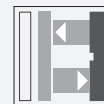




## Triangulation sensor (BGS) OBT80-R102-2P1-IO-IR



- 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

Triangulation sensor with background suppression



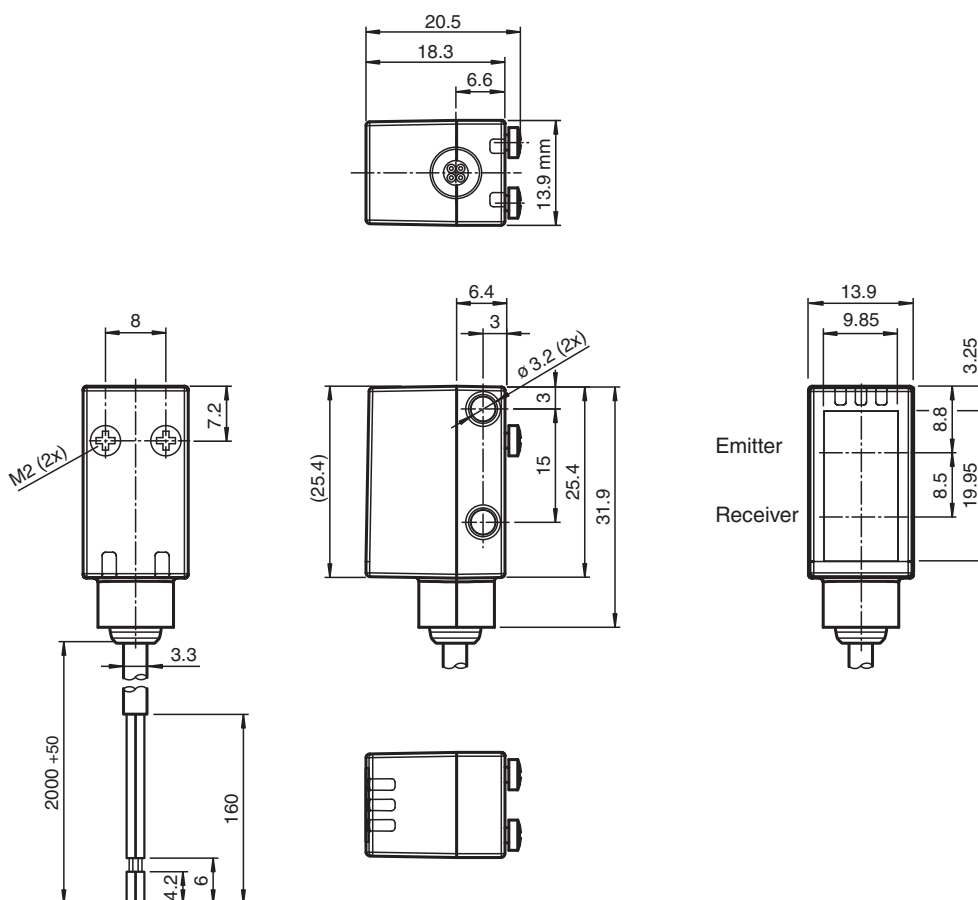
### Function

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



Release date: 2025-01-30 Date of issue: 2025-01-30 Filename: 267075-100578\_eng.pdf

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

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**PEPPERL+FUCHS**

## Technical Data

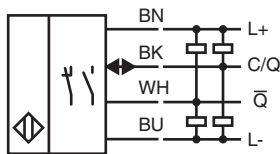
<b>General specifications</b>		
Detection range		10 ... 80 mm
Detection range max.		10 ... 100 mm
Background suppression		starts from 100 mm
Reference target		standard white, 100 mm x 100 mm
Light source		LED
Light type		modulated infrared light 850 nm
LED risk group labelling		exempt group
Black-white difference (6 %/90 %)		approx. 5 mm
Diameter of the light spot		approx. 6 mm at 80 mm
Opening angle		approx. 5 °
Ambient light limit		EN 60947-5-2 : 40000 Lux
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		600 a
Mission Time (T <sub>M</sub> )		20 a
Diagnostic Coverage (DC)		0 %
<b>Indicators/operating means</b>		
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
<b>Electrical specifications</b>		
Operating voltage	U <sub>B</sub>	10 ... 30 V DC
Ripple		max. 10 %
No-load supply current	I <sub>0</sub>	< 25 mA at 24 V supply voltage
Protection class		III
<b>Interface</b>		
Interface type		IO-Link ( via C/Q = BK )
IO-Link revision		1.1
Device profile		Smart Sensor
Device ID		0x11051C (1115420)
Transfer rate		COM2 (38.4 kBit/s)
Min. cycle time		2.3 ms
Process data width		Process data input 1 Bit Process data output 2 Bit
SIO mode support		yes
Compatible master port type		A
<b>Output</b>		
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 <sub>d</sub>	≤ 1.5 V DC
Switching frequency	f	500 Hz
Response time		1 ms
<b>Conformity</b>		
Communication interface		IEC 61131-9
Product standard		EN 60947-5-2
<b>Approvals and certificates</b>		

