



## Photoelectric sensors W250-2, Through-beam photoelectric sensor

WSE250-2R1631



**Model Name** > [WSE250-2R1631](#)  
**Part No.** > [6044708](#)



*Illustration may differ*

#### At a glance

- Very high sensing range in compact housing
- Versions for 10 - 30 V DC or 24 - 240 V DC/ 24 – 240 V AC voltage supply in compact design
- Mounting bracket included in delivery
- Potentiometer with an easy-to-read positioning indicator for adjusting the sensing range
- Operating mode (light/dark) selectable via control wire
- Cable or rotatable M12 connector

#### Your benefits

- Universal AC/DC voltage variants provide high performance and increased flexibility in environments with limited space
- High performance reserve in harsh environmental conditions
- Mounting kit reduces installation time
- Operating mode (light/dark) is selectable via a control cable to reduce the number of device variants
- Mounting compatibility - DC devices and AC/DC devices available in same design



#### Features

|                                  |                                     |
|----------------------------------|-------------------------------------|
| Sensor/detection principle:      | Through-beam photoelectric sensor   |
| Dimensions (W x H x D):          | 20 mm x 60 mm x 43.9 mm             |
| Housing design (light emission): | Rectangular                         |
| Sensing range max.:              | 0 m ... 50 m                        |
| Sensing range:                   | 0 m ... 40 m                        |
| Type of light:                   | Visible red light                   |
| Light source:                    | BrightLight LED <sup>1)</sup>       |
| Angle of dispersion:             | Ca. 2 °                             |
| Adjustment:                      | Potentiometer, 2-turn <sup>2)</sup> |
| Light spot size (distance):      | Ø 0.6 m (20 m)                      |

<sup>1)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C <sup>2)</sup> With position indicator

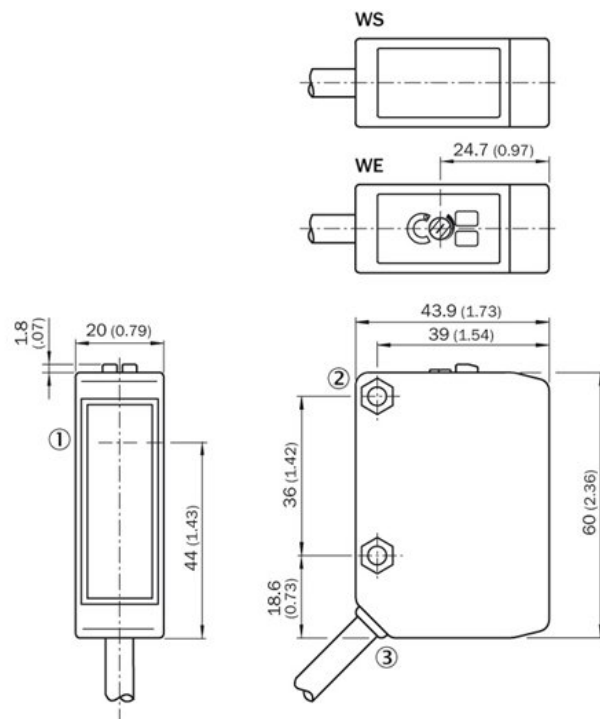
#### Mechanics/electronics

|                              |                                                                   |
|------------------------------|-------------------------------------------------------------------|
| Supply voltage::             | 24 V AC/DC ... 240 V AC/DC, 24 V DC ... 240 V DC <sup>1) 2)</sup> |
| Power consumption, sender:   | ≤ 3.5 VA                                                          |
| Power consumption, receiver: | ≤ 3.5 VA                                                          |
| Output type:                 | Relay <sup>3)</sup>                                               |

