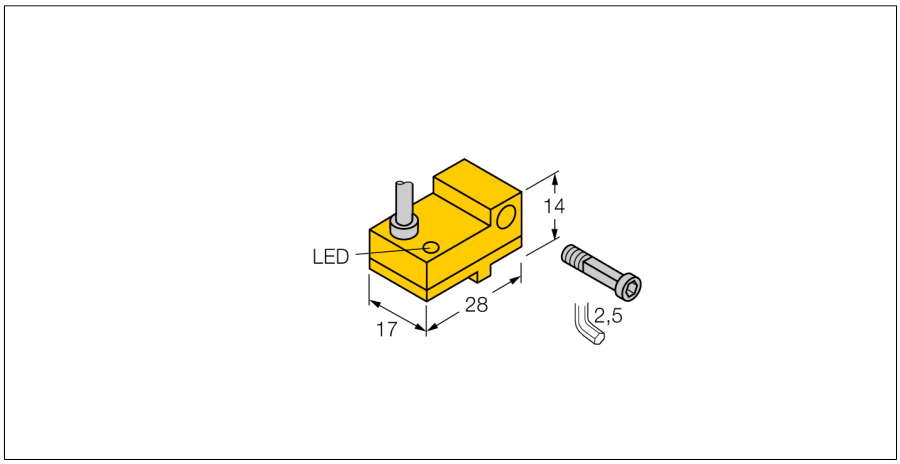
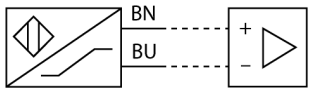
Magnetic field sensor for pneumatic cylinders BIM-NST-Y1X



- **ATEX category II 2 G, Ex zone 1**
- **ATEX category II 1 D, Ex zone 20**
- **SIL2 as per IEC 61508**
- **Plastic, PA12-GF30**
- **Magnetic-inductive sensor**
- **DC 2-wire, nom. 8.2 VDC**
- **Output acc. to DIN EN 60947-5-6 (NAMUR)**
- **Cable connection**

Wiring Diagram



Type code	BIM-NST-Y1X
Ident no.	1058400
Pass speed	≤ 10 m/s
Repeatability	≥ ± 0.1 mm
Temperature drift	≤ 0.1 mm
Hysteresis	≤ 1 mm
Ambient temperature	-25…+70 °C
Output function	2-wire, NAMUR
Switching frequency	1 kHz
Voltage	Nom. 8.2 VDC
Non-actuated current consumption	≤ 1.2 mA
Actuated current consumption	≥ 2.1 mA
Approval acc. to	KEMA 02 ATEX 1090X
Construction	rectangular, NST
Dimensions	28 x 17 x 14 mm
Housing material	Plastic, PA12-GF30
Active area material	Plastic, PA12-GF30
Connection	cable
Cable quality	5.2 mm, Blue, LifYY, PVC, 2m
Cable cross section	2 x 0.34 mm²
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
Mounting on the following profiles	.
Cylindrical design	
Switching state	LED yellow
Included in delivery	1 x screw M3x20, 1 x tension bolt, 1 x spring washer

Functional principle

Magnetic field sensors are activated by magnetic fields and are especially suited for piston position detection in pneumatic cylinders. Based on the fact that magnetic fields can permeate non-magnetizable metals, it is possible to detect a permanent magnet attached to the piston through the aluminium wall of the cylinder.

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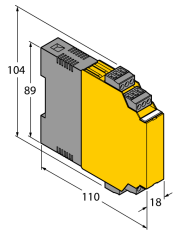
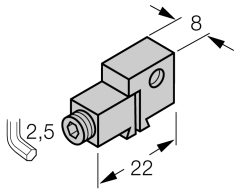
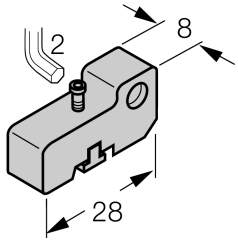
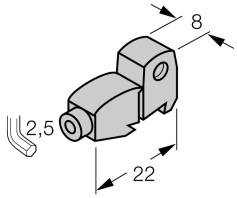
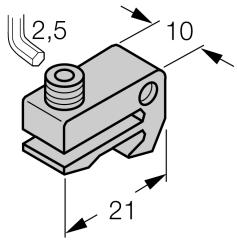
Accessories

Type code	Ident no.	Description	
IM1-22EX-R	7541231	Isolating switching amplifier, 2-channel; 2 relay outputs; input NAMUR signal; selectable ON/OFF mode for wire-break and short-circuit monitoring; adjustable output mode (NO / NC mode); removable terminal blocks; width 18 mm; universal power supply unit	
KLN 3 KLEMMSTÜCK	6970504	Mounting on ⬚ Dovetail groove cylinders or ⬚ T-groove cylinders; clamping width 5.2…13.5 mm; material: Anodized aluminium	
KLN-SMC KLEMMSTÜCK	6970503	Mounting on ⬚ SMC cylinders; clamping width 4 mm; material: Anodized aluminium	
KLF 1 KLEMMSTÜCK	6970401	Mounting on ⬚ external dovetail grooves; for all cylinder diameters, material: Anodized aluminium	
KLF 2 KLEMMSTÜCK	6970402	Mounting on ⬚ external dovetail grooves (IMI Norgrem); for all cylinder diameters, material: Anodized aluminium	

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Magnetic field sensor
for pneumatic cylinders
BIM-NST-Y1X

Industrial Automation

Operating manual

Intended use

This device fulfills the directive 2014/34/EC and is suited for use in explosion hazardous areas according to EN 60079-0:2012 + A11 and EN 60079-11:2012.
Further it is suited for use in safety-related systems, including SIL2 as per IEC 61508.
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 2 G and II 1 D (Group II, Category 2 G, electrical equipment for gaseous atmospheres and category 1 D, electrical equipment for dust atmospheres).

Marking (see device or technical data sheet)

Ⓔx II 2 G and Ex ia IIC T6 Gb and Ⓔx II 1 D Ex ia IIIC T95 °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 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).
When employed in safety systems to IEC 51408 it is required to assess the failure probability (PFD) of the complete circuitry.

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.

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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