Release date: 2025-01-30 Date of issue: 2025-01-30 Filename: 267075-100578\_eng.pdf

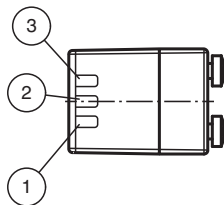
Technical Data

UL approval		E87056 , cULus Listed , class 2 power supply , type rating 1
<b>Ambient conditions</b>		
Ambient temperature		-40 ... 60 °C (-40 ... 140 °F) , cable, fixed installation -25 ... 60 °C (-13 ... 140 °F) , movable cable not appropriate for conveyor chains
Storage temperature		-40 ... 70 °C (-40 ... 158 °F)
<b>Mechanical specifications</b>		
Degree of protection		IP67 / IP69 / IP69K
Connection		2 m fixed cable
Material		
Housing		PC (Polycarbonate)
Optical face		Float glass
Mass		approx. 36 g
Dimensions		
Height		31.9 mm
Width		13.9 mm
Depth		18.3 mm
Cable length		2 m

Connection

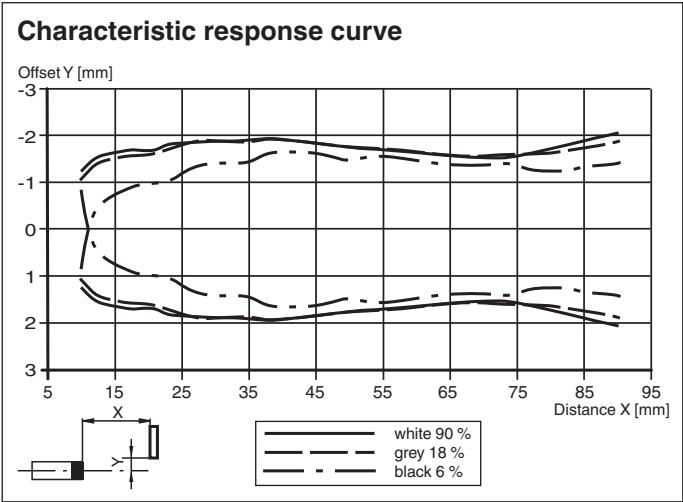


Assembly



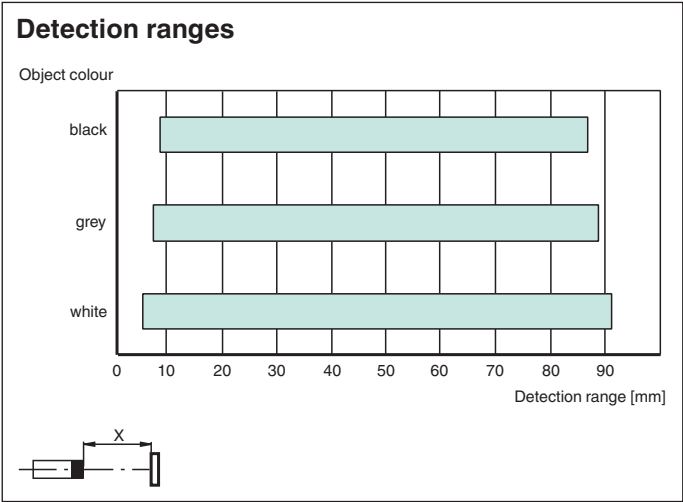
1	Operating indicator / dark on
2	Signal indicator
3	Operating indicator / light on

Characteristic Curve



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Characteristic Curve



Release date: 2025-01-30 Date of issue: 2025-01-30 Filename: 267075-100578\_eng.pdf