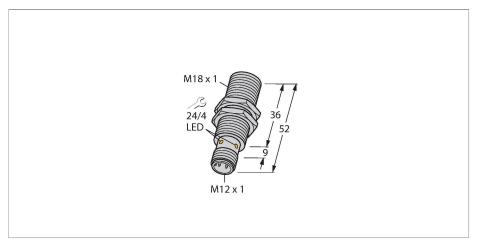


# BI8U-M18-AN6X-H1141 Inductive Sensor – With Extended Switching Distance





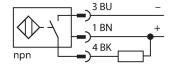
#### Technical data

ID	Туре	BI8U-M18-AN6X-H1141
Rated switching distance       8 mm         Mounting conditions       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 <sub>ss</sub> 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, NPN         DC field stability       300 mT         AC field stability       300 mT         Insulation class       □	ID	1644737
Mounting conditions       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 % U₂s         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, NPN         DC field stability       300 mT         AC field stability       300 mT         Insulation class       □	General data	
Secured operating distance $\leq (0.81 \times \text{Sn}) \text{ mm}$ Repeat accuracy $\leq 2 \% \text{ of full scale}$ Temperature drift $\leq \pm 10 \%$ $\leq \pm 15 \%, \leq -25 \text{ °C v} \geq +70 \text{ °C}$ Hysteresis $315 \%$ Electrical data  Operating voltage $1030 \text{ VDC}$ Residual ripple $\leq 10 \% \text{ U}_{ss}$ DC rated operational current $\leq 200 \text{ mA}$ No-load current $25 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Isolation test voltage $\leq 0.5 \text{ kV}$ Short-circuit protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Wire breakage/Reverse polarity protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Wire breakage/Reverse polarity protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Output function $25 \text{ Vec} = 1.8 \text{ Vec}$ DC field stability $300 \text{ mT}$ AC field stability $300 \text{ mT}$ Secure of full scale $25 \text{ Vec} = 1.8 \text{ Vec}$ Short-circuit protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Wire preakage/Reverse polarity protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Wire preakage/Reverse polarity protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Short-circuit protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Wire preakage/Reverse polarity protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Wire preakage/Reverse polarity protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Short-circuit protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Short-circuit protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Wire preakage/Reverse polarity protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Short-circuit protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Short-circuit protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Wire breakage/Reverse polarity protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Short-circuit protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Short-circuit protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Short-circuit protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Short-circuit protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Short-circuit protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Short-circuit protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Short-circuit protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Short-circuit protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Short-circuit protection $25 \text{ Vec} = 1.8 \text{ Vec}$ Short-circuit protection $25 \text{ Vec} = 1.8  Vec$	Rated switching distance	8 mm
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Temperature drift $≤ \pm 10 \%$ $≤ \pm 15 \%, ≤ -25 °C ∨ ≥ +70 °C$ Hysteresis $315 \%$ Electrical data  Operating voltage $1030 \text{ VDC}$ 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 $≤ 1.8 \text{ V}$ Wire breakage/Reverse polarity protection $≤ 1.8 \text{ V}$ Wire diagram of the protection $≤ 1.8 \text{ V}$ Output function $≤ 1.8 \text{ V}$ DC field stability $≤ 1.8 \text{ V}$ AC field stability $≤ 1.8 \text{ V}$ Insulation class $□$	Secured operating distance	≤ (0.81 × Sn) mm
$ ≤ ± 15 \%, ≤ -25 °C v ≥ +70 °C $ Hysteresis 315 %  Electrical data Operating voltage 1030 VDC  Residual ripple $≤ 10 \% U_{ss}$ 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 $> 5 \text{ mA}$ Wire breakage/Reverse polarity protection $> 5 \text{ ma}$ Wire breakage/Reverse polarity protection $> 5 \text{ ma}$ Output function $> 5 \text{ ma}$ AC field stability $> 5 \text{ ma}$ Insulation class	Repeat accuracy	≤ 2 % of full scale
Hysteresis 315 %  Electrical data  Operating voltage 1030 VDC  Residual ripple ≤ 10 % U₂s  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  Output function 3-wire, NO contact, NPN  DC field stability 300 mT  AC field stability 300 mT₂ss  Insulation class	Temperature drift	≤ ±10 %
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Operating voltage       1030 VDC         Residual ripple       ≤ 10 % U <sub>ss</sub> 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 <sub>e</sub> ≤ 1.8 V         Wire breakage/Reverse polarity protection       yes / Complete         Output function       3-wire, NO contact, NPN         DC field stability       300 mT         AC field stability       300 mTss         Insulation class       □	Hysteresis	315 %
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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, NPN   DC field stability 300 mT   AC field stability 300 mTss   Insulation class □	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, NPN         DC field stability       300 mT         AC field stability       300 mTss         Insulation class       □	Residual ripple	≤ 10 % U <sub>ss</sub>
Residual current       ≤ 0.1 mA         Isolation test voltage       ≤ 0.5 kV         Short-circuit protection       yes / Cyclic         Voltage drop at $I_{\circ}$ ≤ 1.8 V         Wire breakage/Reverse polarity protection       yes / Complete         Output function       3-wire, NO contact, NPN         DC field stability       300 mT         AC field stability       300 mTss         Insulation class $\square$	DC rated operational current	≤ 200 mA
Short-circuit protection	No-load current	25 mA
Short-circuit protection  Voltage drop at I₀  Wire breakage/Reverse polarity protection  Output function  DC field stability  AC field stability  Insulation class  yes / Cyclic  yes / Complete  yes / Complete  yes / Complete  3-wire, NO contact, NPN  300 mT	Residual current	≤ 0.1 mA
Voltage drop at I $_{e}$ ≤ 1.8 V         Wire breakage/Reverse polarity protection       yes / Complete         Output function       3-wire, NO contact, NPN         DC field stability       300 mT         AC field stability       300 mTss         Insulation class       □	Isolation test voltage	≤ 0.5 kV
Wire breakage/Reverse polarity protection  Output function  3-wire, NO contact, NPN  DC field stability  300 mT  AC field stability  Insulation class	Short-circuit protection	yes / Cyclic
tion  Output function 3-wire, NO contact, NPN  DC field stability 300 mT  AC field stability 300 mTss	Voltage drop at I <sub>e</sub>	≤ 1.8 V
DC field stability 300 mT  AC field stability 300 mT <sub>ss</sub> Insulation class		yes / Complete
AC field stability 300 mT <sub>ss</sub> Insulation class	Output function	3-wire, NO contact, NPN
Insulation class	DC field stability	300 mT
	AC field stability	300 mT <sub>ss</sub>
Switching frequency 1.5 kHz	Insulation class	
0	Switching frequency	1.5 kHz

