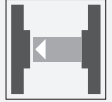




## Thru-beam sensor (pair) OBE35M-R202-SK6



- 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

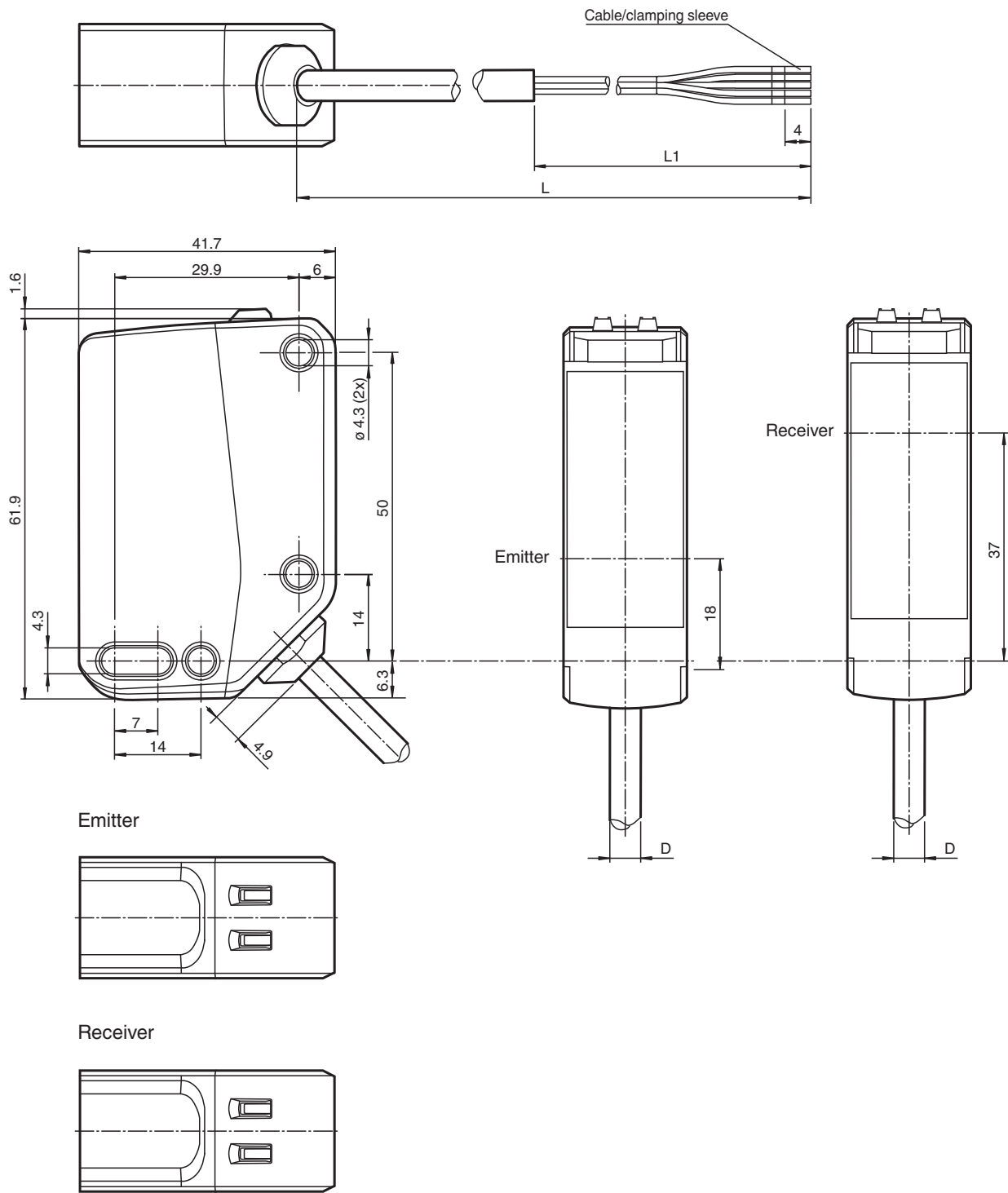
The optical sensors of this series for applications in standard automation have a modern housing design. The sensors are characterized by the many mounting options, easy handling and highly visible LED status indicators. The integrated full metal bushings ensure long-term secure and dimensionally stable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

|                               |  |                             |
|-------------------------------|--|-----------------------------|
| <b>System components</b>      |  |                             |
| Emitter                       |  | OBE35M-R202-SK              |
| Receiver                      |  | OBE35M-R202-K6              |
| <b>General specifications</b> |  |                             |
| Effective detection range     |  | 0 ... 35 m                  |
| Threshold detection range     |  | 47 m                        |
| Light source                  |  | LED                         |
| Light type                    |  | modulated visible red light |

