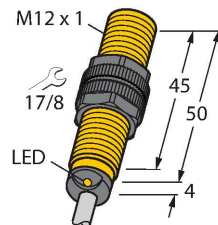


NI8U-S12-AP6X Inductive Sensor



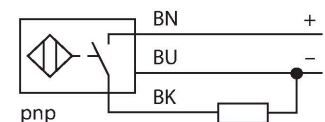
Features

- Threaded barrel, M12 x 1
- Plastic, PA6-GK15
- 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
- Cable connection

Technical data

Type	NI8U-S12-AP6X
ID	1644500
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	$\leq \pm 10 \%$ $\leq \pm 20 \%, -25^\circ\text{C} \leq +70^\circ\text{C}$
Hysteresis	3...15 %
Electrical data	
Operating voltage U_B	10...30 VDC
Ripple U_{ss}	$\leq 10 \%$ U_{Bmax}
DC rated operating current I_o	≤ 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 break/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
Mechanical data	
Design	Threaded barrel, M12 x 1

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

Dimensions	54 mm
Housing material	Plastic, PA6-GK15
Active area material	Plastic, PA12-GF30
End cap	Plastic, EPTR
Max. tightening torque of housing nut	1 Nm
Electrical connection	Cable
Cable quality	Ø 5.2 mm, LifYY, PVC, 2 m
Core cross-section	3 x 0.34 mm ²
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

Mounting instructions

Mounting instructions/Description

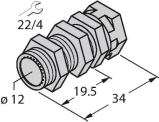
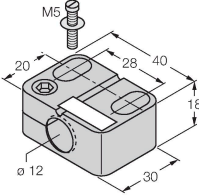
The image contains four technical diagrams illustrating different mounting configurations for a device.
 1. Top left: A side view of a single unit mounted on a wall. Dimension T indicates the distance from the wall to the center of the active area.
 2. Top right: A side view of a unit showing its width. Dimension W indicates the total width of the unit.
 3. Middle: An exploded view showing two units. Dimension G indicates the distance between the mounting brackets, and dimension S indicates the distance from the bracket to the active area.
 4. Bottom: An exploded view of three units. Dimension N indicates the distance between the mounting brackets. Dimension D indicates the distance from the bracket to the active area. Dimension S indicates the distance from the bracket to the active area. Dimension W indicates the total width of the unit.

A technical diagram showing a side view of a unit. Dimension W indicates the total width of the unit.

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

QM-12	6945101	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.	BST-12B	6947212	Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6
					
MW12	6945003	Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)	BSS-12	6901321	Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene
