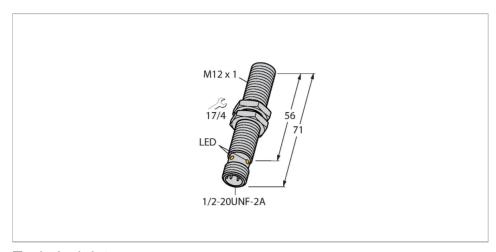


BI4-G12-ADZ32X-B3131 Inductive Sensor



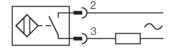
Technical data

ID	Туре	BI4-G12-ADZ32X-B3131
Rated switching distance 4 mm Mounting conditions Flush 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 Temperature drift ≤ ±10 % Hysteresis 315 % Electrical data 20250 VAC Operating voltage U _B 20250 VAC Operating voltage U _B 10300 VDC AC rated operational current ≤ 100 mA DC rated operating current I _B ≤ 100 mA Frequency ≥ 50≤ 60 Hz Residual current ≤ 1.7 mA Isolation test voltage 1.5 kV Surge current ≤ 1 A (≤ 10 ms max. 5 Hz) Short-circuit protection yes/Latching Voltage drop at I _B ≤ 6 V Wire break/reverse polarity protection yes/Complete	ID	4205301
Mounting conditionsFlushSecured operating distance≤ $(0.81 \times Sn)$ mmCorrection factors\$137 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4Repeat accuracy≤ 2 % of full scaleTemperature drift≤ ±10 %Hysteresis315 %Electrical data20250 VACOperating voltage Us20250 VACAC rated operational current≤ 100 mADC rated operating current Is≤ 100 mAFrequency≥ 50 ≤ $60 \times 100 \times 1$	General data	
Secured operating distance $\leq (0.81 \times Sn) \text{ mm}$ Correction factors $St37 = 1$; Al = 0.3; stainless steel = 0.7; Ms = 0.4Repeat accuracy $\leq 2 \%$ of full scaleTemperature drift $\leq \pm 10 \%$ Hysteresis 315% Electrical data $St30 \times St30 \times S$	Rated switching distance	4 mm
Correction factors $\begin{array}{ll} St37 = 1; \ Al = 0.3; \ stainless \ steel = 0.7; \ Ms \\ = 0.4 \\ \hline Repeat \ accuracy & \leq 2 \ \% \ of \ full \ scale \\ \hline Temperature \ drift & \leq \pm 10 \ \% \\ \hline Hysteresis & 315 \ \% \\ \hline Electrical \ data & \\ \hline Operating \ voltage \ U_{\scriptscriptstyle B} & 20250 \ VAC \\ \hline Operating \ voltage \ U_{\scriptscriptstyle B} & 10300 \ VDC \\ \hline AC \ rated \ operational \ current & \leq 100 \ mA \\ \hline DC \ rated \ operating \ current \ I_{\scriptscriptstyle G} & \leq 100 \ mA \\ \hline Frequency & \geq 50 \leq 60 \ Hz \\ \hline Residual \ current & \leq 1.7 \ mA \\ \hline Isolation \ test \ voltage & 1.5 \ kV \\ \hline Surge \ current & \leq 1 \ A \ (\leq 10 \ ms \ max. \ 5 \ Hz) \\ \hline Short-circuit \ protection & yes/Latching \\ \hline Voltage \ drop \ at \ I_{\scriptscriptstyle G} & \leq 6 \ V \\ \hline Wire \ break/reverse \ polarity \ protection & yes/Complete \\ \hline \end{array}$	Mounting conditions	Flush
$= 0.4$ Repeat accuracy $\leq 2 \%$ of full scale Temperature drift $\leq \pm 10 \%$ Hysteresis 315% Electrical data Operating voltage U_s 20250 VAC Operating voltage U_s 10300 VDC AC rated operational current $\leq 100 \text{ mA}$ DC rated operating current I_s $\leq 100 \text{ mA}$ Frequency $\geq 50 \leq 60 \text{ Hz}$ Residual current $\leq 1.7 \text{ mA}$ Isolation test voltage 1.5 kV Surge current $\leq 1 \text{ A } (\leq 10 \text{ ms max. 5 Hz})$ Short-circuit protection $\text{Voltage drop at } I_s$ $\leq 6 \text{ V}$ Wire break/reverse polarity protection Ves/Complete	Secured operating distance	≤ (0.81 × Sn) mm
Temperature drift $\leq \pm 10 \%$ Hysteresis 315% Electrical data Operating voltage U _B 20250 VAC Operating voltage U _B 10300 VDC AC rated operational current $\leq 100 \text{ mA}$ DC rated operating current I _B $\leq 100 \text{ mA}$ Frequency $\geq 50 \leq 60 \text{ Hz}$ Residual current $\leq 1.7 \text{ mA}$ Isolation test voltage 1.5 kV Surge current $\leq 1 \text{ A} (\leq 10 \text{ ms max. 5 Hz})$ Short-circuit protection yes/Latching Voltage drop at I _B $\leq 6 \text{ V}$ Wire break/reverse polarity protection yes/Complete	Correction factors	
Hysteresis 315 % Electrical data 20250 VAC Operating voltage U_B 20300 VDC AC rated operational current ≤ 100 mA DC rated operating current I_B ≤ 100 mA Frequency ≥ 50≤ 60 Hz Residual current ≤ 1.7 mA Isolation test voltage 1.5 kV Surge current ≤ 1 A (≤ 10 ms max. 5 Hz) Short-circuit protection yes/Latching Voltage drop at I_B ≤ 6 V Wire break/reverse polarity protection yes/Complete	Repeat accuracy	≤ 2 % of full scale
Electrical data Operating voltage U_B 20250 VAC Operating voltage U_B 10300 VDC AC rated operational current $\leq 100 \text{ mA}$ DC rated operating current I_B Frequency $\geq 50 \leq 60 \text{ Hz}$ Residual current $\leq 1.7 \text{ mA}$ Isolation test voltage 1.5 kV Surge current $\leq 1 \text{ A } (\leq 10 \text{ ms max. 5 Hz})$ Short-circuit protection Voltage drop at I_B $\leq 6 \text{ V}$ Wire break/reverse polarity protection	Temperature drift	≤ ±10 %
