



# WT250-P460

W250

COMPACT PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
WT250-P460	6010706

**Included in delivery:** BEF-W250 (1)

Other models and accessories → [www.sick.com/W250](http://www.sick.com/W250)

### Detailed technical data

#### Features

<b>Sensor/ detection principle</b>	Photoelectric proximity sensor, Background suppression
<b>Dimensions (W x H x D)</b>	20 mm x 65 mm x 43 mm
<b>Housing design (light emission)</b>	Rectangular
<b>Sensing range max.</b>	150 mm ... 500 mm <sup>1)</sup>
<b>Sensing range</b>	150 mm ... 500 mm
<b>Type of light</b>	Visible red light
<b>Light source</b>	LED <sup>2)</sup>
<b>Light spot size (distance)</b>	Ø 35 mm (500 mm)
<b>Angle of dispersion</b>	3°
<b>Adjustment</b>	Potentiometer, 2 turns <sup>3)</sup> Potentiometer, 2 rotations

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

<sup>2)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

<sup>3)</sup> With position indicator.

## Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	$\leq 5 V_{pp}$ <sup>2)</sup>
<b>Current consumption</b>	35 mA <sup>3)</sup>
<b>Switching output</b>	PNP
<b>Switching mode</b>	Light/dark switching
<b>Switching mode selector</b>	Selectable via L/D control cable
<b>Output current <math>I_{max}</math></b>	100 mA
<b>Response time</b>	$\leq 2 ms$ <sup>4)</sup>
<b>Switching frequency</b>	250 Hz <sup>5)</sup>
<b>Connection type</b>	Male connector M12, 4-pin <sup>6)</sup>
<b>Circuit protection</b>	A <sup>7)</sup> B <sup>8)</sup> C <sup>9)</sup> D <sup>10)</sup>
<b>Protection class</b>	II <sup>11)</sup>
<b>Weight</b>	40 g
<b>Housing material</b>	Plastic, ABS
<b>Optics material</b>	Plastic, PC
<b>Enclosure rating</b>	IP67
<b>Items supplied</b>	BEF-W250 mounting bracket
<b>Ambient operating temperature</b>	-25 °C ... +55 °C
<b>Ambient storage temperature</b>	-40 °C ... +70 °C
<b>UL File No.</b>	NRNT2.E128350 & NRNT8.E128350

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

<sup>2)</sup> May not exceed or fall below  $U_V$  tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> Signal transit time with resistive load.

<sup>5)</sup> With light/dark ratio 1:1.

<sup>6)</sup> Rotatable through 90°.

<sup>7)</sup> A =  $V_S$  connections reverse-polarity protected.

<sup>8)</sup> B = inputs and output reverse-polarity protected.

<sup>9)</sup> C = interference suppression.

<sup>10)</sup> D = outputs overcurrent and short-circuit protected.

<sup>11)</sup> Reference voltage: 50 V DC.

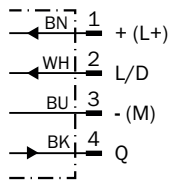
## Classifications

<b>ECl@ss 5.0</b>	27270904
<b>ECl@ss 5.1.4</b>	27270904
<b>ECl@ss 6.0</b>	27270904
<b>ECl@ss 6.2</b>	27270904
<b>ECl@ss 7.0</b>	27270904
<b>ECl@ss 8.0</b>	27270904
<b>ECl@ss 8.1</b>	27270904

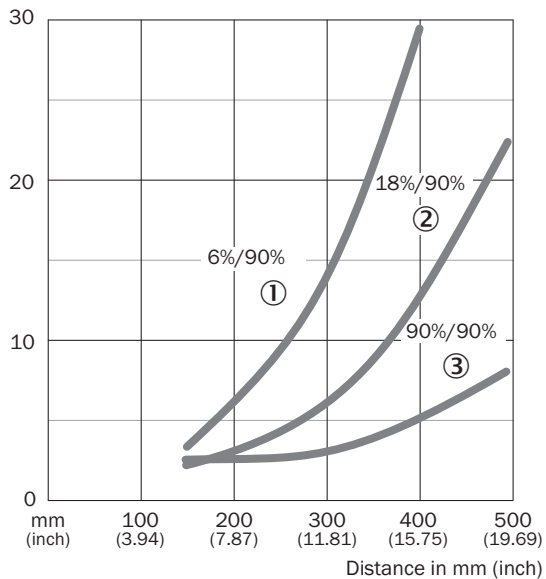
<b>ECl@ss 9.0</b>	27270904
<b>ECl@ss 10.0</b>	27270904
<b>ECl@ss 11.0</b>	27270904
<b>ETIM 5.0</b>	EC002719
<b>ETIM 6.0</b>	EC002719
<b>ETIM 7.0</b>	EC002719
<b>UNSPSC 16.0901</b>	39121528

### Connection diagram

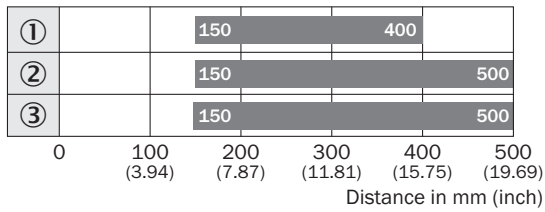
Cd-087



### Characteristic curve



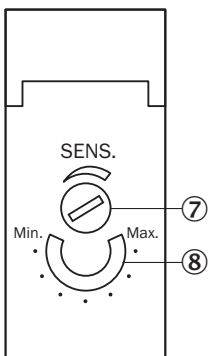
### Sensing range diagram



■ Sensing range

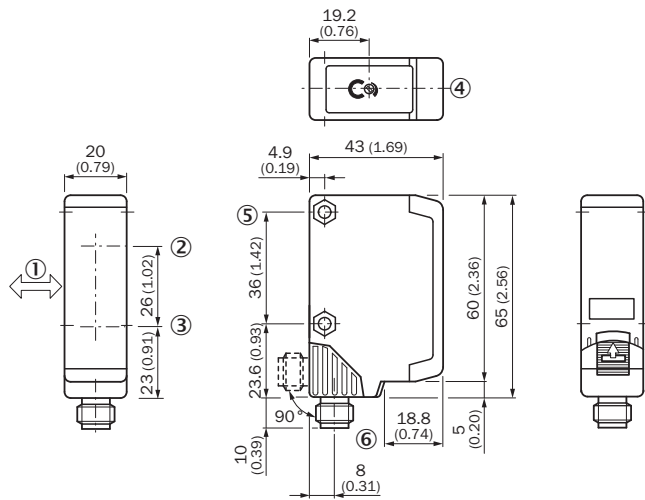
- ① Sensing range on black<sup>11)</sup>, background white
- ② Sensing range on gray<sup>11)</sup>, background white
- ③ Sensing range on white<sup>11)</sup>, background white

### Adjustments



- 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](http://www.sick.com/W250)

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A14-050VB3XLEAX	2096235
	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:

Contacts and other locations –[www.sick.com](http://www.sick.com)