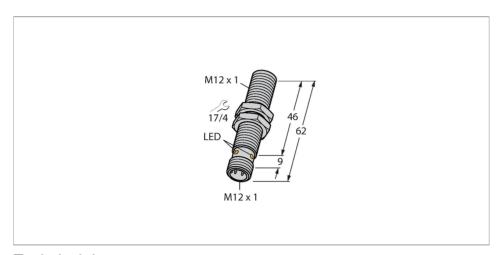


BIM-M12E-AP6X-H1141/S1751 Magnetic Field Sensor - Magnetic-inductive Proximity Sensor With FM Approval



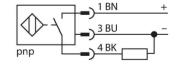


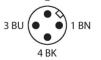
Technical data

ID 4681289 Special version \$1751 Corresponds to:FM — Class I Div 2 approval General data Rated switching distance Rated switching distance 90 mm In conjunction with magnet DMR31-15-5 Repeat accuracy ≤ 0.3 % of full scale Hysteresis 110 % Electrical data Operating voltage Us Operating voltage Us 1030 VDC Ripple Us ≤ 10 % Ussax 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, PNP Switching frequency 1 kHz Mechanical data Design Threaded barrel, M12 x 1	Туре	BIM-M12E-AP6X-H1141/S1751	
approval General data Rated switching distance 90 mm In conjunction with magnet DMR31-15-5 Repeat accuracy ≤ 0.3 % of full scale Hysteresis 110 % Electrical data Operating voltage U _B 1030 VDC Ripple U _{ss} ≤ 10 % U _{Bmax} 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 Voltage drop at I _B Wire break/reverse polarity protection Output function 3-wire, NO contact, PNP Switching frequency 1 kHz Mechanical data	ID	4681289	
Rated switching distance In conjunction with magnet DMR31-15-5 Repeat accuracy ≤ 0.3 % of full scale Hysteresis 110 % Electrical data Operating voltage U ₈ 1030 VDC Ripple U _{ss} ≤ 10 % U _{8max} DC rated operating current I ₈ ≤ 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 ₈ ≤ 1.8 V Wire break/reverse polarity protection yes/Complete Output function 3-wire, NO contact, PNP Switching frequency 1 kHz Mechanical data	Special version		
In conjunction with magnet DMR31-15-5 Repeat accuracy ≤ 0.3 % of full scale Hysteresis 110 % 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 yes/Complete Output function 3-wire, NO contact, PNP Switching frequency 1 kHz Mechanical data	General data		
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Hysteresis110 %Electrical data1030 VDCRipple U_{ss} ≤ 10 % U_{smax} DC rated operating current I_{e} ≤ 200 mANo-load current≤ 15 mAResidual current≤ 0.1 mAIsolation test voltage0.5 kVShort-circuit protectionyes/CyclicVoltage drop at I_{e} ≤ 1.8 VWire break/reverse polarity protectionyes/CompleteOutput function3-wire, NO contact, PNPSwitching frequency1 kHzMechanical data		In conjunction with magnet DMR31-15-5	
Electrical data Operating voltage U_B 1030 VDC Ripple U_{ss} $\leq 10 \% U_{Bmax}$ DC rated operating current I_e $\leq 200 \text{ mA}$ No-load current $\leq 15 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Isolation test voltage 0.5 kV Short-circuit protection Voltage drop at I_e $\leq 1.8 \text{ V}$ Wire break/reverse polarity protection Output function 3 -wire, NO contact, PNP Switching frequency 1 kHz	Repeat accuracy	≤ 0.3 % of full scale	
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	Hysteresis	110 %	
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, PNP Switching frequency 1 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, PNP Switching frequency 1 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, PNP Switching frequency 1 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, PNP Switching frequency 1 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, PNP Switching frequency 1 kHz Mechanical data	No-load current	≤ 15 mA	
Short-circuit protection Voltage drop at I₀ ≤ 1.8 V Wire break/reverse polarity protection Output function Switching frequency 1 kHz Mechanical data	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, PNP Switching frequency 1 kHz Mechanical data	Isolation test voltage	0.5 kV	
Wire break/reverse polarity protection yes/Complete Output function 3-wire, NO contact, PNP Switching frequency 1 kHz Mechanical data	Short-circuit protection	yes/Cyclic	
Output function 3-wire, NO contact, PNP Switching frequency 1 kHz Mechanical data	Voltage drop at I _e	≤ 1.8 V	
Switching frequency 1 kHz Mechanical data	Wire break/reverse polarity protection	yes/Complete	
Mechanical data	Output function	3-wire, NO contact, PNP	
	Switching frequency	1 kHz	
Design Threaded barrel, M12 x 1	Mechanical data		
	Design	Threaded barrel, M12 x 1	

Features

- ■Threaded barrel, M12 x 1
- Chrome-plated brass
- ■Rated operating distance 90 mm with DMR31-15-5 magnet
- ■DC 3-wire, 10...30 VDC
- ■NO contact, PNP output
- Male connector, M12 x 1





Wiring diagram

2
3 BU

4 BK

Functional principle

Magnetic inductive proximity sensors are actuated by magnetic fields and are thus capable of detecting permanent magnets through non-ferromagnetic materials (e.g. wood, plastic, non-ferrous metals, aluminium, stainless steel).

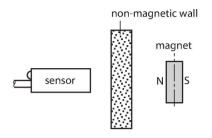
Thus it is possible to achieve large switching distances even with smaller housing styles.

distances even with smaller housing styles.

Technical data

Dimensions	62 mm	
Housing material	Metal, CuZn, Chrome-plated	
Active area material	Plastic, PBT-GF30	
Max. tightening torque of housing nut	10 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	

In combination with the actuation magnet DMR31-15-5 TURCK sensors feature a relatively high switching distance. Thus there are multiple detection possibilities, particularly if the mounting space is limited or other difficult sensing conditions prevail.



Mounting instructions

Mounting	instructions/	Description
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Diameter active area B

Ø 12 mm

6900215

Accessories

DMR20-10-4



Actuation magnet; Ø 20 mm (Ø 4 mm), h: 10 mm; attainable switching distance 59 mm on BIM-(E)M12 magnetic field sensors or 50 mm on BIM-EG08 magnetic field sensors; for Q25L linear position sensors: recommended distance between the sensor and magnet: 3...4 mm

6900214

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DMR15-6-3



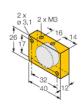
Actuation magnet, Ø 15 mm (Ø 3 mm), h: 6 mm; attainable switching distance 36 mm on BIM-(E)M12 magnetic field sensors or 32 mm on BIM-EG08 magnetic field sensors; for Q25L linear position sensors: recommended distance between the sensor and magnet: 3...4 mm

DMR31-15-5



BIM-EG08 magnetic field sensors; for Q25L linear position sensors: recommended distance between the sensor and magnet: 3...5 mm 6900367

DM-Q12



Actuator, rectangular, plastic, attainable switching distance 58 mm on BIM-(E)M12 magnetic field sensors or 49 mm on BIM-EG08 magnetic field sensors; for Q25L linear position sensors: recommended distance between the sensor and magnet: 3...5 mm

Actuation magnet, Ø 31 mm (Ø 5

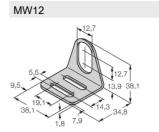
distance 90 mm on BIM-(E)M12

mm), h: 15 mm; attainable switching

magnetic field sensors or 78 mm on

BSS-12 6901321

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



6945003 Mounting bracket for threaded barrel sensors; material: Stainless steel A2

1.4301 (AISI 304)