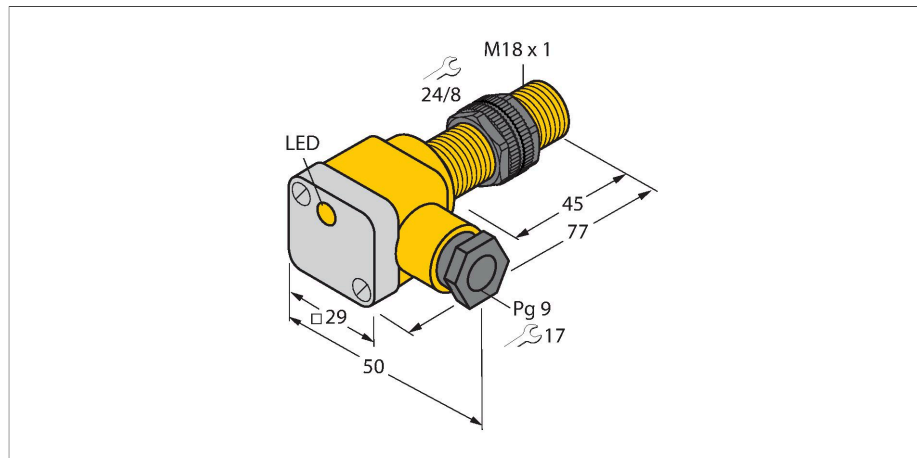


# NI12U-P18SK-AP6X

## Inductive Sensor



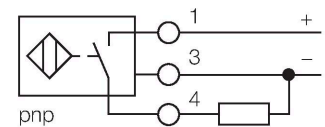
### Features

- Threaded barrel, M18 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	NI12U-P18SK-AP6X
ID	1645700
<b>General data</b>	
Rated switching distance	12 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	$\leq \pm 10 \%$
	$\leq \pm 20 \%, \leq -25^\circ\text{C} \vee \geq +70^\circ\text{C}$
Hysteresis	3...15 %
<b>Electrical data</b>	
Operating voltage	10...30 VDC
Residual ripple	$\leq 10 \% U_{ss}$
DC rated operational current	$\leq 200$ mA
No-load current	25 mA
Residual current	$\leq 0.1$ mA
Isolation test voltage	$\leq 0.5$ kV
Short-circuit protection	yes / Cyclic
Voltage drop at $I_o$	$\leq 1.8$ 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 <sub>ss</sub>
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, M18 x 1
Dimensions	77 mm
Housing material	Plastic, PA12-GF30
Terminal chamber cover material	plastic, Ultem
Terminal chamber housing material	plastic, PA12-GF30
Active area material	Plastic, PBT-GF20-V0
Max. tightening torque of housing nut	2 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

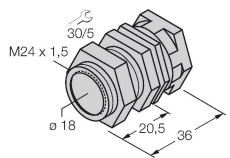
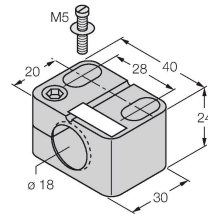
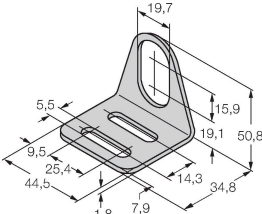
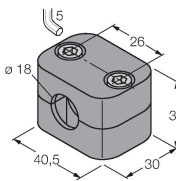
Mounting instructions

# Mounting instructions/Description

The image contains three technical diagrams illustrating the mounting of a cable gland. The top diagram shows a side view of a gland being mounted onto a plate, with dimension T indicating the thickness of the plate. The middle diagram shows two glands being mounted onto a plate, with dimension G indicating the distance between the glands. The bottom diagram shows a gland being mounted onto a plate, with dimensions N, S, D, W, and B indicating the mounting dimensions.

Distance D	$3 \times B$
Distance W	$3 \times S_n$
Distance T	65 mm
Distance S	$0.5 \times B$
Distance G	$6 \times S_n$
Distance N	$2 \times S_n$
Diameter active area B	$\varnothing 18 \text{ mm}$

Accessories

QM-18	6945102	BST-18B	6947214
	<p>Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M24 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.</p>		<p>Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6</p>
MW-18	6945004	BSS-18	6901320
	<p>Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)</p>		<p>Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene</p>