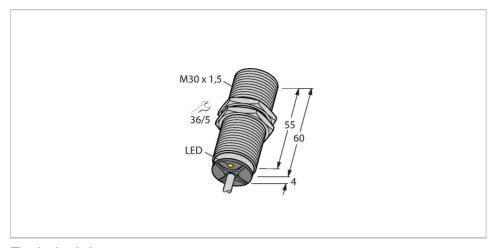


BI15U-EM30-AP6X Inductive Sensor - With Extended Switching Distance



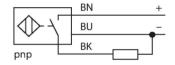
Technical data

ID	Туре	BI15U-EM30-AP6X
Rated switching distance 15 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 U₀ 1030 VDC Ripple U₂₅ ≤ 10 % U₂₅ѕ DC rated operating current I₀ ≤ 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 break/reverse polarity protection yes/Complete Output function 3-wire, NO contact, PNP DC field stability 300 mT AC field stability 300 mT	ID	1636741
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 U ₈ 1030 VDC Ripple U _{ss} ≤ 10 % U _{max} 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, PNP DC field stability 300 mT AC field stability 300 mT	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 U_{B} 1030 VDC Ripple U_{ss} $\leq 10 \% U_{\text{Bmax}}$ 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 $yes/Complete$ Output function 3 -wire, NO contact, PNP DC field stability 300 mT_{ss}	Rated switching distance	15 mm
Repeat accuracy $\leq 2\%$ of full scale Temperature drift $\leq \pm 10\%$ $\leq \pm 15\%, \leq -25 ^{\circ}\text{C} ^{\circ}\text{C} ^{\circ}\text{C}$ Hysteresis 315% Electrical data Operating voltage U_B $1030 ^{\circ}\text{VDC}$ Ripple U_{ss} $\leq 10\% ^{\circ}\text{U}_{Britax}$ DC rated operating current I_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_e $\leq 1.8 ^{\circ}\text{V}$ Wire break/reverse polarity protection $yes/Complete$ Output function 3 -wire, NO contact, PNP DC field stability $300 ^{\circ}\text{mT}$ AC field stability $300 ^{\circ}\text{mT}$	Mounting conditions	Flush
Temperature drift $\leq \pm 10 \%$ $\leq \pm 15 \%, \leq -25 \degree \text{C v} \geq +70 \degree \text{C}$ Hysteresis 315% Electrical data Operating voltage U_B 1030 VDC Ripple U_{SS} $\leq 10 \% U_{Breadx}$ DC rated operating current I_B $\leq 200 \text{ mA}$ No-load current $\leq 25 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Isolation test voltage 0.5 kV Short-circuit protection 0.5 kV Wire break/reverse polarity protection 0.5 kV Wire break/reverse polarity protection 0.5 kV DC field stability 0.5 kV AC field stability 0.5 kV	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 $ \text{Operating voltage } \text{U}_{\text{B}} $	Repeat accuracy	≤ 2 % of full scale
Hysteresis 315 % Electrical data Operating voltage U _B 1030 VDC Ripple U _{ss} ≤ 10 % U _{Bmax} DC rated operating current I _B ≤ 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 _B ≤ 1.8 V Wire break/reverse polarity protection yes/Complete Output function 3-wire, NO contact, PNP DC field stability 300 mT AC field stability 300 mT	Temperature drift	≤ ±10 %
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, PNP DC field stability 300 mT AC field stability 300 mT		≤ ± 15 %, ≤ -25 °C v ≥ +70 °C
Operating voltage U_B 1030 VDC Ripple U_{ss} ≤ 10 % U_{Bmax} 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, PNP DC field stability 300 mT AC field stability 300 mT	Hysteresis	315 %
Ripple U_{ss} ≤ 10 % U_{Bmax} 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, PNP DC field stability 300 mT AC field stability 300 mT _{ss}	Electrical data	
DC rated operating current I₀ ≤ 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 break/reverse polarity protection yes/Complete Output function 3-wire, NO contact, PNP DC field stability 300 mT AC field stability 300 mTss	Operating voltage U _B	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, PNP DC field stability 300 mT AC field stability 300 mTss	Ripple U _{ss}	≤ 10 % U _{Bmax}
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, PNP DC field stability 300 mT AC field stability 300 mTss	DC rated operating current I _e	≤ 200 mA
	No-load current	≤ 25 mA
Short-circuit protection Voltage drop at I₀ Vire break/reverse polarity protection Output function DC field stability AC field stability Short-circuit protection yes/Cyclic yes/Cyclic yes/Cyclic yes/Complete yes/Complete 3-wire, NO contact, PNP 300 mT 300 mT	Residual current	≤ 0.1 mA
Voltage drop at I₀ ≤ 1.8 V Wire break/reverse polarity protection yes/Complete Output function 3-wire, NO contact, PNP DC field stability 300 mT AC field stability 300 mT₅s	Isolation test voltage	0.5 kV
Wire break/reverse polarity protection yes/Complete Output function 3-wire, NO contact, PNP DC field stability 300 mT AC field stability 300 mT _{ss}	Short-circuit protection	yes/Cyclic
Output function 3-wire, NO contact, PNP DC field stability 300 mT AC field stability 300 mT _{ss}	Voltage drop at I _e	≤ 1.8 V
DC field stability 300 mT AC field stability 300 mT _{ss}	Wire break/reverse polarity protection	yes/Complete
AC field stability 300 mT _{ss}	Output function	3-wire, NO contact, PNP
	DC field stability	300 mT
Switching frequency 1 kHz	AC field stability	300 mT _{ss}
	Switching frequency	1 kHz

Features

- ■M30 × 1.5 threaded tube
- Stainless steel, 1.4301
- 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, PNP output
- Cable connection

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.

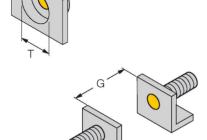


Technical data

Mechanical data	
Design	Threaded barrel, M30 x 1.5
Dimensions	64 mm
Housing material	Stainless steel, 1.4301 (AISI 304)
Active area material	Plastic, LCP
End cap	Plastic, EPTR
Max. tightening torque of housing nut	75 Nm
Electrical connection	Cable
Cable quality	Ø 5.2 mm, LifYY, PVC, 2 m
Core cross-section	3 x 0.34 mm²
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

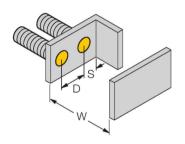
Mounting instructions/Description





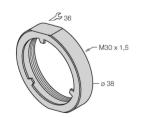
Distance D	60 mm
Distance W	3 x Sn
Distance T	3 x B
Distance S	1.5 x B
Distance G	6 x Sn
Diameter active area B	Ø 30 mm

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.

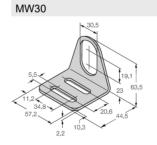


Accessories

PN-M30 6905308



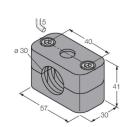
Protective nut for M30 x 1 threaded barrel devices; material: Stainless steel A2 1.4305 (AISI 303)



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

6945005

BSS-30 6901319



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