## Technical Data

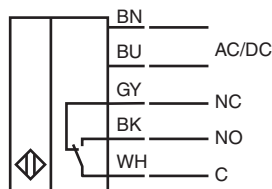
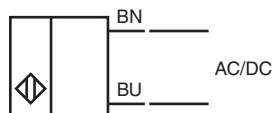
|                                             |                  |                                                                                                                                                                                                                 |
|---------------------------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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                                                                                                                                                                                        |
| <b>Functional safety related parameters</b> |                  |                                                                                                                                                                                                                 |
| MTTF <sub>d</sub>                           |                  | 422 a                                                                                                                                                                                                           |
| Mission Time (T <sub>M</sub> )              |                  | 20 a                                                                                                                                                                                                            |
| Diagnostic Coverage (DC)                    |                  | 0 %                                                                                                                                                                                                             |
| <b>Indicators/operating means</b>           |                  |                                                                                                                                                                                                                 |
| Operation indicator                         |                  | LED green: power on                                                                                                                                                                                             |
| Function indicator                          |                  | Yellow LED:<br>Permanently lit - light path clear<br>Permanently off - object detected<br>Flashing (4 Hz) - insufficient operating reserve<br>Flashing (8 Hz) - fault detected, the outputs maintain the status |
| Control elements                            |                  | none                                                                                                                                                                                                            |
| <b>Electrical specifications</b>            |                  |                                                                                                                                                                                                                 |
| Operating voltage                           | U <sub>B</sub>   | 24 ... 240 V DC (-30 °C ≤ T <sub>amb</sub> ≤ 60 °C)<br>24 ... 240 V AC (10 °C ≤ T <sub>amb</sub> ≤ 60 °C)<br>30 ... 240 V AC (-30 °C ≤ T <sub>amb</sub> ≤ 60 °C)                                                |
| No-load supply current                      | I <sub>0</sub>   | Emitter: ≤ 15 mA<br>Receiver: ≤ 30 mA at 24 V Operating voltage                                                                                                                                                 |
| Protection class                            |                  | II                                                                                                                                                                                                              |
| Rated insulation voltage                    | U <sub>i</sub>   | 250 V                                                                                                                                                                                                           |
| Rated impulse withstand voltage             | U <sub>imp</sub> | 2500 V                                                                                                                                                                                                          |
| Power consumption                           | P <sub>0</sub>   | Emitter: ≤ 0.35 VA<br>Receiver: ≤ 0.75 VA                                                                                                                                                                       |
| Fuse                                        |                  | Safety fuse ≤ 2 A (slow-blow) according to IEC 60127-2 Sheet 1<br>Recommendation: after a short circuit, check that the device is functioning correctly.                                                        |
| <b>Output</b>                               |                  |                                                                                                                                                                                                                 |
| Switching type                              |                  | Q - BK: normally-open / dark-on<br>/Q - GY: normally-closed / light-on<br>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                                                                                                                                                                                                         |
| <b>Conformity</b>                           |                  |                                                                                                                                                                                                                 |
| Product standard                            |                  | EN 60947-5-2 , EN 60947-1                                                                                                                                                                                       |
| <b>Approvals and certificates</b>           |                  |                                                                                                                                                                                                                 |
| UL approval                                 |                  | E87056 , cULus Listed                                                                                                                                                                                           |
| <b>Ambient conditions</b>                   |                  |                                                                                                                                                                                                                 |
| Ambient temperature                         |                  | -30 ... 60 °C (-22 ... 140 °F) , cable, fixed installation<br>-20 ... 60 °C (-4 ... 140 °F) , movable cable not appropriate for conveyor chains                                                                 |
| Storage temperature                         |                  | -40 ... 70 °C (-40 ... 158 °F)                                                                                                                                                                                  |
| Pollution degree                            |                  | 3                                                                                                                                                                                                               |
| <b>Mechanical specifications</b>            |                  |                                                                                                                                                                                                                 |
| Degree of protection                        |                  | IP67                                                                                                                                                                                                            |
| Connection                                  |                  | 2 m fixed cable                                                                                                                                                                                                 |
| Material                                    |                  |                                                                                                                                                                                                                 |
| Housing                                     |                  | PC (Polycarbonate)                                                                                                                                                                                              |
| Optical face                                |                  | PMMA                                                                                                                                                                                                            |
| Mass                                        |                  | Emitter: approx. 90 g<br>receiver: approx. 120 g                                                                                                                                                                |

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Technical Data

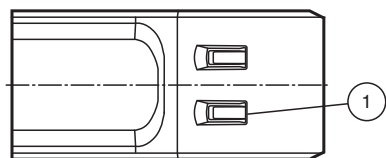
| Dimensions   |  |         |
|--------------|--|---------|
| Height       |  | 61.9 mm |
| Width        |  | 20 mm   |
| Depth        |  | 41.7 mm |
| Cable length |  | 2 m     |

Connection



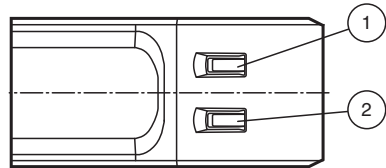
Indication

Emitter



|   |                     |    |
|---|---------------------|----|
| 1 | Operation indicator | GN |
|---|---------------------|----|

