



Model Number

OBT80-R102-2P1-IO-V31-IR

Triangulation sensor (BGS)
M8 connector, 4-pin

Features

- Miniature design with versatile mounting options
- Best background suppressor in its class
- Precision object detection, almost irrespective of the color
- Extended temperature range -40°C ... 60°C
- High degree of protection IP69K
- IO-link interface for service and process data

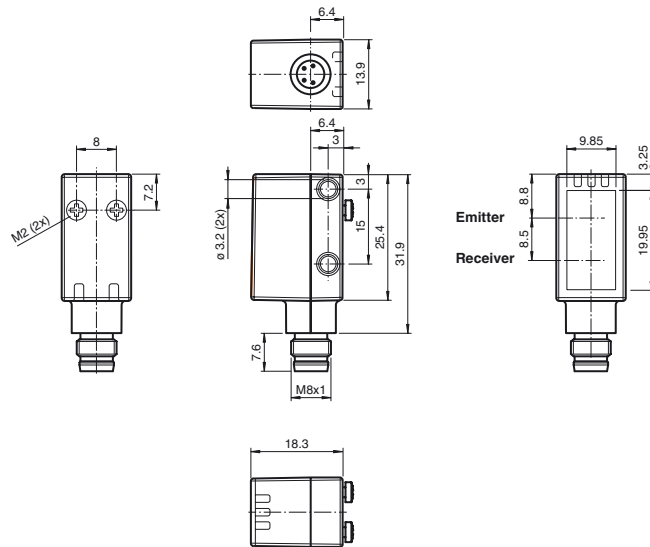
Product information

The miniature optical sensors are the first devices of their kind to offer an end-to- end solution in a small single standard design — from thru-beam sensor through to a distance measurement device. As a result of this design, the sensors are able to perform practically all standard automation tasks.

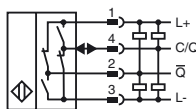
The DuraBeam laser sensors are durable and can be used in the same way as a standard sensor.

The use of Multi Pixel Technology gives the standard sensors a high level of flexibility and enables them to adapt more effectively to their operating environment.

Dimensions



Electrical connection



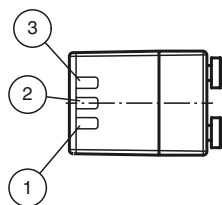
Pinout



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 indicator / dark on |
| 2 | Signal indicator |
| 3 | Operating indicator / light on |

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

Technical data**General specifications**

| | |
|---------------------------------|---------------------------------|
| Detection range | 10 ... 80 mm |
| Detection range max. | 10 ... 100 mm |
| Background suppression | starts from 100 mm |
| Reference target | standard white, 100 mm x 100 mm |
| Light source | LED |
| Light type | modulated infrared light 850 nm |
| LED risk group labelling | exempt group |
| Black/White difference (6%/90%) | approx. 5 mm |
| Diameter of the light spot | approx. 6 mm at 80 mm |
| Angle of divergence | approx. 5 ° |
| Ambient light limit | EN 60947-5-2 : 40000 Lux |

Functional safety related parameters

| | |
|--------------------------------|-------|
| MTTF _d | 600 a |
| Mission Time (T _M) | 20 a |
| Diagnostic Coverage (DC) | 0 % |

Indicators/operating means

| | |
|---------------------|---|
| Operation indicator | LED green: constantly on - power on flashing (4Hz) - short circuit flashing with short break (1 Hz) - IO-Link mode |
| Function indicator | LED yellow: constantly on - object detected constantly off - object not detected |

Electrical specifications

| | | |
|------------------------|----------------|--------------------------------|
| Operating voltage | U _B | 10 ... 30 V DC |
| Ripple | | max. 10 % |
| No-load supply current | I ₀ | < 25 mA at 24 V supply voltage |
| Protection class | | III |

Interface

| | |
|-----------------------------|---|
| Interface type | IO-Link (via C/Q = BK) |
| Device profile | Smart Sensor |
| Transfer rate | COM 2 (38.4 kBaud) |
| IO-Link Revision | 1.1 |
| Min. cycle time | 2.3 ms |
| Process data width | Process data input 1 Bit Process data output 2 Bit |
| SIO mode support | yes |
| Device ID | 0x11051C (1115420) |
| Compatible master port type | A |

