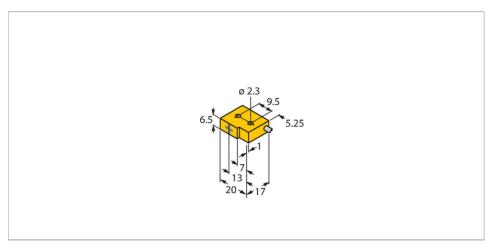


BI1-Q6.5-RP6 Inductive Sensor



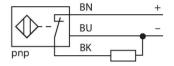
Technical data

ID 4613425 General data Rated switching distance 1 mm Mounting conditions Flush Secured operating distance ≤ (0.81 × Sn) mm Correction factors \$t37 = 1; Al = 0.1; stainless steel = 0.7; Ms = 0.25 Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ±10 % Hysteresis 315 % Electrical data Operating voltage Us Operating voltage Us 1030 VDC Ripple Us ≤ 10 % Uses 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, NC contact, PNP Switching frequency 0.03 kHz	Туре	BI1-Q6.5-RP6
Rated switching distance 1 mm Mounting conditions Flush Secured operating distance ≤ (0.81 × Sn) mm Correction factors St37 = 1; Al = 0.1; stainless steel = 0.7; Ms = 0.25 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 _{8max} DC rated operating current I ₆ ≤ 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 ₆ ≤ 1.8 V Wire break/reverse polarity protection yes/Complete Output function 3-wire, NC contact, PNP	ID	4613425
Mounting conditions Flush Secured operating distance ≤ (0.81 × Sn) mm Correction factors St37 = 1; Al = 0.1; stainless steel = 0.7; Ms = 0.25 Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ±10 % Hysteresis 315 % Electrical data Operating voltage Us Operating voltage Us 1030 VDC Ripple Uss ≤ 10 % Usnax 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, NC contact, PNP	General data	
Secured operating distance $\leq (0.81 \times Sn) \text{ mm}$ Correction factors $St37 = 1$; Al = 0.1; stainless steel = 0.7; Ms = 0.25 Repeat accuracy $\leq 2 \%$ of full scale Temperature drift $\leq \pm 10 \%$ Hysteresis 315% Electrical data Operating voltage U_0 1030 VDC Ripple U_{ss} $\leq 10 \% U_{gmax}$ DC rated operating current I_0 $\leq 150 \text{ mA}$ 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 Wire break/reverse polarity protection 0.5 kV Output function 0.5 kV Output function 0.5 kV	Rated switching distance	1 mm
Correction factors	Mounting conditions	Flush
$= 0.25$ 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} $\leq 10 \% U_{Bmax}$ DC rated operating current I_B $\leq 150 \text{ mA}$ 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_B $\leq 1.8 \text{ V}$ Wire break/reverse polarity protection $yes/Complete$ Output function 3 -wire, NC contact, PNP	Secured operating distance	≤ (0.81 × Sn) mm
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 $\leq 150 \text{ mA}$ 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, NC contact, PNP	Correction factors	
Hysteresis 315% Electrical data 1030 VDC Operating voltage U_B 1030 VDC Ripple U_{ss} $\leq 10\% U_{Bmax}$ DC rated operating current I_e $\leq 150 \text{ mA}$ No-load current $\leq 15 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Isolation test voltage 0.5 kV Short-circuit protectionyes/CyclicVoltage drop at I_e $\leq 1.8 \text{ V}$ Wire break/reverse polarity protectionyes/CompleteOutput function 3 -wire, NC contact, PNP	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 $\leq 150 \text{ mA}$ 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 $3-wire, NC contact, PNP$	Temperature drift	≤ ±10 %
Operating voltage U_B 1030 VDC 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, NC contact, PNP	Hysteresis	315 %
Ripple Uss ≤ 10 % Usmax DC rated operating current Ie ≤ 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 Ie ≤ 1.8 V Wire break/reverse polarity protection yes/Complete Output function 3-wire, NC contact, PNP	Electrical data	
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, NC contact, PNP	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 I _e ≤ 1.8 V Wire break/reverse polarity protection yes/Complete Output function 3-wire, NC contact, PNP	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, NC contact, PNP	DC rated operating current I _e	≤ 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, NC contact, PNP	No-load current	≤ 15 mA
Short-circuit protection Voltage drop at I₀ ≤ 1.8 V Wire break/reverse polarity protection Output function yes/Cyclic ≤ 1.8 V yes/Complete 3-wire, NC 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, NC contact, PNP	Isolation test voltage	0.5 kV
Wire break/reverse polarity protection yes/Complete Output function 3-wire, NC contact, PNP	Short-circuit protection	yes/Cyclic
Output function 3-wire, NC contact, PNP	Voltage drop at I _e	≤ 1.8 V
	Wire break/reverse polarity protection	yes/Complete
Switching frequency 0.03 kHz	Output function	3-wire, NC contact, PNP
	Switching frequency	0.03 kHz

Features

- Rectangular, height 6.5 mm
- Active face, lateral
- ■Plastic, PP GR-20
- ■DC 3-wire, 10...30 VDC
- ■NC contact, PNP output
- Cable connection

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.

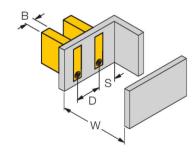


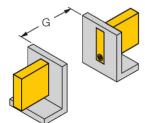
Technical data

Mechanical data	
Design	Rectangular, Q6,5
Dimensions	20.2 x 17.2 x 6.5 mm
Housing material	Plastic, PP GR-20
Active area material	PP GR-20
Electrical connection	Cable
Cable quality	Ø 2 mm, Gray, Lif9Y-11Y, PUR, 2 m
Core cross-section	3 x 0.08 mm²
Litz wire	40 x0.05 mm
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

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	6.5 mm

Note for installation in ST37: 4-side flush mounting is not possible