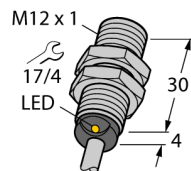


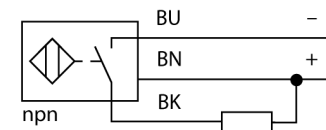
# Inductive Sensor

## BI2-G12K-AN6X 4M



- Threaded barrel, M12x1
- Chrome-plated brass
- DC 3-wire, 10...30 VDC
- NO contact, NPN 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.

|                                        |                                                     |
|----------------------------------------|-----------------------------------------------------|
| Type                                   | BI2-G12K-AN6X 4M                                    |
| ID                                     | 46712000                                            |
| <b>General data</b>                    |                                                     |
| Rated switching distance $S_n$         | 2 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                            |
| Hysteresis                             | 3...15 %                                            |
| <b>Electrical data</b>                 |                                                     |
| Operating voltage $U_s$                | 10...30 VDC                                         |
| Ripple $U_{rs}$                        | $\leq 10\% U_{Bmax}$                                |
| DC rated operating current $I_s$       | $\leq 200$ mA                                       |
| Residual current                       | $\leq 0.1$ mA                                       |
| Isolation test voltage                 | 0.5 kV                                              |
| Short-circuit protection               | yes/Cyclic                                          |
| Voltage drop at $I_s$                  | $\leq 1.8$ V                                        |
| Wire break/reverse polarity protection | yes/Complete                                        |
| Output function                        | 3-wire, NO contact, NPN                             |
| Switching frequency                    | 2 kHz                                               |
| <b>Mechanical data</b>                 |                                                     |
| Design                                 | Threaded barrel, M12 x 1                            |
| Dimensions                             | 34 mm                                               |
| Housing material                       | Metal, CuZn, Chrome-plated                          |
| Active area material                   | Plastic, PA12-GF30                                  |
| End cap                                | Plastic, EPTR                                       |
| Max. tightening torque of housing nut  | 10 Nm                                               |
| Electrical connection                  | Cable                                               |
| Cable quality                          | Ø 5.2mm, LifYY, PVC, 4 m                            |
| Core cross-section                     | 3 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                                |

## Accessories

| Type code | Ident-No. |                                                                                                                                                                                            | Dimension drawing |
|-----------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| BST-12B   | 6947212   | Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6                                                                                                                  |                   |
| 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. |                   |
| MW-12     | 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                                                                                                             |                   |