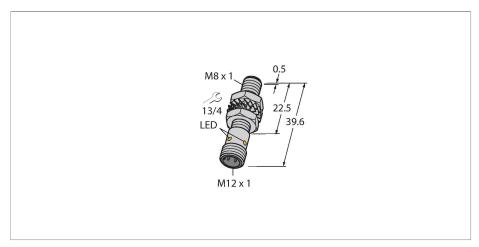


BI3-M08K-VP6X-H1341 Inductive Sensor – With Increased Switching Distance



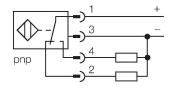
Technical data

ID	Туре	BI3-M08K-VP6X-H1341
Rated switching distance 3 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 Temperature drift ≤ ±10 % Hysteresis 315 % Electrical data Operating voltage U _B 1030 VDC Ripple U _s ≤ 10 % U _{Brinax} 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 4-wire, Complementary contact, PNP Switching frequency 2.8 kHz Mechanical data Design Threaded barrel, M8 x 1 Dimensions 39.6 mm		4602823
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 Temperature drift ≤ ±10 % Hysteresis 315 % Electrical data Description Operating voltage Us 1030 VDC Ripple Uss ≤ 10 % Usmax 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 4-wire, Complementary contact, PNP Switching frequency 2.8 kHz Mechanical data Design Threaded barrel, M8 x 1 Dimensions 39.6 mm	General data	
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 Temperature drift ≤ ±10 % Hysteresis 315 % Electrical data Operating voltage U ₈ 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 4-wire, Complementary contact, PNP Switching frequency 2.8 kHz Mechanical data Design Threaded barrel, M8 x 1 Dimensions 39.6 mm	Rated switching distance	3 mm
Correction factors $St37 = 1$; Al = 0.3; stainless steel = 0.7; $Ms = 0.4$ Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ±10 % Hysteresis 315 % Electrical data Operating voltage U _B 1030 VDC Ripple U _{ss} ≤ 10 % U _{Bmax} DC rated operating current I _B ≤ 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 _B ≤ 1.8 V Wire break/reverse polarity protection yes/Complete Output function 4-wire, Complementary contact, PNP Switching frequency 2.8 kHz Mechanical data Design Threaded barrel, M8 x 1 Dimensions 39.6 mm	Mounting conditions	Flush
Ms = 0.4 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 _{bmax} DC rated operating current I ₈ ≤ 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 ₈ ≤ 1.8 V Wire break/reverse polarity protection yes/Complete Output function 4-wire, Complementary contact, PNP Switching frequency 2.8 kHz Mechanical data Design Threaded barrel, M8 x 1 Dimensions 39.6 mm	Secured operating distance	≤ (0.81 × Sn) mm
Temperature drift ≤ ±10 % Hysteresis 315 % Electrical data Operating voltage U _B 1030 VDC Ripple U _B ≤ 10 % U _{Bmax} DC rated operating current I _B ≤ 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 _B ≤ 1.8 V Wire break/reverse polarity protection yes/Complete Output function 4-wire, Complementary contact, PNP Switching frequency 2.8 kHz Mechanical data Design Threaded barrel, M8 x 1 Dimensions 39.6 mm	Correction factors	
Hysteresis Electrical data 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 solation test voltage 0.5 kV Short-circuit protection yes/Cyclic Voltage drop at I _e wire break/reverse polarity protection yes/Complete Output function 4-wire, Complementary contact, PNP Switching frequency 2.8 kHz Mechanical data Design Threaded barrel, M8 x 1 Dimensions 39.6 mm	Repeat accuracy	≤ 2 % of full scale
Electrical data 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 Voltage drop at I _e ✓ 1.8 V Wire break/reverse polarity protection Output function 4-wire, Complementary contact, PNP Switching frequency 2.8 kHz Mechanical data Design Threaded barrel, M8 x 1 Dimensions 39.6 mm	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 4-wire, Complementary contact, PNP Switching frequency 2.8 kHz Mechanical data Threaded barrel, M8 x 1 Dimensions 39.6 mm	Hysteresis	315 %
Ripple U _{es} ≤ 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 4-wire, Complementary contact, PNP Switching frequency 2.8 kHz Mechanical data Design Threaded barrel, M8 x 1 Dimensions 39.6 mm	Electrical data	
DC rated operating current I₀ ≤ 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 I₀ ≤ 1.8 V Wire break/reverse polarity protection yes/Complete Output function 4-wire, Complementary contact, PNP Switching frequency 2.8 kHz Mechanical data Threaded barrel, M8 x 1 Dimensions 39.6 mm	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 4-wire, Complementary contact, PNP Switching frequency 2.8 kHz Mechanical data Threaded barrel, M8 x 1 Dimensions 39.6 mm	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 4-wire, Complementary contact, PNP Switching frequency 2.8 kHz Mechanical data Threaded barrel, M8 x 1 Dimensions 39.6 mm	DC rated operating current I _o	≤ 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 4-wire, Complementary contact, PNP Switching frequency 2.8 kHz Mechanical data Threaded barrel, M8 x 1 Dimensions 39.6 mm	No-load current	≤ 15 mA
Short-circuit protection Voltage drop at I₀ Wire break/reverse polarity protection Output function Switching frequency Mechanical data Design Threaded barrel, M8 x 1 Dimensions yes/Cyclic yes/Cyclic ≤ 1.8 V yes/Complete 4-wire, Complementary contact, PNP 2.8 kHz Mechanical data Threaded barrel, M8 x 1	Residual current	≤ 0.1 mA
Voltage drop at I₀ ≤ 1.8 V Wire break/reverse polarity protection yes/Complete Output function 4-wire, Complementary contact, PNP Switching frequency 2.8 kHz Mechanical data Threaded barrel, M8 x 1 Dimensions 39.6 mm	Isolation test voltage	0.5 kV
Wire break/reverse polarity protection yes/Complete Output function 4-wire, Complementary contact, PNP Switching frequency 2.8 kHz Mechanical data Design Threaded barrel, M8 x 1 Dimensions 39.6 mm	Short-circuit protection	yes/Cyclic
Output function 4-wire, Complementary contact, PNP Switching frequency 2.8 kHz Mechanical data Design Threaded barrel, M8 x 1 Dimensions 39.6 mm	Voltage drop at I _e	≤ 1.8 V
Switching frequency 2.8 kHz Mechanical data Design Threaded barrel, M8 x 1 Dimensions 39.6 mm	Wire break/reverse polarity protection	yes/Complete
Mechanical data Design Threaded barrel, M8 x 1 Dimensions 39.6 mm	Output function	4-wire, Complementary contact, PNP
Design Threaded barrel, M8 x 1 Dimensions 39.6 mm	Switching frequency	2.8 kHz
Dimensions 39.6 mm	Mechanical data	
	Design	Threaded barrel, M8 x 1
Housing material Metal, CuZn, Nickel Plated	Dimensions	39.6 mm
	Housing material	Metal, CuZn, Nickel Plated

