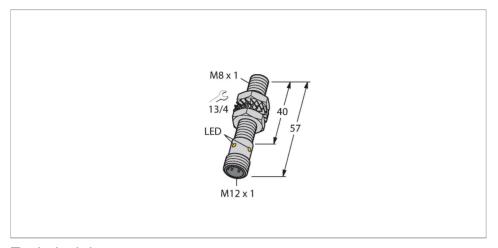


# BI2U-EGT08-AP6X-H1341/S1589 Inductive Sensor – With WeldGuard™ coating





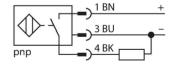
#### Technical data

ID         46020702           Special version         \$1589 Corresponds to:With weldguard coating           General data         Rated switching distance           Rated switching distance         2 mm           Mounting conditions         Flush           Secured operating distance         ≤ (0.81 × Sn) mm           Repeat accuracy         ≤ 2 % of full scale           ≤± 15 %, ≤ -25 °C v ≥ +70 °C         1030 VDC           Hysteresis         315 %           Electrical data         Operating voltage U <sub>B</sub> Operating voltage U <sub>B</sub> 1030 VDC           Ripple U <sub>ss</sub> ≤ 10 % U <sub>Broak</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           AC field stability         200 mT	Туре	BI2U-EGT08-AP6X-H1341/S1589
General data  Rated switching distance 2 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>Brinax</sub> DC rated operating current I <sub>o</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>o</sub> ≤ 1.8 V  Wire break/reverse polarity protection  Output function 3-wire, NO contact, PNP  DC field stability 200 mT	ID	46020702
Rated switching distance       2 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>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	Special version	•
Mounting conditions       Flush         Secured operating distance       ≤ $(0.81 \times Sn)$ 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>es</sub> ≤ 10 % U <sub>Broax</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	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>0</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 $0.5 \text{ kV}$ Output function $0.5 \text{ kV}$ DC field stability $0.5 \text{ kV}$ DC field stability $0.5 \text{ kV}$	Rated switching distance	2 mm
Repeat accuracy $\leq 2 \%$ of full scale $\leq \pm 15 \%$ , $\leq -25 \degree \text{C} \lor \geq +70 \degree \text{C}$ 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
$\leq \pm 15 \ \%, \leq -25 \ ^{\circ}\text{C} \ \text{V} \geq +70 \ ^{\circ}\text{C}$ Hysteresis $315 \ \%$ Electrical data $Operating \ \text{voltage U}_{\text{B}}$ $1030 \ \text{VDC}$ Ripple $U_{\text{ss}}$ $\leq 10 \ \% \ U_{\text{Bmax}}$ DC rated operating current $I_{\text{e}}$ $\leq 150 \ \text{mA}$ 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 $I_{\text{e}}$ $\leq 1.8 \ \text{V}$ Wire break/reverse polarity protection $yes/Complete$ Output function $3-wire, \ \text{NO contact}, \ \text{PNP}$ DC field stability $200 \ \text{mT}$	Secured operating distance	≤ (0.81 × Sn) mm
	Repeat accuracy	≤ 2 % of full scale
Electrical dataOperating voltage $U_B$ $1030 \text{ VDC}$ Ripple $U_{ss}$ $\leq 10 \% U_{Bmax}$ DC rated operating current $I_e$ $\leq 150 \text{ mA}$ 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 $I_e$ $\leq 1.8 \text{ V}$ Wire break/reverse polarity protection $yes/Complete$ Output function $3-wire$ , NO contact, PNPDC field stability $200 \text{ mT}$		≤ ± 15 %, ≤ -25 °C v ≥ +70 °C
Operating voltage $U_B$ 1030 VDC         Ripple $U_{ss}$ ≤ 10 % $U_{Bmax}$ DC rated operating current $I_e$ ≤ 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	Hysteresis	315 %
Ripple $U_{ss}$ ≤ 10 % $U_{Bmax}$ 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  Wire break/reverse polarity protection  Output function  DC field stability  yes/Cyclic  ≤ 1.8 V  yes/Complete  3-wire, NO contact, PNP  200 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       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, PTFE-coated
- 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 ferrite-coreless 3-coil system. They detect all metals at the same large switching distance and are resistant to magnetic fields.



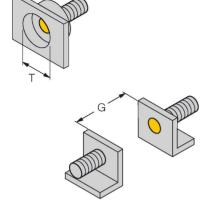
# Technical data

Switching frequency	2 kHz
Mechanical data	
Design	Threaded barrel, M8 x 1
Dimensions	57 mm
Housing material	Stainless steel, 1.4427 SO, PTFE-coated
Active area material	Plastic, PA12-GF30 + WeldGuard™, PTFE-coated
Max. tightening torque of housing nut	5 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

Turck WeldGuard sensors for use in welding systems are equipped with a thin coating made of thermosetting plastic. This high-tech coating is resistant to abrasion and withstands mechanical stress.

# Mounting instructions

#### Mounting instructions/Description



W

Distance D	16 mm
Distance W	6 mm
Distance T	24 mm
Distance S	12 mm
Distance G	12 mm
Diameter active area B	Ø 8 mm

#### Accessories

QM-08 6945100

M12 x 1 0 8 17,5 32 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.



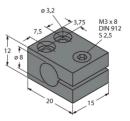
6947210

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



BSS-08 6901322 MBS80

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



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

69479