WL45-R250

W45

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

WL45-R250 | W45

PHOTOELECTRIC SENSORS

Ordering information

Type	part no.
WL45-R250	1008841

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

Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	With minimum distance to reflector (dual lens system)
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
Special features	Cable gland, for cross-section: 0,14 mm^2 ... 2,5 mm^2, max. 16 A Front screen heating, dynamic, in conjunction with glass front screen

[1] OP60-00.

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

Mechanics/electronics

Supply voltage U_B	20 V AC/DC ... 250 V AC/DC [1]

[1] Limit values.

[2] Provide suitable spark suppression for inductive or capacitive loads.

[3] With light/dark ratio 1:1.

[4] A = V_S connections reverse-polarity protected.

[5] C = interference suppression.

[6] Up to 140 °C with cooling plates (see accessories).

Power consumption	≤ 6 VA
Switching output	Relay, electrically isolated [2]
Output function	Change-over contacts
Switching mode	Light/dark switching [2]
Switching mode selector	Selectable via time delay selector switch
Switching current (switching voltage)	4 A @ 250 V AC, 4 A @ 24 V DC, 0.125 A @ 120 V DC UL: 4 A @ 250 V AC, general purpose / 2 A @ 250 V AC, pilot duty
Response time	≤ 20 ms
Switching frequency	10 Hz [3]
Time functions	Switch-on delay Off delay ON and OFF delay
Delay time	Adjustable via time delay selector switch, 0.5 s ... 12 s
Connection type	Terminal connection with PG13,5, 6-pin
Circuit protection	A [4] C [5]
Protection class	I
Weight	800 g
Polarisation filter	✓
Front screen heating	✓
Housing material	Metal
Enclosure rating	IP67
Usage category	AC-15, DC-13 According to EN 60947-1
Ambient operating temperature	–25 °C ... +55 °C [6]
Ambient temperature, storage	–40 °C ... +70 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

[1] Limit values.

[2] Provide suitable spark suppression for inductive or capacitive loads.

[3] With light/dark ratio 1:1.

[4] A = V_S connections reverse-polarity protected.

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Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
CCC certificate	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

Classifications

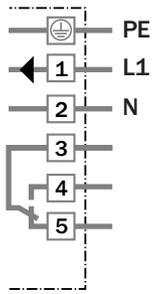|	
ECLASS 5.0	27270902
ECLASS 5.1.4	27270902
ECLASS 6.0	27270902
ECLASS 6.2	27270902
ECLASS 7.0	27270902
ECLASS 8.0	27270902
ECLASS 8.1	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902
ECLASS 11.0	27270902
ECLASS 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

Adjustments
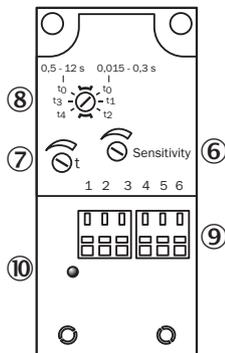
⑥ sensitivity control
⑦ Time control
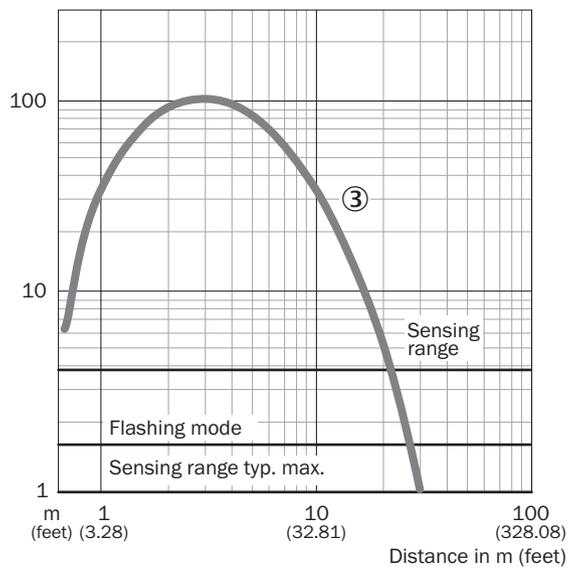⑧ time delay selector switch
⑨ terminal strip
⑩ Status indicator

