



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 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

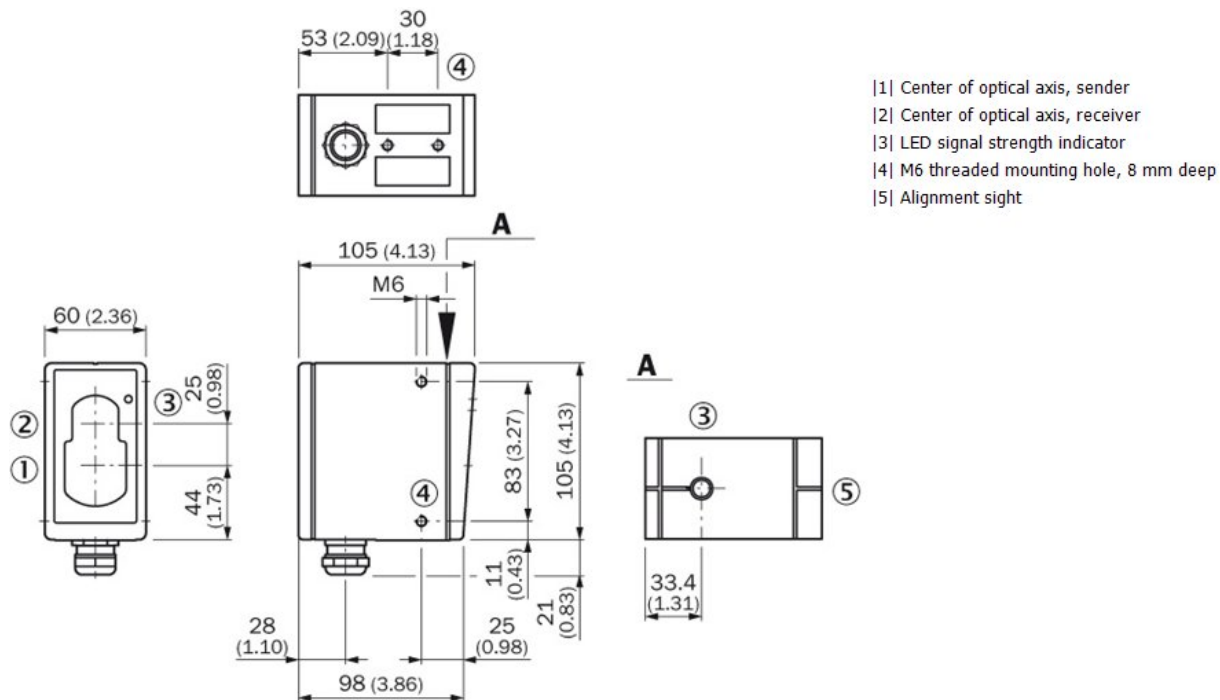
Mechanics/electronics

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

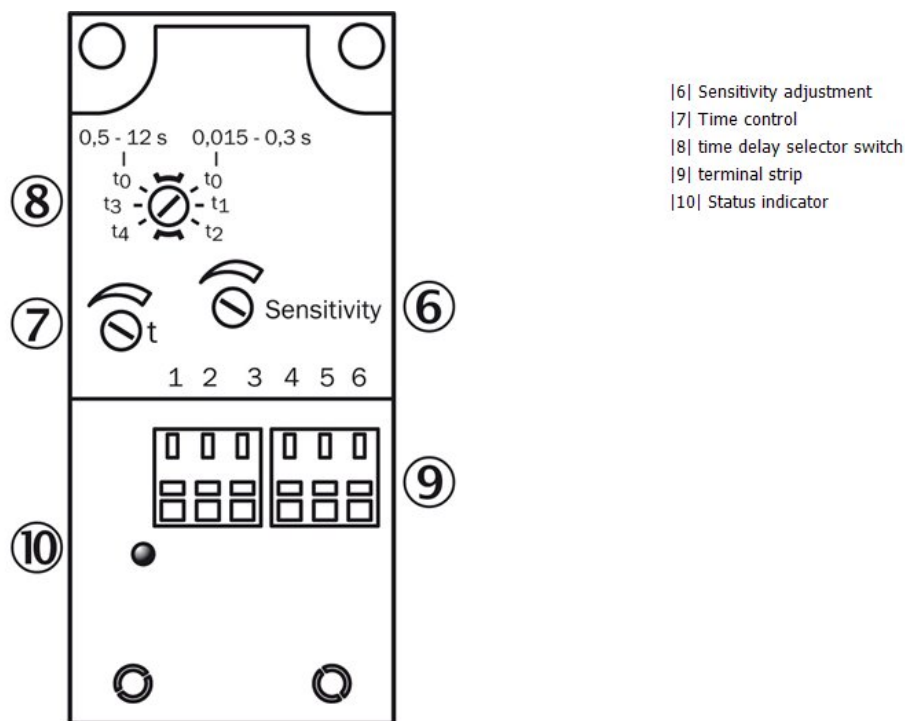
Output type:	NPN
Output function:	Complementary
Switching mode:	Light/dark-switching
Output current I _{max} :	200 mA
Response time:	≤ 1.2 ms ⁴⁾
Switching frequency:	400 Hz ⁵⁾
Connection type:	Connector Hirschmann, 6-pin
Circuit protection:::	A, C, D ⁶⁾ ⁷⁾ ⁸⁾
Protection class:	I ⁹⁾
Weight:	800 g
Polarisation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

