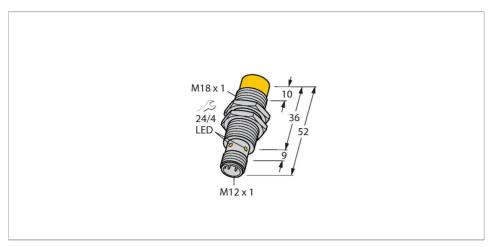


NI12U-EM18-AN6X-H1141 **Inductive Sensor**



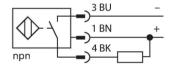
Technical data

Type NI12U-EM18-AN6X-H1141 Ident. no. 1645350 Rated switching distance 12 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 _{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 _s ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, NPN Insulation class □ Switching frequency 2 kHz Design Threaded barrel, M18 × 1 Dimensions 52 mm			
Rated switching distance Mounting conditions Non-flush, partially embeddable Secured operating distance Secured operating distance 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 % U₅s 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 I₅ Voltage drop at I₅ Sinch Complete Output function Insulation class □ Switching frequency 2 kHz Design Threaded barrel, M18 × 1	Type	NI12U-EM18-AN6X-H1141	
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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 _{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 _s ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, NPN Insulation class □ Switching frequency 2 kHz Design Threaded barrel, M18 × 1	Mounting conditions	Non-flush, partially embeddable	
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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 _s ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, NPN Insulation class Switching frequency 2 kHz Design Threaded barrel, M18 × 1	Temperature drift	≤ ± 10 %	
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, NPN Insulation class Switching frequency 2 kHz Design Threaded barrel, M18 × 1		≤ ± 20 %, ≤ -25 °C v ≥ +70 °C	
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, NPN Insulation class □ Switching frequency 2 kHz Design Threaded barrel, M18 × 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, NPN Insulation class □ Switching frequency 2 kHz Design Threaded barrel, M18 × 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, NPN Insulation class □ Switching frequency 2 kHz Design Threaded barrel, M18 × 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, NPN Insulation class □ Switching frequency 2 kHz Design Threaded barrel, M18 × 1	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, NPN Insulation class □ Switching frequency 2 kHz Design Threaded barrel, M18 × 1	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, NPN Insulation class □ Switching frequency 2 kHz Design Threaded barrel, M18 × 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, M18 × 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, NPN Insulation class □ Switching frequency 2 kHz Design Threaded barrel, M18 × 1	Isolation test voltage	≤ 0.5 kV	
Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, NPN Insulation class Switching frequency 2 kHz Design Threaded barrel, M18 × 1	Short-circuit protection	yes / Cyclic	
Output function 3-wire, NO contact, NPN Insulation class □ Switching frequency 2 kHz Design Threaded barrel, M18 × 1	Voltage drop at I。	≤ 1.8 V	
Insulation class Switching frequency 2 kHz Design Threaded barrel, M18 × 1	Wire breakage/Reverse polarity protection	yes / Complete	
Switching frequency 2 kHz Design Threaded barrel, M18 × 1	Output function	3-wire, NO contact, NPN	
Design Threaded barrel, M18 × 1	Insulation class		
3	Switching frequency	2 kHz	
Dimensions 52 mm	Design	Threaded barrel, M18 × 1	
	Dimensions	52 mm	

Features

- ■Threaded barrel, M18 x 1
- Stainless steel, 1.4301
- 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, NPN 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.

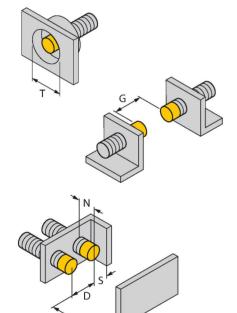


Technical data

Housing material	Stainless steel, 1.4301 (AISI 304)	
Active area material	Plastic, PBT	
Max. tightening torque of housing nut	25 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

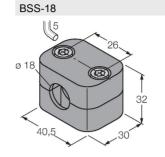
Mounting instructions/Description



Distance D	3 x B
Distance W	3 x Sn
Distance T	3 x B
Distance S	1.5 x B
Distance G	6 x Sn
Distance N	2 x Sn
Diameter active area B	Ø 18 mm

6901320

6945004 Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)



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

Wiring accessories

Dimension drawing	Туре	ldent. no.	
M12x1	RKH4-2/TFE	6935482	Connection cable, M12 female, straight, 3-pin, stainless steel coupling nut, cable length: 2 m, jacket material: PVC, gray temperature range -25+80 °C; other cable lengths and designs available, see www.turck.com
M12x1 25 14	RKH4-2/TFG	6934384	Connection cable, M12 female, straight, 3-pin, stainless steel coupling nut, cable length: 2 m, jacket material: TPE, gray temperature range -40+105 °C; other cable lengths and designs available, see www.turck.com