

# Triangulation sensor (BGS)

## OBT15-R3F-E0

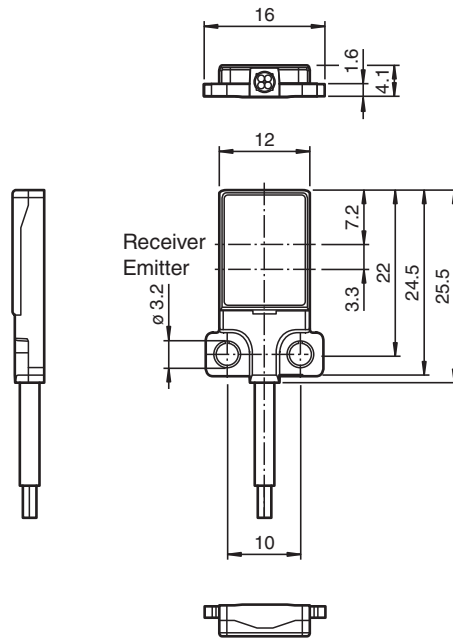


- Very flat design for direct mounting without mounting bracket
- Precision object detection, almost irrespective of the color
- Small parts detection from 0.1 mm
- Highly visible light spot, even on dark materials
- High degree of immunity to extraneous light

Triangulation sensor with background suppression for standard applications, flat design, M3 mounting, 15 mm sensing range, red light, light on, NPN output, fixed cable



### Dimensions



### Technical Data

#### General specifications

|                                   |                                      |
|-----------------------------------|--------------------------------------|
| Detection range                   | 1 ... 15 mm                          |
| Reference target                  | standard white, 100 mm x 100 mm      |
| Light source                      | LED                                  |
| Light type                        | modulated visible red light , 630 nm |
| LED risk group labelling          | exempt group                         |
| Black-white difference (6 %/90 %) | < 15 % at 15 mm                      |
| Angle deviation                   | approx. 2 °                          |
| Object size                       | typ. starts from 0.1 mm @ 14 mm      |

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

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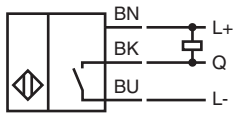
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## Technical Data

