



Photoelectric sensors
W12G, Photoelectric retro-reflective sensor,
autocollimation

WL12G-3P2572T01



Model Name > [WL12G-3P2572T01](#)
Part No. > [1053546](#)



Illustration may differ

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
- Quality monitoring thanks to IO-Link
- Key lock function, remote teach
- Diagnostics messages (contamination and short-circuit)

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

Quick and easy threshold adjustment (depending on type)

Simple monitoring of detection quality

Key lock function and parameter download prevent incorrect setting



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:	Visible red light
Light source:	PinPoint LED ²⁾
Adjustment.:	Teach-in button ^{3) 4)}
Light spot size (distance):	Ø 25 mm (1.5 m)
Continuous threshold adaption:	✓

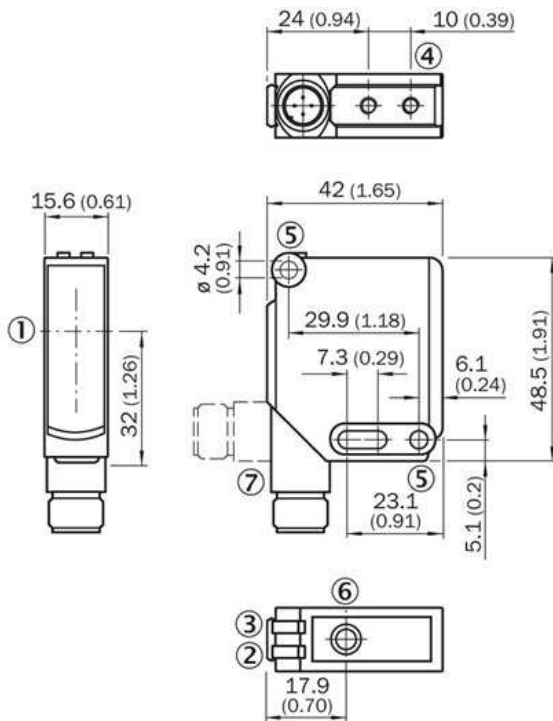
1) PL80A 2) Average service life of 100,000 h at $T_A = +25\text{ °C}$ 3) Mode I, 10 % attenuation 4) Mode II, 18 % attenuation

Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	$\leq 5\text{ Vpp}$ ²⁾
Power consumption:	$\leq 40\text{ mA}$ ³⁾
Output type:	PNP
Switching mode:	Light/dark switching
Output current I _{max.} :	100 mA
Response time:	$\leq 333\text{ }\mu\text{s}$ ⁴⁾
Switching frequency:	$\pm 1,500\text{ Hz}$ ⁵⁾
Connection type:	Connector M12, 5-pin
Circuit protection::::	A, B, C, D ^{6) 7) 8) 9)}
Protection class:	II
Weight:	120 g
Polarisation filter:	✓
Housing material:	PTFE, Zinc diecast
Optics material:	PMMA, PTFE-coated
Enclosure rating:	IP 66 IP 67
Special feature:	For transparent objects
Operating mode:	Mode I, 10 % attenuation, Mode II, 18 % attenuation
Ambient operating temperature:	$\leq +60\text{ °C}$
Ambient storage temperature:	$-40\text{ °C} \dots +75\text{ °C}$
UL File No.:	NRKH.E181493 & NRKH7.E181493
Signal voltage PNP HIGH/LOW:	Approx. VS - 2.5 V / 0 V

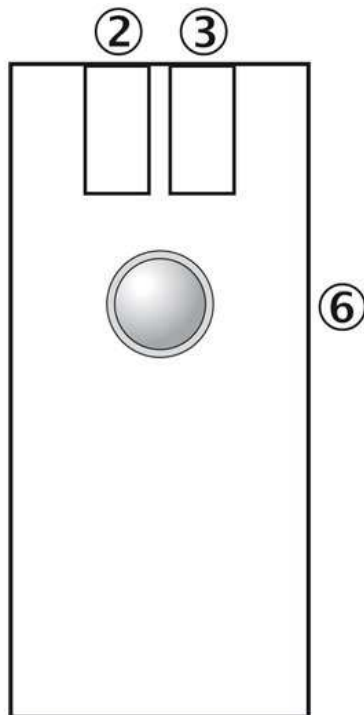
¹⁾ Limit values, operation in short-circuit protected network max. 8 A ²⁾ May not exceed or fall short of V_S tolerances ³⁾ Without load ⁴⁾ Signal transit time with resistive load ⁵⁾ With light/dark ratio 1:1 ⁶⁾ A = V_S connections reverse-polarity protected ⁷⁾ B = inputs and output reverse-polarity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

