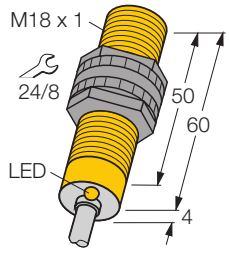
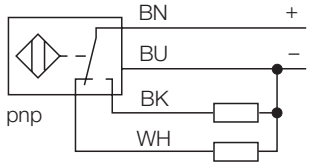
Inductive sensor
with extended temperature range
Bi5-S18-VP4X/S97

Industrial Automation



- **Threaded barrel, M18 x 1**
- **plastic, PA12-GF30**
- **for temperatures up to -40°C**
- **DC 4-wire, 10…65 VDC**
- **Change-over contact, PNP output**
- **Cable connection**

Wiring diagram



Type	Bi5-S18-VP4X/S97
Ident-No.	1513420
Rated operating distance Sn	5 mm
Mounting condition	flush
Assured sensing range	(0,81 x Sn) mm
Correction factors	St37 = 1, V2A ~ 0.7, Ms ~ 0.4, Al ~ 0.3
Repeatability	2 %
Temperature drift	± 10 %
	± 20 %, -25 °C
Hysteresis	3… 15 %
Ambient temperature	-40…+ 70 °C
Operating voltage	10… 65VDC
Residual ripple	10 % U_{ss}
DC rated operational current	200 mA
No-load current I_0	15 mA
Residual current	0.1 mA
Rated insulation voltage	0.5 kV
Short-circuit protection	yes / cyclic
Voltage drop at I_e	1.8V
Wire breakage / Reverse polarity protection	yes / complete
Output function	4-wire, change-over, pnp
Switching frequency	0.5 kHz
Housing	threaded barrel, M18 x 1
Dimensions	64 mm
Housing material	plastic, PA12-GF30
Material active face	plastic, PA12-GF30
End cap	plastic, EPTR
Tightening torque of housing nut	2 Nm
Connection	cable
Cable quality	Ø 5.2, SiHSi, silicone, 2 m
Cable cross section:	4 x 0.25mm^2
Vibration resistance	55 Hz (1 mm)
Shock resistance	30g (11 ms)
Degree of protection	IP67
Display switch state	LED yellow

Functional principle

Inductive sensors are designed for wear-free and non-contact detection of metal objects. For this purpose they use a high-frequency electro-magnetic AC field that interacts with the target. With inductive sensors, this field is generated by an LC resonant circuit with a ferrite core coil. Special inductive sensors versions can be used at temperatures of -60°C up to +250°C.

• Edition: • 08.11.2008

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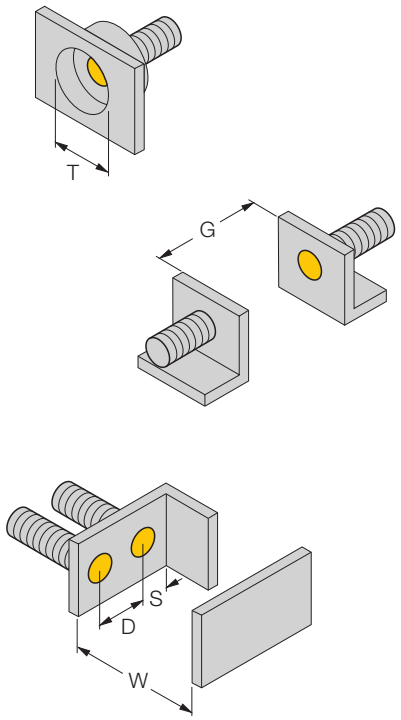
Mounting instructions	minimum distances
Distance D	2 x B
Distance W	3 x Sn
Distance T	3 x B
Distance S	1,5 x B
Distance G	6 x Sn

Diameter of the active area B	Ø 18 mm



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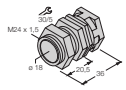
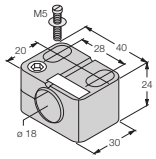
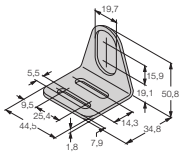
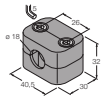
Accessories

Type code	Ident-No.	Short text	Dimension drawing
QM-18	6945102	quick-mount fixing clamp with dead-stop; material: chrome-plated brass male thread M24 x 1.5. Note: The switching distance of proximity switches can be reduced by the use of quick mounting brackets.	
BST-18B	6947214	fixing clamp with dead-stop; material: PA6	
MW-18	6945004	mounting bracket; material: stainless steel A2 1.4301 (AISI 304)	
BSS-18	6901320	fixing clamp; material: polypropylene	

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