



Photoelectric sensors
W100, Photoelectric retro-reflective sensor,
Standard optics

WL100-P4420



Model Name > [WL100-P4420](#)
Part No. > [6028609](#)



Illustration may differ

At a glance

- Standard miniature housing with M3 threaded mounting holes
- Optics with standard red LED or bright light LED
- Polarizing filter
- Light/dark switching and sensitivity adjustment via rotary switch possible
- All necessary accessories (BEF-W100-A and P250) are included with delivery (depending on type)

Your benefits

- Highly visible light spot simplifies alignment
- Less contamination due to high optical operating reserve
- Polarization filter allows reliable detection of objects with shiny surfaces and prevents false switching
- M3 threaded mounting holes provide easy installation
- Variants available for reliably detecting clear materials, min. attenuation 20 %
- All necessary accessories (bracket and reflector) are included with delivery, reducing installation and procurement costs (depending on type)

Product will be phased out and can be ordered until 31.12.2015.



Features

Sensor/detection principle:	Photoelectric retro-reflective sensor, Standard optics
Dimensions (W x H x D):	11 mm x 31 mm x 20 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0.01 m ... 3 m ¹⁾
Sensing range:	0.01 m ... 2.6 m ²⁾
Type of light:	Visible red light
Light source:	LED ³⁾
Wave length:	680 nm
Angle of dispersion:	Ca. 4 °
Focus adjustable:	-
Adjustment:	Potentiometer, 270 °
Light spot size (distance):	Ø 200 mm (2 m)

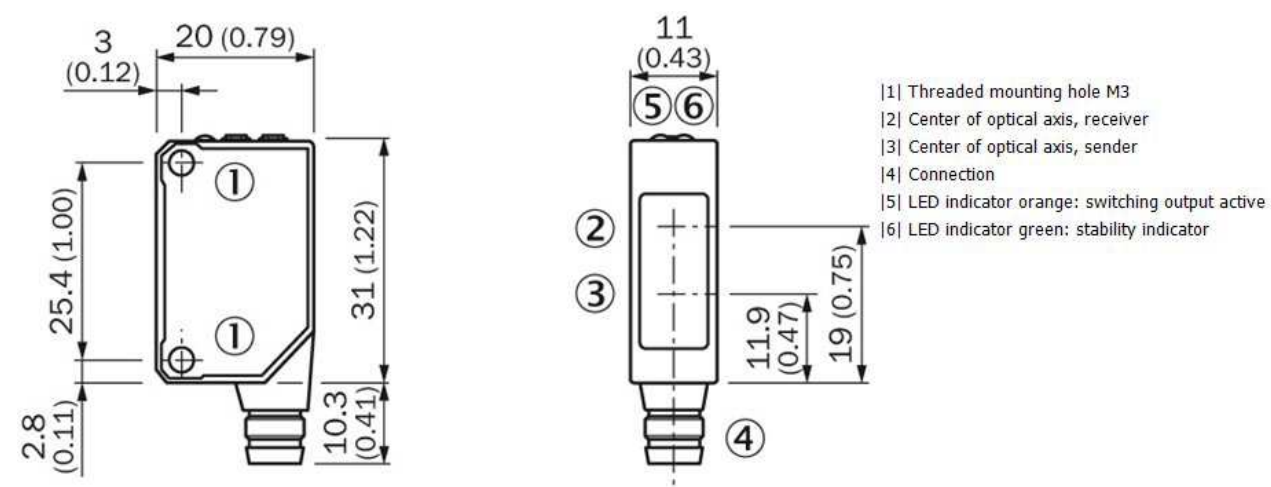
^{1) 2)} PL80A ³⁾ Average service life of 100,000 h at T_A = +25 °C

