



8028726 0923  
9382067 1L6P  
**WTB4S\_DID8389431**  
8389431  
1602644287  
9382036 1L6P (1.1.0)

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Please note the validity of the additional operating instructions for automation functions

## 1. Device features

### Data Storage class 2:

The configured Device supports Data Storage in such a manner that the replacement Device requires user manipulation such as teach-in prior to operation with the same performance.

Supported Smart Sensor Profile Function Classes	Binary Data Channel, Teach Channel
Supported IO-Link Time Stamp Profile modes	none (IO-Link Time Stamp Profile not supported)
Block Parameter Transmission	supported
Data Storage functionality	supported
Access Locks (supported / modes)	Local User Interface

## 2. Physical layer

Note: The IO-Link Device's max. current consumption (inclusive load current) shall not exceed the master port's max. output power current.

SIO Modus	yes
Min Cycle Time	2.3 ms
Baudrate <sup>2</sup>	COM2
Process Data Length (IN)	2 Byte
IODD version	V1.42249
Valid for IO-Link version	1.1

## 3. Process data

Record<sup>3</sup>: 2 Byte

Bitoffset								
Byte 0	15	14	13	12	11	10	9	8
Type/Subindex	Unsigned Integer 14							

Bitoffset								
Byte 1	7	6	5	4	3	2	1	0
Type/Subindex	Unsigned Integer 14				3 Boolean		2 Boolean	

## 4. Service data

The following ISDUs will not be saved via Data-Storage: Teach-in channel, Teach-in state, Quint.1 configuration, Quint.2 SP1 / SP2, Quint.2 configuration, Device specific tag, Sender configuration, Quality of teach, Temperature zone, Current receiver level (live), Find me and SLTI Version

IO-Link specific							
Index dec (hex)	Name	Format (Offset)	Length	Access <sup>1</sup>	Default Value	Value / Range	Remark [Unit]
12 (0x0C)	Device Access Locks	Record <sup>3</sup>	2 Byte	rw			The access to the device parameters can be restricted by setting appropriate flags within this parameter.
4 (0x04)	Local User Interface	Bool (3)	1 Bit	rw	0	0 = unlocked 1 = locked	
16 (0x10)	Vendor Name	String	7 Byte	ro	SICK AG		The vendor name that is assigned to a Vendor ID.
17 (0x11)	Vendor Text	String	64 Byte	ro			Additional information about the vendor.
18 (0x12)	Product Name	String	18 Byte	ro			Complete product name.
19 (0x13)	Product ID	String	16 Byte	ro			Vendor-specific product or type identification (e.g., item number or model number).
20 (0x14)	Product Text	String	45 Byte	ro			Additional product information for the device.
21 (0x15)	Serial Number	String	8 Byte	ro			Unique, vendor-specific identifier of the individual device.
22 (0x16)	Hardware Revision	String	4 Byte	ro			Unique, vendor-specific identifier of the hardware revision of the individual device.
23 (0x17)	Firmware Revision	String	16 Byte	ro			Unique, vendor-specific identifier of the firmware revision of the individual device.
24 (0x18)	Application-specific Tag	String	32 Byte	rw	***		Possibility to mark a device with user- or application-specific information.
36 (0x24)	Device Status	UInt	8 Bit	ro		0 = Device is OK 1 = Maintenance required 2 = Out of specification 3 = Functional check 4 = Failure	Indicator for the current device condition and diagnosis state.
37 (0x25)	Detailed Device Status	Array <sup>3</sup>	6 Byte	ro		Octet String [2]	List of all currently pending events in the device.
37 (0x25)	Detailed Device Status	Array <sup>3</sup>	6 Byte	ro		Octet String [2]	List of all currently pending events in the device.
40 (0x28)	PD Input	PD In	2 Byte	ro			Last valid process input data of the device.

