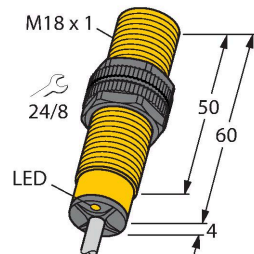


BI5-S18-AZ3X/S97

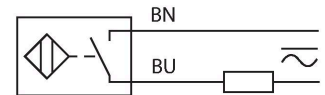
Inductive Sensor – With Extended Temperature Range



Features

- Threaded barrel, M18 x 1
- Plastic, PA12-GF30
- Temperatures up to -40 °C
- AC 2-wire, 20...250 VAC
- DC 2-wire, 10...300 VDC
- NO contact
- Cable connection

Wiring diagram

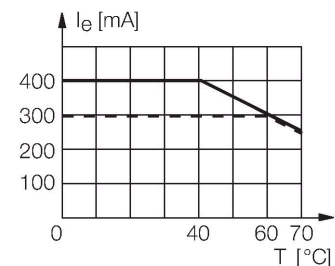


Technical data

Type	BI5-S18-AZ3X/S97
ID	1373410
Special version	S97 corresponds to: Minimum ambient temperature = -40 °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	$\leq \pm 10$ % $\leq \pm 20$ %, ≤ -25 °C
Hysteresis	3...15 %
Electrical data	
Operating voltage	20...250 VAC
Operating voltage	10...300 VDC
AC rated operational current	≤ 400 mA
DC rated operational current	≤ 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_o	≤ 6 V
Output function	2-wire, NO contact, 2-wire
Smallest operating current	≥ 3 mA
Switching frequency	0.02 kHz

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

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, SiHSi, Silicone, 2 m
Core cross-section	2 x 0.5 mm ²
Environmental conditions	
Ambient temperature	-40...+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

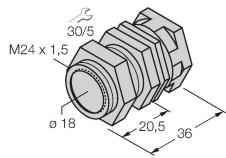
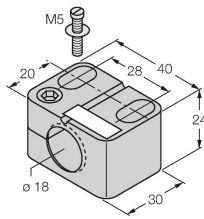
Mounting instructions

Mounting instructions/Description

The image contains three technical diagrams illustrating the mounting of a threaded barrel. The top diagram shows a side view of a barrel with a central hole, with dimension T indicating the distance from the center to the edge. The middle diagram shows two components, one with a hole and one without, with dimension G indicating the distance between them. The bottom diagram shows a top view of the assembly, with dimensions D, S, W, and B indicating various distances and widths.

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
					
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
