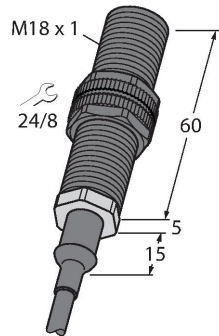


BI5-P18-AP6/S139-S1261

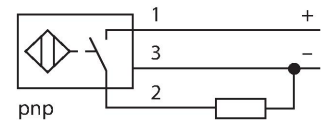
Inductive Sensor – For Underwater Applications



Features

- Threaded barrel, M18 x 1
- Plastic, POM
- For underwater and off-shore applications
- Oil and seawater resistant
- Protection class IP68, 500 m water column
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- 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-P18-AP6/S139-S1261
ID	1650234
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
Static pressure	≤ 50 bar
Temperature drift	$\leq \pm 10$ %
Hysteresis	3...15 %
Electrical data	
Operating voltage	10...30 VDC
Residual ripple	≤ 10 % U_{ss}
DC rated operational current	≤ 200 mA
No-load current	15 mA
Residual current	≤ 0.1 mA
Isolation test voltage	≤ 0.5 kV
Short-circuit protection	yes / Cyclic
Voltage drop at I_o	≤ 1.8 V
Wire breakage/Reverse polarity protection	yes / Complete
Output function	3-wire, NO contact, PNP
Switching frequency	0.5 kHz
Mechanical data	
Design	Threaded barrel, M18 x 1
Dimensions	80 mm

Technical data

Housing material	Plastic, POM, Black
Active area material	Plastic, POM, black
End cap	Metal, 1.4401 (AISI 316L)
Max. tightening torque of housing nut	2 Nm
Electrical connection	Cable
Cable quality	Ø 5.2 mm, Ölflex rugged 210, TPE, 2 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	IP68

Mounting instructions

Mounting instructions/Description

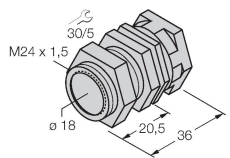
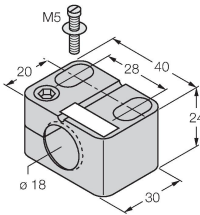
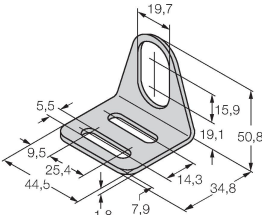
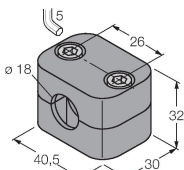
A side view of a mounting bracket. A horizontal dimension line labeled 'T' indicates the distance from the left edge of the bracket to the center of the circular hole.

Two mounting brackets are shown. A horizontal dimension line labeled 'G' indicates the distance between the center of the hole in the left bracket and the center of the hole in the right bracket.

A top view of a mounting bracket. Three dimensions are indicated: 'D' is the distance from the left edge to the center of the first hole; 'S' is the distance between the centers of the two holes; and 'W' is the total width of the bracket.

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

QM-18	6945102	BST-18B	6947214
	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.		Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6
MW-18	6945004	BSS-18	6901320
	Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)		Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene