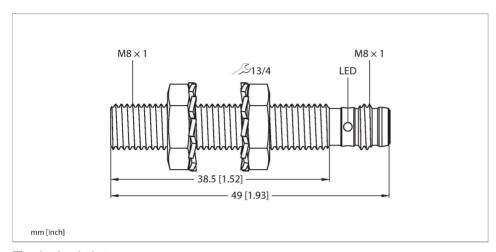


# BI2-EG08-AP6X-V1131 Inductive Sensor – With Increased Switching Distance



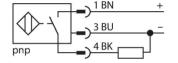
#### Technical data

ID	Туре	BI2-EG08-AP6X-V1131
Rated switching distance       2 mm         Mounting conditions       Flush         Secured operating distance       ≤ (0.81 × Sn) mm         Correction factors       St37 = 1; AI = 0.3; stainless steel = 0.7; Ms = 0.4         Repeat accuracy       ≤ 2 % of full scale         Hysteresis       20 %         Electrical data       Operating voltage U <sub>B</sub> Operating voltage U <sub>B</sub> 1030 VDC         Ripple U <sub>ss</sub> ≤ 10 % U <sub>brass</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         Switching frequency       3 kHz         Mechanical data	ID	4602050
Mounting conditions       Flush         Secured operating distance       ≤ (0.81 × Sn) mm         Correction factors       St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4         Repeat accuracy       ≤ 2 % of full scale         Hysteresis       20 %         Electrical data       Operating voltage Us         Operating voltage Us       1030 VDC         Ripple Uss       ≤ 10 % Usmax         DC rated operating current Is       ≤ 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 Is       ≤ 1.8 V         Wire break/reverse polarity protection       yes/Complete         Output function       3-wire, NO contact, PNP         Switching frequency       3 kHz         Mechanical data	General data	
Secured operating distance ≤ (0.81 × Sn) mm  Correction factors St37 = 1; AI = 0.3; stainless steel = 0.7; Ms = 0.4  Repeat accuracy ≤ 2 % of full scale  Hysteresis 20 %  Electrical data  Operating voltage U <sub>s</sub> 1030 VDC  Ripple U <sub>ss</sub> ≤ 10 % U <sub>Bmax</sub> DC rated operating current I <sub>s</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>s</sub> ≤ 1.8 V  Wire break/reverse polarity protection yes/Complete  Output function 3-wire, NO contact, PNP  Switching frequency 3 kHz  Mechanical data	Rated switching distance	2 mm
Correction factors $ \begin{array}{ll} St37 = 1;  Al = 0.3;  stainless  steel = 0.7;  Ms \\ = 0.4 \\ \hline \\ Repeat  accuracy \\ \leq 2  \%  of  full  scale \\ \hline \\ Hysteresis \\ \hline \\ 20  \% \\ \hline \\ Electrical  data \\ \hline \\ Operating  voltage  U_s \\ \hline \\ Ripple  U_{ss} \\ \hline \\ DC  rated  operating  current  I_e \\ \hline \\ DC  rated  operating  current  I_e \\ \hline \\ No-load  current \\ \hline \\ Residual  current \\ \hline \\ Short-circuit  protection \\ \hline \\ Voltage  drop  at  I_e \\ \hline \\ Wire  break/reverse  polarity  protection \\ \hline \\ Output  function \\ \hline \\ Switching  frequency \\ \hline \\ Mechanical  data \\ \hline \end{array} $	Mounting conditions	Flush
Electrical data	Secured operating distance	≤ (0.81 × Sn) mm
Hysteresis 20 %  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>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  Switching frequency 3 kHz  Mechanical data	Correction factors	
Electrical data  Operating voltage $U_B$ Ripple $U_{ss}$ $0 \le 10 \% U_{Bmax}$ DC rated operating current $I_e$ No-load current $0 \le 150 \text{ mA}$ Residual current $0 \le 15 \text{ mA}$ Residual current $0 \le 0.1 \text{ mA}$ Isolation test voltage $0 \le 0.5 \text{ kV}$ Short-circuit protection $0 \le 1.8 \text{ V}$ Wire break/reverse polarity protection  Output function $0 \le 0.5 \text{ kV}$ Wire horeak/reverse polarity protection $0 \le 0.5 \text{ kV}$ Short-circuit protection $0 \le 0.5 \text{ kV}$ Wire break/reverse polarity protection $0 \le 0.5 \text{ kV}$ Wire horeak/reverse polarity protection $0 \le 0.5 \text{ kV}$ Wire horeak/reverse polarity protection $0 \le 0.5 \text{ kV}$ Wire horeak/reverse polarity protection $0 \le 0.5 \text{ kV}$ Wire horeak/reverse polarity protection $0 \le 0.5 \text{ kV}$ Wire horeak/reverse polarity protection $0 \le 0.5 \text{ kV}$ Wire horeak/reverse polarity protection $0 \le 0.5 \text{ kV}$ Wire horeak/reverse polarity protection $0 \le 0.5 \text{ kV}$ Wire horeak/reverse polarity protection $0 \le 0.5 \text{ kV}$ Wire horeak/reverse polarity protection $0 \le 0.5 \text{ kV}$ Wire horeak/reverse polarity protection $0 \le 0.5 \text{ kV}$ Wire horeak/reverse polarity protection $0 \le 0.5 \text{ kV}$ Wire horeak/reverse polarity protection $0 \le 0.5 \text{ kV}$ Wire horeak/reverse polarity protection $0 \le 0.5 \text{ kV}$ Wire horeak/reverse polarity protection	Repeat accuracy	≤ 2 % of full scale
Operating voltage $U_B$ 1030 VDC         Ripple $U_{ss}$ ≤ 10 % $U_{Brnax}$ 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         Switching frequency       3 kHz         Mechanical data	Hysteresis	20 %
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         Switching frequency       3 kHz         Mechanical data	Electrical data	
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  Switching frequency 3 kHz  Mechanical data	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         Switching frequency       3 kHz         Mechanical data	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         Switching frequency       3 kHz         Mechanical data	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         Switching frequency       3 kHz         Mechanical data	No-load current	≤ 15 mA
Short-circuit protection  Voltage drop at I₀  Wire break/reverse polarity protection  Output function  Switching frequency  Mechanical data	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  Switching frequency 3 kHz  Mechanical data	Isolation test voltage	0.5 kV
Wire break/reverse polarity protection yes/Complete  Output function 3-wire, NO contact, PNP  Switching frequency 3 kHz  Mechanical data	Short-circuit protection	yes/Cyclic
Output function 3-wire, NO contact, PNP Switching frequency 3 kHz Mechanical data	Voltage drop at I <sub>e</sub>	≤ 1.8 V
Switching frequency 3 kHz  Mechanical data	Wire break/reverse polarity protection	yes/Complete
Mechanical data	Output function	3-wire, NO contact, PNP
	Switching frequency	3 kHz
Design Threaded barrel, M8 x 1	Mechanical data	
	Design	Threaded barrel, M8 x 1

