



Photoelectric sensors  
W250-2, Through-beam photoelectric sensor

WSE250-2F2431



**Model Name** > [WSE250-2F2431](#)  
**Part No.** > [6044706](#)



*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 65 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 °
Special features:	Pin 2 not assigned
Adjustment:	Potentiometer, 2 turns
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

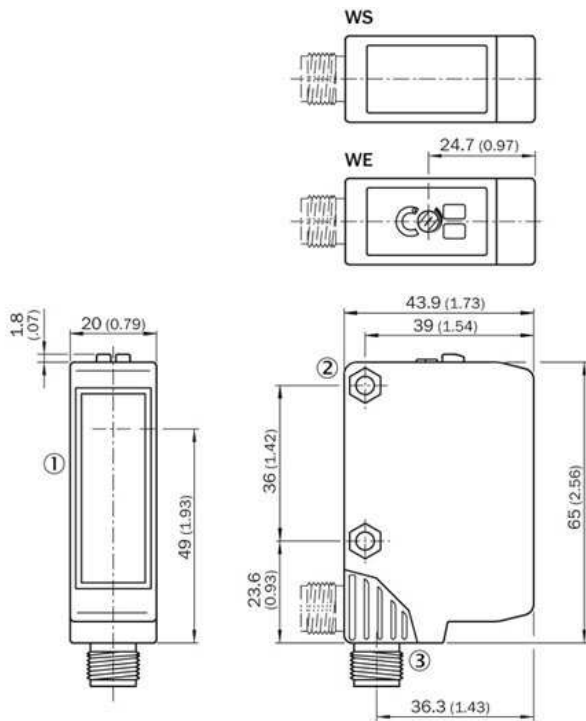
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Residual ripple:	≤ 5 Vpp <sup>2)</sup>

Power consumption, sender:	20 mA <sup>3)</sup>
Power consumption, receiver:	20 mA <sup>4)</sup>
Output type:	PNP, open collector
Switching mode:	Light switching
Output current I <sub>max</sub> :	≤ 100 mA
Response time:	≤ 0.5 ms <sup>5)</sup>
Switching frequency:	1,000 Hz <sup>6)</sup>
Angle of reception:	20 °
Electrical connection:	Connector M12, 4-pin <sup>7)</sup>
Circuit protection:::	A, B, C, D <sup>8) 9) 10) 11)</sup>
Protection class:	III
Weight:	80 g
Special device:	✓
Optics material:	PMMA
Enclosure rating:	IP 67
Items supplied:	BEF-W250 mounting bracket
EMC:	EN 60947-5-2 <sup>12)</sup>
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

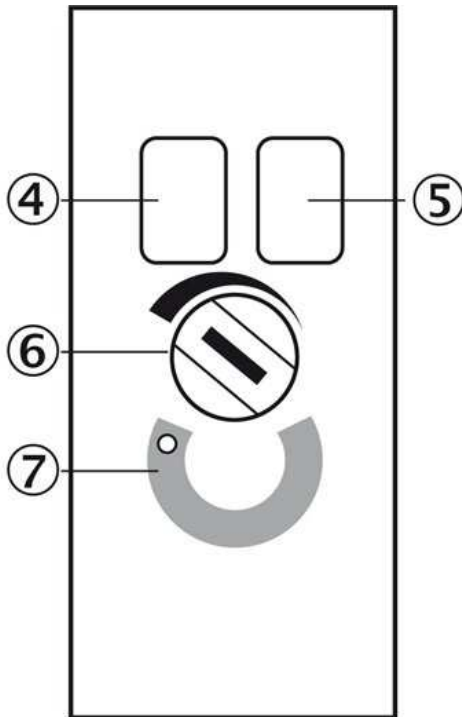
<sup>1)</sup> Limit values, operation in short-circuit protected network max. 8 A <sup>2)</sup> May not exceed or fall short of  $V_S$  tolerances <sup>3) 4)</sup> Without load <sup>5)</sup> Signal transit time with resistive load <sup>6)</sup> With light/dark ratio 1:1 <sup>7)</sup> 90 ° rotatable <sup>8)</sup> A =  $V_S$  connections reverse-polarity protected <sup>9)</sup> B = inputs and output reverse-polarity protected <sup>10)</sup> C = interference suppression <sup>11)</sup> D = outputs overcurrent and short-circuit protected <sup>12)</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



