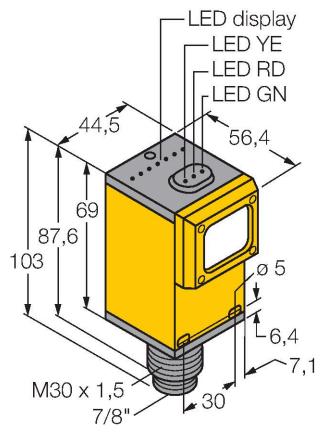


# Q45BB6LLQ

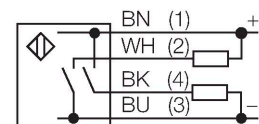
## Photoelectric Sensor – Retroreflective Sensor



### Features

- Male connector 7/8"
- Protection class IP67
- Sensitivity adjusted via potentiometer
- Operating voltage: 10...30 VDC
- Switching output, bipolar
- Light or dark operation, adjusted via switch

### Wiring diagram



### Technical data

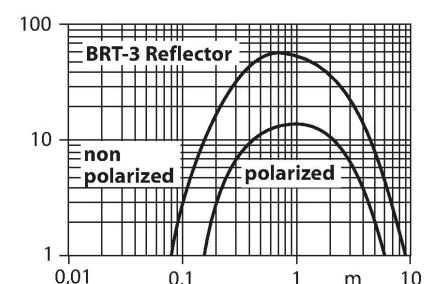
|                                |                                 |
|--------------------------------|---------------------------------|
| Type                           | Q45BB6LLQ                       |
| ID                             | 3039552                         |
| <b>Optical data</b>            |                                 |
| Function                       | Retroreflective Sensor          |
| Operating mode                 | Unpolarized                     |
| Reflector included in delivery | yes                             |
| Light type                     | Red                             |
| Wavelength                     | 680 nm                          |
| Range                          | 80...70000 mm                   |
| <b>Electrical data</b>         |                                 |
| Operating voltage              | 10...30 VDC                     |
| Residual ripple                | < 10 % U <sub>ss</sub>          |
| No-load current                | ≤ 50 mA                         |
| Short-circuit protection       | yes                             |
| Reverse polarity protection    | yes                             |
| Output function                | NO contact, PNP/NPN             |
| Switching frequency            | ≤ 250 Hz                        |
| Readiness delay                | ≤ 100 ms                        |
| Response time typical          | < 2 ms                          |
| Overcurrent release            | > 220 mA                        |
| Setting option                 | Potentiometer                   |
| <b>Mechanical data</b>         |                                 |
| Design                         | Rectangular, Q45                |
| Dimensions                     | Ø 30 x 56.4 x 44.5 x 101.6 mm   |
| Housing material               | Plastic, Thermoplastic material |
| Lens                           | plastic, Acrylic                |
| Electrical connection          | Connector, 7/8", PVC            |



### 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

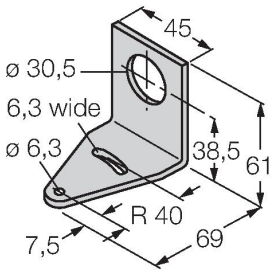


Technical data

|                        |                                          |
|------------------------|------------------------------------------|
| Number of cores        | 5                                        |
| Ambient temperature    | -10...+40 °C                             |
| Protection class       | IP67                                     |
| Special features       | keep/defer                               |
| Power-on indication    | LED, Green                               |
| Switching state        | LED, Yellow                              |
| Error indication       | LED, green, Flashing                     |
| Excess gain indication | LED, red                                 |
| Tests/approvals        |                                          |
| MTTF                   | 67 years acc. to SN 29500 (Ed. 99) 40 °C |
| Approvals              | CE, cURus, CSA                           |

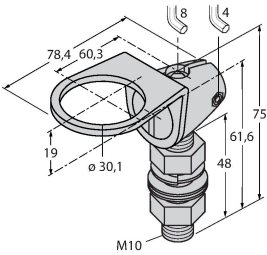
Accessories

SMB30A 3032723



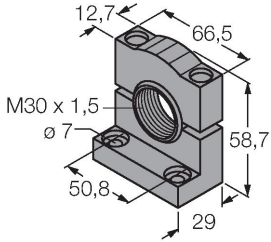
Mounting bracket, rectangular, stainless steel, for sensors with 30mm thread

SMB30FAM10 3011185



Mounting bracket, stainless steel, for M10 x 1.5 thread, thread length 30 mm

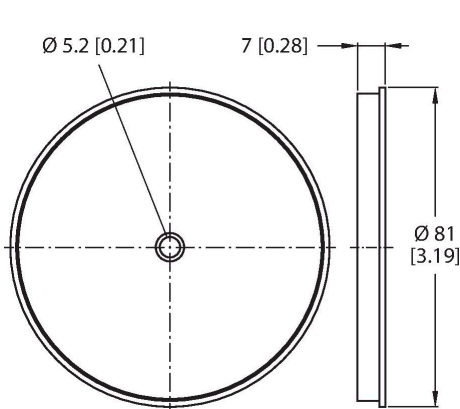
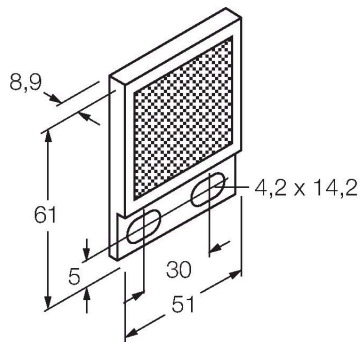
SMB30SC 3052521



Mounting bracket, PBT black, for sensors with 30 mm thread, rotatable

Accessories

| Dimension drawing | Type    | ID      |                                                                                                     |
|-------------------|---------|---------|-----------------------------------------------------------------------------------------------------|
|                   | BRT-2X2 | 3040071 | Rectangular reflector, reflection coefficient 1.8, material acrylic, ambient temperature max. 50 °C |



BRT-3

3016164

Round reflector, reflection coefficient 1.0, material acrylic, ambient temperature -20...+60 °C