

## S65M

### IO-Link® parameters v1.4

#### PHYSICAL LAYER

Description	
IO-Link Revision	1.0 - 1.1
SIO Modus	YES
Min Cycle Time	2.3 ms
Transmission Rate	38,4 kbit/s (COM2)
Process Data Length	PDInput: 16 Bit
M-Sequence Capability	PREOPERATE: TYPE_0 OPERATE: TYPE_2_2 ISDU: supported

#### FEATURES

Description	
Block Parameter	YES
Data Storage	YES
Supported Access Locks	Data Storage

#### DEVICE VARIANT COLLECTION

Product name	Product ID	Product text	Device ID
S65-PA-5-M13-OOZ	00001	TOF Background Suppressor	1
S65-PA-5-M53-OOZ	50001	TOF Background Suppressor for glossy objects	

#### SERVICE DATA

The following ISDUs will not be saved via Data Storage: Device Access Locks (index 0xC), Application Specific Tag (index 0x18), Emitter status (index 0x40), Output type (index 0x4F)

System Parameters							
Index (dec)	Parameter Object Name	Lenght	Subindex (offset)	Value/Range	Description	Data Type	Access*
0x000C (12)	Device Access Locks	2 octets		Bit 1: Data Storage (0 = unlocked, 1 = locked)	Standardized Device locking functions: Bit 0: Parameter (write) access (Not used) Bit 1: Data Storage Bit 2: Local parameterization (Not used) Bit 3: Local user interface (Not used) Bit 4-15: Reserved	RecordT	R/W

Identification Parameters								
Index (dec)	Parameter Object Name	Lenght	Subindex (offset)	Value/Range	Description	Data Type	Access*	Remark
0x0010 (16)	Vendor Name	27 octets		DATALOGIC AUTOMATION S.R.L.	Informative	StringT	RO	
0x0011 (17)	Vendor Text	19 octets		Empower your vision	Informative	StringT	RO	
0x0012 (18)	Product Name	16 octets		S65-PA-5-M13-OOZ/S65-PA-5-M53-OOZ	Detailed product name	StringT	RO	
0x0013 (19)	Product ID	5 octets		00001 (S65-PA-5-M13-OOZ) 50001 (S65-PA-5-M53-OOZ)	Product identification	StringT	RO	
0x0014 (20)	Product Text	25 octets		TOF Background Suppressor (S65-PA-5-M13-OOZ)	Optical function	StringT	RO	
		43 octets		TOF Background Suppressor for glossy object (S65-PA-5-M53-OOZ)				
0x0015 (21)	Serial Number	9 octets			Unique serial number	StringT	RO	
0x0016 (22)	Hardware Revision	5 octets		e.g. 2.0.0		StringT	RO	
0x0017 (23)	Firmware Revision	5 octets		e.g. 1.0.0		StringT	RO	
0x0018 (24)	Application Specific Tag	32 octets		*** (default)	Tag application defined by user	StringT	R/W	
0x004D (77)	User TAG1	4 octets		**** (default)	Additional tag for device function identification	StringT	R/W	Saved in non-volatile memory
0x004E (78)	User TAG2	4 octets		**** (default)	Additional tag for device function identification	StringT	R/W	Saved in non-volatile memory

Observation / Diagnostic Parameters								
Index (dec)	Parameter Object Name	Lenght	Subindex (offset)	Value/Range	Description	Data Type	Access*	Remark
0x0040 (64)	Emitter status	1 octet		0x00: Emission OFF 0x01: Emission ON	Read emission status	Boolean	R/W	
0x0042 (66)	Teach status Q1	1 octet		0x00 = OK 0x01 = ERROR		Boolean	RO	
0x0043 (67)	Teach status Q2	1 octet		0x00 = OK 0x01 = ERROR		Boolean	RO	
0x0044 (68)	Device Temperature	1 octet		[°C]		IntegerT	RO	
0x0045 (69)	Active Seconds	4 octets				UIntegerT	RO	Start counting at power-on
0x0046 (70)	Active Minutes	4 octets				UIntegerT	RO	Start counting at power-on
0x0047 (71)	Active Hours	4 octets				UIntegerT	RO	Start counting at power-on

Teach-in Parameters								
Index (dec)	Parameter Object Name	Lenght	Subindex (offset)	Value/Range	Description	Data Type	Access*	Remark
0x0048 (72)	Switching Point 1 Value	2 octets		2000 mm (default)	Distance in mm	UIntegerT	R/W	Saved in non-volatile memory
0x0049 (73)	Switching Point 2 Value	2 octets		2000 mm (default)	Distance in mm	UIntegerT	R/W	Saved in non-volatile memory
0x004A (74)	Switching point configuration	1 octet		0x00: Deactivated 0x01: Window (SP2>SP1+Hyst) 0x02: Single Point (only Q2) 0x03: Two Points (default)		UIntegerT	R/W	Saved in non-volatile memory. In Window and Single point mode, only Q2 is used to set the switching points. Q1 works only in SIO mode. In Window mode, Switching point 1 Value can be changed only via IO-Link parameter (SET1 is disabled).
0x004C (76)	External Teach	1 octet		0x00: Deactivated 0x01: Active (default)		Boolean	R/W	
0x0050 (80)	Light/Dark mode	1 octet		0x00: Dark 0x01: Light (default)		Boolean	R/W	Saved in non-volatile memory
0x0051 (81)	Hysteresis	1 octet		0x00: 80mm (default) 0x01: 50mm 0x02: 30mm		UIntegerT	R/W	Saved in non-volatile memory

Device Specific Parameters								
Index (dec)	Parameter Object Name	Lenght	Subindex (offset)	Value/Range	Description	Data Type	Access*	Remark
0x0041 (65)	Keylock status	1 octet		0x00 = OFF (default) 0x01 = ON		Boolean	RO	
0x004F (79)	Output type	Boolean		0x00 = NPN 0x01 = PNP (default)	Output type of C/Q and DO pin when in SIO mode	UIntegerT	RO	Saved in non-volatile memory. NB: in NPN mode, IO-Link connection is not possible (Restore Factory Settings is needed).

Standard Command						
Index (dec)	Command Name	Lenght	Value (dec)	Description	Access*	
0x0002 (2)	Pointer Toggle	1 octet	0xA0 (160)		WO	
0x0002 (2)	Keylock Set	1 octet	0xA1 (161)		WO	
0x0002 (2)	Teach Q1	1 octet	0xA2 (162)	Teach Switching point value 1 and save in non-volatile memory	WO	
0x0002 (2)	Teach Q2	1 octet	0xA3 (163)	Teach Switching point value 2 and save in non-volatile memory	WO	
0x0002 (2)	Restore Factory Settings	1 octet	0x82 (130)	Restore factory settings (Output type, Light/Dark mode, Hysteresis, Switching Point 1&2 Values are restored and saved in non-volatile memory)	WO	

Events					
Event code (dec)	Event name	Event mode	Event type	Device status	Remarks
0x4000 (16384)	Temperature fault	Appears / Disappears	Error		
0x8CA0 (36000)	No valid pixels or saturated pixels	Appears / Disappears	Error		

## PROCESS DATA

Process Data Input							
Bit 15	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit 8
Q2 STATUS	Q1 STATUS	DISTANCE MEASUREMENT VALUE (14 BIT TOTAL-HIGH SIDE)					
Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
DISTANCE MEASUREMENT VALUE (14 BIT TOTAL-LOW SIDE)							