



**Model Number**

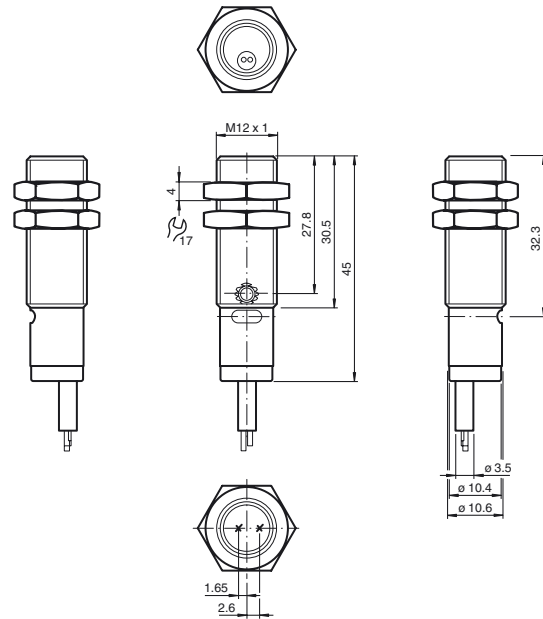
**OBR2500-12GM40-E5**

Retroreflective sensor  
2 m fixed cable

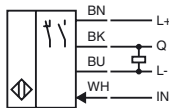
**Features**

- Robust M12 threaded housing
- Less space required
- Glare protected with polarization filter
- Light/dark ON, programmable
- Degree of protection IP67

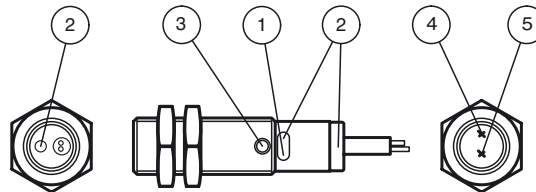
**Dimensions**



**Electrical connection**



**Indicators/operating means**



|   |                   |        |
|---|-------------------|--------|
| 1 | Operating display | green  |
| 2 | Signal display    | yellow |
| 3 | Potentiometer     |        |
| 4 | Emitter           |        |
| 5 | Receiver          |        |

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**Technical data****General specifications**

|                            |   |
|----------------------------|---|
| Effective detection range  | 0 ... 2500 mm                           |
| Reflector distance         | 50 ... 2500 mm                          |
| Threshold detection range  | 3000 mm                                 |
| Reference target           | H50 reflector                           |
| Light source               | LED                                     |
| Light type                 | red , 640 nm                            |
| Polarization filter        | yes                                     |
| Angle deviation            | +/- 2 °                                 |
| Diameter of the light spot | approx. 150 mm at a distance of 2500 mm |
| Angle of divergence        | approx. 3.5 °                           |
| Optical face               | frontal                                 |
| Ambient light limit        | EN 60947-5-2 20000 Lux                  |

**Functional safety related parameters**

|                                |       |
|--------------------------------|-------|
| MTTF <sub>d</sub>              | 800 a |
| Mission Time (T <sub>M</sub> ) | 20 a  |
| Diagnostic Coverage (DC)       | 0 %   |

**Indicators/operating means**

|                     |   |
|---------------------|---|
| Operation indicator | LED green: Power on   |
| Function indicator  | LED yellow: lights up when receiving the light beam ; flashes when falling short of the stability control; OFF when light beam is interrupted |
| Control elements    | sensitivity adjustment  |

**Electrical specifications**

|                        |                |                          |
|------------------------|----------------|--------------------------|
| Operating voltage      | U <sub>B</sub> | 10 ... 30 V DC , class 2 |
| Ripple                 |                | 10 %                     |
| No-load supply current | I <sub>0</sub> | ≤ 15 mA                  |

**Input**

|               |                              |
|---------------|------------------------------|
| Control input | light on +UB<br>dark on: 0 V |
|---------------|------------------------------|

