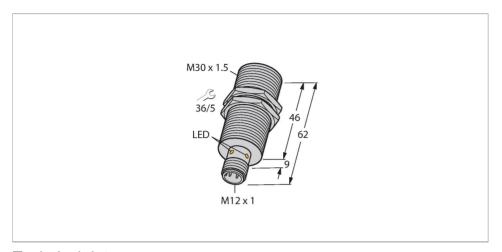


# BI10U-M30-AN6X-H1141 **Inductive Sensor**



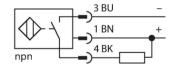


ID 1636150  General data  Rated switching distance 10 mm  Mounting conditions Flush  Secured operating distance $\leq (0.81 \times Sn) \text{ mm}$ Repeat accuracy $\leq 2 \% \text{ of full scale}$ Temperature drift $\leq \pm 10 \%$ $\leq \pm 15 \%, \leq -25 \text{ °C v} \geq +70 \text{ °C}$ Hysteresis 315 %  Electrical data  Operating voltage U <sub>B</sub> 1030 VDC  Ripple U <sub>ss</sub> $\leq 10 \% \text{ U}_{Bmax}$ DC rated operating current I <sub>B</sub> $\leq 200 \text{ mA}$ No-load current $\leq 25 \text{ mA}$ Residual current $\leq 25 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Isolation test voltage 0.5 kV  Short-circuit protection yes/Cyclic  Voltage drop at I <sub>B</sub> $\leq 1.8 \text{ V}$ Wire break/reverse polarity protection yes/Complete  Output function 3-wire, NO contact, NPN  DC field stability 300 mT  AC field stability 300 mTss	Туре	BI10U-M30-AN6X-H1141
Rated switching distance 10 mm  Mounting conditions Flush  Secured operating distance ≤ $(0.81 \times Sn)$ mm  Repeat accuracy ≤ 2 % of full scale  Temperature drift ≤ ±10 %  ≤ ± 15 %, ≤ -25 °C v ≥ +70 °C  Hysteresis 315 %  Electrical data  Operating voltage U <sub>B</sub> 1030 VDC  Ripple U <sub>SS</sub> ≤ 10 % U <sub>Bmax</sub> DC rated operating current I <sub>G</sub> ≤ 200 mA  No-load current ≤ 25 mA  Residual current ≤ 25 mA  Residual current ≤ 0.1 mA  Isolation test voltage 0.5 kV  Short-circuit protection yes/Cyclic  Voltage drop at I <sub>G</sub> ≤ 1.8 V  Wire break/reverse polarity protection yes/Complete  Output function 3-wire, NO contact, NPN  DC field stability 300 mT	ID	1636150
Mounting conditionsFlushSecured operating distance≤ $(0.81 \times Sn)$ mmRepeat accuracy≤ 2 % of full scaleTemperature drift≤ ± 10 %≤ ± 15 %, ≤ -25 °C v ≥ +70 °CHysteresis315 %Electrical data0perating voltage UB1030 VDCRipple UBS≤ 10 % UBB MADC rated operating current IB≤ 200 mANo-load current≤ 25 mAResidual current≤ 0.1 mAIsolation test voltage0.5 kVShort-circuit protectionyes/CyclicVoltage drop at IB≤ 1.8 VWire break/reverse polarity protectionyes/CompleteOutput function3-wire, NO contact, NPNDC field stability300 mT	General data	
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Repeat accuracy≤ 2 % of full scaleTemperature drift≤ ± 10 %≤ ± 15 %, ≤ -25 °C v ≥ +70 °CHysteresis315 %Electrical data1030 VDCRipple Uss≤ 10 % UsmaxDC rated operating current Is≤ 200 mANo-load current≤ 25 mAResidual current≤ 0.1 mAIsolation test voltage0.5 kVShort-circuit protectionyes/CyclicVoltage drop at Is≤ 1.8 VWire break/reverse polarity protectionyes/CompleteOutput function3-wire, NO contact, NPNDC field stability300 mT	Mounting conditions	Flush
Temperature drift $\leq \pm 10 \%$ $\leq \pm 15 \%, \leq -25 ^{\circ}\text{C} _{\text{V}} \geq +70 ^{\circ}\text{C}$ Hysteresis $315 ^{\circ}\%$ Electrical data  Operating voltage $U_{\text{B}}$ $1030 ^{\circ}\text{VDC}$ Ripple $U_{\text{ss}}$ $\leq 10 ^{\circ}\text{U}_{\text{Bmax}}$ DC rated operating current $I_{\text{e}}$ $\leq 200 ^{\circ}\text{mA}$ No-load current $\leq 25 ^{\circ}\text{mA}$ Residual current $\leq 0.1 ^{\circ}\text{mA}$ Isolation test voltage $0.5 ^{\circ}\text{kV}$ Short-circuit protection $yes/Cyclic$ Voltage drop at $I_{\text{e}}$ $\leq 1.8 ^{\circ}\text{V}$ Wire break/reverse polarity protection $yes/Complete$ Output function $3$ -wire, NO contact, NPN  DC field stability $300 ^{\circ}\text{mT}$	Secured operating distance	≤ (0.81 × Sn) mm
$\leq \pm 15~\%, \leq -25~^{\circ}\text{C v} \geq +70~^{\circ}\text{C}$ Hysteresis 315 %  Electrical data  Operating voltage $U_B$ 1030 VDC  Ripple $U_{ss}$ $\leq 10~\%~U_{Bmax}$ DC rated operating current $I_e$ $\leq 200~\text{mA}$ No-load current $\leq 25~\text{mA}$ Residual current $\leq 0.1~\text{mA}$ Isolation test voltage 0.5 kV  Short-circuit protection yes/Cyclic  Voltage drop at $I_e$ $\leq 1.8~\text{V}$ Wire break/reverse polarity protection 3-wire, NO contact, NPN  DC field stability 300 mT	Repeat accuracy	≤ 2 % of full scale
