

# Thru-beam sensor (pair)
# OBE15M-18GK40A-SE0-V1

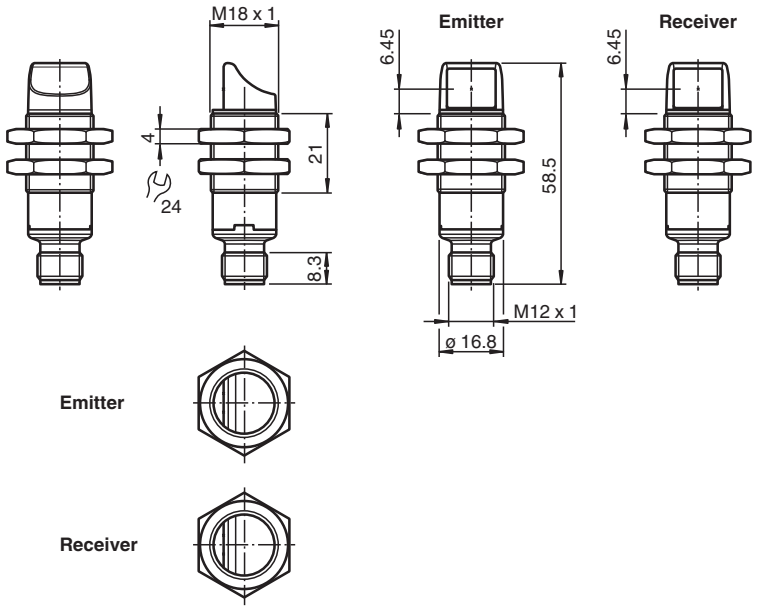
- Short design in M18 plastic housing
- Not sensitive to ambient light
- Degree of protection IP67
- Very high detection range

Thru-beam sensor (pair)

## Function

The optical sensors of this series have an M18 threaded housing that is optionally available in plastic or metal.
The sensors are robust and versatile.
Focusing on the essential requirements simplifies selection and commissioning, saving time and costs.

## Dimensions




## Technical Data

| | | |
|---|---|---|
| **System components** | | |
| Emitter | | OBE15M-18GK40A-S-V1 |
| Receiver | | OBE15M-18GK40A-E0-V1 |
| **General specifications** | | |
| Effective detection range | | 0 ... 15 m |

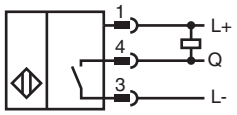
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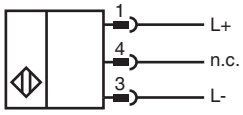
## Technical Data

| | | |
|---|---|---|
| Threshold detection range | | 21 m |
| Light source | | LED |
| Light type | | modulated visible red light |
| Diameter of the light spot | | approx. 110 mm at 1 m |
| Angle of divergence | | approx. 2.9 ° |
| Optical face | | lateral |
| Ambient light limit | | EN 60947-5-2 10000 Lux |
| **Functional safety related parameters** | | |
| $MTTF_d$ | | 838 a |
| Mission Time ($T_M$) | | 20 a |
| Diagnostic Coverage (DC) | | 0 % |
| **Indicators/operating means** | | |
| Operation indicator | | LED green:<br>on - power on<br>flashing (4 Hz) - short circuit |
| Function indicator | | Receiver: Yellow LED:<br>Permanently lit - light path clear<br>Permanently off - object detected<br>Flashing (4 Hz) - insufficient operating reserve |
| **Electrical specifications** | | |
| Operating voltage | $U_B$ | 10 ... 30 V DC |
| Ripple | | max. 10 % |
| No-load supply current | $I_0$ | < 25 mA |
| Protection class | | III |
| **Output** | | |
| Switching type | | Q - Pin4: NPN normally open / dark-on |
| Signal output | | 1 NPN output, short-circuit protected, reverse polarity protected, open collector |
| Switching voltage | | max. 30 V DC |
| Switching current | | max. 100 mA , resistive load |
| Voltage drop | $U_d$ | ≤ 1.5 V DC |
| Switching frequency | f | 500 Hz |
| Response time | | ≤ 1 ms |
| **Conformity** | | |
| Product standard | | EN 60947-5-2 |
| **Approvals and certificates** | | |
| UL approval | | E87056 , cULus Listed , class 2 power supply , type rating 1 |
| **Ambient conditions** | | |
| Ambient temperature | | -40 ... 60 °C (-40 ... 140 °F) |
| Storage temperature | | -40 ... 70 °C (-40 ... 158 °F) |
| **Mechanical specifications** | | |
| Degree of protection | | IP67 |
| Connection | | 3-pin, M12 x 1 connector |
| Material | | |
| Housing | | PC (Polycarbonate) |
| Optical face | | PMMA |
| Connector | | plastic |
| Mass | | approx. 9 g per device |

