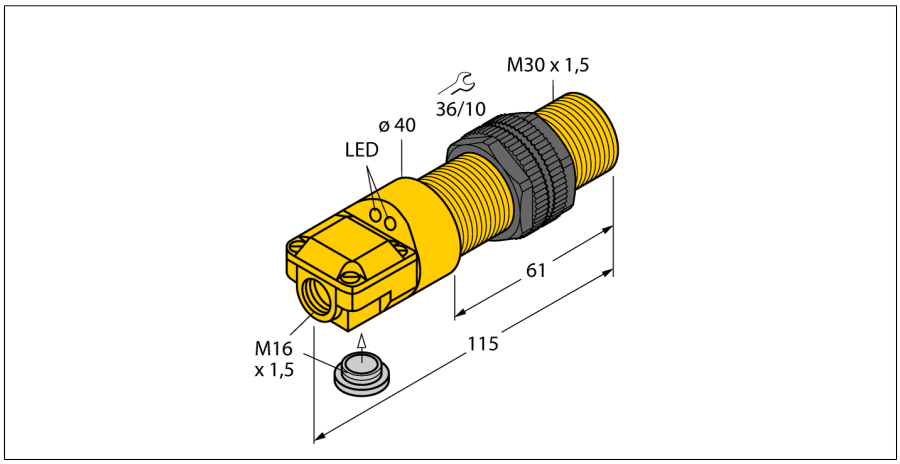
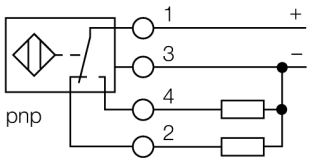
Inductive sensor
BI10-P30SR-VP4X2/3D



- **ATEX category II 3 D, Ex-zone 22**
- **2 cable entries (axial, radial)**
- **Threaded barrel, M30 x 1.5**
- **Plastic, ABS**
- **DC 4-wire, 10…65 VDC**
- **Changeover contact, PNP output**
- **Terminal chamber**

Wiring Diagram



Type code	BI10-P30SR-VP4X2/3D
Ident no.	1565202
Rated switching distance Sn	10 mm
Mounting conditions	flush
Assured switching distance	≤ (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	3…15 %
Operating voltage	10… 65VDC
Residual ripple	≤ 10 % U_{ss}
DC rated operational current	≤ 200 mA
No-load current I_0	≤ 15 mA
Residual current	≤ 0.1 mA
Rated insulation voltage	≤ 0.5 kV
Short-circuit protection	yes
Voltage drop at I_e	≤ 1.8 V
Wire breakage / Reverse polarity protection	yes/ complete
Output function	4-wire, complementary, PNP
Switching frequency	0.5 kHz
Approval acc. to	ATEX declaration of conformity 3105-1M
Device designation	Ⓔx II 3 D IP67 T95°C
Warning	Use ATEX approved cable glands only.
Construction	threaded barrel, M30 x 1.5
Dimensions	115 mm
Housing material	plastic, ABS
Active area material	Plastic, ABS
Max. tightening torque housing nut	5 Nm
Connection	terminal chamber
Clamping ability	≤ 2.5 mm²
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
Power-on indication	LED green
Switching state	LED yellow
Included in delivery	cable gland, blanking plug

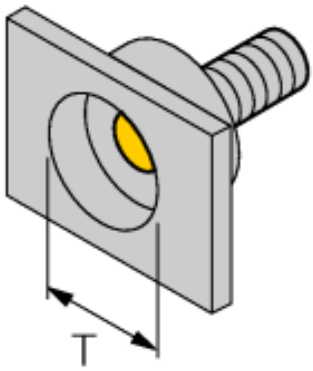
Functional principle

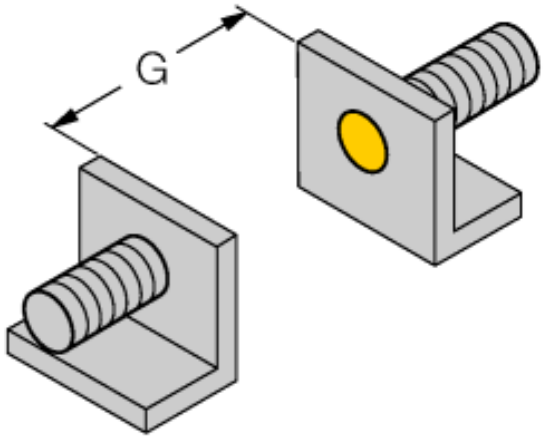
Inductive sensors detect metal objects contactless and wear-free. For this, they use a high-frequency electromagnetic AC field that interacts with the target. Inductive sensors generate this field via an RLC circuit with a ferrite coil.

