



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 ¹⁾ |
| Angle of dispersion: | Ca. 2 ° |
| Adjustment: | Potentiometer, 2 turns |
| Light spot size (distance): | Ø 0.6 m (20 m) |

¹⁾ Average service life of 100,000 h at T_A = +25 °C ²⁾ With position indicator

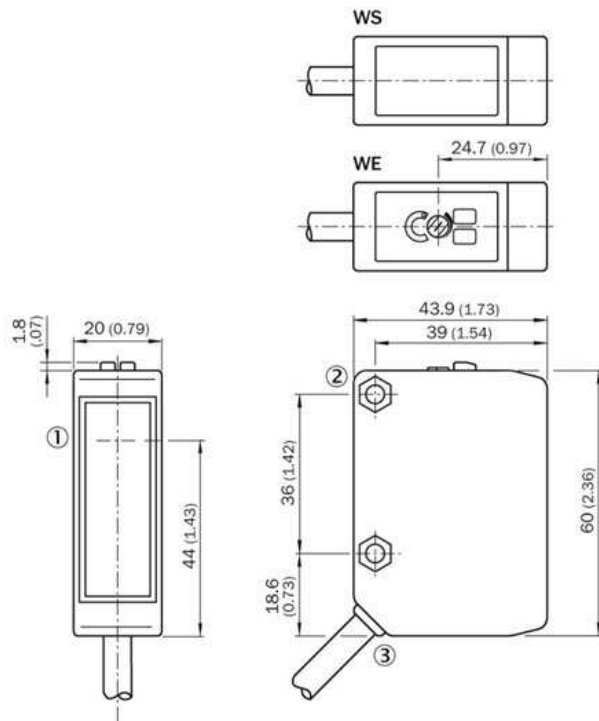
Mechanics/electronics

| | |
|------------------------------|---|
| Supply voltage:: | 24 V AC/DC ... 240 V AC/DC, 24 V DC ... 240 V DC ^{1) 2)} |
| Power consumption, sender: | ≤ 3.5 VA |
| Power consumption, receiver: | ≤ 3.5 VA |

| | |
|--|--|
| Output type: | Relay, electrically isolated ³⁾ |
| Output function: | Change-over contacts |
| Switching mode: | Light switching ⁴⁾ |
| Switching current (switching voltage): | 3 A (240 V AC), 3 A (30 V DC) |
| Response time: | ≤ 15 ms |
| Switching frequency: | 33 Hz ⁵⁾ |
| Angle of reception: | 20 ° |
| Electrical connection: | Cable, 5-wire, 5 m ⁶⁾ |
| Cable material: | PVC |
| Conductor cross-section: | 0.76 mm ² |
| Cable diameter: | Ø 6.4 mm |
| Circuit protection: | A, C ^{7) 8)} |
| Protection class: | II ⁹⁾ |
| Overvoltage category: | 2 |
| Weight: | 660 g |
| Special device: | - |
| 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 ¹⁰⁾ |
| Ambient temperature operation: | -25 °C ... +55 °C |
| Ambient storage temperature: | -40 °C ... +70 °C |
| UL File No.: | NRKH2.E300503 & NRKH8.E300503 |
| Housing material: | ABS, Plastic |

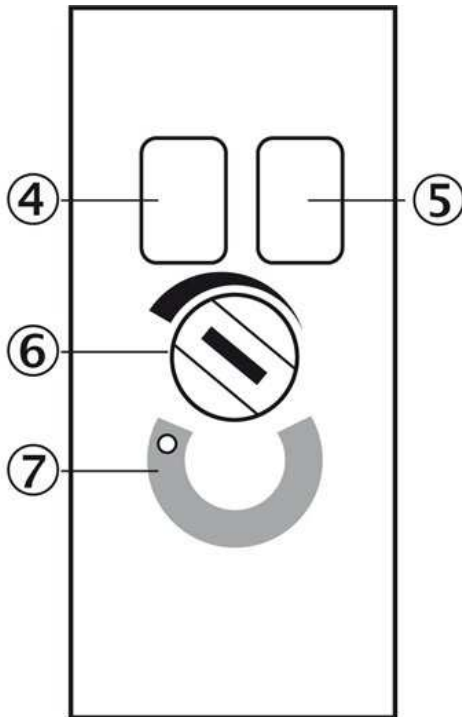
1) 2) ±10 % 3) 4) Provide suitable spark suppression for inductive or capacitive loads 5) With light/dark ratio 1:1 6) Do not bend below 0 °C 7) A = V_S connections reverse-polarity protected 8) C = interference suppression 9) Reference voltage: 250 V AC 10) The AC/DC devices meet the interference suppression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

