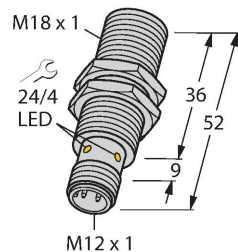


# BI8-M18-AP6X-H1141

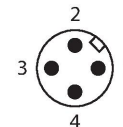
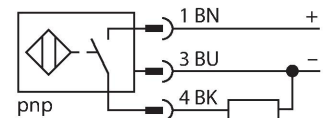
## Inductive Sensor – With Increased Switching Distance



### Features

- Threaded barrel, M18 x 1
- Chrome-plated brass
- Large sensing range
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- M12 x 1 male connector

### Wiring diagram



### 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

|                                           |                                                     |
|-------------------------------------------|-----------------------------------------------------|
| Type                                      | BI8-M18-AP6X-H1141                                  |
| ID no.                                    | 46150                                               |
| Rated switching distance                  | 8 mm                                                |
| Mounting conditions                       | Flush                                               |
| Secured operating distance                | $\leq (0.81 \times S_n) \text{ mm}$                 |
| 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 %                                            |
| Ambient temperature                       | -25...+70 °C                                        |
| Operating voltage                         | 10...30 VDC                                         |
| Residual ripple                           | $\leq 10 \%$ $U_{ss}$                               |
| DC rated operational current              | $\leq 200 \text{ mA}$                               |
| No-load current                           | 15 mA                                               |
| Residual current                          | $\leq 0.1 \text{ mA}$                               |
| Isolation test voltage                    | $\leq 0.5 \text{ kV}$                               |
| Short-circuit protection                  | yes / Cyclic                                        |
| Voltage drop at $I_o$                     | $\leq 1.8 \text{ V}$                                |
| Wire breakage/Reverse polarity protection | yes / Complete                                      |
| Output function                           | 3-wire, NO contact, PNP                             |
| Insulation class                          | □                                                   |
| Switching frequency                       | 0.5 kHz                                             |
| Design                                    | Threaded barrel, M18 x 1                            |
| Dimensions                                | 52 mm                                               |
| Housing material                          | Metal, CuZn, Chrome-plated                          |
| Active area material                      | Plastic, PA12-GF30                                  |

Technical data

|                                       |                                            |
|---------------------------------------|--------------------------------------------|
| 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                      | IP67                                       |
| MTTF                                  | 2283 years acc. to SN 29500 (Ed. 99) 40 °C |
| Switching state                       | LED, Yellow                                |

Mounting instructions

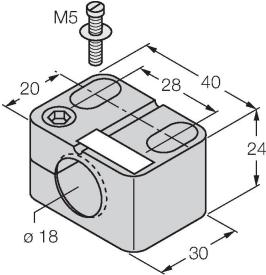
Mounting instructions/Description

The image contains three isometric diagrams illustrating different mounting methods for a sensor. The top diagram shows a sensor mounted on a wall with dimension T. The middle diagram shows two sensors mounted on a bracket with dimension G. The bottom diagram shows a sensor mounted on a bracket with dimensions D, S, and W.

|                        |         |
|------------------------|---------|
| Distance D             | 2 x B   |
| 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 |

Accessories

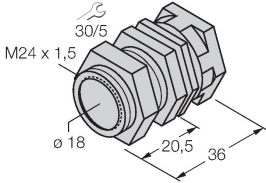
**BST-18B**



6947214

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

**QM-18**



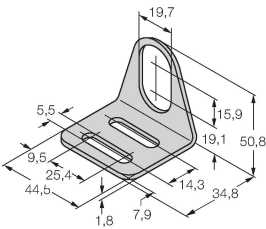
6945102

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.

MW-18

6945004

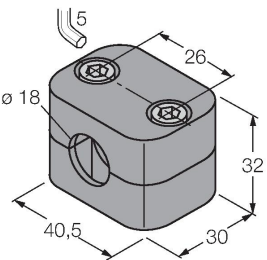
Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)



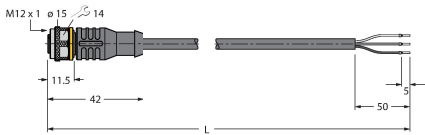
BSS-18

6901320

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



Accessories

| Dimension drawing                                                                 | Type        | ID no.  |                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------|-------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | RKC4T-2/TEL | 6625010 | Connection cable, female M12, straight, 3-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see <a href="http://www.turck.com">www.turck.com</a> |