



8024368 0419  
9276327 0419  
**RAY10\_A00**  
8389085  
2482884153  
9276326 0419 (1.1.0)

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<b>China</b> Phone +86 4000 121 000 +8622553 6300	<b>Russia</b> Phone +7 495 775 09 30
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Please note the validity of the additional operating instructions for automation functions

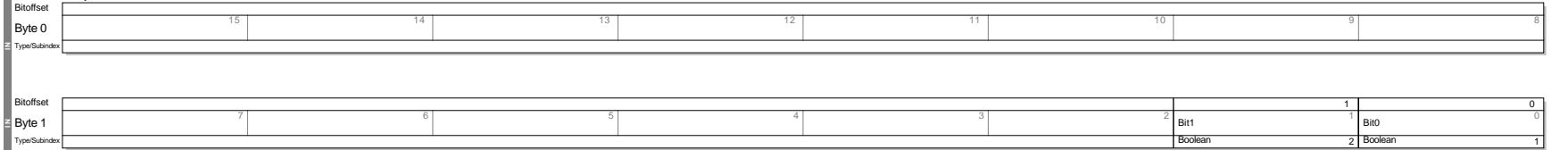
## 1. Physical layer

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	V1.19925
Valid for IO-Link version	1.1.0

## 2. Process data

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



## 3. Service data

The following ISDUs will not be saved via Data-Storage: Profile characteristic, Teach-in channel, Teach-in state, Device / function name, Sender configuration, Quality of teach, Quality of run, Current receiver level (live), Upper threshold (switch-on) dynamic, Lower threshold (switch-off) dynamic, Find me and SLTI Version

Index dec (hex)	Name	Format (Offset)	Length	Access <sup>1</sup>	Default Value	Value / Range	Remark [Unit]
IO-Link specific							
12 (0x0C)	Device Access Locks	Record <sup>3</sup>	2 Byte	rw			
1 (0x01)	Parameter (write) Access Lock	Bit (0)	1 Bit	rw			
2 (0x02)	Data Storage Lock	Bit (1)	1 Bit	rw			
3 (0x03)	Local Parameterization Lock	Bit (2)	1 Bit	rw			
4 (0x04)	Local User Interface Lock	Bit (3)	1 Bit	rw			
16 (0x10)	Vendor Name	String	7 Byte	ro	SICK AG		
18 (0x12)	Product Name	String	18 Byte	ro			
19 (0x13)	Product ID	String	13 Byte	ro			
20 (0x14)	Product Text	String	45 Byte	ro			
21 (0x15)	Serial Number	String	8 Byte	ro			
22 (0x16)	Hardware Version	String	4 Byte	ro			
23 (0x17)	Firmware Version	String	19 Byte	ro			
24 (0x18)	Application Specific Tag	String	32 Byte	rw	*****		
36 (0x24)	Device Status	UInt	8 Bit	ro		0 = Device is OK 1 = Maintenance required 2 = Out of specification 3 = Functional check 4 = Failure 5...255 = Reserved	
40 (0x28)	Process Data Input	PD In	2 Byte	ro			

Index dec (hex)	Name	Format (Offset)	Length	Access <sup>1</sup>	Default Value	Value / Range	Remark [Unit]
SICK device specific							
13 (0x0D)	Profile characteristic	Array <sup>3</sup>	10 Byte	ro		Unsigned Integer16 [5]	
14 (0x0E)	PDInput descriptor	Array <sup>3</sup>	6 Byte	ro		Octet String [2]	
15 (0x0F)	PDOOutput descriptor	Array <sup>3</sup>	3 Byte	ro		Octet String [1]	
58 (0x3A)	Teach-in channel	UInt	8 Bit	rw	0	0...2 = Default BDC	
59 (0x3B)	Teach-in state	Record <sup>3</sup>	1 Byte	ro			
1 (0x01)	Teach flags	Bit (4)	1 Bit	ro		false = Teachpoint 1 not taught true = Teachpoint 1 successfully taught	
2 (0x02)	Teach state	Bit (0)	4 Bit	ro		0 = IDLE 1 = SP1 SUCCESS 5 = BUSY 7 = ERROR	
64 (0x40)	Device / function name	String	32 Byte	rw	*****		

