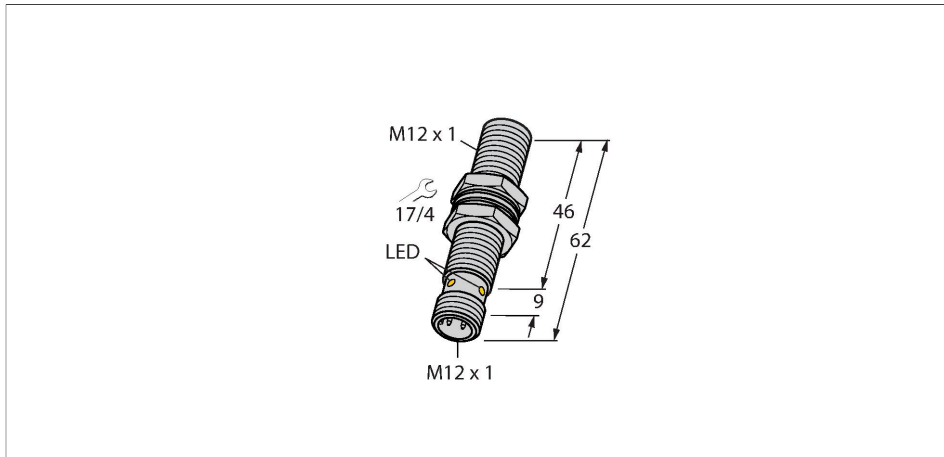


BI3-M12-IOLU69X2-H1141

Inductive Sensor – With Analog Output and IO-Link Communication



Technical data

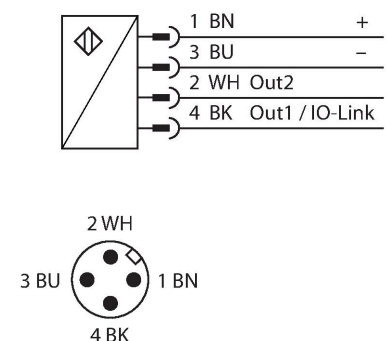
| | |
|---|--|
| Type | BI3-M12-IOLU69X2-H1141 |
| ID | 100001075 |
| General data | |
| Measuring range | 0.2...3 mm |
| Mounting conditions | Flush |
| Secured operating distance | $\leq (0.81 \times S_n)$ mm |
| Correction factors | St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4 |
| Repeatability | $\leq 1\%$ of measuring range A - B |
| | 0.25 % of full scale, after 0.5 h warm-up |
| Linearity deviation | $\leq 1\%$ |
| Temperature drift | $\leq \pm 3\%$ |
| | $\leq \pm 5\%$, $\leq 0\text{ }^\circ\text{C}$, $\geq +50\text{ }^\circ\text{C}$ |
| Electrical data | |
| Operating voltage | 15...30 VDC |
| Residual ripple | $\leq 10\%$ U_{ss} |
| No-load current | 20 mA |
| Isolation test voltage | $\leq 0.5\text{ kV}$ |
| Short-circuit protection | yes |
| Wire breakage/Reverse polarity protection | no / Complete (analog output restricted) |
| Communication protocol | IO-Link |
| Output function | 4-wire, PNP/NPN, analog output |
| Voltage output | 0...10 V |



Features

- M12 × 1 threaded barrel
- Chrome-plated brass
- Configuration and communication via IO-Link v1.1 or standard I/O
- Adjustable distance value in 12-bit IO-Link process data
- Switchpoint configurable via two teach points
- Switching output freely configurable
- Identification via 32-byte memory
- Temperature monitoring with adjustable limits
- 4-wire, 15...30 VDC
- Analog output, 0...10 V (2...10 V parameterizable)
- M12 × 1 connector

Wiring diagram



Functional principle

BI3-M12-IOLU69X2-H1141 | 11/07/2023 15-16 | technical changes reserved

Technical data

| | |
|---------------------------------------|---|
| Load resistance voltage output | ≥ 4.7 kΩ |
| Response time | 0.0015 s |
| | At the output |
| IO-Link | |
| IO-Link specification | V 1.1 |
| IO-Link port type | Class A |
| Communication mode | COM 2 (38.4 kBaud) |
| Process data width | 16 bit |
| Switchpoint information | 1 bit |
| Status bit information | 2 bit |
| Frame type | 2.2 |
| Minimum cycle time | 2.3 ms |
| Function pin 4 | IO-Link |
| Function Pin 2 | Analog |
| Maximum cable length | 20 m |
| Included in the SIDI GSDML | Yes |
| Mechanical data | |
| Design | Threaded barrel, M12 x 1 |
| Dimensions | 62 mm |
| Housing material | Metal, CuZn, Chrome-plated |
| Active area material | Plastic, PA12-GF30 |
| Max. tightening torque of housing nut | 10 Nm |
| Electrical connection | Connector, M12 × 1 |
| Environmental conditions | |
| Ambient temperature | -25...+70 °C |
| Vibration resistance | 55 Hz (1 mm) |
| Shock resistance | 30 g (11 ms) |
| Protection class | IP67 |
| MTTF | 751 years acc. to SN 29500 (Ed. 99) 40 °C |
| Power-on indication | LED, Green |
| Switching state | LED, Yellow |

Inductive sensors with analog output from TURCK accomplish simple control tasks. They provide a distance-proportional current, voltage or frequency signal. With TURCK analog sensors, this output signal is linear to the distance of the target over the entire sensing range. Using an IO-Link Master also enables various functions to be configured and certain parameters of analog IO-Link sensors to be adjusted within predefined limits to suit customer needs. Please refer to the operating instructions for the analog IO-Link sensor for more detailed information.

Mounting instructions

Mounting instructions/Description



Distance D 24 mm

Distance W 3 x Sn

Distance T 3 x B

Distance S 1.5 x B

Distance G 6 x Sn

Diameter active area B \varnothing 12 mm

Accessories

QM-12

6945101

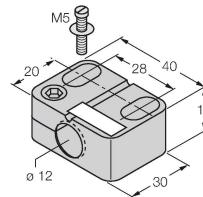
Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M16 x 1. Note: The switching distance of the proximity switches may change when using quick-mount brackets.



BST-12B

6947212

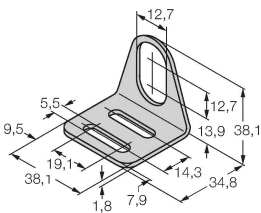
Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6



MW-12

6945003

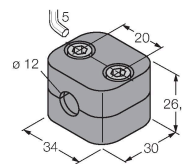
Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)



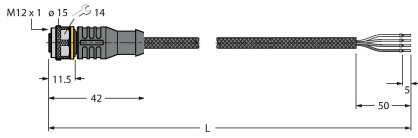
BSS-12

6901321

Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene



Wiring accessories

| Dimension drawing | Type | ID | Description |
|---|-------------------|---------|---|
|  | RKC4.4T-2/TXL1001 | 6628825 | Connection cable, M12 female connector, straight, 4-pin, cable length: 2 m, protective jacket material: aramid fibers, yellow; temperature peak: 200 °C |