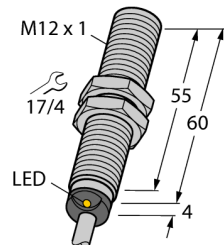


Inductive Sensor

BI2-M12-AZ31X/F2



Type	BI2-M12-AZ31X/F2
ID	13031

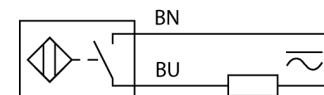
General data	
Rated switching distance S_n	2 mm
Mounting conditions	Flush
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeat accuracy	$\leq 2\%$ of full scale
Hysteresis	3...15 %

Electrical data	
Operating voltage U_a	20...250VAC
Operating voltage U_a	10...300 VDC
AC rated operational current	≤ 100 mA
DC rated operating current I_a	≤ 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_a	≤ 6 V
Output function	2-wire, NO contact, 2-wire
Smallest operating current I_{a0}	≥ 3 mA
Switching frequency	0.02 kHz

Mechanical data	
Design	Threaded barrel, M12 x 1
Dimensions	64 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	$\varnothing$ 5.2mm, LifYY, PVC, 2 m
Core cross-section	2 x 0.34 mm ²

- M12 x 1 threaded barrel
- Chrome-plated brass
- Large coverage
- Shifted oscillator frequency F2
- AC 2-wire, 20...250 VDC
- DC 2-wire, 10...300 VDC
- NO contact
- Cable connection

Wiring Diagram

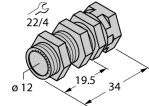
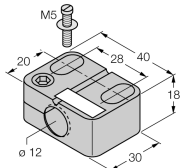
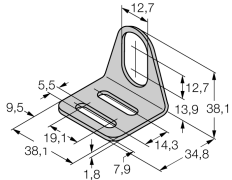


Functional principle

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.

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, Red

Accessories

Type code	Ident-No.		Dimension drawing
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	
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	