



Retroreflective sensor OBR17M-R202-2EP



- Medium design with versatile mounting options
- Degree of protection IP67
- Mounting on full metal sockets
- Very bright, highly visible light spot
- Highly visible LEDs for Power ON and switching state
- Easy to use
- Image is generic for this device type and may deviate from the specific variant



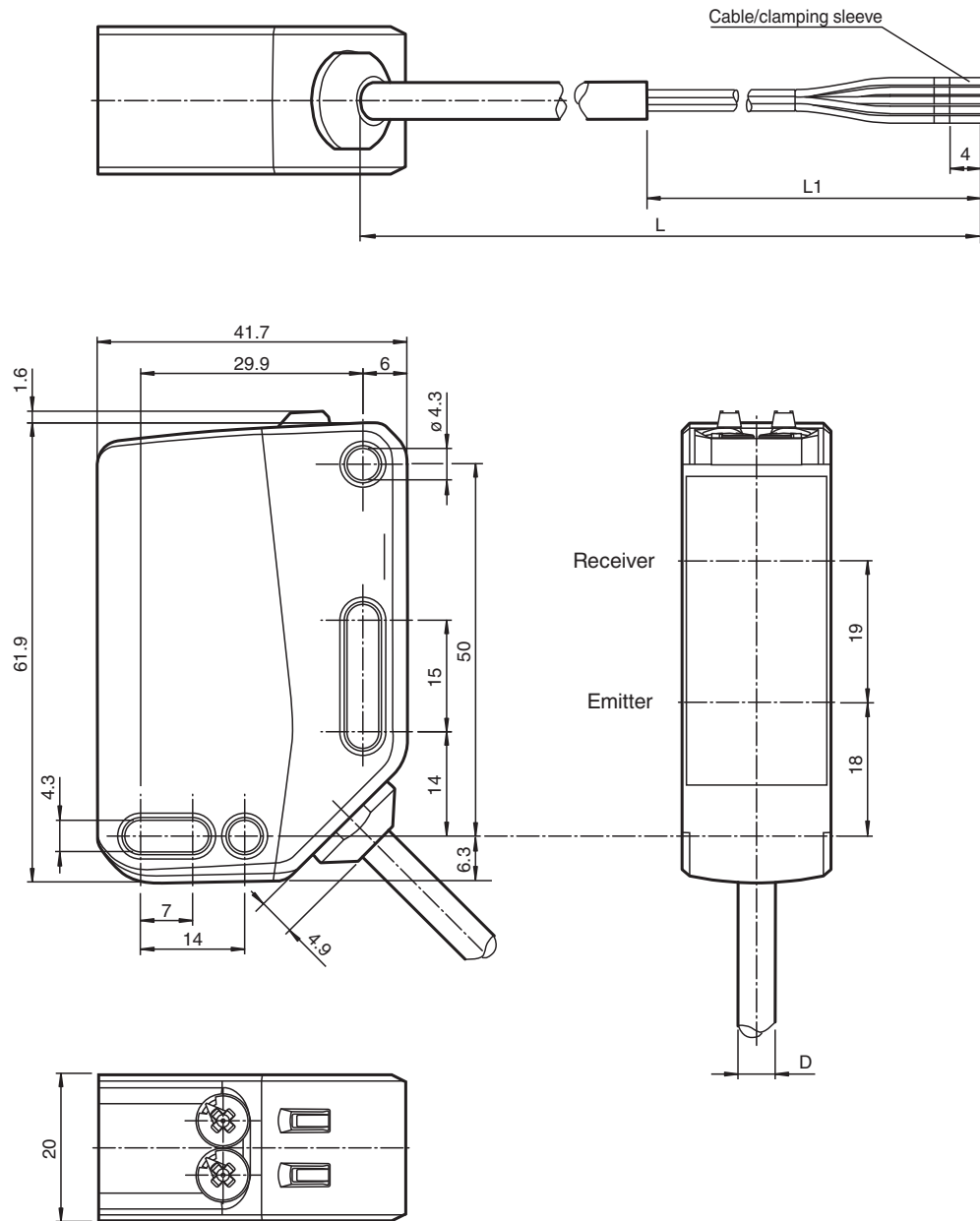
Function

The optical sensors of this series for applications in standard automation have a modern housing design. The sensors are characterized by the many mounting options, easy handling and highly visible LED status indicators. The integrated full metal bushings ensure long-term secure and dimensionally stable mounting.

