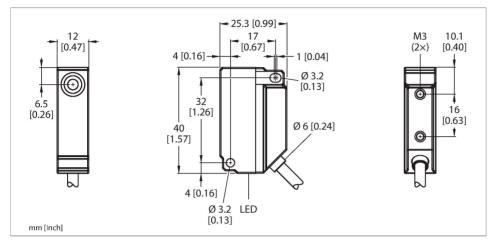


BI5U-Q12-AP6X2 7M Inductive Sensor – With Extended Switching Distance





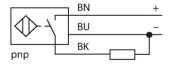
Technical data

ID	Туре	BI5U-Q12-AP6X2 7M
Rated switching distance 5 mm Mounting conditions Flush Secured operating distance ≤ (0.81 × Sn) mm Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ±10 % Hysteresis 315 % Electrical data Operating voltage U ₈ Operating voltage U ₈ 1030 VDC Ripple U _{ss} ≤ 10 % U _{smax} DC rated operating current I ₆ ≤ 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 ₆ ≤ 1.8 V Wire break/reverse polarity protection yes/Complete Output function 3-wire, NO contact, PNP DC field stability 300 mT	ID	1635532
Mounting conditions Flush Secured operating distance ≤ (0.81 × Sn) mm Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ±10 % Hysteresis 315 % Electrical data Operating voltage U ₈ 1030 VDC Ripple U _{ss} ≤ 10 % U _{Bmax} DC rated operating current I ₈ ≤ 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 ₈ Suminary Yes/Complete Output function 3-wire, NO contact, PNP DC field stability	General data	
Secured operating distance $\leq (0.81 \times Sn) \text{ mm}$ Repeat accuracy $\leq 2 \% \text{ of full scale}$ Temperature drift $\leq \pm 10 \%$ Hysteresis 315% Electrical data Operating voltage U_B 1030 VDC Ripple U_{BB} $\leq 10 \% U_{Bmax}$ 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 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 km	Rated switching distance	5 mm
Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ±10 % Hysteresis 315 % Electrical data 1030 VDC Ripple U _{ss} ≤ 10 % U _{Bmax} DC rated operating current I _e ≤ 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 _e ≤ 1.8 V Wire break/reverse polarity protection yes/Complete Output function 3-wire, NO contact, PNP DC field stability 300 mT	Mounting conditions	Flush
Temperature drift $\leq \pm 10 \%$ 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	Secured operating distance	≤ (0.81 × Sn) mm
Hysteresis 315 % Electrical data Operating voltage U _B 1030 VDC Ripple U _{ss} ≤ 10 % U _{Bmax} DC rated operating current I _e ≤ 200 mA No-load current ≤ 15 mA Residual current ≤ 0.1 mA Isolation test voltage 0.5 kV Short-circuit protection Voltage drop at I _e ≤ 1.8 V Wire break/reverse polarity protection Output function 3-wire, NO contact, PNP DC field stability 300 mT	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 $\leq 1.8 \text{ V}$ Wire break/reverse polarity protection Output function 3-wire, NO contact, PNP DC field stability 300 mT	Temperature drift	≤ ±10 %
Operating voltage U_B 1030 VDC Ripple U_{ss} ≤ 10 % U_{Bmax} DC rated operating current I_e ≤ 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_e ≤ 1.8 V Wire break/reverse polarity protection yes/Complete Output function 3-wire, NO contact, PNP DC field stability 300 mT	Hysteresis	315 %
Ripple U _{ss} ≤ 10 % U _{Bmax} DC rated operating current I _e ≤ 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 _e ≤ 1.8 V Wire break/reverse polarity protection yes/Complete Output function 3-wire, NO contact, PNP DC field stability 300 mT	Electrical data	
DC rated operating current I _e ≤ 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 _e ≤ 1.8 V Wire break/reverse polarity protection yes/Complete Output function 3-wire, NO contact, PNP DC field stability 300 mT	Operating voltage U _B	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	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	DC rated operating current I _e	≤ 200 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	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/Cyclic ≤ 1.8 V yes/Complete yes/Complete 3-wire, NO contact, PNP	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	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	Short-circuit protection	yes/Cyclic
Output function 3-wire, NO contact, PNP DC field stability 300 mT	Voltage drop at I _e	≤ 1.8 V
DC field stability 300 mT	Wire break/reverse polarity protection	yes/Complete
	Output function	3-wire, NO contact, PNP
AC field stability 300 mT _{ss}	DC field stability	300 mT
	AC field stability	300 mT _{ss}
Switching frequency 1 kHz	Switching frequency	1 kHz

Features

- Rectangular, height 12mm
- Active face, lateral
- Plastic, PA12-GF30
- Factor 1 for all metals
- ■Increased switching distance
- ■Protection class IP68
- Resistant to magnetic fields
- Mountable on metal
- ■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.

BI5U-Q12-AP6X2 7M | 02/21/2025 13-42 | technical changes reserved

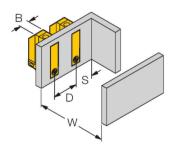


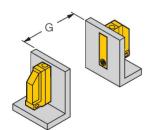
Technical data

Mechanical data	
Design	Rectangular, Q12
Dimensions	40 x 26 x 12 mm
Housing material	Plastic, PA12-GF30
Active area material	PA12-GF30
Electrical connection	Cable
Cable quality	Ø 4 mm, LifYY-11Y, PUR, 7 m
Core cross-section	3 x 0.25 mm ²
Environmental conditions	
Ambient temperature	-25+70 °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
Power-on indication	LED, Green
Switching state	LED, Yellow

Mounting instructions

Mounting instructions/Description







Distance D	48 mm
Distance W	25 mm
Distance S	12 mm
Distance G	50 mm
Width active area B	12 mm
Width active area B	12 111111

The sensors can be mounted directly side by side if a sensor with offset oscillation frequency Bi5U-Q12.../F2 is used.