



Retroreflective sensor OBR1000-R3-E3-0,2M-V31-P



- 45° cable outlet for maximum mounting freedom under extremely tight space constraints
- Integrated polarization filter allows the detection of reflective objects
- Extremely long detection range paves the way for new applications

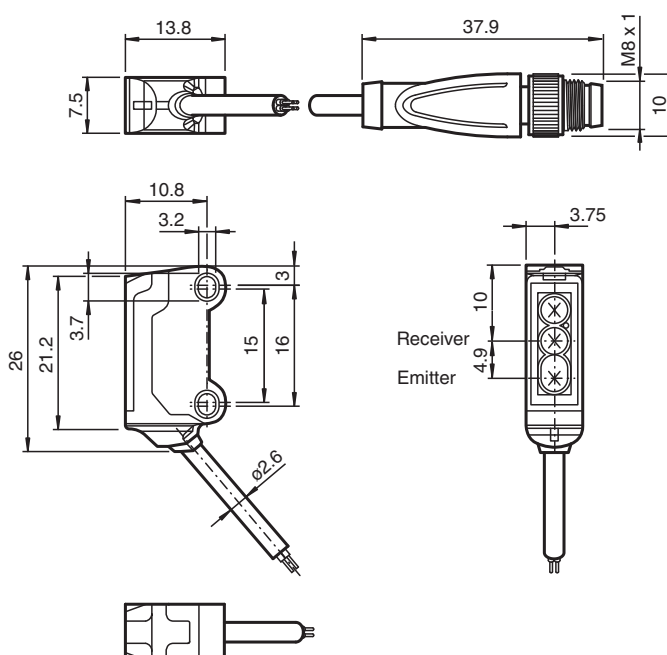
Retroreflective sensor for standard applications, miniature design, polarization filter, 1000 mm detection range, red light, light on, PNP output, 200 mm fixed cable with plug M8, 4-pin



Function

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

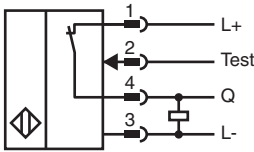
Effective detection range	0 ... 1 m
Reflector distance	40 ... 1000 mm
Threshold detection range	1.4 m
Reference target	H40 reflector

Technical Data

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
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 operating reserve; 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		
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		PMMA
Cable		PUR
Mass		approx. 20 g
Cable length		200 mm

Release date: 2023-09-06 Date of issue: 2023-09-06 Filename: 70135113_eng.pdf

Connection



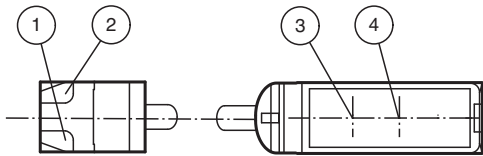
Connection Assignment



Wire colors in accordance with EN 60947-5-2

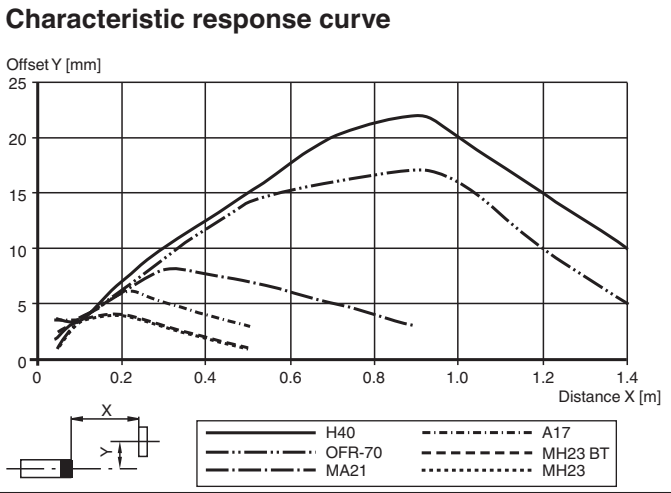
1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Assembly



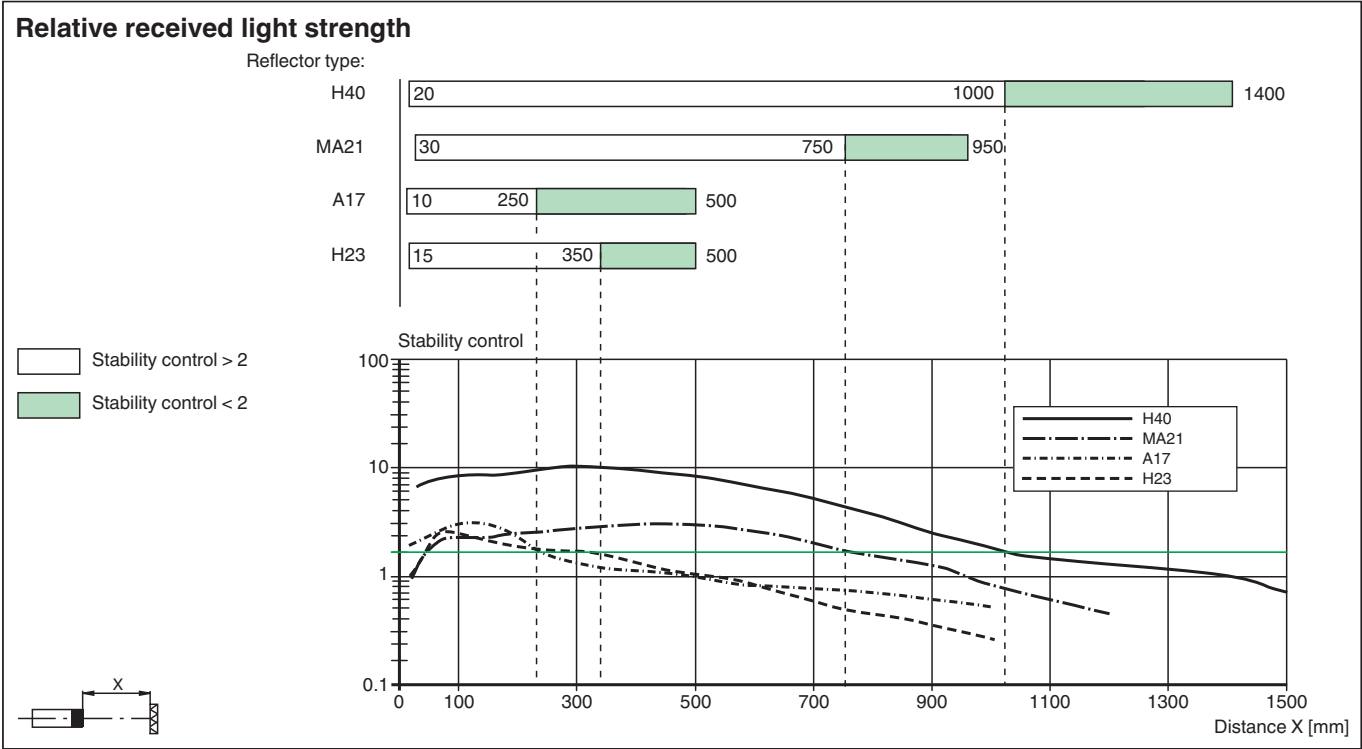
1	Operating display	green
2	Signal display	yellow
3	Emitter	
4	Receiver	

Characteristic Curve



Release date: 2023-09-06 Date of issue: 2023-09-06 Filename: 70135113_eng.pdf

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

Release date: 2023-09-06 Date of issue: 2023-09-06 Filename: 70135113_eng.pdf