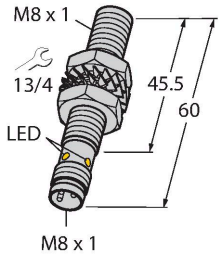
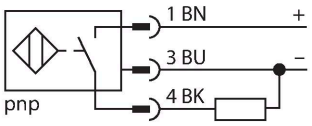
BI3-EG08FE-AP6X-V1131
Inductive Sensor – Stainless Steel Front

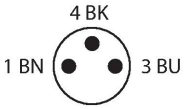


Features

- Threaded barrel, M8 x 1
- Stainless steel, 1.4305
- DC 3-wire, 10…30 VDC
- NO contact, PNP output
- M8 x 1 male connector

Wiring diagram





Technical data

Type	BI3-EG08FE-AP6X-V1131
ID	4614729
General data	
Rated switching distance	3 mm
Mounting conditions	Flush
Secured operating distance	≤ (0.81 × Sn) mm
Correction factors	St37 = 1; Al = 1; Cu = 0.85; stainless steel 1 mm = 0.3; stainless steel 2 mm = 0.6; Ms = 1.35
Repeat accuracy	≤ 5 % of full scale
Temperature drift	≤ ±10 %
Hysteresis	20…15 %
Electrical data	
Operating voltage U_B	10…30 VDC
Ripple U_{ss}	≤ 20 % U_{Bmax}
DC rated operating current I_e	≤ 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_e	≤ 2 V
Wire break/reverse polarity protection	yes/Complete
Output function	3-wire, NO contact, PNP
Switching frequency	1 kHz
Mechanical data	
Design	Threaded barrel, M8 x 1
Housing material	Stainless steel, 1.4404 (AISI 316L)
Active area material	Stainless steel, 1.4305 (AISI 303)

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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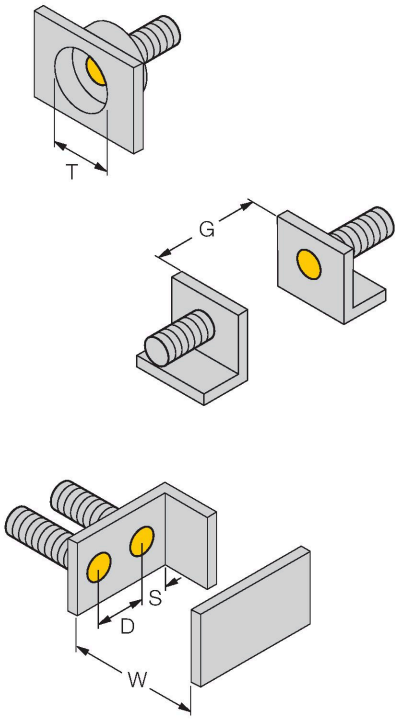
Technical data

Admissible pressure on front cap	≤ 100 bar
Max. tightening torque of housing nut	10 Nm
Electrical connection	Connector, M8 × 1
Environmental conditions	
Ambient temperature	-25…+85 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67 IP68
MTTF	409 years acc. to SN 29500 (Ed. 99) 20 °C

Mounting instructions

Mounting instructions/Description



Distance D	30 mm
Distance W	4.5 mm
Distance T	8 mm (Fe metal); 50 mm (non Fe-metal)
Distance S	15 mm (Fe metal); 25 mm (non Fe-metal)
Distance G	35 mm
Diameter active area B	Ø 8 mm

The reduction factors listed below apply when flush-mounted in the following metals:
Steel: 1.0
Aluminum: 0.9
Brass: 0.9
Stainless steel: 1.0

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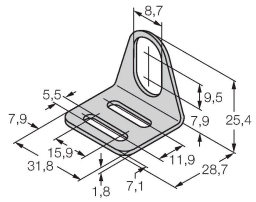
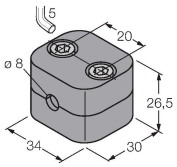
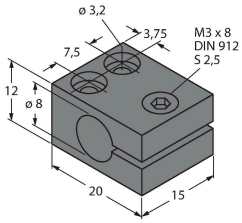
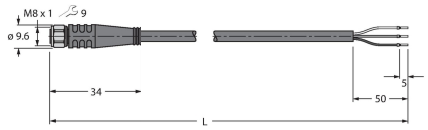
Accessories

MW08	6945008
	Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)

BSS-08	6901322
	Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene

MBS80	69479
	Mounting clamp for smooth barrel sensors; mounting block material: Anodized aluminum

Accessories

Dimension drawing	Type	ID	
	PKGV3M-2/TEL	6625385	Connection cable, M8 female connector, straight, 3-pin, stainless steel coupling nut, cable length: 2 m, jacket material: PVC, black; cULus approval

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