

# M12PLP W/30

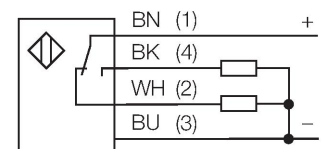
## Photoelectric Sensor – Retroreflective Sensor with Polarizing Filter



### Features

- Cable, PVC, 9 m, 4-wire
- Protection classes IP67 / IP68
- Metal housing
- LED all-round visible
- Indication of insufficient excess gain
- Sensitivity adjustable via potentiometer
- Operating voltage: 10...30 VDC
- PNP switching output, complementary contact

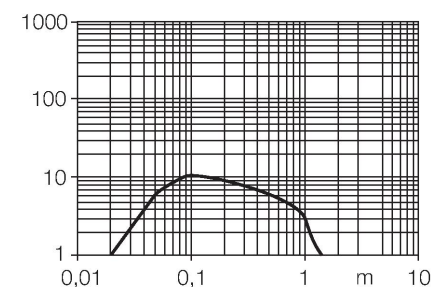
### Wiring diagram



### Functional principle

Retro-reflective sensors incorporate emitter and receiver in a single compact housing. The light beam of the emitter is directed towards a reflector which returns the light back to the receiver. An object is detected when it interrupts this beam. Retro-reflective sensors incorporate some of the advantages of opposed mode sensors (good contrast and high excess gain). Further it is merely required to install and wire a single device. A smaller sensing range and susceptibility of devices without polarisation filter can be of disadvantage when shiny objects have to be detected.

### Excess Gain Curve



### Technical data

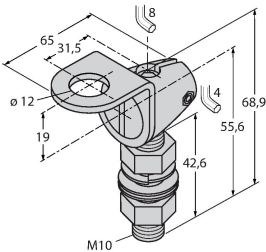
|                                |                                           |
|--------------------------------|-------------------------------------------|
| Type                           | M12PLP W/30                               |
| ID no.                         | 3077206                                   |
| <b>Optical data</b>            |                                           |
| Function                       | Retroreflective Sensor                    |
| Operating mode                 | Polarized                                 |
| Reflector included in delivery | no                                        |
| Light type                     | Red polarized                             |
| Wavelength                     | 660 nm                                    |
| Range                          | 20...1500 mm                              |
| <b>Electrical data</b>         |                                           |
| Operating voltage              | 10...30 VDC                               |
| Residual ripple                | < 10 % $U_{ss}$                           |
| DC rated operational current   | ≤ 100 mA                                  |
| No-load current                | ≤ 20 mA                                   |
| Short-circuit protection       | yes                                       |
| Reverse polarity protection    | yes                                       |
| Output function                | Complementary contact, PNP                |
| Switching frequency            | ≤ 1000 Hz                                 |
| Readiness delay                | ≤ 100 ms                                  |
| Response time typical          | < 0.5 ms                                  |
| Setting option                 | Potentiometer                             |
| <b>Mechanical data</b>         |                                           |
| Design                         | Threaded barrel, M12                      |
| Dimensions                     | Ø 12 x 67.5 mm                            |
| Housing material               | Metal, Nickel-plated brass, Nickel-plated |
| Lens                           | plastic, PMMA                             |

Technical data

|                        |                                          |
|------------------------|------------------------------------------|
| Electrical connection  | Cable, 9 m, PVC                          |
| Number of cores        | 4                                        |
| Core cross-section     | 0.35 mm <sup>2</sup>                     |
| Ambient temperature    | -20...+60 °C                             |
| Protection class       | IP67<br>IP68                             |
| Special features       | Encapsulated<br>Wash down                |
| Power-on indication    | LED, Green                               |
| Switching state        | LED, Yellow                              |
| Error indication       | LED, green, Flashing                     |
| Excess gain indication | LED, yellow, flashing                    |
| Tests/approvals        |                                          |
| MTTF                   | 46 years acc. to SN 29500 (Ed. 99) 40 °C |
| Approvals              | CE                                       |

Accessories

SMB12FAM10 3011221

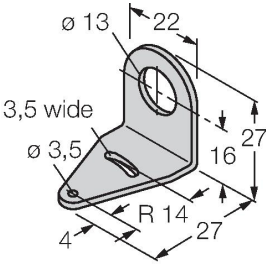


Mounting bracket, stainless steel, for M12, M10 x 1.5 thread

SMB12MM 3027635

Mounting bracket, stainless steel, for M12

SMBQS12PD 3059606



Mounting bracket; material VA 1.4401, for Q12 & M12 series

Accessories

| Dimension drawing | Type   | ID no.  |                                                                                                   |
|-------------------|--------|---------|---------------------------------------------------------------------------------------------------|
|                   | BRT-84 | 3058979 | Round reflector, reflection coefficient 1.4, material acrylic, ambient temperature -20 ... +60 °C |

