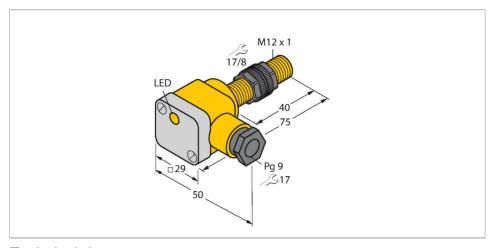


BI2-P12SK-AN6X2 Inductive Sensor



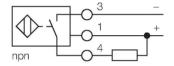
Technical data

ID	Туре	BI2-P12SK-AN6X2
Rated switching distance 2 mm Mounting conditions Flush Secured operating distance ≤ (0.81 × Sn) mm Correction factors St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4 Repeat accuracy ≤ 2 % of full scale Hysteresis 315 % Electrical data Operating voltage U _B Operating voltage U _B 1030 VDC Ripple U _{ss} ≤ 10 % U _{Broas} 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, NPN Switching frequency 2 kHz Mechanical data	ID	4654000
Mounting conditions Flush Secured operating distance ≤ (0.81 × Sn) mm Correction factors St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4 Repeat accuracy ≤ 2 % of full scale Hysteresis 315 % Electrical data Operating voltage Us 1030 VDC 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, NPN Switching frequency 2 kHz Mechanical data	General data	
Secured operating distance ≤ (0.81 × Sn) mm Correction factors St37 = 1; AI = 0.3; stainless steel = 0.7; Ms = 0.4 Repeat accuracy ≤ 2 % of full scale 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 yes/Cyclic Voltage drop at I _e ≤ 1.8 V Wire break/reverse polarity protection Output function 3-wire, NO contact, NPN Switching frequency 2 kHz Mechanical data	Rated switching distance	2 mm
Correction factors $ \begin{array}{ll} St37 = 1; Al = 0.3; stainless steel = 0.7; Ms \\ = 0.4 \\ \hline \\ Repeat accuracy \\ \leq 2 \% of full scale \\ \hline \\ Hysteresis \\ \hline \\ Sum 15 \% \\ \hline \\ Electrical data \\ \hline \\ Operating voltage U_s \\ \hline \\ Ripple U_{ss} \\ \hline \\ DC rated operating current I_e \\ \hline \\ DC rated operating current I_e \\ \hline \\ No-load current \\ \hline \\ Residual current \\ \hline \\ Short-circuit protection \\ \hline \\ Voltage drop at I_e \\ \hline \\ Wire break/reverse polarity protection \\ \hline \\ Output function \\ \hline \\ Switching frequency \\ \hline \\ Mechanical data \\ \hline \end{array} $	Mounting conditions	Flush
Electrical data	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 Vire break/reverse polarity protection Output function Switching frequency Mechanical data	Correction factors	
Electrical data Operating voltage U_{B} The second of the second	Repeat accuracy	≤ 2 % of full scale
Operating voltage U_B 1030 VDC Ripple U_{ss} ≤ 10 % U_{Brmax} 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, NPN Switching frequency 2 kHz Mechanical data	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, NPN Switching frequency 2 kHz Mechanical data	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, NPN Switching frequency 2 kHz Mechanical data	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, NPN Switching frequency 2 kHz Mechanical data	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, NPN Switching frequency 2 kHz Mechanical data	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, NPN Switching frequency 2 kHz Mechanical data	No-load current	≤ 15 mA
Short-circuit protection Voltage drop at I₀ Wire break/reverse polarity protection Output function Switching frequency Mechanical data yes/Cyclic yes/Cyclic ≤ 1.8 V yes/Complete yes/Complete 2 kHz	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, NPN Switching frequency 2 kHz Mechanical data	Isolation test voltage	0.5 kV
Wire break/reverse polarity protection yes/Complete Output function 3-wire, NO contact, NPN Switching frequency 2 kHz Mechanical data	Short-circuit protection	yes/Cyclic
Output function 3-wire, NO contact, NPN Switching frequency 2 kHz Mechanical data	Voltage drop at I _e	≤ 1.8 V
Switching frequency 2 kHz Mechanical data	Wire break/reverse polarity protection	yes/Complete
Mechanical data	Output function	3-wire, NO contact, NPN
	Switching frequency	2 kHz
Design Threaded barrel, M12 x 1	Mechanical data	
	Design	Threaded barrel, M12 x 1

Features

- ■Threaded barrel, M12 x 1
- Plastic, PA12-GF30
- DC 3-wire, 10...30 VDC
- ■NO contact, NPN output
- ■Terminal chamber

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.

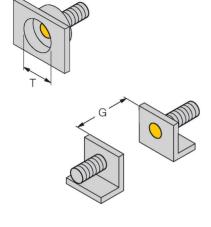


Technical data

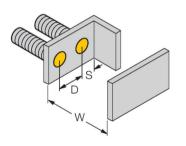
Dimensions	75 mm
Housing material	Plastic, PA12-GF30
Terminal chamber cover material	plastic, Ultem
Terminal chamber housing material	plastic, PA12-GF30
Active area material	Plastic, PA12-GF30
Max. tightening torque of housing nut	1 Nm
Electrical connection	Terminal chamber
Clamping ability	≤ 2.5 mm²
Cable external diameter	4.58 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
Power-on indication	LED, Green
Switching state	LED, Yellow
Included in delivery	cable gland; 2x plastic seals

Mounting instructions

Mounting instructions/Description

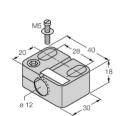


Distance D	2 x B
Distance W	3 x Sn
Distance T	3 x B
Distance S	1.5 x B
Distance G	6 x Sn
Diameter active area B	Ø 12 mm



Accessories

BST-12B 6947212



Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6

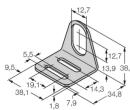


Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M16 × 1. Note: The switching distance of the proximity switches may change when using quick-mount brackets.

6945101

6901321

MW12



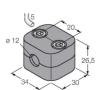
Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)

6945003

BSS-12

QM-12

Mounting clamp for smooth and



threaded barrel sensors; material: Polypropylene