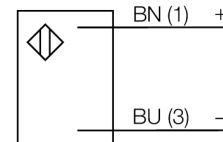


**Photoelectric sensor
opposed mode sensor (emitter)
SM31E**

- Cable, PVC, 2 m
- Protection class IP67
- Operating voltage: 10...30 VDC

Wiring diagram

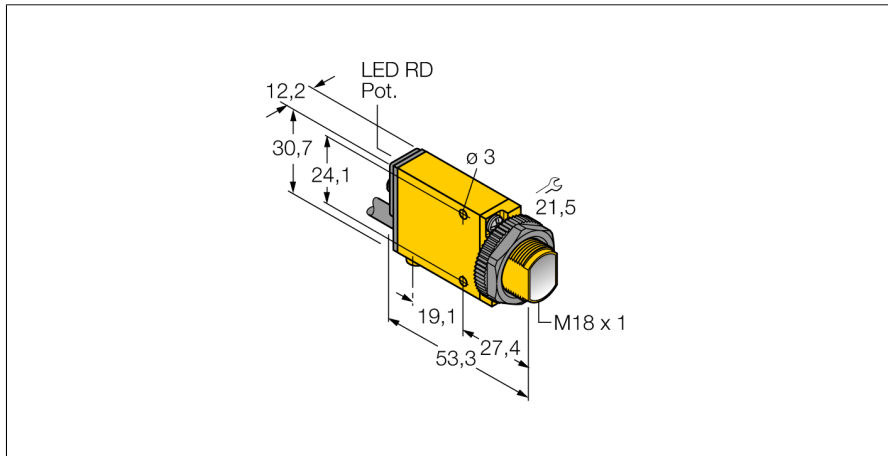
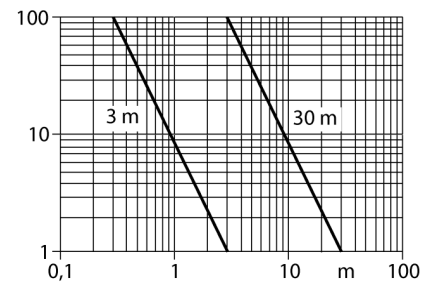


Functional principle

Opposed mode sensors consist of an emitter and receiver. They are installed opposite each other so that the light from the emitter is aimed 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 targets. An excellent contrast between light and dark conditions and an extremely high excess gain are typical of this sensing mode, thus allowing operation over larger distances and under difficult conditions.

Excess gain curve

Excess gain in relation to the distance



| | |
|--------------------------------|---|
| Type code | SM31E |
| Ident no. | 3025623 |
| Operating mode | opposed mode sensor (emitter) |
| Light type | IR |
| Wavelength | 880 nm |
| Range | 0...3000 mm |
| Ambient temperature | -20...+70 °C |
| Operating voltage | 10...30VDC |
| Residual ripple | < 10 % U _s |
| No-load current I ₀ | ≤ 25 mA |
| Design | rectangular, Mini Beam |
| Dimensions | 53.3 x 12.3 x 30.7 mm |
| Housing material | plastic, PBT, yellow |
| Lens | plastic, acrylic |
| Connection | cable, PVC |
| Cable length | 2 m |
| Cable cross section | 2 x 0.5 mm ² |
| Protection class | IP67 |
| MTTF | 853 years acc. to SN 29500 (Ed. 99) 40 °C |

Photoelectric sensor
opposed mode sensor (emitter)
SM31E

TURCK

Industrial
Automation

Accessories

| Type code | Ident no. | Description | Dimension drawing |
|-------------|-----------|---|-------------------|
| SMB18A | 3033200 | Mounting bracket, stainless steel, for sensors with 18 mm thread | |
| SMB18AFAM10 | 3012558 | Mounting bracket, material VA 1.4401, for M10 x 1.5 thread, thread length 18 mm | |
| SMB18SF | 3052519 | Mounting bracket, PTB black steel, for sensors with 18 mm thread | |
| SMB312B | 3025519 | Mounting bracket, stainless steel, for MINI-BEAM NAMUR | |
| SMB3018SC | 3053952 | Mounting bracket, PTB black, for sensors with 18 mm thread | |