



Retroreflective sensor with polarization filter



OBR1000-R3-E2

- 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 for standard applications, miniature design, polarization filter, 1000 mm detection range, red light, dark on, PNP output, fixed cable



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 °

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

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Technical Data

Optical face		frontal
Ambient light limit		EN 60947-5-2 : 30000 Lux
Functional safety related parameters		
MTTF _d		800 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		LED yellow: lights up when receiving the light beam ; 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	< 10 mA
Input		
Test input		Test of switching function at 0 V
Output		
Switching type		NO contact / dark-on
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 _d	≤ 1.5 V DC
Switching frequency	f	approx. 800 Hz
Response time		600 μs
Conformity		
Product standard		EN 60947-5-2
Approvals and certificates		
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
Ambient conditions		
Ambient temperature		-25 ... 60 °C (-13 ... 140 °F)
Storage temperature		-30 ... 70 °C (-22 ... 158 °F)
Mechanical specifications		
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

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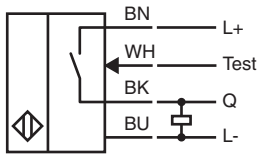
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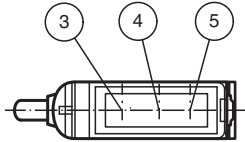
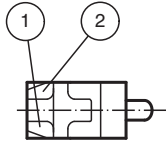
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Connection

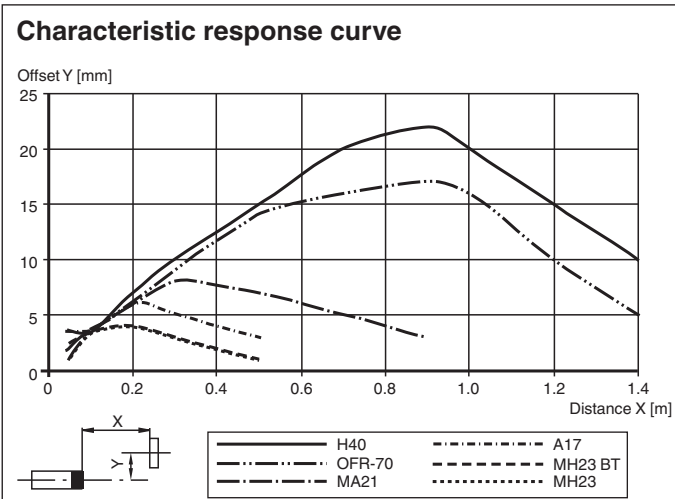


Assembly



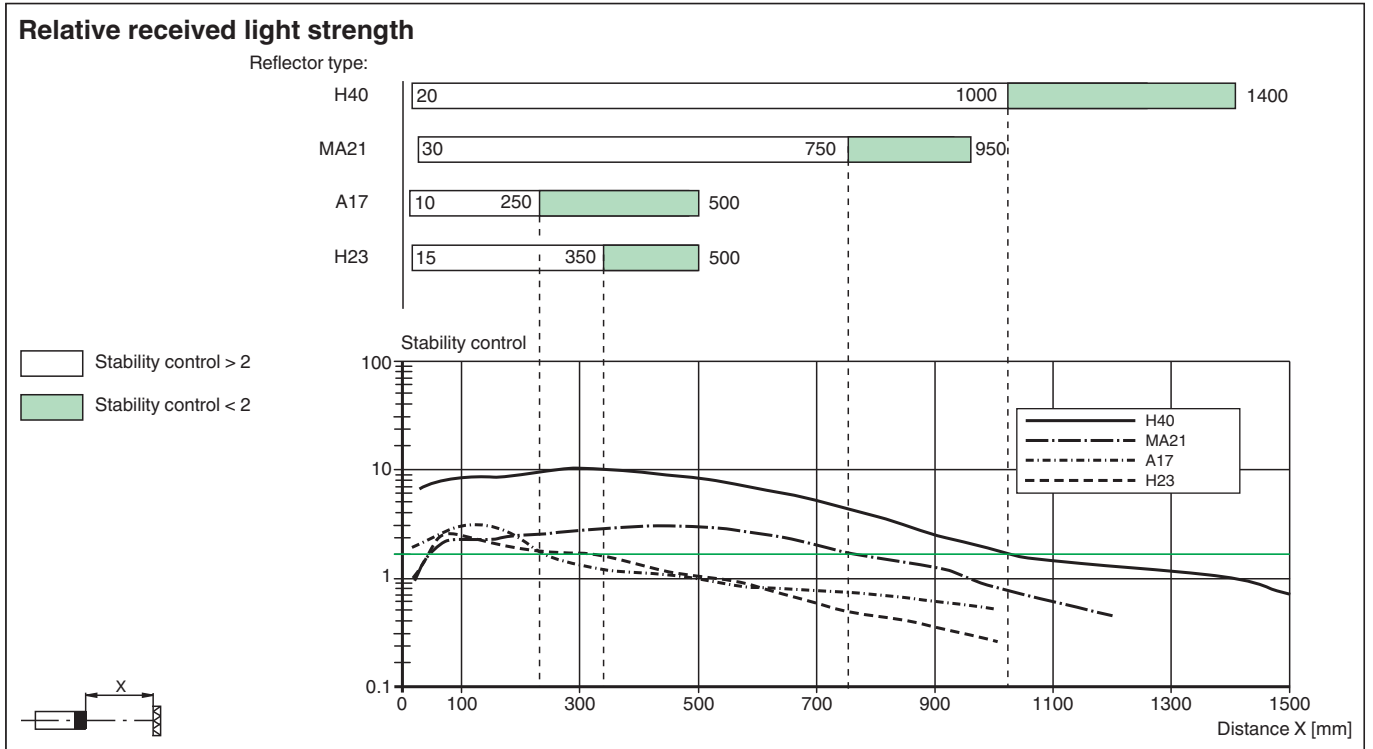
1	Operating display	green
2	Signal display	yellow
3	Emitter	
4	Receiver 1	
5	Receiver 2	

Characteristic Curve



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Characteristic Curve



Accessories

	MH-R3-01	Mounting aid for sensors from the R3 series, mounting bracket
	MH-R3-02	Mounting aid for sensors from the R3 series, mounting bracket
	MH-R3-03	Mounting aid for sensors from the R3 series, mounting bracket
	MH-R3-04	Mounting aid for sensors from the R3 series, mounting bracket

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