Dimensional drawing



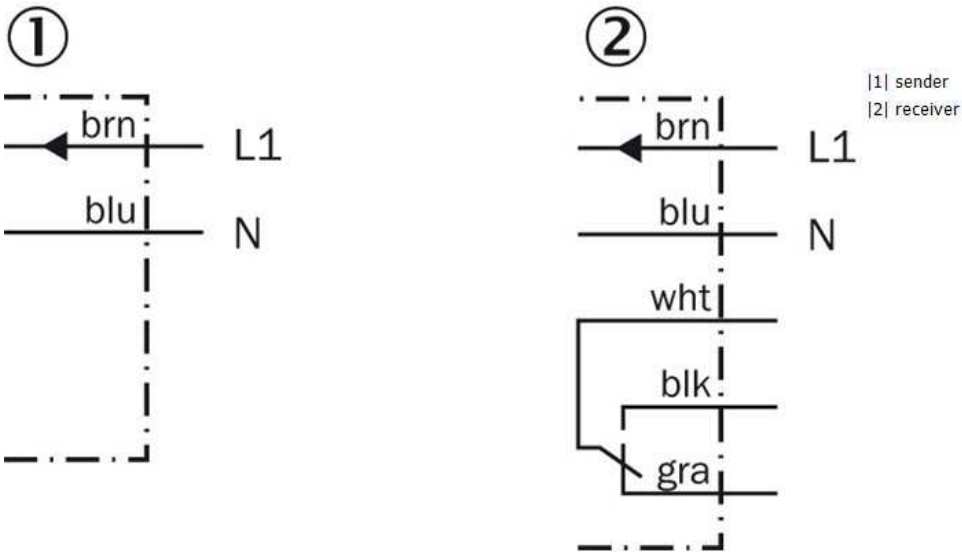
- |1| Center of the optical axis,
sender (WS 250), receiver (WE 250)
- |2| Mounting hole \varnothing 4.2 mm,
for M4 hexagon nut on both sides
- |3| Connection cable

Adjustments possible

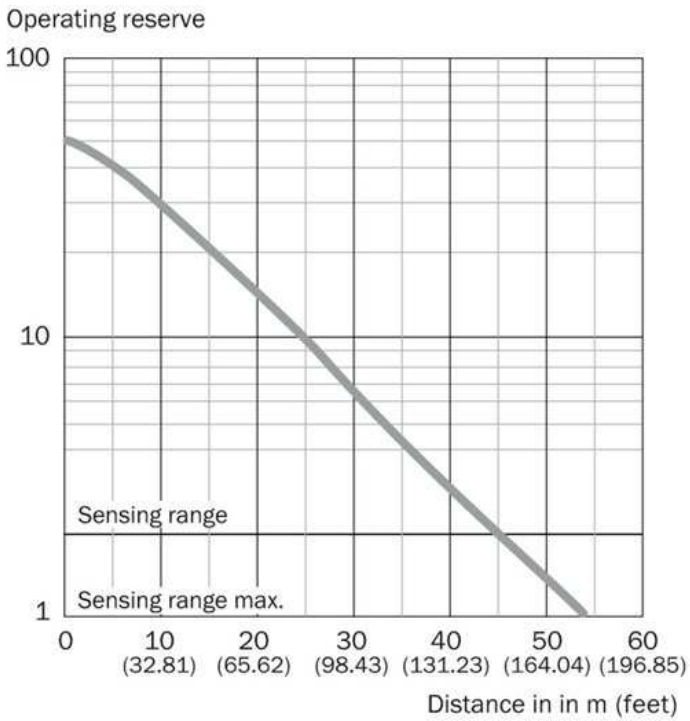


- |4| LED indicator green: Stability indicator
- |5| Status indicator LED,
yellow: Status of received light beam
- |6| Sensitivity adjustment: poti
- |7| Position indicator for sensitivity setting (270°)

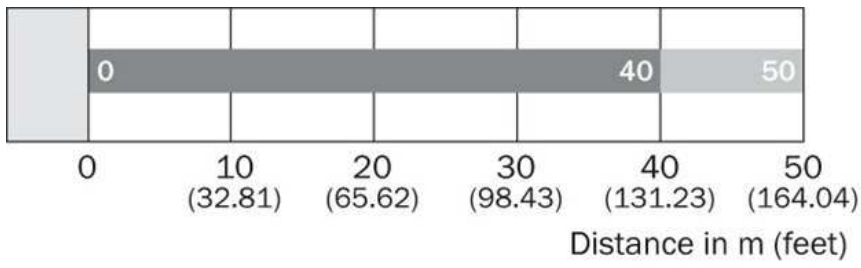
Connection diagram



Characteristic curve



Sensing range diagram



■ Sensing range ■ Sensing range max.

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