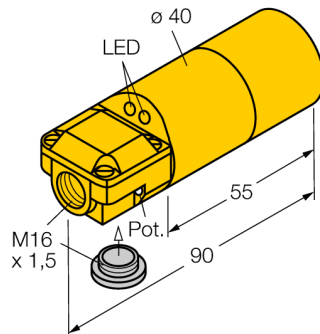


Capacitive sensor BC20-K40SR-VP4X2/3D

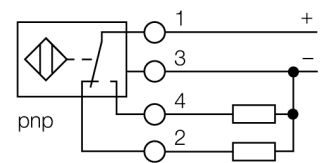
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- ATEX category II 3 D, Ex-zone 22
- 2 cable entries (axial, radial)
- Smooth barrel, Ø 40 mm
- Plastic, ABS
- Fine adjustment via potentiometer
- DC 4-wire, 10...65 VDC
- Changeover contact, PNP output
- Terminal chamber

Wiring diagram



Functional principle

Capacitive proximity switches are designed for non-contact and wear-free detection of electrically conductive as well as non-conductive metal objects.

Type code	BC20-K40SR-VP4X2/3D
Ident no.	2510004
Rated operating distance Sn	20 mm
Rated operating distance Sn	30 mm, non-flush mounting
Assured sensing range	≤ (0.72 x Sn) mm
Hysteresis	2...20 %
Temperaturdrift	type ≤ ± 20 %
Repeatability	≤ 2 % of full scale
Ambient temperature	-25...+70 °C
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
Switching frequency	0.1 kHz
Rated insulation voltage	≤ 0.5 kV
Output function	4-wire, changover contact, PNP
Short-circuit protection	yes/ cyclic
Voltage drop at I ₀	≤ 1.8 V
Wire breakage / Reverse polarity protection	yes/ complete
Approval acc. to	ATEX declaration of conformity 3105-1M
Device designation	Ⓔ II 3 D IP67 T95°C
Warning	Use ATEX approved cable glands only.
Design	smooth barrel, 40 mm
Dimensions	90 mm
Housing material	Plastic, ABS
Material active face	Plastic, ABS
Connection	Terminal chamber
Clamping ability	≤ 2.5 mm ²
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	1080 years acc. to SN 29500 (Ed. 99) 40 °C
Operating voltage	LED green
Switching state	• yellow
Included in scope of supply	BS40, cable gland, blanking plug

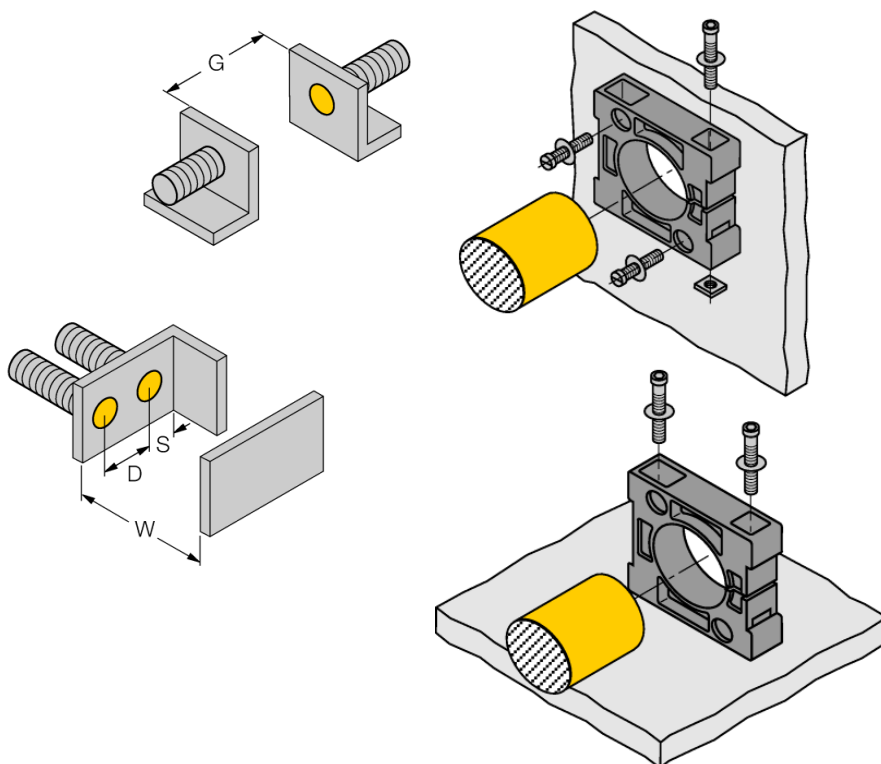
Capacitive sensor BC20-K40SR-VP4X2/3D

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Mounting instructions / Description	minimum distances
Distance D	40 mm
Distance W	60 mm
Distance S	60 mm
Distance G	120 mm

Diameter of the active area B	Ø 40 mm
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The given minimum distances have been checked in compliance with the standard switching distance. Should the sensitivity of the sensors be changed via potentiometer, the data sheet specifications no longer apply.

Capacitive sensor BC20-K40SR-VP4X2/3D

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Accessories

Type code	Ident no.	Description	Dimension drawing
MAP-K40	6950014	Mounting adapter; material: Polypropylene; sensor replacement with filled container possible (adapter remains in container during sensor replacement)	
BS 40	69466	Fixing clamp; material mounting block: PBT	

Capacitive sensor

BC20-K40SR-VP4X2/3D

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

Marking (see device or technical data sheet)

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.

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.

Do not disconnect the plug-in connection or cable when energised.

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.

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.