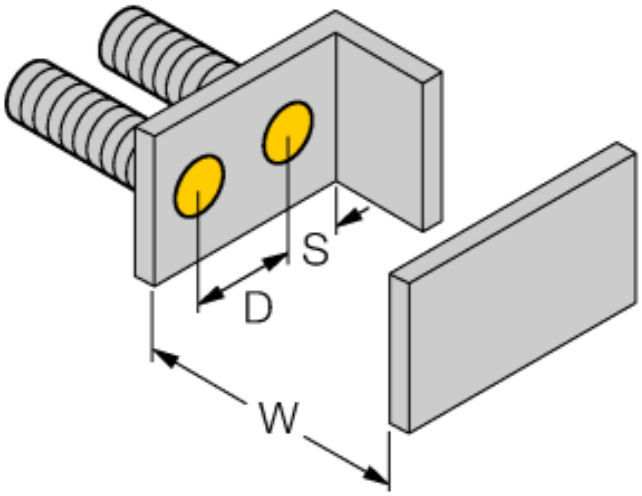
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Distance D	2 x B
Distance W	3 x Sn
Distance T	3 x B
Distance S	1.5 x B
Distance G	6 x Sn

Diameter of the active area B	Ø 30 mm

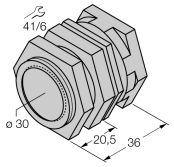
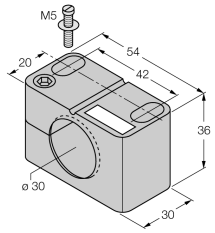
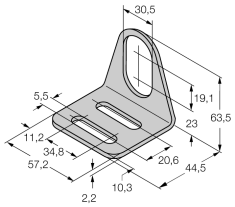
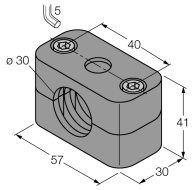






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Accessories

Type code	Ident no.	Description	Design
QM-30	6945103	Quick-mount bracket with dead-stop; material: Chrome-plated brass Male thread M36 x 1.5. Note: The switching distance of proximity switches can be reduced by the use of quick-mount brackets.	
BST-30B	6947216	Fixing clamp for threaded barrel devices, with dead-stop; material: PA6	
MW-30	6945005	Mounting bracket for threaded barrel devices; material: Stainless steel A2 1.4301 (AISI 304)	
BSS-30	6901319	Mounting bracket for smooth and threaded barrel devices; material: Polypropylene	

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Industrial Automation

Operating manual

Intended use

This device fulfils the directive 94/9/EC and is suited for use in explosion hazardous areas according to EN50014 and EN50281-1-1.
Öffnen sie den Anschussraum nicht unter Spannung.

For use in explosion hazardous areas conform to classification

II 3 D (Group II, Category 3 D, electrical equipment for dust atmospheres).

Marking (see device or technical data sheet)

Ex II 3 D IP67 T 95°C acc.to EN50281-1-1

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.

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.
Um die Schutzart aufrecht zu erhalten, müssen Gehäuseabdeckungen während des Betriebs stets vollständig verschlossen bleiben.

Special conditions for safe operation

Devices with terminal chamber (cable glands) have a weaker strain relief. Sufficient strain relief must be ensured or the cable must be stationary-mounted.
For devices with M12 connectors please use the supplied safety clip SC-M12/3GD.
Öffnen sie den Anschussraum nicht unter Spannung.
Cables and cable intakes that are not used must be sealed with the delivered blank plug.

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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