



WSE250-2R1631
W250-2

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
WSE250-2R1631	6044708

Included in delivery: BEF-W250 (1)

Other models and accessories → www.sick.com/W250-2

Detailed technical data

Features

Functional 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
Focus	Approx. 2°
Type of light	Visible red light
Light source	LED ¹⁾
Light spot size (distance)	Ø 0.6 m (20 m)
Angle of dispersion	Approx. 2°
Adjustment	Potentiometer, 2 turns ²⁾

¹⁾ Average service life: 100,000 h at T_U = +25 °C.

²⁾ With position indicator.

Mechanics/electronics

Supply voltage U_B	24 V DC ... 240 V DC ¹⁾ 24 V AC/DC ... 240 V AC/DC ¹⁾
Power consumption, sender	≤ 3.5 VA
Power consumption, receiver	≤ 3.5 VA

¹⁾ ± 10%.

²⁾ Provide suitable spark suppression for inductive or capacitive loads.

³⁾ With light/dark ratio 1:1.

⁴⁾ Do not bend below 0 °C.

⁵⁾ A = V_S connections reverse-polarity protected.

⁶⁾ C = interference suppression.

⁷⁾ Reference voltage: 250 V AC.

⁸⁾ The AC/DC devices comply with the Radio Safety Requirements for the industrial sector (Radio Safety Class A). They may cause radio interference if used in a residential area.

Switching output	Relay, electrically isolated ²⁾
Output function	Change-over contacts
Switching mode	Light switching ²⁾
Switching current (switching voltage)	3 A (240 V AC) 3 A (30 V DC)
Response time	≤ 15 ms
Switching frequency	33 Hz ³⁾
Angle of reception	20°
Connection type	Cable, 5-wire, 5 m ⁴⁾
Cable material	PVC
Conductor cross section	0.76 mm ²
Cable diameter	Ø 6.4 mm
Circuit protection	A ⁵⁾ C ⁶⁾
Protection class	II ⁷⁾
Overvoltage category	2
Weight	660 g
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67
Items supplied	BEF-W250 mounting bracket
Electromagnetic compatibility (EMC)	EN 60947-5-2 ⁸⁾
Ambient operating temperature	-25 °C ... +55 °C
Ambient temperature, storage	-40 °C ... +70 °C
UL File No.	NRKH2.E300503 & NRKH8.E300503

1) +/- 10%.

2) Provide suitable spark suppression for inductive or capacitive loads.

3) With light/dark ratio 1:1.

4) Do not bend below 0 °C.

5) A = V_S connections reverse-polarity protected.

6) C = interference suppression.

7) Reference voltage: 250 V AC.

8) The AC/DC devices comply with the Radio Safety Requirements for the industrial sector (Radio Safety Class A). They may cause radio interference if used in a residential area.

Safety-related parameters

MTTF_D	445 years
DC_{avg}	0 %
B_{10d}	68,000 Switching cycles ¹⁾

¹⁾ Only for devices containing electro-mechanical components. In this case, the MTTF_D value of the entire device must be calculated from the given B_{10D} value, the number of switching cycles and the given MTTF_D value.

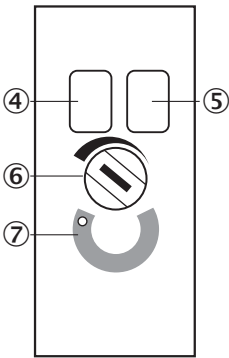
Classifications

eCI@ss 5.0	27270901
eCI@ss 5.1.4	27270901

eCl@ss 6.0	27270901
eCl@ss 6.2	27270901
eCl@ss 7.0	27270901
eCl@ss 8.0	27270901
eCl@ss 8.1	27270901
eCl@ss 9.0	27270901
eCl@ss 10.0	27270901
eCl@ss 11.0	27270901
eCl@ss 12.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

