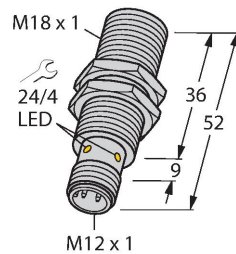


# BI10U-M18-IOL6X2-H1141

## Inductive Sensor – IO-Link Communication and Configuration



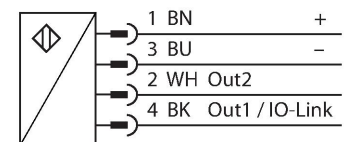
### Technical data

|                                        |                                  |
|----------------------------------------|----------------------------------|
| Type                                   | BI10U-M18-IOL6X2-H1141           |
| ID                                     | 1644875                          |
| <b>General data</b>                    |                                  |
| Rated switching distance               | 10 mm                            |
| Mounting conditions                    | Flush                            |
| Secured operating distance             | $\leq (0.81 \times S_n)$ mm      |
| Repeat accuracy                        | $\leq 2 \%$ of full scale        |
| Temperature drift                      | $\leq \pm 10 \%$                 |
| Hysteresis                             | 3...15 %                         |
| <b>Electrical data</b>                 |                                  |
| Operating voltage $U_B$                | 10...30 VDC                      |
| Ripple $U_{ss}$                        | $\leq 10 \%$ $U_{Bmax}$          |
| DC rated operating current $I_o$       | $\leq 150$ mA                    |
| No-load current                        | $\leq 27$ mA                     |
| Residual current                       | $\leq 0.1$ mA                    |
| Isolation test voltage                 | 0.5 kV                           |
| Short-circuit protection               | yes/Cyclic                       |
| Voltage drop at $I_o$                  | $\leq 1.8$ V                     |
| Wire break/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                 |
| DC field stability                     | 300 mT                           |

### 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

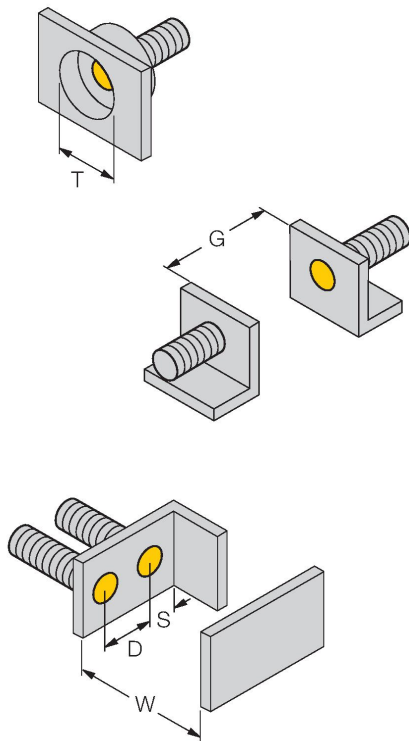
## Technical data

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.

|                                       |                                           |
|---------------------------------------|-------------------------------------------|
| AC field stability                    | 300 mT <sub>ss</sub>                      |
| Switching frequency                   | 0.5 kHz                                   |
| <b>IO-Link</b>                        |                                           |
| 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                                       |
| <b>Mechanical data</b>                |                                           |
| Design                                | Threaded barrel, M18 x 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                        |
| <b>Environmental conditions</b>       |                                           |
| Ambient temperature                   | -25...+70 °C                              |
| 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 |

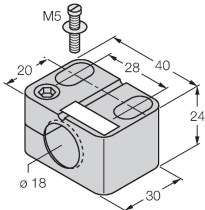
All flush mountable uprox+ threaded barrel types are also recessed mountable. Safe operation is ensured if the sensor is screwed in by half a turn.

## Accessories

### BST-18B

6947214

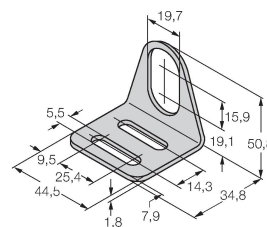
Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6



### MW18

6945004

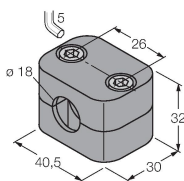
Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)



### BSS-18

6901320

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



Wiring accessories

| Dimension drawing                                                                 | Type          | ID      |                                                                                                                         |
|-----------------------------------------------------------------------------------|---------------|---------|-------------------------------------------------------------------------------------------------------------------------|
|  | RKC4.4T-2/TEL | 6625013 | Connection cable, M12 female connector, straight, 4-pin, cable length: 2 m, jacket material: PVC, black; cULus approval |