Product data sheet

WS/WE45-R250

W45

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	Part no.
WS/WE45-R250	1010994

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

Detailed technical data

Features

Functional principle	Through-beam photoelectric sensor
Dimensions (W x H x D)	60 mm x 105 mm x 105 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m ... 350 m
Sensing range	0 m ... 300 m
Focus	Approx. 0.9°
Type of light	Infrared light
Light source	LED [1]
Light spot size (distance)	Ø 4.5 m (300 m)
Angle of dispersion	Approx. 0.9°
Adjustment	Potentiometer
Special features	Dark switching (pre-setting) Pulsating Cable gland, for cross-section: 0,14 mm^2 ... 2,5 mm^2, max. 16 A

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

Mechanics/electronics

Supply voltage	20 V AC/DC ... 250 V AC/DC [1]
Power consumption, sender	≤ 6 VA
Power consumption, receiver	≤ 6 VA
Switching output	Relay, electrically isolated [2]
Output function	Change-over contacts
Switching mode	Light/dark switching [2]

[1] Limit values, cross-section: 0,14 mm^2 ... 2,5 mm^2, max. 16 A.
[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).

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	≤ 10 ms
Switching frequency	10 Hz [3]
Time functions	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	1,600 g
Front screen heating	✓
Housing material	Metal
Enclosure rating	IP67
Ambient operating temperature	–25 °C ... +55 °C [6]
Ambient temperature, storage	–40 °C ... +70 °C
UL File No.	NRKH.E181493 & NRKH7.E181493
Part number of individual components	1009721 WE45-R250 1009730 WS45-U250

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Safety-related parameters

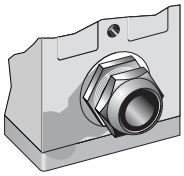
$MTTF_D$	328 years
DC_{avg}	0 %

Classifications

eCl@ss 5.0	27270901
eCl@ss 5.1.4	27270901
eCl@ss 6.0	27270901
eCl@ss 6.2	27270901
eCl@ss 7.0	27270901
eCl@ss 8.0	27270901
eCl@ss 8.1	27270901
eCl@ss 9.0	27270901
eCl@ss 10.0	27270901
eCl@ss 11.0	27270901
eCl@ss 12.0	27270901
ETIM 5.0	EC002716

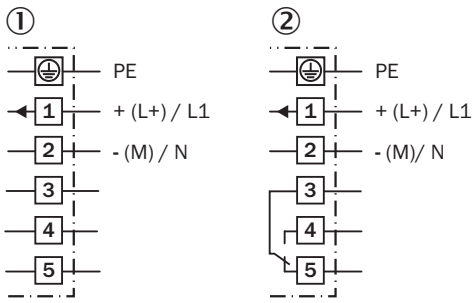
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

Connection type



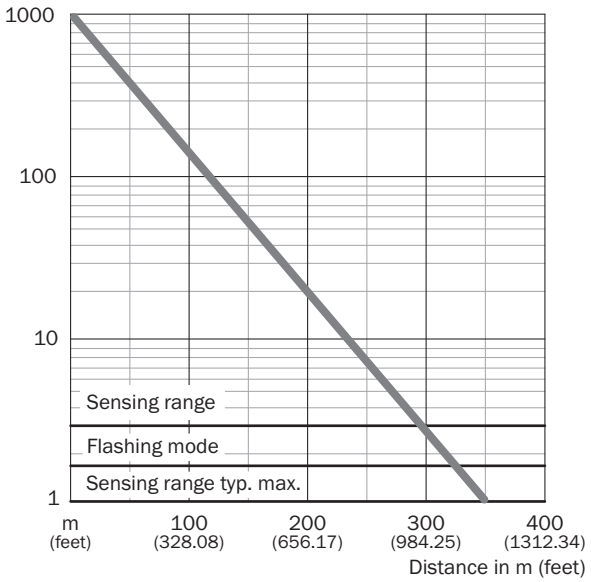
Connection diagram

Cd-168

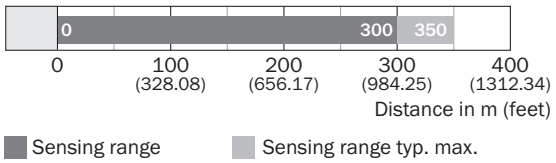


① Sender
② Receiver

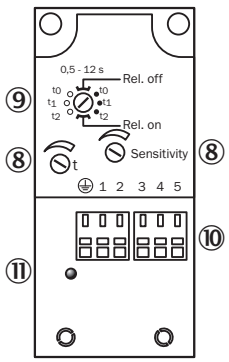
Characteristic curve



Sensing range diagram

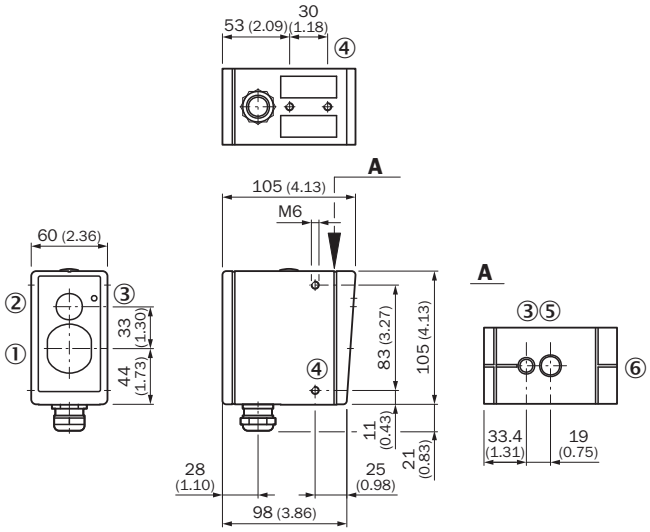


Adjustments



⑦ Sensitivity control
⑧ Time control
⑨ Time delay selector switch
⑩ Terminal strip
⑪ Status indicator

Dimensional drawing (Dimensions in mm (inch))



① Center of optical axis, sender (WS), Center of optical axis, receiver (WE)
② View finder lens
③ LED signal strength indicator
④ M6 threaded mounting hole, 8 mm deep
⑤ Eyepiece for alignment aid
⑥ Alignment sight

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