



Model Number

OBT80-R3-E2-0,2M-V31

Triangulation sensor (BGS)
with fixed cable and 4-pin, M8 connector

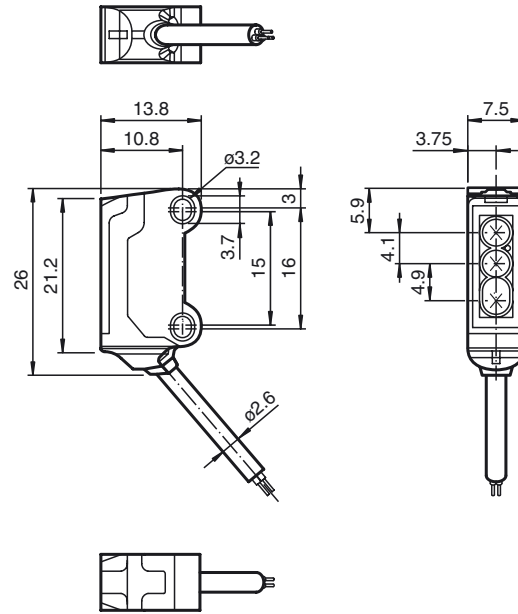
Features

- 45° cable outlet for maximum mounting freedom under extremely tight space constraints
- Improvement in machine availability with abrasion-resistant, antistatic glass front
- Highly visible light spot, even on dark materials
- Precision object detection, almost irrespective of the color
- Extremely long detection range paves the way for new applications

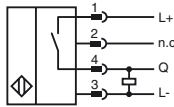
Product information

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. The abrasion-resistant lens allows long operating times close to the moving object.

Dimensions



Electrical connection



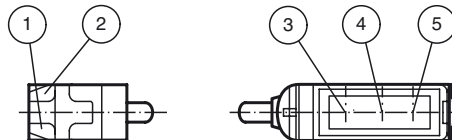
Pinout



Wire colors in accordance with EN 60947-5-2

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

Indicators/operating means



| | | |
|---|-------------------|--------|
| 1 | Operating display | green |
| 2 | Signal display | yellow |
| 3 | Emitter | |
| 4 | Receiver 1 | |
| 5 | Receiver 2 | |

Release date: 2019-08-29 08:43 Date of issue: 2019-08-29 269716_eng.xml

Technical data**General specifications**

| | |
|-----------------------------------|--------------------------------------|
| Detection range | 15 ... 80 mm |
| Reference target | standard black, 100 mm x 100 mm |
| Light source | LED |
| Light type | modulated visible red light , 630 nm |
| Black/White difference (6 %/90 %) | < 20 % |
| Angle deviation | approx. 2 ° |
| Diameter of the light spot | approx. 5 mm at a distance of 80 mm |
| Angle of divergence | 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, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz) |
| 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 | NO contact | |
| 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 _d | ≤ 1.5 V DC |
| Switching frequency | f | approx. 800 Hz |
| Response time | | 600 μs |

Conformity

| | |
|------------------|--------------|
| Product standard | EN 60947-5-2 |
|------------------|--------------|

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 | 200 mm fixed cable with 4-pin, M8x1 connector |
| Material | |
| Housing | PC/ABS and TPU |
| Optical face | glass |
| Cable | PUR |
| Mass | approx. 20 g |
| Cable length | 200 mm |

Approvals and certificates

| | |
|--------------|--|
| UL approval | E87056 , cULus Recognized, Class 2 Power Source |
| CCC approval | CCC approval / marking not required for products rated ≤36 V |

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

V31-GM-2M-PUR

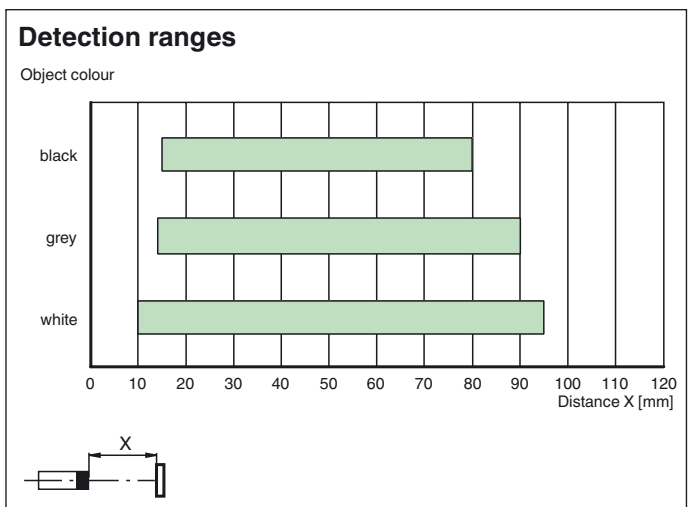
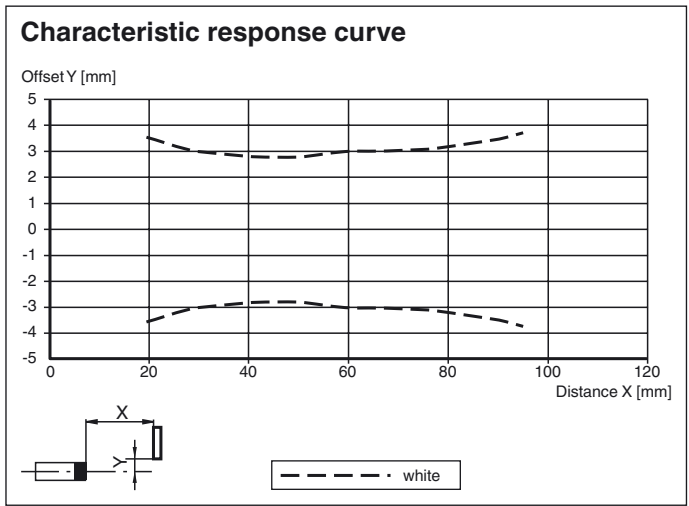
Female cordset single-ended, M8, 4-pin, PUR cable

V31-WM-2M-PUR

Female cordset single-ended, M8, 4-pin, PUR cable

Other suitable accessories can be found at www.pepperl-fuchs.com

Curves/Diagrams



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