



Diffuse mode sensor OBD2000-R202-E5-V1



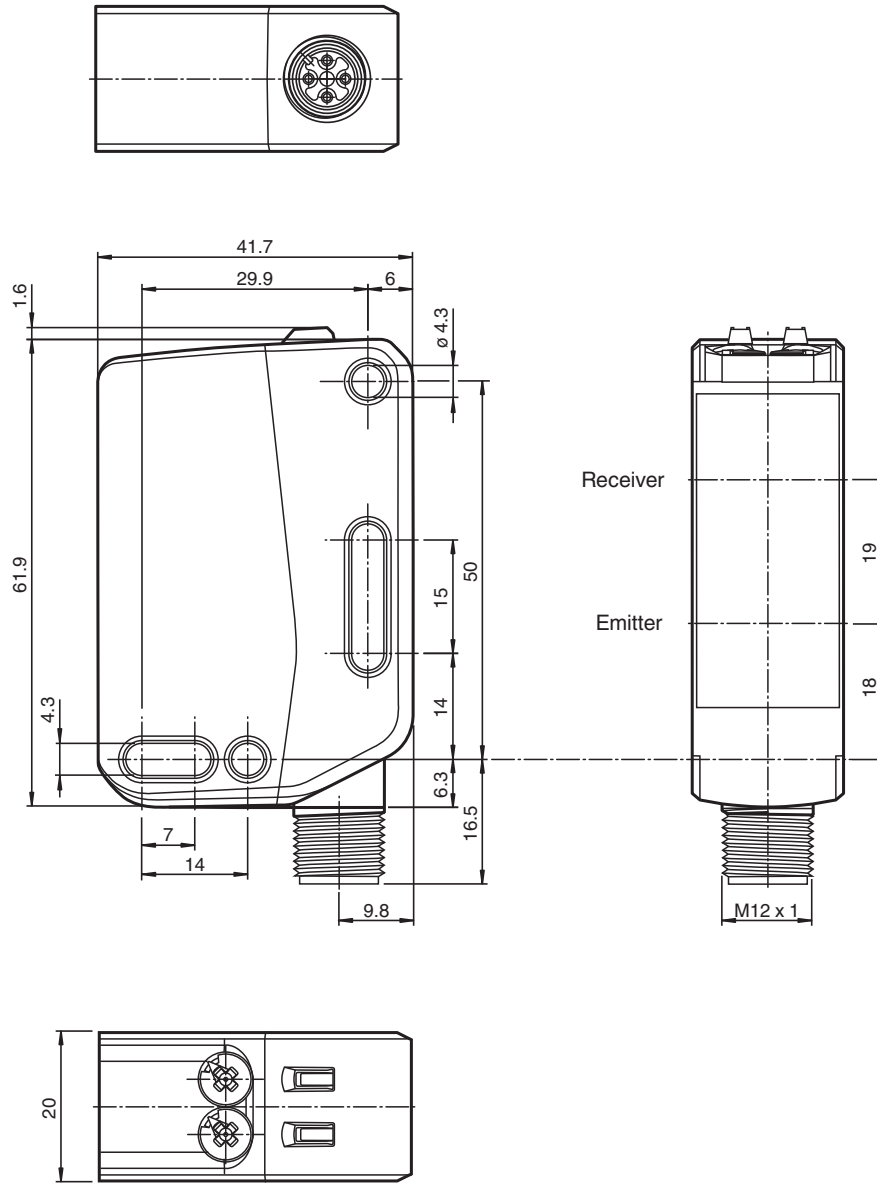
- Medium design with versatile mounting options
- Degree of protection IP67
- Mounting on full metal sockets
- Very bright, highly visible light spot
- Highly visible LEDs for Power ON and switching state
- Easy to use
- Image is generic for this device type and may deviate from the specific variant



Function

The optical sensors of this series for applications in standard automation have a modern housing design. The sensors are characterized by the many mounting options, easy handling and highly visible LED status indicators. The integrated full metal bushings ensure long-term secure and dimensionally stable mounting.

