



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

WL45-R660



**Model Name** > [WL45-R660](#)  
**Part No.** > [1008832](#)



*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:	Time delay off, ON and OFF delay, Switch 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)

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

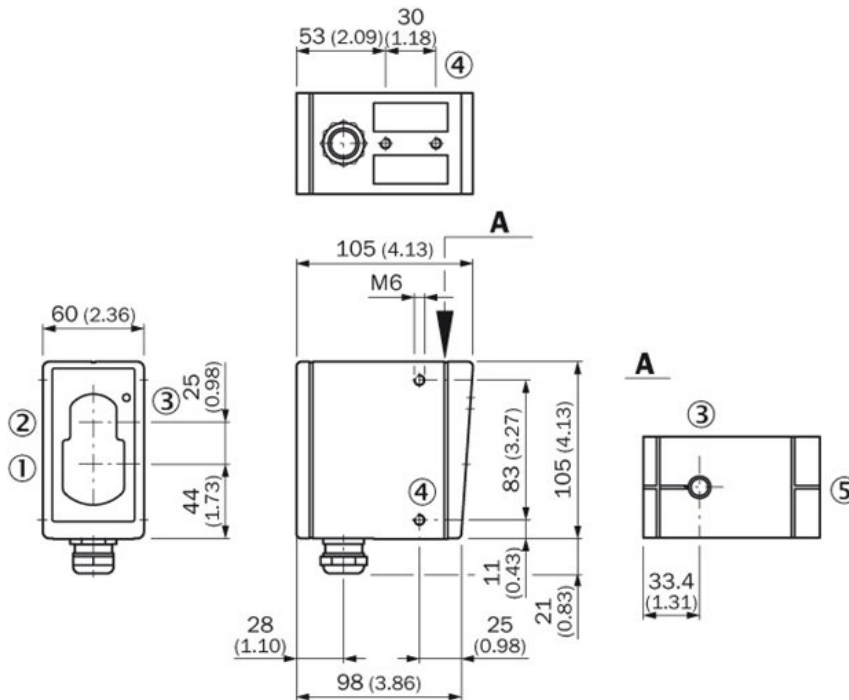
**Mechanics/electronics**

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

Output function:	Change-over contacts
Switching mode:	Light/dark-switching <sup>3)</sup>
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 <sup>4)</sup>
Connection type:	Connector Hirschmann, 6-pin
Circuit protection::	A, C <sup>5) 6)</sup>
Protection class:	I
Weight:	800 g
Polarisation filter:	✓
Front screen heating:	-
Housing material:	Metal
Enclosure rating:	IP 65
Special features:	Light-switching (pre-setting), Very small light spot and very long sensing range
Usage category:	AC-15, DC-13, According to EN 60947-1
Ambient operating temperature:	-25 °C ... 55 °C <sup>7)</sup>
Ambient storage temperature:	-40 °C ... 70 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493

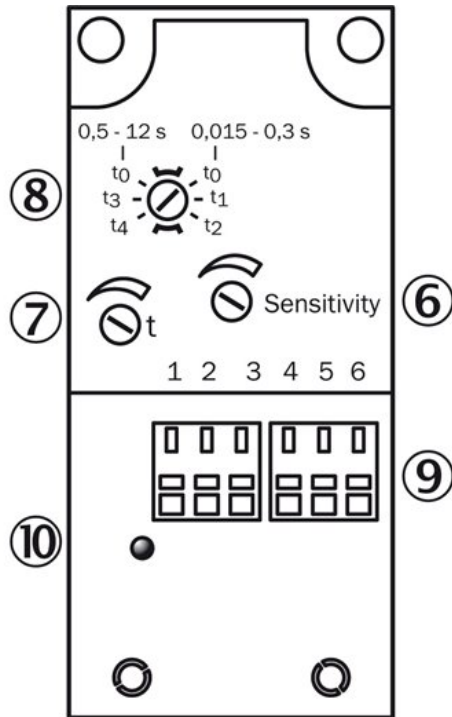
1) +10 %, -25% <sup>2) 3)</sup> Provide suitable spark suppression for inductive or capacitive loads <sup>4)</sup> With light/dark ratio 1:1 <sup>5)</sup> A = V <sub>S</sub> connections reverse-polarity protected <sup>6)</sup>  
C = interference suppression <sup>7)</sup> Up to 140 °C with cooling plates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

## Dimensional drawing



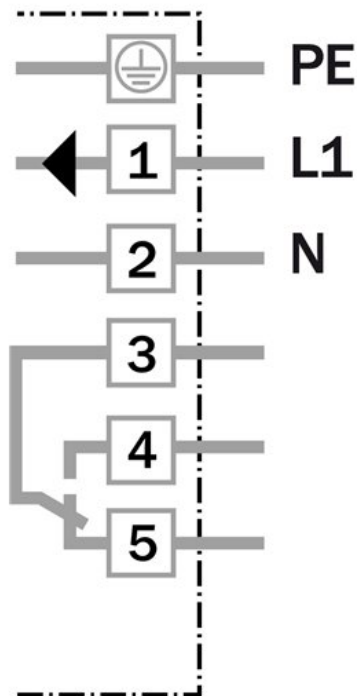
- [1] Center of optical axis, sender
- [2] Center of optical axis, receiver
- [3] LED signal strength indicator
- [4] M6 threaded mounting hole, 8 mm deep
- [5] Alignment sight

