



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

WL45-N650



**Model Name** > [WL45-N650](#)  
**Part No.** > [1008838](#)



*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 <sup>1)</sup>
Sensing range:	1 m ... 45 m <sup>2)</sup>
Type of light:	Visible red light
Light source:	LED <sup>3)</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 230 mm (16 m)

<sup>1) 2)</sup> OP60-00 <sup>3)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

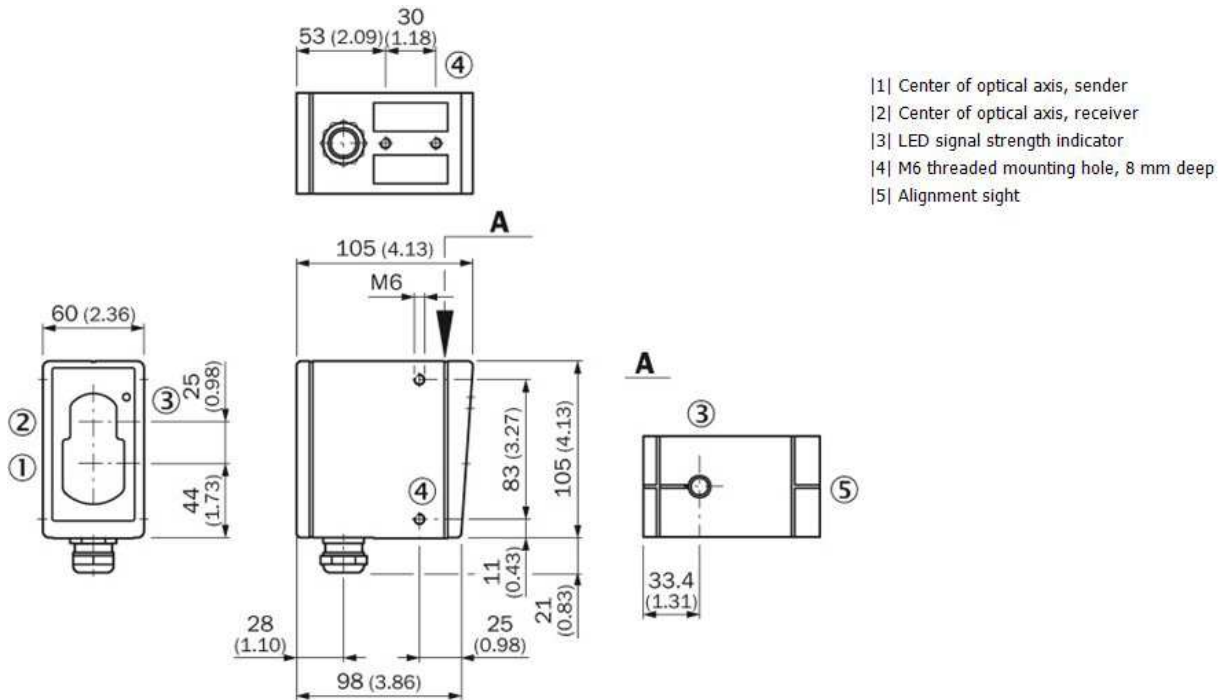
**Mechanics/electronics**

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

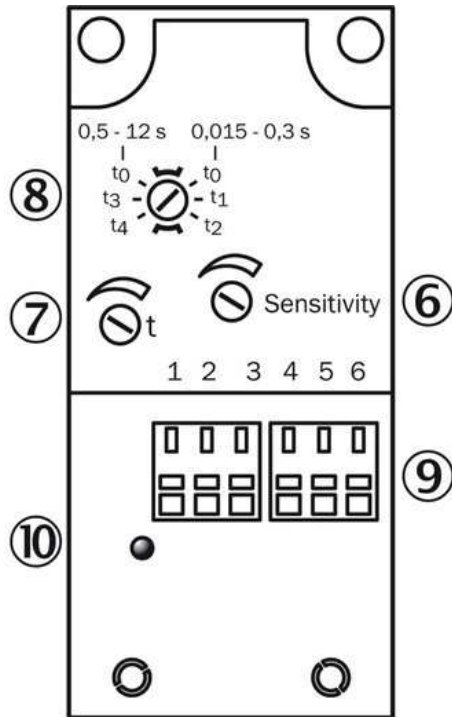
Output type:	NPN
Output function:	Complementary
Switching mode:	Light/dark switching
Output current I <sub>max.</sub> :	200 mA
Response time:	≤ 1.2 ms <sup>4)</sup>
Switching frequency:	400 Hz <sup>5)</sup>
Connection type:	Connector Hirschmann, 6-pin
Circuit protection:::	A, C, D <sup>6) 7) 8)</sup>
Protection class:	I <sup>9)</sup>
Weight:	800 g
Polarisation filter:	✓
Front screen heating:	✓
Alarm output:	100 mA, open collector <sup>10)</sup>
Housing material:	Metal
Enclosure rating:	IP 65
Test input sender off:	TE to VS
Ambient operating temperature:	-25 °C ... 55 °C <sup>11)</sup>
Ambient storage temperature:	-40 °C ... 70 °C

