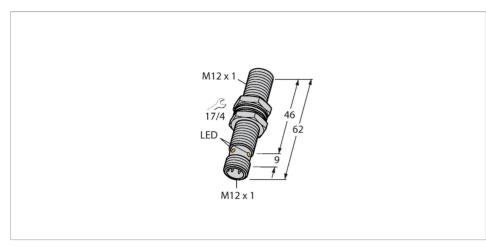


BI4U-M12E-VP6X-H1141 Inductive Sensor



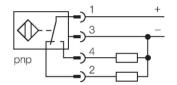
Technical data

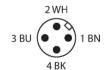
Ident. no. 100000620 Rated switching distance 4 mm Mounting conditions Flush Secured operating distance ≤ (0.81 × Sn) mm Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ± 10 % ≤ ± 15 %, ≤ -25 °C v ≥ +70 °C Hysteresis 315 % Ambient temperature -30+85 °C Operating voltage 1030 VDC Residual ripple ≤ 10 % U., 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 l, ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, PNP Insulation class □ Switching frequency 2 kHz Design Threaded barrel, M12 × 1	T	DIALL MATOE VIDAY LIATA
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Repeat accuracy≤ 2 % of full scaleTemperature drift≤ ± 10 %≤ ± 15 %, ≤ -25 °C v ≥ +70 °CHysteresis315 %Ambient temperature-30+85 °COperating voltage1030 VDCResidual ripple≤ 10 % U $_{ss}$ DC rated operational current≤ 200 mANo-load current≤ 15 mAResidual current≤ 0.1 mAIsolation test voltage≤ 0.5 kVShort-circuit protectionyes / CyclicVoltage drop at I_{e} ≤ 1.8 VWire breakage/Reverse polarity protectionyes / CompleteOutput function4-wire, Complementary contact, PNPInsulation class□Switching frequency2 kHz	Mounting conditions	Flush
Temperature drift $\leq \pm 10 \%$ $\leq \pm 15 \%, \leq -25 ^{\circ}\text{C} \text{V} \geq +70 ^{\circ}\text{C}$ Hysteresis 315% Ambient temperature $-30+85 ^{\circ}\text{C}$ Operating voltage 1030VDC Residual ripple $\leq 10 \% \text{U}_{x_1}$ DC rated operational current $\leq 200 \text{mA}$ No-load current $\leq 15 \text{mA}$ Residual current $\leq 0.1 \text{mA}$ Isolation test voltage $\leq 0.5 \text{kV}$ Short-circuit protection yes / Cyclic Voltage drop at I_{\circ} $\leq 1.8 \text{V}$ Wire breakage/Reverse polarity protection yes / Complete Output function $4\text{-wire, Complementary contact, PNP}$ Insulation class \square Switching frequency 2kHz	Secured operating distance	≤ (0.81 × Sn) mm
$≤ \pm 15 \%, ≤ -25 °C ∨ ≥ +70 °C$ Hysteresis 315% Ambient temperature $-30+85 °C$ Operating voltage 1030 VDC Residual ripple $≤ 10 \% \text{ U}_{**}$ DC rated operational current $≤ 200 \text{ mA}$ No-load current $≤ 15 \text{ mA}$ Residual current $≤ 0.1 \text{ mA}$ Isolation test voltage $≤ 0.5 \text{ kV}$ Short-circuit protection $yes / \text{ Cyclic}$ Voltage drop at \mathbb{I}_{*} $≤ 1.8 \text{ V}$ Wire breakage/Reverse polarity protection $yes / \text{ Complete}$ Output function $4-wire, \text{ Complementary contact, PNP}$ Insulation class \square Switching frequency 2 kHz	Repeat accuracy	≤ 2 % of full scale
Hysteresis Ambient temperature -30+85 °C Operating voltage 1030 VDC Residual ripple ≤ 10 % U _s DC rated operational current ≤ 200 mA No-load current ≤ 15 mA Residual current ≤ 0.1 mA Isolation test voltage Short-circuit protection Voltage drop at I _e Wire breakage/Reverse polarity protection Vultage drop description Yes / Complete Output function 4-wire, Complementary contact, PNP Insulation class □ Switching frequency 2 kHz	Temperature drift	≤ ± 10 %
Ambient temperature -30+85 °C Operating voltage 1030 VDC Residual ripple ≤ 10 % U _s 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 Wire breakage/Reverse polarity protection Output function 4-wire, Complementary contact, PNP Insulation class □ Switching frequency 2 kHz		≤ ± 15 %, ≤ -25 °C v ≥ +70 °C
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 4-wire, Complementary contact, PNP Insulation class □ Switching frequency 2 kHz	Hysteresis	315 %
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 4-wire, Complementary contact, PNP Insulation class Switching frequency 2 kHz	Ambient temperature	-30+85 °C
DC rated operational current Solution test voltage Short-circuit protection Voltage drop at I₀ Wire breakage/Reverse polarity protection Output function Insulation class Switching frequency Solution test voltage Solutio	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 I _e ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, PNP Insulation class □ Switching frequency 2 kHz	Residual ripple	≤ 10 % U _{ss}
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 4-wire, Complementary contact, PNP Insulation class □ Switching frequency 2 kHz	DC rated operational current	≤ 200 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 4-wire, Complementary contact, PNP Insulation class □ Switching frequency 2 kHz	No-load current	≤ 15 mA
Short-circuit protection Voltage drop at I _e ≤ 1.8 V Wire breakage/Reverse polarity protection Output function 4-wire, Complementary contact, PNP Insulation class Switching frequency 2 kHz	Residual current	≤ 0.1 mA
Voltage drop at I _e ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, PNP Insulation class □ Switching frequency 2 kHz	Isolation test voltage	≤ 0.5 kV
Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, PNP Insulation class Switching frequency 2 kHz	Short-circuit protection	yes / Cyclic
Output function 4-wire, Complementary contact, PNP Insulation class Switching frequency 2 kHz	Voltage drop at I _e	≤ 1.8 V
Insulation class Switching frequency 2 kHz	Wire breakage/Reverse polarity protection	yes / Complete
Switching frequency 2 kHz	Output function	4-wire, Complementary contact, PNP
	Insulation class	
Design Threaded barrel, M12 × 1	Switching frequency	2 kHz
	Design	Threaded barrel, M12 × 1
Dimensions 62 mm	Dimensions	62 mm

Features

- M12 × 1 threaded barrel
- Long version
- Chrome-plated brass
- Factor 1 for all metals
- Protection class IP68
- Resistant to magnetic fields
- Large switching distance
- Recessed mountable
- 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. Due to the patented multi-coil system, $uprox^{\circ}+$ sensors have distinct advantages over conventional sensors. They excel in largest switching distances, maximum flexibility and operational reliability as well as efficient standardization.



Technical data

Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, LCP
Max. tightening torque housing nut	10 Nm
Electrical connection	Connector, M12 × 1
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
Switching state	LED, Yellow

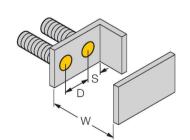
Mounting instructions

Mounting instructions/Description



Distance D	24 mm
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

All flush mountable *uprox**+ threaded barrel types are also recessed mountable. Safe operation is ensured if the sensor is screwed in by half a turn.





6947212

6901321

Accessories



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.

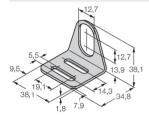
BST-12B M5 28 40 28 40 18

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

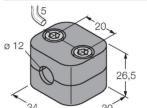
MW12

6945003

6945101



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



BSS-12

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

PN-M12

6905309



Impact protection nut for M12x1 threaded barrel devices; material: Stainless steel A2 1.4305 (AISI 303)