|                                        |                                       |
|----------------------------------------|---------------------------------------|
| Output function:                       | Change-over contacts                  |
| Switching mode:                        | Light switching <sup>4)</sup>         |
| Output characteristic:                 | Electrically isolated                 |
| Switching current (switching voltage): | 3 A (240 V AC), 3 A (30 V DC)         |
| Response time:                         | ≤ 15 ms                               |
| Switching frequency:                   | 33 Hz <sup>5)</sup>                   |
| Angle of reception:                    | 20 °                                  |
| Connection type:                       | Cable, 5-wire, 5 m <sup>6)</sup>      |
| Cable material:                        | PVC                                   |
| Conductor cross-section:               | 0.76 mm <sup>2</sup>                  |
| Cable diameter:                        | Ø 6.4 mm                              |
| Circuit protection::                   | A, C <sup>7) 8)</sup>                 |
| Protection class:                      | II <sup>9)</sup>                      |
| Overvoltage category:                  | 222                                   |
| Weight:                                | 660 g                                 |
| Special device:                        | -                                     |
| Housing material:                      | ABS, Plastic                          |
| Optics material:                       | PMMA                                  |
| Enclosure rating:                      | IP 67                                 |
| Items supplied:                        | BEF-W250 mounting bracket             |
| Usage category:                        | AC-15, DC-13, According to EN 60947-1 |
| EMC:                                   | EN 60947-5-2 <sup>10)</sup>           |
| Ambient operating temperature:         | -25 °C ... 55 °C                      |
| Ambient storage temperature:           | -40 °C ... 70 °C                      |

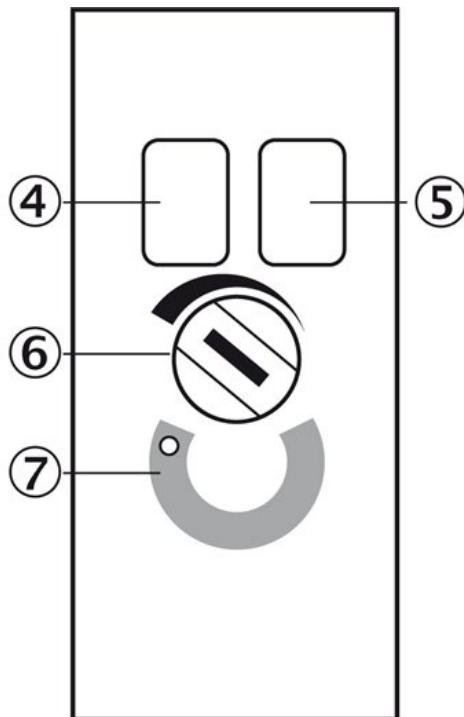
1) 2) ±10 % 3) 4) Provide suitable spark suppression for inductive or capacitive loads <sup>5)</sup> With light/dark ratio 1:1 <sup>6)</sup> Do not bend below 0 °C <sup>7)</sup> A = V<sub>S</sub> connections  
reverse-polarity protected <sup>8)</sup> C = interference suppression <sup>9)</sup> Reference voltage 250 V AC <sup>10)</sup> The AC/DC devices meet the interference suppression requirements for  
industrial use (interference suppression class A). When used in residential areas it can cause interference.

