



Photoelectric sensors
W8 Inox, Photoelectric retro-reflective sensor,
Standard optics

WL8-P2231V



Model Name > [WL8-P2231V](#)
Part No. > [6041483](#)



Illustration may differ

At a glance

- Rugged IP 69K stainless steel housing 1.4404/316L
- Front screen made of PMMA with a scratch- and abrasion-resistant SiO₂ nano coating
- Potentiometer made of mechanically stable high-performance PEEK plastic
- Constructed from FDA-approved materials
- Well-defined, highly visible light spot
- M3 threaded mounting holes and stainless steel mounting bracket (1.4301/304) included with delivery
- P250 reflector included with delivery

Your benefits

- High reliability due to an IP 69K stainless steel housing, which withstands aggressive cleaning agents or cooling lubricants
- Quick and easy mounting due to universally compatible M3 threaded mounting holes
- Compact housing saves space (equal to W8 plastic version)
- Highly visible light spot provides easy alignment
- All necessary accessories (bracket and reflector) are included, which simplifies installation



Features

Sensor/detection principle:	Photoelectric retro-reflective sensor, Standard optics
Dimensions (W x H x D):	11 mm x 21 mm x 33.3 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0.01 m ... 6.5 m ¹⁾
Sensing range:	0.01 m ... 4.5 m ²⁾
Type of light:	Visible red light
Light source:	LED ³⁾
Wave length:	645 nm
Light spot diameter (distance):	Ø 245 mm (4.5 m)
Adjustment of operating distance:	Potentiometer, 270°
Angle of dispersion:	Ca. 3 °

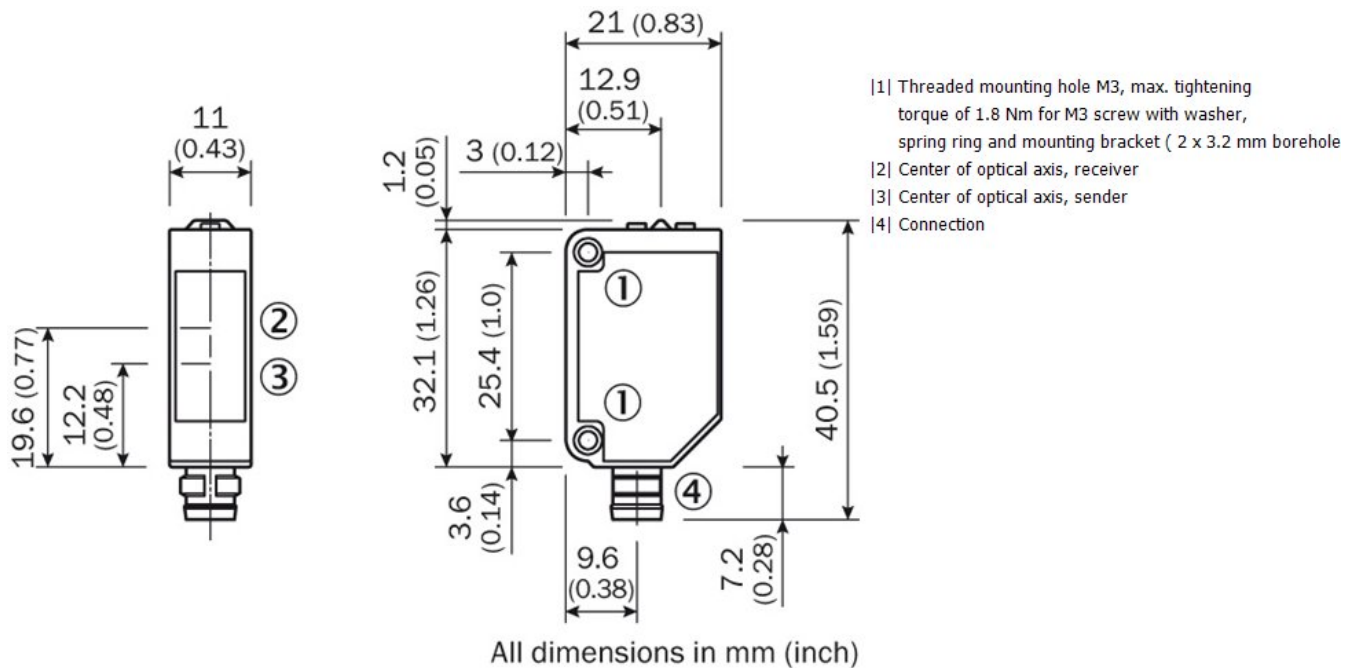
¹⁾ PL80A ²⁾ P250A ³⁾ Average service life of 100,000 h at T_A = +25 °C

