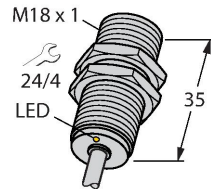


BI10-EG18F-AP6X

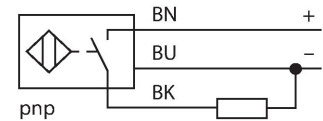
Inductive Sensor – Stainless Steel Front



Features

- M18 × 1 threaded barrel
- Stainless steel, 1.4305
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- Cable connection

Wiring diagram



Technical data

Type	BI10-EG18F-AP6X
ID	4614722
General data	
Rated switching distance	10 mm
Mounting conditions	Flush
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Correction factors	St37 = 1; Al = 1; Cu=0.8; stainless steel 1mm = 0.5; stainless steel 2mm = 0.9; Ms = 1.2
Repeat accuracy	$\leq 5 \%$ of full scale
Temperature drift	$\leq \pm 10 \%$
Hysteresis	15 %
Electrical data	
Operating voltage U_B	10...30 VDC
Ripple U_{rs}	$\leq 20 \%$ U_{Bmax}
DC rated operating current I_B	≤ 200 mA
No-load current	≤ 10 mA
Residual current	≤ 0.1 mA
Isolation test voltage	0.5 kV
Short-circuit protection	yes/Cyclic
Voltage drop at I_B	≤ 2 V
Wire break/reverse polarity protection	yes/Complete
Output function	3-wire, NO contact, PNP
Switching frequency	0.2 kHz

Functional principle

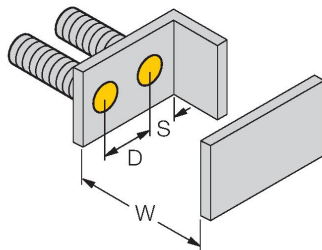
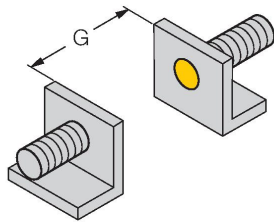
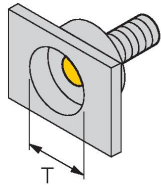
The inductive all-metal switches operate on the basis of the electromagnetic pulse method. Unlike standard inductive sensors, the magnetic field is not generated through oscillation but through short, periodic current pulses flowing through the coil. The magnetic field induces voltage in the object to be detected, which, for its part creates a current flow in this object. After switching off the current pulse, the current in the object also drops, now inducing voltage back in the emitter coil. This voltage is the wanted signal and remains unaffected by energy dissipation in the magnetic field. Only non-ferromagnetic or poorly conductive metals provide a low signal.

Technical data

Mechanical data	
Design	Threaded barrel, M18 x 1
Dimensions	35 mm
Housing material	Stainless steel, 1.4305 (AISI 303)
Active area material	Stainless steel, 1.4305 (AISI 303)
Admissible pressure on front cap	≤ 60 bar
Max. tightening torque of housing nut	50 Nm
Electrical connection	Cable
Cable quality	Ø 5 mm, PUR, 2 m
Core cross-section	3 x 0.34 mm ²
Environmental conditions	
Ambient temperature	-25...+70 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP68 IP69K
MTTF	377 years acc. to SN 29500 (Ed. 99) 20 °C
Switching state	LED, Yellow, LED flashing: 0.8 s, < s ≤ s,

Mounting instructions

Mounting instructions/Description



Distance D 60 mm

Distance W 30 mm

Distance T 54 mm

Distance S 25 mm

Distance G 60 mm

Diameter active
area B Ø 18 mm

The following reduction factors apply when
flush-mounted in:

Steel: 0.75

Aluminium: 0.9

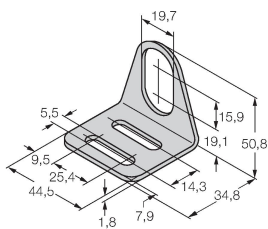
Brass: 0.75

Stainless steel: 0.8

Accessories

MW18

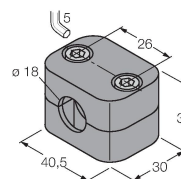
6945004



Mounting bracket for threaded barrel
sensors; material: Stainless steel A2
1.4301 (AISI 304)

BSS-18

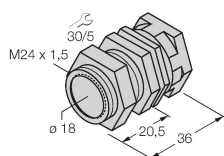
6901320



Mounting clamp for smooth and
threaded barrel sensors; material:
Polypropylene

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.