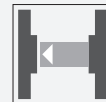




Thru-beam sensor (pair) OBE35M-R202-SK2



- Version for universal voltages
- 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

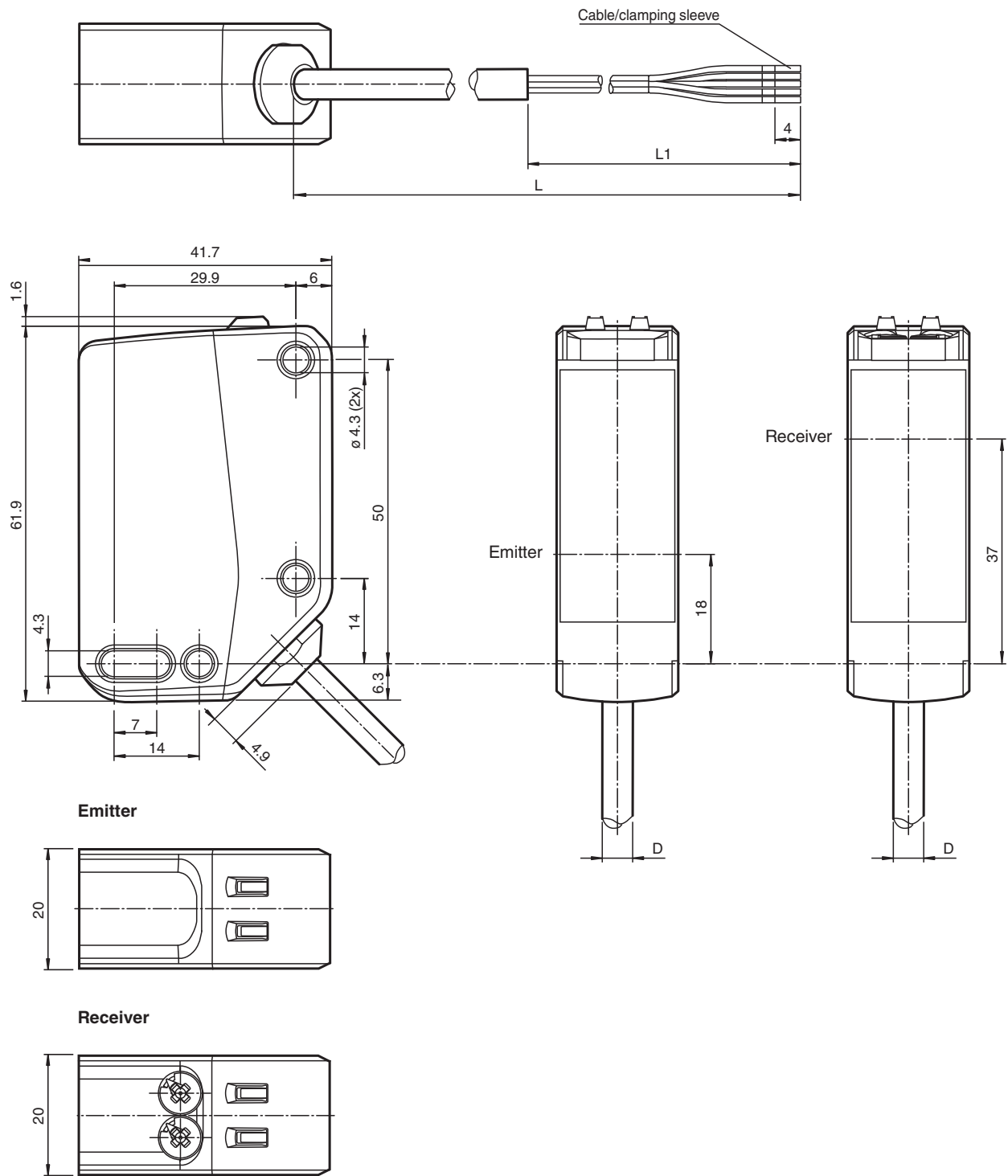
The optical sensors of this series for applications in standard automation have a modern housing design. The sensors are characterized by the many mounting options, easy handling and highly visible LED status indicators. The integrated full metal bushings ensure long-term secure and dimensionally stable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

Due to the integrated all-voltage power supply, the sensors can be operated in the range of 24 ... 240 V AC/DC.