Operating voltage U_B 20250 VAC Operating voltage U_B 10300 VDC AC rated operational current ≤ 100 mA DC rated operating current I_B ≤ 100 mA Frequency ≥ 50≤ 60 Hz Residual current ≤ 1.7 mA Isolation test voltage 1.5 kV Surge current ≤ 1 A (≤ 10 ms max. 5 Hz) Short-circuit protection yes/Latching Voltage drop at I_B ≤ 6 V Wire break/reverse polarity protection yes/Complete	Hysteresis	315 %
Operating voltage U_B 10300 VDC AC rated operational current ≤ 100 mA DC rated operating current I_B ≤ 100 mA Frequency ≥ 50≤ 60 Hz Residual current ≤ 1.7 mA Isolation test voltage 1.5 kV Surge current ≤ 1 A (≤ 10 ms max. 5 Hz) Short-circuit protection yes/Latching Voltage drop at I_B ≤ 6 V Wire break/reverse polarity protection yes/Complete	Electrical data	
AC rated operational current $\leq 100 \text{ mA}$ DC rated operating current I _o $\leq 100 \text{ mA}$ Frequency $\geq 50 \leq 60 \text{ Hz}$ Residual current $\leq 1.7 \text{ mA}$ Isolation test voltage $= 1.5 \text{ kV}$ Surge current $\leq 1 \text{ A} (\leq 10 \text{ ms max. 5 Hz})$ Short-circuit protection $= 1.5 \text{ kV}$ Voltage drop at I _o $= 1.5 \text{ kV}$ Wire break/reverse polarity protection $= 1.5 \text{ kV}$	Operating voltage U _B	20250 VAC
DC rated operating current I_e ≤ 100 mA Frequency ≥ 50≤ 60 Hz Residual current ≤ 1.7 mA Isolation test voltage 1.5 kV Surge current ≤ 1 A (≤ 10 ms max. 5 Hz) Short-circuit protection yes/Latching Voltage drop at I_e ≤ 6 V Wire break/reverse polarity protection yes/Complete	Operating voltage U _B	10300 VDC
Frequency $\geq 50 \leq 60 \text{ Hz}$ Residual current $\leq 1.7 \text{ mA}$ Isolation test voltage 1.5 kV Surge current $\leq 1 \text{ A} (\leq 10 \text{ ms max. 5 Hz})$ Short-circuit protection yes/Latching Voltage drop at I₀ $\leq 6 \text{ V}$ Wire break/reverse polarity protection yes/Complete	AC rated operational current	≤ 100 mA
Residual current ≤ 1.7 mA Isolation test voltage 1.5 kV Surge current ≤ 1 A (≤ 10 ms max. 5 Hz) Short-circuit protection yes/Latching Voltage drop at I₀ ≤ 6 V Wire break/reverse polarity protection yes/Complete	DC rated operating current I _e	≤ 100 mA
Isolation test voltage 1.5 kV Surge current $\leq 1 \text{ A } (\leq 10 \text{ ms max. 5 Hz})$ Short-circuit protection yes/Latching Voltage drop at I $_{\circ}$ $\leq 6 \text{ V}$ Wire break/reverse polarity protection yes/Complete	Frequency	≥ 50≤ 60 Hz
Surge current ≤ 1 A (≤ 10 ms max. 5 Hz) Short-circuit protection yes/Latching Voltage drop at I_e ≤ 6 V Wire break/reverse polarity protection yes/Complete	Residual current	≤ 1.7 mA
Short-circuit protection yes/Latching Voltage drop at I₂ ≤ 6 V Wire break/reverse polarity protection yes/Complete	Isolation test voltage	1.5 kV
Voltage drop at I₀ ≤ 6 V Wire break/reverse polarity protection yes/Complete	Surge current	≤ 1 A (≤ 10 ms max. 5 Hz)
Wire break/reverse polarity protection yes/Complete	Short-circuit protection	yes/Latching
	Voltage drop at I _e	≤ 6 V
Output function 2-wire, NO contact, 2-wire	Wire break/reverse polarity protection	yes/Complete
	Output function	2-wire, NO contact, 2-wire

Features

- ■Threaded barrel, M12 x 1
- Chrome-plated brass
- ■AC 2-wire, 20...250 VAC
- ■DC 2-wire, 10...300 VDC
- ■NO contact
- 1/2" male connector

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.

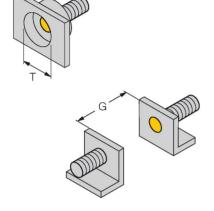


Technical data

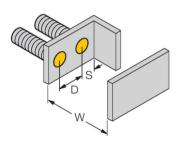
Smallest operating current	≥ 3 mA
Switching frequency	0.02 kHz
Mechanical data	
Design	Threaded barrel, M12 x 1
Dimensions	71 mm
Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, PA12-GF30
Max. tightening torque of housing nut	10 Nm
Electrical connection	Connector, 1/2"
Environmental 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
Switching state	LED, Red

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

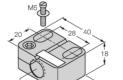


Accessories

QM-12 6945101



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.



BST-12B

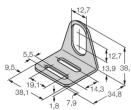
BSS-12

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

6947212

6901321

MW12 6945003



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

Polypropylene

Mounting clamp for smooth and threaded barrel sensors; material: