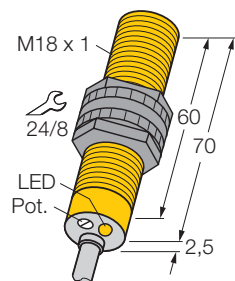


capacitive sensor BC5-S18-Y1X

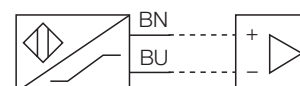
TURCK

Industrial
Automation



- ATEX category II 1 G, Ex Zone 0
- ATEX category II 1 D, Ex Zone 20
- SIL2 according to IEC 61508
- Threaded barrel, M18 x 1
- plastic, PA12-GF30
- fine adjustment via potentiometer
- 2-wire DC, nom. 8.2 VDC
- output according to DIN EN 60947-5-6 (NAMUR)
- cable connection

Wiring diagram



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

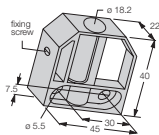
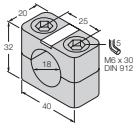
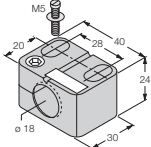
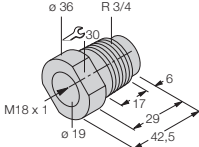
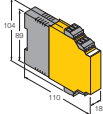
Type	BC5-S18-Y1X
Ident-No.	20060
Rated operating distance Sn	5 mm, flush mounting
Rated operating distance Sn	7.5 mm, non-flush mounting
Hysteresis	1... 20 %
Temperature drift	$\leq \pm 20 \%$
Repeatability	$\leq 2 \%$
Ambient temperature	-25...+ 70 °C in the explosion hazardous area see instruction leaflet
Voltage	Nom. 8.2 VDC
Non-actuated current consumption	$\leq 1.2 \text{ mA}$
Actuated current consumption	$\geq 2.1 \text{ mA}$
Switching frequency	$\leq 0.1 \text{ kHz}$
Output function	2-wire, NAMUR
Approval acc. to	SIRA 00 ATEX 2069X
Internal inductance (L_i) / capacitance (C_i)	220 nF / 0.28 μH
Device designation	Ⓔ II 1 G EEx ia IIC T6 / II 1 D Ex iaD 20 T 85°C IP6X (max. $U_i = 15 \text{ V}$, $I_i = 20 \text{ mA}$)
Warning	protect against mechanical damage
Housing	threaded barrel, M18 x 1
Dimensions	70 mm
Housing material	plastic, PA12-GF30
Material active face	plastic, PA12-GF30
Tightening torque of housing nut	2 Nm
Connection	cable
Cable quality	Ø 5.2, LifYY, PVC, 2 m
Cable cross section:	2 x 0.34mm ²
Vibration resistance	55 Hz (1 mm)
Shock resistance	30g (11 ms)
Degree of protection	IP67
Display switch state	LED yellow

capacitive sensor BC5-S18-Y1X

TURCK

Industrial
Automation

Accessories

Type code	Ident-No.	Short text	Dimension drawing
BS18	69471	fixing clamp; material: PA66-GF	
BSN18	69472	fixing clamp; material: PA66-GF	
BST-18B	6947214	fixing clamp with dead-stop; material: PA6	
MAP-M18	6950012	mounting adapter; material: Polypropylene; sensor replacement with filled container possible (adapter remains in container during sensor replacement)	
IM1-22EX-R	7541231	Isolating switching amplifier, 2 channel; 2 transistor outputs; input for NAMUR signals; selectable ON/OFF mode for wire-break and short-circuit monitoring; adjustable signal flow (N.O./ N.C.mode); removable terminal blocks; 18 mm width; universal voltage supply unit	

capacitive sensor

BC5-S18-Y1X

TURCK

Industrial
Automation

Operating manual

Intended usage

This device fulfils the directive 94/9/EC and is suited for use in explosion hazardous areas according to EN50014, EN50020, EN50284 and EN50281-1-1. Further it is suited for use in safety-related systems, including SIL2 to 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 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 EEx ia IIC T6 acc.to EN50014 and EN50020 and Ⓔ II 1D Ex iaD 20 T 85°C IP6X acc.to IEC 61241-0 and IEC 61241-11

Local admissible ambient temperature

-20...+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, and, if necessary, of the regulations applicable to safety-related systems. 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 EExi circuits acc. to EN500014 and EN50020. Please observe the maximum admissible electrical values. After connection to other circuits the sensor may no longer be used in EExi 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. 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

The device must be protected against any kind of mechanical damage.

Repair / 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.