



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

WL45-P650



Model Name > [WL45-P650](#)
Part No. > [1008837](#)



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:	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 230 mm (16 m)

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

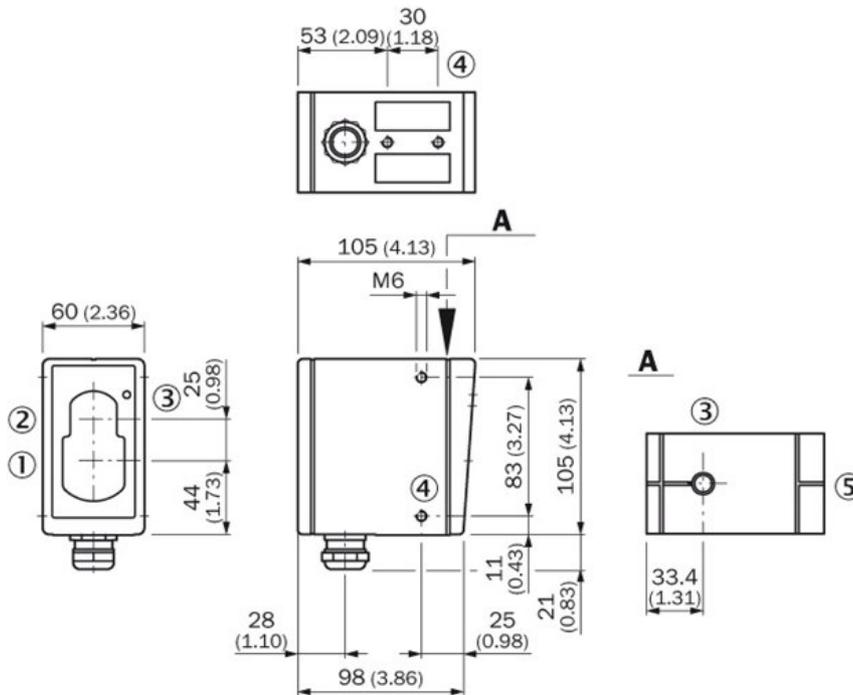
Mechanics/electronics

Supply voltage:	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:	≤ 1.2 ms ⁴⁾
Switching frequency:	400 Hz ⁵⁾
Connection type:	Connector Hirschmann, 6-pin
Circuit protection:::	A, C, D ^{6) 7) 8)}
Protection class:	I ⁹⁾
Weight:	800 g
Polarisation filter:	✓
Front screen heating:	✓
Alarm output:	100 mA, open collector ¹⁰⁾
Housing material:	Metal
Enclosure rating:	IP 65
Test input sender off:	TE to 0 V
Ambient operating temperature:	-25 °C ... 55 °C ¹¹⁾
Ambient storage temperature:	-40 °C ... 70 °C

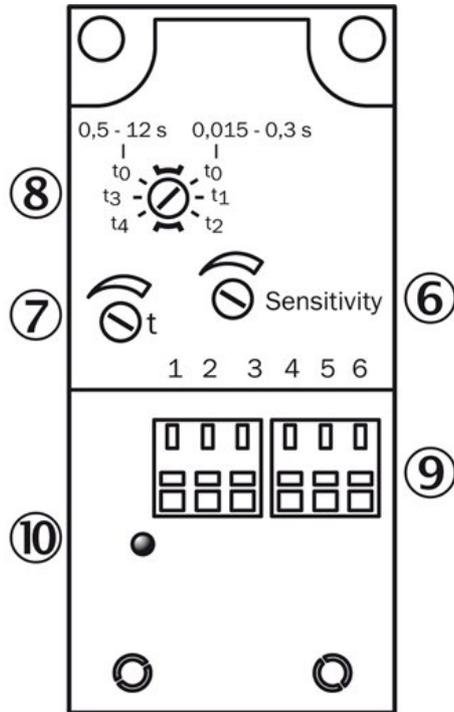
¹⁾ Limit values ²⁾ May not exceed or fall short of V_S tolerances ³⁾ Without load ⁴⁾ Signal transit time with resistive load ⁵⁾ With light/dark ratio 1:1 ⁶⁾ A = V_S ¹⁰⁾
 connections reverse-polarity protected ⁷⁾ C = interference suppression ⁸⁾ D = outputs overcurrent and short-circuit protected ⁹⁾ Reference voltage 50 V DC
 Flashes at approx. 5 Hz, switch to VS ¹¹⁾ Up to 140 °C with cooling plates (see accessories)