## Dimensional drawing



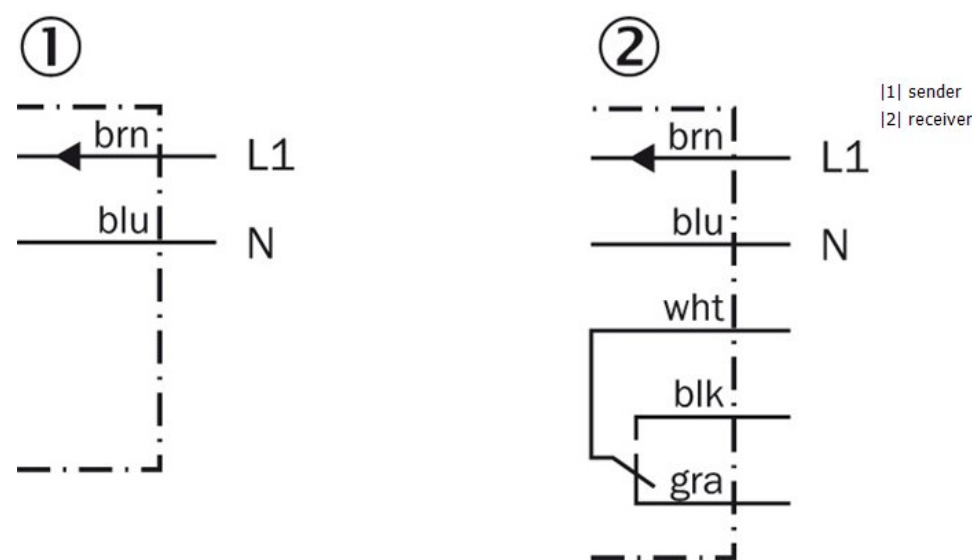
- |1| Center of the optical axis,  
sender (WS 250), receiver (WE 250)
- |2| Mounting hole  $\varnothing$  4.2 mm,  
for M4 hexagon nut on both sides
- |3| Connection cable

## Adjustments possible

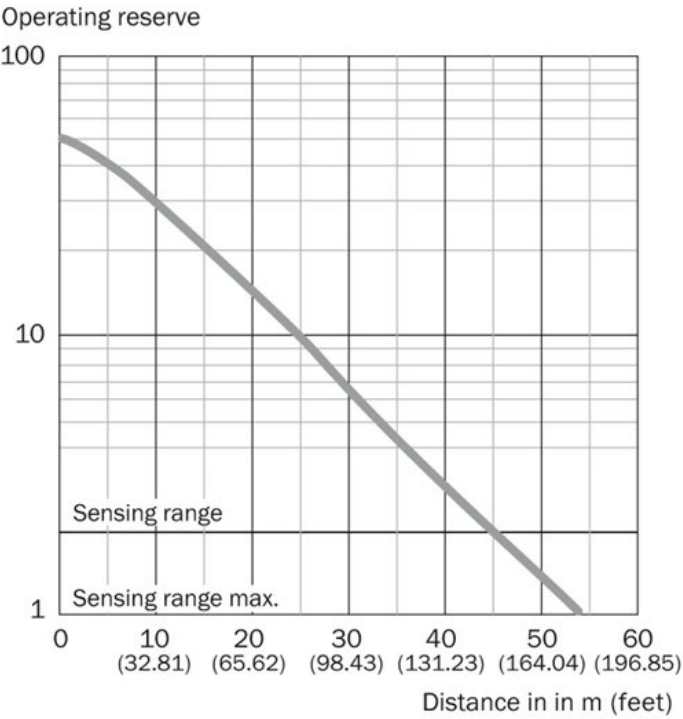


- |4| LED indicator green: Stability indicator
- |5| Status indicator LED,  
yellow: Status of received light beam
- |6| Sensitivity adjustment: poti
- |7| Position indicator for sensitivity setting (270°)

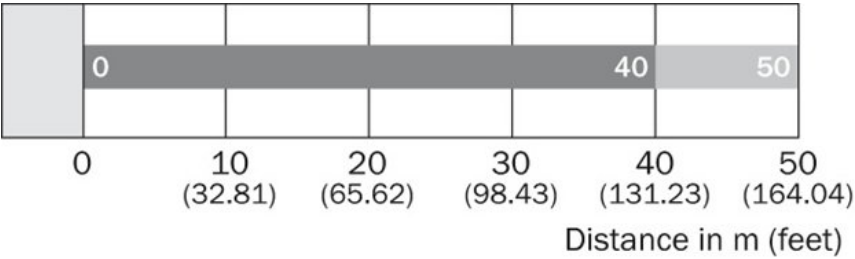
Connection diagram



Characteristic curve



Sensing range diagram



■ Sensing range      ■ Sensing range max.

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