



## Retroreflective sensor (glass)

### OBG5000-R101-2P1-IO-V31



- 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

Retroreflective sensor with polarization filter for clear object detection



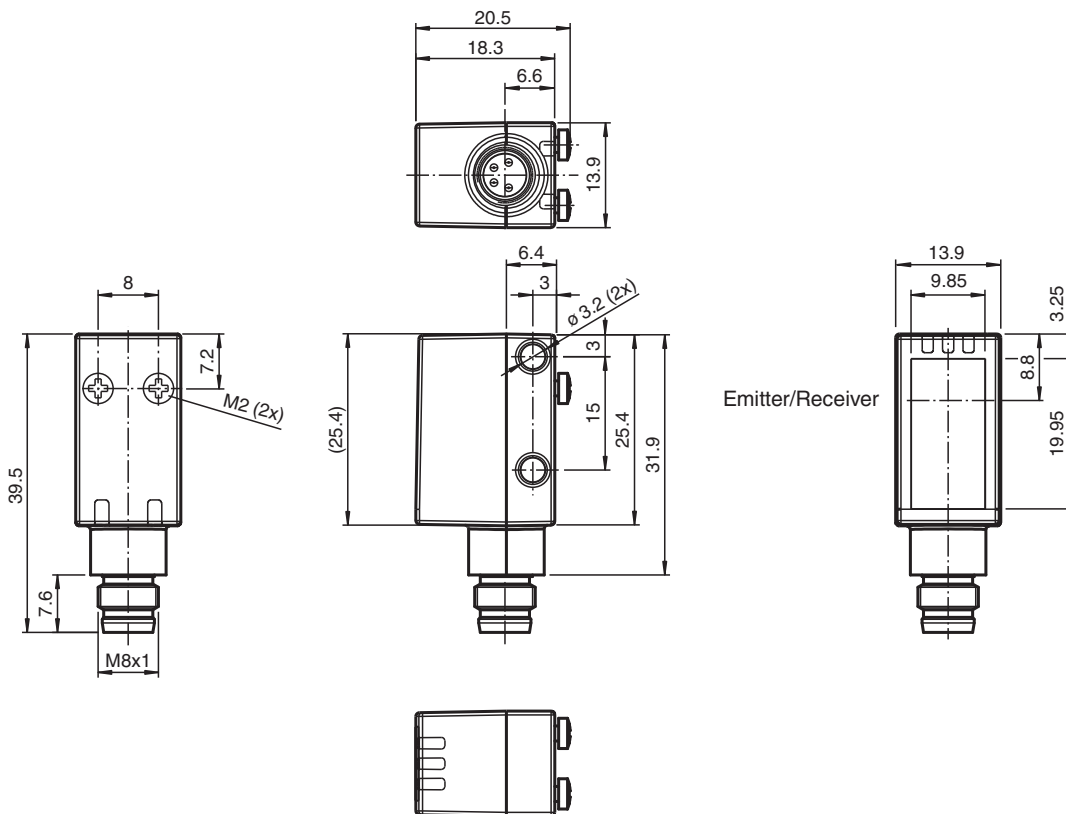
### Function

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



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

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## 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
Opening angle		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 )
IO-Link revision		1.1
Device ID		0x110A09 (1116681)
Transfer rate		COM2 (38.4 kBit/s)
Min. cycle time		2.3 ms
Process data width		Process data input 2 Bit Process data output 2 Bit
SIO mode support		yes
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
Approvals and certificates		
UL approval		E87056 , cULus Listed , class 2 power supply , type rating 1
Ambient conditions		

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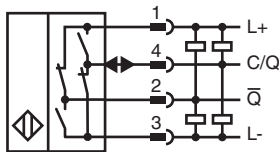
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## Technical Data

Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Storage temperature	-40 ... 70 °C (-40 ... 158 °F)
<b>Mechanical specifications</b>	
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
<b>Material</b>	
Housing	PC (Polycarbonate)
Optical face	PMMA
Mass	approx. 10 g

## Connection



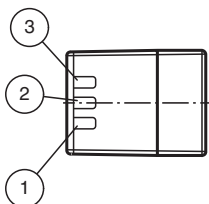
## Connection Assignment



Wire colors in accordance with EN 60947-5-2

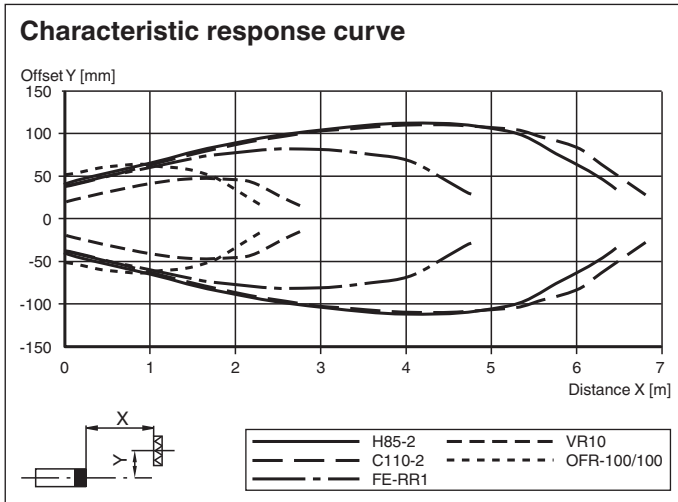
1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

## Assembly



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

**Characteristic Curve**



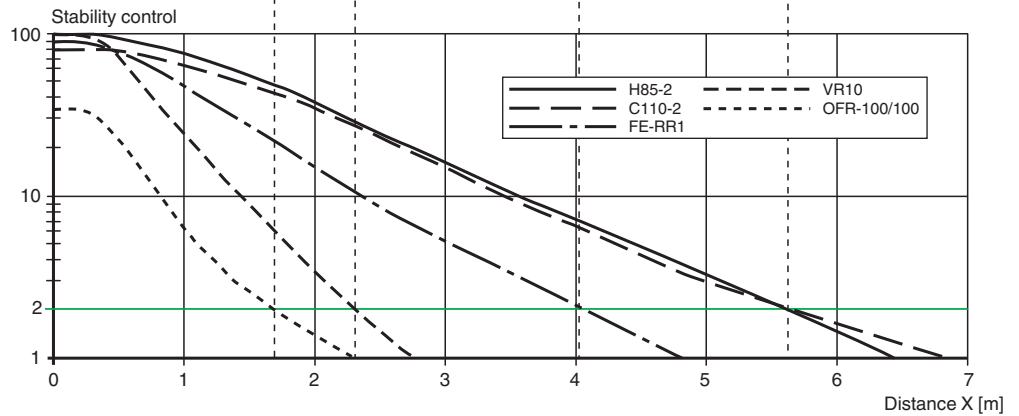
**Relative received light strength**

Reflector type:

H85-2	0 m	5.6 m	6.4 m
C110-2	0 m	5.6 m	6.8 m
FE-RR1	0 m	4.0 m	4.8 m
VR10	0 m	2.3 m	2.8 m
OFR-100/100	0 m	1.7 m	2.2 m

□ Stability control > 2

■ Stability control < 2



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