Dimensions



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Technical Data

| General specifications | |
|------------------------|---------------------------------|
| Detection range | 2 ... 2000 mm |
| Detection range min. | 100 ... 300 mm |
| Detection range max. | 2 ... 2000 mm |
| Adjustment range | 300 ... 2000 mm |
| Reference target | standard white, 100 mm x 100 mm |
| Light source | LED |
| Light type | modulated visible red light |

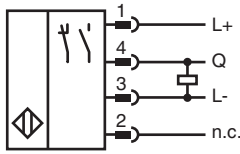
Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Technical Data

| | | |
|---|----------------|---|
| LED risk group labelling | | exempt group |
| Diameter of the light spot | | approx. 60 mm at a distance of 2 m |
| Opening angle | | 2 ° |
| Ambient light limit | | EN 60947-5-2 : 60000 Lux |
| Functional safety related parameters | | |
| MTTF _d | | 876 a |
| Mission Time (T _M) | | 20 a |
| Diagnostic Coverage (DC) | | 0 % |
| Indicators/operating means | | |
| Operation indicator | | LED green: on - power on flashing (4 Hz) - short circuit |
| Function indicator | | LED yellow: constantly on - object detected constantly off - object not detected Flashing (8 Hz) - fault detected, the outputs maintain the status |
| Control elements | | Light-on/dark-on changeover switch |
| Control elements | | Sensing range adjuster |
| Electrical specifications | | |
| Operating voltage | U _B | 10 ... 30 V DC |
| Ripple | | max. 10 % |
| No-load supply current | I ₀ | < 30 mA at 24 V Operating voltage |
| Protection class | | III |
| Output | | |
| Switching type | | The switching type of the sensor is adjustable. The default setting is: Q - Pin4: PNP normally open / light-on |
| Signal output | | 1 PNP, short-circuit protected, reverse polarity protected, open collector |
| Switching voltage | | max. 30 V DC |
| Switching current | | max. 100 mA , resistive load |
| Usage category | | DC-12 and DC-13 |
| Voltage drop | U _d | ≤ 1.5 V DC |
| Switching frequency | f | 1000 Hz |
| Response time | | 0.5 ms |
| Conformity | | |
| Product standard | | EN 60947-5-2 |
| Approvals and certificates | | |
| UL approval | | E87056 , cULus Listed , class 2 power supply , type rating 1 |
| CCC approval | | CCC approval / marking not required for products rated ≤36 V |
| Ambient conditions | | |
| Ambient temperature | | -30 ... 60 °C (-22 ... 140 °F) |
| Storage temperature | | -40 ... 70 °C (-40 ... 158 °F) |
| Mechanical specifications | | |
| Housing width | | 20 mm |
| Housing height | | 62 mm |
| Housing depth | | 42 mm |
| Degree of protection | | IP67 |
| Connection | | 4-pin, M12 x 1 connector |
| Material | | |
| Housing | | PC (Polycarbonate) |
| Optical face | | PMMA |
| Mass | | approx. 55 g |

