



# WL45-P250

W45

COMPACT PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
WL45-P250	1008840

Other models and accessories → [www.sick.com/W45](http://www.sick.com/W45)

Illustration may differ



### Detailed technical data

#### Features

<b>Sensor/ detection principle</b>	Photoelectric retro-reflective sensor, Dual lens
<b>Dimensions (W x H x D)</b>	60 mm x 105 mm x 105 mm
<b>Housing design (light emission)</b>	Rectangular
<b>Sensing range max.</b>	1 m ... 55 m <sup>1)</sup>
<b>Sensing range</b>	1 m ... 45 m <sup>1)</sup>
<b>Type of light</b>	Visible red light
<b>Light source</b>	LED <sup>2)</sup>
<b>Light spot size (distance)</b>	Ø 230 mm (16 m)
<b>Adjustment</b>	Potentiometer

<sup>1)</sup> OP60-00.

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

#### Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 60 V DC <sup>1)</sup>
<b>Ripple</b>	≤ 5 V <sub>pp</sub> <sup>2)</sup>
<b>Power consumption</b>	250 mA <sup>3)</sup>
<b>Switching output</b>	PNP

<sup>1)</sup> Limit values.

<sup>2)</sup> May not exceed or fall below U<sub>v</sub> 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> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>7)</sup> C = interference suppression.

<sup>8)</sup> D = outputs overcurrent and short-circuit protected.

<sup>9)</sup> Reference voltage: 50 V DC.

<sup>10)</sup> Flashes at approx. 5 Hz, switch to VS.

<sup>11)</sup> Up to 140 °C with cooling plates (see accessories).

<b>Output function</b>	Complementary
<b>Switching mode</b>	Light/dark switching
<b>Output current I<sub>max.</sub></b>	200 mA
<b>Response time</b>	≤ 1.2 ms <sup>4)</sup>
<b>Switching frequency</b>	400 Hz <sup>5)</sup>
<b>Time functions</b>	On delay Off delay ON and OFF delay
<b>Delay time</b>	Adjustable via time delay selector switch, 0.5 s ... 12 s 0.015 s ... 0.3 s
<b>Connection type</b>	Terminal connection with PG13,5, 6-pin
<b>Circuit protection</b>	A <sup>6)</sup> C <sup>7)</sup> D <sup>8)</sup>
<b>Protection class</b>	I <sup>9)</sup>
<b>Weight</b>	800 g
<b>Polarisation filter</b>	✓
<b>Front screen heating</b>	✓
<b>Alarm output</b>	100 mA <sup>10)</sup>
<b>Housing material</b>	Metal
<b>Enclosure rating</b>	IP67
<b>Test input sender off</b>	TE to 0 V
<b>Ambient operating temperature</b>	-25 °C ... +55 °C <sup>11)</sup>
<b>Ambient storage temperature</b>	-40 °C ... +70 °C
<b>UL File No.</b>	NRKH.E181493 & NRKH7.E181493

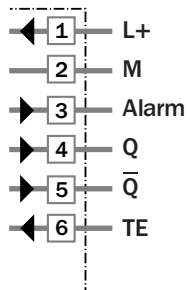
- 1) Limit values.
- 2) May not exceed or fall below U<sub>v</sub> tolerances.
- 3) Without load.
- 4) Signal transit time with resistive load.
- 5) With light/dark ratio 1:1.
- 6) A = V<sub>S</sub> connections reverse-polarity protected.
- 7) C = interference suppression.
- 8) D = outputs overcurrent and short-circuit protected.
- 9) Reference voltage: 50 V DC.
- 10) Flashes at approx. 5 Hz, switch to VS.
- 11) Up to 140 °C with cooling plates (see accessories).