Output

| | | |
|---------------------|--|------------|
| Switching type | C/Q - Pin4: NPN normally closed / dark-on, PNP normally open / light-on, IO-Link /Q - Pin2: NPN normally open / light-on, PNP normally closed / dark-on | |
| Signal output | 2 push-pull (4 in 1) outputs, short-circuit protected, reverse polarity protected, overvoltage protected | |
| Switching voltage | max. 30 V DC | |
| Switching current | max. 100 mA , resistive load | |
| Usage category | DC-12 and DC-13 | |
| Voltage drop | U _d | ≤ 1.5 V DC |
| Switching frequency | f | 500 Hz |
| Response time | | 1 ms |

Conformity

| | |
|-------------------------|--------------|
| Communication interface | IEC 61131-9 |
| Product standard | EN 60947-5-2 |

Ambient conditions

| | |
|---------------------|--------------------------------|
| Ambient temperature | -40 ... 60 °C (-40 ... 140 °F) |
| Storage temperature | -40 ... 70 °C (-40 ... 158 °F) |

Mechanical specifications

| | |
|----------------------|-------------------------|
| Housing width | 13.9 mm |
| Housing height | 31.9 mm |
| Housing depth | 18.3 mm |
| Degree of protection | IP67 / IP69 / IP69K |
| Connection | M8 x 1 connector, 4-pin |
| Material | |
| Housing | PC (Polycarbonate) |
| Optical face | Float glass |
| Mass | approx. 10 g |

Approvals and certificates

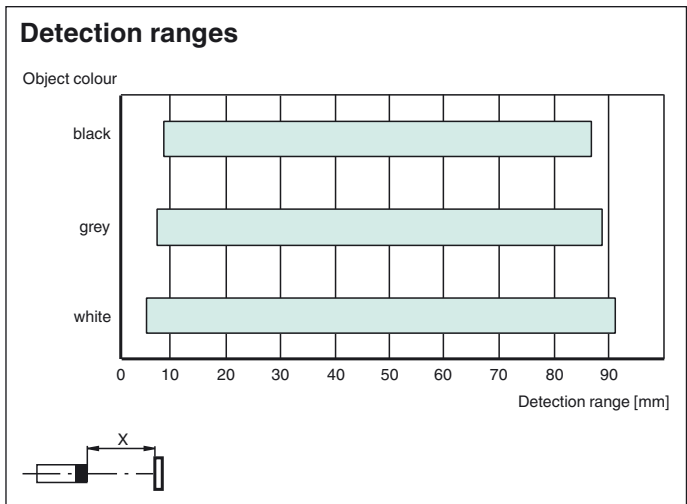
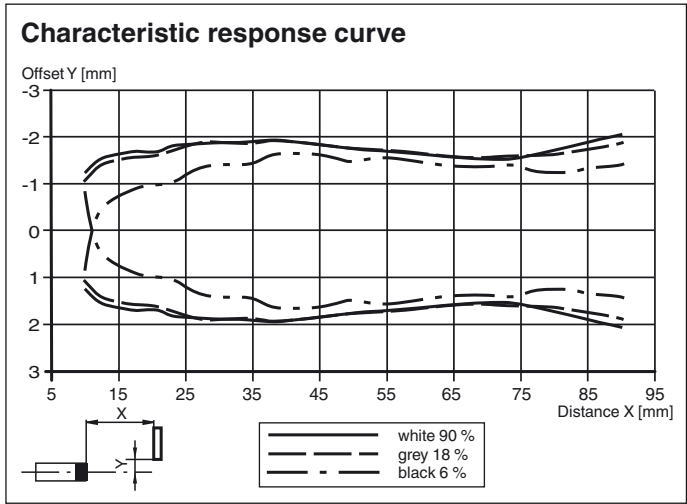
| | |
|-------------|--|
| UL approval | E87056 , cULus Listed , class 2 power supply , type rating 1 |
|-------------|--|

Accessories**IO-Link-Master02-USB**

IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection

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

Curves/Diagrams



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Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 4411
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com