

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
WL45-N250	1008839

Other models and accessories → www.sick.com/W45

Illustration may differ



Detailed technical data

Features

Sensor/ detection principle	Photoelectric retro-reflective sensor, Dual lens
Dimensions (W x H x D)	60 mm x 105 mm x 105 mm
Housing design (light emission)	Rectangular
Sensing range max.	1 m ... 55 m ¹⁾
Sensing range	1 m ... 45 m ¹⁾
Type of light	Visible red light
Light source	LED ²⁾
Light spot size (distance)	Ø 230 mm (16 m)
Adjustment	Potentiometer
Time type	On delay Off delay ON and OFF delay
Time functions	Adjustable via time delay selector switch: 0.5 ... 12 s 0.015 ... 0.3 s
Special features	Dark switching (pre-setting)

¹⁾ OP60-00.

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

Mechanics/electronics

Supply voltage	10 V DC ... 60 V DC ¹⁾
Ripple	$\leq 5 \text{ V}_{pp}$ ²⁾
Power consumption	250 mA ³⁾
Switching output	NPN
Output function	Complementary
Switching mode	Light/dark switching
Output current I_{max}	200 mA
Response time	$\leq 1.2 \text{ ms}$ ⁴⁾
Switching frequency	400 Hz ⁵⁾
Connection type	Terminal connection with PG13,5, 6-pin
Circuit protection	A ⁶⁾ C ⁷⁾ D ⁸⁾
Protection class	I ⁹⁾
Weight	800 g
Polarisation filter	✓
Front screen heating	✓
Alarm output	100 mA ¹⁰⁾
Housing material	Metal
Enclosure rating	IP67
Test input sender off	TE to V_S
Ambient operating temperature	-25 °C ... +55 °C ¹¹⁾
Ambient storage temperature	-40 °C ... +70 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

¹⁾ Limit values.

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⁾ A = V_S 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 V_S .

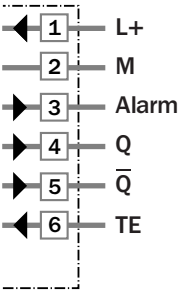
¹¹⁾ Up to 140 °C with cooling plates (see accessories).

Classifications

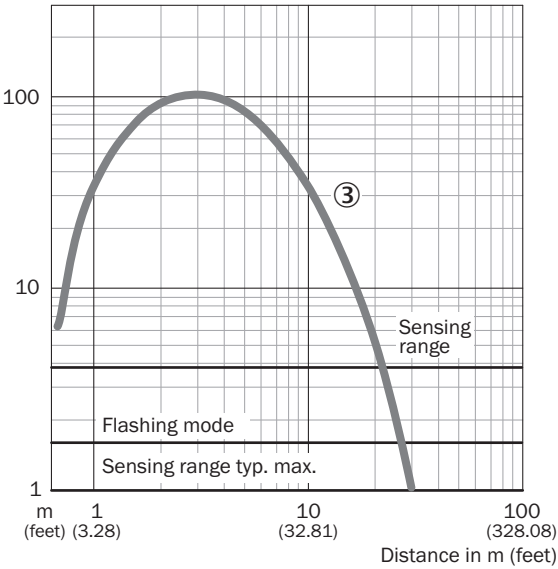
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ECI@ss 7.0	27270902
ECI@ss 8.0	27270902

ECI@ss 8.1	27270902
ECI@ss 9.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
UNSPSC 16.0901	39121528

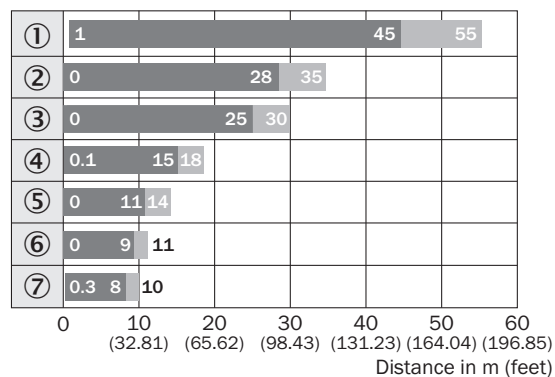
Connection diagram



Characteristic curve



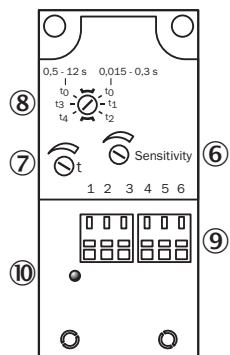
Sensing range diagram



Reflector type

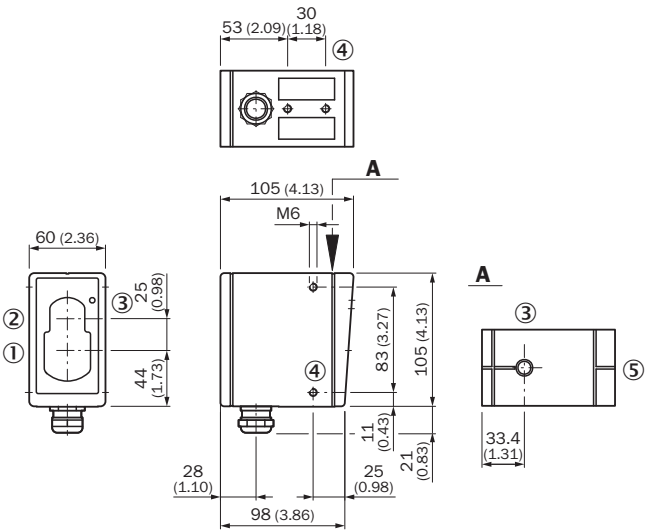
- ① OP60 ... ∞
- ② 4 x PL80
- ③ PL80A
- ④ C110
- ⑤ PL50
- ⑥ PL30
- ⑦ Reflective tape
Diamond Grade

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

	Brief description	Type	Part no.
Mounting brackets and plates			
	Universal mounting bracket for reflectors, steel, zinc coated	BEF-WN-REFX	2064574
Reflectors			
	Rectangular, screw connection, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250	5304812

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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