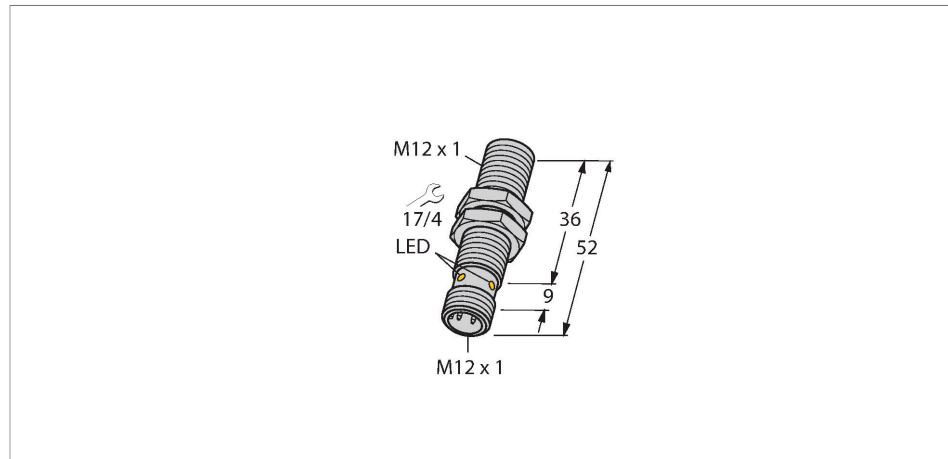


# BI4-M12-AP6X-H1141

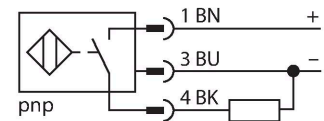
## Inductive sensor – With increased switching distance



### Features

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

### Wiring diagram



### Technical data

|   |   |
|---|---|
| Type                                      | BI4-M12-AP6X-H1141                                  |
| Ident. no.                                | 46070   |
| Rated switching distance                  | 4 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 %  |
| Ambient temperature                       | -25...+70 °C  |
| Operating voltage                         | 10...30 VDC   |
| Residual ripple                           | $\leq 10\% U_s$                                     |
| DC rated operational current              | $\leq 200$ mA                                       |
| No-load current                           | $\leq 15$ mA  |
| Residual current                          | $\leq 0.1$ mA                                       |
| Isolation test voltage                    | $\leq 0.5$ kV                                       |
| Short-circuit protection                  | yes / Cyclic  |
| Voltage drop at $I_e$                     | $\leq 1.8$ V  |
| Wire breakage/Reverse polarity protection | yes / Complete                                      |
| Output function                           | 3-wire, NO contact, PNP                             |
| Insulation class                          | □   |
| Switching frequency                       | 2 kHz   |
| Design                                    | Threaded barrel, M12 × 1                            |
| Dimensions                                | 52 mm   |

### 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

|                                    |  |
|------------------------------------|--|
| Housing material                   | Metal, CuZn, Chrome-plated                 |
| Active area material               | Plastic, PA12-GF30                         |
| Max. tightening torque housing nut | 10 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



|                           |         |
|---------------------------|---------|
| 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<br>B | Ø 12 mm |

Accessories

**QM-12** **6945101**

Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M16 × 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

**MW12** **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        | Ident. 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> |



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