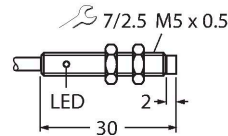


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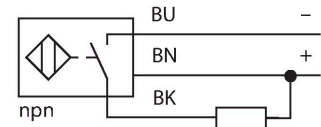
Inductive Sensor – Stainless Steel Front



Features

- Threaded barrel, M5 × 0.5
- Stainless steel, 1.4305 (AISI303)
- DC 3-wire, 10...30 VDC
- NO contact, NPN output
- Cable connection

Wiring diagram



Technical data

Type	NI3-EG05F-AN6X
ID	100002321
General data	
Rated switching distance	3 mm
Mounting conditions	Non-flush
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Correction factors	St37 = 1; Al = 1; Cu = 0.95; stainless steel 1 mm = 0.4; stainless steel 2 mm = 0.85; Ms = 1.4
Repeat accuracy	≤ 5 % of full scale
Temperature drift	$\leq \pm 10$ % $\leq \pm 15$ %, $\geq +70$ °C
Hysteresis	3...15 %
Electrical data	
Operating voltage U_B	10...30 VDC
Ripple U_{ss}	≤ 20 % U_{Bmax}
DC rated operating current I_o	≤ 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_o	≤ 2 V
Wire break/reverse polarity protection	yes/Complete
Output function	3-wire, NO contact, NPN
Switching frequency	1.2 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, M5 x 0.5
Dimensions	30 mm
Housing material	Stainless steel, 1.4305 (AISI 303)
Active area material	Stainless steel, 1.4305 (AISI 303)
Admissible pressure on front cap	≤ 150 bar
Max. tightening torque of housing nut	2.5 Nm
Electrical connection	Cable
Cable quality	Ø 2.6 mm, PUR, 2 m
Core cross-section	3 x 0.14 mm ²
Environmental conditions	
Ambient temperature	-25...+80 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	acc. to SN 29500 (Ed. 99) 20 °C
Switching state	LED, Yellow, LED flashing: 0.8 s, < s ≤ s,

Mounting instructions

Mounting instructions/Description

The diagram illustrates the mounting process in three stages. The top stage shows a side view of the sensor with dimension T. The middle stage shows the sensor being inserted into a mounting bracket with dimension G. The bottom stage shows the sensor fully mounted in the bracket with dimensions N, S, D, and W.

This diagram shows the sensor mounted in a bracket. The dimensions N, S, D, and W are indicated. Dimension N is the distance from the top of the bracket to the top of the sensor. Dimension S is the distance from the top of the sensor to the top of the mounting plate. Dimension D is the distance from the bottom of the sensor to the bottom of the mounting plate. Dimension W is the distance from the bottom of the mounting plate to the bottom of the sensor.

Distance D	40 mm
Distance W	9 mm
Distance T	18 mm
Distance S	9 mm
Distance G	6 x Sn
Distance N	9 mm
Diameter active area B	Ø 5 mm

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