Adjustments

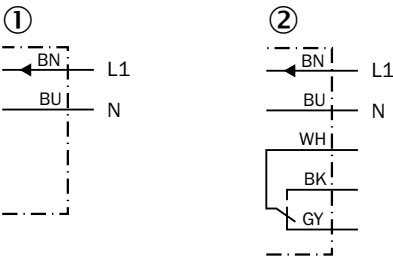
WSE250-2, sender



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

Connection diagram

Cd-228

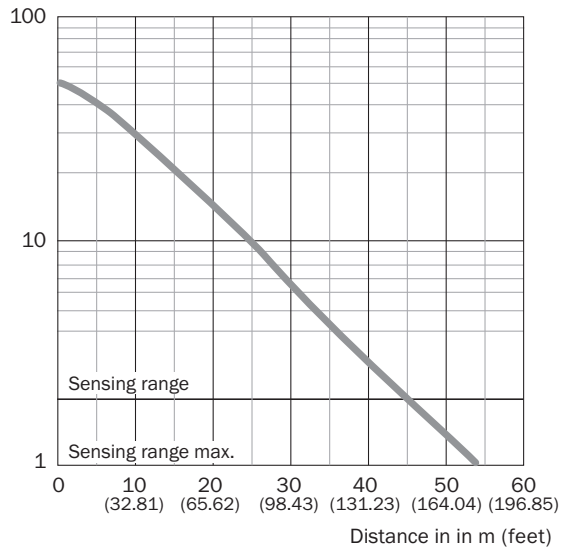


- ① Sender
- ② Receiver

Characteristic curve

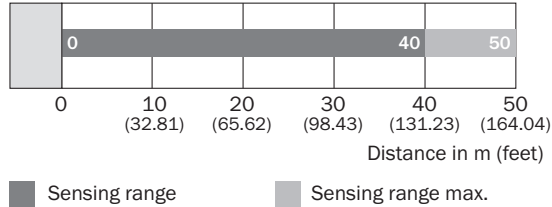
WSE250-2

Operating reserve



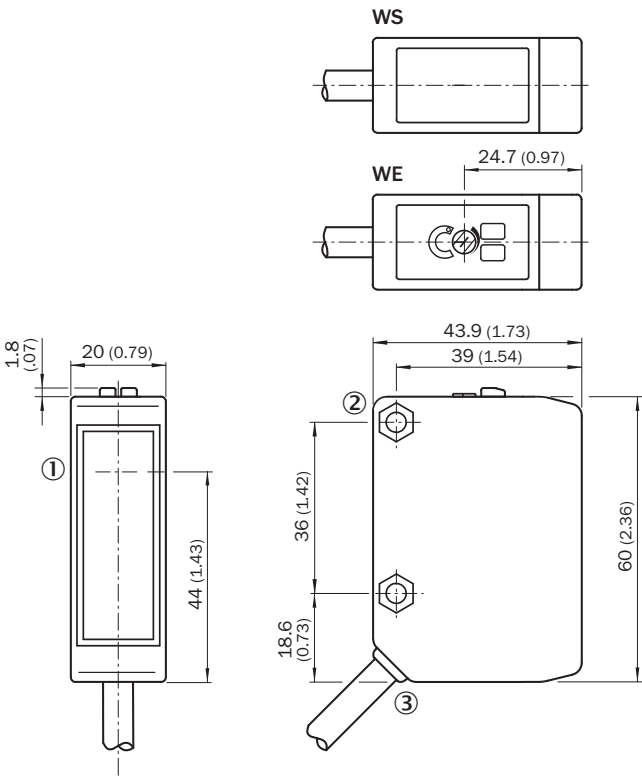
Sensing range diagram

WSE250-2



Dimensional drawing (Dimensions in mm (inch))

WSE250-2, AC/DC, cable



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

Recommended accessories

Other models and accessories → www.sick.com/W250-2

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: male connector, M12, 5-pin, straight Cable: unshielded For field bus technology	STE-1205-G	6022083

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SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

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