

BIM-M12E-AP6X-H1141/3G Magnetic Field Sensor - Magnetic-inductive Proximity Sensor



Technical data

Туре	BIM-M12E-AP6X-H1141/3G
ID	4681201
General data	
Rated switching distance	90 mm
	In conjunction with magnet DMR31-15-5
Repeat accuracy	≤ 0.3 % of full scale
Temperature drift	≤ ±15 %
Hysteresis	110 %
Electrical data	
Operating voltage $U_{\scriptscriptstyle B}$	1030 VDC
Ripple U _{ss}	≤ 10 % U _{Bmax}
DC rated operating current I.	≤ 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
Approval acc. to	ATEX test certificate TURCK Ex-03016H X
Device marking	EX II 3 G Ex nA IIC T4 Gc
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
- ATEX category II 3 G, Ex Zone 2

Wiring diagram



In combination with the actuation magnet

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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
Included in delivery	SC-M12/3GD

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



sensor

Ø 12 mm

Accessories

DMR20-10-4



DMR15-6-3



6900214 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

6900216

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



DM-Q12



6900215

Actuation magnet, Ø 31 mm (Ø 5 mm), h: 15 mm; attainable switching distance 90 mm on BIM-(E)M12 magnetic field sensors or 78 mm on BIM-EG08 magnetic field sensors; for Q25L linear position sensors: recommended distance between the sensor and magnet: 3...5 mm

6900367

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







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)



Instructions for use

Intended use

This device fulfills Directive 2014/34/EC and is suited for use in areas exposed to explosion hazards according to EN 60079-0 and EN 60079-15.In order to ensure correct operation to the intended purpose it is required to observe the national regulations and directives.

For use in explosion hazardous areas conform to classification

II 3 G (Group II, Category 3 G, electrical equipment for gaseous atmospheres).

Marking (see device or technical data sheet)

🐵 II 3 G Ex nA IIC T4 Gc acc. to EN 60079-0:2012/A11:2013 and EN 60079-15:2010

Local admissible ambient temperature

-25...+70 °C

Installation/Commissioning

These devices may only be installed, connected and operated by trained and qualified staff. Qualified staff must have knowledge of protection classes, directives and regulations concerning electrical equipment designed for use in explosion hazardous areas and if necessary, of the regulations applicable to safety-related systems.Please verify that the classification and the marking on the device comply with the actual application conditions.

Installation and mounting instructions

Avoid static charging of cables and plastic devices. Please only clean the device with a damp cloth. Do not install the device in a dust flow and avoid build-up of dust deposits on the device. If the devices and the cable could be subject to mechanical damage, they must be protected accordingly. They must also be shielded against strong electro-magnetic fields. The pin configuration and the electrical specifications can be taken from the device marking or the technical data sheet. In order to avoid contamination of the device, please remove possible blanking plugs of the cable glands or connectors only shortly before inserting the cable or opening the cable socket.

Special conditions for safe operation

For devices with M12 connectors please use the supplied safety clip SC-M12/3GD.Do not disconnect the plug-in connection or cable under voltage.Please attach a warning label permanently in an appropriate fashion in close proximity to the plug-in connection with the following inscription: Nicht unter Spannung trennen / Do not separate when energized.The device must be protected against any kind of mechanical damage and degrading UV-radiation.The IP protection rating of the connectors is given only in combination with a suitable O-ringLoad voltage and operating voltage of this equipment must be supplied from power supplies with safe isolation (IEC 60 364/UL508), to ensure that the rated voltage of the equipment (24 VDC +20% = 28.8 VDC) is never exceeded by more than 40%.

Service/Maintenance

Repairs are not possible. The approval expires if the device is repaired or modified by a person other than the manufacturer. The most important data from the approval are listed.

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