

SICK

8027454 0922
9357090 0922
WTF12V_DID8389329
8389329
2541594910
9357089 0922 (1.1.0)

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SICK AG, Erwin-Sick-Strasse 1, D-79183 Waldkirch

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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 ² | COM2 |
| Process Data Length (IN) | 2 Byte |
| IODD version | V1.36111 |
| Valid for IO-Link version | 1.1.0 |

2. Process data

Record³: 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 | 2 | 1 | 0 | | | | | |
| Type/Subindex | Unsigned Integer 14 | | | | | | | | | | | | | | | |

3. Service data

The following ISDUs will not be saved via Data-Storage: Profile characteristic, Teach-in channel, Teach-in state, 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 ¹ | Default Value | Value / Range | Remark [Unit] |
| 12 (0x0C) | Device Access Locks | Record ³ | 2 Byte | rw | | | |
| 2 (0x02) | Data Storage Lock | Bit (1) | 1 Bit | rw | 0 | 0 = unlocked 1 = locked | |
| 4 (0x04) | Local User Interface Lock | Bit (3) | 1 Bit | rw | 0 | 0 = unlocked 1 = locked | |
| 16 (0x10) | Vendor Name | String | 7 Byte | ro | SICK AG | | |
| 17 (0x11) | Vendor Text | String | 64 Byte | ro | | | |
| 18 (0x12) | Product Name | String | 18 Byte | ro | | | |
| 19 (0x13) | Product ID | String | 7 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 | |
| 37 (0x25) | Detailed Device Status | Array ³ | 6 Byte | ro | | Octet String [2] | |
| 40 (0x28) | Process Data Input | PD In | 2 Byte | ro | | | |

| SICK device specific | | | | | | | |
|----------------------|------------------------|---------------------|---------|---------------------|---------------|----------------------------------------------------------------------------|---------------|
| Index dec (hex) | Name | Format (Offset) | Length | Access ¹ | Default Value | Value / Range | Remark [Unit] |
| 13 (0x0D) | Profile characteristic | Array ³ | 12 Byte | ro | | Unsigned Integer16 [6] | |
| 14 (0x0E) | PDInput descriptor | Array ³ | 6 Byte | ro | | Octet String [2] | |
| 15 (0x0F) | PDOOutput descriptor | Array ³ | 3 Byte | ro | | Octet String [1] | |
| 58 (0x3A) | Teach-in channel | UInt | 8 Bit | rw | 0 | 0 = default Qint. = Qint.1 1 = Qint.1 2 = Qint.2 | |
| 59 (0x3B) | Teach-in state | Record ³ | 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 | |

¹ro = read only, wo = write only, rw = read/write

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

³Subindex access not supported

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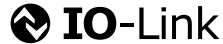
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Please note the validity of the additional operating instructions for automation functions

