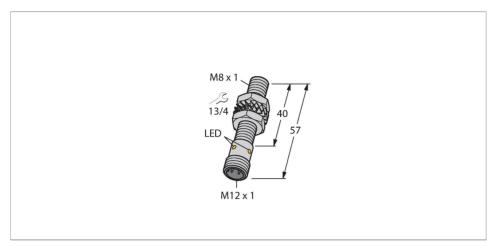


# BI1.5U-EG08-AP6X-H1341/S1589 Inductive Sensor – With Weldguard® coating





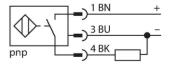
#### Technical data

ID 46005401  Special version S1589 Corresponds to:With weldguard coating  General data  Rated switching distance 1.5 mm  Mounting conditions Flush  Secured operating distance $\leq (0.81 \times Sn)$ mm  Repeat accuracy $\leq 2\%$ of full scale $\leq 1.5\%$ , $\leq -25$ °C v ≥ +70 °C  Hysteresis 315 %  Electrical data  Operating voltage U <sub>B</sub> 1030 VDC  Ripple U <sub>SS</sub> $\leq 10\%$ U <sub>Break</sub> DC rated operating current I <sub>B</sub> $\leq 15\%$ mA  No-load current $\leq 15\%$ mA  Residual current $\leq 0.1\%$ mA  Isolation test voltage 0.5 kV  Short-circuit protection yes/Cyclic  Voltage drop at I <sub>B</sub> $\leq 1.8\%$ V  Wire break/reverse polarity protection yes/Complete  Output function 3-wire, NO contact, PNP  DC field stability 200 mT  AC field stability 200 mT  Secured operating to:With weldguard coating  1.5 mm  1.5 mm  1.5 mm  2.0 m T  315 %	Туре	BI1.5U-EG08-AP6X-H1341/S1589
General data  Rated switching distance  Mounting conditions  Secured operating distance  Repeat accuracy  ≤ 2 % of full scale  ≤ ± 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>Broax</sub> DC rated operating current I <sub>e</sub> ≤ 15 mA  Residual current  ≤ 0.1 mA  Isolation test voltage  Short-circuit protection  Voltage drop at I <sub>e</sub> Wire break/reverse polarity protection  Output function  DC field stability  200 mT	ID	46005401
Rated switching distance         1.5 mm           Mounting conditions         Flush           Secured operating distance         ≤ (0.81 × Sn) mm           Repeat accuracy         ≤ 2 % of full scale           ≤±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>Brnax</sub> DC rated operating current I <sub>e</sub> ≤ 150 mA           No-load current         ≤ 15 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 break/reverse polarity protection         yes/Complete           Output function         3-wire, NO contact, PNP           DC field stability         200 mT	Special version	•
Mounting conditions       Flush         Secured operating distance       ≤ (0.81 × Sn) mm         Repeat accuracy       ≤ 2 % of full scale         ≤±15 %, ≤-25 °C v ≥ +70 °C         Hysteresis       315 %         Electrical data         Operating voltage U <sub>B</sub> 1030 VDC         Ripple U <sub>B</sub> ≤ 10 % U <sub>Bmax</sub> DC rated operating current I <sub>B</sub> ≤ 150 mA         No-load current       ≤ 15 mA         Residual current       ≤ 0.1 mA         Isolation test voltage       0.5 kV         Short-circuit protection       yes/Cyclic         Voltage drop at I <sub>B</sub> ≤ 1.8 V         Wire break/reverse polarity protection       yes/Complete         Output function       3-wire, NO contact, PNP         DC field stability       200 mT	General data	
Secured operating distance $\leq (0.81 \times Sn) \text{ mm}$ Repeat accuracy $\leq 2 \% \text{ of full scale}$ $\leq \pm 15 \%, \leq -25 \text{ °C v} \geq +70 \text{ °C}$ Hysteresis $315 \%$ Electrical data  Operating voltage U <sub>B</sub> $1030 \text{ VDC}$ Ripple U <sub>ss</sub> $\leq 10 \% \text{ U}_{Bmax}$ DC rated operating current I <sub>e</sub> $\leq 150 \text{ mA}$ No-load current $\leq 15 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Isolation test voltage $0.5 \text{ kV}$ Short-circuit protection $0.5 \text{ kV}$ Short-circuit protection $0.5 \text{ kV}$ Wire break/reverse polarity protection $0.5 \text{ kV}$ Wire break/reverse polarity protection $0.5 \text{ kV}$ DC field stability $0.5 \text{ kV}$ DC field stability $0.5 \text{ kV}$	Rated switching distance	1.5 mm
Repeat accuracy $\leq 2 \%$ of full scale $\leq \pm 15 \%$ , $\leq -25 \degree \text{C v} \geq +70 \degree \text{C}$ Hysteresis $315 \%$ Electrical data  Operating voltage U <sub>B</sub> $1030 \text{ VDC}$ Ripple U <sub>ss</sub> $\leq 10 \% \text{ U}_{\text{Bmax}}$ DC rated operating current I <sub>e</sub> $\leq 150 \text{ mA}$ No-load current $\leq 15 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Isolation test voltage $0.5 \text{ kV}$ Short-circuit protection $yes/Cyclic$ Voltage drop at I <sub>e</sub> $\leq 1.8 \text{ V}$ Wire break/reverse polarity protection $yes/Complete$ Output function $3$ -wire, NO contact, PNP  DC field stability $200 \text{ mT}$	Mounting conditions	Flush
$\leq \pm 15 \ \%, \leq -25 \ ^{\circ}\text{C} \ \vee \geq +70 \ ^{\circ}\text{C}$ Hysteresis $315 \ \%$ Electrical data $Operating \ voltage \ U_{\scriptscriptstyle B}$ $1030 \ VDC$ Ripple $U_{\scriptscriptstyle SS}$ $\leq 10 \ \% \ U_{\scriptscriptstyle Bmax}$ $DC \ rated \ operating \ current \ I_{\scriptscriptstyle e}$ $\leq 150 \ \text{mA}$ No-load current $\leq 15 \ \text{mA}$ Residual current $\leq 0.1 \ \text{mA}$ Isolation test voltage $0.5 \ \text{kV}$ Short-circuit protection $yes/Cyclic$ $Voltage \ drop \ at \ I_{\scriptscriptstyle e}$ $\leq 1.8 \ \text{V}$ Wire break/reverse polarity protection $yes/Complete$ Output function $3-wire, \ NO \ contact, \ PNP$ $DC \ field \ stability$ $200 \ \text{mT}$	Secured operating distance	≤ (0.81 × Sn) mm
	Repeat accuracy	≤ 2 % of full scale
Electrical data  Operating voltage $U_B$ 1030 VDC  Ripple $U_{ss}$ $\leq 10 \% U_{Bmax}$ DC rated operating current $I_e$ No-load current $\leq 15 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Isolation test voltage  0.5 kV  Short-circuit protection  Voltage drop at $I_e$ Vire break/reverse polarity protection  Output function  3-wire, NO contact, PNP  DC field stability  200 mT		≤ ± 15 %, ≤ -25 °C v ≥ +70 °C
$\begin{array}{llllllllllllllllllllllllllllllllllll$	Hysteresis	315 %
Ripple Uss       ≤ 10 % Usmax         DC rated operating current $I_e$ ≤ 150 mA         No-load current       ≤ 15 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       200 mT	Electrical data	
DC rated operating current I₀       ≤ 150 mA         No-load current       ≤ 15 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       200 mT	Operating voltage U <sub>B</sub>	1030 VDC
No-load current       ≤ 15 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       200 mT	Ripple U <sub>ss</sub>	≤ 10 % U <sub>Bmax</sub>
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       200 mT	DC rated operating current I <sub>e</sub>	≤ 150 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     200 mT	No-load current	≤ 15 mA
Short-circuit protection  Voltage drop at I₀  Viltage drop at I₀	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       200 mT	Isolation test voltage	0.5 kV
Wire break/reverse polarity protection yes/Complete  Output function 3-wire, NO contact, PNP  DC field stability 200 mT	Short-circuit protection	yes/Cyclic
Output function 3-wire, NO contact, PNP DC field stability 200 mT	Voltage drop at I <sub>e</sub>	≤ 1.8 V
DC field stability 200 mT	Wire break/reverse polarity protection	yes/Complete
	Output function	3-wire, NO contact, PNP
AC field stability 200 mT <sub>ss</sub>	DC field stability	200 mT
	AC field stability	200 mT <sub>ss</sub>

