



### Model Number

**OBT80-R3-E2**

Triangulation sensor (BGS)  
with 2 m fixed cable

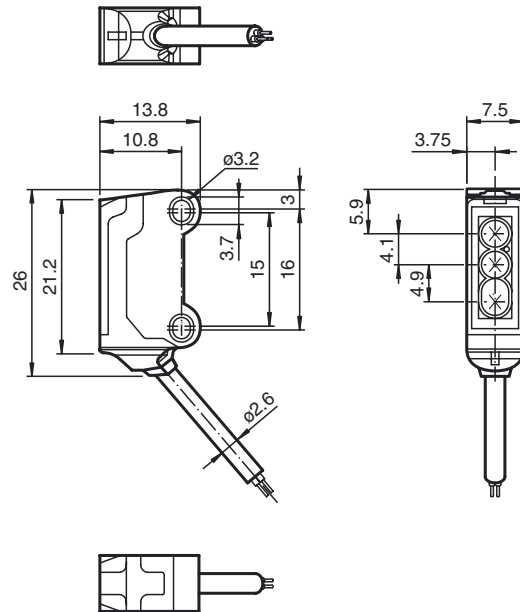
### Features

- 45° cable outlet for maximum mounting freedom under extremely tight space constraints
- Improvement in machine availability with abrasion-resistant, antistatic glass front
- Highly visible light spot, even on dark materials
- Precision object detection, almost irrespective of the color
- Extremely long detection range paves the way for new applications

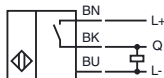
### Product information

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.

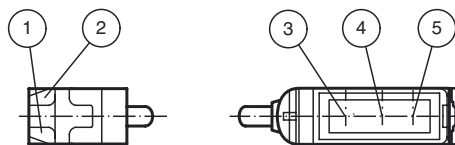
### Dimensions



### Electrical connection



### Indicators/operating means



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

## Technical data

### General specifications

Detection range	15 ... 80 mm
Background suppression	starts from 120 mm
Reference target	standard black, 100 mm x 100 mm
Light source	LED
Light type	modulated visible red light , 630 nm
Black/White difference (6 %/90 %)	< 20 %
Angle deviation	approx. 2 °
Diameter of the light spot	approx. 5 mm at a distance of 80 mm
Angle of divergence	approx. 2 °
Optical face	frontal
Ambient light limit	EN 60947-5-2 : 30000 Lux

### Functional safety related parameters

MTTF <sub>d</sub>	800 a
Mission Time (T <sub>M</sub> )	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	LED yellow ON: lights when object is detected

### Electrical specifications

Operating voltage	U <sub>B</sub>	10 ... 30 V DC , class 2
No-load supply current	I <sub>0</sub>	< 10 mA

### 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 , resistive load	
Voltage drop	U <sub>d</sub>	≤ 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	2 m fixed cable
Material	
Housing	PC/ABS and TPU
Optical face	glass
Cable	PUR
Mass	approx. 20 g
Cable length	2 m

### Compliance with standards and directives

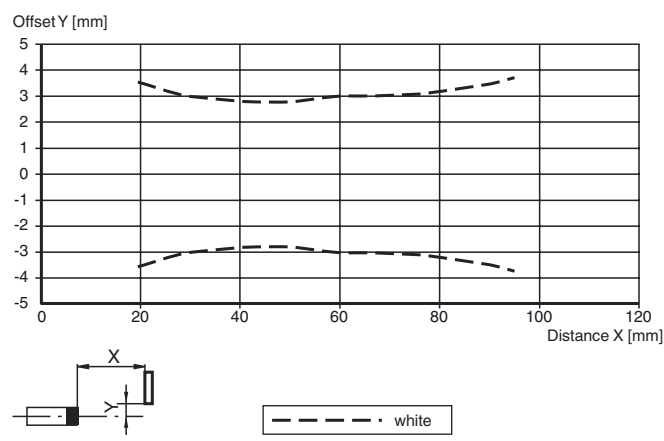
Directive conformity	
EMC Directive 2004/108/EC	EN 60947-5-2:2007

### Approvals and certificates

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

## Curves/Diagrams

Characteristic response curve



## 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

Other suitable accessories can be found at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

