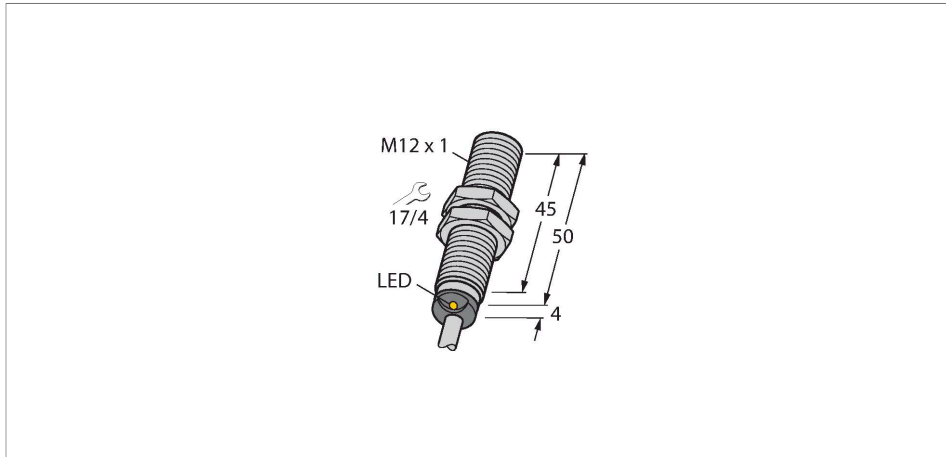


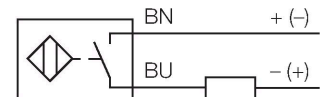
# BI2-M12-AD4X Inductive Sensor



## Features

- M12 × 1 threaded barrel
- Chrome-plated brass
- DC 2-wire, 10...65 VDC
- NO contact
- Cable connection

## Wiring diagram



## Technical data

|   |   |
|---|---|
| Type                                      | BI2-M12-AD4X  |
| Ident. no.                                | 44050   |
| Rated switching distance                  | 2 mm  |
| Mounting conditions                       | Flush   |
| Secured operating distance                | ≤ (0.81 × S <sub>n</sub> ) mm                       |
| Correction factors                        | St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4 |
| Repeat accuracy                           | ≤ 2 % of full scale                                 |
| Temperature drift                         | ≤ ± 10 %  |
| Hysteresis                                | 1...15 %  |
| Ambient temperature                       | -25...+70 °C  |
| Operating voltage                         | 10...65 VDC   |
| Residual ripple                           | ≤ 10 % U <sub>s</sub>                               |
| DC rated operational current              | ≤ 100 mA  |
| Residual current                          | ≤ 0.6 mA  |
| Isolation test voltage                    | ≤ 0.5 kV  |
| Short-circuit protection                  | yes / Cyclic  |
| Voltage drop at I <sub>e</sub>            | ≤ 5 V   |
| Wire breakage/Reverse polarity protection | Complete  |
| Output function                           | 2-wire, NO contact, 2-wire                          |
| Smallest operating current                | ≥ 3 mA  |
| Switching frequency                       | 1 kHz   |
| <b>Design</b>                             | <b>Threaded barrel, M12 × 1</b>                     |
| Dimensions                                | 54 mm   |
| Housing material                          | Metal, CuZn, Chrome-plated                          |

## Functional principle

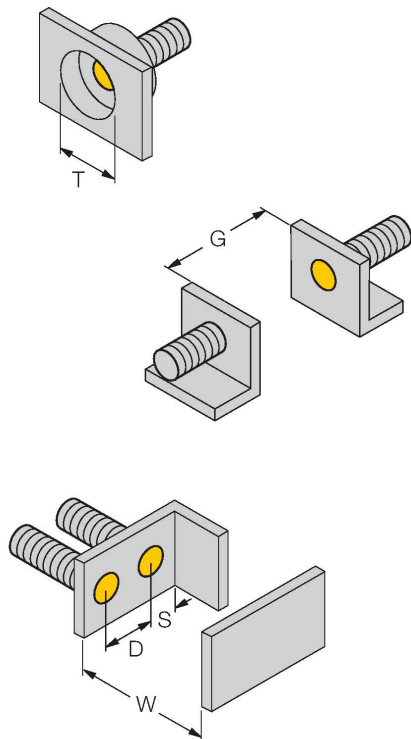
Inductive sensors detect metal objects contactless and wear-free. For this, they use a high-frequency electromagnetic AC field that interacts with the target. Inductive sensors generate this field via an RLC circuit with a ferrite coil.

## Technical data

|                                    |  |
|------------------------------------|--|
| Active area material               | Plastic, PA12-GF30                         |
| End cap                            | Plastic, EPTR                              |
| Max. tightening torque housing nut | 10 Nm                                      |
| Electrical connection              | Cable                                      |
| Cable quality                      | Ø 5.2 mm, LifYY, PVC, 2 m                  |
| Core cross-section                 | 2 x 0.34 mm <sup>2</sup>                   |
| 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

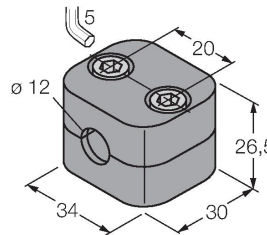
6945003



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