



**Model Number**

**OBG5000-R101-2P1-IO-V31**

Retroreflective sensor (glass)  
with 4-pin, M8 x 1 connector

**Features**

- Miniature design with versatile mounting options
- Detects transparent objects, i.e., clear glass, PET and transparent films
- Two machines in one: clear object detection or reflection operating mode with long range
- High degree of protection IP69K
- IO-link interface for service and process data

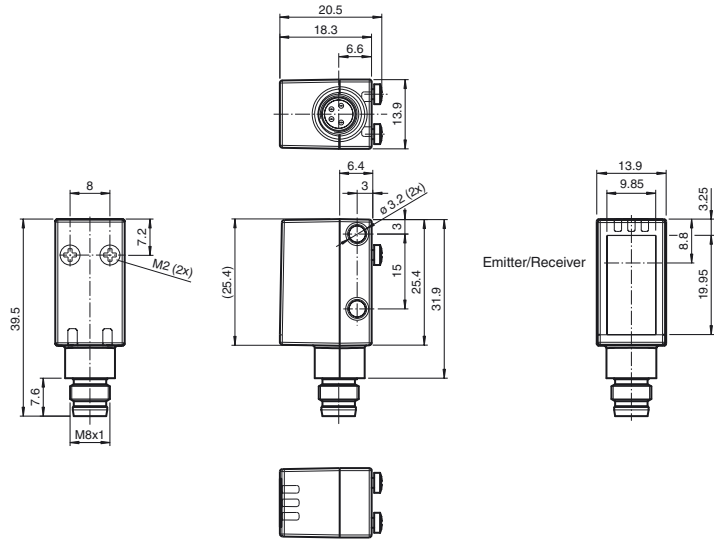
**Product information**

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.

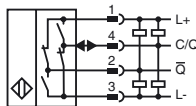
The DuraBeam laser sensors are durable and can be used in the same way as a standard sensor.

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**



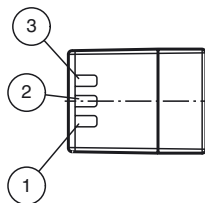
**Pinout**



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

Release date: 2019-01-03 10:59 Date of issue: 2019-01-03 267075-100520\_eng.xml

**Technical data****General specifications**

Effective detection range	0 ... 5 m
Reflector distance	0 ... 5 m
Threshold detection range	6 m
Reference target	H85-2 reflector
Light source	LED
Light type	modulated visible red light
LED risk group labelling	exempt group
Diameter of the light spot	approx. 170 mm at a distance of 3.5 m
Angle of divergence	approx. 5 °
Ambient light limit	EN 60947-5-2

**Functional safety related parameters**

MTTF <sub>d</sub>	600 a
Mission Time (T <sub>M</sub> )	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	Yellow LED: Permanently lit - light path clear Permanently off - object detected Flashing (4 Hz) - insufficient operating reserve

**Electrical specifications**

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

**Interface**

Interface type	IO-Link ( via C/Q = pin 4 )
Transfer rate	COM 2 (38.4 kbaud)
IO-Link Revision	1.1
Min. cycle time	2.3 ms
Process data width	Process data input 2 Bit Process data output 2 Bit
SIO mode support	yes
Device ID	0x110A09 (1116681)
Compatible master port type	A

**Output**

Switching type	The switching type of the sensor is adjustable. The default setting is: C/Q - Pin4: NPN normally closed / light-on, PNP normally open / dark-on, IO-Link /Q - Pin2: NPN normally open / dark-on, PNP normally closed / light-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

**Conformity**

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

**Ambient conditions**

Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Storage temperature	-40 ... 70 °C (-40 ... 158 °F)

**Mechanical specifications**

Housing width	13.9 mm
Housing height	39.5 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	PMMA
Mass	approx. 10 g

**Approvals and certificates**

UL approval	E87056 , cULus Listed , class 2 power supply , type rating 1
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**Accessories****IO-Link-Master02-USB**

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

**OMH-R101**

Mounting Clamp

**OMH-R101-Front**

Mounting Clamp

**OMH-4.1**

Mounting Clamp

**OMH-ML6**

Mounting bracket

**OMH-ML6-U**

Mounting bracket

**OMH-ML6-Z**

Mounting bracket

**OFR-100/100**

Reflective tape 100 mm x 100 mm

**REF-H33**

Reflector with screw fixing

**REF-H50**

Reflector, rectangular 51 mm x 61 mm, mounting holes, fixing strap

**REF-H85-2**

Reflector, rectangular 84.5 mm x 84.5 mm, mounting holes

**REF-H32G-2****REF-ORR50G-2****V31-GM-2M-PUR**

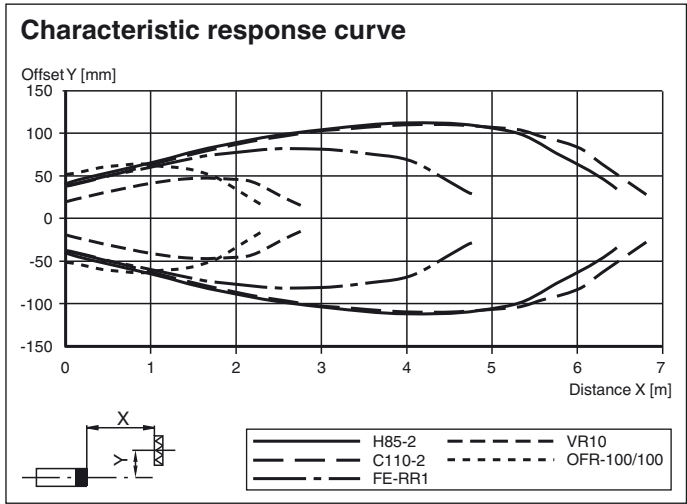
Female cordset, M8, 4-pin, PUR cable

**V31-WM-2M-PUR**

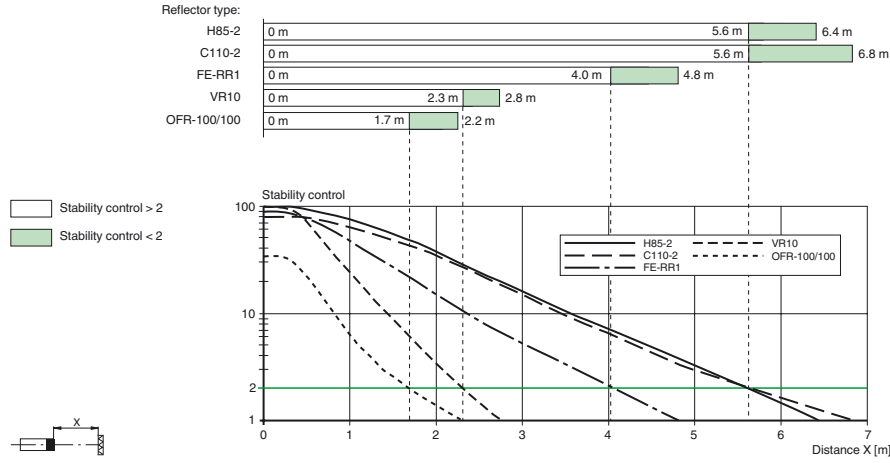
Female cordset, M8, 4-pin, PUR cable

Other suitable accessories can be found at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

Curves/Diagrams



Relative received light strength



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

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