<sup>1</sup> ro = read only, wo = write only, rw = read/write

<sup>2</sup> COM values specify the bitrate (see IO-Link specification): COM1 (4,8 kbit/s), COM2 (38,4 kbit/s), COM3 (230,4 kbit/s)

<sup>3</sup> Subindex access not supported

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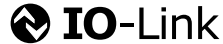
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Please note the validity of the additional operating instructions for automation functions

### ENGLISH

SICK device specific							
Index dec (hex)	Name	Format (Offset)	Length	Access <sup>1</sup>	Default Value	Value / Range	Remark (Unit)
25 (0x19)	Function Tag	String	32 Byte	rw	***		
26 (0x1A)	Location Tag	String	32 Byte	rw	***		
58 (0x3A)	Teach-in channel	UInt	8 Bit	rw	0	0 = default Quint. = Quint.1 1 = Quint.1 2 = Quint.2	
59 (0x3B)	Teach-in state	Record <sup>3</sup>	1 Byte	ro			
1 (0x01)	Teach flags	Bool (4)	1 Bit	ro		false = Teachpoint 1 not taught true = Teachpoint 1 successfully taught	
2 (0x02)	Teach state	UInt (0)	4 Bit	ro		0 = IDLE 1 = SP1 SUCCESS 5 = BUSY 7 = ERROR	
60 (0x3C)	Qint.1 SP1 / SP2	Record	3 Byte	rw			
1 (0x01)	SP1 sensing range	UInt (8)	16 Bit	rw	100	9...160	[mm]
2 (0x02)	SP2 sensing range	UInt (0)	8 Bit	rw	0	0 = SP2 not used	
61 (0x3D)	Qint.1 configuration	Record	4 Byte	rw			
1 (0x01)	Switchpoint logic	UInt (24)	8 Bit	rw	128	128 = Vendor specific	
2 (0x02)	Switchpoint mode	UInt (16)	8 Bit	rw	128	128 = Vendor specific	
3 (0x03)	Switchpoint hysteresis	UInt (0)	16 Bit	rw	0	0 = Autodefined hysteresis	
62 (0x3E)	Qint.2 SP1 / SP2	Record	3 Byte	rw			
1 (0x01)	SP1 sensing range	UInt (8)	16 Bit	rw	100	9...160	
2 (0x02)	SP2 sensing range	UInt (0)	8 Bit	rw	0	0 = SP2 not used	
63 (0x3F)	Qint.2 configuration	Record	4 Byte	rw			
1 (0x01)	Switchpoint logic	UInt (24)	8 Bit	rw	128	128 = Vendor specific	
2 (0x02)	Switchpoint mode	UInt (16)	8 Bit	rw	128	128 = Vendor specific	
3 (0x03)	Switchpoint hysteresis	UInt (0)	16 Bit	rw	0	0 = Autodefined hysteresis	
64 (0x40)	Device specific tag	String	32 Byte	rw	***		
90 (0x5A)	Teach-in offset	Int	8 Bit	rw	0	-100...100	[mm]
92 (0x5C)	Physical input / output type configuration pin2	UInt	8 Bit	rw	3	1 = PNP 2 = NPN 3 = Push/Pull	
97 (0x61)	Sender configuration	UInt	8 Bit	rw	0	0 = Sender active 1 = Sender not active	
114 (0x72)	Quality of teach	UInt	8 Bit	ro		0...100	[%]
121 (0x79)	Pin 2 configuration	UInt	8 Bit	rw	40	0 = Deactivated / no function 1 = External input (Smart Task) 16 = Sender off 17 = Teach-in 34 = Switching signal QL2 35 = Detection output Quint.1 39 = Switching signal QL1 40 = Switching signal QL1/	
154 (0x9A)	Temperature zone	UInt	8 Bit	ro		0 = Very cold 1 = Cold 2 = Moderate 3 = Warm 4 = Hot	Sensor-internal temperature
179 (0xB3)	Alarm thresholds for diagnostic parameters	Record	4 Byte	rw			
1 (0x01)	Operating hours threshold	UInt (0)	32 Bit	rw	40000	0...1000000	[h]
180 (0xB4)	Current receiver level (live)	UInt	16 Bit	ro		0...16383	
190 (0xBE)	Operating hours	Record	8 Byte	ro			
1 (0x01)	Total operating hours	UInt (32)	32 Bit	ro		0...1000000	[h]
2 (0x02)	Operating hours since last reset	UInt (0)	32 Bit	ro		0...1000000	[h]
204 (0xCC)	Find me	UInt	8 Bit	rw	0	0 = Find me deactivated 1 = Find me activated	
226 (0xE2)	System state	Record <sup>3</sup>	2 Byte	ro			
1 (0x01)	Detection output Quint.1	Bool (0)	1 Bit	ro		false = No object detected true = Object detected	
6 (0x06)	Input signal state Pin 2	Bool (7)	1 Bit	ro		false = External input FALSE true = External input TRUE	

