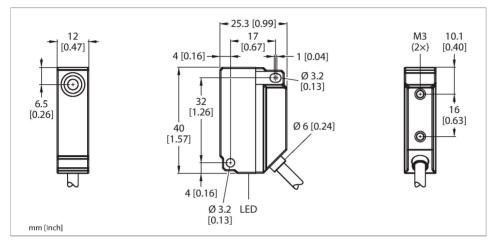


BI5U-Q12-AP6X2 Inductive Sensor – With Extended Switching Distance





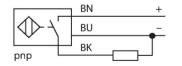
Technical data

ID	Туре	BI5U-Q12-AP6X2
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 _B Operating voltage U _B 1030 VDC Ripple U _{ss} ≤ 10 % U _{Bmax} DC rated operating current I _B ≤ 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 _B ≤ 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	ID	1635522
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 _B Operating voltage U _B 1030 VDC Ripple U _{ss} ≤ 10 % U _{Bmax} DC rated operating current I _B ≤ 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 _B ≤ 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 $\leq 2 \% \text{ of full scale}$ Temperature drift $\leq \pm 10 \%$ Hysteresis 315% Electrical data Operating voltage U_B 1030 VDC Ripple U_{as} $\leq 10 \% U_{Bmax}$ DC rated operating current I_a $\leq 200 \text{ mA}$ 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_a $\leq 1.8 \text{ V}$ Wire break/reverse polarity protection $yes/Complete$ Output function $3-wire$, NO contact, PNP DC field stability 300 mT_{ss}	Rated switching distance	5 mm
Repeat accuracy $\leq 2 \%$ of full scale Temperature drift $\leq \pm 10 \%$ Hysteresis 315% Electrical data Operating voltage U _B 1030 VDC Ripple U _{SS} $\leq 10 \% \text{ U}_{Brnax}$ 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_{SS}	Mounting conditions	Flush
Temperature drift $≤ \pm 10 \%$ Hysteresis 315% Electrical data Operating voltage U_B 1030 VDC Ripple U_{ss} $≤ 10 \% U_{Bmax}$ DC rated operating current I_s $≤ 200 \text{ mA}$ No-load current $≤ 15 \text{ mA}$ Residual current $≤ 0.1 \text{ mA}$ Isolation test voltage 0.5 kV Short-circuit protection $yes/Cyclic$ Voltage drop at I_s $≤ 1.8 \text{ V}$ Wire break/reverse polarity protection $yes/Complete$ Output function $3-wire$, NO contact, PNP DC field stability 300 mT_{ss}	Secured operating distance	≤ (0.81 × Sn) mm
	Repeat accuracy	≤ 2 % of full scale
Electrical dataOperating 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, PNPDC field stability 300 mT AC field stability 300 mT_{ss}	Temperature drift	≤ ±10 %
$\begin{array}{llllllllllllllllllllllllllllllllllll$	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 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_{ss}	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 AC field stability 300 mTss	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 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 _e	≤ 200 mA
	No-load current	≤ 15 mA
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	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 mT _{ss}	Short-circuit protection	yes/Cyclic
Output function 3-wire, NO contact, PNP DC field stability 300 mT AC field stability 300 mT _{ss}	Voltage drop at I _e	≤ 1.8 V
DC field stability 300 mT AC field stability 300 mT _{ss}	Wire break/reverse polarity protection	yes/Complete
AC field stability 300 mT _{ss}	Output function	3-wire, NO contact, PNP
	DC field stability	300 mT
Switching frequency 1 kHz	AC field stability	300 mT _{ss}
	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 | 02/21/2025 13-18 | technical changes reserved

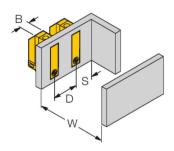


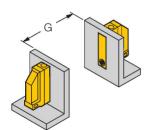
Technical data

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, 2 m
Core cross-section	3 x 0.25 mm²
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

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