



WS/WE250-P440

W250

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
WS/WE250-P440	6026268

Included in delivery: BEF-W250 (1)

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

Detailed technical data

Features

Functional principle	Through-beam photoelectric sensor
Dimensions (W x H x D)	20 mm x 65 mm x 43 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m ... 25 m
Sensing range	0 m ... 20 m
Focus	4°
Type of light	Visible red light
Light source	LED ¹⁾
Light spot size (distance)	Ø 1.5 m (20 m)
Angle of dispersion	4°
Adjustment	None

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

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Power consumption, sender	20 mA ³⁾
Power consumption, receiver	35 mA ³⁾

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

²⁾ May not exceed or fall below U_V tolerances.

³⁾ Without load.

⁴⁾ Signal transit time with resistive load.

⁵⁾ With light/dark ratio 1:1.

⁶⁾ Rotatable through 90°.

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⁾ Reference voltage: 50 V DC.

Switching output	PNP
Switching mode	Light/dark switching
Switching mode selector	Selectable via L/D control cable
Output current $I_{\max}$	$\leq 100 \text{ mA}$
Response time	$\leq 0.5 \text{ ms}^{4)}$
Switching frequency	$1,000 \text{ Hz}^{5)}$
Angle of reception	20°
Connection type	Male connector M12, 4-pin ⁶⁾
Circuit protection	A ⁷⁾ B ⁸⁾ C ⁹⁾ D ¹⁰⁾
Protection class	II ¹¹⁾
Weight	140 g
Housing material	Plastic, ABS
Optics material	Plastic, PC
Enclosure rating	IP67
Items supplied	BEF-W250 mounting bracket
Ambient operating temperature	$-25 \text{ }^\circ\text{C} \dots +55 \text{ }^\circ\text{C}$
Ambient temperature, storage	$-40 \text{ }^\circ\text{C} \dots +70 \text{ }^\circ\text{C}$
UL File No.	NRNT2.E128350 & NRNT8.E128350

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Safety-related parameters

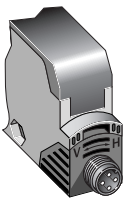
MTTF_D	1,706 years
DC_{avg}	0 %

Classifications

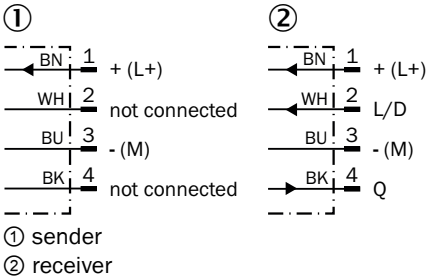
ECLASS 5.0	27270901
ECLASS 5.1.4	27270901
ECLASS 6.0	27270901
ECLASS 6.2	27270901
ECLASS 7.0	27270901
ECLASS 8.0	27270901
ECLASS 8.1	27270901

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

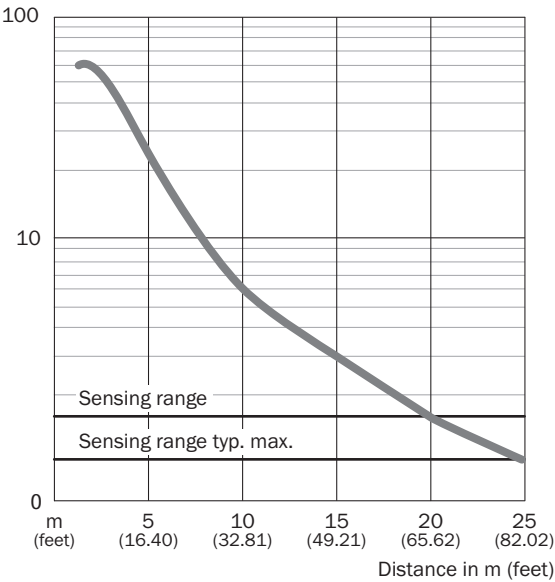
Connection type



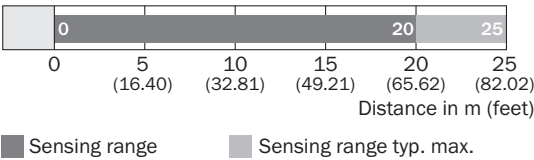
Connection diagram Cd-060



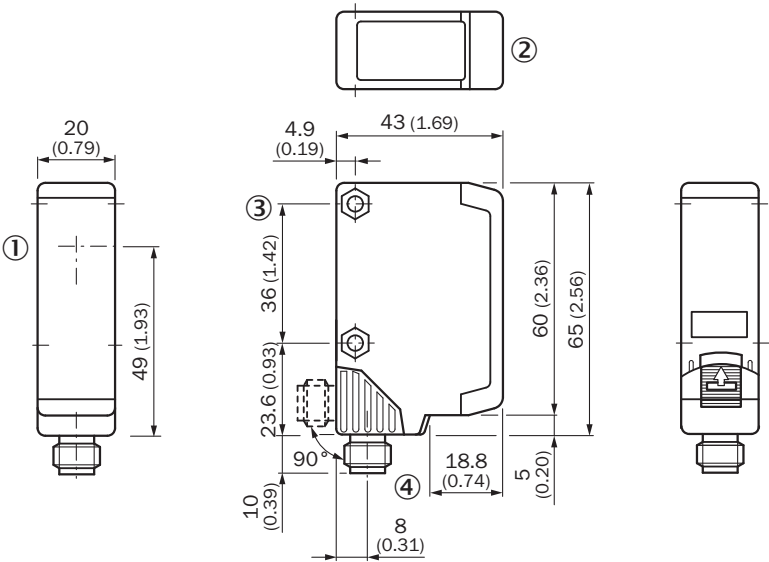
Characteristic curve



Sensing range diagram



Dimensional drawing



Dimensions in mm (inch)

① Center of the optical axis, sender (WS250), receiver (WE250)

- ② Red LED signal strength indicator (only receiver WE250)
- ③ mounting hole ø 4.2 mm, for M4 hexagon nuts on both sides
- ④ Connection cable or M12 connector - 4-pin;
- ④ connector position rotatable by 90° (V> H);
- ④ V: Vertikal final position;
- ④ H: Horizontal final position, can be locked with slider

Recommended accessories

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

	Brief description	Type	part no.
connectors and cables			
	• Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals, Uncontaminated zones	YF2A14-050VB3XLEAX	2096235
	• 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

SICK AT A GLANCE

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.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com