# BI10U-M18-IOL6X2-H1141
# Inductive Sensor  –   IO-Link Communication and Configuration



## Technical data

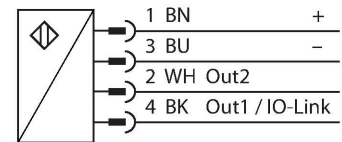| Type | BI10U-M18-IOL6X2-H1141 |
|---|---|
| ID no. | 1644875 |
| Rated switching distance | 10 mm |
| Mounting conditions | Flush |
| Secured operating distance | ≤ (0.81 × Sn) mm |
| Repeat accuracy | ≤ 2 % of full scale |
| Temperature drift | ≤ ± 10 % |
| Hysteresis | 3…15  % |
| Ambient temperature | -25…+70  °C |
| Operating voltage | 10…30  VDC |
| Residual ripple | ≤ 10 % $U_{ss}$ |
| DC rated operational current | ≤ 150 mA |
| No-load current | ≤ 27 mA |
| Residual current | ≤ 0.1 mA |
| Isolation test voltage | ≤ 0.5 kV |
| Short-circuit protection | yes / Cyclic |
| Voltage drop at $I_e$ | ≤ 1.8 V |
| Wire breakage/Reverse polarity protection | yes / Complete |
| Communication protocol | IO-Link |
| Output function | 4-wire, NO/NC, PNP/NPN |
| Output 1 | Switching output or IO-Link mode |
| Output 2 | switching output |
| Switching frequency | 0.5 kHz |

## Features

- Threaded barrel, M18 x 1
- Chrome-plated brass
- Factor 1 for all metals
- Protection class IP68
- Resistant to magnetic fields
- Large switching distance
- DC 4-wire, 10…30 VDC
- M12 x 1 connector
- Configuration and communication via IO-Link v1.1 or via standard I/O
- Electrical outputs independently configurable
- Switching distance can be parametrized per output and hysteresis
- Identification via 32-byte memory
- Temperature monitoring with adjustable limits
- Various timer and pulse monitoring functions

## Wiring diagram



## Functional principle

Inductive sensors are designed for wear-free and contactless detection of metal objects. uprox3 sensors have significant advantages due to their patented multi-coil system. They excel thanks to their optimum switching distances, maximum flexibility and operational reliability as well as efficient standardization. In addition, the uprox3 IO-Link sensors allow certain parameters to be set within predefined limits and various device functions to be configured in accordance with customer needs, using an IO-Link Master. For detailed information, refer to the uprox3 IO-Link manual.

## Technical data

| 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 | 2 bit |
| Status bit information | 3 bit |
| Frame type | 2.2 |
| Minimum cycle time | 8 ms |
| Function Pin 4 | IO-Link |
| Function Pin 2 | DI |
| Maximum cable length | 20 m |
| Included in the SIDI GSDML | Yes |
| Design | Threaded barrel, M18 × 1 |
| Dimensions | 52  mm |
| Housing material | Metal, CuZn, Chrome-plated |
| Active area material | Plastic, LCP |
| Max. tightening torque of housing nut | 25 Nm |
| Electrical connection | Connector, M12 × 1 |
| Vibration resistance | 55 Hz (1 mm) |
| Shock resistance | 30 g (11 ms) |
| Protection class | IP68 |
| MTTF | 874  years acc. to SN 29500 (Ed. 99) 40 °C |
| Power-on indication | LED, Green |
| Switching state | LED, Yellow |

# Mounting instructions

## Mounting instructions/Description
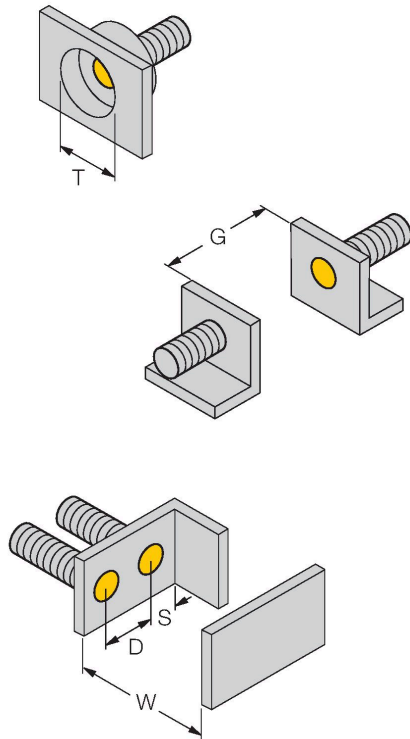
| | |
|---|---|
| Distance D | 36 mm |
| Distance W | 3 x Sn |
| Distance T | 3 x B |
| Distance S | 1.5 x B |
| Distance G | 6 x Sn |
| Diameter active area B | Ø 18 mm |

All flush mountable uprox+ threaded barrel types are also recessed mountable. Safe operation is ensured if the sensor is screwed in by half a turn.
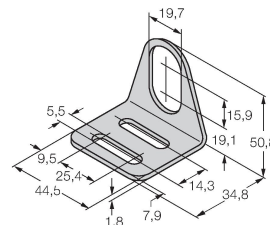
# Accessories

| BST-18B | 6947214 |
|---|---|
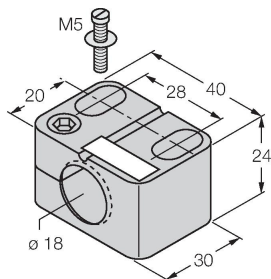
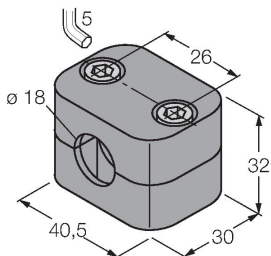Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6

| BSS-18 | 6901320 |
|---|---|

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

| MW-18 | 6945004 |
|---|---|

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

## Wiring accessories

| Dimension drawing | Type | ID no. | |
|---|---|---|---|
| | RKC4.4T-2/TEL | 6625013 | Connection cable, female M12, straight, 4-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com |