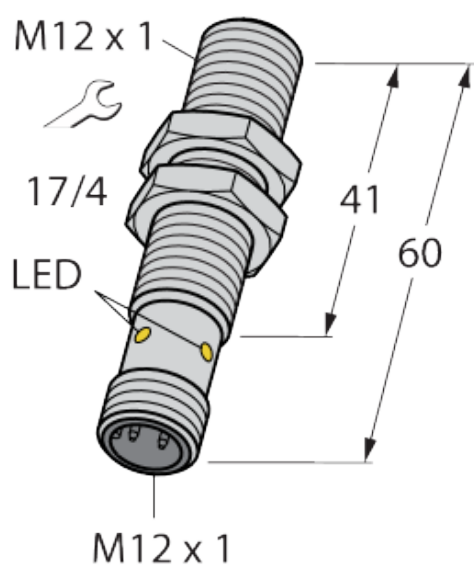


BI6-EG12FE-AP6X-H1141

Inductive Sensor Stainless steel front



Type designation	BI6-EG12FE-AP6X-H1141
Ident-No.	4614706

Technical data

General data	
Correction factors	St37 = 1; Al = 1; Cu = 0.85; stainless steel 1 mm = 0.5; stainless steel 2 mm = 0.9; Ms = 1.3
Detection area/measuring range	
Rated switching distance	6 mm
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Power supply	

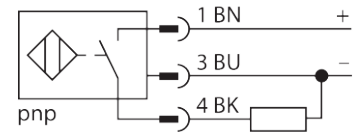
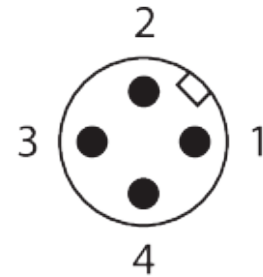
Features

- M12 × 1 threaded barrel
- Stainless steel, 1.4305
- DC 3-wire, 10...30 VDC
- NO, PNP output
- Connector, M12 × 1

Technical data

Operating voltage U_B	10...30 VDC
Voltage drop at I_e	≤ 2 V
Electrical data	
No-load current	10 mA
Output function	3-wire, normally open NO, PNP
Short-circuit protection	yes/Cyclic
Wire break/reverse polarity protection	yes/Complete
DC rated operational current	≤ 200 mA
Isolation test voltage	$\leq 0,5$ kV
Residual current	$\leq 0,1$ mA
Residual ripple	≤ 20 % U_{SS}
Switching frequency	0,6 kHz
Accuracy/deviation	
Hysteresis	15 % v. E.
Temperature drift	10 %
Repeat accuracy	≤ 5 % v. E.
Mechanical data	
Design	Threaded barrel, M12 x 1
Construction type designation	EG12FE
	$\varnothing 12$ mm
Housing material	Stainless steel, 1.4305 (AISI 303)
Active area material	Stainless steel, 1.4305 (AISI 303)
Admissible pressure on front cap	≤ 80 bar
Max. tightening torque of housing nut	20 Nm
Electrical connection	Connector, M12 x 1
Number of pins	4
Pressure resistant	yes
Thread length	41 mm
Thread size	M12 x 1
Mounting conditions	Flush
Ambient conditions	
Ambient temperature	-25...+70 °C
Pollution degree	3
Shock resistance	30 g (11 ms)
Vibration resistance	55 Hz (1 mm)
Protection class	IP68 IP69K
Tests/approvals	

Wiring Diagram



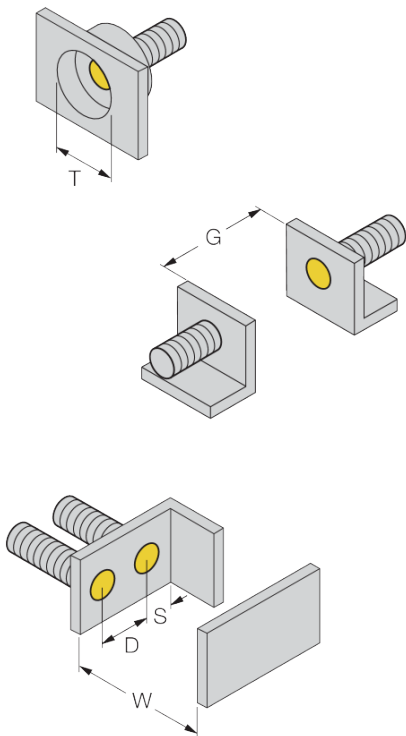
Functional principle

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

MTTF	336 Years acc. to SN 29500 (Ed. 99) 20 °C
Displays/controls	
Switching state	LED, Yellow, LED flashing: 0.8 sr < s ≤ sr

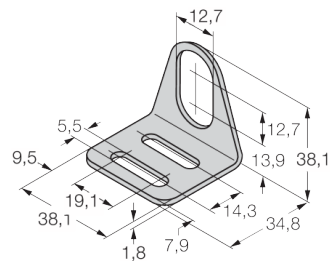
Assembly instructions



Distance D: 40 mm
Distance W: 18 mm
Distance T: 36 mm
Distance S: 12 mm
Distance G: 36 mm
Diameter active area B: 12 mm
Installation information:
Different reduction factors apply when
flush-mounted in the following metals:
Steel: 0.7
Aluminium: 1.15
Brass: 1.05
Stainless steel: 0.8

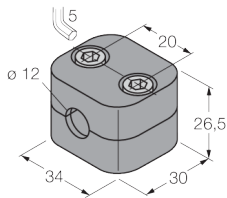
Mounting accessories

MW12	6945003
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Mounting bracket for threaded
barrel sensors; material:
Stainless steel A2 1.4301
(AISI 304)

BSS-12	6901321
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Mounting bracket for smooth
and threaded barrel sensors;
material: Polypropylene