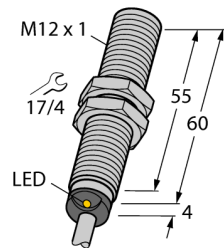


# Inductive sensor BI2-M12-AZ31X

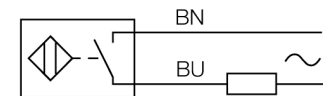
**TURCK**

Industrial  
Automation



- Threaded barrel, M12 x 1
- Chrome-plated brass
- AC 2-wire, 20...250 VAC
- 2-wire DC, 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.

We offer special versions for temperatures of -60 °C up to +250 °C.

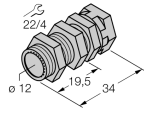
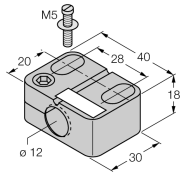
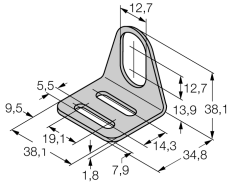
<b>Type code</b>	BI2-M12-AZ31X
Ident no.	13030
<b>Rated operating distance <math>S_n</math></b>	2 mm
Mounting condition	flush
Assured sensing range	$\leq (0,81 \times S_n)$ mm
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeatability	$\leq 2\%$ of full scale
Temperature drift	10 %
Hysteresis	3...15 %
Ambient temperature	-25...+70 °C
<b>Operating voltage</b>	20...250 VAC
Operating voltage	10...300VDC
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
Rated insulation 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 $I_m$	$\leq 3$ mA
Switching frequency	0.02 kHz
<b>Design</b>	threaded barrel, M12 x 1
Dimensions	64 mm
Housing material	metal, CuZn, chrome-plated
Material active area	Plastic, PA
End cap	Plastic, EPTR
Max. tightening torque housing nut	10 Nm
Connection	cable
Cable quality	5.2 mm, LifYY, PVC, 2 m
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-M12-AZ31X**

Distance D	2 x B
Distance W	3 x Sn
Distance T	3 x B
Distance S	1.5 x B
Distance G	6 x Sn
<b>Diameter of the active area B</b>	<b>Ø 12 mm</b>



**Accessories**

Type code	Ident no.	Description	Dimension drawing
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	