



WT45-P250

W45

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
WT45-P250	1009117

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

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Dimensions (W x H x D)	60 mm x 105 mm x 105 mm
Housing design (light emission)	Rectangular
Sensing range max.	200 mm ... 2,000 mm ¹⁾
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Type of light	Infrared light
Light source	LED ²⁾
Light spot size (distance)	Ø 35 mm (2,000 mm)
Adjustment	Potentiometer

¹⁾ Object with 90% remission (based on standard white, DIN 5033).

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

Mechanics/electronics

Supply voltage	10 V DC ... 60 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	250 mA ³⁾
Switching output	PNP

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

Output function	Complementary
Switching mode	Light/dark switching
Output current I_{\max}	$\leq 200 \text{ mA}$
Response time	$\leq 6 \text{ ms}^{4)}$
Switching frequency	$50 \text{ Hz}^{5)}$
Time functions	On delay Off delay ON and OFF delay
Delay time	Adjustable via time delay selector switch, $0.5 \text{ s} \dots 12 \text{ s}$ $0.015 \text{ s} \dots 0.3 \text{ s}$
Connection type	Terminal connection with PG13,5, 6-pin
Circuit protection	A ⁶⁾ C ⁷⁾ D ⁸⁾
Protection class	I ⁹⁾
Weight	800 g
Front screen heating	✓
Housing material	Metal
Enclosure rating	IP67
Test input sender off	TE to 0 V
Ambient operating temperature	$-25 \text{ °C} \dots +55 \text{ °C}^{10)}$
Ambient temperature, storage	$-40 \text{ °C} \dots +70 \text{ °C}$

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

Safety-related parameters

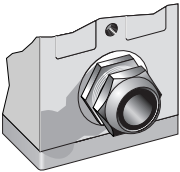
MTTF_D	394 years
DC_{avg}	0 %

Classifications

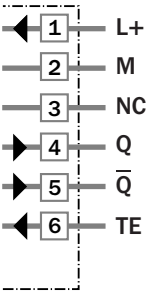
eCl@ss 5.0	27270904
eCl@ss 5.1.4	27270904
eCl@ss 6.0	27270904
eCl@ss 6.2	27270904
eCl@ss 7.0	27270904
eCl@ss 8.0	27270904
eCl@ss 8.1	27270904
eCl@ss 9.0	27270904

eCl@ss 10.0	27270904
eCl@ss 11.0	27270904
eCl@ss 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

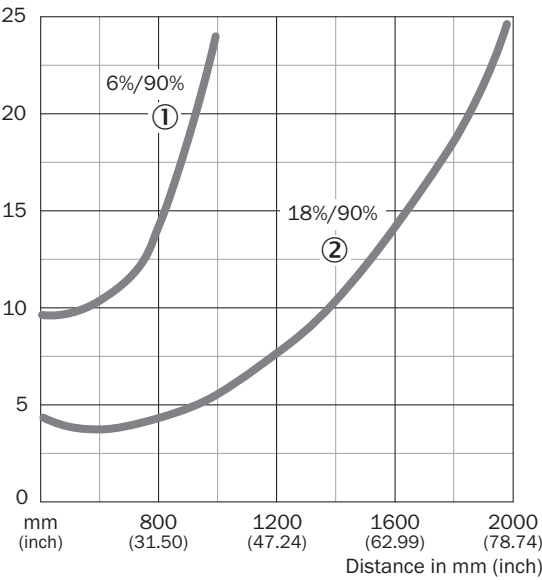
Connection type



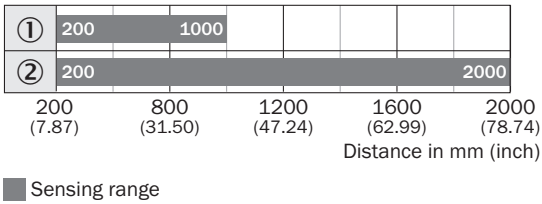
Connection diagram



Characteristic curve

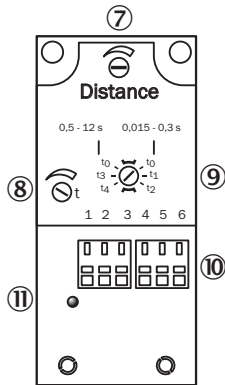


Sensing range diagram



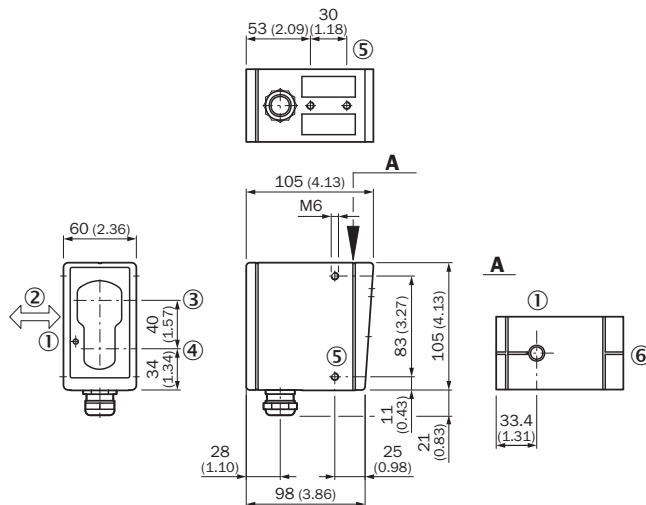
- ① Sensing range on black, 6 % remission
- ② Sensing range on gray, 18 % remission

Adjustments



- ⑦ Adjustment of sensing range
- ⑧ Time control
- ⑨ Time delay selector switch
- ⑩ Terminal strip
- ⑪ Status indicator

Dimensional drawing (Dimensions in mm (inch))



- ① LED signal strength indicator
- ② Standard direction of the material being detected
- ③ Center of optical axis, receiver
- ④ Center of transmitter's optical axis
- ⑤ M6 threaded mounting hole, 8 mm deep
- 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:

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