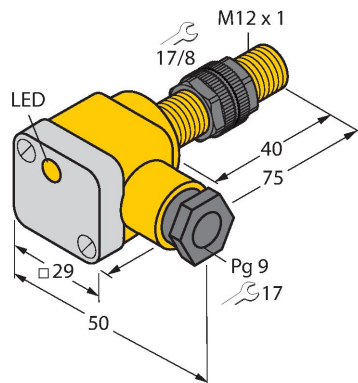


NI8U-P12SK-AP6X

Inductive Sensor



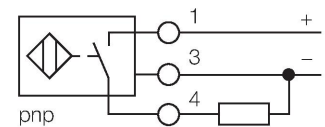
Features

- Threaded barrel, M12 x 1
- Plastic, PA12-GF30
- Factor 1 for all metals
- Protection class IP68
- Resistant to magnetic fields
- Extended temperature range
- High switching frequency
- Auto-compensation protects against pre-damping
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- Terminal chamber

Technical data

Type	NI8U-P12SK-AP6X
ID	1644700
General data	
Rated switching distance	8 mm
Mounting conditions	Non-flush, partially embeddable
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Repeat accuracy	$\leq 2 \%$ of full scale
Temperature drift	$\leq \pm 10 \%$
	$\leq \pm 20 \%, \leq -25 \text{ °C} \vee \geq +70 \text{ °C}$
Hysteresis	3...15 %
Electrical data	
Operating voltage	10...30 VDC
Residual ripple	$\leq 10 \%$ U_{ss}
DC rated operational current	≤ 200 mA
No-load current	25 mA
Residual current	≤ 0.1 mA
Isolation test voltage	≤ 0.5 kV
Short-circuit protection	yes / Cyclic
Voltage drop at I_o	≤ 1.8 V
Wire breakage/Reverse polarity protection	yes / Complete
Output function	3-wire, NO contact, PNP
DC field stability	300 mT
AC field stability	300 mT _{ss}
Insulation class	□
Switching frequency	1 kHz

Wiring diagram



Functional principle

Inductive sensors are designed for wear-free and contactless detection of metal objects. uprox Factor 1 sensors have significant advantages due to their patented ferrite-coreless multi-coil system. They detect all metals at the same large switching distance and are resistant to magnetic fields.

Technical data

Mechanical data	
Design	Threaded barrel, M12 x 1
Dimensions	75 mm
Housing material	Plastic, PA12-GF30
Terminal chamber cover material	plastic, Ultem
Terminal chamber housing material	plastic, PA12-GF30
Active area material	Plastic, PA12-GF30
Max. tightening torque of housing nut	1 Nm
Electrical connection	Terminal chamber
Clamping ability	≤ 2.5 mm²
Cable external diameter	4.5...8 mm
Environmental conditions	
Ambient temperature	-30...+85 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP68
MTTF	874 years acc. to SN 29500 (Ed. 99) 40 °C
Switching state	LED, Yellow
Included in delivery	cable gland; 2x plastic seals

Mounting instructions

Mounting instructions/Description

The image contains four technical diagrams illustrating the mounting of a cable gland. 1. Top left: A side view of the gland mounted on a plate, with dimension T indicating the distance from the mounting surface to the center of the gland. 2. Top right: A front view of the gland mounted on a plate, with dimension W indicating the distance from the mounting surface to the center of the gland. 3. Middle: An exploded view showing the gland and a nut, with dimension G indicating the distance between them. 4. Bottom: A detailed exploded view showing the gland, a nut, and a terminal block, with dimensions N, S, D, and W indicating various distances and widths.

A technical diagram showing a side view of the gland mounted on a plate. The dimension W is indicated as the distance from the mounting surface to the center of the gland.

Distance D	3 x B
Distance W	3 x Sn
Distance T	45 mm
Distance S	0.5 x B
Distance G	6 x Sn
Distance N	2 x Sn
Diameter active area B	Ø 12 mm

1-side flush mounting possible:
1-side flush mounting: Sr = 6 mm

Accessories

BST-12B	6947212	QM-12	6945101
	Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6		Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M16 × 1. Note: The switching distance of the proximity switches may change when using quick-mount brackets.
MW-12	6945003	BSS-12	6901321
	Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)		Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene