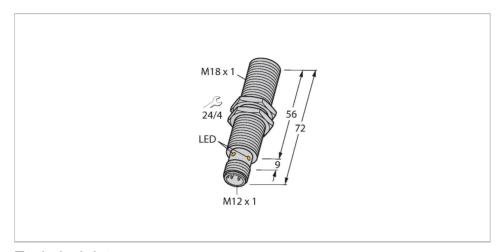


BI8-M18E-VP4X-H1141 Inductive Sensor – With Increased Switching Distance



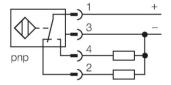
Technical data

ID no. 4590796 Rated switching distance 8 mm Mounting conditions Flush Secured operating distance ≤ (0.81 × Sn) mm Correction factors St37 = 1; Al = 0.3; stainless steel = 0.7; M = 0.4 Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ± 10 % Hysteresis 315 % Ambient temperature -25+70 °C Operating voltage 1065 VDC Residual ripple ≤ 10 % U₂ 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 I₂ Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, PNP Switching frequency 0.5 kHz Design Threaded barrel, M18 × 1 Dimensions 72 mm	Туре	BI8-M18E-VP4X-H1141
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Correction factors $ \begin{array}{c} \text{St37} = 1; \text{Al} = 0.3; \text{ stainless steel} = 0.7; \text{M} \\ = 0.4 \\ \text{Repeat accuracy} & \leq 2 \% \text{ of full scale} \\ \hline \text{Temperature drift} & \leq \pm 10 \% \\ \hline \text{Hysteresis} & 315 \% \\ \hline \text{Ambient temperature} & -25+70 \ ^{\circ}\text{C} \\ \hline \text{Operating voltage} & 1065 \ \text{VDC} \\ \hline \text{Residual ripple} & \leq 10 \% \ \text{U}_{ss} \\ \hline \text{DC rated operational current} & \leq 200 \ \text{mA} \\ \hline \text{No-load current} & \leq 15 \ \text{mA} \\ \hline \text{Residual current} & \leq 0.1 \ \text{mA} \\ \hline \text{Isolation test voltage} & \leq 0.5 \ \text{kV} \\ \hline \text{Short-circuit protection} & \text{yes / Cyclic} \\ \hline \text{Voltage drop at I}_{e} & \leq 1.8 \ \text{V} \\ \hline \text{Wire breakage/Reverse polarity protection} & \text{yes / Complete} \\ \hline \text{Output function} & \text{4-wire, Complementary contact, PNP} \\ \hline \text{Switching frequency} & 0.5 \ \text{kHz} \\ \hline \hline \text{Design} & \text{Threaded barrel, M18} \times 1 \\ \hline \end{array}$	Mounting conditions	Flush
= 0.4 Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ± 10 % Hysteresis 315 % Ambient temperature -25+70 °C Operating voltage 1065 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 I₀ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, PNP Switching frequency 0.5 kHz Design Threaded barrel, M18 × 1	Secured operating distance	≤ (0.81 × Sn) mm
Temperature drift ≤ ± 10 % Hysteresis 315 % Ambient temperature -25+70 °C Operating voltage 1065 VDC Residual ripple ≤ 10 % U₅s 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 I₀ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, PNP Switching frequency 0.5 kHz Design Threaded barrel, M18 × 1	Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Hysteresis 315 % Ambient temperature -25+70 °C Operating voltage 1065 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 Voltage drop at I _s Wire breakage/Reverse polarity protection Vultage drop description Output function 4-wire, Complementary contact, PNP Switching frequency 0.5 kHz Design Threaded barrel, M18 × 1	Repeat accuracy	≤ 2 % of full scale
Ambient temperature -25+70 °C Operating voltage 1065 VDC Residual ripple ≤ 10 % U₅s 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 Voltage drop at I₀ Wire breakage/Reverse polarity protection Output function 4-wire, Complementary contact, PNP Switching frequency 0.5 kHz Design Threaded barrel, M18 × 1	Temperature drift	≤ ± 10 %
Operating voltage 1065 VDC Residual ripple ≤ 10 % U₅s 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 I₀ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, PNP Switching frequency 0.5 kHz Design Threaded barrel, M18 × 1	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 I₀ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, PNP Switching frequency 0.5 kHz Design Threaded barrel, M18 × 1	Ambient temperature	-25+70 °C
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 I₀ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, PNP Switching frequency 0.5 kHz Design Threaded barrel, M18 × 1	Operating voltage	1065 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 breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, PNP Switching frequency 0.5 kHz Design Threaded barrel, M18 × 1	Residual ripple	≤ 10 % U _{ss}
Residual current ≤ 0.1 mA Isolation test voltage ≤ 0.5 kV Short-circuit protection yes / Cyclic Voltage drop at I₀ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, PNP Switching frequency 0.5 kHz Design Threaded barrel, M18 × 1	DC rated operational current	≤ 200 mA
Isolation test voltage ≤ 0.5 kV Short-circuit protection yes / Cyclic Voltage drop at I₀ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, PNP Switching frequency 0.5 kHz Design Threaded barrel, M18 × 1	No-load current	≤ 15 mA
Short-circuit protection yes / Cyclic Voltage drop at I₀ ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, PNP Switching frequency 0.5 kHz Design Threaded barrel, M18 × 1	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 Switching frequency 0.5 kHz Design Threaded barrel, M18 × 1	Isolation test voltage	≤ 0.5 kV
Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, PNP Switching frequency 0.5 kHz Design Threaded barrel, M18 × 1	Short-circuit protection	yes / Cyclic
Output function 4-wire, Complementary contact, PNP Switching frequency 0.5 kHz Design Threaded barrel, M18 × 1	Voltage drop at I _e	≤ 1.8 V
Switching frequency 0.5 kHz Design Threaded barrel, M18 × 1	Wire breakage/Reverse polarity protection	yes / Complete
Design Threaded barrel, M18 × 1	Output function	4-wire, Complementary contact, PNP
	Switching frequency	0.5 kHz
Dimensions 72 mm	Design	Threaded barrel, M18 × 1
	Dimensions	72 mm

Features

- ■Threaded barrel, M18 x 1
- Chrome-plated brass
- Large sensing range
- ■DC 4-wire, 10...65 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.

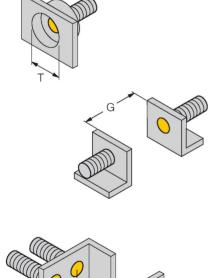


Technical data

Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, PA12-GF30
Max. tightening torque of housing nut	25 Nm
Electrical connection	Connector, M12 × 1
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

Mounting instructions/Description



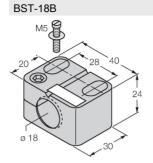
Distance D	2 x B
Distance W	3 x Sn
Distance T	3 x B
Distance S	1.5 x B
Distance G	6 x Sn
Diameter active area B	Ø 18 mm



Accessories

QM-18 M24 x 1,5 Ø 18 20,5 36 6945102

Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M24 × 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.



BSS-18

6947214

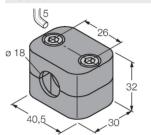
6901320

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



6945004

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



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