



Photoelectric sensors
W250-2, Through-beam photoelectric sensor

WSE250-2N2431



Model Name > [WSE250-2N2431](#)
Part No. > [6044711](#)



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 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

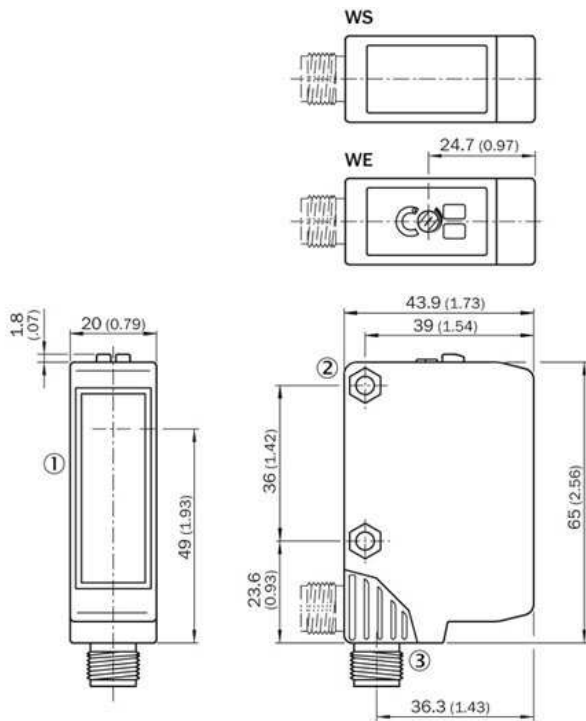
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Residual ripple:	≤ 5 V _{pp} ²⁾
Power consumption, sender:	20 mA ³⁾

Power consumption, receiver:	20 mA ⁴⁾
Output type:	NPN, open collector
Switching mode:	Light/dark switching
Switching mode selector:	Selectable via L/D control wire
Output current I _{max} :	≤ 100 mA
Response time:	≤ 0.5 ms ⁵⁾
Switching frequency:	1,000 Hz ⁶⁾
Angle of reception:	20 °
Electrical connection:	Connector M12, 4-pin ⁷⁾
Circuit protection:::	A, B, C, D ^{8) 9) 10) 11)}
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 ¹²⁾
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

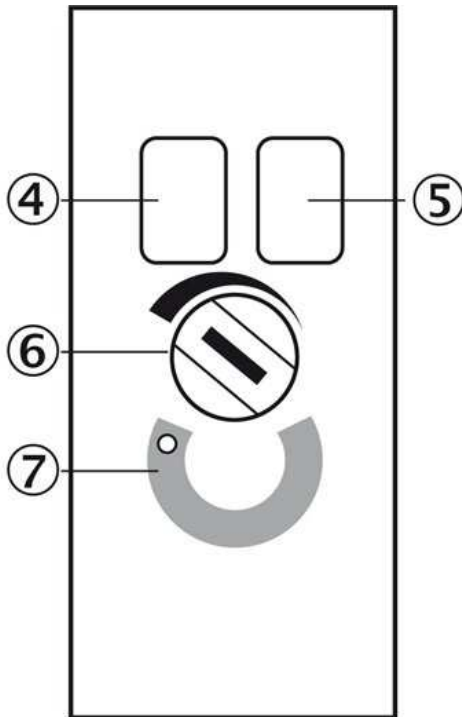
¹⁾ Limit values, operation in short-circuit protected network max. 8 A ²⁾ May not exceed or fall short of V_S tolerances ^{3) 4)} Without load ⁵⁾ Signal transit time with resistive load ⁶⁾ With light/dark ratio 1:1 ⁷⁾ 90 ° rotatable ⁸⁾ A = V_S connections reverse-polarity protected ⁹⁾ B = inputs and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

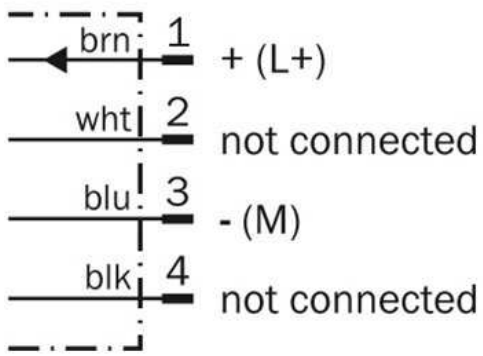
Adjustments possible



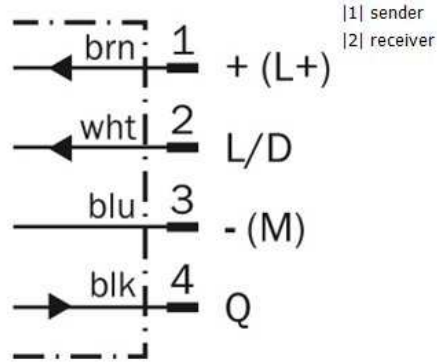
- [4] LED indicator green: Stability indicator
- [5] Status indicator LED, yellow: Status of received light beam
- [6] Sensitivity adjustment: poti
- [7] Position indicator for sensitivity setting (270°)

Connection diagram

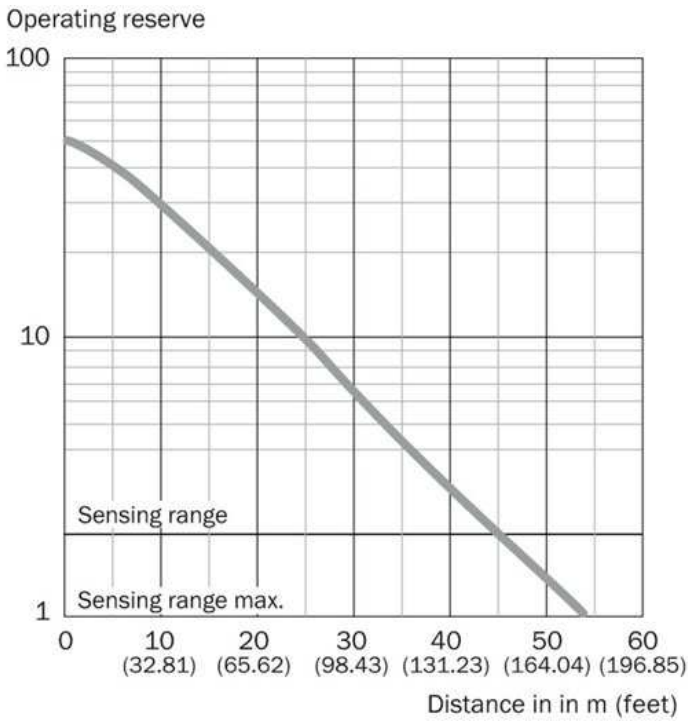
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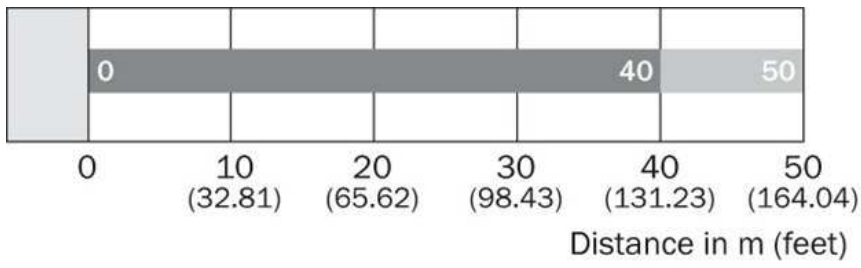
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Characteristic curve



Sensing range diagram



■ Sensing range

■ Sensing range max.

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