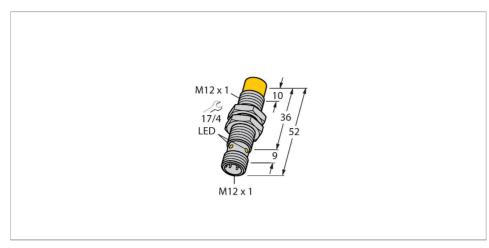


NI8U-M12-AP6X2-H1141 **Inductive Sensor**



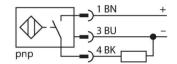
Technical data

Type Ident. no. 1644145 Rated switching distance 8 mm Mounting conditions Non-flush Secured operating distance ≤ (0.81 × Sn) mm Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ± 10 % ≤ ± 15 %, ≤ -25 °C v ≥ +70 °C Hysteresis 315 % Ambient temperature -30+85 °C Operating voltage 1030 VDC Residual ripple ≤ 10 % U _{ss} DC rated operational current ≤ 200 mA No-load current ≤ 20 mA Residual current ≤ 0.1 mA Isolation test voltage ≤ 0.5 kV Short-circuit protection yes / Cyclic Voltage drop at I₀ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP Insulation class □ Dimensions 52 mm Dimensions 52 mm		
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Secured operating distance $\leq (0.81 \times Sn) \text{ mm}$ Repeat accuracy $\leq 2 \text{ % of full scale}$ Temperature drift $\leq \pm 10 \text{ %}$ $\leq \pm 15 \text{ %, } \leq -25 \text{ °C V} \geq +70 \text{ °C}$ Hysteresis 315 % Ambient temperature $-30+85 \text{ °C}$ Operating voltage 1030 VDC Residual ripple $\leq 10 \text{ % U}_{ss}$ DC rated operational current $\leq 200 \text{ mA}$ No-load current $\leq 20 \text{ mA}$ Residual current $\leq 20 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Isolation test voltage $\leq 0.5 \text{ kV}$ Short-circuit protection yes / Cyclic Voltage drop at I_s $\leq 1.8 \text{ V}$ Wire breakage/Reverse polarity protection yes / Complete Output function $3\text{-wire, NO contact, PNP}$ Insulation class Switching frequency 2 kHz Design Threaded barrel, M12 × 1	Rated switching distance	8 mm
Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ± 10 % ≤ ± 15 %, ≤ -25 °C v ≥ +70 °C Hysteresis 315 % Ambient temperature -30+85 °C Operating voltage 1030 VDC Residual ripple ≤ 10 % U₅ DC rated operational current ≤ 200 mA No-load current ≤ 20 mA Residual current ≤ 0.1 mA Isolation test voltage ≤ 0.5 kV Short-circuit protection yes / Cyclic Voltage drop at I₀ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP Insulation class □ Switching frequency 2 kHz Design Threaded barrel, M12 × 1	Mounting conditions	Non-flush
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Signature Signa	Repeat accuracy	≤ 2 % of full scale
Hysteresis 315 % Ambient temperature -30+85 °C Operating voltage 1030 VDC Residual ripple ≤ 10 % U _{ss} DC rated operational current ≤ 200 mA No-load current ≤ 20 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 Insulation class □ Switching frequency 2 kHz Design Threaded barrel, M12 × 1	Temperature drift	≤ ± 10 %
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Operating voltage 1030 VDC Residual ripple ≤ 10 % U₅₅ DC rated operational current ≤ 200 mA No-load current ≤ 20 mA Residual current ≤ 0.1 mA Isolation test voltage ≤ 0.5 kV Short-circuit protection yes / Cyclic Voltage drop at I₆ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP Insulation class □ Switching frequency 2 kHz Design Threaded barrel, M12 × 1	Hysteresis	315 %
Residual ripple ≤ 10 % U _{ss} DC rated operational current ≤ 200 mA No-load current ≤ 20 mA Residual current ≤ 0.1 mA Isolation test voltage ≤ 0.5 kV Short-circuit protection yes / Cyclic Voltage drop at I₀ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP Insulation class □ Switching frequency 2 kHz Design Threaded barrel, M12 × 1	Ambient temperature	-30+85 °C
DC rated operational current ≤ 200 mA No-load current ≤ 20 mA Residual current ≤ 0.1 mA Isolation test voltage ≤ 0.5 kV Short-circuit protection yes / Cyclic Voltage drop at I _e ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP Insulation class □ Switching frequency 2 kHz Design Threaded barrel, M12 × 1	Operating voltage	1030 VDC
No-load current ≤ 20 mA Residual current ≤ 0.1 mA Isolation test voltage ≤ 0.5 kV Short-circuit protection yes / Cyclic Voltage drop at I₀ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP Insulation class □ Switching frequency 2 kHz Design Threaded barrel, M12 × 1	Residual ripple	≤ 10 % U _{ss}
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Isolation test voltage ≤ 0.5 kV Short-circuit protection yes / Cyclic Voltage drop at I₀ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP Insulation class □ Switching frequency 2 kHz Design Threaded barrel, M12 × 1	No-load current	≤ 20 mA
Short-circuit protection Voltage drop at I₀ Voltage drop at I₀ Vire breakage/Reverse polarity protection Output function Insulation class Switching frequency 2 kHz Design Threaded barrel, M12 × 1	Residual current	≤ 0.1 mA
Voltage drop at I₀ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP Insulation class □ Switching frequency 2 kHz Design Threaded barrel, M12 × 1	Isolation test voltage	≤ 0.5 kV
Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP Insulation class Switching frequency 2 kHz Design Threaded barrel, M12 × 1	Short-circuit protection	yes / Cyclic
Output function 3-wire, NO contact, PNP Insulation class Switching frequency 2 kHz Design Threaded barrel, M12 × 1	Voltage drop at I _e	≤ 1.8 V
Insulation class Switching frequency 2 kHz Design Threaded barrel, M12 × 1	Wire breakage/Reverse polarity protection	yes / Complete
Switching frequency 2 kHz Design Threaded barrel, M12 × 1	Output function	3-wire, NO contact, PNP
Design Threaded barrel, M12 × 1	Insulation class	
	Switching frequency	2 kHz
Dimensions 52 mm	Design	Threaded barrel, M12 × 1
22 11111	Dimensions	52 mm

Features

- ■M12 × 1 threaded barrel
- Chrome-plated brass
- Factor 1 for all metals
- Protection class IP68
- Resistant to magnetic fields
- ■Extended temperature range
- High switching frequency
- ■DC 3-wire, 10...30 VDC
- ■NO contact, PNP output
- ■M12 x 1 male connector

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.

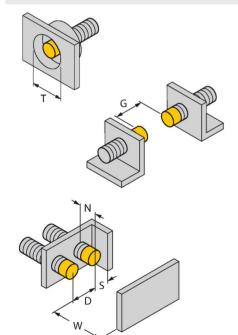


Technical data

Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, LCP
Max. tightening torque of housing nut	10 Nm
Electrical connection	Connector, M12 × 1
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
Power-on indication	LED, Green
Switching state	LED, Yellow

Mounting instructions

Mounting instructions/Description



Distance D	48 mm
Distance W	3 x Sn
Distance T	45 mm
Distance S	1.5 x B
Distance G	6 x Sn
Distance N	2 x Sn
Diameter active area B	Ø 12 mm



6947212

6901321

Accessories

QM-12



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.

6945101

BST-12B

M5

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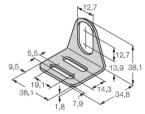
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Mounting clamp for threaded barrel

sensors, with dead-stop; material: PA6

MW-12 6945003



Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)



Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene