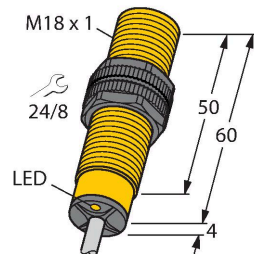


BI5-S18-VP4X/S100

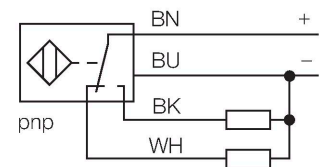
Inductive Sensor – With Increased Temperature Range



Features

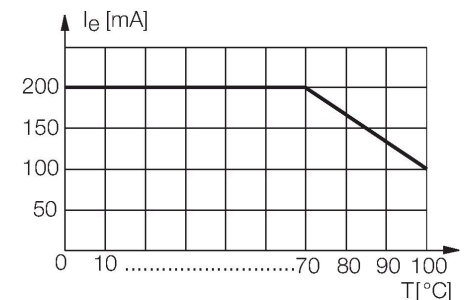
- Threaded barrel, M18 x 1
- Plastic, PA12-GF30
- Temperatures up to +100 °C
- DC 4-wire, 10...65 VDC
- Changeover contact, PNP output
- Cable connection

Wiring diagram



Functional principle

Inductive sensors detect metal objects contactless and wear-free. For this purpose they use a high-frequency electromagnetic AC field that interacts with the target. The sensors hosting a ferrite core coil generate the AC field through an LC resonant circuit. Special versions are available for ambient temperatures between -60°C and +250°C.



Technical data

Type	BI5-S18-VP4X/S100
ID	1513402
Special version	S100 Corresponds to: Maximum ambient temperature = 100 °C
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	$\leq \pm 10$ %
	$\leq \pm 20$ %, $\geq +70$ °C
Hysteresis	3...15 %
Electrical data	
Operating voltage U_B	10...65 VDC
Ripple U_{ss}	≤ 10 % U_{Bmax}
DC rated operating current I_o	≤ 200 mA
Rated operational current	See derating curve
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 break/reverse polarity protection	yes/Complete
Output function	4-wire, Complementary contact, PNP
Switching frequency	0.5 kHz

Technical data

Mechanical data	
Design	Threaded barrel, M18 x 1
Dimensions	64 mm
Housing material	Plastic, PA12-GF30
Active area material	Plastic, PA12-GF30
End cap	Plastic, EPTR
Max. tightening torque of housing nut	2 Nm
Electrical connection	Cable
Cable quality	Ø 5.2 mm, LifYY-T105, PVC, 2 m
Core cross-section	4 x 0.34 mm ²
Environmental conditions	
Ambient temperature	-25...+100 °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, Yellow

Mounting instructions

Mounting instructions/Description

The image contains three technical diagrams illustrating different mounting methods for a sensor component.

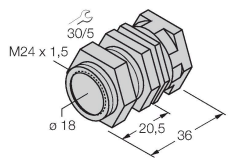
- Top Diagram:** A side view of a sensor with a circular active area (highlighted in yellow). A dimension line labeled 'T' indicates the thickness of the sensor's mounting flange.
- Middle Diagram:** Two sensors are shown being joined together. A dimension line labeled 'G' indicates the distance between the centers of the two sensors.
- Bottom Diagram:** A sensor is shown being mounted to a rectangular plate. Three dimension lines are present: 'D' indicates the distance from the edge of the plate to the center of the sensor's active area; 'S' indicates the distance from the center of the active area to the edge of the sensor's mounting flange; and 'W' indicates the 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

QM-18

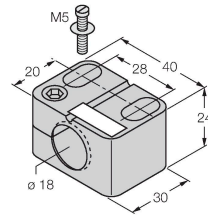
6945102



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.

BST-18B

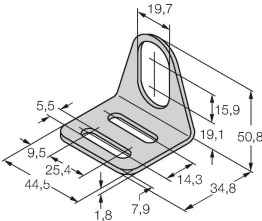
6947214



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

MW18

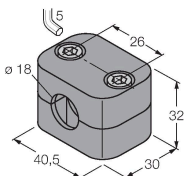
6945004



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