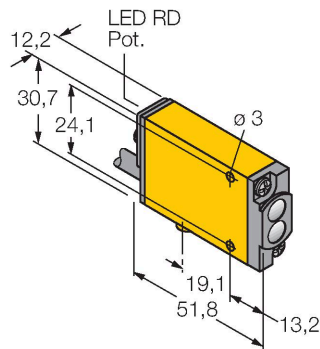


# SM2A31RPD W/30

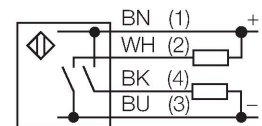
## Photoelectric Sensor – Opposed Mode Sensor (Emitter/Receiver)



### Features

- Cable, PVC, 2 m
- Protection class IP67
- Sensitivity adjustable via potentiometer
- Alignment indicator
- Operating voltage: 24...240 VAC
- Switching output, bipolar
- Light/dark operation

### Wiring diagram



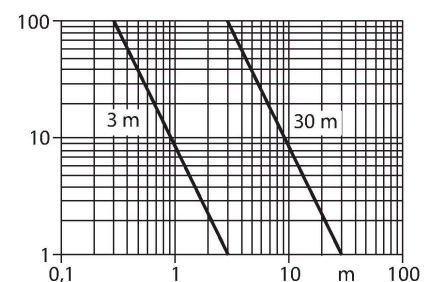
### Technical data

|                        |                                         |
|------------------------|-----------------------------------------|
| Type                   | SM2A31RPD W/30                          |
| ID                     | 3027194                                 |
| <b>Optical data</b>    |                                         |
| Function               | Opposed mode sensor                     |
| Operating mode         | Receiver                                |
| Wavelength             | 650 nm                                  |
| Range                  | 300 mm                                  |
| <b>Electrical data</b> |                                         |
| Operating voltage      | 24...240 VAC                            |
| Output function        | Relay output                            |
| Readiness delay        | ≤ 300 ms                                |
| Response time typical  | < 2 ms                                  |
| Setting option         | Potentiometer                           |
| <b>Mechanical data</b> |                                         |
| Design                 | Rectangular with thread, Mini Beam      |
| Dimensions             | Ø 18 mm                                 |
| Housing material       | Plastic, Thermoplastic material, Yellow |
| Lens                   | plastic, Acrylic                        |
| Electrical connection  | Cable, 9 m, PVC                         |
| Number of cores        | 2                                       |
| Ambient temperature    | -20...+70 °C                            |
| Protection class       | IP67                                    |
| Special features       | Clear object detection<br>Encapsulated  |
| Excess gain indication | LED                                     |

### 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



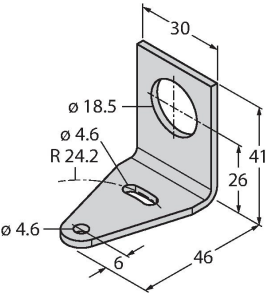
Technical data

| Tests/approvals |                                           |
|-----------------|-------------------------------------------|
| MTTF            | 777 years acc. to SN 29500 (Ed. 99) 40 °C |
| Approvals       | CE, cURus, CSA                            |

Accessories

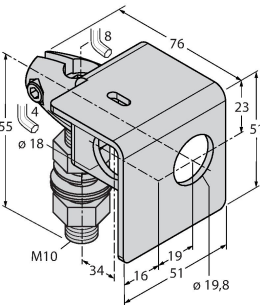
SMB18A 3033200

Mounting bracket, rectangular, stainless steel, for sensors with 18 mm thread



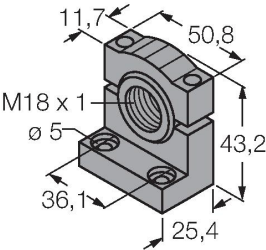
SMB18AFAM10 3012558

Mounting bracket, material VA 1.4401, for M10 x 1.5 thread, thread length 18 mm



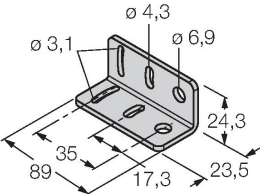
SMB18SF 3052519

Mounting bracket, PBT black, for sensors with 18 mm thread, rotatable



SMB312B 3025519

Mounting bracket, stainless steel, for MINI-BEAM NAMUR



SMB3018SC 3053952

Mounting bracket, PTB black, for sensors with 18 mm thread

