



Retroreflective sensor OBR1000-R3-E1-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

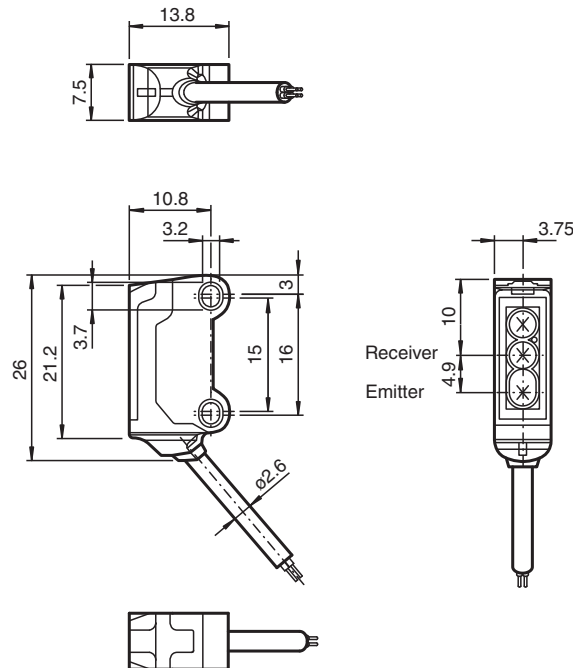
Retroreflective sensor for standard applications, miniature design, polarization filter, 1000 mm detection range, red light, light on, NPN output, 2 m fixed cable



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

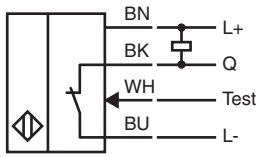
General specifications

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

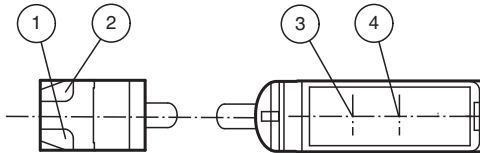
Technical Data

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 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 _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	2 m fixed cable	
Material		
Housing	PC/ABS and TPU	
Optical face	PMMA	
Cable	PUR	
Mass	approx. 20 g	
Cable length	2 m	

Connection

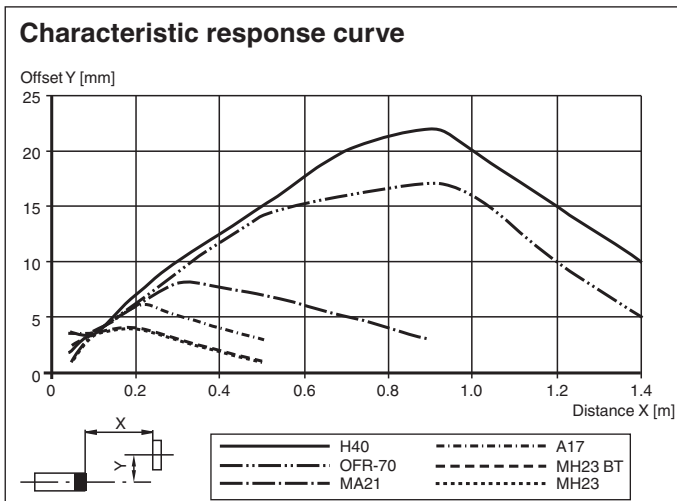


Assembly



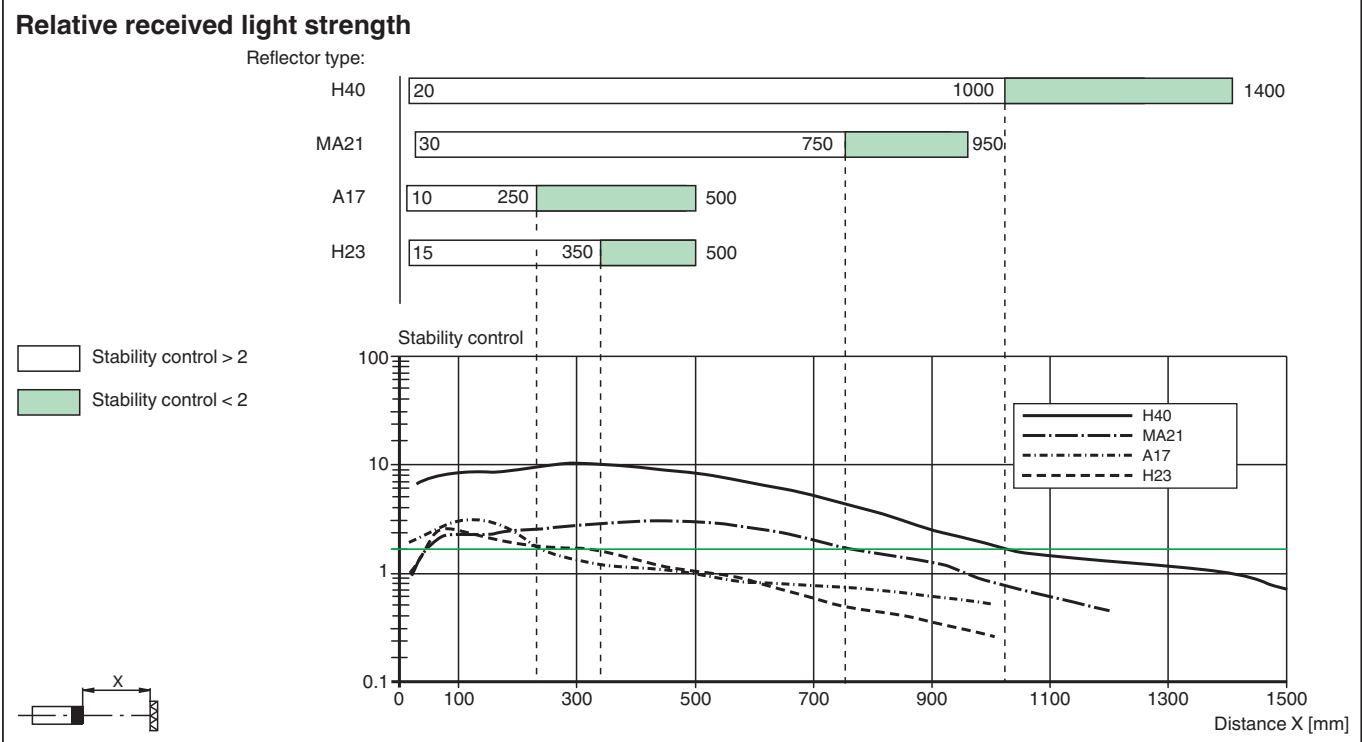
1	Operating display	green
2	Signal display	yellow
3	Emitter	
4	Receiver	

Characteristic Curve



Release date: 2023-09-06 Date of issue: 2023-09-06 Filename: 70141801_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

Release date: 2023-09-06 Date of issue: 2023-09-06 Filename: 70141801_eng.pdf