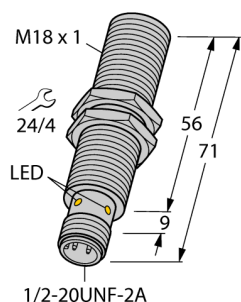


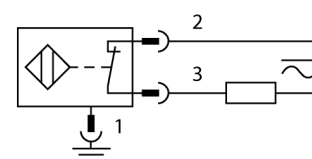
Inductive Sensor

BI3-M18-RZ3X-B3331/S903



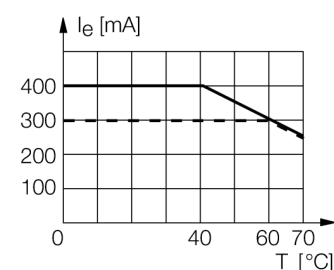
- Threaded barrel, M18 x 1
- Chrome-plated brass
- Hysteresis always below 0.1 mm
- AC 2-wire, 20...250 VAC
- DC 2-wire, 10...300 VDC
- NC contact
- 1/2" male connector

Wiring Diagram



Functional principle

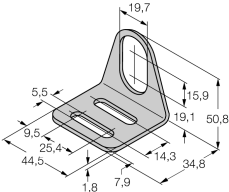
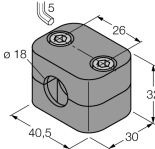
Inductive sensors detect metal objects contactless and wear-free. For this, they use a high-frequency electromagnetic AC field that interacts with the target. Inductive sensors generate this field via an RLC circuit with a ferrite coil.



Type	BI3-M18-RZ3X-B3331/S903
ID	1302113
Special version	S903 Corresponds to: Hysteresis < 0.1 mm
General data	
Rated switching distance S_n	3 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	1...3 %
Electrical data	
Operating voltage U_a	20...250VAC
Operating voltage U_a	10...300 VDC
AC rated operational current	≤ 400 mA
DC rated operating current I_a	≤ 300 mA
Frequency	≥ 50 ... ≤ 60 Hz
Residual current	≤ 1.7 mA
Isolation test voltage	1.5 kV
Surge current	≤ 8 A (≤ 10 ms max. 5 Hz)
Voltage drop at I_a	≤ 6 V
Output function	2-wire, NC contact, 2-wire
Smallest operating current I_{a0}	≥ 3 mA
Switching frequency	0.02 kHz
Mechanical data	
Design	Threaded barrel, M18 x 1
Dimensions	71 mm
Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, PA12-GF30
Max. tightening torque of housing nut	25 Nm
Electrical connection	Connector, 1/2"

Environmental conditions	
Ambient temperature	-25...+70 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
Power-on indication	LED, Green
Switching state	LED, Red

Accessories

Type code	Ident-No.		Dimension drawing
MW-18	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	
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.	