



Photoelectric sensors  
W45, Photoelectric proximity sensor, Background  
suppression

WT45-P250



**Model Name** > WT45-P250  
**Part No.** > 1009117



Illustration may differ

**At a glance**

- Long background suppression sensing range
- Rugged metal housing
- Optional: Powerful front lens heating
- Optional test input and time delays
- Variants for 10 - 60 V DC or 24 - 240 V DC / 24 - 240 V AC voltage supply
- IR emitter

**Your benefits**

- Very large sensing distance
- Rugged metal housing ensures a long service life in harsh industrial environments
- Front lens heating prevents condensation for reliable operation in outdoor applications.
- Multiple functions for simpler integration of individual systems
- Variants DC voltage and universal AC/DC voltage provides installation flexibility due to same housing



**Features**

Sensor/detection principle:	Photoelectric proximity sensor, 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 <sup>1)</sup>
Sensing range:	200 mm ... 2,000 mm
Type of light:	Infrared light
Light source:	LED <sup>2)</sup>
Time type:	Off delay, ON and OFF delay, On delay
Delay time:	0.015 ... 0.3 s, Adjustable via time delay selector switch: 0.5 ... 12 s
Adjustment:	Potentiometer
Light spot size (distance):	Ø 35 mm (2,000 mm)

<sup>1)</sup> Object with 90 % reflectance (referred to standard white DIN 5033) <sup>2)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

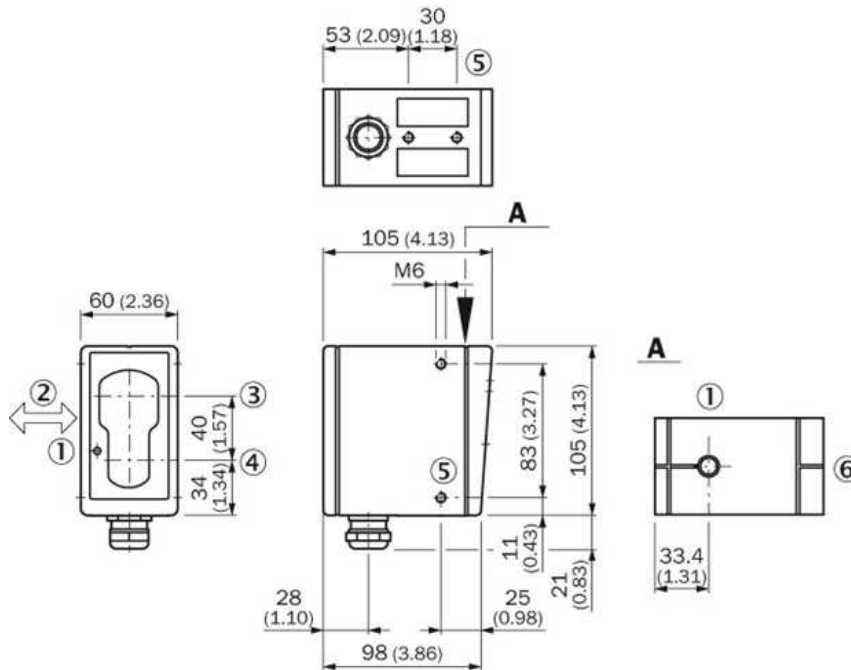
**Mechanics/electronics**

Supply voltage:	10 V DC ... 60 V DC <sup>1)</sup>
Ripple:	≤ 5 Vpp <sup>2)</sup>
Current consumption:	≤ 250 mA <sup>3)</sup>
Output type:	PNP

Output function:	Complementary
Switching mode:	Light/dark switching
Output current I <sub>max</sub> :	200 mA
Response time:	≤ 6 ms <sup>4)</sup>
Switching frequency:	50 Hz <sup>5)</sup>
Connection type:	Terminal connection with PG13,5, 6-pin
Circuit protection:::	A, C, D <sup>6) 7) 8)</sup>
Protection class:	I <sup>9)</sup>
Weight:	800 g
Front screen heating:	✓
Housing material:	Metal
Enclosure rating:	IP 67
Test input sender off:	TE to 0 V
Ambient operating temperature:	-25 °C ... 55 °C <sup>10)</sup>
Ambient storage temperature:	-40 °C ... 70 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493

