



Triangulation sensor (BGS) OBT60-R2-E2-0,2M-V31-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
- Adjustable sensing range

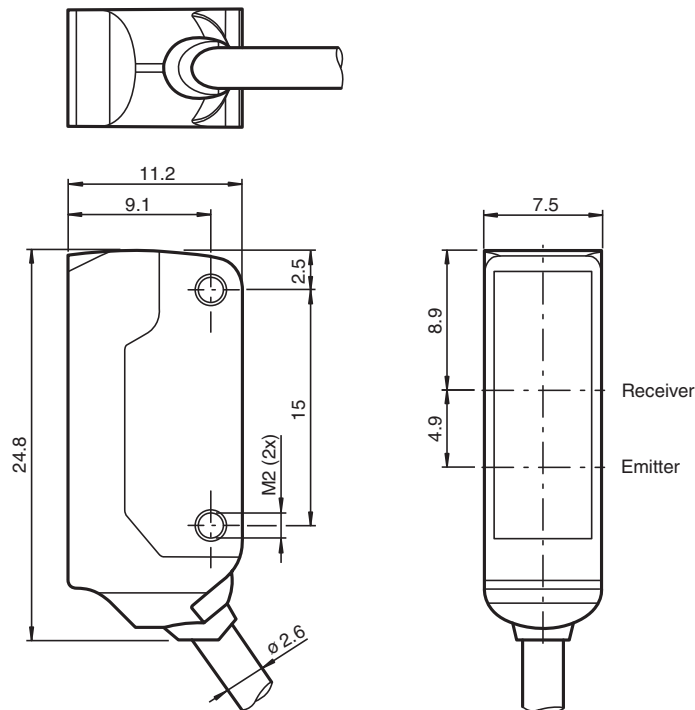
Triangulation sensor with background suppression for standard applications, miniature design, 60 mm adjustable sensing range, red light, light on, PNP output, 200 fixed cable with plug M8, 4-pin



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 ... 60 mm |
| Detection range min. | 1 ... 15 mm |
| Detection range max. | 1 ... 60 mm |
| Adjustment range | 15 ... 60 mm |

Release date: 2024-07-26 Date of issue: 2024-07-26 Filename: 70133993_eng.pdf

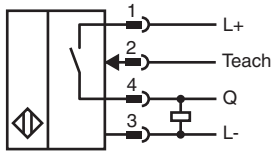
Technical Data

| | | |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Reference target | standard white, 100 mm x 100 mm | |
| Light source | LED | |
| Light type | modulated visible red light | |
| LED risk group labelling | exempt group | |
| Black-white difference (6 %/90 %) | < 5 % at 60 mm | |
| Diameter of the light spot | approx. 6 mm at a distance of 60 mm | |
| Opening angle | approx. 6 ° | |
| Optical face | frontal | |
| Ambient light limit | EN 60947-5-2 : 5000 Lux | |
| Functional safety related parameters | | |
| MTTF _d | 764 a | |
| Mission Time (T _M) | 20 a | |
| Diagnostic Coverage (DC) | 0 % | |
| Indicators/operating means | | |
| Operation indicator | LED green: Power on flashing (approx. 4 Hz) Short circuit/overload indication | |
| Function indicator | LED yellow ON: lights when object is detected Start teach in: LED green/yellow in-phase flashing 2.5 Hz End teach in: LED green/yellow alternate flashing 2.5 Hz | |
| Electrical specifications | | |
| Operating voltage | U _B | 12 ... 24 V DC , class 2 |
| No-load supply current | I ₀ | < 25 mA |
| Protection class | III | |
| Input | | |
| Control input | external Teach-In | |
| Output | | |
| Switching type | PNP normally open / light on | |
| Signal output | 1 PNP output, short-circuit protected, reverse polarity protected, open collector | |
| Switching voltage | max. 24 V DC | |
| Switching current | max. 50 mA , resistive load | |
| Voltage drop | U _d | ≤ 1.5 V DC |
| Switching frequency | f | approx. 500 Hz |
| Response time | 1000 μs | |
| Conformity | | |
| Product standard | EN 60947-5-2 | |
| Approvals and certificates | | |
| UL approval | E87056 , cURus Recognized Class 2 power source | |
| CCC approval | CCC approval / marking not required for products rated ≤36 V | |
| Ambient conditions | | |
| Ambient temperature | -25 ... 55 °C (-13 ... 131 °F) | |
| Storage temperature | -30 ... 70 °C (-22 ... 158 °F) | |
| Mechanical specifications | | |
| Degree of protection | IP67 | |
| Connection | 200 mm fixed cable with 4-pin, M8x1 connector | |
| Material | | |
| Housing | PC/ABS and TPU | |
| Optical face | Plastic | |
| Cable | PUR | |
| Installation | Fixing screws , 2 x M2 allen head screws included with delivery | |
| Mass | approx. 9 g | |
| Dimensions | | |
| Height | 24 mm | |
| Width | 7.5 mm | |
| Depth | 11.2 mm | |