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  
Flashes at approx. 5 Hz, switch to VS <sup>11)</sup> Up to 140 °C with cooling plates (see accessories)

## Dimensional drawing

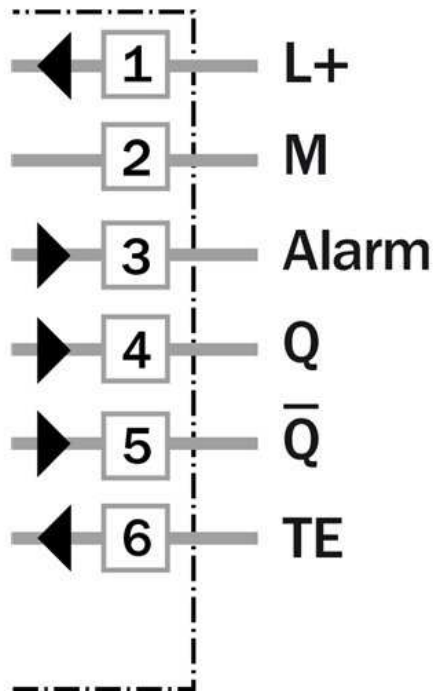


Adjustments possible

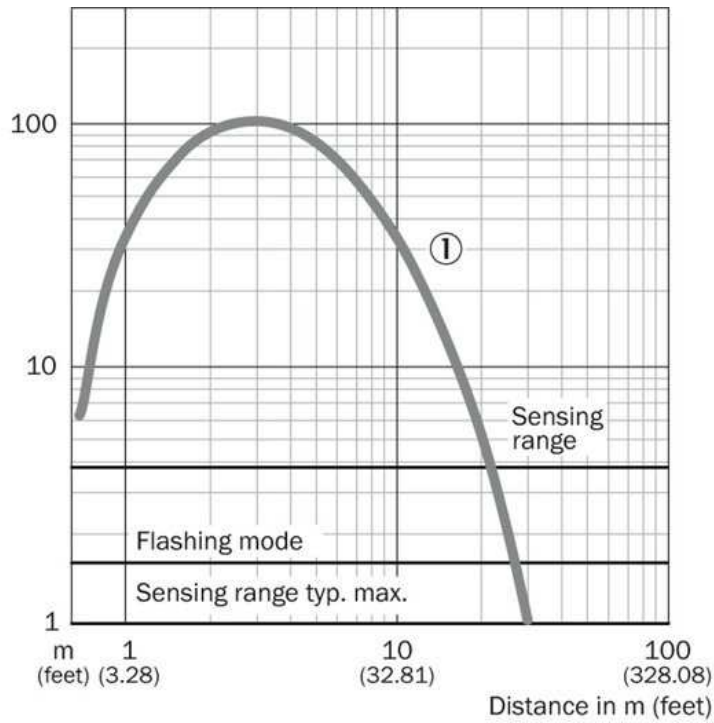


- |6| Sensitivity adjustment
- |7| Time control
- |8| time delay selector switch
- |9| terminal strip
- |10| Status indicator

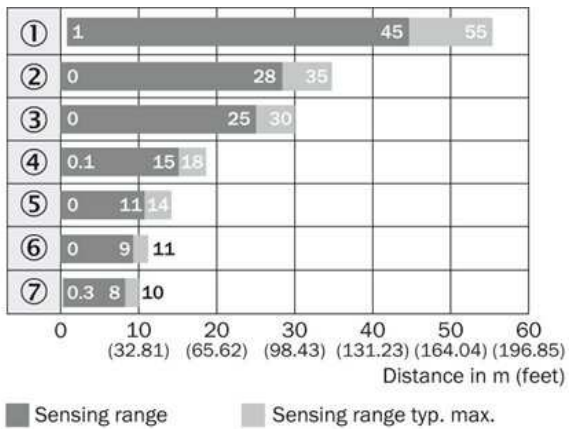
Connection diagram



## 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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