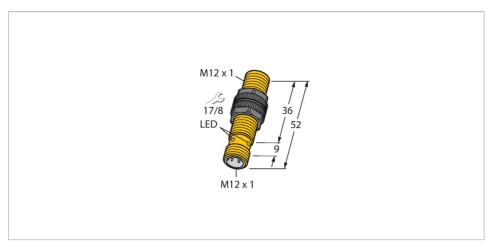


NI8U-S12-AP6X-H1141 Inductive Sensor



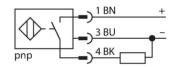
Technical data

Type Ni8U-S12-AP6X-H1141 Ident. no.		
Rated switching distance 8 mm Mounting conditions Non-flush, partially embeddable Secured operating distance ≤ (0.81 × Sn) mm Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ± 10 % ≤ ± 20 %, ≤ -25 °C v ≥ +70 °C Hysteresis 315 % Ambient temperature -30+85 °C Operating voltage 1030 VDC Residual ripple ≤ 10 % U _s 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	Type	NI8U-S12-AP6X-H1141
Mounting conditions Non-flush, partially embeddable Secured operating distance ≤ $(0.81 \times Sn)$ mm Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ± 10 % ≤ ± 20 %, ≤ -25 °C v ≥ +70 °C Hysteresis 315 % Ambient temperature -30+85 °C Operating voltage 1030 VDC Residual ripple ≤ 10 % Us. 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_c ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP Insulation class □ Switching frequency 2 kHz	Ident. no.	1644600
Secured operating distance $\leq (0.81 \times \text{Sn}) \text{ mm}$ Repeat accuracy $\leq 2 \% \text{ of full scale}$ Temperature drift $\leq \pm 10 \%$ $\leq \pm 20 \%, \leq -25 \text{ °C v} \geq +70 \text{ °C}$ 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 l_s $\leq 1.8 \text{ V}$ Wire breakage/Reverse polarity protection $yes / Complete$ Output function 3 -wire, NO contact, PNP Insulation class \square Switching frequency 2 kHz	Rated switching distance	8 mm
Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ± 10 % ≤ ± 20 %, ≤ -25 °C v ≥ +70 °C Hysteresis 315 % Ambient temperature -30+85 °C Operating voltage 1030 VDC Residual ripple ≤ 10 % U _s 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	Mounting conditions	Non-flush, partially embeddable
Temperature drift $\leq \pm 10 \%$ $\leq \pm 20 \%, \leq -25 ^{\circ}\text{C} \text{V} \geq +70 ^{\circ}\text{C}$ Hysteresis 315% Ambient temperature $-30+85 ^{\circ}\text{C}$ Operating voltage 1030VDC Residual ripple $\leq 10 \% \text{U}_{\text{s}}$ DC rated operational current $\leq 200 \text{mA}$ No-load 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_{e} $\leq 1.8 \text{V}$ Wire breakage/Reverse polarity protection yes / Complete Output function $3\text{-wire, NO contact, PNP}$ Insulation class \square Switching frequency 2kHz	Secured operating distance	≤ (0.81 × Sn) mm
$ \leq \pm 20 \%, \leq -25 ^{\circ}\text{C} \text{V} \geq +70 ^{\circ}\text{C} $ Hysteresis 315% Ambient temperature $-30+85 ^{\circ}\text{C}$ Operating voltage 1030VDC Residual ripple $\leq 10 \% \text{U}_{\text{ss}}$ DC rated operational current $\leq 200 \text{mA}$ No-load 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 \mathbb{I}_{e} $\leq 1.8 \text{V}$ Wire breakage/Reverse polarity protection yes / Complete Output function 3 -wire, NO contact, PNP Insulation class \square Switching frequency 2kHz	Repeat accuracy	≤ 2 % of full scale
Hysteresis 315 % Ambient temperature -30+85 °C Operating voltage 1030 VDC Residual ripple ≤ 10 % U₂, 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 I₂ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP Insulation class □ Switching frequency 2 kHz	Temperature drift	≤ ± 10 %
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 Voltage drop at I _e Voltage drop at I _e Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP Insulation class □ Switching frequency 2 kHz		≤ ± 20 %, ≤ -25 °C v ≥ +70 °C
Operating voltage 1030 VDC Residual ripple ≤ 10 % U _s 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	Hysteresis	315 %
Residual ripple ≤ 10 % U _s 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	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	Operating voltage	1030 VDC
No-load current \leq 20 mA Residual current \leq 0.1 mA Isolation test voltage \leq 0.5 kV Short-circuit protection yes / Cyclic Voltage drop at I_e \leq 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP Insulation class □ Switching frequency 2 kHz	Residual ripple	≤ 10 % U _{ss}
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	DC rated operational current	≤ 200 mA
Short-circuit protection Short-circuit pro	No-load current	≤ 20 mA
$ \begin{array}{lll} & & & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & & \\ & $	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	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	Short-circuit protection	yes / Cyclic
Output function 3-wire, NO contact, PNP Insulation class Switching frequency 2 kHz	Voltage drop at I _e	≤ 1.8 V
Insulation class Switching frequency 2 kHz	Wire breakage/Reverse polarity protection	yes / Complete
Switching frequency 2 kHz	Output function	3-wire, NO contact, PNP
	Insulation class	
Design Threaded barrel, M12 × 1	Switching frequency	2 kHz
	Design	Threaded barrel, M12 × 1
Dimensions 52 mm	Dimensions	52 mm

Features

- Threaded barrel, M12 x 1
- Plastic, PBT-GF30
- Factor 1 for all metals
- Protection class IP68
- Resistant to magnetic fields
- Extended temperature range
- High switching frequency
- Auto-compensation protects against predamping
- DC 3-wire, 10...30 VDC
- NO contact, PNP output
- M12 x 1 male connector

Wiring diagram



Functional principle

Inductive sensors detect metal objects contactless and wear-free. *uprox*® Factor 1 sensors have significant advantages due to their patented ferrite-coreless multicoil system. They detect all metals at the same large switching distance and are resistant to magnetic fields.

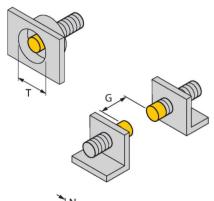


Technical data

Housing material	Plastic, PBT-GF30
Active area material	Plastic, PA12-GF30
Max. tightening torque housing nut	1 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
Switching state	LED, Yellow

Mounting instructions

Mounting instructions/Description





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

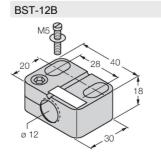
D

Accessories

QM-12
15 16
22/4
ø 12 19.5 34
V 12

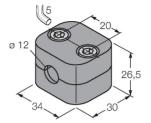
Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M16 × 1. Note: The switching distance of the proximity switches may change when using quick-mount brackets.

6945101



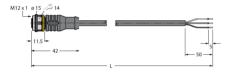
6947212 Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6

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



Wiring accessories

Dimension drawing	Туре	Ident. no.
	RKC4T-2/TEL	6625010



Connection cable, female M12, straight, 3-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com