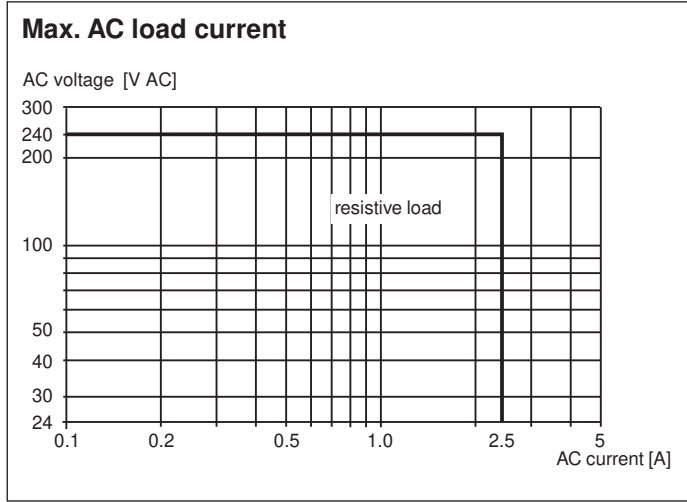
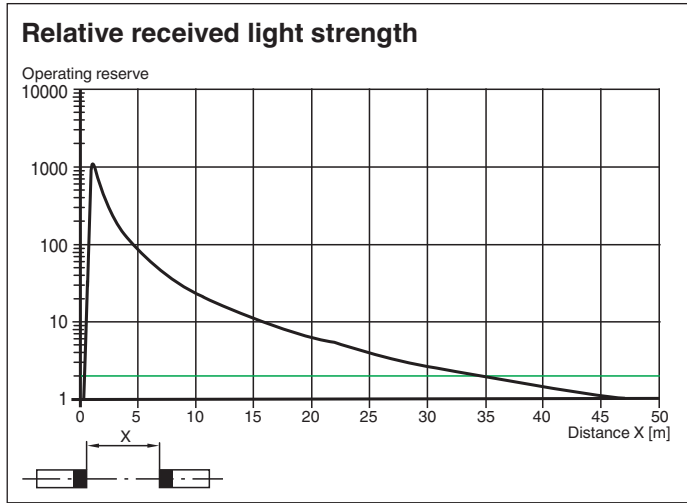
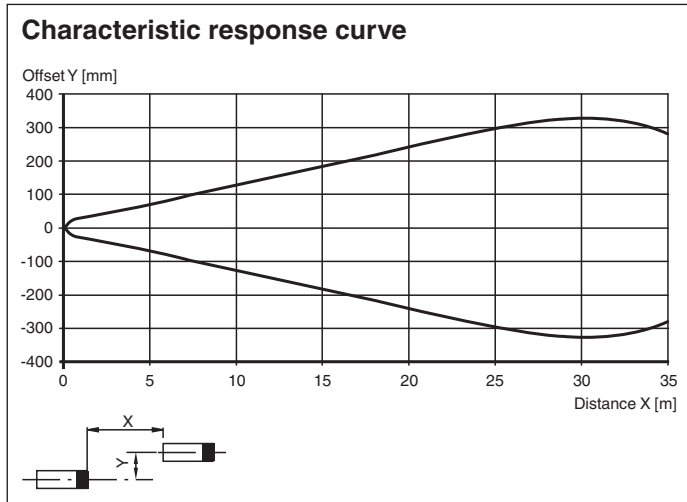
Receiver



|   |                     |    |
|---|---------------------|----|
| 1 | Signal indicator    | YE |
| 2 | Operation indicator | GN |

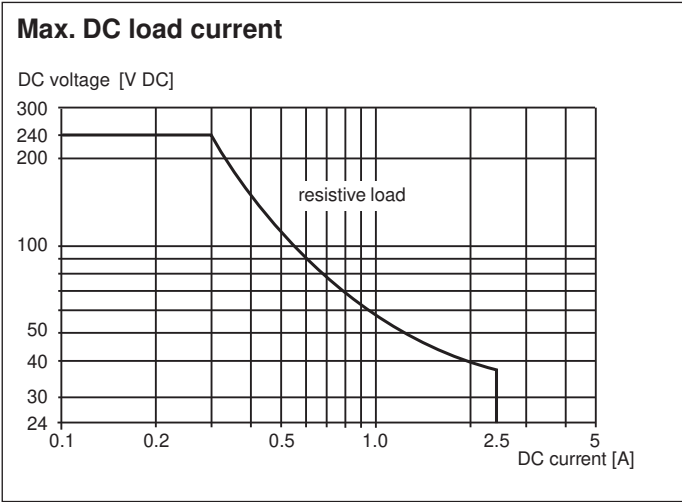
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Characteristic Curve



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Characteristic Curve



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