



WT250-P142

W250

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
WT250-P142	6010619

Included in delivery: BEF-W250 (1)

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

Detailed technical data

Features

Sensor/ detection principle	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D)	20 mm x 65 mm x 43 mm
Housing design (light emission)	Rectangular
Sensing range max.	100 mm ... 300 mm ¹⁾
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Type of light	Visible red light
Light source	LED ²⁾
Light spot size (distance)	Ø 25 mm (300 mm)
Angle of dispersion	3°
Adjustment	Potentiometer, 2 turns ³⁾ Potentiometer, 2 rotations

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033).

²⁾ Average service life: 100,000 h at T_U = +25 °C.

³⁾ With position indicator.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ¹⁾
Ripple	$\leq 5 V_{pp}$ ²⁾
Power consumption	35 mA ³⁾
Switching output	PNP
Switching mode	Light/dark switching
Switching mode selector	Selectable via L/D control cable
Output current I_{max.}	100 mA
Response time	$\leq 2 \text{ ms}$ ⁴⁾
Switching frequency	250 Hz ⁵⁾
Connection type	Cable, 4-wire, 2 m ⁶⁾
Cable material	PVC
Conductor cross-section	0.18 mm ²
Cable diameter	Ø 3.8 mm
Circuit protection	A ⁷⁾ B ⁸⁾ C ⁹⁾ D ¹⁰⁾
Protection class	II ¹¹⁾
Weight	80 g
Housing material	Plastic, ABS
Optics material	Plastic, PC
Enclosure rating	IP67
Items supplied	BEF-W250 mounting bracket
Ambient operating temperature	-25 °C ... +55 °C
Ambient storage temperature	-40 °C ... +70 °C
UL File No.	NRNT2.E128350 & NRNT8.E128350

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⁾ 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⁾ Reference voltage: 50 V DC.

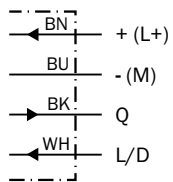
Classifications

ECl@ss 5.0	27270904
ECl@ss 5.1.4	27270904
ECl@ss 6.0	27270904
ECl@ss 6.2	27270904

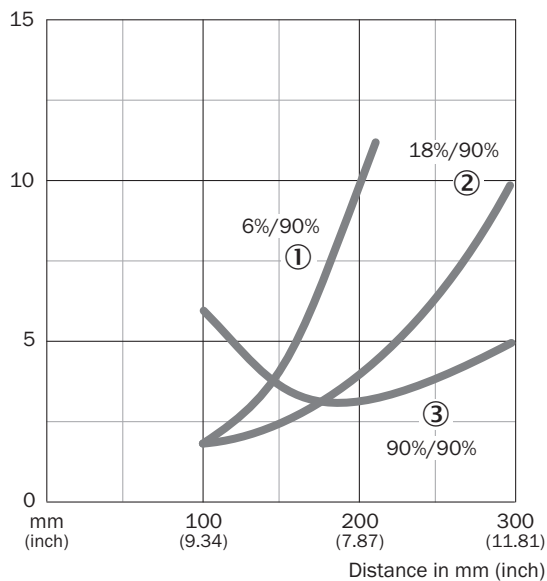
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ECl@ss 8.1	27270904
ECl@ss 9.0	27270904
ECl@ss 10.0	27270904
ECl@ss 11.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
UNSPSC 16.0901	39121528

Connection diagram

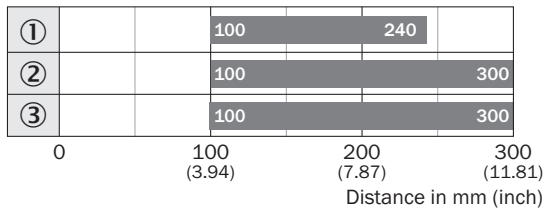
Cd-089



Characteristic curve



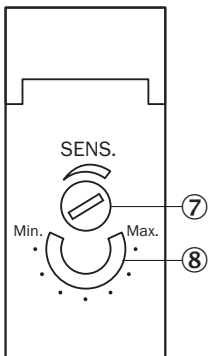
Sensing range diagram



■ Sensing range

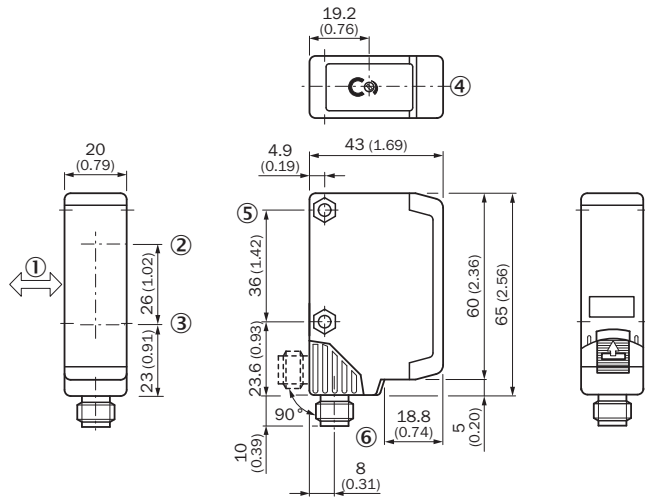
- ① Sensing range on black ¹¹⁾, background white
- ② Sensing range on gray ¹¹⁾, background white
- ③ Sensing range on white ¹¹⁾, background white

Adjustments possible



- ⑦ Sensing range adjustment: potentiometer, over-turn protection
- ⑧ Position indicator for sensitivity setting (270°)


Dimensional drawing (Dimensions in mm (inch))



- ① Standard direction of the material being detected
- ② Transmission axis
- ③ Reception axis
- ④ LED reception indicator, red
- ⑤ Mounting hole \varnothing 4.2 mm, for M4 hexagon nuts on both sides
- ⑥ Connection cable or M12 connector - 4-pin; Connector position rotatable by 90° (V > H); V: Vertikal final position; H: Horizontal final position, can be locked with slider

Recommended accessories

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

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: male connector, M12, 4-pin, straight Head B: - Cable: unshielded	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:

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