### **Features**

- ■Threaded barrel, M8 x 1
- ■Stainless steel, 1.4301
- Front cap with special coating, very resistant to thermal and mechanical load
- 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, PNP 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 ferritecoreless multi-coil system. They detect all



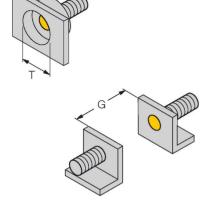
### Technical data

Insulation class Switching frequency 2 kHz Mechanical data Threaded barrel, M8 x 1 Design Dimensions 57 mm Stainless steel, 1.4427 SO Housing material Active area material Plastic, PA12-GF30 + WeldGuard™ Max. tightening torque of housing nut 5 Nm Electrical connection Connector, M12 × 1 **Environmental conditions** -30...+85 °C Ambient temperature 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 Switching state LED, Yellow

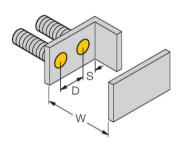
metals at the same large switching distance and are resistant to magnetic fields.

## 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 8 mm



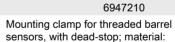
### Accessories

QM-08 6945100



Quick-mount bracket with deadstop, chrome-plated brass, male thread M12 x 1. Note: The switching distance of proximity switches may be reduced through the use of quickmount brackets.







BSS-08 6901322

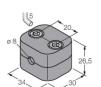
PA6

7,9 31,8 15,9 31,8 15,9 11,9 28,7

MW08

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

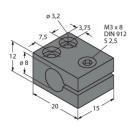
6945008



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



MBS80 69479



Mounting clamp for smooth barrel sensors; mounting block material: Anodized aluminum