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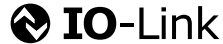
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227 (0xE3)	Notification handling	UInt	8 Bit	rw	0	0 = All enabled 1 = All disabled 2 = Events enabled, PD invalid flag disabled 3 = Events disabled, PD invalid flag enabled	
1080 (0x438)	SLTI Version	String	8 Byte	ro			
1083 (0x43B)	Logic 1	UInt	8 Bit	rw	0	0 = DIRECT 1 = AND 2 = OR	
1084 (0x43C)	Logic 2	UInt	8 Bit	rw	0	0 = DIRECT 1 = AND 2 = OR	
1085 (0x43D)	Timer 1 Mode	UInt	8 Bit	rw	0	0 = deactivated 1 = T-on delay 2 = T-off delay 3 = T-on/T-off delay 4 = Impulse (one shot)	
1086 (0x43E)	Timer 2 Mode	UInt	8 Bit	rw	0	0 = deactivated 1 = T-on delay 2 = T-off delay 3 = T-on/T-off delay 4 = Impulse (one shot)	
1087 (0x43F)	Time 1 Setup	UInt	16 Bit	rw	1	1...30000	[ms]
1088 (0x440)	Time 2 Setup	UInt	16 Bit	rw	1	1...30000	[ms]
1089 (0x441)	Inverter 1	UInt	8 Bit	rw	0	0 = not inverted 1 = inverted	
1090 (0x442)	Inverter 2	UInt	8 Bit	rw	1	0 = not inverted 1 = inverted	
1093 (0x445)	Inverter Ext. Input	UInt	8 Bit	rw	0	0 = not inverted 1 = inverted	

Standard command							
Index dec (hex)	Name	Access <sup>1</sup>	Value	Name	Remark [Unit]		
2 (0x02)	System Command	wo	65	Single value teach			
			129	Application Reset			
			130	Restore Factory Settings			
			131	Back-to-box			
			228	Reset diagnostics parameter			

Events			
Code dec (hex)	Name	Type	Remark [Unit]
30480 (0x7710)	Short circuit	Error	Shortcut on outputs
36001 (0x8CA1)	New parameters	Notification	Parameters have been changed
36005 (0x8CA5)	Teach / value out of specified range	Notification	Teach / distance value out of specified range
36011 (0x8CAB)	Alarm operating hours	Warning	Threshold for operating hours violated

Error			
Code dec (hex)	Additional Code	Name	Remark [Unit]
128 (0x80)	17 (0x11)	Index not available	Read or write access attempt to a non-existing index.
128 (0x80)	18 (0x12)	Subindex not available	Read or write access attempt to a non-existing subindex of an existing index.
128 (0x80)	32 (0x20)	Service temporarily not available	Parameter not accessible due to the current state of the technology-specific application.
128 (0x80)	35 (0x23)	Access denied	Write access to a read-only parameter or read access to write-only parameter.
128 (0x80)	48 (0x30)	Parameter value out of range	Written parameter value is outside of the permitted value range.
128 (0x80)	51 (0x33)	Parameter length overrun	Written parameter is longer than specified.
128 (0x80)	52 (0x34)	Parameter length underrun	Written parameter is shorter than specified.
128 (0x80)	64 (0x40)	Invalid parameter set	Written single parameter value collides with other existing parameter settings.
128 (0x80)	65 (0x41)	Inconsistent parameter set	Parameter set inconsistencies at the end of block parameter transfer. Device plausibility check failed.

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