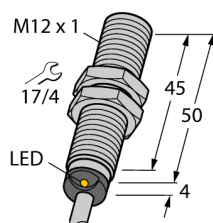
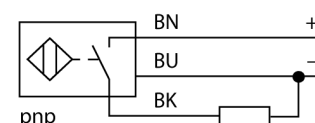


# Inductive sensor With increased switching distance BI4-M12-AP6X



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

## 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.

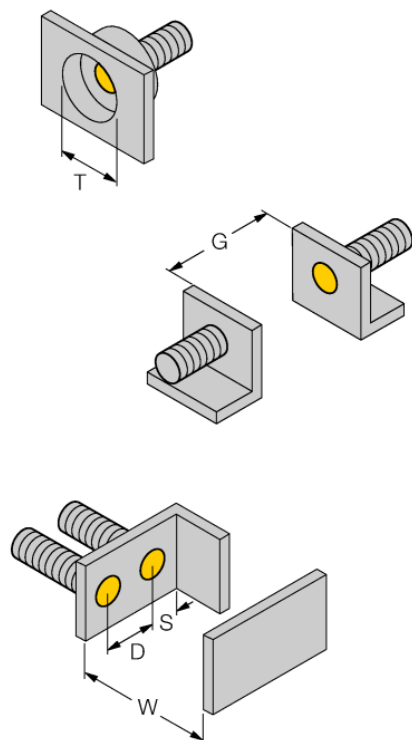
|                                             |                                                     |
|---------------------------------------------|-----------------------------------------------------|
| <b>Type code</b>                            | BI4-M12-AP6X                                        |
| Ident no.                                   | 4607006                                             |
| <b>Rated switching distance Sn</b>          | 4 mm                                                |
| Mounting conditions                         | flush                                               |
| Assured switching distance                  | $\leq (0,81 \times S_n) \text{ mm}$                 |
| Correction factors                          | St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4 |
| Repeatability                               | $\leq 2 \% \text{ of full scale}$                   |
| Temperature drift                           | $\leq \pm 10 \%$                                    |
| Hysteresis                                  | 3...15 %                                            |
| Ambient temperature                         | -25...+70 °C                                        |
| <b>Operating voltage</b>                    | 10... 30VDC                                         |
| Residual ripple                             | $\leq 10 \% U_{ss}$                                 |
| DC rated operational current                | $\leq 200 \text{ mA}$                               |
| No-load current $I_0$                       | $\leq 15 \text{ mA}$                                |
| Residual current                            | $\leq 0.1 \text{ mA}$                               |
| Rated insulation voltage                    | $\leq 0.5 \text{ kV}$                               |
| Short-circuit protection                    | yes/ cyclic                                         |
| Voltage drop at $I_0$                       | $\leq 1.8 \text{ V}$                                |
| Wire breakage / Reverse polarity protection | yes/ complete                                       |
| Output function                             | 3-wire, NO contact, PNP                             |
| Switching frequency                         | 2 kHz                                               |
| <b>Construction</b>                         | Threaded barrel, M12 x 1                            |
| Dimensions                                  | 54 mm                                               |
| Housing material                            | Metal, CuZn, chrome-plated                          |
| Active area material                        | Plastic, PA                                         |
| End cap                                     | Plastic, EPTR                                       |
| Max. tightening torque housing nut          | 10 Nm                                               |
| Connection                                  | cable                                               |
| Cable quality                               | 5.2 mm, LifYY, PVC, 2m                              |
| Cable cross section                         | $3 \times 0.34 \text{ mm}^2$                        |
| 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          |
| <b>Switching state</b>                      | LED yellow                                          |

# Inductive sensor With increased switching distance BI4-M12-AP6X

|            |         |
|------------|---------|
| 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  |

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|                               |         |
|-------------------------------|---------|
| Diameter of the active area B | Ø 12 mm |
|-------------------------------|---------|

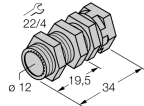
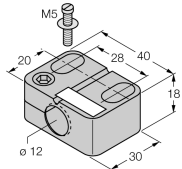
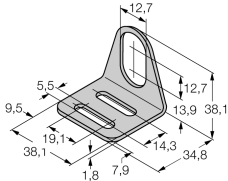
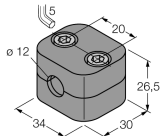


**Inductive sensor**  
**With increased switching distance**  
**BI4-M12-AP6X**

**TURCK**

Industrial  
Automation

**Accessories**

| Type code | Ident no. | Description                                                                                                                                                                                  |                                                                                       |
|-----------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| QM-12     | 6945101   | Quick-mount bracket with dead-stop; material: Chrome-plated brass Male thread M16 x 1. Note: The switching distance of proximity switches can be reduced by the use of quick-mount brackets. |    |
| BST-12B   | 6947212   | Fixing clamp for threaded barrel devices, with dead-stop; material: PA6                                                                                                                      |    |
| MW-12     | 6945003   | Mounting bracket for threaded barrel devices; material: Stainless steel A2 1.4301 (AISI 304)                                                                                                 |  |
| BSS-12    | 6901321   | Mounting bracket for smooth and threaded barrel devices; material: Polypropylene                                                                                                             |  |