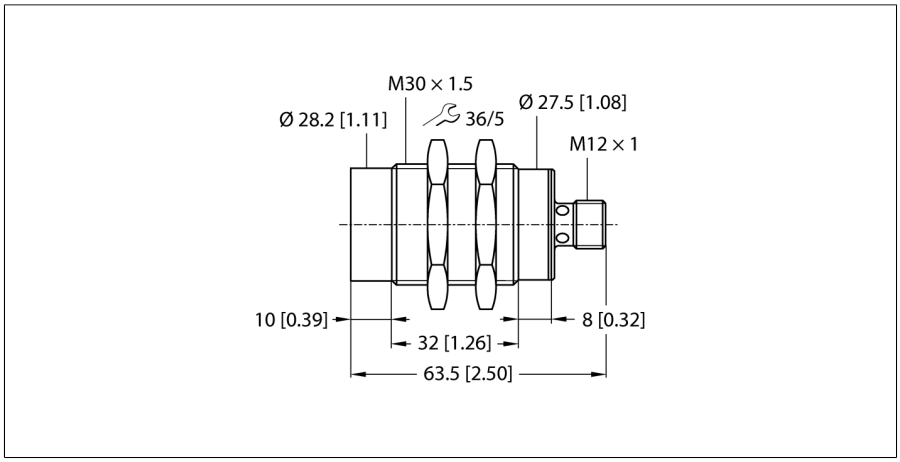
Inductive Sensor
Stainless Steel Front
NI5DS-EG30F-RP6X-H1141



- M30 × 1.5 threaded tube
- Stainless steel, 1.4305
- For double plate detection
- DC 3-wire, 10…30 VDC
- NC contact, PNP output
- M12 x 1 male connector

Type	NI5DS-EG30F-RP6X-H1141
ID	100029577

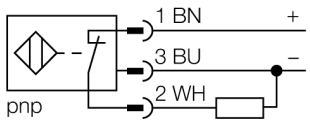
Remark to product	Switches when a second plate is within a distance of 3–5 mm. The plate must be 0.8–1.2 mm thick. For more detailed mounting conditions, please refer to the second page of the data sheet.

General data	
Rated switching distance Sn	5 mm
Mounting conditions	Non-flush
Secured operating distance	≤ (0.81 × Sn) mm
Correction factors	St37 = 1; Al = 1; Cu = 0.95; stainless steel 1 mm = 0.35; stainless steel 2 mm = 0.7; Ms = 1.3
Repeat accuracy	≤ 5 % of full scale
Static pressure	≤ 40 bar
Temperature drift	≤ ±10 %
Hysteresis	3…15 %

Electrical data	
Operating voltage U_B	10…30 VDC
Ripple U_{ss}	≤ 20 % U_{Bmax}
DC rated operating current I_e	≤ 200 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, NC contact, PNP
Switching frequency	0.01 kHz

Mechanical data	
Design	Threaded barrel, M30 x 1.5
Housing material	Stainless steel, 1.4305 (AISI 303)
Active area material	Stainless steel, 1.4305 (AISI 303)
Max. tightening torque of housing nut	10 Nm
Electrical connection	Connector, M12 × 1

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.

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Environmental conditions	
Ambient temperature	-25…+70 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	655 years acc. to SN 29500 (Ed. 99) 20 °C

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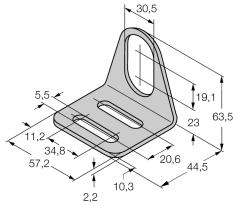
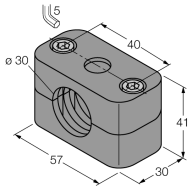
Accessories

Type code	Ident no.		Dimension drawing
MW-30	6945005	Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)	
BSS-30	6901319	Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene	

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