Dimensional drawing



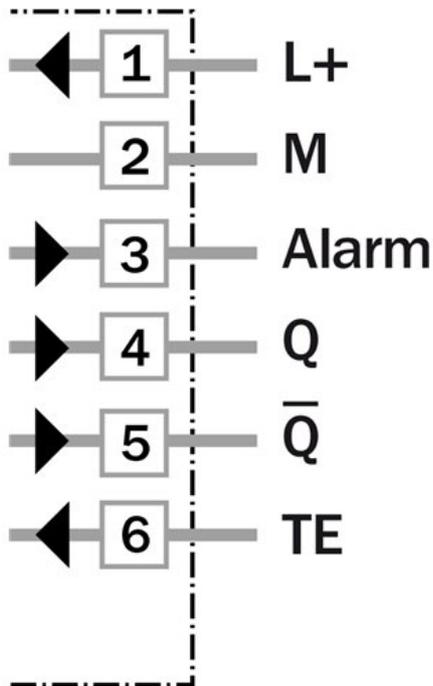
- [1] Center of optical axis, sender
- [2] Center of optical axis, receiver
- [3] LED signal strength indicator
- [4] M6 threaded mounting hole, 8 mm deep
- [5] Alignment sight

Adjustments possible

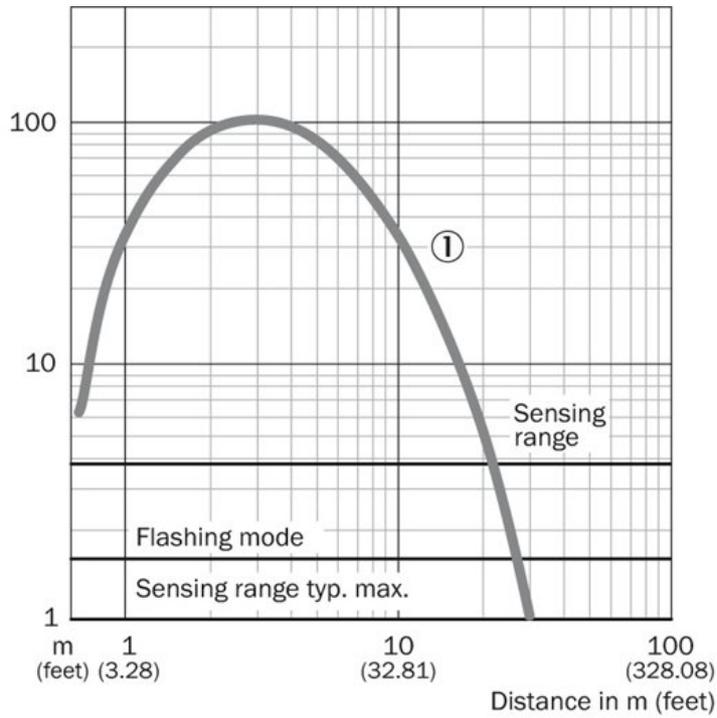


- |6| Sensitivity adjustment
- |7| Time control
- |8| time delay selector switch
- |9| terminal strip
- |10| Status indicator

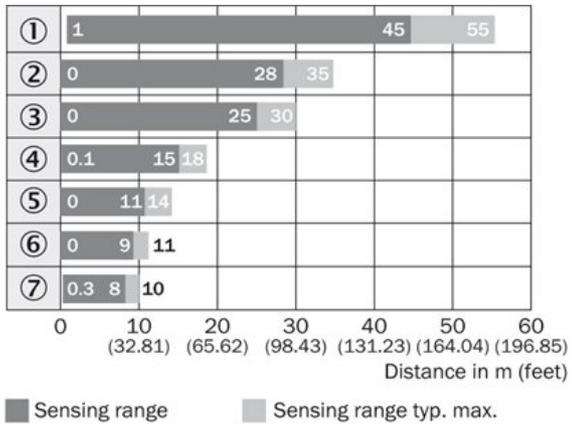
Connection diagram



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

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