



## Thru-beam sensor (pair) OBE2000-R3-SP1-0,2M-V3-P



- 45° cable outlet for maximum mounting freedom under extremely tight space constraints
- Long sensor range with high power mode

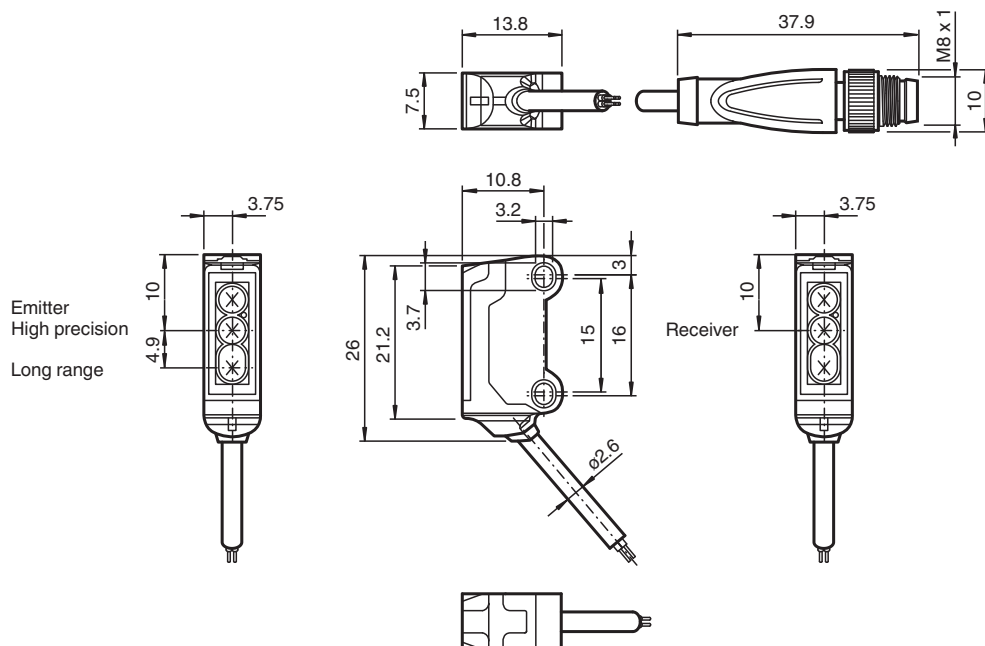
Thru-beam sensor for standard applications, miniature design, 2000 mm detection range, red light, push-pull output, 200 mm fixed cable with plug M8, 3-pin



### Function

The 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.

### Dimensions



### Technical Data

#### System components

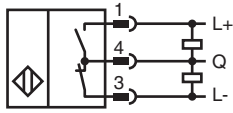
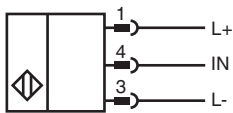
Emitter	OBE2000-R3-S-0,2M-V3-P
Receiver	OBE2000-R3-P1-0,2M-V3-P

#### General specifications

## Technical Data

Effective detection range		Long range mode: 0 ... 2 m High precision mode: 0 ... 200 mm
Threshold detection range		Long range mode: 2.5 m High precision mode: 300 mm
Light source		LED
Light type		modulated visible red light , 630 nm
Angle deviation		approx. 2 °
Diameter of the light spot		Long range mode: 150 mm at a distance of 2000 mm High precision mode: 0.5 mm at a distance of 50 mm
Opening angle		approx. 2 °
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 operating reserve ; OFF when light beam is interrupted
<b>Electrical specifications</b>		
Operating voltage	U <sub>B</sub>	10 ... 30 V DC , class 2
No-load supply current	I <sub>0</sub>	Emitter: ≤ 11 mA Receiver: ≤ 8 mA
<b>Input</b>		
Control input		Emitter selection BK: not connected, Long Range mode BK: 0 V, High Precision Mode
<b>Output</b>		
Switching type		The default setting is: PNP normally-open/dark-on ; NPN normally-closed/light-on
Signal output		Push-pull output, short-circuit protected, reverse polarity protected
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. 800 Hz
Response time		600 μs
<b>Conformity</b>		
Product standard		EN 60947-5-2
<b>Approvals and certificates</b>		
UL approval		cULus Recognized, Class 2 Power Source
CCC approval		CCC approval / marking not required for products rated ≤36 V
<b>Ambient conditions</b>		
Ambient temperature		-25 ... 60 °C (-13 ... 140 °F)
Storage temperature		-30 ... 70 °C (-22 ... 158 °F)
<b>Mechanical specifications</b>		
Housing width		7.5 mm
Housing height		26 mm
Housing depth		13.8 mm
Degree of protection		IP67
Connection		200 mm fixed cable with 3-pin, M8 x 1 connector
<b>Material</b>		
Housing		PC/ABS and TPU
Optical face		PC
Cable		PUR
Mass		approx. 20 g per sensor
Cable length		200 mm

