

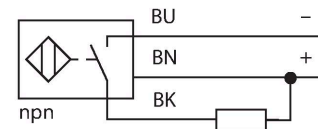
# NI3-EG05F-AN6X

## Inductive Sensor – Stainless Steel Front

### Features

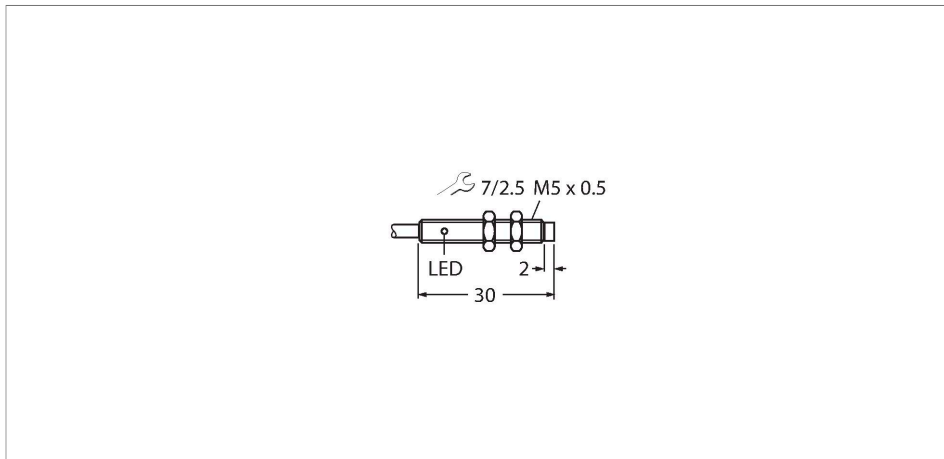
- Threaded barrel, M5 × 0.5
- Stainless steel, 1.4305 (AIS303)
- DC 3-wire, 10...30 VDC
- NO contact, NPN output
- Cable connection

### 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

Type	NI3-EG05F-AN6X
ID	100002321
<b>General data</b>	
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	$\leq 5\%$ of full scale
Temperature drift	$\leq \pm 10\%$ $\leq \pm 15\%$ , $\geq +70\text{ }^\circ\text{C}$
Hysteresis	3...15 %
<b>Electrical data</b>	
Operating voltage	10...30 VDC
Residual ripple	$\leq 20\%$ $U_{ss}$
DC rated operational current	$\leq 200$ mA
No-load current	10 mA
Residual current	$\leq 0.1$ mA
Isolation test voltage	$\leq 0.5$ kV
Short-circuit protection	yes / Cyclic
Voltage drop at $I_o$	$\leq 2$ V
Wire breakage/Reverse polarity protection	yes / Complete
Output function	3-wire, NO contact, NPN
Switching frequency	1.2 kHz

## 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 <sup>2</sup>
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		
	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