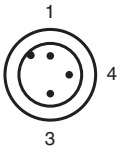
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## Connection




## Connection Assignment

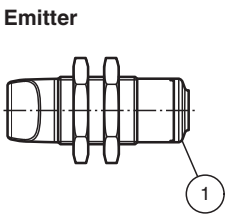


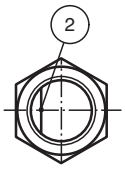

Wire colors in accordance with EN 60947-5-2

| | | |
|---|---|---|
| 1 | BN | (brown) |
| 3 | BU | (blue) |
| 4 | BK | (black) |

## Indication

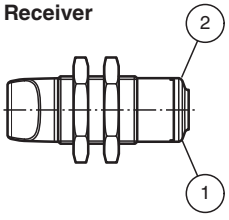
**Emitter**

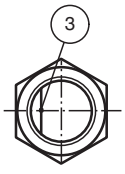



| | | |
|---|---|---|
| 1 | Operating display | green |
| 2 | Emitter | |

**Receiver**



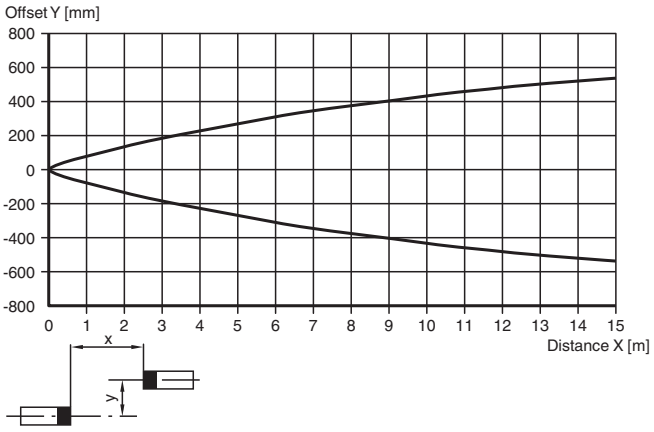




| | | |
|---|---|---|
| 1 | Operating display | green |
| 2 | Signal display | yellow |
| 3 | Receiver | |

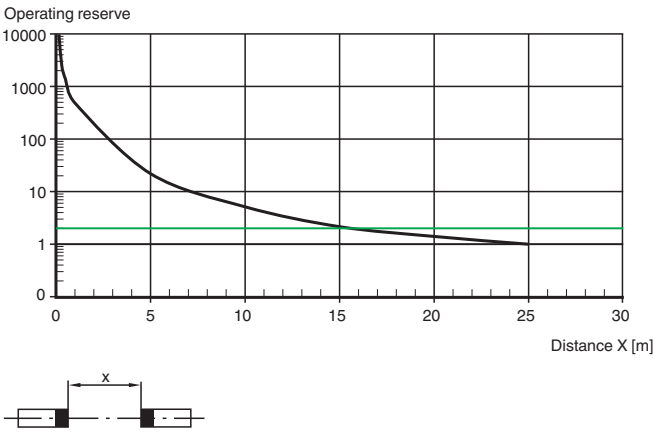
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## Characteristic Curve

### Characteristic response curve




### Relative received light strength




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