



# Retroreflective sensor with polarization filter



## OBR1000-R3-E1

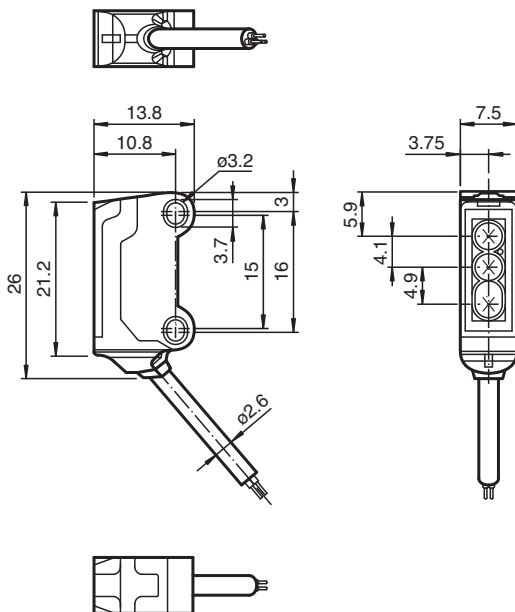
- 45° cable outlet for maximum mounting freedom under extremely tight space constraints
- Improvement in machine availability with abrasion-resistant, antistatic glass front
- Integrated polarization filter allows the detection of reflective objects
- Extremely long detection range paves the way for new applications

### Retroreflective sensor with polarization filter



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

#### General specifications

Effective detection range	0 ... 1 m
Reflector distance	40 ... 1000 mm
Threshold detection range	1.4 m
Reference target	H40 reflector
Light source	LED
Light type	modulated visible red light , 630 nm
Polarization filter	yes
Angle deviation	approx. 2 °
Diameter of the light spot	approx. 60 mm at a distance of 800 mm
Opening angle	approx. 2 °
Optical face	frontal

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

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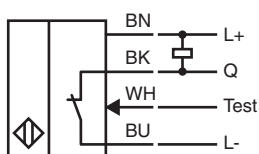
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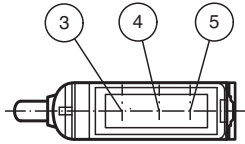
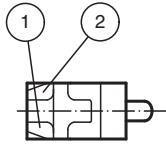
## Technical Data

Ambient light limit		EN 60947-5-2 : 30000 Lux
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		800 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		LED yellow: lights up when receiving the light beam ; flashes when falling short of the stability control; 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>	< 10 mA
<b>Input</b>		
Test input		Test of switching function at 0 V
<b>Output</b>		
Switching type		NC contact / light-on
Signal output		1 NPN 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
<b>Conformity</b>		
Product standard		EN 60947-5-2
<b>Approvals and certificates</b>		
EAC conformity		TR CU 020/2011
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		2 m fixed cable
Material		
Housing		PC/ABS and TPU
Optical face		glass
Cable		PUR
Mass		approx. 20 g
Cable length		2 m

