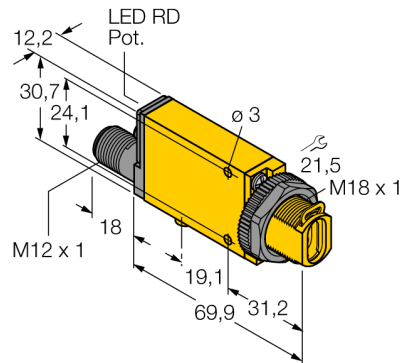


# Photoelectric Sensor

## Photoelectric Sensor for Glass Fibers

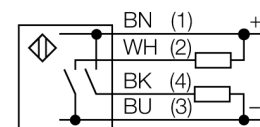
### SM312FVGMHSQD



|                                  |                                         |
|----------------------------------|-----------------------------------------|
| Type                             | SM312FVGMHSQD                           |
| ID                               | 3050991                                 |
| <b>Optical data</b>              |                                         |
| Function                         | Fiber optic sensor                      |
| Operating mode                   | Glass fiber                             |
| Fiber-optic type                 | glass                                   |
| Light type                       | Green                                   |
| Wavelength                       | 525 nm                                  |
| <b>Electrical data</b>           |                                         |
| Operating voltage $U_s$          | 10...30 VDC                             |
| Residual ripple                  | < 10 % $U_s$                            |
| DC rated operating current $I_s$ | ≤ 150 mA                                |
| No-load current $I_0$            | ≤ 25 mA                                 |
| Output function                  | NO contact, PNP/NPN                     |
| Switching frequency              | ≤ 500 Hz                                |
| Readiness delay                  | ≤ 100 ms                                |
| Response time typical            | < 0.3 ms                                |
| Overcurrent release              | > 220 mA                                |
| Setting option                   | Potentiometer                           |
| <b>Mechanical data</b>           |                                         |
| Design                           | Rectangular with thread, Mini Beam      |
| Housing material                 | Plastic, Thermoplastic material, Yellow |
| Electrical connection            | Connector, M12 × 1, PVC                 |
| Number of cores                  | 4                                       |
| Ambient temperature              | -20...+70 °C                            |
| Relative humidity                | 0...90%                                 |
| Protection class                 | IP67                                    |
| <b>Special features</b>          |                                         |
| Switching state                  | LED, Red                                |
| Excess gain indication           | LED, red, flashing                      |
| <b>Tests/approvals</b>           |                                         |
| Approvals                        | CE, cURus, CSA                          |

- Male M12 × 1, 4-pin
- Protection class IP67
- Sensitivity adjusted via potentiometer
- Alignment indicator
- Operating voltage: 10...30 VDC
- Switching output, bipolar
- Light/dark operation

#### Wiring Diagram

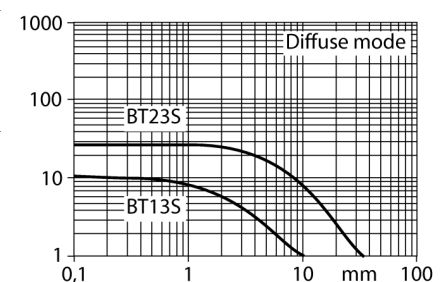


#### Functional principle

Glass or plastic fibers are the optimum choice for high-temperature applications and limited spaces. Optical fibers transfer the light from the sensor to a remote object. Individual fibers are used for opposed sensing mode, whereas bifurcated fibers are suited for diffuse sensing mode.

#### Excess gain curve

Excess gain in relation to distance



## Accessories

| Type code   | Ident no. |                                                                                 | Dimension drawing                                                                     |
|-------------|-----------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 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                      |  |

## Function accessories

| Type code | Ident no. |                                                                                                                                                                | Dimension drawing |
|-----------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| BT23S     | 3017276   | Glass fiber, sensing mode: Diffuse mode, threaded sleeve (brass), bundle diameter 3.2 mm, flexible stainless steel jacket, ambient temperatures -140...+250 °C |                   |
| IT23S     | 3017355   | Glass fiber, sensing mode: Opposed mode, threaded sleeve (brass), bundle diameter 3.2 mm, flexible stainless steel jacket, ambient temperatures -140...+250 °C |                   |