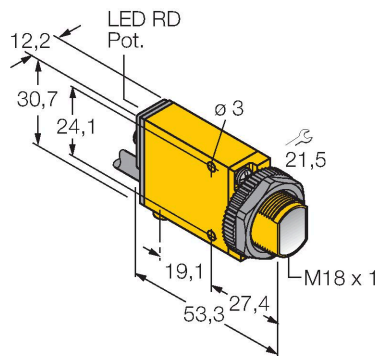


# SM312FVW

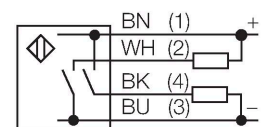
## Photoelectric Sensor – Photoelectric Sensor for Glass Fibers



### Features

- Cable, PVC, 2 m
- Protection class IP67
- Sensitivity adjusted via potentiometer
- Alignment indicator
- Operating voltage: 10...30 VDC
- Switching output, bipolar
- Light/dark operation

### Wiring diagram



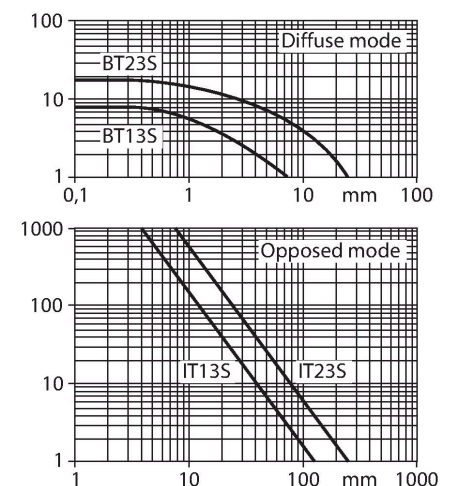
### Technical data

|                              |                                         |
|------------------------------|-----------------------------------------|
| Type                         | SM312FVW                                |
| ID no.                       | 3055523                                 |
| <b>Optical data</b>          |                                         |
| Function                     | Photoelectric sensor for glass fibers   |
| Fiber-optic type             | glass                                   |
| Light type                   | Red                                     |
| Wavelength                   | 650 nm                                  |
| <b>Electrical data</b>       |                                         |
| Operating voltage            | 10...30 VDC                             |
| Residual ripple              | < 10 % U <sub>ss</sub>                  |
| DC rated operational current | ≤ 150 mA                                |
| No-load current              | ≤ 25 mA                                 |
| Output function              | NO contact, PNP/NPN                     |
| Switching frequency          | ≤ 500 Hz                                |
| Readiness delay              | ≤ 1000 ms                               |
| Response time typical        | < 0.5 ms                                |
| Overcurrent release          | > 220 mA                                |
| Setting option               | Push Button<br>Remote Teach             |
| <b>Mechanical data</b>       |                                         |
| Design                       | Rectangular, Mini Beam                  |
| Dimensions                   | 53.3 x 12.3 x 30.7 mm                   |
| Housing material             | Plastic, Thermoplastic material, Yellow |
| Electrical connection        | Cable, 2 m, PVC                         |
| Number of cores              | 5                                       |
| Core cross-section           | 0.5 mm <sup>2</sup>                     |
| Ambient temperature          | -20...+70 °C                            |

### 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



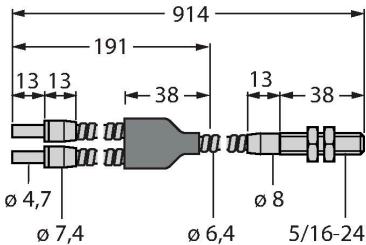
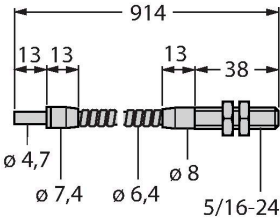
## Technical data

|                        |                    |
|------------------------|--------------------|
| Relative humidity      | 0...90 %           |
| Protection class       | IP67               |
| Special features       | Wash down          |
| Switching state        | LED, Red           |
| Excess gain indication | LED, red, flashing |
| <b>Tests/approvals</b> |                    |
| Approvals              | CE, cURus, CSA     |

## Accessories

|                      |                                                                                                 |                        |                                                                                                   |
|----------------------|-------------------------------------------------------------------------------------------------|------------------------|---------------------------------------------------------------------------------------------------|
| <b>SMB18A</b><br>    | <b>3033200</b><br>Mounting bracket, rectangular, stainless steel, for sensors with 18 mm thread | <b>SMB18AFAM10</b><br> | <b>3012558</b><br>Mounting bracket, material VA 1.4401, for M10 x 1.5 thread, thread length 18 mm |
| <b>SMB18SF</b><br>   | <b>3052519</b><br>Mounting bracket, PBT black, for sensors with 18 mm thread, rotatable         | <b>SMB312B</b><br>     | <b>3025519</b><br>Mounting bracket, stainless steel, for MINI-BEAM NAMUR                          |
| <b>SMB3018SC</b><br> | <b>3053952</b><br>Mounting bracket, PTB black, for sensors with 18 mm thread                    |                        |                                                                                                   |

Accessories

| Dimension drawing                                                                  | Type  | ID no.  |                                                                                                                                                                |
|------------------------------------------------------------------------------------|-------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | 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 |