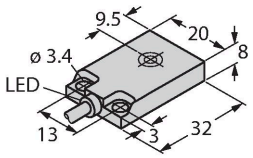
BI7-Q08F-AP6X
Inductive Sensor – In Stainless Steel Housing



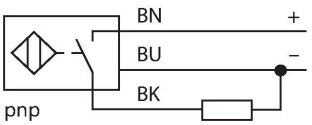
Technical data

Type	BI7-Q08F-AP6X
ID	1608916
General data	
Rated switching distance	7 mm
Pass speed	≤ 10 m/s
Mounting conditions	Flush
Secured operating distance	≤ (0.81 × Sn) mm
Correction factors	St37 = 1; Al = 1.0; Ms = 1.2; Stainless steel = 0.5/0.9
Repeat accuracy	≤ 5 % of full scale
Temperature drift	≤ ±10 %
Hysteresis	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	0.2 kHz

Features

- Rectangular, height 8 mm
- Active face on top
- Stainless steel housing 1.4401
- DC 3-wire, 10…30 VDC
- NO contact, PNP output
- Cable connection

Wiring diagram



Functional principle

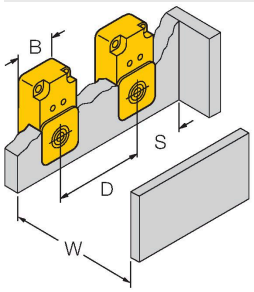
The inductive all-metal switches operate on the basis of the electromagnetic pulse method. Unlike standard inductive sensors, the magnetic field is not generated through oscillation but through short, periodic current pulses flowing through the coil. The magnetic field induces voltage in the object to 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.

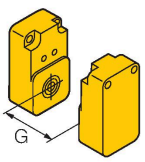
Technical data

Mechanical data	
Design	Rectangular, Q08
Dimensions	32 x 20 x 8 mm
Housing material	Stainless steel, 1.4401/LCP
Active area material	Stainless steel, 1.4404 (AISI 316L)
Tightening torque fixing screw	2 Nm
Electrical connection	Cable
Cable quality	Ø 3.5 mm, PUR, 2 m
Core cross-section	3 x 0.14 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	336 years acc. to SN 29500 (Ed. 99) 20 °C
Switching state	LED, Yellow, LED flashing: 0.8 s_r < s ≤ s_r

Mounting instructions

Mounting instructions/Description





Distance D	80 mm
Distance W	21 mm
Distance S	21 mm
Distance G	6 x Sn
Width active area B	20 mm

Different reduction factors apply when flush-mounted in the following metals:
Steel: 0.9
Aluminium: 0.9
Brass:0.8
Stainless steel:1.1