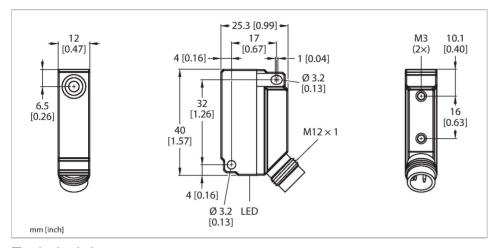


BI5U-Q12-AP6X2-H1141 Inductive Sensor – With Extended Switching Distance





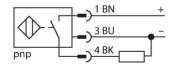
Technical data

ID	Туре	BI5U-Q12-AP6X2-H1141
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 Operating voltage 1030 VDC Residual ripple ≤ 10 % U _{ss} DC rated operational current ≤ 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 breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP DC field stability 300 mT AC field stability 300 mT	ID	1635526
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 Operating voltage 1030 VDC Residual ripple ≤ 10 % U₂, DC rated operational current ≤ 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 breakage/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 ≤ (0.81 × Sn) mm Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ±10 % Hysteresis 315 % Electrical data Operating voltage Operating voltage 1030 VDC Residual ripple ≤ 10 % U _{ss} DC rated operational current ≤ 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 breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP DC field stability 300 mT AC field stability 300 mT	Rated switching distance	5 mm
Repeat accuracy $\leq 2 \%$ of full scale Temperature drift $\leq \pm 10 \%$ Hysteresis 315% Electrical data Operating voltage 1030 VDC Residual ripple $\leq 10 \% \text{ U}_{ss}$ DC rated operational current $\leq 200 \text{ mA}$ No-load current 15 mA Residual current $\leq 0.1 \text{ mA}$ Isolation test voltage $\leq 0.5 \text{ kV}$ Short-circuit protection yes / Cyclic Voltage drop at I_o $\leq 1.8 \text{ V}$ Wire breakage/Reverse polarity protection yes / Complete Output function $3\text{-wire, NO contact, PNP}$ DC field stability 300 mT_{ss}	Mounting conditions	Flush
Temperature drift ≤ ±10 % Hysteresis 315 % Electrical data Operating voltage 1030 VDC Residual ripple ≤ 10 % U₂₂₂ DC rated operational current ≤ 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 I₂ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP DC field stability 300 mT AC field stability 300 mT Selection where size is a size in the size is a size in the size is a size in the size in the size is a size in the size in the size is a size in the size in the size is a size in the size in the size is a size in the size in	Secured operating distance	≤ (0.81 × Sn) mm
Hysteresis 315 % Electrical data Operating voltage 1030 VDC Residual ripple ≤ 10 % U _{ss} DC rated operational current ≤ 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 _s ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP DC field stability 300 mT AC field stability 300 mT Series 315 % AD Series 315 % A suite No Contact, PNP	Repeat accuracy	≤ 2 % of full scale
Electrical data Operating voltage 1030 VDC Residual ripple ≤ 10 % U _{ss} DC rated operational current ≤ 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 _s ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP DC field stability 300 mT AC field stability 300 mT _{ss}	Temperature drift	≤ ±10 %
$\begin{array}{lll} \text{Operating voltage} & 1030 \text{ VDC} \\ \\ \text{Residual ripple} & \leq 10 \% \text{ U}_{ss} \\ \\ \text{DC rated operational current} & \leq 200 \text{ mA} \\ \\ \text{No-load current} & 15 \text{ mA} \\ \\ \text{Residual current} & \leq 0.1 \text{ mA} \\ \\ \text{Isolation test voltage} & \leq 0.5 \text{ kV} \\ \\ \text{Short-circuit protection} & \text{yes / Cyclic} \\ \\ \text{Voltage drop at I}_{e} & \leq 1.8 \text{ V} \\ \\ \text{Wire breakage/Reverse polarity protection} & \text{yes / Complete} \\ \\ \text{Output function} & 3-\text{wire, NO contact, PNP} \\ \\ \text{DC field stability} & 300 \text{ mT} \\ \\ \text{AC field stability} & 300 \text{ mT}_{ss} \\ \\ \end{array}$	Hysteresis	315 %
Residual ripple ≤ 10 % Uss DC rated operational current ≤ 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_c ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP DC field stability 300 mT AC field stability 300 mTss	Electrical data	
DC rated operational current ≤ 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 breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP DC field stability 300 mT AC field stability 300 mTss	Operating voltage	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 breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP DC field stability 300 mT AC field stability 300 mTss	Residual ripple	≤ 10 % U _{ss}
Residual current ≤ 0.1 mA Isolation test voltage ≤ 0.5 kV Short-circuit protection yes / Cyclic Voltage drop at I₀ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 3-wire, NO contact, PNP DC field stability 300 mT AC field stability 300 mTss	DC rated operational current	≤ 200 mA
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	No-load current	15 mA
Short-circuit protection Voltage drop at I _e ≤ 1.8 V Wire breakage/Reverse polarity protection Output function DC field stability 300 mT AC field stability 300 mT _{ss}	Residual current	≤ 0.1 mA
Voltage drop at I₀ ≤ 1.8 V Wire breakage/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 breakage/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 _{ss}	Voltage drop at I _e	≤ 1.8 V
DC field stability 300 mT AC field stability 300 mT _{ss}	Wire breakage/Reverse polarity protection	yes / Complete
AC field stability 300 mT _{ss}	Output function	3-wire, NO contact, PNP
<u> </u>	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
- ■M12 x 1 male connector

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



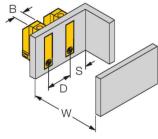
Technical data

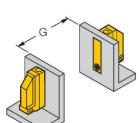
Mechanical data	
Design	Rectangular, Q12
Dimensions	40 x 26 x 12 mm
Housing material	Plastic, PA12-GF30
Active area material	PA12-GF30
Electrical connection	Connector, M12 × 1
Environmental conditions	
Ambient temperature	-25+70 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP68
MTTF	874 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
Switching state	LED, Yellow

distances, maximum flexibility and operational reliability as well as efficient standardization.

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.



Connection cable, female M12, straight, 3-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com