## **Features**

- ■Threaded barrel, M18 x 1
- Chrome-plated brass
- Factor 1 for all metals
- ■Protection class IP68
- ■Resistant to magnetic fields
- Large switching distance
- ■Recessed mountable
- ■DC 3-wire, 10...30 VDC
- ■NO contact, NPN output
- ■M12 x 1 male connector

### Wiring diagram





### Functional principle

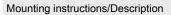
Inductive sensors are designed for wear-free and contactless detection of metal objects. uprox+ sensors have significant advantages due to their patented multi-coil system. They excel thanks to their optimum switching distances, maximum flexibility and operational reliability as well as efficient standardization.

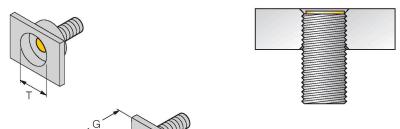


## Technical data

Mechanical data	
Design	Threaded barrel, M18 x 1
Dimensions	52 mm
Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, LCP
Max. tightening torque of housing nut	25 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
Switching state	LED, Yellow

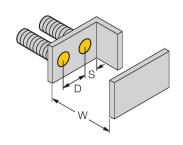
# Mounting instructions





Distance D	36 mm
Distance W	3 x Sn
Distance T	3 x B
Distance S	1.5 x B
Distance G	6 x Sn
Diameter active area B	Ø 18 mm

All flush mountable uprox+ threaded barrel types are also recessed mountable. Safe operation is ensured if the sensor is screwed in by half a turn.



## TURCK

#### Accessories

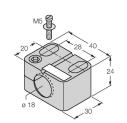
PN-M18 6905310

S 24

M18 x 1

Ø 26

Protective nut for M18 x 1 threaded barrels; material: Stainless steel A2 1.4305 (AISI 303)



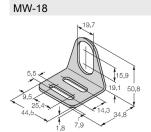
BST-18B 6947214

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

QM-18 6945102



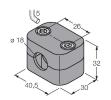
Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M24 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.



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

6945004

BSS-18 6901320



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

#### Accessories

Dimension drawing Type ID RKC4T-2/TEL 6625010



Connection cable, M12 female connector, straight, 3-pin, cable length: 2 m, jacket material: PVC, black; cULus approval