Product data sheet

WSE250-2N1231

W250-2

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

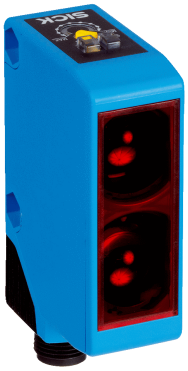

Illustration may differ

Ordering information

Type	Part no.
WSE250-2N1231	6044710

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 65 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	10 V DC ... 30 V DC [1]
Ripple	< 5 V_{pp} [2]

[1] Limit values when operated in short-circuit protected network: max. 8 A.

[2] May not fall below or exceed U_V tolerances.

[3] Without load.

[4] Signal transit time with resistive load.

[5] With light/dark ratio 1:1.

[6] Do not bend below 0 °C.

[7] A = V_S connections reverse-polarity protected.

[8] B = inputs and output reverse-polarity protected.

[9] C = interference suppression.

[10] D = outputs overcurrent and short-circuit protected.

[11] 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.

Power consumption, sender	20 mA [3]
Power consumption, receiver	20 mA [3]
Switching output	NPN
Switching mode	Light/dark switching
Switching mode selector	Selectable via L/D control cable
Output current $I_{max.}$	≤ 100 mA
Response time	≤ 0.5 ms [4]
Switching frequency	1,000 Hz [5]
Angle of reception	20°
Connection type	Cable, 4-wire, 5 m [6]
Cable material	Plastic, PVC
Conductor cross section	0.18 mm²
Cable diameter	Ø 3.8 mm
Circuit protection	A [7] B [8] C [9] D [10]
Protection class	III
Weight	300 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 [11]
Ambient operating temperature	–25 °C ... +55 °C
Ambient temperature, storage	–40 °C ... +70 °C
UL File No.	NRKH2.E300503 & NRKH8.E300503

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Safety-related parameters

$MTTF_D$	3,252 years
DC_{avg}	0 %

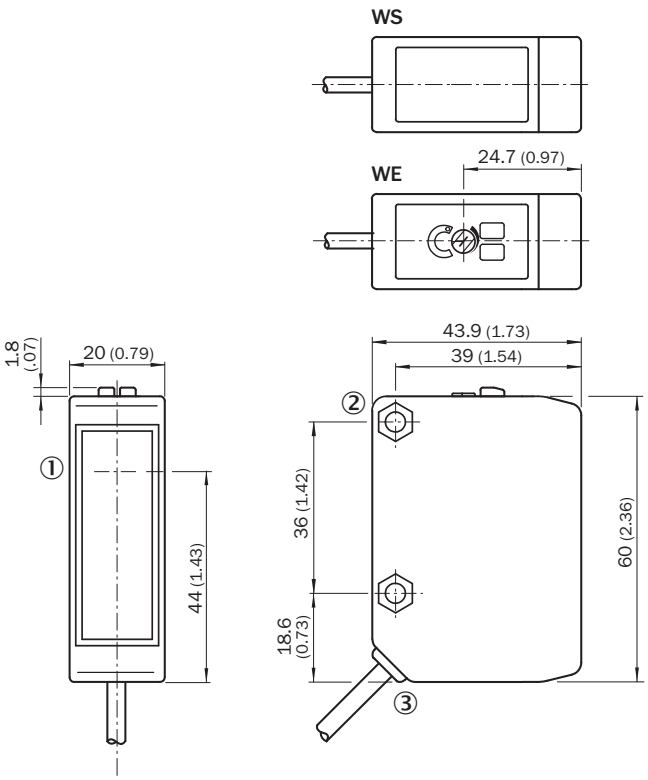
Classifications

ECLASS 5.0	27270901

ECLASS 5.1.4	27270901
ECLASS 6.0	27270901
ECLASS 6.2	27270901
ECLASS 7.0	27270901
ECLASS 8.0	27270901
ECLASS 8.1	27270901
ECLASS 9.0	27270901
ECLASS 10.0	27270901
ECLASS 11.0	27270901
ECLASS 12.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

Dimensional drawing (Dimensions in mm (inch))

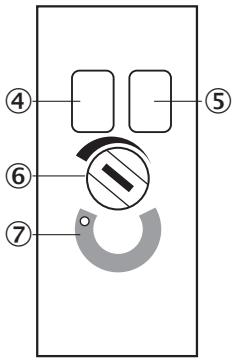
WSE250-2, DC, cable



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

Adjustments

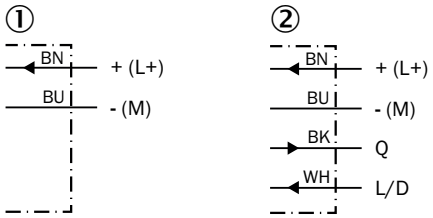
WSE250-2, sender



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

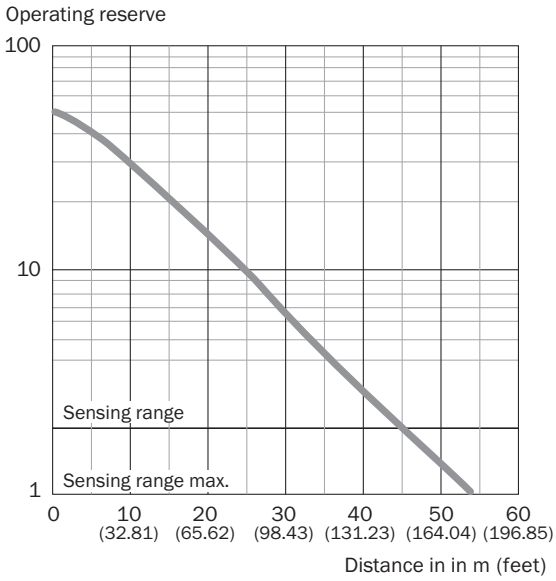
Cd-058



① Sender
② Receiver

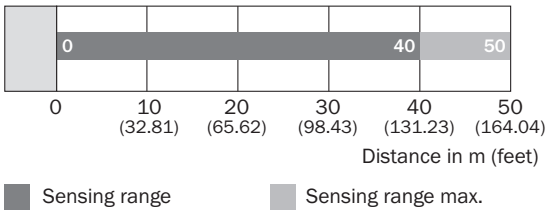
Characteristic curve

WSE250-2



Sensing range diagram

WSE250-2



Recommended accessories

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

	Brief description	Type	Part no.
Others			
	• **Connection type head A:** Male connector, M12, 4-pin, straight, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** ≤ 0.75 mm²	STE-1204-G	6009932

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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.

For us, that is “Sensor Intelligence.”

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