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



Technical Data

System components		
Emitter		OBE35M-R202-SK
Receiver		OBE35M-R202-K2
General specifications		
Effective detection range		0 ... 35 m
Threshold detection range		47 m
Light source		LED
Light type		modulated visible red light

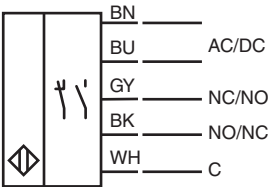
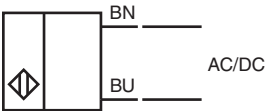
Technical Data

LED risk group labelling		exempt group
Transmitter frequency		F1 = 8.2 kHz
Diameter of the light spot		approx. 1200 mm at a distance of 35 m
Opening angle		2 °
Ambient light limit		EN 60947-5-2 : 40000 Lux
Functional safety related parameters		
MTTF _d		422 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
Operation indicator		LED green: power on
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		Receiver: light/dark switch
Control elements		Receiver: sensitivity adjustment
Electrical specifications		
Operating voltage	U _B	24 ... 240 V DC (-30 °C ≤ T _{amb} ≤ 60 °C) 24 ... 240 V AC (10 °C ≤ T _{amb} ≤ 60 °C) 30 ... 240 V AC (-30 °C ≤ T _{amb} ≤ 60 °C)
No-load supply current	I ₀	Emitter: ≤ 15 mA Receiver: ≤ 30 mA at 24 V Operating voltage
Protection class		II
Rated insulation voltage	U _i	250 V
Rated impulse withstand voltage	U _{imp}	2500 V
Power consumption	P ₀	Emitter: ≤ 0.35 VA Receiver: ≤ 0.75 VA
Fuse		Safety fuse ≤ 2 A (slow-blow) according to IEC 60127-2 Sheet 1 Recommendation: after a short circuit, check that the device is functioning correctly.
Output		
Switching type		The switching type of the sensor is adjustable. The default setting is: Q - BK: normally-open / dark-on /Q - GY: normally-closed / light-on C - WH: Common
Signal output		Relay, 1 alternator
Switching voltage		max. 240 V AC/DC
Switching current		max. 2.5 A , see section characteristic curve
Switching power		DC: max. 95 W AC: max. 600 VA
Usage category		DC-12 , DC-13 , AC-12 u. AC-140
Switching frequency	f	25 Hz
Response time		≤ 20 ms
Conformity		
Product standard		EN 60947-5-2 , EN 60947-1
Approvals and certificates		
UL approval		E87056 , cULus Listed
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)
Pollution degree		3
Mechanical specifications		
Degree of protection		IP67
Connection		2 m fixed cable
Material		
Housing		PC (Polycarbonate)
Optical face		PMMA

Technical Data

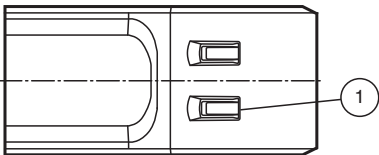
Mass	Emitter: approx. 90 g receiver: approx. 120 g	
Dimensions		
Height	61.9 mm	
Width	20 mm	
Depth	41.7 mm	
Cable length	2 m	

