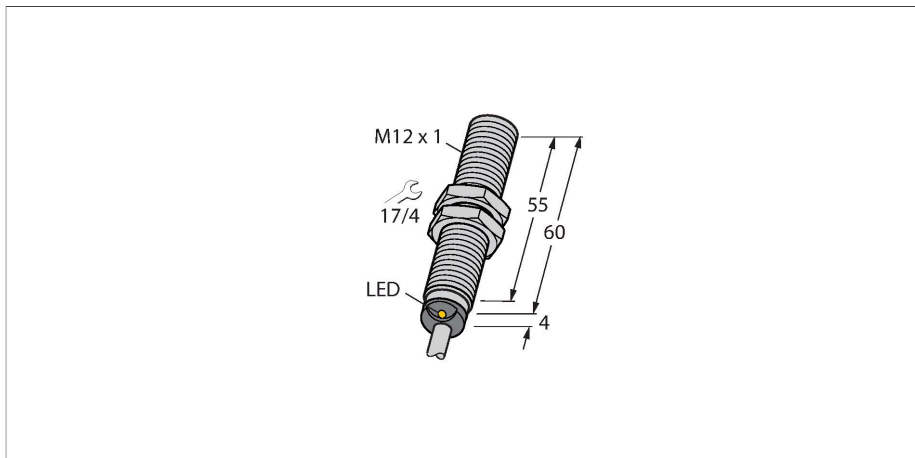


# BI2-M12-RDZ31X 7M

## Inductive Sensor



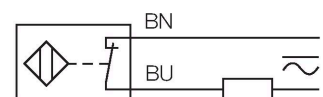
### Technical data

Type	BI2-M12-RDZ31X 7M
ID	100018030
<b>General data</b>	
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 %
<b>Electrical data</b>	
Operating voltage	20...250 VAC
Operating voltage	10...300 VDC
AC rated operational current	$\leq 100$ mA
DC rated operational current	$\leq 100$ mA
Frequency	$\geq 50 \dots \leq 60$ 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)
Short-circuit protection	yes / Latching
Voltage drop at $I_n$	$\leq 6$ V
Wire breakage/Reverse polarity protection	yes / Complete
Output function	2-wire, NC contact, 2-wire
Smallest operating current	$\geq 3$ mA
Switching frequency	0.02 kHz

### Features

- M12 × 1 threaded barrel
- Chrome-plated brass
- AC 2-wire, 20...250 VAC
- DC 2-wire, 10...300 VDC
- Short-circuit proof
- NC 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.

## Technical data

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	Ø 5.2 mm, LifYY, PVC, 7 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	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

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

