

Inductive sensor

BI2-G12-Y2X 7M

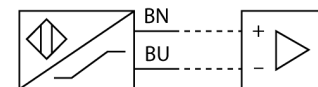
TURCK

Industrial
Automation



- ATEX category I M1, mining
- Threaded barrel, M12 x 1
- Chrome-plated brass
- DC 2-wire, nom. 8.2 VDC
- Output acc. to DIN EN 60947-5-6 (NAMUR)
- Cable connection

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.

We offer special versions for temperatures of -60 °C up to +250 °C.

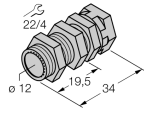
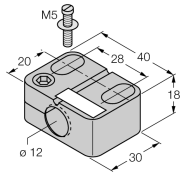
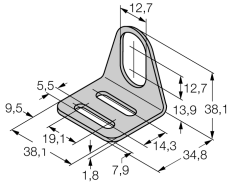
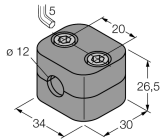
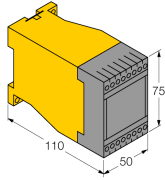
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|---|--|
| Type code | BI2-G12-Y2X 7M |
| Ident no. | 4010501 |
| Rated operating distance Sn | 2 mm |
| Mounting condition | flush |
| Assured sensing range | ≤ (0,81 x Sn) mm |
| Correction factors | St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4 |
| Repeatability | ≤ 2 % of full scale |
| Temperature drift | 10 % |
| Hysteresis | 1...10 % |
| Ambient temperature | -25...+70 °C |
| Output function | 2-wire, NAMUR |
| Switching frequency | 5 kHz |
| Voltage | Nom. 8.2 VDC |
| Non-actuated current consumption | ≥ 2.1 mA |
| Actuated current consumption | ≤ 1.2 mA |
| Approval acc. to | BVS 04 ATEX E 202 |
| Internal capacitance (C) / inductance (L) | 150 nF / 150 µH |
| Device designation | Ⓢ IM1 Ex ia I (max. U _i = 15 V, I _i = 60 mA, P _i = 200 mW) |
| Design | threaded barrel, M12 x 1 |
| Dimensions | 34 mm |
| Housing material | metal, CuZn, chrome-plated |
| Material active area | Plastic, PA |
| End cap | Plastic, EPTR |
| Max. tightening torque housing nut | 10 Nm |
| Connection | cable |
| Cable quality | 5.2 mm, blue, LifYY, PVC, 7 m |
| Cable cross section | 2 x 0.34 mm ² |
| 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 |

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| | |
|-------------------------------|---------|
| 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 |
| <hr/> | |
| Diameter of the active area B | Ø 12 mm |



Accessories

| Type code | Ident no. | Description | Dimension drawing |
|--------------|-----------|--|---|
| QM-12 | 6945101 | Quick-mount bracket with dead-stop; material: Chrome-plated brass Male thread M16 x 1. Note: The switching distance of proximity switches can be reduced by the use of quick-mount brackets. |  |
| BST-12B | 6947212 | Fixing clamp for threaded barrel devices, with dead-stop; material: PA6 |  |
| MW-12 | 6945003 | Mounting bracket for threaded barrel devices; material: Stainless steel A2 1.4301 (AISI 304) |  |
| BSS-12 | 6901321 | Mounting bracket for smooth and threaded barrel devices; material: Polypropylene |  |
| MS13-22EX0-R | 5322203 | |  |

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Operating manual

Intended use


This device fulfills the directive 94/9/EC and is suited for use in explosion hazardous areas according to EN 60079-0 (2006), EN 60079-11 (2007) and EN 50303 (2000).

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

I M 1 (Group I, Category M 1, electrical equipment for mining).

Marking (see device or technical data sheet)

 I M 1 and Ex ia I acc. to EN 60079-11

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 compliant to EN60079-0 and -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" (EN60079-14).

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.