#### **Features**

- ■M8 × 1 threaded barrel
- Stainless steel, 1.4305 (AISI 303)
- ■Large sensing range
- ■DC 3-wire, 10...30 VDC
- ■NO contact, PNP output
- ■M8 x 1 male connector

### Wiring diagram





### Functional principle

Inductive sensors detect metal objects contactless and wear-free. For this, they use a high-frequency electromagnetic AC field that interacts with the target. Inductive sensors generate this field via an RLC circuit with a ferrite coil.

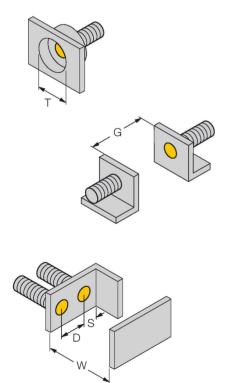


### Technical data

Dimensions	49 mm
Housing material	Stainless steel, 1.4305 (AISI 303)
Active area material	Plastic, PA6.6
Max. tightening torque of housing nut	5 Nm
Electrical connection	Connector, M8 × 1
Environmental conditions	
Ambient temperature	-25+70 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	2283 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 8 mm

### Accessories

QM-08 6945100

M12 x 17/4

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. BST-08B

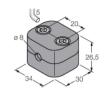
6947210

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



BSS-08 6901322

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



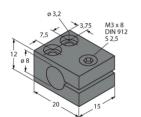
Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene

MBS80

MW08

69479

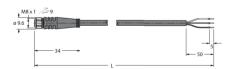
6945008



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

### Wiring accessories

Dimension drawing Type ID
PKGV3M-2/TEL 6625



6625385

Connection cable, M8 female connector, straight, 3-pin, stainless steel coupling nut, cable length: 2 m, jacket material: PVC, black; cULus approval