



## Triangulation sensor (BGS)

### OBT30-R2-E2-P



- Ultra-small housing design
- 45° cable outlet for maximum mounting freedom under extremely tight space constraints
- Highly visible light spot, even on dark materials
- Precision object detection, almost irrespective of the color

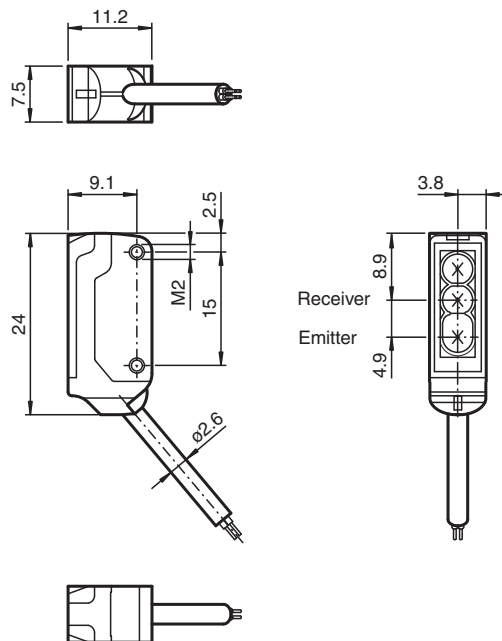
Triangulation sensor with background suppression for standard applications, miniature design, 30 mm detection range, red light, light on, PNP output, 2 m fixed cable



### Function

The nano sensor has been developed for a broad range of applications. It offers excellent durability and is exceptionally easy to install. The housing is compact and, with its 45° cable outlet, can be installed in the smallest spaces. New functional principles and functionality open up a range of new options.

### Dimensions



### Technical Data

#### General specifications

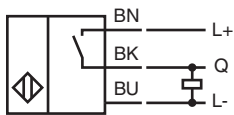
|                  |                                      |
|------------------|--------------------------------------|
| Detection range  | 1 ... 30 mm                          |
| Reference target | standard white, 100 mm x 100 mm      |
| Light source     | LED                                  |
| Light type       | modulated visible red light , 630 nm |

Release date: 2023-04-05 Date of issue: 2023-04-05 Filename: 70141869\_eng.pdf

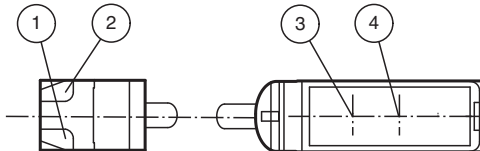
## Technical Data

|   |                |   |
|---|----------------|---|
| Black-white difference (6 %/90 %)           |                | < 7 % at 30 mm  |
| Angle deviation                             |                | approx. 2 °   |
| Diameter of the light spot                  |                | approx. 2 mm at a distance of 30 mm   |
| Opening angle                               |                | approx. 2 °   |
| Optical face                                |                | frontal   |
| Ambient light limit                         |                | EN 60947-5-2 : 30000 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: Power on flashing: Short circuit/overload indication                   |
| Function indicator                          |                | LED yellow ON: lights when object is detected                                     |
| <b>Electrical specifications</b>            |                |   |
| Operating voltage                           | U <sub>B</sub> | 10 ... 30 V DC , class 2  |
| No-load supply current                      | I <sub>0</sub> | < 10 mA   |
| Protection class                            |                | III   |
| <b>Output</b>                               |                |   |
| Switching type                              |                | NO contact / light on   |
| Signal output                               |                | 1 PNP 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. 800 Hz  |
| Response time                               |                | 600 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                         |                | -25 ... 60 °C (-13 ... 140 °F)  |
| Storage temperature                         |                | -30 ... 70 °C (-22 ... 158 °F)  |
| <b>Mechanical specifications</b>            |                |   |
| Housing width                               |                | 7.5 mm  |
| Housing height                              |                | 24 mm   |
| Housing depth                               |                | 11.2 mm   |
| Degree of protection                        |                | IP67  |
| Connection                                  |                | 2 m fixed cable   |
| Material                                    |                |   |
| Housing                                     |                | PC/ABS and TPU  |
| Optical face                                |                | PC  |
| Cable                                       |                | PUR   |
| Installation                                |                | Fixing screws , 2 x M2 allen head screws included with delivery                   |
| Mass  |                | approx. 20 g  |
| Cable length                                |                | 2 m   |

## Connection

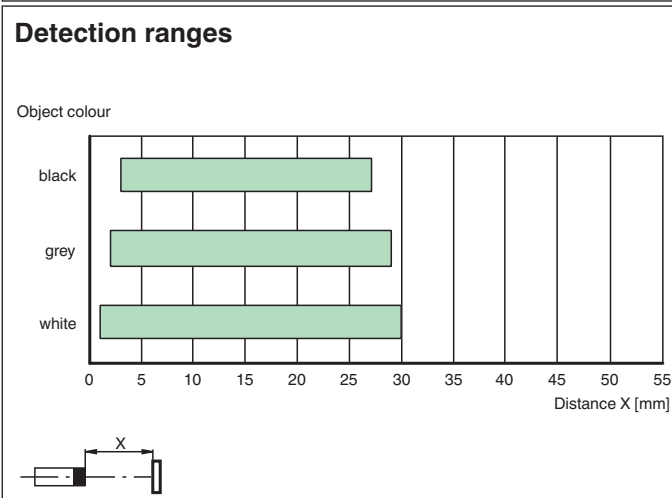
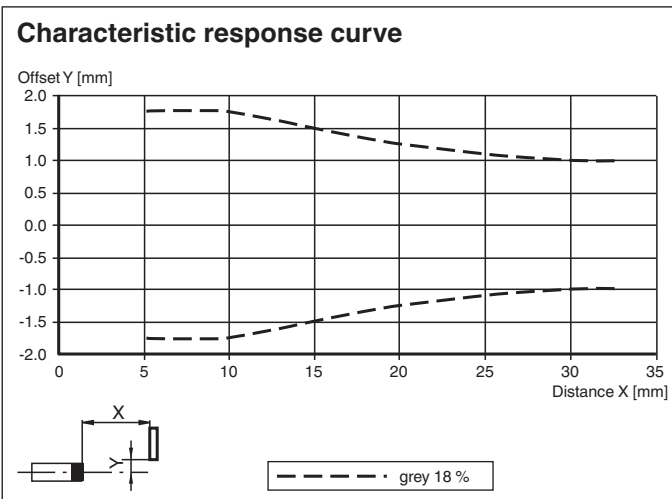


## Assembly







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

## Characteristic Curve



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**Accessories**

|   |                 |  |
|---|-----------------|--|
|  | <b>MH-R2-01</b> | Mounting aid for R2 series, Mounting bracket |
|  | <b>MH-R2-02</b> | Mounting aid for R2 series, Mounting bracket |
|  | <b>MH-R2-03</b> | Mounting aid for R2 series, Mounting bracket |
|  | <b>MH-R2-04</b> | Mounting aid for R2 series, Mounting bracket |