



# FT 25-BH-PNSL-...

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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	39681
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	1	0
MSB D7	D6	D5	D4	D3	D2	D1	LSB D0	X	X	X	X	X	Signal quality	Switching output Q <sub>2</sub>	Switching output Q <sub>1</sub>
Signal quality 0 ... 100 %															
Signal quality score - adjustable via index 0xC4															
Switching output 2 - only virtual															
Switching output 1 - corresponds to switching output Q <sub>1</sub> 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-BH-PNSL-...	
19 / 0x32				Product ID	608-11063 608-11064 608-11065 608-11070	
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 <sub>1</sub> (physical pin)								
60 / 0x3C	Read / write	Uint	16 Bit	1	2000	100 ... 2000	Switching point 1	In 1/2 mm (e.g. 10 mm = 100 1/2 mm)
				2	2000	100 ... 2000	Switching point 2	In 1/2 mm (e.g. 10 mm = 100 1/2 mm)
Set-Up switching output Q <sub>1</sub> (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 <sup>1)</sup> 3 - two-point mode <sup>1)</sup>
				3	0	0	Hysteresis	Not adjustable
Define switching output Q <sub>2</sub> (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 1/2 mm (e.g. 10 mm = 100 1/2 mm)
				2	2000	100 ... 2000	Switching point 2	Needed for window and two-point mode, in 1/2 mm (e.g. 10 mm = 100 1/2 mm)
Set-Up switching output Q <sub>2</sub> (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 <sup>1)</sup> 3 - two-point mode <sup>1)</sup>
				3	0	0	Hysteresis	Not adjustable

<sup>1)</sup> Min. difference between both switchpoints 1 mm

PARAMETER								
Index dec / hex	Access	Data type	Length	Subindex	Default value	Range	Description	Comment
Read operating data								
88 / 0x58	Read	Uint	32 Bit	1			Counter operating hours	No reset possible
				2			Counter switch cycle	No reset possible
Read sensor characteristics								
95 / 0x5F	Read	String		1	10 ... 200 mm		Operating range	
				5	LED		Type of light	
				6	≤ 30 mA		No-load current	
				7	≤ 700 Hz		Switching frequency	
			9	-20 ... 60 °C			Ambient temperature	
Signal quality level								
196 / 0xC4	Read / write	Uint	8 Bit		10	10 ... 90	Signal quality level	If below 10 % no stable detection
Smart functions Q <sub>1</sub> (physical pin)								
208 / 0xD0	Read / write	Uint	16 Bit	1	0	0 ... 65535	Counter	
				2	0	0 ... 65535	On delay	In ms, adjustable in 1 ms
				3	0	0 ... 65535	Off delay	In ms, adjustable in 1 ms
				4	0	0 ... 65535	Impulse	In ms, adjustable in 1 ms
				5	0	0 ... 500	Monitoring frequency	In 1/4 Hz, adjustable in 0.1 Hz steps <sup>2)</sup>
Smart functions Q <sub>2</sub> on virtual switching output Q <sub>2</sub>								
209 / 0xD1	Read / write	Uint	16 Bit	1	0	0 ... 65535	Counter	
				2	0	0 ... 65535	On delay	In ms, adjustable in 1 ms
				3	0	0 ... 65535	Off delay	In ms, adjustable in 1 ms
				4	0	0 ... 65535	Impulse	In ms, adjustable in 1 ms
				5	0	0 ... 500	Monitoring frequency	In 1/4 Hz, adjustable in 0.1 Hz steps <sup>2)</sup>
Function switching output Q <sub>1</sub>								
213 / 0xD5	Read / write	Uint	8 Bit	1	2	0, 1, 2	PNP / NPN	0 = NPN 1 = PNP 2 = auto-detect
Control input <sup>3)</sup>								
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	The switching point is in the middle of both teachpoints	
				68 / 0x44		Two value teach - teachpoint 2 for switching point 1		
				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 <sup>4)</sup>
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 <sup>4)</sup>

<sup>2)</sup> Differs to real frequency ± 10 %

<sup>3)</sup> Only 4-pin version

<sup>4)</sup> For activation use function 0x51