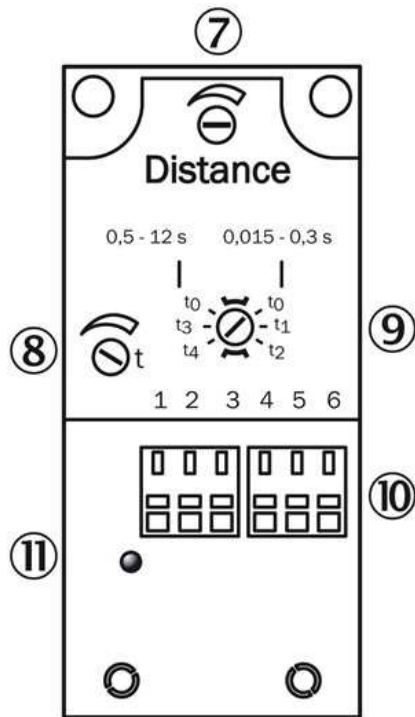
1) Limit values 2) May not exceed or fall short of V<sub>S</sub> tolerances 3) Without load 4) Signal transit time with resistive load 5) With light/dark ratio 1:1 6) A = V<sub>S</sub><sup>10)</sup>  
connections reverse-polarity protected 7) C = interference suppression 8) D = outputs overcurrent and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

## Dimensional drawing



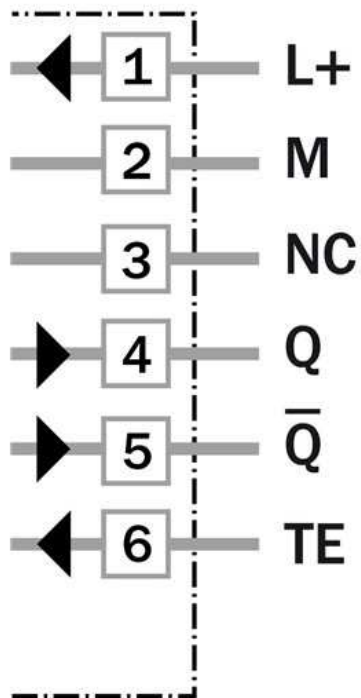
- [1] LED signal strength indicator
- [2] Standard direction of the material being scanned
- [3] Center of optical axis, receiver
- [4] Centre of transmitter's optical axis
- [5] M6 threaded mounting hole, 8 mm deep
- [6] Alignment sight

## Adjustments possible

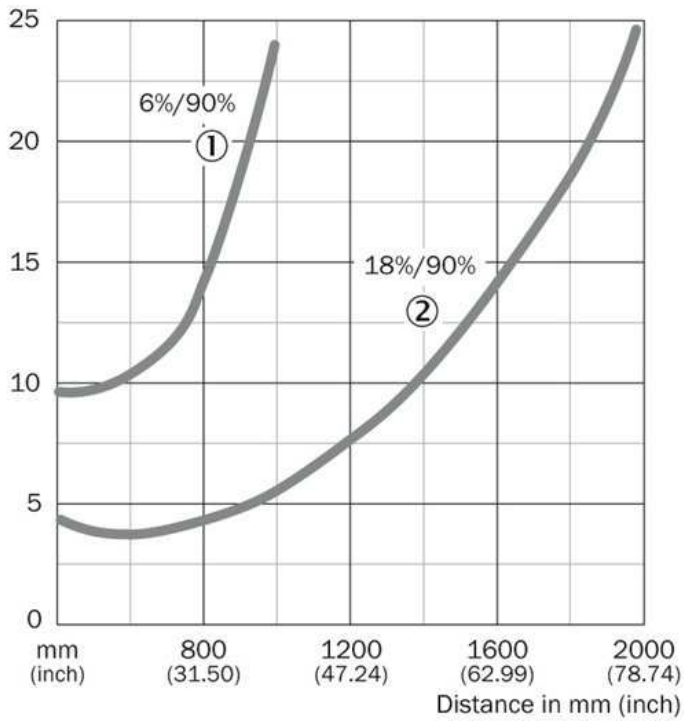


- |7| Sensing range adjustment
- |8| Time control
- |9| time delay selector switch
- |10| terminal strip
- |11| Status indicator

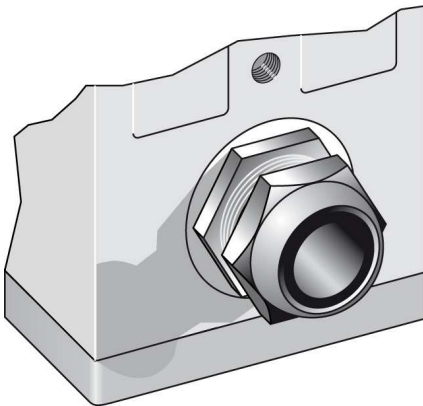
## Connection diagram



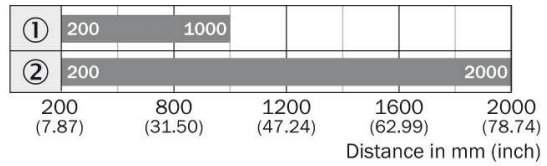
### Characteristic curve



### Connection type



### Sensing range diagram



■ Sensing range

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

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