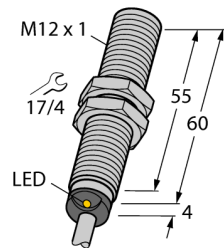


Inductive sensor BI2-M12-AZ31X

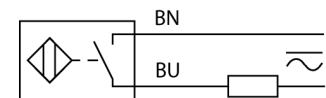
TURCK

Industrial
Automation



- M12 × 1 threaded barrel
- Chrome-plated brass
- AC 2-wire, 20...250 VDC
- DC 2-wire, 10...300 VDC
- NO contact
- Cable connection

Wiring Diagram



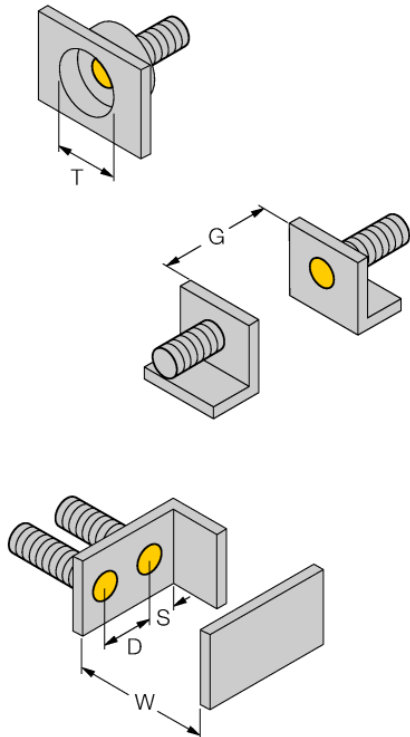
Functional principle

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.

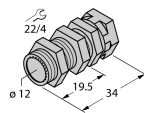
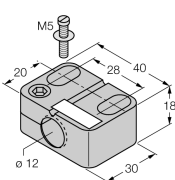
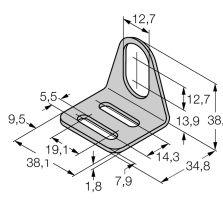
Type designation	BI2-M12-AZ31X
Ident no.	13030
Rated switching distance S_n	2 mm
Mounting conditions	Flush
Secured operating distance	$\leq (0,81 \times S_n)$ mm
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeat accuracy	$\leq 2\%$ of full scale
Temperature drift	$\leq \pm 10\%$
Hysteresis	3...15 %
Ambient temperature	-25...+70 °C
Operating voltage	20...250VAC
Operating voltage	10...300 VDC
AC rated operational current	≤ 100 mA
DC rated operational current	≤ 100 mA
Frequency	$\geq 50... \leq 60$ Hz
Residual current	≤ 1.7 mA
Isolation test voltage	≤ 1.5 kV
Surge current	≤ 1 A (≤ 10 ms max. 5 Hz)
Voltage drop at I_n	≤ 6 V
Output function	2-wire, NO contact
Smallest operating current I_m	≥ 3 mA
Switching frequency	0.02 kHz
Design	Threaded barrel, M12 × 1
Dimensions	64 mm
Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, PA12-GF30
End cap	Plastic, EPTR
Max. tightening torque housing nut	10 Nm
Electrical connection	Cable
Cable quality	5.2 mm, LifYY, PVC, 2m
Cable cross section	2 x 0.34 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
Switching state	LED red

**Inductive sensor
BI2-M12-AZ31X**

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 B	Ø 12 mm



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	