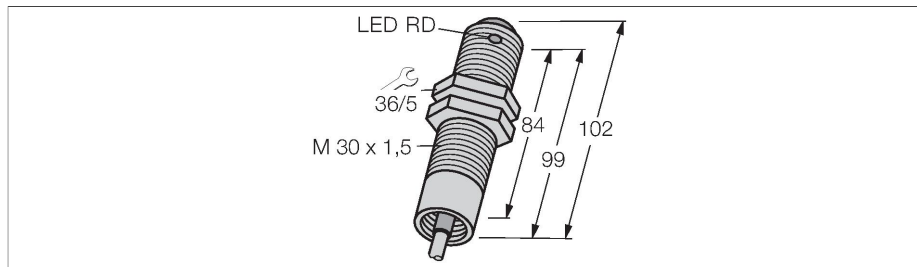


# SM30SRLB

## Photoelectric Sensor – Opposed Mode Sensor (Receiver)



### Technical data

|                             |                                                              |
|-----------------------------|--------------------------------------------------------------|
| Type                        | SM30SRLB                                                     |
| ID                          | 3027376                                                      |
| <b>Optical data</b>         |                                                              |
| Function                    | Opposed mode sensor                                          |
| Operating mode              | Receiver                                                     |
| Range                       | 0...150000 mm                                                |
| <b>Electrical data</b>      |                                                              |
| Operating voltage           | 10...30 VDC                                                  |
| No-load current             | ≤ 10 mA                                                      |
| Short-circuit protection    | yes / Cyclic                                                 |
| Reverse polarity protection | yes                                                          |
| Output function             | Connection programmable, PNP/NPN                             |
| Switching frequency         | ≤ 160 Hz                                                     |
| Readiness delay             | ≤ 0 ms                                                       |
| Response time typical       | < 10 ms                                                      |
| Overcurrent release         | > 220 mA                                                     |
| <b>Mechanical data</b>      |                                                              |
| Design                      | Tube, SM30                                                   |
| Dimensions                  | Ø 30 x 102 mm                                                |
| Housing material            | Metal, Stainless steel                                       |
| Lens                        | plastic, Acrylic                                             |
| Electrical connection       | Cable, 2 m, PVC                                              |
| Number of cores             | 4                                                            |
| Core cross-section          | 0.5 mm <sup>2</sup>                                          |
| Ambient temperature         | -40...+70 °C                                                 |
| Protection class            | IP67                                                         |
| Special features            | Chemical-resistant<br>Encapsulated<br>Resistant to chemicals |
| Power-on indication         | LED, Green                                                   |
| Switching state             | LED, Yellow                                                  |
| Error indication            | LED, green, Flashing                                         |



### Features

- Cable, 2 m
- Protection class IP67
- Ambient temperature: -40...+70 °C
- Modulation frequency B, requires transmitters with the same frequency
- Operating voltage 10...30 VDC
- Bi-modal switching output (NPN or PNP, depending on connection)

### Functional principle

Opposed mode sensors consist of an emitter and a receiver. They are installed opposite to each other whereby the emitted light aims directly at the receiver. When an object interrupts or weakens the light beam, the sensor switches. Opposed mode sensors are the most reliable photoelectric sensors for detection of opaque objects. The excellent light/dark contrast and the very high excess gain are typical for this function mode and enable operation over large distances and under difficult conditions.

Excess gain curve  
Excess gain in relation to distance

## Technical data

|                        |                     |
|------------------------|---------------------|
| Excess gain indication | LED                 |
| Alarm display          | LED yellow Flashing |
| Tests/approvals        |                     |
| Approvals              | CE, cURus, CSA      |