Hysteresis $315\%$ Electrical data         Operating voltage $U_B$ $1030 \text{ VDC}$ Ripple $U_{ss}$ $\leq 10\% U_{Bmax}$ DC rated operating current $I_e$ $\leq 200 \text{ mA}$ No-load current $\leq 25 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Isolation test voltage $0.5 \text{ kV}$ Short-circuit protection       yes/Cyclic         Voltage drop at $I_e$ $\leq 1.8 \text{ V}$ Wire break/reverse polarity protection       yes/Complete         Output function $3$ -wire, NO contact, NPN         DC field stability $300 \text{ mT}$	Temperature drift	≤ ±10 %
Electrical dataOperating voltage $U_B$ $1030 \text{ VDC}$ Ripple $U_{ss}$ $\leq 10 \% U_{Bmax}$ DC rated operating current $I_e$ $\leq 200 \text{ mA}$ No-load current $\leq 25 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Isolation test voltage $0.5 \text{ kV}$ Short-circuit protection $yes/Cyclic$ Voltage drop at $I_e$ $\leq 1.8 \text{ V}$ Wire break/reverse polarity protection $yes/Complete$ Output function $3-wire$ , NO contact, NPNDC field stability $300 \text{ mT}$		≤ ± 15 %, ≤ -25 °C v ≥ +70 °C
$\begin{array}{llllllllllllllllllllllllllllllllllll$	Hysteresis	315 %
Ripple Uss       ≤ 10 % Usmax         DC rated operating current Ie       ≤ 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 Ie       ≤ 1.8 V         Wire break/reverse polarity protection       yes/Complete         Output function       3-wire, NO contact, NPN         DC field stability       300 mT	Electrical data	
DC rated operating current $I_e$ ≤ 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 break/reverse polarity protection       yes/Complete         Output function       3-wire, NO contact, NPN         DC field stability       300 mT	Operating voltage U <sub>B</sub>	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 break/reverse polarity protection       yes/Complete         Output function       3-wire, NO contact, NPN         DC field stability       300 mT	Ripple U <sub>ss</sub>	≤ 10 % U <sub>Bmax</sub>
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Voltage drop at I₀ ≤ 1.8 V  Wire break/reverse polarity protection yes/Complete  Output function 3-wire, NO contact, NPN  DC field stability 300 mT	Isolation test voltage	0.5 kV
Wire break/reverse polarity protection yes/Complete  Output function 3-wire, NO contact, NPN  DC field stability 300 mT	Short-circuit protection	yes/Cyclic
Output function 3-wire, NO contact, NPN DC field stability 300 mT	Voltage drop at I。	≤ 1.8 V
DC field stability 300 mT	Wire break/reverse polarity protection	yes/Complete
	Output function	3-wire, NO contact, NPN
AC field stability 300 mT <sub>ss</sub>	DC field stability	300 mT
	AC field stability	300 mT <sub>ss</sub>
Insulation class	Insulation class	



#### **Features**

- ■M30 × 1.5 threaded tube
- 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, NPN output
- ■M12 x 1 male connector





Wiring diagram

3 BU

1 BN

4 BK

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. are resistant to magnetic fields.

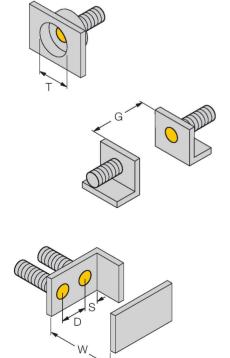


## Technical data

Switching frequency	1 kHz
Mechanical data	
Design	Threaded barrel, M30 x 1.5
Dimensions	62 mm
Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, PBT
Max. tightening torque of housing nut	75 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

### Mounting instructions/Description



Distance D	2 x B
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 30 mm

### Accessories

BST-30B

6947216

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

QM-30

6945103

Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M36 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.

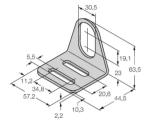
MW30

6945005

Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304) BSS-30

6901319

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



## Wiring accessories

Dimension drawing

Type

RKC4T-2/TEL

6625010

ID

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