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| SICK device specific | | | | | | | |
|----------------------|-------------------------------------------------|---------------------|---------|---------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| Index dec (hex) | Name | Format (Offset) | Length | Access ¹ | Default Value | Value / Range | Remark [Unit] |
| 60 (0x3C) | Qint.1 SP1 / SP2 | Record | 3 Byte | rw | | | |
| | 1 (0x01) SP1 sensing range | Bit (8) | 16 Bit | rw | 49 | 49...370 | [mm] |
| 61 (0x3D) | Qint.1 configuration | Record | 4 Byte | rw | | | |
| | 1 (0x01) Switchpoint logic | Bit (24) | 8 Bit | rw | 128 | 128 = Vendor specific | |
| 62 (0x3E) | Qint.2 SP1 / SP2 | Record | 3 Byte | rw | | | |
| | 2 (0x02) SP2 sensing range | Bit (0) | 8 Bit | rw | 0 | 0 = SP2 not used | |
| 63 (0x3F) | Qint.2 configuration | Record | 4 Byte | rw | | | |
| | 1 (0x01) Switchpoint logic | Bit (24) | 8 Bit | rw | 128 | 128 = Vendor specific | |
| 64 (0x40) | Device specific tag | String | 32 Byte | rw | ***** | | |
| | 2 (0x02) Switchpoint mode | Bit (16) | 8 Bit | rw | 128 | 128 = Vendor specific | |
| 90 (0x5A) | Teach-in offset | Int | 8 Bit | rw | 0 | -100...0 | [mm] |
| | 3 (0x03) Switchpoint hysteresis | Bit (0) | 16 Bit | rw | 0 | 0 = Autodefined hysteresis | |
| 92 (0x5C) | Physical input / output type configuration pin2 | UInt | 8 Bit | rw | 3 | 1 = PNP 2 = NPN 3 = Push/Pull | |
| | 1 (0x01) SP1 sensing range | Bit (8) | 16 Bit | rw | 49 | 49...370 | |
| 97 (0x61) | Sender configuration | UInt | 8 Bit | rw | 0 | 0 = Sender active 1 = Sender not active | |
| | 2 (0x02) Switchpoint mode | Bit (16) | 8 Bit | rw | 128 | 128 = Vendor specific | |
| 114 (0x72) | Quality of teach | UInt | 8 Bit | ro | | 0...100 | [%] |
| | 3 (0x03) Switchpoint hysteresis | Bit (0) | 16 Bit | rw | 0 | 0 = Autodefined hysteresis | |
| 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 Qint.1 39 = Switching signal QL1 40 = Switching signal QL1/ | |
| | 1 (0x01) SP1 sensing range | Bit (8) | 16 Bit | rw | 49 | 49...370 | |
| 154 (0x9A) | Temperature zone | UInt | 8 Bit | ro | | 0 = Very cold 1 = Cold 2 = Moderate 3 = Warm 4 = Hot | Sensor-internal temperature |
| | 2 (0x02) SP2 sensing range | Bit (0) | 8 Bit | rw | 0 | 0 = SP2 not used | |
| 179 (0xB3) | Alarm thresholds for diagnostic parameters | Record | 4 Byte | rw | | | |
| | 1 (0x01) Operating hours threshold | Bit (0) | 32 Bit | rw | 40000 | 0...1000000 | [h] |
| 180 (0xB4) | Current receiver level (live) | UInt | 16 Bit | ro | | 0...16383 | |
| | 1 (0x01) Total operating hours | Bit (32) | 32 Bit | ro | | 0...1000000 | [h] |
| 190 (0xBE) | Operating hours | Record | 8 Byte | ro | | | |
| | 2 (0x02) Operating hours since last reset | Bit (0) | 32 Bit | ro | | 0...1000000 | [h] |
| 204 (0xCC) | Find me | UInt | 8 Bit | rw | 0 | 0 = Find me deactivated 1 = Find me activated | |
| | 1 (0x01) Detection output Qint.1 | Bit (0) | 1 Bit | ro | | false = No object detected true = Object detected | |
| 226 (0xE2) | System state | Record ³ | 2 Byte | ro | | | |
| | 6 (0x06) Input signal state Pin 2 | Bit (7) | 1 Bit | ro | | false = External input FALSE true = External input TRUE | |
| 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 | |
| | 1 (0x01) SP1 sensing range | Bit (8) | 16 Bit | rw | 49 | 49...370 | |
| 1080 (0x438) | SLTI Version | String | 8 Byte | ro | | | |
| 1083 (0x43B) | Logic 1 | UInt | 8 Bit | rw | 0 | 0 = DIRECT 1 = AND 2 = OR | |
| | 1 (0x01) SP1 sensing range | Bit (8) | 16 Bit | rw | 49 | 49...370 | |
| 1084 (0x43C) | Logic 2 | UInt | 8 Bit | rw | 0 | 0 = DIRECT 1 = AND 2 = OR | |
| | 2 (0x02) SP2 sensing range | Bit (0) | 8 Bit | rw | 0 | 0 = SP2 not used | |

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

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| Index dec (hex) | Name | Format (Offset) | Length | Access ¹ | Default Value | Value / Range | Remark [Unit] |
| 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 | |
| 1093 (0x445) | Inverter Ext. Input | UInt | 8 Bit | rw | 0 | 0 = not inverted 1 = inverted | |

| Standard command | | | | | | | |
|------------------|------------------|---------------------|--|-------|-----------------------------|--|---------------|
| Index dec (hex) | | Access ¹ | | Value | Name | | Remark [Unit] |
| 2 (0x02) | Standard Command | wo | | 65 | Single value teach | | |
| | | | | 130 | Restore Factory Settings | | |
| | | | | 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 | 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 |

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