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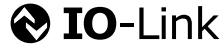
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Please note the validity of the additional operating instructions for automation functions

## ENGLISH

SICK device specific							
Index dec (hex)	Name	Format (Offset)	Length	Access <sup>1</sup>	Default Value	Value / Range	Remark [Unit]
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	32	0 = Deactivated / no function 1 = External input 16 = Sender off 17 = Teach-in 32 = Detection output Q/ 33 = Quality of run alarm output 34 = Switching signal QL2 35 = Detection output Qint.1 39 = Switching signal QL1	
175 (0xAF)	Quality of run	UInt	8 Bit	ro		0...255	[%]
176 (0xB0)	Quality of run alarm threshold	UInt	8 Bit	rw	50	0...90	[%]
177 (0xB1)	Quality of alignment	UInt	8 Bit	ro		0...100	[%]
180 (0xB4)	Current receiver level (live)	UInt	8 Bit	ro		0...255	[%]
181 (0xB5)	Upper threshold (switch-on) dynamic	UInt	8 Bit	ro		0...255	[%]
182 (0xB6)	Lower threshold (switch-off) dynamic	UInt	8 Bit	ro		0...255	[%]
204 (0xCC)	Find me	UInt	8 Bit	rw	0	0 = Find me deactivated 1 = Find me activated	
205 (0xCD)	SICK profile version	String	4 Byte	ro			
219 (0xDB)	Article No.	Record	7 Byte	ro			
1 (0x01)	Article No. IO-Link Device	Bit (0)	7 Byte	ro			
226 (0xE2)	System state	Record <sup>3</sup>	1 Byte	ro			
1 (0x01)	Quality of run alarm output	Bit (1)	1 Bit	ro		false = Alarm not active true = Alarm active	
2 (0x02)	Detection output Q.int	Bit (0)	1 Bit	ro		false = No object detected true = Object detected	
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 3 = Window Mode 4 = Hysteresis	
1084 (0x43C)	Logic 2	UInt	8 Bit	rw	0	0 = DIRECT 1 = AND 2 = OR 3 = Window Mode 4 = Hysteresis	
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	1	0 = not inverted 1 = inverted	
1090 (0x442)	Inverter 2	UInt	8 Bit	rw	1	0 = not inverted 1 = inverted	
Standard command							
Index dec (hex)	Name	Access <sup>1</sup>	Value	Name	Remark [Unit]		
2 (0x02)	Standard Command	wo	65	Single value teach			
			130	Restore Factory Settings			

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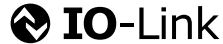
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Events			
Code dec (hex)	Name	Type	Remark [Unit]
36000 (0x8CA0)	Short Circuit on Qx	Notification	Short circuit on outputs
36001 (0x8CA1)	New parameters	Notification	Parameters have been changed
36004 (0x8CA4)	Quality of run alarm	Notification	Low device performance, clean sensor

Error			
Code dec (hex)	Additional Code	Name	Remark [Unit]
128 (0x80)	17 (0x11)	Index not available	Access occurs to a not existing index
128 (0x80)	18 (0x12)	Subindex not available	Access occurs to a not existing subindex
128 (0x80)	32 (0x20)	Service temporarily not available	Parameter is not accessible due to the current state of the device application
128 (0x80)	35 (0x23)	Access denied	Write access on a read-only parameter
128 (0x80)	48 (0x30)	Parameter value out of range	Written parameter value is outside its permitted value range
128 (0x80)	51 (0x33)	Parameter length overrun	Written parameter length is above its predefined length
128 (0x80)	52 (0x34)	Parameter length underrun	Written parameter length is below its predefined length
128 (0x80)	64 (0x40)	Invalid parameter set	Written single parameter collides with other actual parameter settings
128 (0x80)	65 (0x41)	Inconsistent parameter set	Parameter inconsistencies were found at the end of block parameter transfer, device plausibility check failed