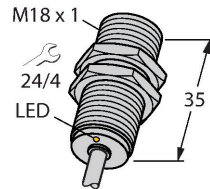


# BI10-EG18F-AP6X

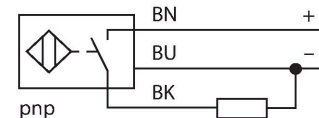
## Inductive Sensor – Stainless Steel Front



### 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
<b>General data</b>	
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 %
<b>Electrical data</b>	
Operating voltage	10...30 VDC
Residual ripple	$\leq 20$ % $U_{ss}$
DC rated operational current	$\leq 200$ mA
No-load current	10 mA
Residual current	$\leq 0.1$ mA
Isolation test voltage	$\leq 0.5$ kV
Short-circuit protection	yes / Cyclic
Voltage drop at $I_o$	$\leq 2$ V
Wire breakage/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 <sup>2</sup>
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  $\varnothing$  18 mm

The following reduction factors apply when flush-mounted in:

Steel: 0.75

Aluminium: 0.9

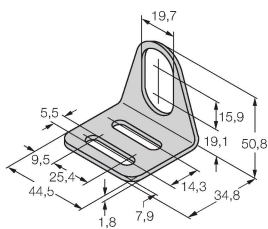
Brass: 0.75

Stainless steel: 0.8

## Accessories

MW-18

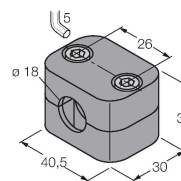
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Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)

BSS-18

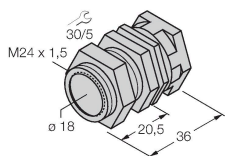
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Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene

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.