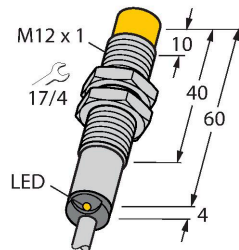


NI4-M12-ADZ31X 12M

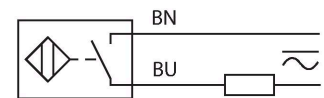
Inductive Sensor



Features

- M12 × 1 threaded barrel
- Chrome-plated brass
- AC 2-wire, 20...250 VAC
- DC 2-wire, 10...300 VDC
- Short-circuit proof
- NO contact
- Cable connection

Wiring diagram



Technical data

Type	NI4-M12-ADZ31X 12M
ID	100018043
General data	
Rated switching distance	4 mm
Mounting conditions	Non-flush
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeat accuracy	≤ 2 % of full scale
Temperature drift	$\leq \pm 10$ %
Hysteresis	3...15 %
Electrical data	
Operating voltage U_B	20...250 VAC
Operating voltage U_B	10...300 VDC
AC rated operational current	≤ 100 mA
DC rated operating current I_o	≤ 100 mA
Frequency	$\geq 50... \leq 60$ Hz
Residual current	≤ 1.7 mA
Isolation test voltage	1.5 kV
Surge current	≤ 1 A (≤ 10 ms max. 5 Hz)
Short-circuit protection	yes/Latching
Voltage drop at I_o	≤ 6 V
Wire break/reverse polarity protection	yes/Complete
Output function	2-wire, NO contact, 2-wire
Smallest operating current	≥ 3 mA
Switching frequency	0.02 kHz

Functional principle

Inductive sensors detect metal objects contactless and wear-free. For this, they use a high-frequency electromagnetic AC field that interacts with the target. Inductive sensors generate this field via an RLC circuit with a ferrite coil.

Technical data

Mechanical data	
Design	Threaded barrel, M12 x 1
Dimensions	64 mm
Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, PA12-GF30
End cap	Plastic, EPTR
Max. tightening torque of housing nut	10 Nm
Electrical connection	Cable
Cable quality	Ø 5.2 mm, LifYY, PVC, 12 m
Core cross-section	2 x 0.34 mm ²
Environmental conditions	
Ambient temperature	-25...+70 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	2283 years acc. to SN 29500 (Ed. 99) 40 °C
Switching state	LED, Red

Mounting instructions

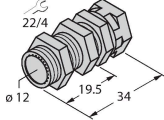
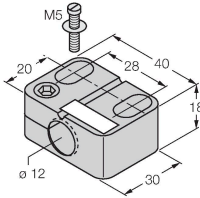
Mounting instructions/Description

The image contains three technical diagrams illustrating different mounting configurations for a sensor. The sensor is represented by a yellow cylinder with a threaded end.

- Top Diagram:** Shows a single sensor mounted through a rectangular plate. The dimension **T** is indicated as the thickness of the plate.
- Middle Diagram:** Shows two sensors mounted on a plate. The dimension **G** is indicated as the distance between the centers of the two sensors.
- Bottom Diagram:** Shows two sensors mounted on a plate. The dimensions are indicated as follows:
 - N:** The distance from the top edge of the plate to the center of the sensors.
 - S:** The distance from the bottom edge of the plate to the center of the sensors.
 - D:** The distance between the centers of the two sensors.
 - W:** The width of the plate.

Distance D	3 x B
Distance W	3 x Sn
Distance T	3 x B
Distance S	1.5 x B
Distance G	6 x Sn
Distance N	2 x Sn
Diameter active area B	Ø 12 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
