

Model Number

OBE2000-R3-SE2-0,2M-V3

Thru-beam sensor
with fixed cable and 3-pin, M8 connector

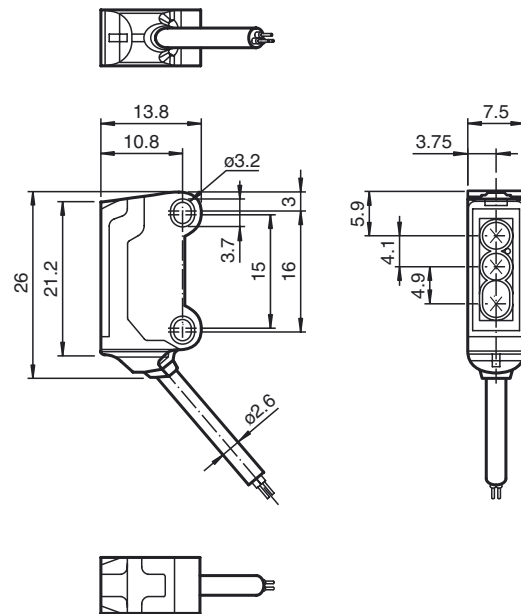
Features

- 45° cable outlet for maximum mounting freedom under extremely tight space constraints
- Improvement in machine availability with abrasion-resistant, antistatic glass front
- Long sensor range with high power mode

Product information

The R3 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 abrasion-resistant lens allows long operating times close to the moving object.

Dimensions



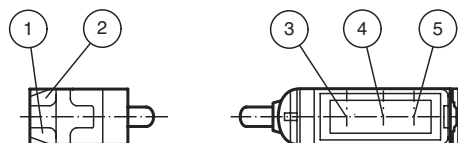
Electrical connection



Pinout



Indicators/operating means



1	Operating display	green
2	Signal display	yellow
3	Emitter	
4	Receiver 1	
5	Receiver 2	

Technical data

System components

Emitter	OBE2000-R3-0,2M-V3
Receiver	OBE2000-R3-E2-0,2M-V3

General specifications

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
Angle of divergence	approx. 2 °
Optical face	frontal
Ambient light limit	EN 60947-5-2 : 30000 Lux

Functional safety related parameters

MTTF _d	806 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

Indicators/operating means

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

Electrical specifications

Operating voltage	U _B	10 ... 30 V DC, class 2
No-load supply current	I ₀	Emitter: ≤ 11 mA Receiver: ≤ 8 mA

Input

Control input	Emitter selection BK: not connected, Long Range mode BK: 0 V, High Precision Mode
---------------	---

Output

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	
Voltage drop	U _d	≤ 1.5 V DC
Switching frequency	f	approx. 800 Hz
Response time	600 μs	

Ambient conditions

Ambient temperature	-25 ... 60 °C (-13 ... 140 °F)
Storage temperature	-30 ... 70 °C (-22 ... 158 °F)

Mechanical specifications

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
Mass	approx. 20 g Per sensor
Cable length	200 mm

Compliance with standards and directives

Directive conformity	
EMC Directive 2004/108/EC	EN 60947-5-2:2007

Approvals and certificates

UL approval	cULus Recognized, Class 2 Power Source
CCC approval	CCC approval / marking not required for products rated ≤36 V

Accessories

MH-R2-01

Bracket for mounting R2 series sensors

MH-R2-02

Bracket for mounting R2 series sensors

MH-R2-03

Bracket for mounting R2 series sensors

MH-R2-04

Bracket for mounting R2 series sensors

V3-GM-2M-PUR

Cable socket, M8, 3-pin, PUR cable

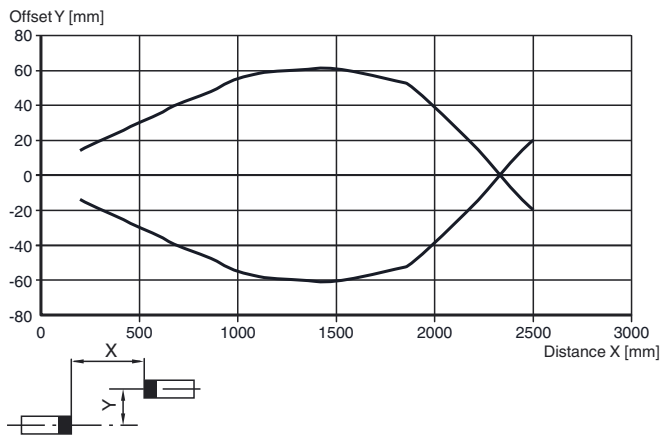
V3-WM-2M-PUR

Cable socket, M8, 3-pin, PUR cable

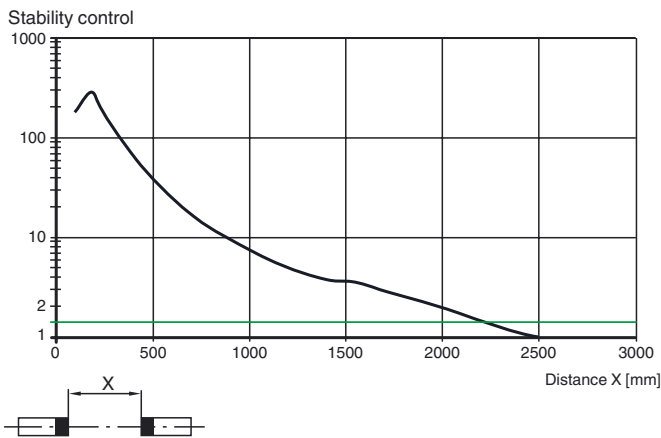
Other suitable accessories can be found at www.pepperl-fuchs.com

Curves/Diagrams

Characteristic response curve Long Range Modus



Relative received light strength Long Range Modus



Light spot diameter Long Range Modus

