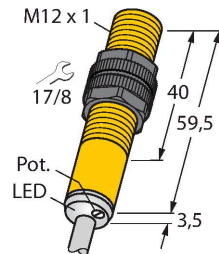


# BC3-S12-RP6X

## Capacitive Sensor



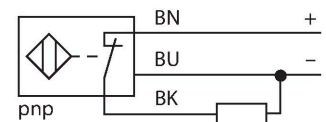
### Technical data

|                                           |                                                           |
|-------------------------------------------|-----------------------------------------------------------|
| Type                                      | BC3-S12-RP6X                                              |
| ID                                        | 2601202                                                   |
| Rated switching distance (flush)          | 3 mm                                                      |
| Rated switching distance (non-flush)      | 4.5 mm                                                    |
| Secured operating distance                | $\leq (0.72 \times S_n)$                                  |
| Hysteresis                                | 1...20 %                                                  |
| Temperature drift                         | Typical 20 %                                              |
| Repeat accuracy                           | $\leq 2 \%$ of full scale                                 |
| Ambient temperature                       | -25...+70 °C                                              |
| <b>Electrical data</b>                    |                                                           |
| Operating voltage                         | 30 VDC                                                    |
| Residual ripple                           | $\leq 10 \%$ $U_{ss}$                                     |
| DC rated operational current              | $\leq 200$ mA                                             |
| No-load current                           | $\leq 15$ mA                                              |
| Residual current                          | $\leq 0.1$ mA                                             |
| Switching frequency                       | 0.1 kHz                                                   |
| Oscillation frequency                     | According to EN 60947-5-2, 8.2.6.2 Table 9: 0.1...2.0 MHz |
| Isolation test voltage                    | $\leq 0.5$ kV                                             |
| Output function                           | 3-wire, NC contact, PNP                                   |
| Short-circuit protection                  | yes / Cyclic                                              |
| Voltage drop at $I_o$                     | $\leq 1.8$ V                                              |
| Wire breakage/Reverse polarity protection | yes / Complete                                            |
| <b>Tests/approvals</b>                    |                                                           |
| Approvals                                 | UL                                                        |
| UL registration number                    | E210608                                                   |

### Features

- M12 × 1 threaded barrel
- Plastic, PA12-GF30
- Fine adjustment via potentiometer
- DC 3-wire, 10...30 VDC
- NC contact, PNP output
- Cable connection

### Wiring diagram



### Functional principle

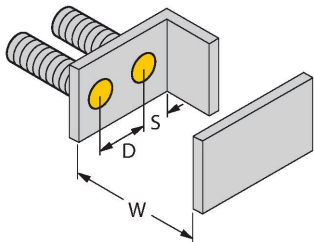
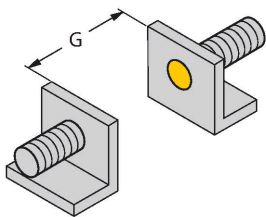
Capacitive proximity switches are designed for non-contact and wear-free detection of electrically conductive as well as non-conductive metal objects.

Technical data

| Mechanical data                       |                                            |
|---------------------------------------|--------------------------------------------|
| Design                                | Threaded barrel, M12 x 1                   |
| Housing material                      | Plastic, PA12-GF30                         |
| Active area material                  | PA12-GF30                                  |
| Admissible pressure on front cap      | ≤ 8 bar                                    |
| Max. tightening torque of housing nut | 1 Nm                                       |
| Electrical connection                 | Cable                                      |
| Cable quality                         | Ø 5.2 mm, LifYY, PVC, 2 m                  |
| Core cross-section                    | 3 x 0.5 mm²                                |
| 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 |
| Power-on indication                   | Green                                      |
| Switching state                       | LED, Yellow                                |

Mounting instructions

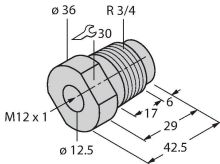
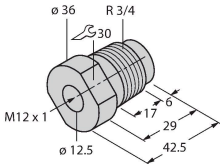
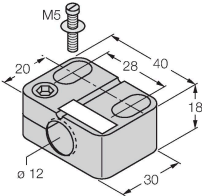
| Product features |  |
|------------------|--|
|------------------|--|



|                        |         |
|------------------------|---------|
| Distance D             | 24 mm   |
| Distance W             | 9 mm    |
| Distance S             | 18 mm   |
| Distance G             | 18 mm   |
| Diameter active area B | Ø 12 mm |

The given minimum distances have been checked against the standard switching distance.  
Should the sensitivity of the sensors be changed via potentiometer, the data sheet specifications no longer apply.

Accessories

|                                                                                    |         |                                                                                                                                                       |
|------------------------------------------------------------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAP-M12-PP                                                                         | 6950016 | Mounting adapter; material: Polypropylene; sensor replacement with filled container possible (adapter remains in container during sensor replacement) |
|   |         |                                                                                                                                                       |
| MAP-M12-PVDF                                                                       | 6950017 | Mounting adapter; material: Polyvinylidenfluorid; sensor can be replaced with filled container (adapter remains in container during replacement)      |
|  |         |                                                                                                                                                       |
| BST-12B                                                                            | 6947212 | Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6                                                                             |
|   |         |                                                                                                                                                       |