



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 ¹⁾
Sensing range:	200 mm ... 2,000 mm
Type of light:	Infrared light
Light source:	LED ²⁾
Time type:	Time delay off, ON and OFF delay, Switch 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)

¹⁾ Object with 90 % reflectance (referred to standard white DIN 5033) ²⁾ Average service life of 100,000 h at T_A = +25 °C

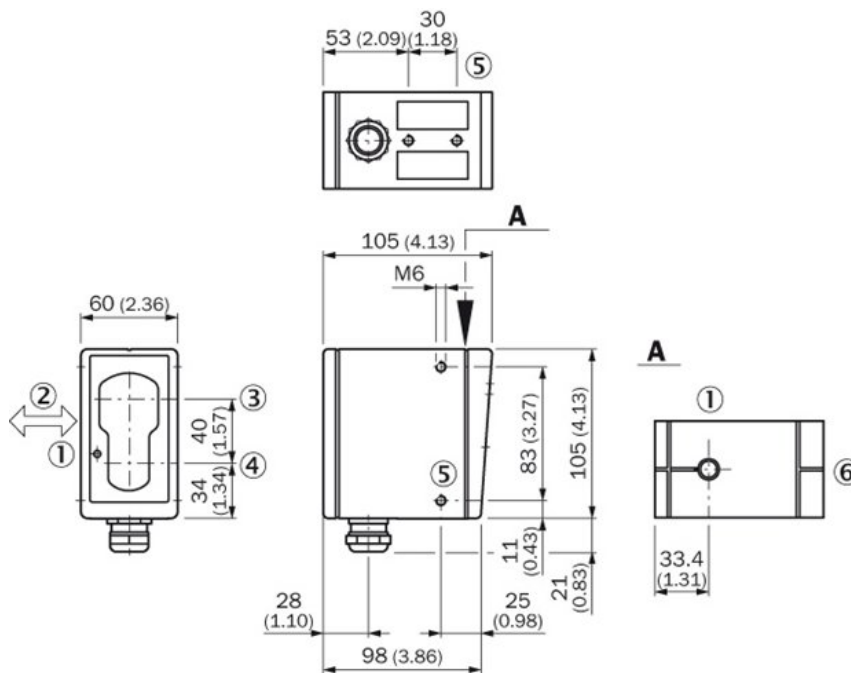
Mechanics/electronics

Supply voltage:	10 V DC ... 60 V DC ¹⁾
Ripple:	≤ 5 Vpp ²⁾
Power consumption:	≤ 250 mA ³⁾
Output type:	PNP

Output function:	Complementary
Switching mode:	Light/dark-switching
Output current I _{max} :	200 mA
Response time:	≤ 6 ms ⁴⁾
Switching frequency:	50 Hz ⁵⁾
Connection type:	Terminal connection with PG13,5, 6-pin
Circuit protection:::	A, C, D ^{6) 7) 8)}
Protection class:	I ⁹⁾
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 ¹⁰⁾
Ambient storage temperature:	-40 °C ... 70 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493

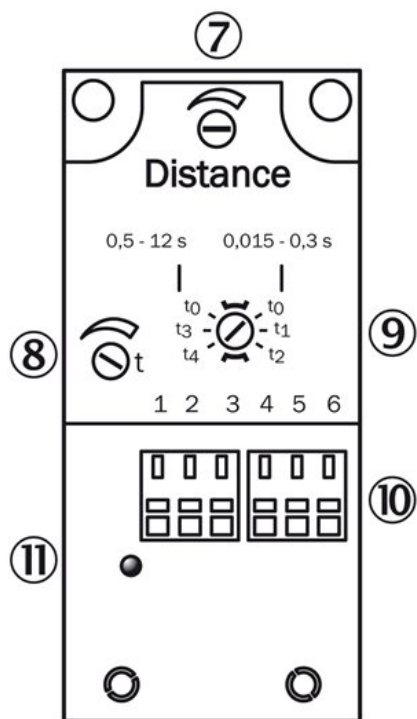
¹⁾ Limit values ²⁾ May not exceed or fall short of V_S tolerances ³⁾ Without load ⁴⁾ Signal transit time with resistive load ⁵⁾ With light/dark ratio 1:1 ⁶⁾ A = V_S¹⁰⁾ Up to
connections reverse-polarity protected ⁷⁾ C = interference suppression ⁸⁾ D = outputs overcurrent and short-circuit protected ⁹⁾ Reference voltage 50 V DC ¹⁰⁾ Up to
140 °C with cooling plates (see accessories)