Mechanics/electronics

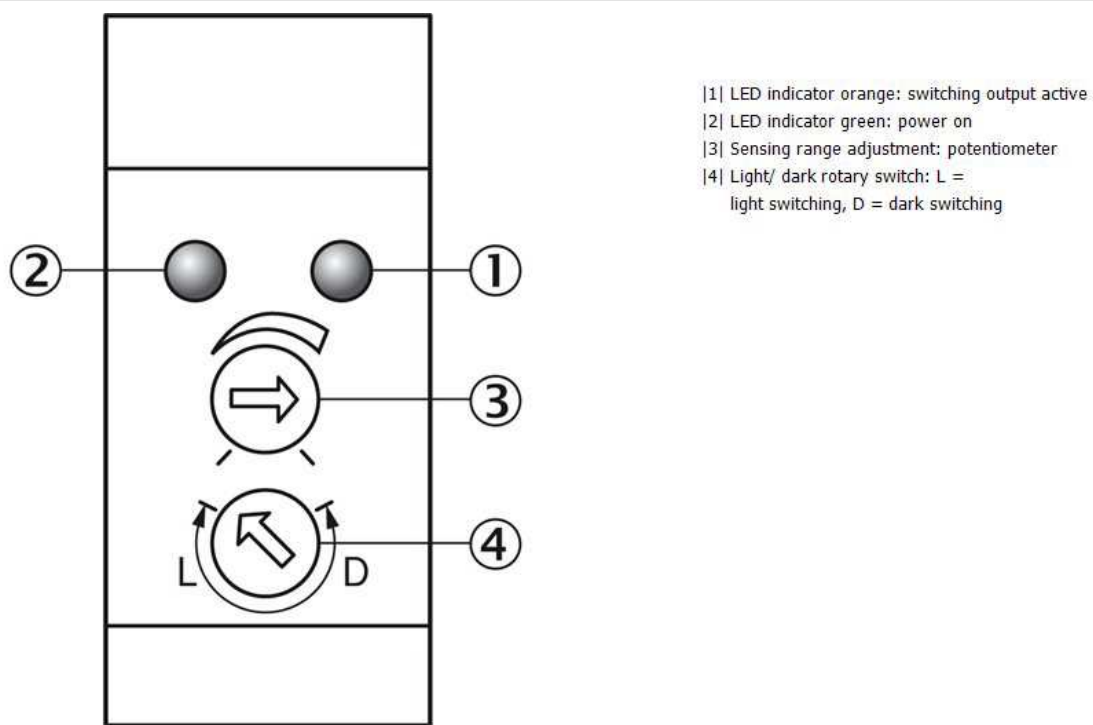
Supply voltage:	10 V DC ... 30 V DC ¹⁾
Residual ripple:	$\pm 10 \%$ ²⁾
Power consumption:	$\leq 30 \text{ mA}$ ³⁾
Output type:	PNP, open collector
Switching mode:	Light/dark switching
Switching mode selector:	Manually selectable
Output current I _{max} :	$\leq 100 \text{ mA}$ ⁴⁾
Response time:	$\leq 0.5 \text{ ms}$ ⁵⁾
Switching frequency:	1,000 Hz ⁵⁾
Attenuation along light beam:	> 20 %
Electrical connection:	Connector M8, 4-pin
Circuit protection:::	A, B, D ⁶⁾ ⁷⁾ ⁸⁾
Weight:	9 g
Polarisation filter:	-
Special device:	-
Optics material:	PMMA
Enclosure rating:	IP 65
Special feature:	Detection of transparent objects
Ambient temperature operation:	-25 °C ... +55 °C
Ambient storage temperature:	-40 °C ... +70 °C
Signal voltage PNP HIGH/LOW:	UV - 1,8 V / ca. 0 V
Housing material:	ABS/PC/POM, Plastic

