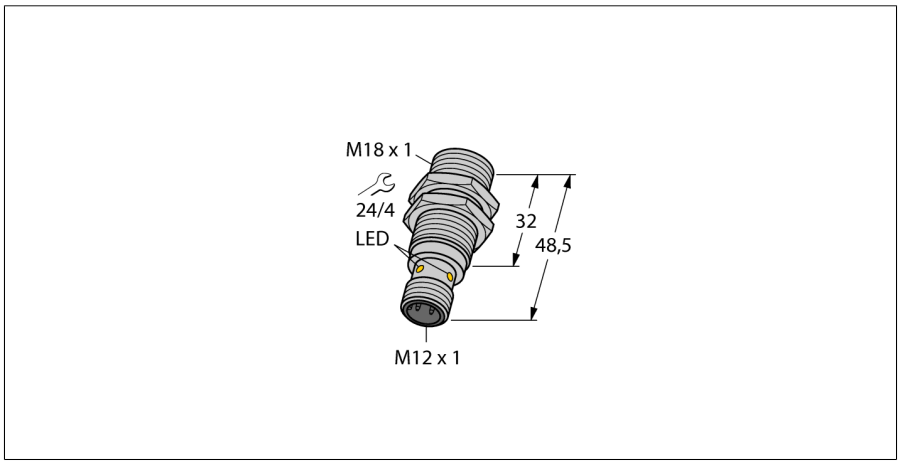
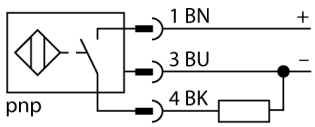
Inductive sensor
Stainless steel front
BI10-EG18F-AP6X-H1141

Industrial Automation



- **Threaded barrel, M18 x 1**
- **Stainless steel, 1.4305**
- **DC 3-wire, 10…30 VDC**
- **NO contact, PNP output**
- **M12 x 1 male connector**

Wiring Diagram



Type designation	BI10-EG18F-AP6X-H1141
Ident-No.	4614708
Ident-No (TUSA)	M4614708
Rated switching distance Sn	10 mm
Mounting conditions	flush
Assured switching distance	≤ (0,81 x Sn) mm
Correction factors	St37 = 1; Al = 1; Cu=0.8; stainless steel 1mm = 0.5; stainless steel 2mm = 0.9; Ms = 1.2
Repeatability	≤ 5 % of full scale
Static pressure	≤ 60 bar
Temperature drift	≤ ± 10 %
Hysteresis	3…15 %
Ambient temperature	-25…+70 °C
Operating voltage	10… 30VDC
Residual ripple	≤ 20 % U_{ss}
DC rated operational current	≤ 200 mA
No-load current I_0	≤ 10 mA
Residual current	≤ 0.1 mA
Rated insulation voltage	≤ 0.5 kV
Short-circuit protection	yes/ cyclic
Voltage drop at I_e	≤ 2 V
Wire breakage / Reverse polarity protection	yes/ complete
Output function	3-wire, NO contact, PNP
Switching frequency	0.2 kHz
Construction	Threaded barrel, M18 x 1
Dimensions	48.5 mm
Housing material	Stainless steel, V2A (1.4305), PTFE-coated
Active area material	Stainless steel, 1.4305 (AISI 303), PTFE-coated
End cap	Metal
Admissible pressure on front cap	≤ 60 bar
Max. tightening torque housing nut	50 Nm
Electrical connection	Flange connector, M12 x 1
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_r < s ≤ s_r

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.

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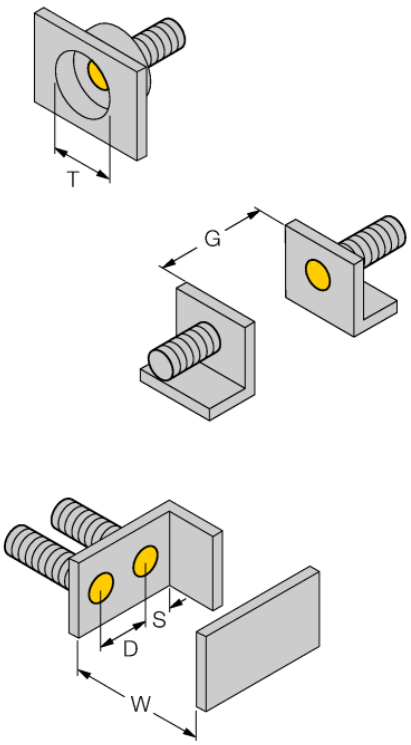
Distance D	60 mm
Distance W	30 mm
Distance T	54 mm
Distance S	25 mm
Distance G	60 mm

Diameter of the 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

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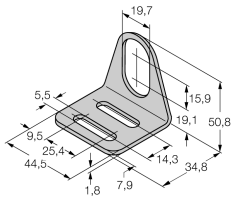
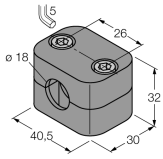
Accessories

Type code	Ident-No.	Description	
MW-18	6945004	Mounting bracket for threaded barrel devices; material: Stainless steel A2 1.4301 (AISI 304)	
BSS-18	6901320	Mounting bracket for smooth and threaded barrel devices; material: Polypropylene	

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