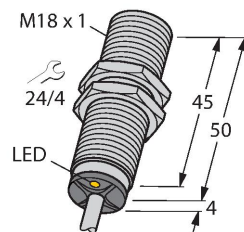


# BI8-M18-AN6X 7M

## Inductive Sensor – With Increased Switching Distance



### Features

- Threaded barrel, M18 x 1
- Chrome-plated brass
- Large sensing range
- DC 3-wire, 10...30 VDC
- NO contact, NPN output
- Cable connection

### Wiring diagram



### Technical data

|                                        |                                                     |
|----------------------------------------|-----------------------------------------------------|
| Type                                   | BI8-M18-AN6X 7M                                     |
| ID                                     | 4615131                                             |
| General data                           |                                                     |
| Rated switching distance               | 8 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 |
| Repeat accuracy                        | $\leq 2$ % of full scale                            |
| Temperature drift                      | $\leq \pm 10$ %                                     |
| Hysteresis                             | 3...15 %                                            |
| Electrical data                        |                                                     |
| Operating voltage $U_B$                | 10...30 VDC                                         |
| Ripple $U_{ss}$                        | $\leq 10$ % $U_{Bmax}$                              |
| DC rated operating current $I_o$       | $\leq 200$ mA                                       |
| No-load current                        | $\leq 15$ 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                                        |
| Output function                        | 3-wire, NO contact, NPN                             |
| Switching frequency                    | 0.5 kHz                                             |
| Mechanical data                        |                                                     |
| Design                                 | Threaded barrel, M18 x 1                            |
| Dimensions                             | 54 mm                                               |
| Housing material                       | Metal, CuZn, Chrome-plated                          |

### Functional principle

Inductive sensors detect metal objects contactless and wear-free. For this, they use a high-frequency electromagnetic AC field that interacts with the target. Inductive sensors generate this field via an RLC circuit with a ferrite coil.

Technical data

|                                       |                                            |
|---------------------------------------|--------------------------------------------|
| Active area material                  | Plastic, PA12-GF30                         |
| End cap                               | Plastic, EPTR                              |
| Max. tightening torque of housing nut | 25 Nm                                      |
| Electrical connection                 | Cable                                      |
| Cable quality                         | Ø 5.2 mm, Gray, LifYY, PVC, 7 m            |
| Core cross-section                    | 4 x 0.34 mm <sup>2</sup>                   |
| Environmental conditions              |                                            |
| Ambient temperature                   | -25...+70 °C                               |
| Vibration resistance                  | 55 Hz (1 mm)                               |
| Shock resistance                      | 30 g (11 ms)                               |
| Protection class                      | IP67                                       |
| MTTF                                  | 2283 years acc. to SN 29500 (Ed. 99) 40 °C |
| Switching state                       | LED, Yellow                                |

Mounting instructions

Mounting instructions/Description

The image contains three technical diagrams illustrating different mounting configurations for a sensor:

- Top Diagram:** Shows a single sensor mounted on a wall. The dimension  $T$  is indicated as the distance from the wall to the sensor's mounting flange.
- Middle Diagram:** Shows two sensors mounted on a wall. The dimension  $G$  is indicated as the distance between the two sensors.
- Bottom Diagram:** Shows two sensors mounted on a wall. The dimensions  $D$ ,  $S$ , and  $W$  are indicated.  $D$  is the distance between the two sensors,  $S$  is the distance from the wall to the sensor's mounting flange, and  $W$  is the distance from the wall to the sensor's active area.

|                        |                             |
|------------------------|-----------------------------|
| Distance D             | $2 \times B$                |
| Distance W             | $3 \times S_n$              |
| Distance T             | $3 \times B$                |
| Distance S             | $1.5 \times B$              |
| Distance G             | $6 \times S_n$              |
| Diameter active area B | $\varnothing 18 \text{ mm}$ |

Accessories

BST-18B 6947214

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



QM-18 6945102

Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M24 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.



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