**Connection Assignment**



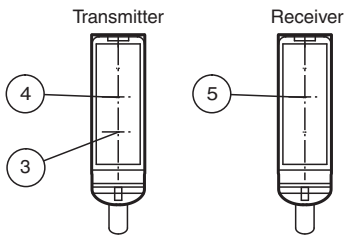
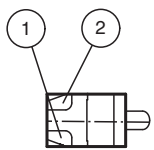
**Connection Assignment**



Wire colors in accordance with EN 60947-5-2

- 1 | BN (brown)
- 3 | BU (blue)
- 4 | BK (black)

**Assembly**

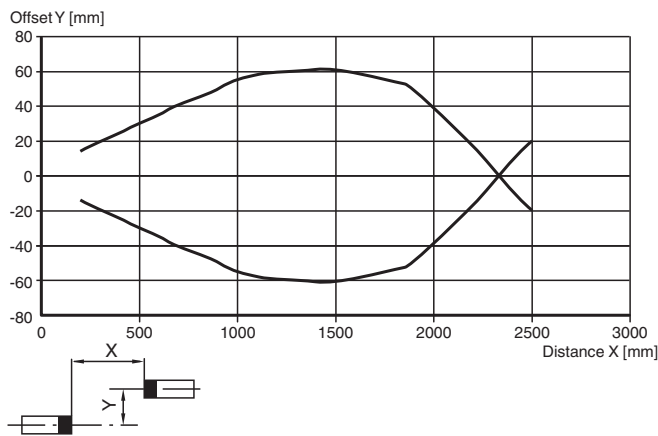


1	Operating display	green
2	Signal display	yellow
3	Emitter long range	
4	Emitter high precision	
5	Receiver	

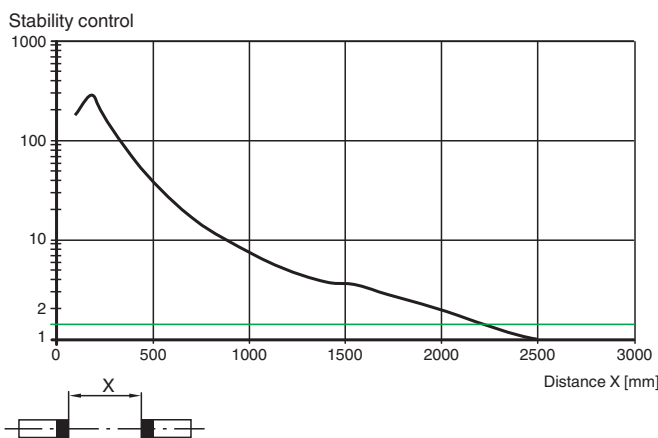
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**Characteristic Curve**

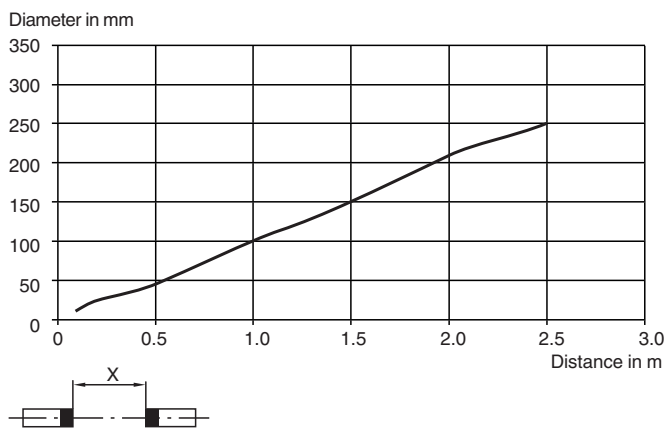
**Characteristic response curve Long Range Modus**



**Relative received light strength Long Range Modus**



**Light spot diameter Long Range Modus**



**Accessories**

	<p><b>V3-WM-2M-PUR</b></p>	<p>Female cordset single-ended M8 angled A-coded, 3-pin, PUR cable grey</p>
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