Dimensions

Drawing is generic for this device type and may deviate from the specific variant.
For the number of cores refer to connection diagram.

Dimensions



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Technical Data

General specifications

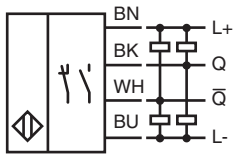
Effective detection range	0 ... 17 m
Reflector distance	0.02 ... 17 m
Threshold detection range	20 m
Reference target	H85-2 reflector
Light source	LED
Light type	modulated visible red light
LED risk group labelling	exempt group

Technical Data

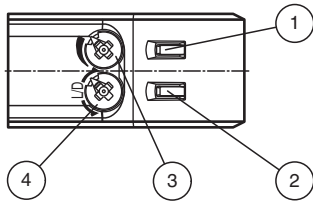
Polarization filter		yes
Diameter of the light spot		approx. 500 mm at a distance of 17 m
Opening angle		2 °
Ambient light limit		EN 60947-5-2 : 60000 Lux
Functional safety related parameters		
MTTF _d		876 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
Operation indicator		LED green: on - power on flashing (4 Hz) - short circuit
Function indicator		Yellow LED: Permanently lit - light path clear Permanently off - object detected Flashing (4 Hz) - insufficient operating reserve Flashing (8 Hz) - fault detected, the outputs maintain the status
Control elements		Light-on/dark-on changeover switch
Control elements		sensitivity adjustment
Electrical specifications		
Operating voltage	U _B	10 ... 30 V DC
Ripple		max. 10 %
No-load supply current	I ₀	< 30 mA at 24 V Operating voltage
Protection class		III
Output		
Switching type		The switching type of the sensor is adjustable. The default setting is: Q - BK: NPN normally open / dark-on, PNP normally closed / light-on /Q - WH: NPN normally closed / light-on, PNP normally open / dark-on
Signal output		2 push-pull (4 in 1) outputs, complementary, short-circuit proof, reverse polarity protected
Switching voltage		max. 30 V DC
Switching current		max. 100 mA , resistive load
Usage category		DC-12 and DC-13
Voltage drop	U _d	≤ 1.5 V DC
Switching frequency	f	1000 Hz
Response time		0.5 ms
Conformity		
Product standard		EN 60947-5-2
Approvals and certificates		
UL approval		E87056 , cULus Listed , class 2 power supply , type rating 1
CCC approval		CCC approval / marking not required for products rated ≤36 V
Ambient conditions		
Ambient temperature		-30 ... 60 °C (-22 ... 140 °F) , cable, fixed installation -20 ... 60 °C (-4 ... 140 °F) , movable cable not appropriate for conveyor chains
Storage temperature		-40 ... 70 °C (-40 ... 158 °F)
Mechanical specifications		
Degree of protection		IP67
Connection		2 m fixed cable
Material		
Housing		PC (Polycarbonate)
Optical face		PMMA
Mass		approx. 100 g
Dimensions		
Height		61.9 mm
Width		20 mm
Depth		41.7 mm
Cable length		2 m