Mechanics/electronics

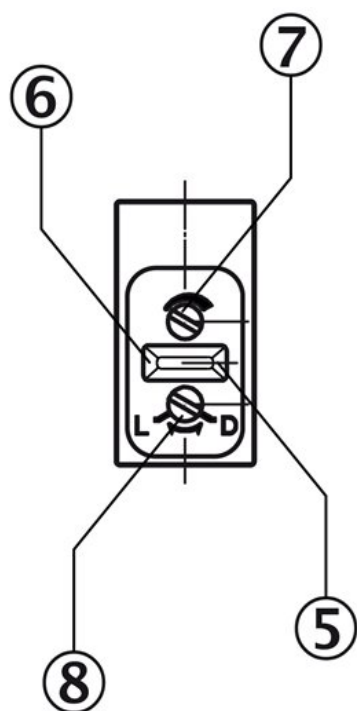
Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	± 10 % ²⁾
Power consumption:	≤ 30 mA ³⁾
Output type:	PNP, Light/dark-switching, selectable via light/dark selector
Signal voltage PNP HIGH/LOW:	Approx. VS - 1.8 V / 0 V
Output current I _{max} :	100 mA
Response time:	≤ 0.5 ms ⁴⁾
Switching frequency:	1,000 Hz ⁵⁾
Connection type:	Connector M8, 4-pin
Circuit protection:::	A, B, D ⁶⁾ ⁷⁾ ⁸⁾
Protection class:	III
Weight:	83.6 g
Polarisation filter:	✓
Housing material:	Stainless steel V4A (1.4404, 316L)
Enclosure rating:	IP 69K
Items supplied:	Stainless steel mounting bracket (1.4301/304) BEF-W100-A, P250A reflectorP250A reflector
Ambient operating temperature:	-30 °C ... 60 °C ⁹⁾
Ambient storage temperature:	-40 °C ... 70 °C
UL File-No.:	FDA

¹⁾ Limit values, reverse-polarity protected operation in short-circuit protected network max. 8 A 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 connections reverse-polarity protected ⁷⁾ B = inputs and output reverse-polarity protected ⁸⁾ D = outputs overcurrent and short-circuit protected ⁹⁾ At an air humidity of 35 ... 95 %

