



Triangulation sensor (BGS)

OBT30-R3-E1-P



- 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

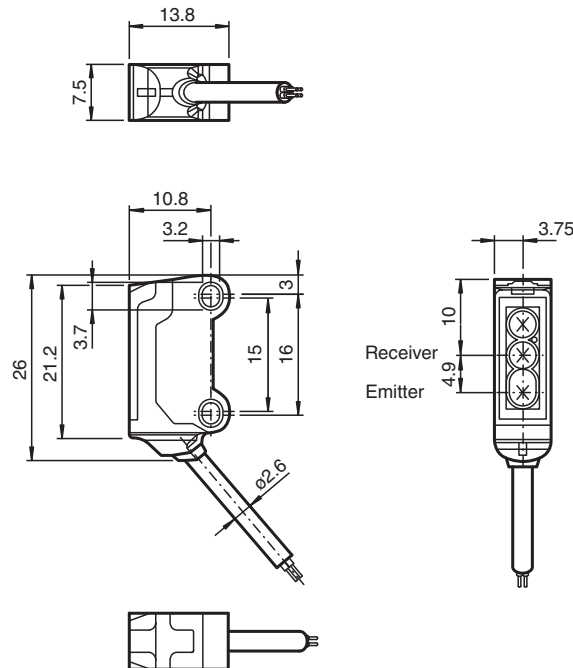
Triangulation sensor with background suppression for standard applications, miniature design, 30 mm detection range, red light, dark on, NPN output, 2 m fixed cable



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

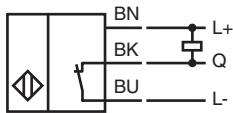
| | |
|------------------|--------------------------------------|
| Detection range | 1 ... 30 mm |
| Reference target | standard white, 100 mm x 100 mm |
| Light source | LED |
| Light type | modulated visible red light , 630 nm |

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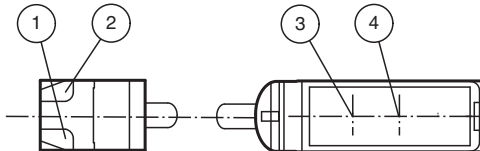
Technical Data

| | | |
|---|----------------|---|
| 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 15 mm |
| Opening angle | | approx. 2 ° |
| Optical face | | frontal |
| Ambient light limit | | EN 60947-5-2 : 30000 Lux |
| Functional safety related parameters | | |
| MTTF _d | | 800 a |
| Mission Time (T _M) | | 20 a |
| Diagnostic Coverage (DC) | | 0 % |
| Indicators/operating means | | |
| Operation indicator | | LED green: Power on flashing: Short circuit/overload indication |
| Function indicator | | LED yellow ON: lights when object is detected |
| Electrical specifications | | |
| Operating voltage | U _B | 10 ... 30 V DC , class 2 |
| No-load supply current | I ₀ | < 10 mA |
| Protection class | | III |
| Output | | |
| Switching type | | NC contact / dark 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 _d | ≤ 1.5 V DC |
| Switching frequency | f | approx. 800 Hz |
| Response time | | 600 μs |
| Conformity | | |
| Product standard | | EN 60947-5-2 |
| Approvals and certificates | | |
| UL approval | | E87056 , cULus Recognized, Class 2 Power Source |
| CCC approval | | CCC approval / marking not required for products rated ≤36 V |
| Ambient conditions | | |
| Ambient temperature | | -25 ... 60 °C (-13 ... 140 °F) |
| Storage temperature | | -30 ... 70 °C (-22 ... 158 °F) |
| Mechanical specifications | | |
| Housing width | | 7.5 mm |
| Housing height | | 26 mm |
| Housing depth | | 13.8 mm |
| Degree of protection | | IP67 |
| Connection | | 2 m fixed cable |
| Material | | |
| Housing | | PC/ABS and TPU |
| Optical face | | PC |
| Cable | | PUR |
| Mass | | approx. 20 g |
| Cable length | | 2 m |

Connection

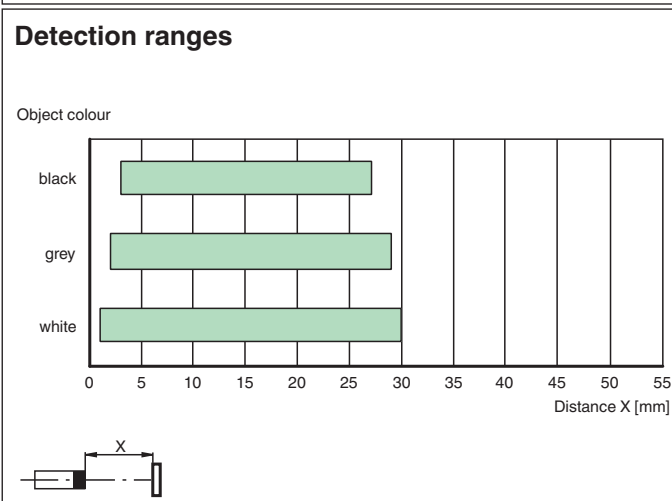
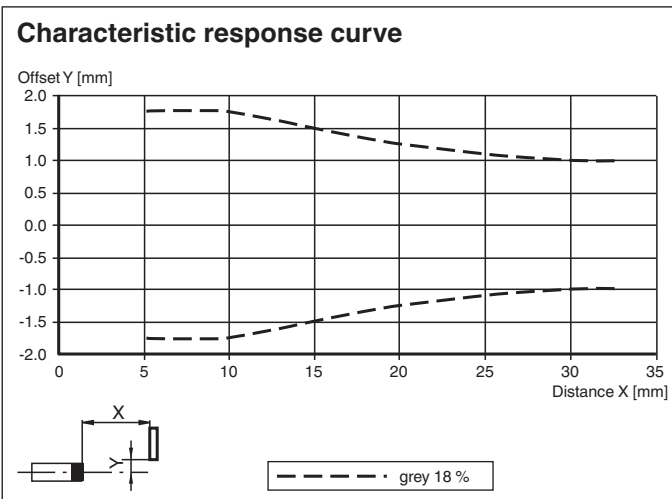


Assembly







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

Characteristic Curve



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Accessories

| | | |
|---|-----------------|---|
|  | MH-R3-01 | Mounting aid for sensors from the R3 series, mounting bracket |
|  | MH-R3-02 | Mounting aid for sensors from the R3 series, mounting bracket |
|  | MH-R3-03 | Mounting aid for sensors from the R3 series, mounting bracket |
|  | MH-R3-04 | Mounting aid for sensors from the R3 series, mounting bracket |