## Classifications

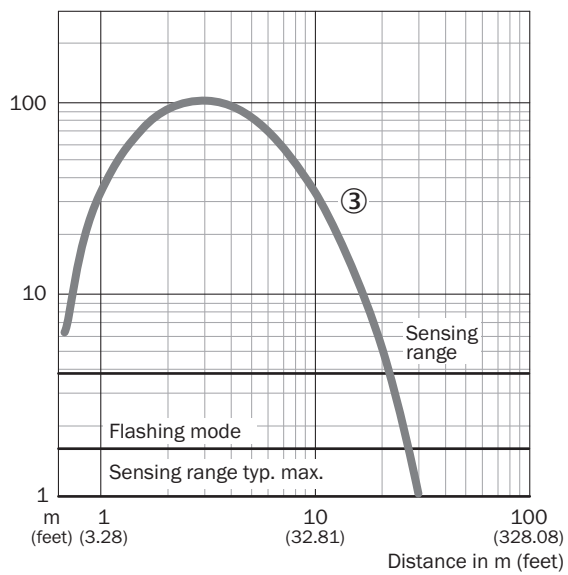
<b>ECl@ss 5.0</b>	27270902
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<b>ECl@ss 7.0</b>	27270902
<b>ECl@ss 8.0</b>	27270902
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<b>ECl@ss 10.0</b>	27270902
<b>ECl@ss 11.0</b>	27270902
<b>ETIM 5.0</b>	EC002717
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<b>ETIM 7.0</b>	EC002717
<b>UNSPSC 16.0901</b>	39121528

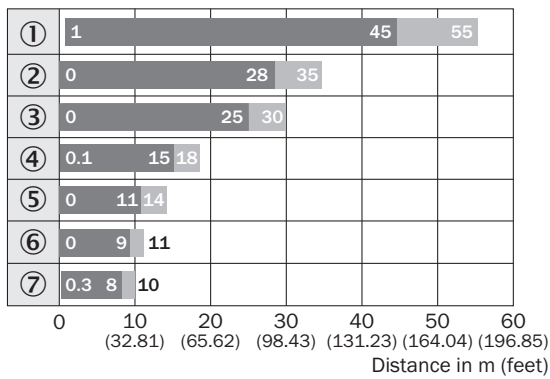
### Connection diagram



### Characteristic curve



### Sensing range diagram

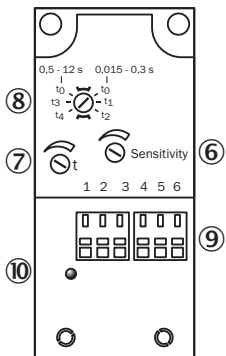


■ Sensing range      ■ Sensing range typ. max.

### Reflector type

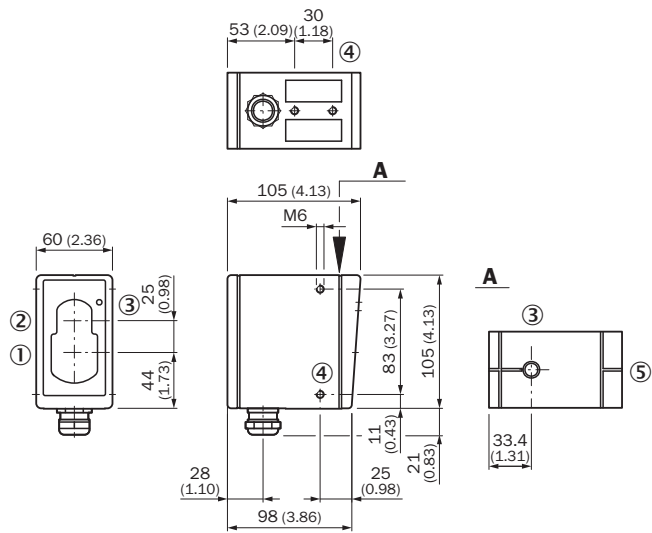
- ① OP60 ... ∞
- ② 4 x PL80
- ③ PL80A
- ④ C110
- ⑤ PL50
- ⑥ PL30
- ⑦ Reflective tape  
Diamond Grade

### Adjustments possible



- ⑥ Sensitivity control
- ⑦ Time control
- ⑧ Time delay selector switch
- ⑨ Terminal strip
- ⑩ Status indicator


### Dimensional drawing (Dimensions in mm (inch))



- ① Center of optical axis, sender
- ② Center of optical axis, receiver
- ③ LED signal strength indicator
- ④ M6 threaded mounting hole, 8 mm deep
- ⑤ Alignment sight

### Recommended accessories

Other models and accessories → [www.sick.com/W45](http://www.sick.com/W45)

	Brief description	Type	Part no.
<b>Reflectors</b>			
	Rectangular, screw connection, 80 mm x 80 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL80A	1003865

## 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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