Features

- ■Threaded barrel, M8 x 1
- Nickel-plated brass
- Large sensing range
- ■DC 4-wire, 10...30 VDC
- Changeover contact, PNP output
- ■M12 x 1 male connector

Wiring diagram





Functional principle

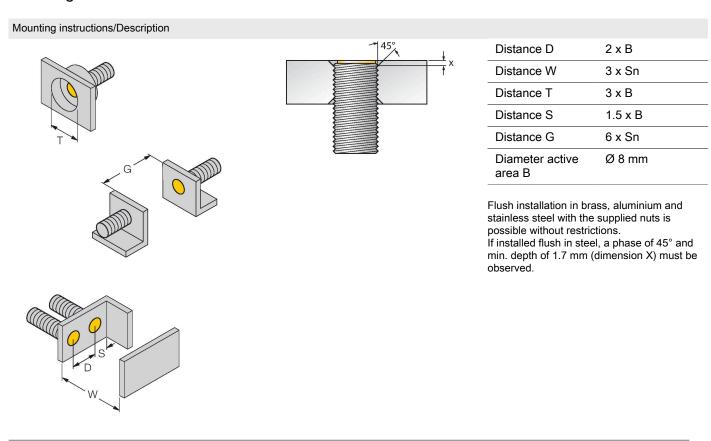
Inductive sensors detect metal objects contactless and wear-free. For this, they use a high-frequency electromagnetic AC field that interacts with the target. Inductive sensors generate this field via an RLC circuit with a ferrite coil.



Technical data

Active area material	Plastic, PP-GF20
Max. tightening torque of housing nut	7 Nm
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	IP67
MTTF	2283 years acc. to SN 29500 (Ed. 99) 40 °C
Switching state	LED, Yellow

Mounting instructions



Accessories

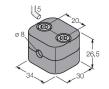
MW08 6945008

7,9 11,9 28,7 Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)

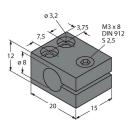
BSS-08

6901322

Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene



MBS80 69479



Mounting clamp for smooth barrel sensors; mounting block material: Anodized aluminum

Accessories

Dimension drawing Type ID

RKC4.4T-2/TEL 6625013



Connection cable, M12 female connector, straight, 4-pin, cable length: 2 m, jacket material: PVC, black; cULus approval