¹⁾ Limit values, 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

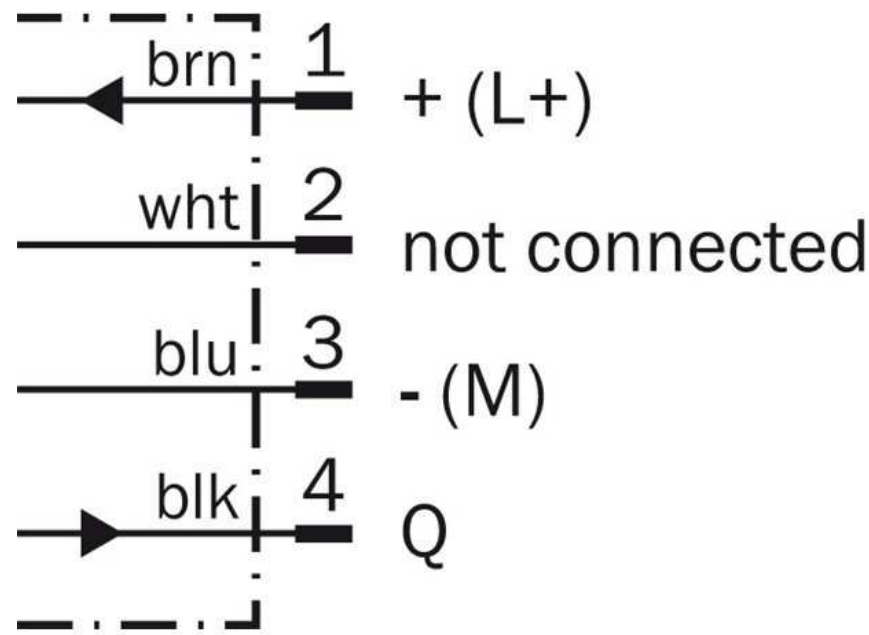
Dimensional drawing



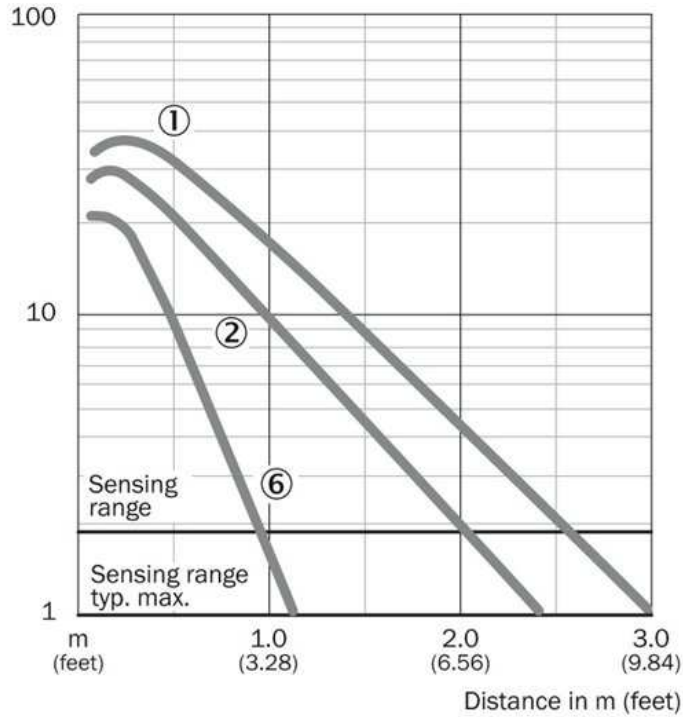
Adjustments possible



Connection diagram

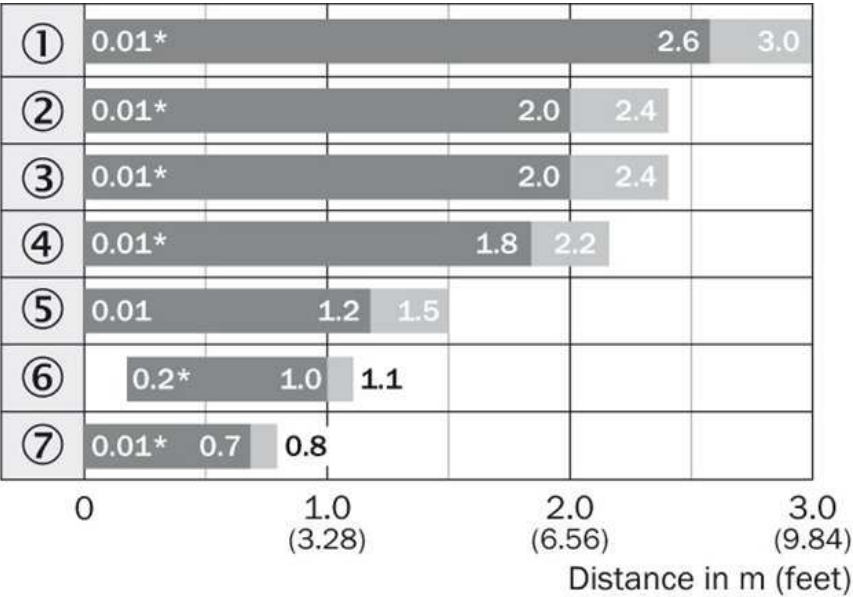


Characteristic curve



- |1| PL80A
- |2| P250
- |6| Reflective tape Diamond Grade

Sensing range diagram

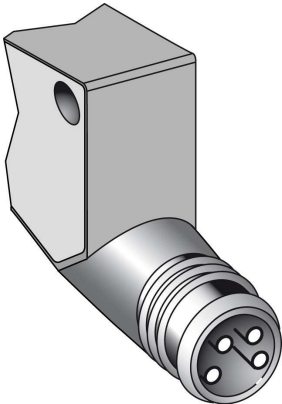


- |1| PL80A
- |2| P250
- |3| PL50A, PL40A
- |4| PL30A, PL31A
- |5| PL20A
- |6| Reflective tape Diamond Grade
- |7| P45

■ Sensing range ■ Sensing range max.

*Close-up range at maximum sensitivity

Connection type



Australia

Phone +61 3 9457 0600
1800 33 48 02 – 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 marketing@sick.com.br

Canada

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

Česká 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 info@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 +972-4-6881000
E-Mail info@sick-sensors.com

Italia

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

Japan

Phone +81 (0)3 5309 2112
E-Mail support@sick.jp

Magyarország

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

Nederland

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

Norge

Phone +47 67 81 50 00
E-Mail sick@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 sales.gsg@sick.com

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 88 65 878
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