Dimensional drawing

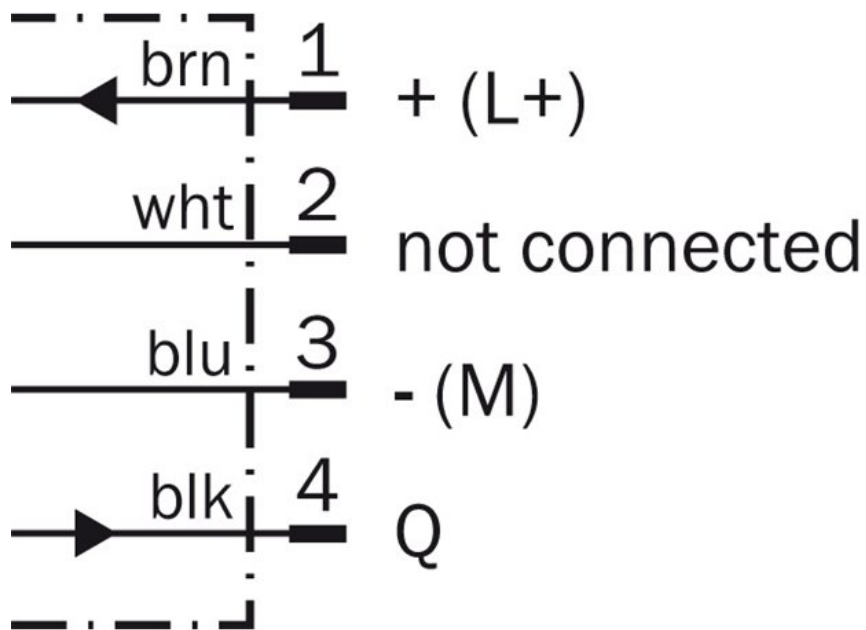


Adjustments possible

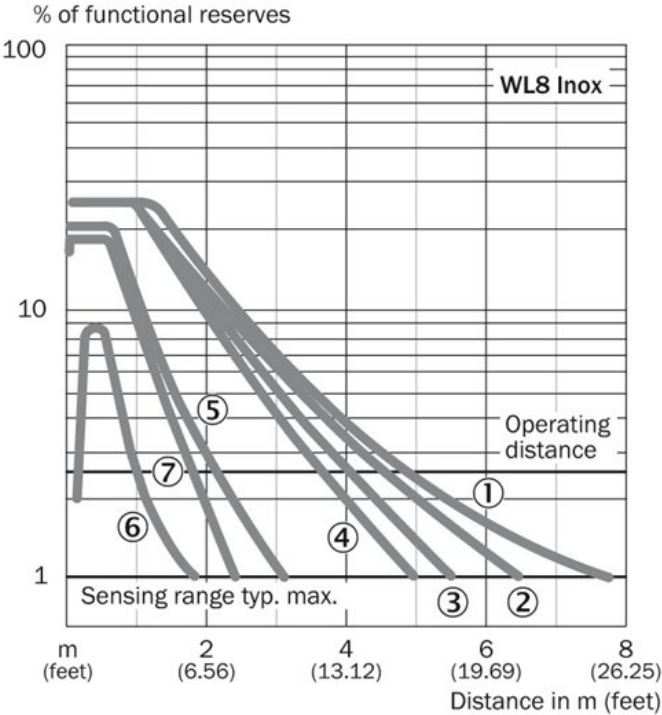


- [5] Orange LED indicator : switching output active
- [6] LED indicator green: stability
indicator goes on if light received < 0.9 or > 1.1 (based on switching threshold $Q = 1$)
- [7] Sensitivity control; Potentiometer 270°
- [8] Light/ dark rotary switch L =
light switching, D = dark switching

Connection diagram

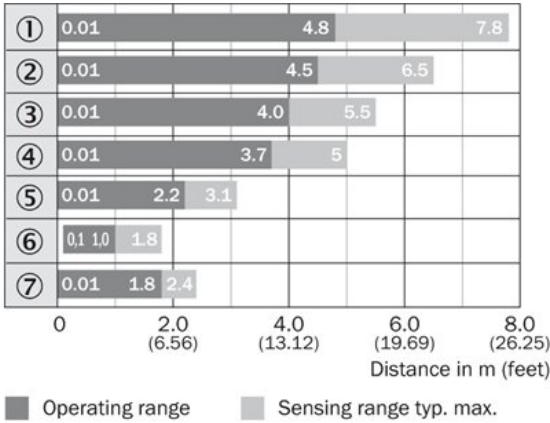


Characteristic curve



- |1| PL80A
- |2| P250
- |3| PL40A
- |4| PL30A
- |5| PL20A
- |6| Reflective tape Diamond Grade
(100 mm x 100 mm/3.94 inch x 3.94 inch)
- |7| P45

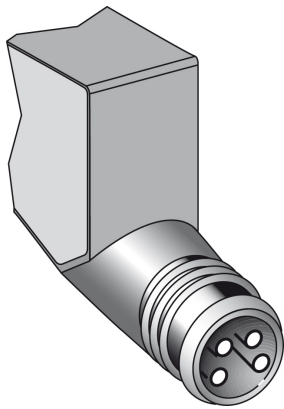
Sensing range diagram



- |1| PL80A
- |2| P250
- |3| PL40A
- |4| PL30A
- |5| PL20A
- |6| Reflective tape „Diamond Grade“
- |7| P45A

- Reflector type
- ① PL80A
 - ② P250
 - ③ PL40A
 - ④ PL30A
 - ⑤ PL20A
 - ⑥ Reflective tape „Diamond Grade“
 - ⑦ P45A

Connection type



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