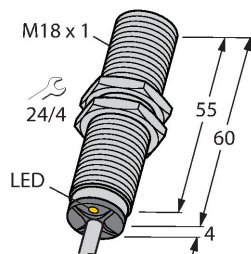


BI5-M18-RDZ3X 7M

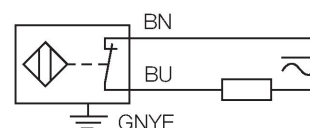
Inductive Sensor



Features

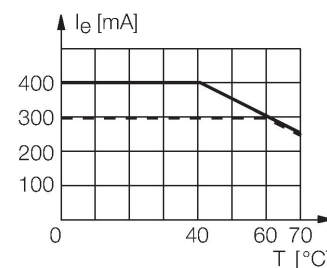
- Threaded barrel, M18 x 1
- Chrome-plated brass
- AC 2-wire, 20...250 VAC
- DC 2-wire, 10...300 VDC
- Short-circuit proof
- NC contact
- Cable connection

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

Type	BI5-M18-RDZ3X 7M
ID	100018035
General data	
Rated switching distance	5 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	≤ 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	≤ 400 mA
DC rated operating current I _e	≤ 300 mA
Frequency	$\geq 50... \leq 60$ Hz
Residual current	≤ 1.7 mA
Isolation test voltage	1.5 kV
Surge current	≤ 8 A (≤ 10 ms max. 5 Hz)
Short-circuit protection	yes/Latching
Voltage drop at I _e	≤ 6 V
Wire break/reverse polarity protection	yes/Complete
Output function	2-wire, NC contact, 2-wire
Smallest operating current	≥ 3 mA
Switching frequency	0.02 kHz

Technical data

Mechanical data	
Design	Threaded barrel, M18 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	25 Nm
Electrical connection	Cable
Cable quality	Ø 5.2 mm, LifYY, PVC, 7 m
Core cross-section	3 x 0.5 mm ²
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

The image contains three technical diagrams illustrating the mounting of a sensor. The top diagram shows a side view of a sensor with a circular active area (yellow) and a dimension line labeled 'T' indicating the thickness of the mounting plate. The middle diagram shows two sensors being mounted onto a surface, with a dimension line labeled 'G' indicating the distance between the mounting points. The bottom diagram shows a top view of two sensors mounted on a surface, with dimension lines labeled 'D' (distance between active areas), 'S' (distance from active area to edge), and 'W' (width of the mounting plate).

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 18 mm

Accessories

BST-18B 6947214

Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6



QM-18 6945102

Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M24 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.



MW18 6945004

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



BSS-18 6901320

Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene

