



Photoelectric sensors
W45, Photoelectric retro-reflective sensor,
Standard optics

WL45-R250



Model Name > [WL45-R250](#)
Part No. > [1008841](#)



Illustration may differ

At a glance

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

Your benefits

- A long, 55 m sensing range with a high operating reserve ensures reliable continuous operation
- 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
- Easy alignment due to visible red light



Features

Sensor/detection principle:	Photoelectric retro-reflective sensor, Standard optics
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 ²⁾
Type of light:	Visible red light
Light source:	LED ³⁾
Time type:	Off delay, ON and OFF delay, On delay
Delay time:	Adjustable via time delay selector switch: 0.5 ... 12 s
Adjustment:	Potentiometer
Light spot size (distance):	Ø 230 mm (16 m)

^{1) 2)} OP60-00 ³⁾ Average service life of 100,000 h at T_A = +25 °C

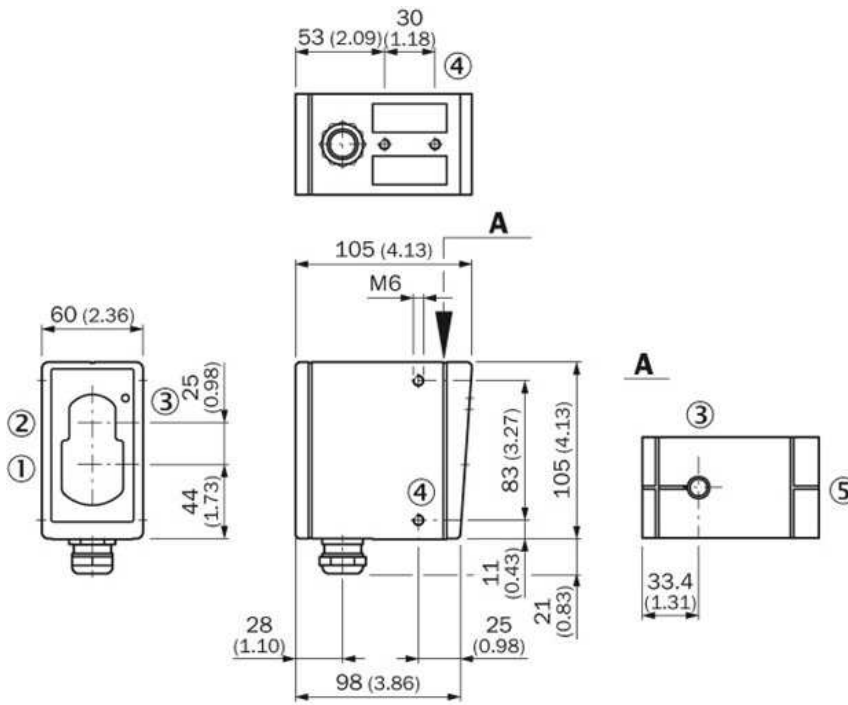
Mechanics/electronics

Supply voltage:	24 V AC/DC ... 240 V AC/DC ¹⁾
Power consumption:	≤ 6 VA
Output type:	Relay ²⁾

Output function:	Change-over contacts
Switching mode:	Light/dark switching ³⁾
Output characteristic:	Electrically isolated
Switching mode selector:	Light-/dark-switching selectable via time delay selector switch
Switching current (switching voltage):	4 A (24 V DC), 4 A (240 V AC)
Response time:	≤ 20 ms
Switching frequency:	10 Hz ⁴⁾
Connection type:	Terminal connection with PG13,5, 6-pin
Circuit protection::	A, C ^{5) 6)}
Protection class:	I
Weight:	800 g
Polarisation filter:	✓
Front screen heating:	✓
Housing material:	Metal
Enclosure rating:	IP 67
Usage category:	AC-15, DC-13, According to EN 60947-1
Ambient operating temperature:	-25 °C ... 55 °C ⁷⁾
Ambient storage temperature:	-40 °C ... 70 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493

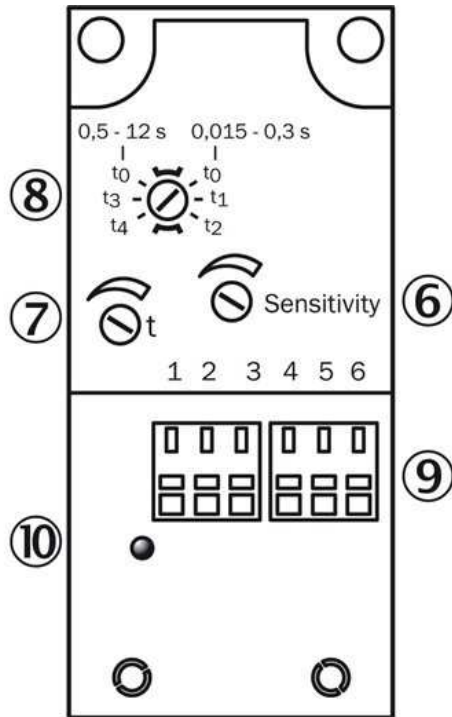
1) +10 %, -25% 2) 3) Provide suitable spark suppression for inductive or capacitive loads ⁴⁾ With light/dark ratio 1:1 ⁵⁾ A = V_S connections reverse-polarity protected ⁶⁾
C = interference suppression ⁷⁾ Up to 140 °C with cooling plates (see accessories)

Dimensional drawing



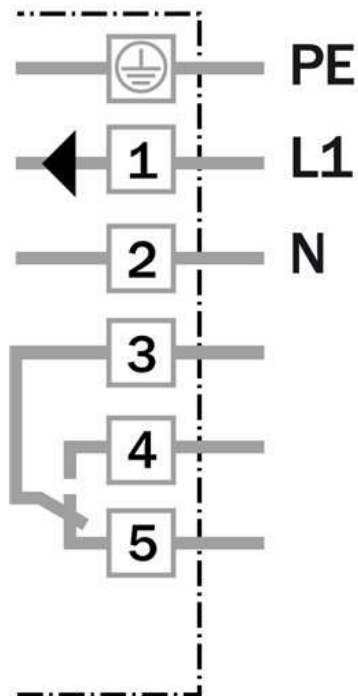
- |1| Center of optical axis, sender
- |2| Center of optical axis, receiver
- |3| LED signal strength indicator
- |4| M6 threaded mounting hole, 8 mm deep
- |5| Alignment sight

Adjustments possible

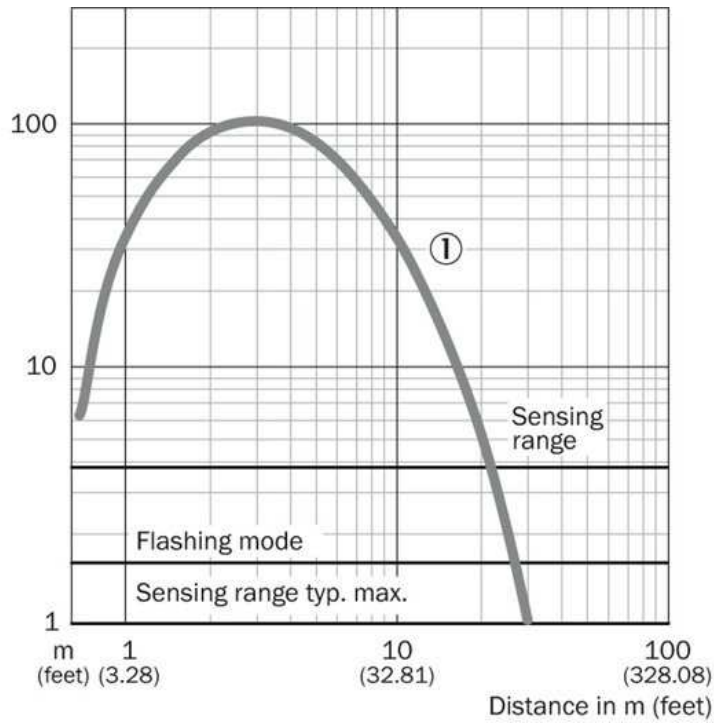


- |6| Sensitivity adjustment
- |7| Time control
- |8| time delay selector switch
- |9| terminal strip
- |10| Status indicator

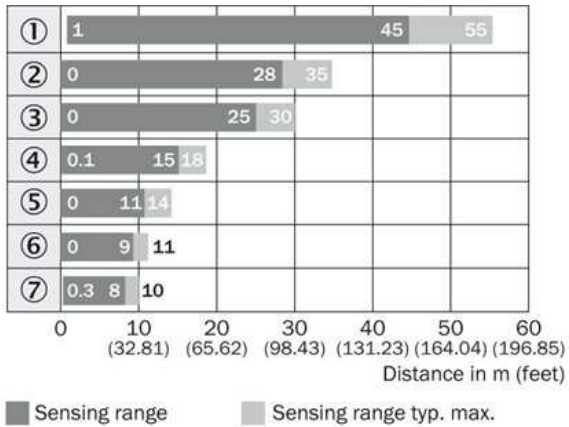
Connection diagram



Characteristic curve



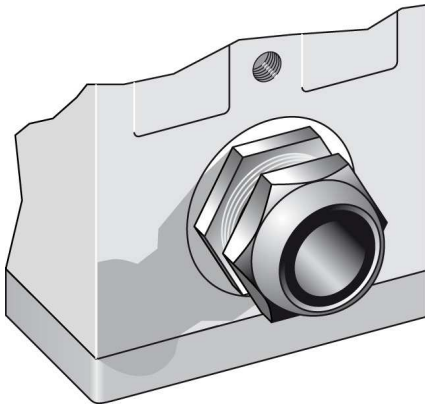
Sensing range diagram



Reflector type

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

Connection type



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