## Connection

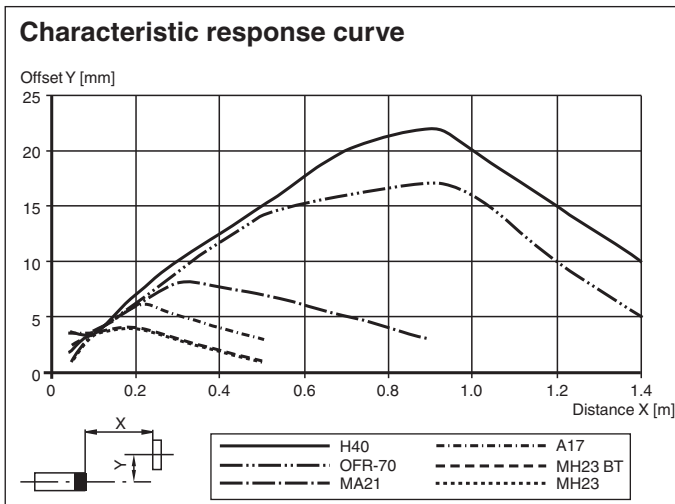


**Assembly**

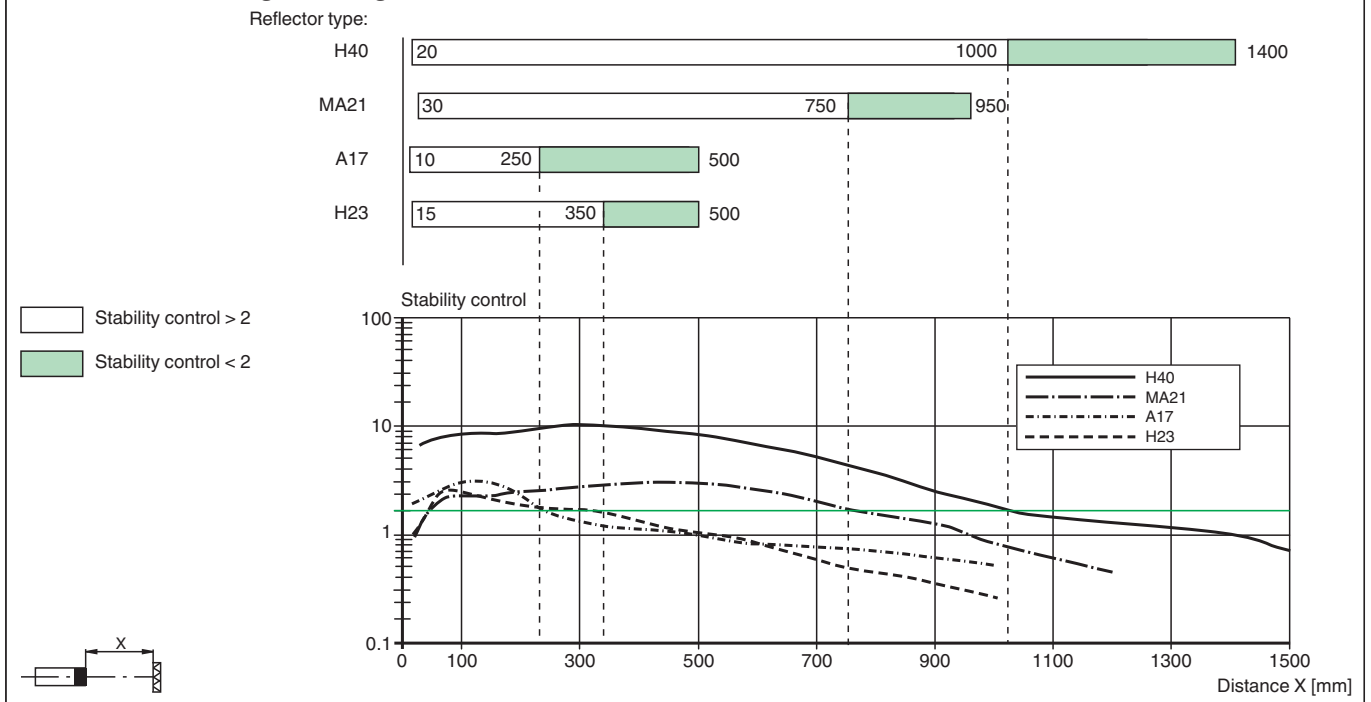


1	Operating display	green
2	Signal display	yellow
3	Emitter	
4	Receiver 1	
5	Receiver 2	

**Characteristic Curve**



**Relative received light strength**





**Accessories**

	<b>MH-R3-01</b>	Mounting aid for sensors from the R3 series, mounting bracket
	<b>MH-R3-02</b>	Mounting aid for sensors from the R3 series, mounting bracket

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**Accessories**

	<p><b>MH-R3-03</b></p>	<p>Mounting aid for sensors from the R3 series, mounting bracket</p>
	<p><b>MH-R3-04</b></p>	<p>Mounting aid for sensors from the R3 series, mounting bracket</p>

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