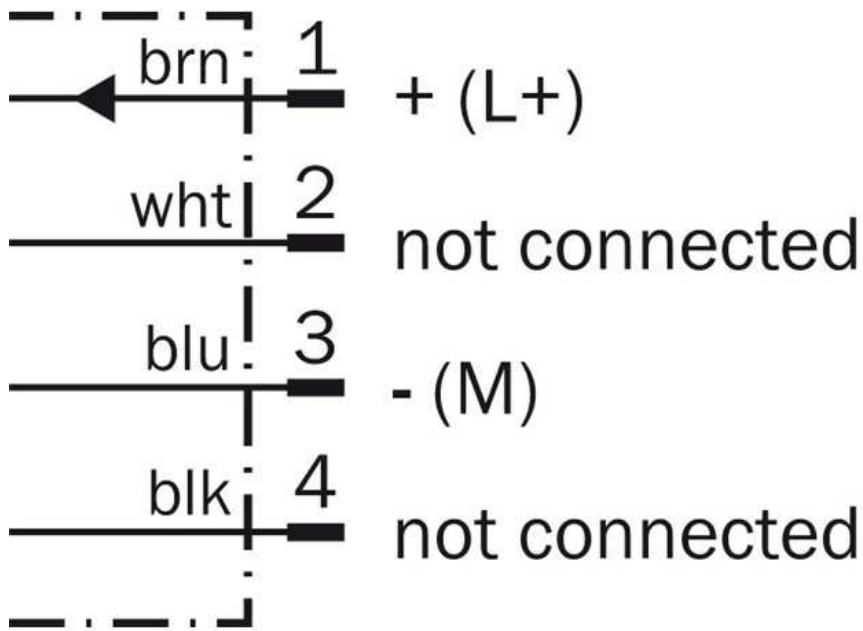
- |1| Center of the optical axis, sender (WS 250), receiver (WE 250)
- |2| Mounting hole  $\varnothing$  4.2 mm, for M4 hexagon nut on both sides
- |3| Connector M12, 4-pin: Connector position rotatable by 90° (V>H); V: Vertikal final position ; H: Horizontal final position, can be locked with slider

## Adjustments possible

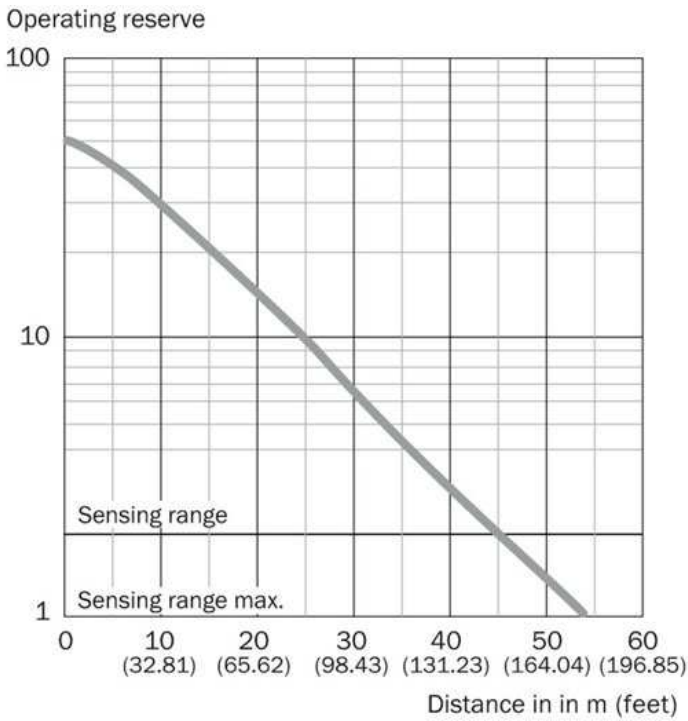


- |4| LED indicator green: Stability indicator
- |5| Status indicator LED, yellow: Status of received light beam
- |6| Sensitivity adjustment: poti
- |7| Position indicator for sensitivity setting (270°)

### Connection diagram

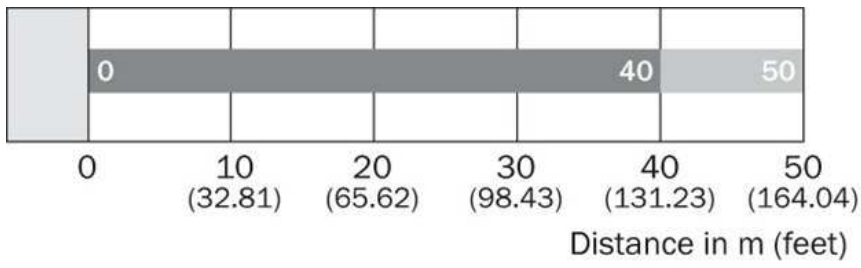


### Characteristic curve



**Sensing range diagram**

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■ Sensing range

■ Sensing range max.

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