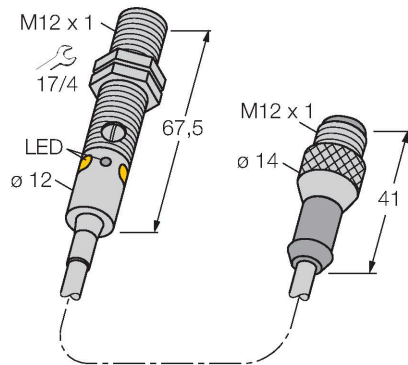


# M12APRQPMA20

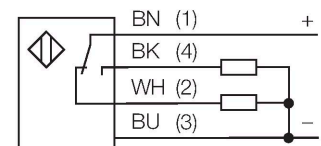
## Photoelectric Sensor – Opposed Mode Sensor (Emitter/Receiver)



### Features

- Cable with male end M12 × 1, 4-pin, PUR, 150 mm
- 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 (PIN 4), light operation
- PIN 2 not assigned

### Wiring diagram



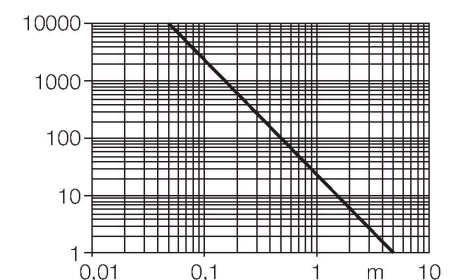
### Technical data

|                              |                                            |
|------------------------------|--------------------------------------------|
| Type                         | M12APRQPMA20                               |
| ID no.                       | 3095633                                    |
| <b>Optical data</b>          |                                            |
| Function                     | Opposed mode sensor (receiver)             |
| Range                        | 0...5000 mm                                |
| <b>Electrical data</b>       |                                            |
| Operating voltage            | 10...30 VDC                                |
| Residual ripple              | < 10 % U <sub>ss</sub>                     |
| 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          | ≤ 500 Hz                                   |
| <b>Mechanical data</b>       |                                            |
| Design                       | Threaded barrel, M12                       |
| Dimensions                   | Ø 12 x 67.5 mm                             |
| Housing material             | Metal, CuZn, Nickel-plated                 |
| Lens                         | plastic, PMMP                              |
| Electrical connection        | Cable with connector, M12 × 1, 0.15 m, PUR |
| Ambient temperature          | -20...+60 °C                               |
| Protection class             | IP67                                       |
| Power-on indication          | LED, Green                                 |
| Switching state              | LED, Yellow                                |
| Error indication             | LED, green, Flashing                       |

### 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

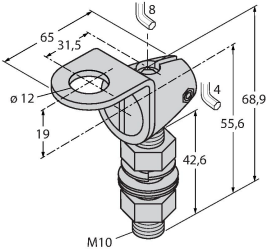


Technical data

|                        |                                          |
|------------------------|------------------------------------------|
| 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 |         |

