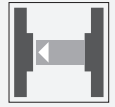




## Thru-beam sensor (pair) OBE1000-R2-SE2-0,2M-V3-L



- Ultra-small housing design
- DuraBeam Laser Sensors - durable and employable like an LED
- 45° cable outlet for maximum mounting freedom under extremely tight space constraints
- Improvement in machine availability with abrasion-resistant, antistatic glass front

Laser thru-beam sensor, ultra-small design with M2 mounting, 1000 mm detection range, PNP output, 200 mm fixed cable with plug M8, 3-pin



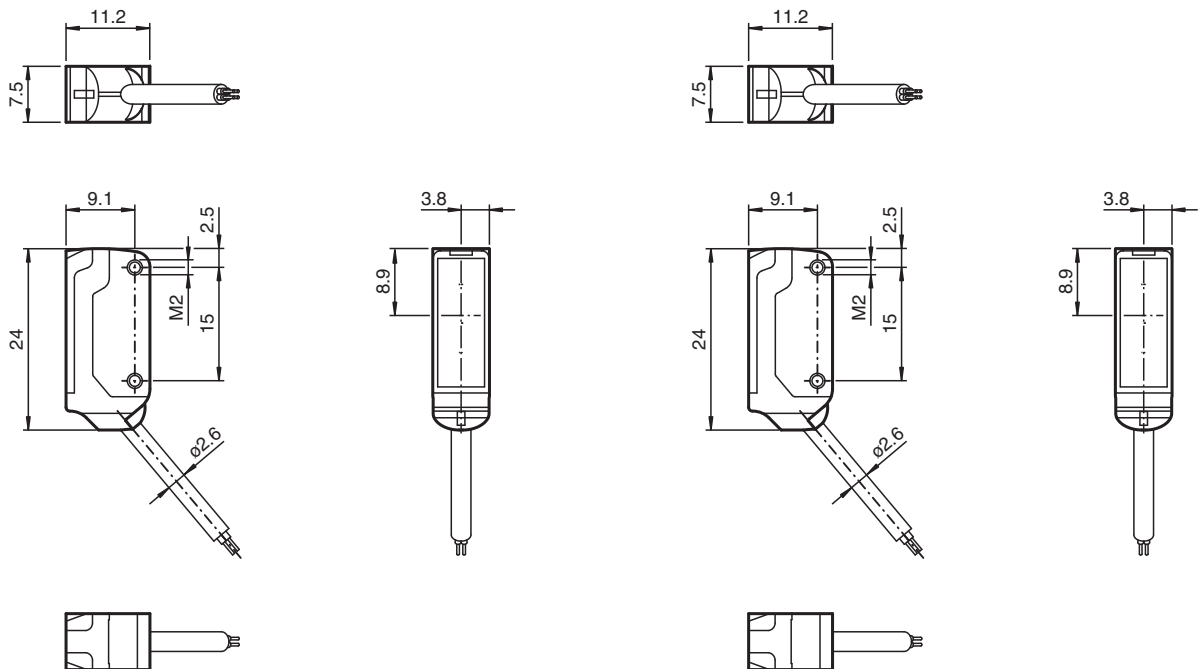
### Function

The R2 series 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 DuraBeam laser sensors are durable and can be used in the same way as a standard sensor.

### Dimensions

Transmitter

Receiver



Release date: 2022-06-27 Date of issue: 2022-06-27 Filename: 282040\_eng.pdf

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

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

Germany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.com

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

**PF** PEPPERL+FUCHS

## Technical Data

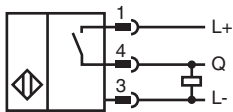
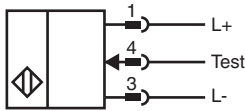
<b>System components</b>			
Emitter		OBE10M-R2-0,2M-V3-L	
Receiver		OBE1000-R2-E2-0,2M-V3-L	
<b>General specifications</b>			
Effective detection range		0 ... 1 m	
Threshold detection range		1.5 m	
Light source		laser diode	
Light type		modulated visible red light , 680 nm	
Laser nominal ratings			
Note		LASER LIGHT , DO NOT STARE INTO BEAM	
Laser class		1	
Wave length		680 nm	
Beam divergence		> 5 mrad	
Pulse length		approx. 2 $\mu$ s	
Repetition rate		approx. 16.6 kHz	
max. pulse energy		9.5 nJ	
Diameter of the light spot		approx. 3 mm at a distance of 1000 mm	
Opening angle		approx. 0.5 °	
Optical face		frontal	
Ambient light limit		EN 60947-5-2 : 30000 Lux	
<b>Functional safety related parameters</b>			
MTTF <sub>d</sub>		806 a	
Mission Time (T <sub>M</sub> )		20 a	
Diagnostic Coverage (DC)		0 %	
<b>Indicators/operating means</b>			
Operation indicator		LED green, statically lit Power on , short-circuit : LED green flashing (approx. 4 Hz)	
Function indicator		Receiver: LED yellow, lights up when light beam is free, flashes when falling short of the stability control ; OFF when light beam is interrupted	
<b>Electrical specifications</b>			
Operating voltage	U <sub>B</sub>	12 ... 24 V	
No-load supply current	I <sub>0</sub>	Emitter: $\leq$ 10 mA Receiver: $\leq$ 8 mA	
Protection class		III	
<b>Input</b>			
Test input		Test of switching function at 0 V	
<b>Output</b>			
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 <sub>d</sub>	$\leq$ 1.5 V DC	
Switching frequency	f	approx. 2 kHz	
Response time		250 $\mu$ s	
<b>Conformity</b>			
Product standard		EN 60947-5-2	
Laser safety		EN 60825-1:2007	
<b>Approvals and certificates</b>			
EAC conformity		TR CU 020/2011	
UL approval		E87056 , cULus Recognized, Class 2 Power Source	
CCC approval		CCC approval / marking not required for products rated $\leq$ 36 V	
FDA approval		IEC 60825-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007	
<b>Ambient conditions</b>			
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)	

Release date: 2022-06-27 Date of issue: 2022-06-27 Filename: 282040\_eng.pdf






## Technical Data

Storage temperature	-30 ... 70 °C (-22 ... 158 °F)
<b>Mechanical specifications</b>	
Housing width	7.5 mm
Housing height	24 mm
Housing depth	11.2 mm
Degree of protection	IP67
Connection	200 mm fixed cable with 3-pin, M8 x 1 connector
Material	
Housing	PC/ABS and TPU
Optical face	glass
Cable	PUR
Installation	Fixing screws , 2 x M2 allen head screws included with delivery
Mass	approx. 10 g per sensor
Cable length	200 mm

## Connection



## Accessories

	<b>V3-WM-2M-PUR</b>	Female cordset single-ended M8 angled A-coded, 3-pin, PUR cable grey
	<b>MH-R2-01</b>	Mounting aid for R2 series, Mounting bracket
	<b>MH-R2-02</b>	Mounting aid for R2 series, Mounting bracket
	<b>MH-R2-03</b>	Mounting aid for R2 series, Mounting bracket
	<b>MH-R2-04</b>	Mounting aid for R2 series, Mounting bracket

Release date: 2022-06-27 Date of issue: 2022-06-27 Filename: 282040\_eng.pdf