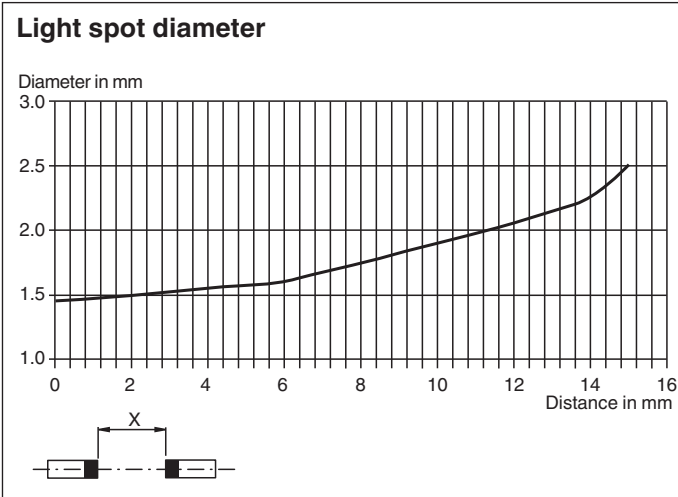
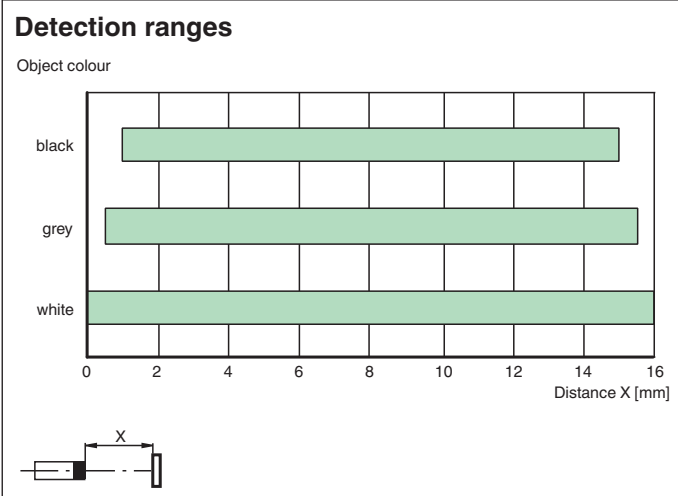
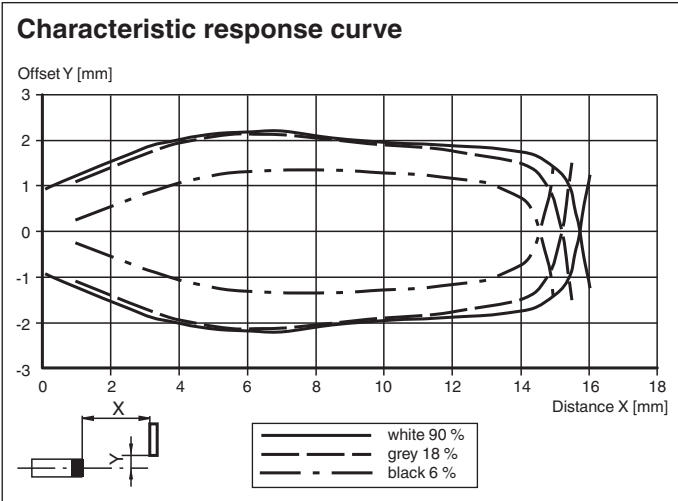
|   |  |                |
|---|--|----------------|
| Diameter of the light spot                  | approx. 2.5 mm at a distance of 15 mm  |                |
| Opening angle                               | approx. 5 °  |                |
| Optical face                                | frontal  |                |
| Ambient light limit                         | EN 60947-5-2 : 25000 Lux   |                |
| <b>Functional safety related parameters</b> |  |                |
| MTTF <sub>d</sub>                           | 800 a  |                |
| Mission Time (T <sub>M</sub> )              | 20 a   |                |
| Diagnostic Coverage (DC)                    | 0 %  |                |
| <b>Indicators/operating means</b>           |  |                |
| Operation indicator                         | LED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz) |                |
| Function indicator                          | LED yellow ON: lights when object is detected  |                |
| <b>Electrical specifications</b>            |  |                |
| Operating voltage                           | U <sub>B</sub>   | 10 ... 30 V DC |
| No-load supply current                      | I <sub>0</sub>   | < 15 mA        |
| Protection class                            | III  |                |
| <b>Output</b>                               |  |                |
| Switching type                              | NO contact / light-on  |                |
| Signal output                               | 1 NPN output, short-circuit protected, reverse polarity protected, open collector      |                |
| Switching voltage                           | max. 30 V DC   |                |
| Switching current                           | max. 50 mA , resistive load  |                |
| Voltage drop                                | U <sub>d</sub>   | ≤ 1.5 V DC     |
| Switching frequency                         | f  | approx. 1 kHz  |
| Response time                               | 500 μs   |                |
| <b>Conformity</b>                           |  |                |
| Product standard                            | EN 60947-5-2   |                |
| <b>Approvals and certificates</b>           |  |                |
| UL approval                                 | E87056 , cULus Recognized, Class 2 Power Source  |                |
| CCC approval                                | CCC approval / marking not required for products rated ≤36 V                           |                |
| <b>Ambient conditions</b>                   |  |                |
| Ambient temperature                         | -20 ... 60 °C (-4 ... 140 °F)  |                |
| Storage temperature                         | -20 ... 70 °C (-4 ... 158 °F)  |                |
| <b>Mechanical specifications</b>            |  |                |
| Housing width                               | 16 mm  |                |
| Housing height                              | 25.5 mm  |                |
| Housing depth                               | 4.1 mm   |                |
| Degree of protection                        | IP67   |                |
| Connection                                  | 2 m fixed cable  |                |
| Material                                    |  |                |
| Housing                                     | PC (Polycarbonate) and Stainless steel   |                |
| Optical face                                | PMMA   |                |
| Cable                                       | PUR  |                |
| Mass  | approx. 20 g   |                |
| Tightening torque, fastening screws         | 1 Nm   |                |
| Cable length                                | 2 m  |                |

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**Connection**



**Characteristic Curve**



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