Connection



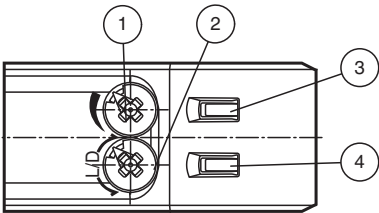
Indication

Emitter



1	Operation indicator	GN
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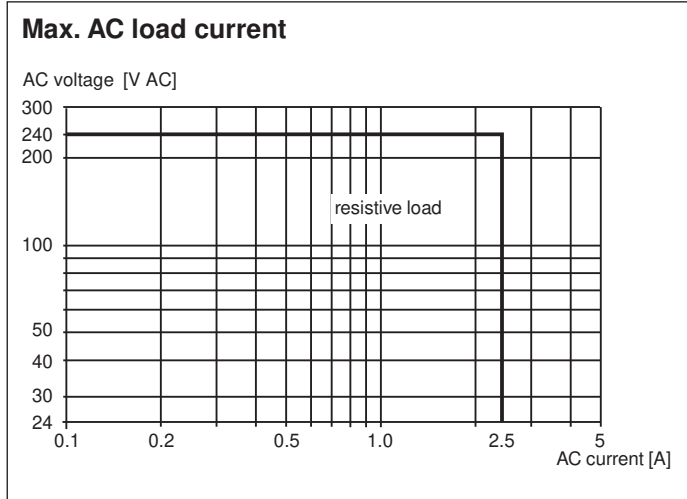
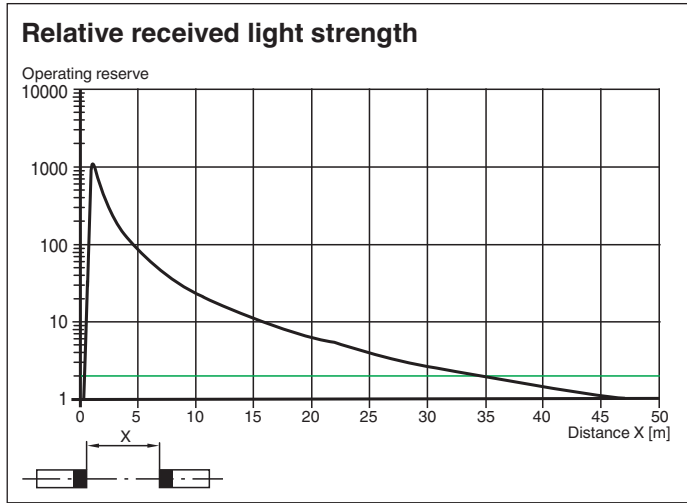
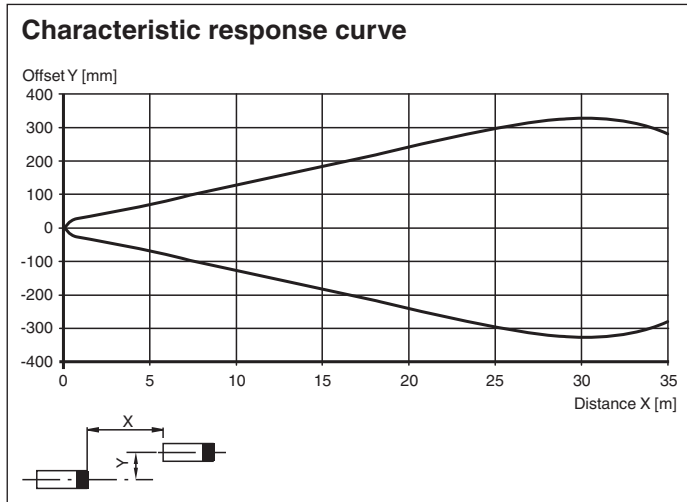
Receiver



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

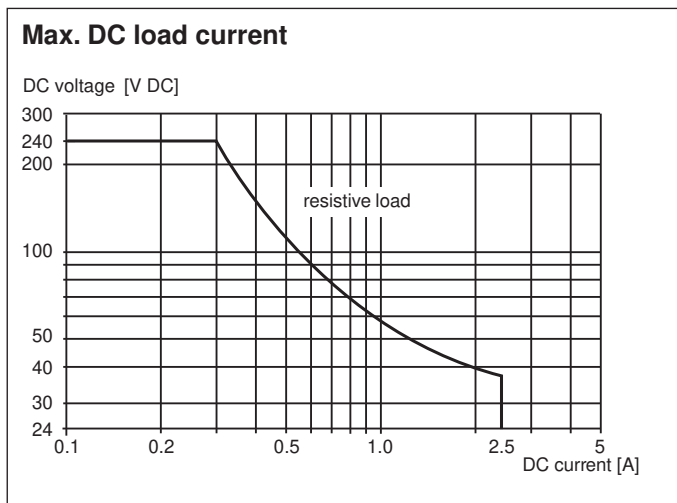
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Characteristic Curve



Release date: 2025-02-18 Date of issue: 2025-02-18 Filename: 70148122_eng.pdf

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