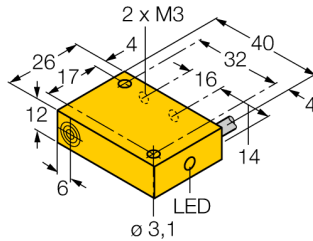
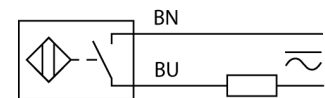


# Inductive sensor BI2-Q12-AZ31X



- Rectangular, height 12 mm
- Active face, lateral
- Plastic, PBT-GF30-V0
- AC 2-wire, 20...250 VDC
- DC 2-wire, 10...300 VDC
- NO contact
- 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 designation</b>                          | BI2-Q12-AZ31X                                       |
| Ident-No.  | 13100   |
| <b>Rated switching distance <math>S_n</math></b> | 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                            |
| Temperature drift                                | $\leq \pm 10\%$                                     |
| Hysteresis                                       | 3...15 %  |
| Ambient temperature                              | -25...+70 °C  |
| <b>Operating voltage</b>                         | 20...250VAC   |
| Operating voltage                                | 10...300 VDC  |
| AC rated operational current                     | $\leq 100$ mA                                       |
| DC rated operational current                     | $\leq 100$ mA                                       |
| Frequency  | $\geq 50... \leq 60$ Hz                             |
| Residual current                                 | $\leq 1.7$ mA                                       |
| Isolation test voltage                           | $\leq 1.5$ kV                                       |
| Surge current                                    | $\leq 1$ A ( $\leq 10$ ms max. 5 Hz)                |
| Voltage drop at $I_n$                            | $\leq 6$ V  |
| Output function                                  | 2-wire, NO contact                                  |
| Smallest operating current $I_m$                 | $\geq 3$ mA   |
| Switching frequency                              | 0.02 kHz  |
| <b>Design</b>                                    | Rectangular, Q12                                    |
| Dimensions                                       | 40 x 26 x 12 mm                                     |
| Housing material                                 | Plastic, PA12-GF30                                  |
| Electrical connection                            | Cable   |
| Cable quality                                    | 5.2mm, LifYY, PVC, 2                                |
| Cable 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          |
| <b>Switching state</b>                           | LED, Red  |

# Inductive sensor BI2-Q12-AZ31X

**TURCK**  
*works*

Industrial  
Automation

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|            |        |
|------------|--------|
| Distance D | 2 x B  |
| Distance W | 3 x Sn |
| Distance S | 1 x B  |
| Distance G | 6 x Sn |

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Width active area B 12 mm

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