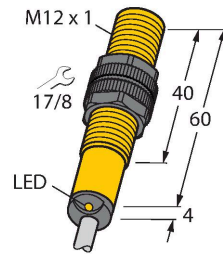


# BI2-S12-RZ31X

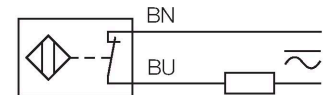
## Inductive Sensor



### Features

- Threaded barrel, M12 x 1
- Plastic, PA12-GF30
- AC 2-wire, 35...250 VDC
- DC 2-wire, 10...300 VDC
- NC contact
- Cable connection

### Wiring diagram



### Technical data

Type	BI2-S12-RZ31X
ID	13120
General data	
Rated switching distance	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 %
Electrical data	
Operating voltage $U_b$	20...250 VAC
Operating voltage $U_b$	10...300 VDC
AC rated operational current	$\leq 100$ mA
DC rated operating current $I_b$	$\leq 100$ mA
Frequency	$\geq 50... \leq 60$ Hz
Residual current	$\leq 1.7$ mA
Isolation test voltage	1.5 kV
Surge current	$\leq 1$ A ( $\leq 10$ ms max. 5 Hz)
Voltage drop at $I_b$	$\leq 6$ V
Output function	2-wire, NC contact, 2-wire
Smallest operating current	$\geq 3$ mA
Switching frequency	0.02 kHz

### 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.

## Technical data

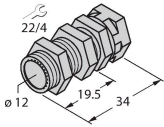
Mechanical data	
Design	Threaded barrel, M12 x 1
Dimensions	60 mm
Housing material	Plastic, PA12-GF30
Active area material	Plastic, PA12-GF30
End cap	Plastic, EPTR
Max. tightening torque of housing nut	1 Nm
Electrical connection	Cable
Cable quality	Ø 5.2 mm, LifYY, PVC, 2 m
Core cross-section	2 x 0.34 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, Red

Mounting instructions

Mounting instructions/Description	
	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
	Diameter active area B Ø 12 mm

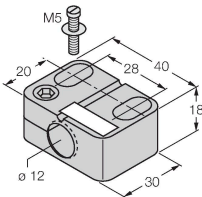
Accessories

QM-12	6945101
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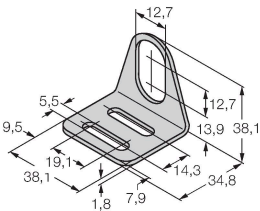
Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M16 × 1. Note: The switching distance of the proximity switches may change when using quick-mount brackets.

BST-12B	6947212
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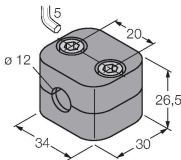
Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6

MW12	6945003
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Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)

BSS-12	6901321
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Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene