



Retroreflective sensor with polarization filter



OBR1000-R3-E3-0,2M-V31

- 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, light on, PNP output, fixed cable with M8 plug



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	NC contact / light-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	200 mm fixed cable with 4-pin, M8x1 connector	
Material		
Housing	PC/ABS and TPU	
Optical face	glass	
Cable	PUR	
Mass	approx. 20 g	
Cable length	200 mm	

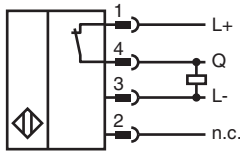
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Connection



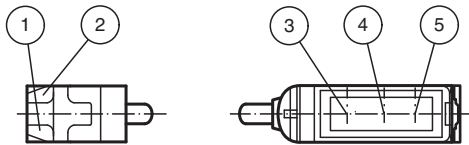
Connection Assignment



Wire colors in accordance with EN 60947-5-2

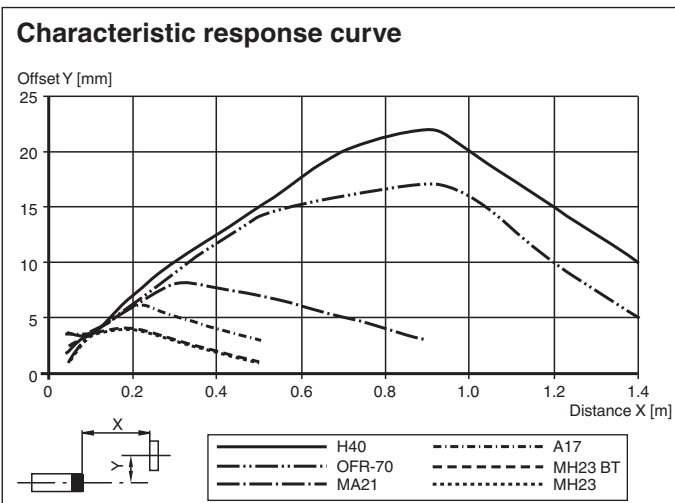
- 1 | BN (brown)
- 2 | WH (white)
- 3 | BU (blue)
- 4 | BK (black)

Assembly



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

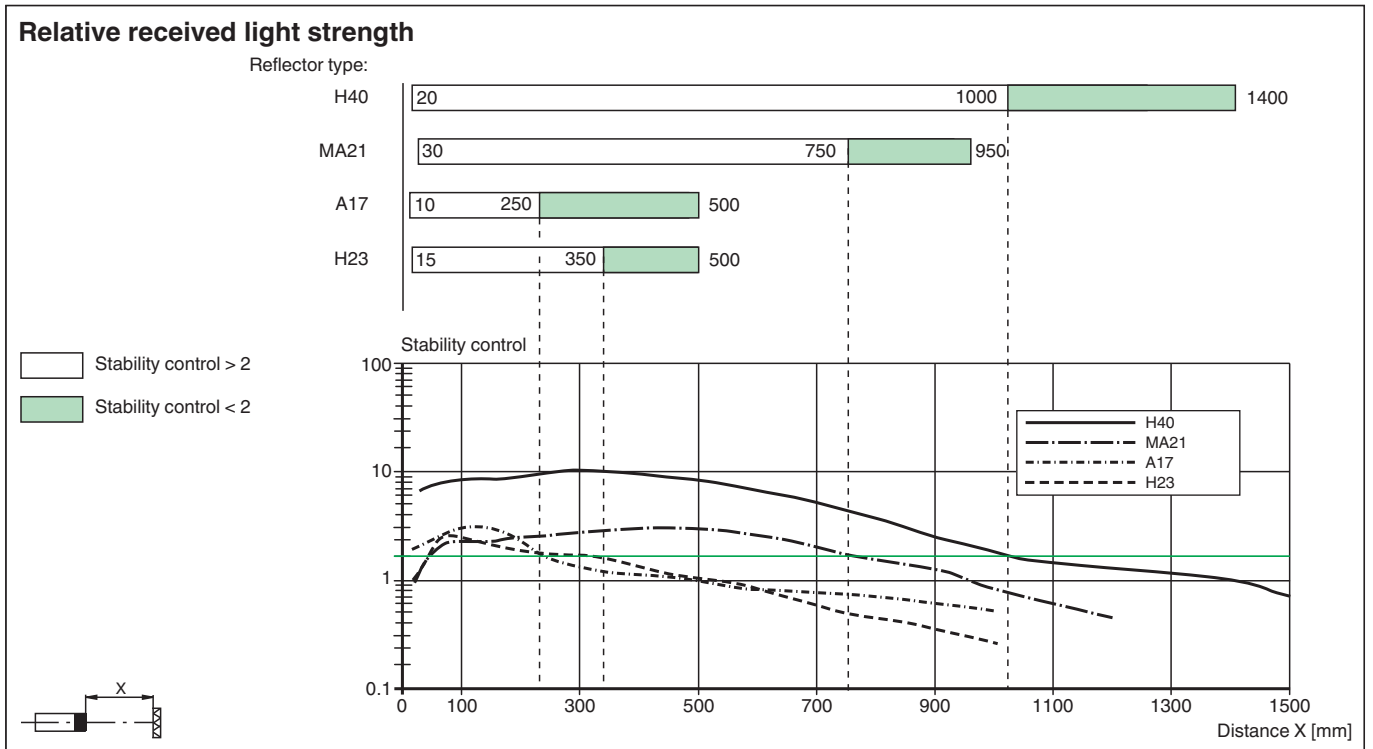
Characteristic Curve



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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
	V31-GM-2M-PUR	Female cordset single-ended M8 straight A-coded, 4-pin, PUR cable grey
	V31-WM-2M-PUR	Female cordset single-ended M8 angled A-coded, 4-pin, PUR cable grey

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