Dimensional drawing



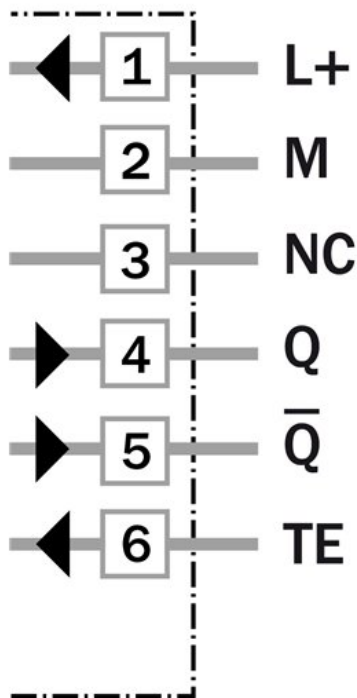
- [1] LED signal strength indicator
- [2] Standard direction of the material being scanned
- [3] Center of optical axis, receiver
- [4] Centre of transmitter's optical axis
- [5] M6 threaded mounting hole, 8 mm deep
- [6] Alignment sight

Adjustments possible

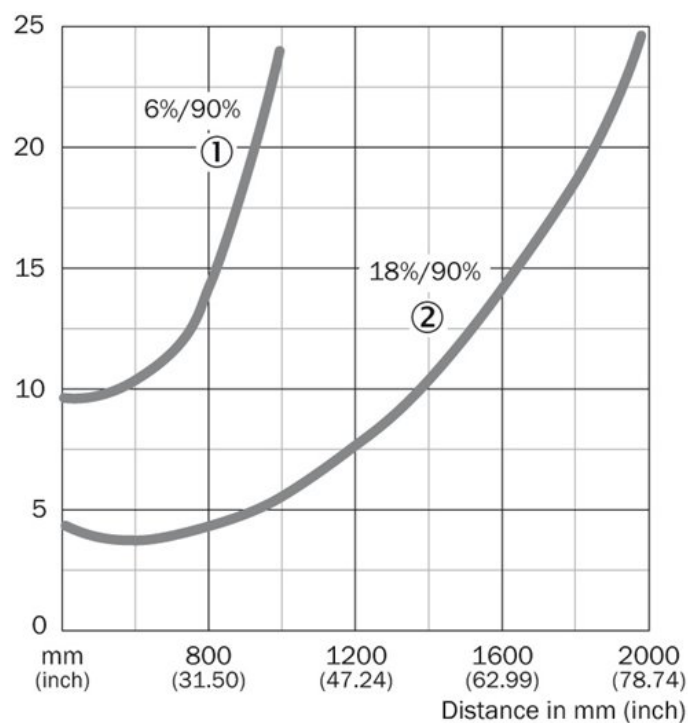


- |7| Sensing range adjustment
- |8| Time control
- |9| time delay selector switch
- |10| terminal strip
- |11| Status indicator

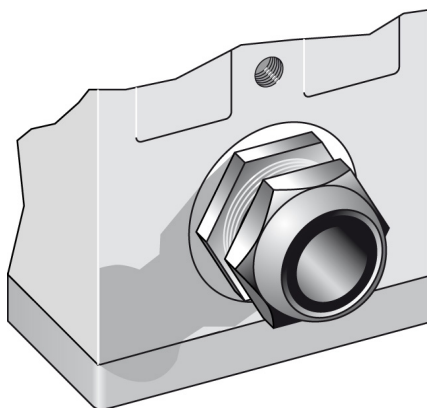
Connection diagram



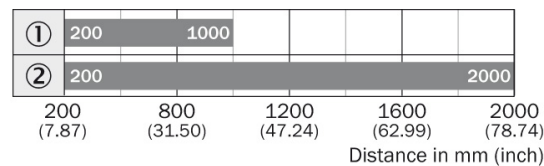
Characteristic curve



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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