Technical Data

| | |
|--------------|--------|
| Cable length | 200 mm |
|--------------|--------|

Connection



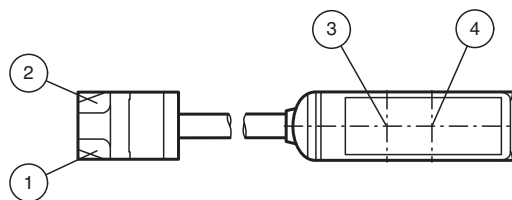
Connection Assignment



Wire colors in accordance with EN 60947-5-2

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

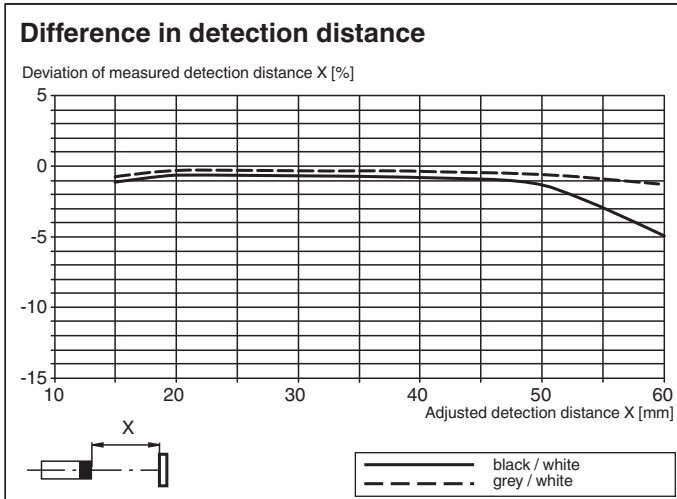
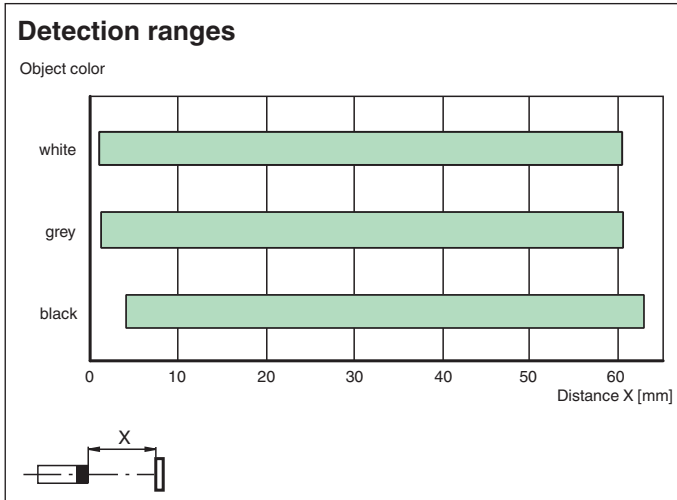
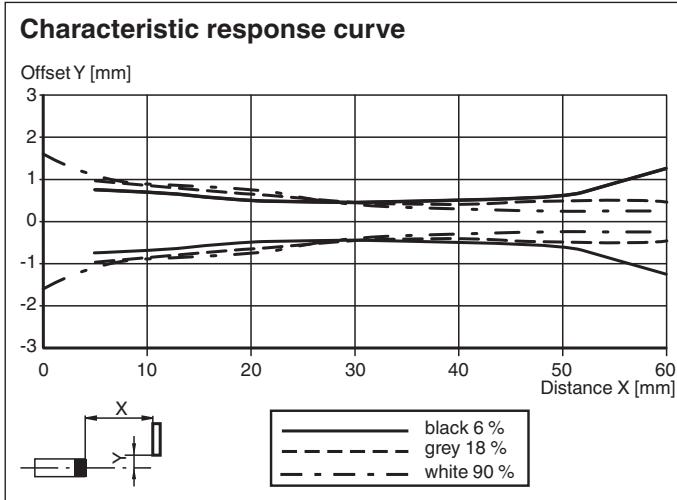
Indication



| | | |
|---|---------------------|--------|
| 1 | Operation indicator | green |
| 2 | Signal indicator | yellow |
| 3 | Emitter | |
| 4 | Receiver | |

Release date: 2024-07-26 Date of issue: 2024-07-26 Filename: 70133993_eng.pdf

Characteristic Curve



Release date: 2024-07-26 Date of issue: 2024-07-26 Filename: 70133993_eng.pdf