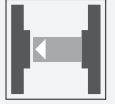




## Thru-beam sensor (pair)

### 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



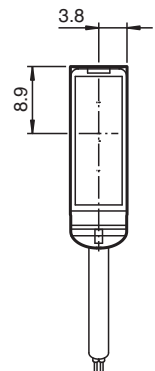
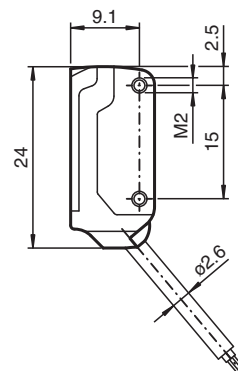
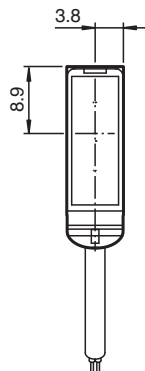
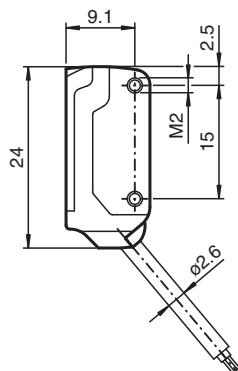
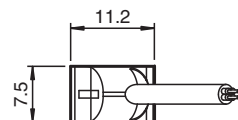
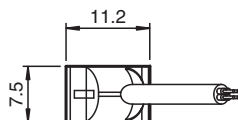
### Function

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



## Technical Data

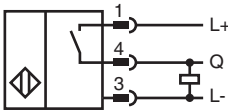
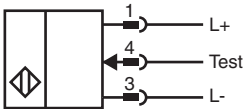
<b>System components</b>		
Emitter		OBE10M-R2-0,2M-V3-L
Receiver		OBE1000-R2-E2-0,2M-V3-L
<b>General specifications</b>		
Effective detection range		0 ... 1 m
Threshold detection range		1.5 m
Light source		laser diode
Light type		modulated visible red light , 680 nm
Laser nominal ratings		
Note		LASER LIGHT , DO NOT STARE INTO BEAM
Laser class		1
Wave length		680 nm
Beam divergence		> 5 mrad
Pulse length		approx. 2 µs
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: ≤ 10 mA Receiver: ≤ 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>	≤ 1.5 V DC
Switching frequency	f	approx. 2 kHz
Response time		250 µs
<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 ≤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)

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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

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