PNP 2 = Auto-detect
Function Pin 2								
221/0xDD	Read/write	UIntegerT	8 Bit	1	1	0, 1, 2	Control input Pin 2	0 = Disable 1 = Teach/key lock 2 = Emitter on/off
Switching frequency global								
190/0xBE	Read/write	UIntegerT	8 Bit	1	3	0, 1, 2, 3, 4, 5	SSC switching frequency	0 = 500 Hz 1 = 250 Hz 2 = 100 Hz 3 = 50 Hz 4 = 10 Hz 5 = 5 Hz

SYSTEM COMMANDS

Index dec/hex	Access	Data type	Length	Subindex	Function dec/hex	Description	Comment
2/0x02	Write	UIntegerT	8 Bit	1	64/0x40	Teach apply	Adopt teach values on sensor
					65/0x41	Single value teach - switching point 1	The switchpoint is on the teach value
					66/0x42	Single value teach - switching point 2	
					67/0x43	Two value teach - teach point 1 for switching point 1	The switching point is in the middle of both teach points
					68/0x44	Two value teach - teach point 2 for switching point 1	
					69/0x45	Two value teach - teach point 1 for switching point 2	
					70/0x46	Two value teach - teach point 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	Teach point 1 and teach point 2 are both necessary
					74/0x4A	Dynamic teach - switching point 2 - stop	
					79/0x4F	Teach cancel	
					126/0x7E	Locator start	
					127/0x7F	Locator stop	
					128 / 0x80	Device reset	The device performs a restart
					129/0x81	Application reset	Reset the technology specific application
130/0x82	Factory settings	Restore parameters to the original delivery status					
131/0x83	Back-to-box	Restore parameters to the original delivery values without any interaction with upper level mechanisms such as Data Storage or PLC based parameterization					

EVENTS

Event	Definition	Device status value	Type	Definition	Comment
16384/0x4000	Temperature fault - Overload	4	Error	Temperature fault - Overload	Temperature absolute max ratings
16912/0x4210	Device temperature overrun – Clear source of heat	2	Warning	Device temperature overrun – Clear source of heat	
16928/0x4220	Device temperature underrun – Insulate Device	2	Warning	Device temperature underrun – Insulate Device	
20480/0x5000	Device hardware fault – Device exchange	4	Error	Device hardware fault – Device exchange	
20497/0x5011	Non volatile memory loss – Check batteries	4	Error	Non volatile memory loss – Check batteries	
65425/0xFF91	Data Storage upload request	0	Notification	Data Storage upload request	Can not be blocked via 0x51