

Photoelectric sensors
W12G, Photoelectric retro-reflective sensor,
autocollimation



Model Name > [WL12G-3P2582P01](#)
Part No. > [1053549](#)



At a glance

- Reliable detection of transparent objects
- Optional Continuous Threshold Adaption (CTA)
- Sensing range is adjustable via potentiometer or teach-in pushbutton
- Rugged housing for industrial use
- Highly visible red light spot for versatile detection of objects
- Rugged die-cast zinc housing with optional Teflon® coating
- Versatile mounting options due to dovetail mounting - mounting holes and oblong holes
- Highly visible status LEDs

Your benefits

Reliable detection of transparent objects, including PET bottles and transparent film
PinPoint LED technology provides a bright, small and precise light spot that enables quick and easy sensor alignment

Precise switching characteristics and high-performance object detection provides increased productivity

High immunity to optical interference reduces false readings

Rugged metal housing (optional Teflon® coating available) requires less maintenance due to its resistance to high-pressure cleaning environments

Highly visible status LEDs simplify commissioning, reduce installation time and provide quick diagnostics information

Easy installation using SICK accessories



Features

Sensor/detection principle:	Photoelectric retro-reflective sensor, autocollimation
Dimensions (W x H x D):	15.5 mm x 48.5 mm x 42 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0 m ... 4 m ¹⁾
Type of light:	Infrared light
Light source:	LED ²⁾
Light spot (distance):	Ø 100 mm (3 m)
Wave length:	660 nm

Sensitivity adjustment::

Teach-in button

3) 4)

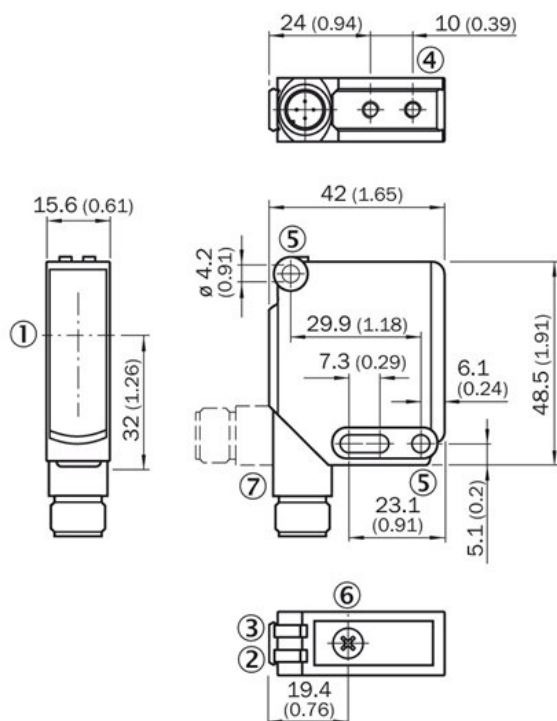
¹⁾ PL80A ²⁾ Average service life 100,000 h at Ta = +25 °C ³⁾ Mode I, 10 % attenuation ⁴⁾ Mode II, 18 % attenuation

Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	≤ 5 Vpp ²⁾
Power consumption:	≤ 40 mA ³⁾
Output type:	PNP, Light-switching, with time delay toff 50 ms
Signal voltage PNP HIGH/LOW:	Approx. VS - 2.5 V / 0 V
Output current I _{max} :	100 mA
Response time:	≤ 333 μs ⁴⁾
Switching frequency:	1,500 Hz ⁵⁾
Connection type:	Connector M12, 5-pin
Circuit protection:::	A, B, C, D ⁶⁾ ⁷⁾ ⁸⁾ ⁹⁾
Protection class:	II ¹⁰⁾
Weight:	120 g
Housing material:	Zinc diecast
Optics material:	PMMA
Enclosure rating:	IP 66 IP 67
Items supplied:	Reflector P250F
Special feature:	For transparent objects
Operating mode:	Mode I, Mode II
Ambient operating temperature:	≤ 60 °C
Ambient storage temperature:	-40 °C ... 75 °C
UL File-No.:	UL No. NRKH.E181493 & cUL No. NRKH7.E181493

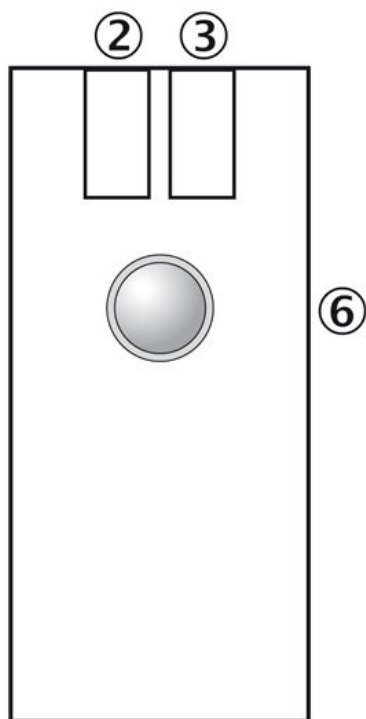
¹⁾ Limit values, operation in short-circuit protected network max. 8 A ²⁾ May not exceed or fall short of V_S ³⁾ Without load ⁴⁾ Signal transit time with resistive load ⁵⁾
With light/dark ratio 1:1 ⁶⁾ A = V_S connections reverse-polarity protected ⁷⁾ B = inputs and output reverse-polarity protected ⁸⁾ C = interference suppression ⁹⁾ D =
outputs overcurrent and short-circuit protected ¹⁰⁾ Reference voltage 50 V DC