**Adjustments possible**

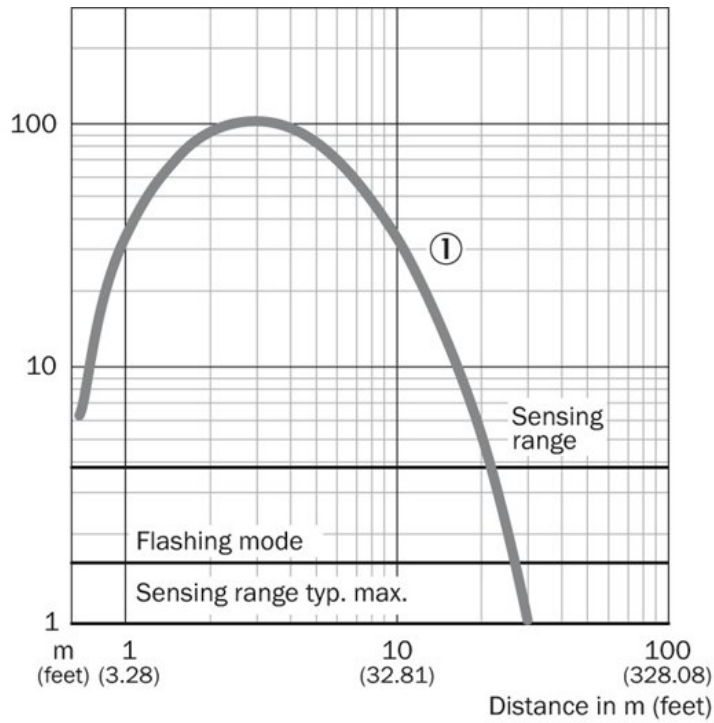


- |6| Sensitivity adjustment
- |7| Time control
- |8| time delay selector switch
- |9| terminal strip
- |10| Status indicator

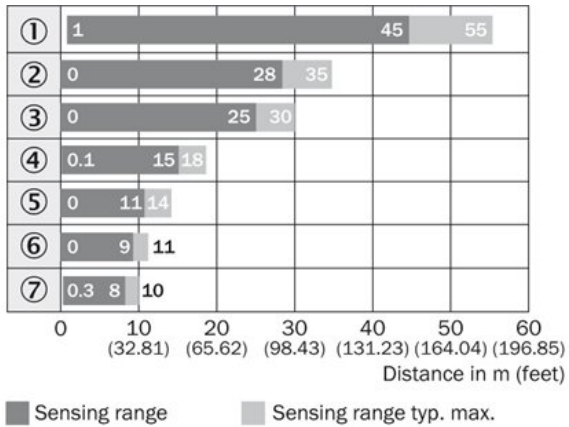
**Connection diagram**



## 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

**Australia**

Phone +61 3 9457 0600  
1800 334 802 – tollfree  
E-Mail sales@sick.com.au

**Belgium/Luxembourg**

Phone +32 (0)2 466 55 66  
E-Mail info@sick.be

**Brasil**

Phone +55 11 3215-4900  
E-Mail sac@sick.com.br

**Canada**

Phone +1 905 771 14 44  
E-Mail information@sick.com

**Ceská Republika**

Phone +420 2 57 91 18 50  
E-Mail sick@sick.cz

**China**

Phone +86 4000 121 000  
E-Mail info.china@sick.net.cn  
Phone +852-2153 6300  
E-Mail ghk@sick.com.hk

**Danmark**

Phone +45 45 82 64 00  
E-Mail sick@sick.dk

**Deutschland**

Phone +49 211 5301-301  
E-Mail kundenservice@sick.de

**España**

Phone +34 93 480 31 00  
E-Mail info@sick.es

**France**

Phone +33 1 64 62 35 00  
E-Mail info@sick.fr

**Great Britain**

Phone +44 (0)1727 831121  
E-Mail info@sick.co.uk

**India**

Phone +91-22-4033 8333  
E-Mail info@sick-india.com

**Israel**

Phone +972-4-6801000  
E-Mail info@sick-sensors.com

**Italia**

Phone +39 02 27 43 41  
E-Mail info@sick.it

**Japan**

Phone +81 (0)3 3358 1341  
E-Mail support@sick.jp

**Magyarország**

Phone +36 1 371 2680  
E-Mail office@sick.hu

**Nederlands**

Phone +31 (0)30 229 25 44  
E-Mail info@sick.nl

**Norge**

Phone +47 67 81 50 00  
E-Mail austefjord@sick.no

**Österreich**

Phone +43 (0)22 36 62 28 8-0  
E-Mail office@sick.at

**Polska**

Phone +48 22 837 40 50  
E-Mail info@sick.pl

**România**

Phone +40 356 171 120  
E-Mail office@sick.ro

**Russia**

Phone +7-495-775-05-30  
E-Mail info@sick.ru

**Schweiz**

Phone +41 41 619 29 39  
E-Mail contact@sick.ch

**Singapore**

Phone +65 6744 3732  
E-Mail admin@sicksgp.com.sg

**Slovenija**

Phone +386 (0)1-47 69 990  
E-Mail office@sick.si

**South Africa**

Phone +27 11 472 3733  
E-Mail info@sickautomation.co.za

**South Korea**

Phone +82 2 786 6321/4  
E-Mail info@sickkorea.net

**Suomi**

Phone +358-9-25 15 800  
E-Mail sick@sick.fi

**Sverige**

Phone +46 10 110 10 00  
E-Mail info@sick.se

**Taiwan**

Phone +886-2-2375-6288  
E-Mail sales@sick.com.tw

**Türkiye**

Phone +90 (216) 528 50 00  
E-Mail info@sick.com.tr

**United Arab Emirates**

Phone +971 (0) 4 8865 878  
E-Mail info@sick.ae

**USA/México**

Phone +1(952) 941-6780  
1 800-325-7425 – tollfree  
E-Mail info@sickusa.com

More representatives and agencies  
at [www.sick.com](http://www.sick.com)