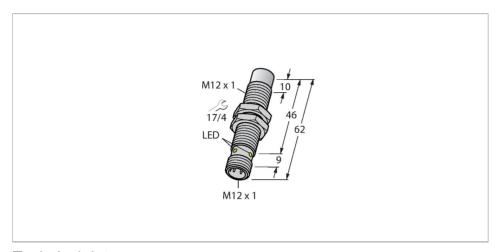


NI8U-MT12E-AP6X2-H1141/S1589 Inductive Sensor - With WeldGuard™ coating



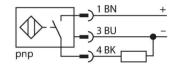
Technical data

ID 1644299 Special version \$1589 corresponds to: With weldguard coating General data Rated switching distance Rated switching conditions Non-flush Secured operating distance ≤ (0.81 × Sn) mm Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ±10 % Lectrical data 315 % Electrical data Uo30 VDC Residual ripple ≤ 10 % U _{ss} DC rated operational current ≤ 200 mA No-load current ≤ 5 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 DC field stability 300 mT	Туре	NI8U-MT12E-AP6X2-H1141/S1589
With weldguard coating General data 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 % Electrical data Operating voltage 1030 VDC Residual ripple ≤ 10 % U₅ 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 I₅ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP	ID	1644299
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 % Electrical data Operating voltage 1030 VDC Residual ripple ≤ 10 % U _{ss} DC rated operational current ≤ 200 mA No-load current ≤ 5 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	Special version	•
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 % Electrical data Operating voltage Operating voltage 1030 VDC Residual ripple ≤ 10 % U₃ 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 I₀ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP	General data	
Secured operating distance $\leq (0.81 \times Sn) \text{ mm}$ Repeat accuracy $\leq 2 \% \text{ of full scale}$ Temperature drift $\leq \pm 10 \%$ $\leq \pm 15 \%, \leq -25 \text{ °C V} \geq +70 \text{ °C}$ Hysteresis 315% Electrical data Operating voltage 1030 VDC Residual ripple $\leq 10 \% \text{ U}_{ss}$ DC rated operational current $\leq 200 \text{ mA}$ No-load current $\leq 200 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Isolation test voltage $\leq 0.5 \text{ kV}$ Short-circuit protection $\leq 1.8 \text{ V}$ Wire breakage/Reverse polarity protection $\leq 1.8 \text{ V}$ Wire breakage/Reverse polarity protection $\leq 3 \text{-wire}$, NO contact, PNP	Rated switching distance	8 mm
Repeat accuracy $\leq 2\%$ of full scale Temperature drift $\leq \pm 10\%$ $\leq \pm 15\%, \leq -25^{\circ}\text{C v} \geq +70^{\circ}\text{C}$ Hysteresis 315% Electrical data Operating voltage 1030VDC Residual ripple $\leq 10\%\text{U}_{ss}$ DC rated operational current $\leq 200\text{mA}$ No-load current $\leq 200\text{mA}$ Residual current $\leq 0.1\text{mA}$ Isolation test voltage $\leq 0.5\text{kV}$ Short-circuit protection $\leq 1.8\text{V}$ Wire breakage/Reverse polarity protection $\leq 1.8\text{V}$ Wire breakage/Reverse polarity protection $\leq 1.8\text{V}$ Output function $\leq 3\text{-wire}$, NO contact, PNP	Mounting conditions	Non-flush
Temperature drift $≤ \pm 10 \%$ $≤ \pm 15 \%, ≤ -25 °C ∨ ≥ +70 °C$ Hysteresis 315% Electrical data Operating voltage 1030 VDC Residual ripple $≤ 10 \% \text{ U}_{ss}$ DC rated operational current $≤ 200 \text{ mA}$ No-load current $≤ 5 \text{ mA}$ Residual current $≤ 0.1 \text{ mA}$ Isolation test voltage $≤ 0.5 \text{ kV}$ Short-circuit protection $≤ 1.8 \text{ V}$ Wire breakage/Reverse polarity protection $≤ 1.8 \text{ V}$ Output function $≤ 3-\text{wire}$, NO contact, PNP	Secured operating distance	≤ (0.81 × Sn) mm
	Repeat accuracy	≤ 2 % of full scale
Hysteresis 315 % Electrical data Operating voltage 1030 VDC Residual ripple ≤ 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 _e ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP	Temperature drift	≤ ±10 %
Electrical data Operating voltage 1030 VDC Residual ripple ≤ 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 _e ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP		≤ ± 15 %, ≤ -25 °C v ≥ +70 °C
Operating voltage 1030 VDC Residual ripple ≤ 10 % U₅s 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 I₀ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP	Hysteresis	315 %
Residual ripple ≤ 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 _e ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP	Electrical data	
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 I₀ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP	Operating voltage	1030 VDC
No-load current 25 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	Residual ripple	≤ 10 % U _{ss}
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	DC rated operational current	≤ 200 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	No-load current	25 mA
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	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	Isolation test voltage	≤ 0.5 kV
Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP	Short-circuit protection	yes / Cyclic
Output function 3-wire, NO contact, PNP	Voltage drop at I _e	≤ 1.8 V
	Wire breakage/Reverse polarity protection	yes / Complete
DC field stability 300 mT	Output function	3-wire, NO contact, PNP
	DC field stability	300 mT

Features

- ■Threaded barrel, M12 x 1
- ■Brass, PTFE-coated
- 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 ferritecoreless 3-coil system. They detect all metals at the same large switching distance and are resistant to magnetic fields.

Turck WeldGuard sensors for use in welding systems are equipped with a thin coating made of thermosetting plastic. This high-tech coating is resistant to abrasion and withstands mechanical stress.



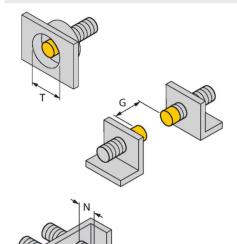
TURCK

Technical data

AC field stability	300 mT _{ss}
Insulation class	
Switching frequency	1 kHz
Mechanical data	
Design	Threaded barrel, M12 × 1
Dimensions	62 mm
Housing material	Metal, CuZn, PTFE-coated
Active area material	Plastic, LCP + WeldGuard™, PTFE-coated
Max. tightening torque of housing nut	7 Nm
Electrical connection	Connector, M12 × 1
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
Power-on indication	LED, Green
Switching state	LED, Yellow

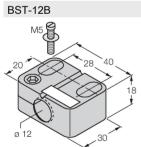
Mounting instructions

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

Accessories



6947212

Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6

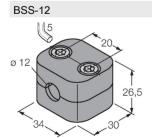


Quick-mount bracket with dead-stop; material: brass, PTFE-coated; Male

6945106

thread M16 × 1. Note: The switching distance of the proximity switches may change when using quick-mount brackets.

6901321



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

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