Dimensional drawing



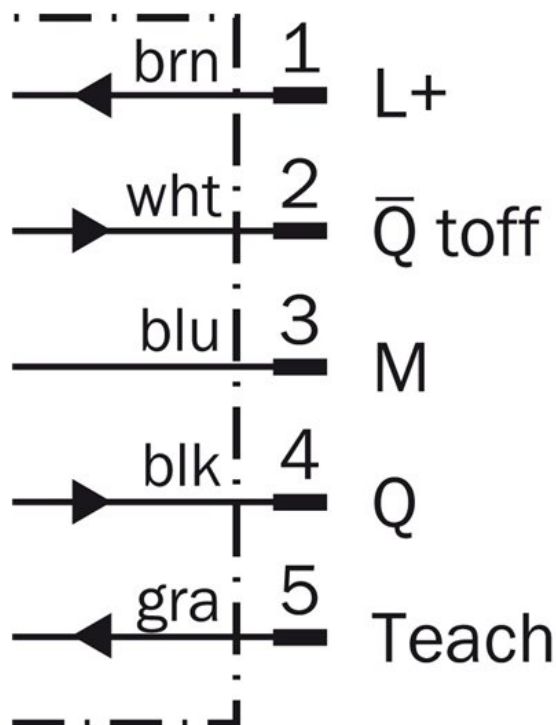
- [1] Optical axis
- [2] LED indicator yellow: Light received
- [3] Green LED indicator: supply voltage active
- [4] M4 threaded mounting hole, 4 mm deep
- [5] Mounting hole, Ø 4.2 mm
- [6] Sensitivity adjustment: poti
- [7] Connection

Adjustments possible

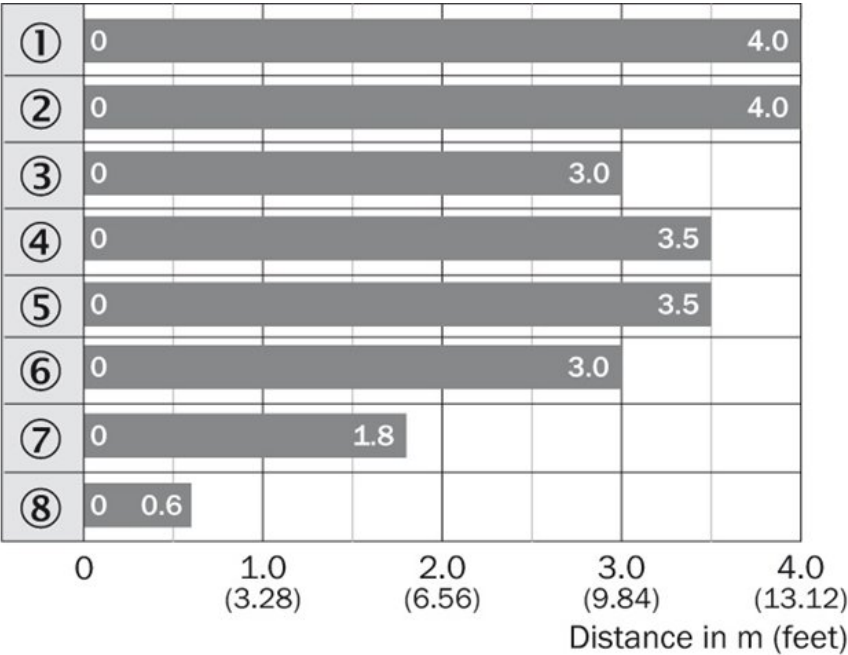


- [2] LED indicator yellow: Light received
- [3] LED indicator, green: power on, teach-in mode I, LED indicator, blue: teach-in mode II
- [6] Single-teach-in button, function 1: teach-in sensitivity on reflector, function 2: change operation/teach-in mode

Connection diagram

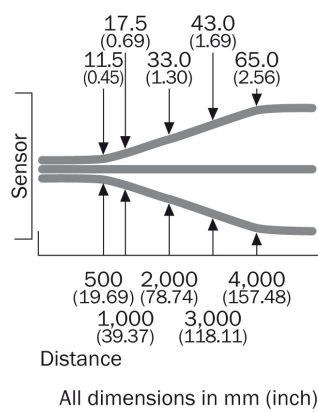


Sensing range diagram



■ Sensing range max.

Light spot size



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