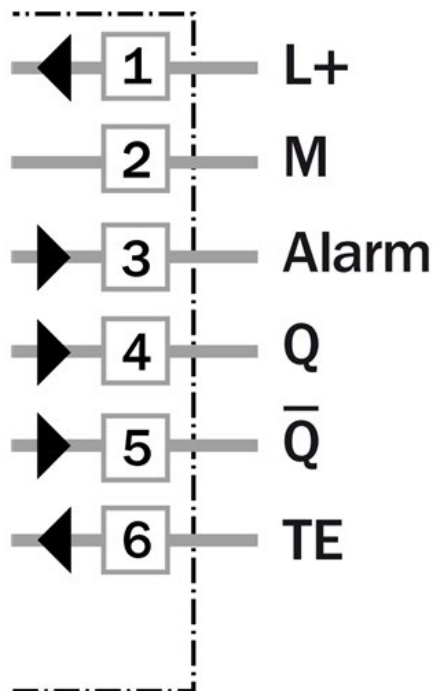
Dimensional drawing



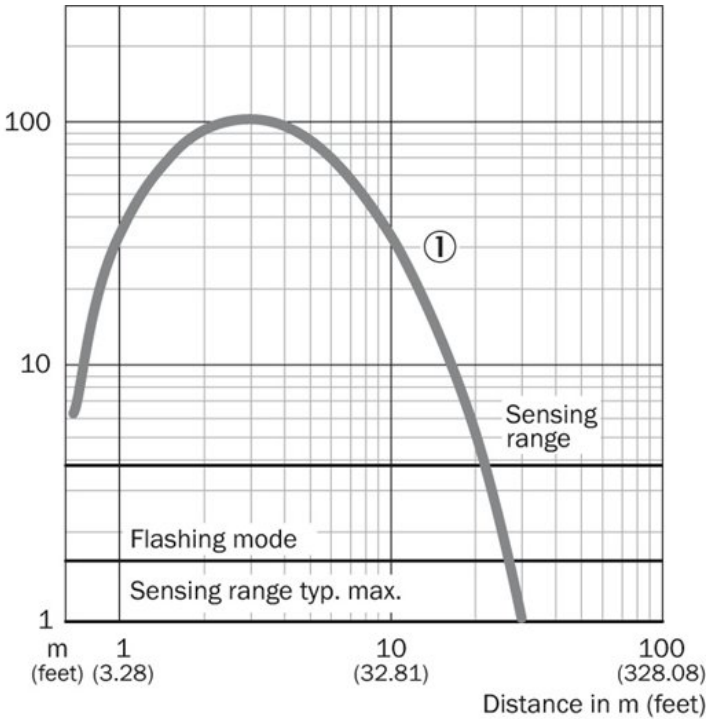
Adjustments possible



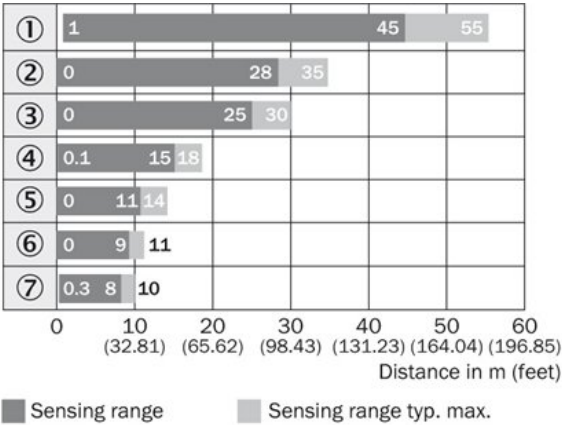
Connection diagram



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