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Connection



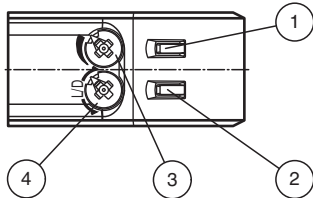
Connection Assignment



Wire colors in accordance with EN 60947-5-2

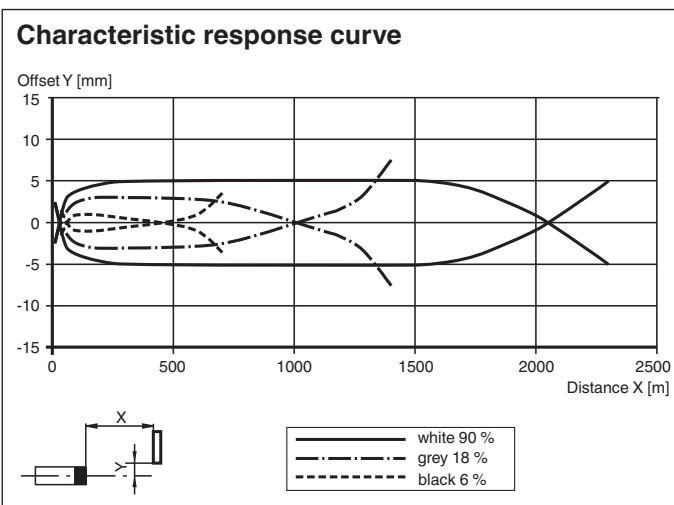
- 1 | BN (brown)
- 2 | WH (white)
- 3 | BU (blue)
- 4 | BK (black)

Assembly



| | | |
|---|--------------------------------------|----|
| 1 | Function indicator | YE |
| 2 | Operation indicator | GN |
| 3 | Sensitivity adjuster | |
| 4 | Light-on / dark-on changeover switch | |

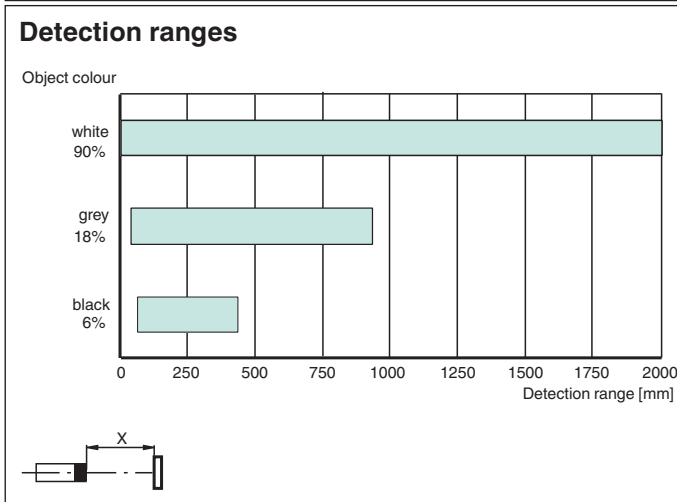
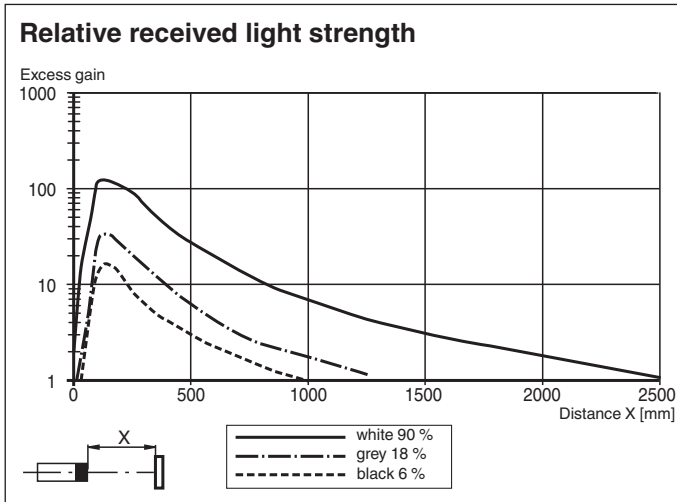
Characteristic Curve



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Characteristic Curve



Commissioning

Sensing Range / Sensitivity

Turn sensing range / sensitivity adjuster clockwise to increase sensing range / sensitivity.
 Turn sensing range / sensitivity adjuster counter clockwise to decrease sensing range / sensitivity.
 The internal end stop signals the end of the adjustment range.

Light-on / Dark-on Configuration

To set light switching or dark switching, turn the light/dark changeover switch to the end stop:

- clockwise: dark switching
- counterclockwise: light switching

Accessories

| | | |
|---|--------------------|-------------------------|
|  | OMH-RL31-02 | Mounting bracket narrow |
|---|--------------------|-------------------------|

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