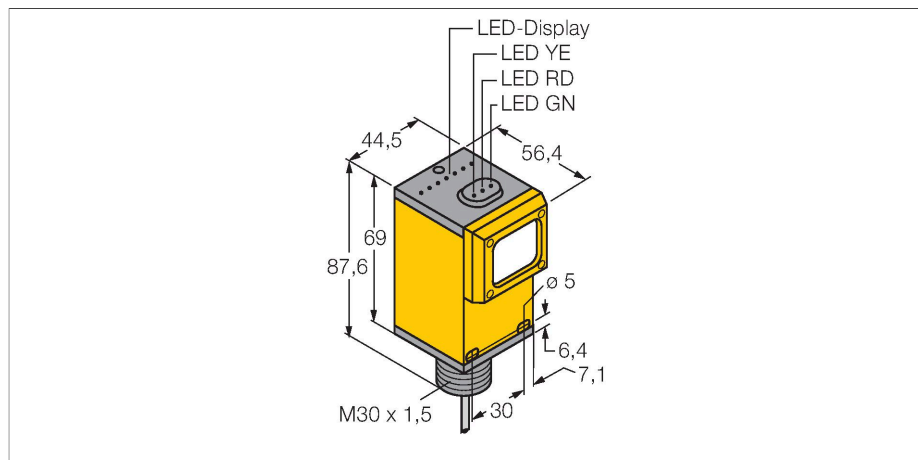


Q45VR3LV

Photoelectric Sensor – Retroreflective Sensor



Technical data

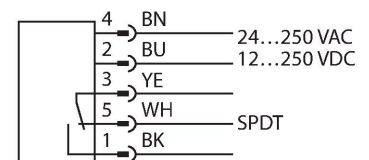
| | |
|--------------------------------|-------------------------------------|
| Type | Q45VR3LV |
| ID no. | 3053981 |
| Optical data | |
| Function | Retroreflective Sensor |
| Operating mode | Unpolarized |
| Reflector included in delivery | yes |
| Light type | Red |
| Wavelength | 680 nm |
| Range | 80...9000 mm |
| Electrical data | |
| Operating voltage | 12...250 VDC |
| Operating voltage | 24...250 VAC |
| DC rated operational current | ≤ 5000 mA |
| Output function | Complementary contact, Relay output |
| Switching frequency | 0.033 kHz |
| Switching frequency | ≤ 33 Hz |
| Readiness delay | ≤ 100 ms |
| Response time typical | < 15 ms |
| Max. DC switching capacity | 1 W |
| Setting option | Potentiometer |
| Mechanical data | |
| Design | Rectangular, Q45 |
| Dimensions | Ø 30 x 87.6 x 54.6 x 44.5 mm |
| Housing material | Plastic, Thermoplastic material |
| Lens | acrylic, Acrylic |
| Electrical connection | Cable, 2 m, PVC |
| Number of cores | 5 |



Features

- Cable, PVC, 2 m
- Protection class IP67
- Sensitivity adjusted via potentiometer
- Operating voltage: 12...250 VDC or 24...250 VAC
- Relay output, changeover (SPDT)
- Light or dark operation, adjusted via selector switch

Wiring diagram



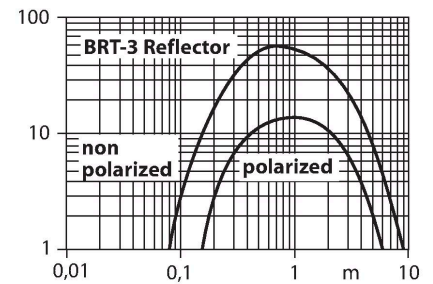
Functional principle

Retro-reflective sensors incorporate emitter and receiver in a single compact housing. The light beam of the emitter is directed towards a reflector which returns the light back to the receiver. An object is detected when it interrupts this beam. Retro-reflective sensors incorporate some of the advantages of opposed mode sensors (good contrast and high excess gain). Further it is merely required to install and wire a single device. A smaller sensing range and susceptibility of devices without polarisation filter can be of disadvantage when shiny objects have to be detected.

Excess gain curve
Excess gain in relation to the distance

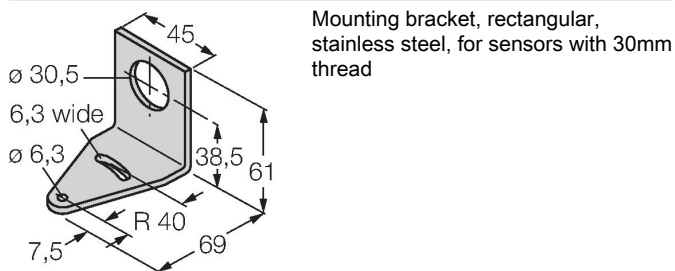
Technical data

| | |
|------------------------|--|
| Core cross-section | 0.34 mm ² |
| Ambient temperature | -40...+70 °C |
| Protection class | IP67 |
| Special features | keep/defer |
| Power-on indication | LED, Green |
| Switching state | LED, Yellow |
| Error indication | LED, green |
| Excess gain indication | LED, red |
| Tests/approvals | |
| MTTF | 67 years acc. to SN 29500 (Ed. 99) 40 °C |
| Approvals | CE, cURus, CSA |

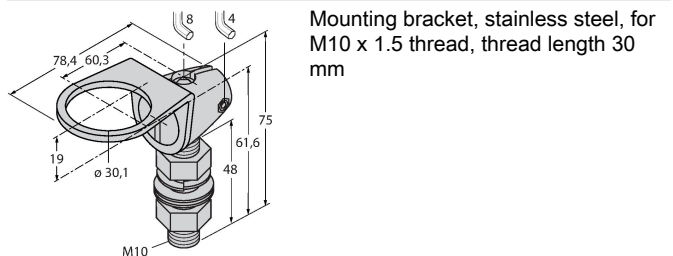


Accessories

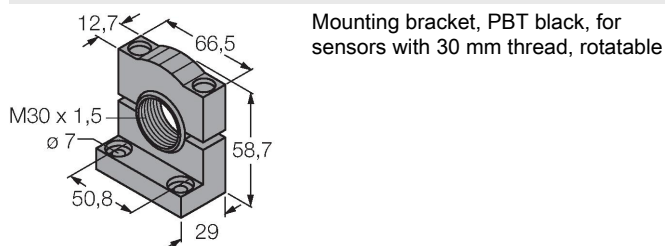
SMB30A 3032723



SMB30FAM10 3011185



SMB30SC 3052521



Accessories

| Dimension drawing | Type | ID no. | |
|--|-------|---------|---|
| <p>Ø 5.2 [0.21]</p> <p>7 [0.28]</p> <p>Ø 81 [3.19]</p> | BRT-3 | 3016164 | Round reflector, reflection coefficient 1.0, material acrylic, ambient temperature -20...+60 °C |