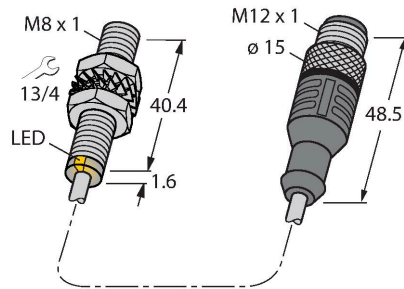


# BIM-EG08-Y1X-2-RS4.21T/S90

## Magnetic Field Sensor – Magnetic-inductive Proximity Sensor



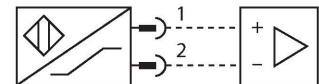
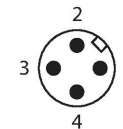
### Features

- M8 x 1 threaded barrel
- Stainless steel, 1.4427 SO
- Rated operating distance 78 mm with DMR31-15-5 magnet
- DC 2-wire, nom. 8.2 VDC
- Output acc. to EN 60947-5-6 (NAMUR)
- Pigtail with connector, M12 x 1
- ATEX category II 1 G, Ex zone 0
- ATEX category II 1 D, Ex zone 20
- SIL2 (Low Demand Mode) acc. to IEC 61508, PL c acc. to ISO 13849-1 with HFT0
- SIL3 (All Demand Mode) acc. to IEC 61508, PL e acc. to ISO 13849-1 with redundant configuration HFT1

### Technical data

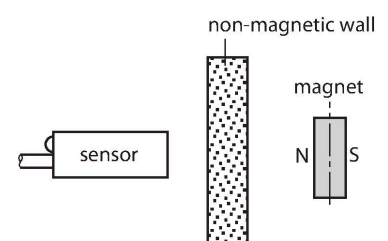
Type	BIM-EG08-Y1X-2-RS4.21T/S90
ID	100001364
Special version	S90 Corresponds to: PUR cable
<b>General data</b>	
Rated switching distance	78 mm
	In conjunction with magnet DMR31-15-5
Repeat accuracy	≤ 0.3 % of full scale
Temperature drift	≤ ±10 %
Hysteresis	1...10 %
<b>Electrical data</b>	
Output function	2-wire, NAMUR
Switching frequency	1 kHz
Voltage	Nom. 8.2 VDC
Current consumption non-actuated	≤ 1.2 mA
Actuated current consumption	≥ 2.1 mA
Approval acc. to	KEMA 02 ATEX 1090X
Internal capacitance (C <sub>i</sub> )/inductance (L <sub>i</sub> )	150 nF/150 µH
Device marking	EX II 1 G Ex ia IIC T6 Ga/II 1 D Ex ia IIIC T135 °C Da
	(max. U <sub>i</sub> = 20 V, I <sub>i</sub> = 60 mA, P <sub>i</sub> = 130 mW)
<b>Mechanical data</b>	
Design	Threaded barrel, M8 x 1
Dimensions	41.6 mm
Housing material	Stainless steel, 1.4427 SO
Active area material	Plastic, PA12-GF30
End cap	Plastic, PP
Max. tightening torque of housing nut	5 Nm

### Wiring diagram



### 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. 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.



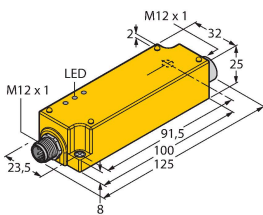
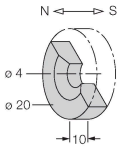
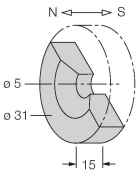
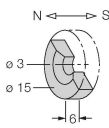
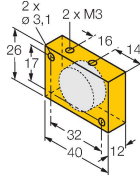
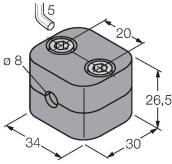
Technical data

Electrical connection	Cable with connector, M12 × 1
Cable quality	Ø 3 mm, Blue, Lif9Y-11Y, PUR, 2 m
Core cross-section	2 x 0.14 mm <sup>2</sup>
Environmental conditions	
Ambient temperature	-25...+70 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	6198 years acc. to SN 29500 (Ed. 99) 40 °C
Switching state	LED, Yellow

Mounting instructions

Mounting instructions/Description	Diameter active area B	Ø 8 mm
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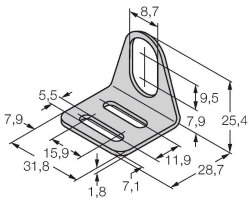
Accessories

IMC-DI-22EX-PNO/24VDC	7560003	DMR20-10-4	6900214
	2-channel isolating switching amplifier with M12x1 males, for peripheral use, IP67, zones 2/22, input circuits II(1) Ex ia, PNP transistor output NO		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
DMR31-15-5	6900215	DMR15-6-3	6900216
	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		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
DM-Q12	6900367	BSS-08	6901322
	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		Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene

MW08

6945008

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



Accessories

Dimension drawing	Type	ID	
	IMX12-DI01-2S-2T-0/24VDC	7580020	Isolating switching amplifier, 2-channel; SIL2 acc. to IEC 61508; Ex-proof version; 2 transistor outputs; input Namur signal; ON/OFF switchable monitoring of wire-break and short-circuit; toggle between NO/NC mode; signal doubling; removable screw terminals; 12.5 mm wide; 24 VDC power supply

## Instructions for use

Intended use	This device fulfills Directive 2014/34/EC and is suited for use in explosion-hazardous areas according to EN 60079-0:2018 and EN 60079-11:2012. It is also suitable for use in safety-related systems, including SIL2 (IEC 61508) and PL c (ISO 13849-1) with HFT0 and SIL3 (IEC 61508) and PL e (ISO 13849-1) with redundant configuration HFT1. In order to ensure that the device is operated as intended, the national regulations and directives must be observed.
For use in explosion hazardous areas conform to classification	II 1 G and II 1 D (Group II, Category 1 G, electrical equipment for gaseous atmospheres and category 1 D, electrical equipment for dust atmospheres).
Marking (see device or technical data sheet)	Ⓔ II 1 G and Ex ia IIC T6 Ga and Ⓔ II 1 D Ex ia IIIC T135 °C Da acc. to EN 60079-0, -11
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. Please verify that the classification and the marking on the device comply with the actual application conditions.
	This device is only suited for connection to approved Exi circuits according to EN 60079-0 and EN 60079-11. Please observe the maximum admissible electrical values. After connection to other circuits the sensor may no longer be used in Exi installations. When interconnected to (associated) electrical equipment, it is required to perform the "Proof of intrinsic safety" (EN 60079-14). Attention! When used in safety systems, all content of the security manual must be observed.
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.
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.