**Output**

|                     |   |           |
|---------------------|---|-----------|
| Switching type      | light/dark on electrically switchable   |           |
| Signal output       | 1 PNP output, short-circuit protected, reverse polarity protected, open collector |           |
| Switching voltage   | max. 30 V DC  |           |
| Switching current   | max. 100 mA , resistive load  |           |
| Voltage drop        | U <sub>d</sub>  | ≤ 2 V     |
| Switching frequency | f   | ≤ 1000 Hz |
| Response time       |   | 0.5 ms    |

**Ambient conditions**

|                     |                                |
|---------------------|--------------------------------|
| Ambient temperature | -30 ... 60 °C (-22 ... 140 °F) |
| Storage temperature | -40 ... 70 °C (-40 ... 158 °F) |

**Mechanical specifications**

|                      |                      |
|----------------------|----------------------|
| Degree of protection | IP67                 |
| Connection           | 2 m fixed cable      |
| Material             |                      |
| Housing              | brass, nickel-plated |
| Optical face         | PMMA                 |
| Mass                 | approx. 45 g         |
| Cable length         | 2 m                  |

**Compliance with standards and directives**

|                           |                   |
|---------------------------|-------------------|
| Directive conformity      |                   |
| EMC Directive 2004/108/EC | EN 60947-5-2:2007 |
| Standard conformity       |                   |
| Standards                 | UL 508            |

**Approvals and certificates**

|              |  |
|--------------|--|
| UL approval  | cULus Listed, Class 2 Power Source, Type 1 enclosure                                       |
| CCC approval | CCC approval / marking not required for products rated ≤36 V                               |
| Approvals    | CE, cULus Listed 57M3 (Only in association with UL Class 2 power supply; Type 1 enclosure) |

**Accessories****BF 12**

Mounting flange, 12 mm

**BF 12-F**

Mounting flange with dead stop, 12 mm

**BF 5-30**

Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm

**REF-H50**

Reflector, rectangular 51 mm x 61 mm, mounting holes, fixing strap

**REF-VR10**

Reflector, rectangular 60 mm x 19 mm, mounting holes

**REF-H85-2**

Reflector, rectangular 84.5 mm x 84.5 mm, mounting holes

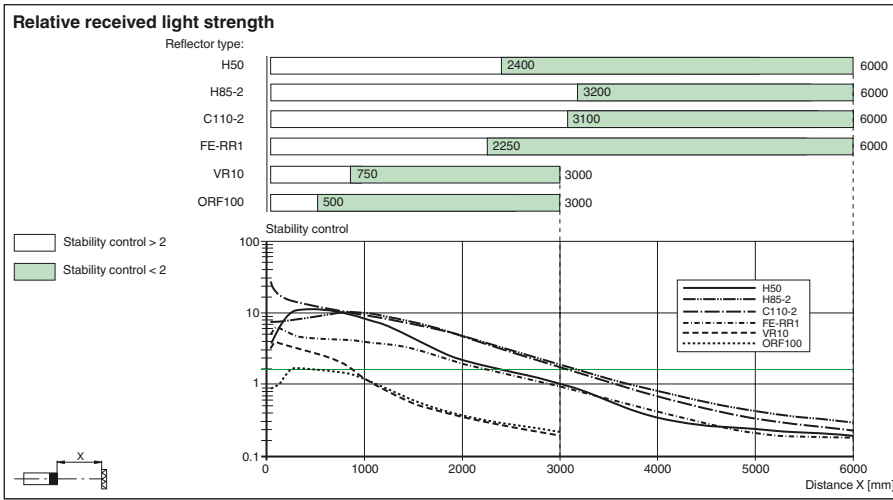
**REF-C110-2**

Reflector, round ø 84 mm, central mounting hole

**OFR-100/100**

Reflective tape 100 mm x 100 mm

Other suitable accessories can be found at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)



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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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