Connection type
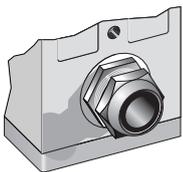
Connection diagram

```
        ⊕      PE
    ◄── 1      L1
        2      N
        3
        4
        5
```

Characteristic curve

Sensing range

Flashing mode

Sensing range typ. max.

```
m      1           10          100
(feet) (3.28)     (32.81)     (328.08)
          Distance in m (feet)
```

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Sensing range diagram

①	1			45	55	
②	0	28	35			
③	0	25	30			
④	0.1	15 18				
⑤	0	11 14				
⑥	0	9	11			
⑦	0.3 8	10				

0   10 (32.81)   20 (65.62)   30 (98.43)   40 (131.23)   50 (164.04)   60 (196.85)

Distance in m (feet)
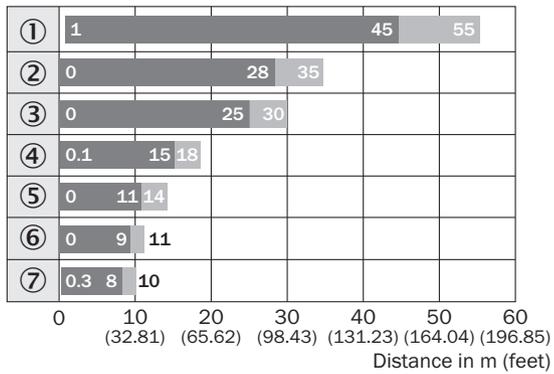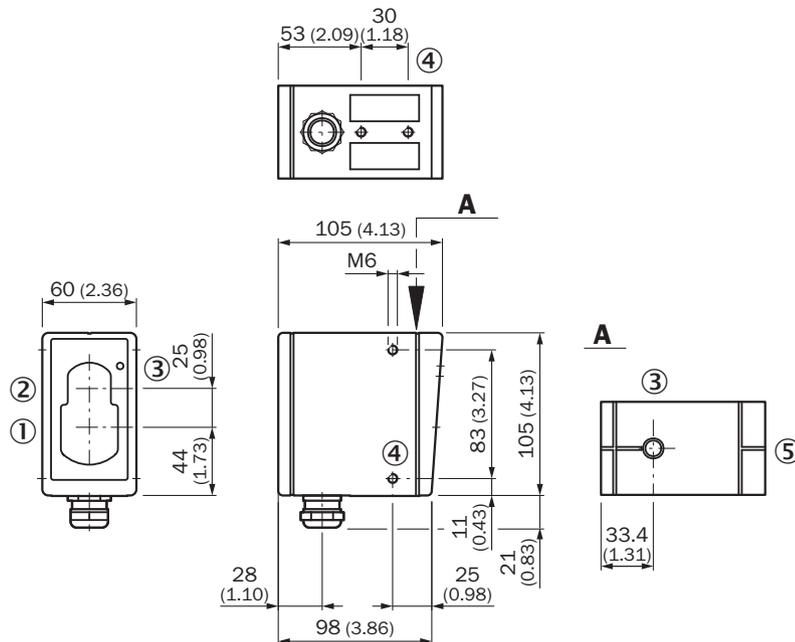
■ Sensing range   ■ Sensing range typ. max.

Reflector type

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

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 systems			
	• **Description:** Mounting bracket • **Material:** Steel • **Details:** Steel, zinc coated • **Items supplied:** Mounting hardware included	BEF-WN-W45	2011480
reflectors and optics			
	• **Description:** Rectangular, screw connection • **Dimensions:** 84 mm 84 mm • **Ambient operating temperature:** –30 °C … +65 °C	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."

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