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Connection

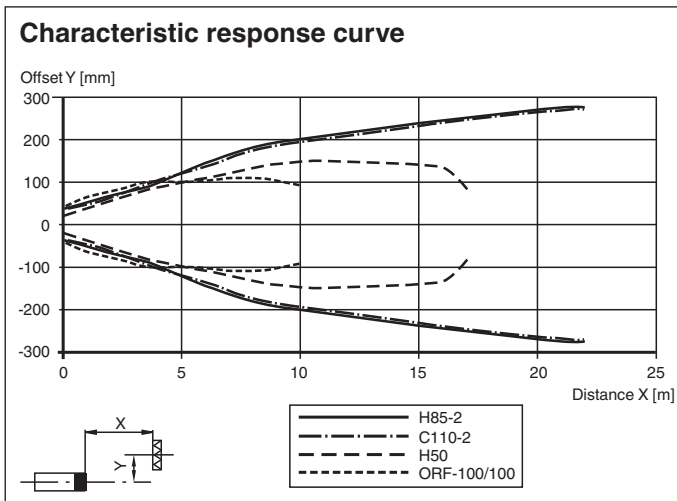


Assembly



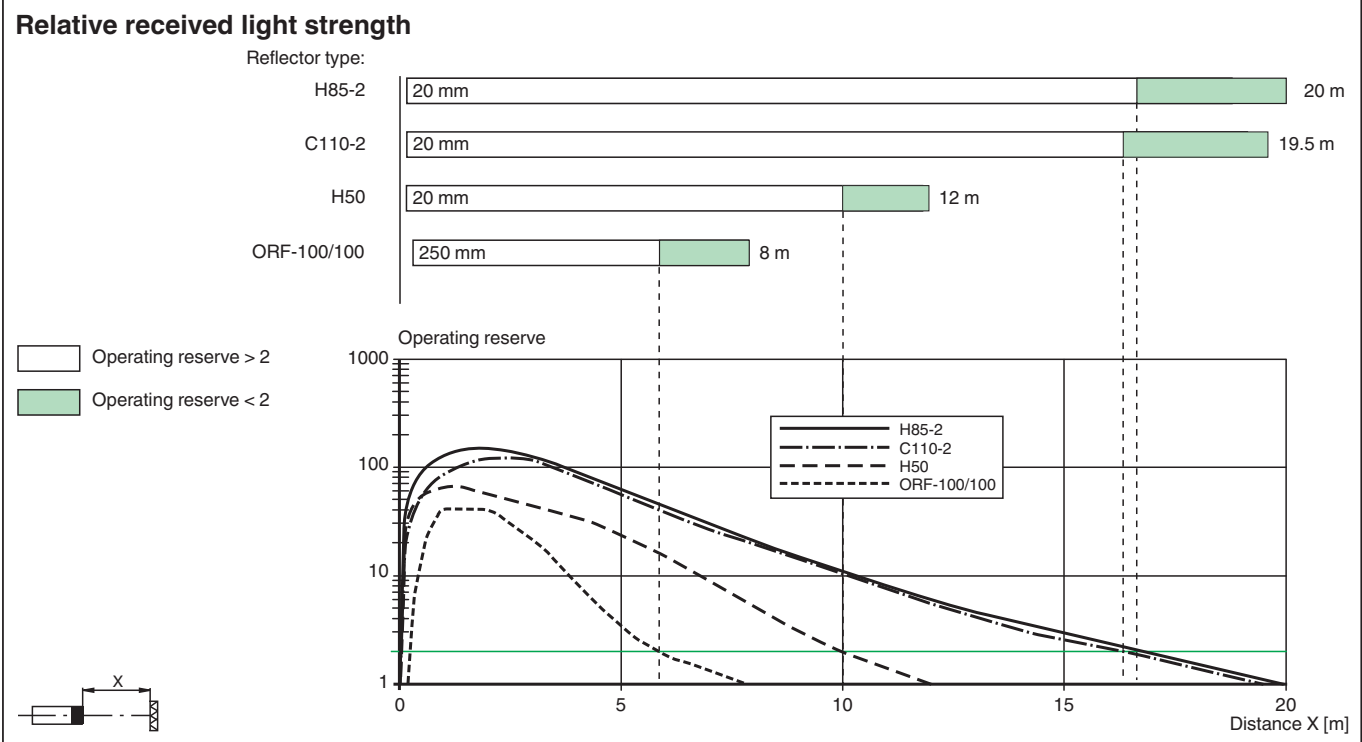
1	Function indicator	YE
2	Operation indicator	GN
3	Sensitivity adjuster	
4	Light-on / dark-on changeover switch	

Characteristic Curve



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Characteristic Curve



Commissioning

- Sensing Range / Sensitivity**
 Turn sensing range / sensitivity adjuster clockwise to increase sensing range / sensitivity.
 Turn sensing range / sensitivity adjuster counter clockwise to decrease sensing range / sensitivity.
 The internal end stop signals the end of the adjustment range.
- Light-on / Dark-on Configuration**
 To set light switching or dark switching, turn the light/dark changeover switch to the end stop:
- clockwise: dark switching
 - counterclockwise: light switching

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