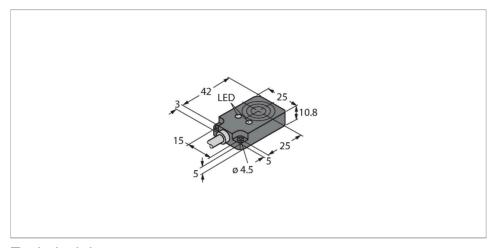


# BI8U-Q10-AP6X2-0.2-PSG3M Inductive Sensor





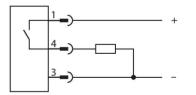
#### Technical data

ID	Туре	BI8U-Q10-AP6X2-0.2-PSG3M
Rated switching distance 8 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>8</sub> 1030 VDC  Ripple U <sub>8</sub> ≤ 10 % U <sub>Bmax</sub> DC rated operating current I <sub>8</sub> ≤ 200 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>8</sub> ≤ 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  AC field stability 300 mTss	ID	1662093
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>Bmax</sub> DC rated operating current I <sub>e</sub> ≤ 200 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       300 mT         AC field stability       300 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 $U_B$ $1030 \text{ VDC}$ Ripple $U_{ss}$ $\leq 10 \% U_{Bmax}$ DC rated operating current $I_B$ $\leq 200 \text{ mA}$ 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 $I_B$ $\leq 1.8 \text{ V}$ Wire break/reverse polarity protection $yes/Complete$ Output function $3-wire$ , NO contact, PNP  DC field stability $300 \text{ mT}_{ss}$	Rated switching distance	8 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> $\leq 10 \% \text{ U}_{Bmax}$ DC rated operating current I <sub>B</sub> $\leq 200 \text{ mA}$ 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>B</sub> $\leq 1.8 \text{ V}$ Wire break/reverse polarity protection $yes/Complete$ Output function $3$ -wire, NO contact, PNP  DC field stability $300 \text{ mT}_{SS}$	Mounting conditions	Flush
$\leq \pm 15 \ \%, \leq -25 \ ^{\circ}\text{C V} \geq +70 \ ^{\circ}\text{C}$ 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 $\leq 15 \ \text{mA}$ 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  AC field stability 300 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 $I_e$ $\leq 200 \text{ mA}$ 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 $300 \text{ mT}$ AC field stability $300 \text{ mT}_{ss}$		≤ ± 15 %, ≤ -25 °C v ≥ +70 °C
$\begin{array}{lll} \text{Operating voltage } U_{\text{B}} & 1030 \text{ VDC} \\ \\ \text{Ripple } U_{\text{ss}} & \leq 10 \text{ % } U_{\text{Bmax}} \\ \\ \text{DC rated operating current } I_{\text{e}} & \leq 200 \text{ mA} \\ \\ \text{No-load current} & \leq 15 \text{ mA} \\ \\ \text{Residual current} & \leq 0.1 \text{ mA} \\ \\ \text{Isolation test voltage} & 0.5 \text{ kV} \\ \\ \text{Short-circuit protection} & \text{yes/Cyclic} \\ \\ \text{Voltage drop at } I_{\text{e}} & \leq 1.8 \text{ V} \\ \\ \text{Wire break/reverse polarity protection} & \text{yes/Complete} \\ \\ \text{Output function} & 3-\text{wire, NO contact, PNP} \\ \\ \text{DC field stability} & 300 \text{ mT} \\ \\ \text{AC field stability} & 300 \text{ mT}_{\text{ss}} \\ \end{array}$	Hysteresis	315 %
Ripple Uss       ≤ 10 % Usmax         DC rated operating current Is       ≤ 200 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         DC field stability       300 mT         AC field stability       300 mT	Electrical data	
DC rated operating current I₀ ≤ 200 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 300 mT  AC field stability 300 mTss	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       300 mT         AC field stability       300 mTss	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 $I_e$ ≤ 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 mTss	DC rated operating current I <sub>e</sub>	≤ 200 mA
	No-load current	≤ 15 mA
$ \begin{array}{lll} & & & & \\ & & & \\ & & & \\ $	Residual current	≤ 0.1 mA
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 mTss	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 mTss	Short-circuit protection	yes/Cyclic
Output function 3-wire, NO contact, PNP  DC field stability 300 mT  AC field stability 300 mT <sub>ss</sub>	Voltage drop at I <sub>e</sub>	≤ 1.8 V
DC field stability 300 mT  AC field stability 300 mT <sub>ss</sub>	Wire break/reverse polarity protection	yes/Complete
AC field stability 300 mT <sub>ss</sub>	Output function	3-wire, NO contact, PNP
<u>·</u>	DC field stability	300 mT
Switching frequency 0.25 kHz	AC field stability	300 mT <sub>ss</sub>
	Switching frequency	0.25 kHz

### **Features**

- Rectangular, height 10.8 mm
- ■Active face on top
- ■Plastic, PBT-GF30-V0
- Factor 1 for all metals
- Resistant to magnetic fields
- ■Extended temperature range
- High switching frequency
- ■DC 3-wire, 10...30 VDC
- ■NO contact, PNP output
- Pigtail with male end M8 x 1

## 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



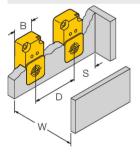
## Technical data

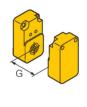
Mechanical data	
Design	Rectangular, Q10
Dimensions	42 x 25 x 10.8 mm
Housing material	Plastic, PBT-GF30-V0
Active area material	PBT-GF30-V0
Material coupling nut	CuZn, nickel-plated
Electrical connection	Cable with connector, M8 × 1
Cable quality	Ø 4 mm, LifYY-11Y, PUR, 0.2 m
Core cross-section	3 x 0.25 mm <sup>2</sup>
Environmental conditions	
Ambient temperature	-30+85 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	874 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
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 S	1 x B
Distance G	6 x Sn
Width active area B	25 mm