Dimensional drawing



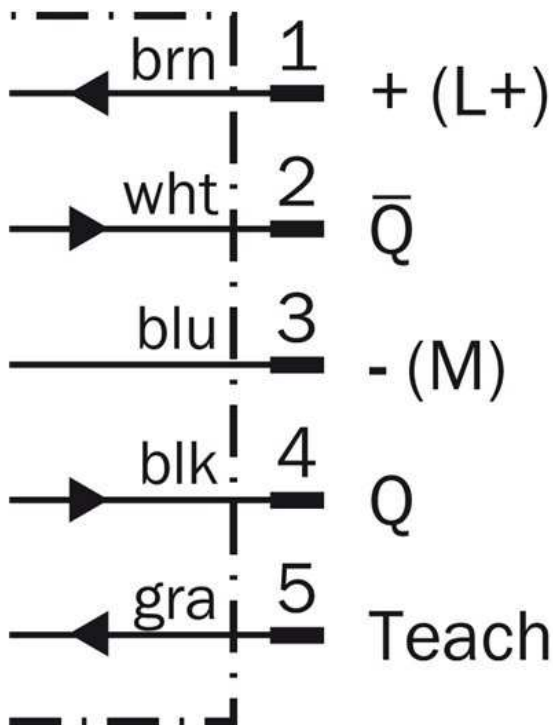
- [1] Optical axis
- [2] LED indicator yellow: Light received
- [3] Green LED indicator: supply voltage active
- [4] M4 threaded mounting hole, 4 mm deep
- [5] Mounting hole, \varnothing 4.2 mm
- [6] Sensitivity setting: single teach-in button
- [7] Connection

Adjustments possible

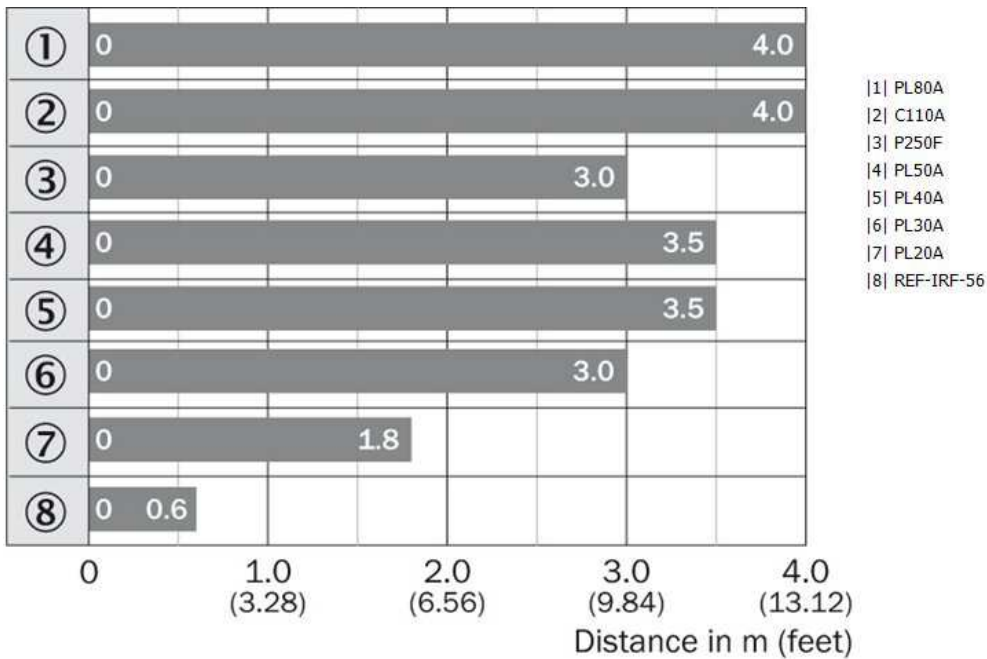


- [2] LED indicator yellow: Light received
- [3] LED indicator, green: power on, teach-in mode I, LED indicator, blue: teach-in mode II
- [6] Single teach-in button, function 1: teach-in sensitivity on reflector, function 2: change operation/teach-in mode

Connection diagram

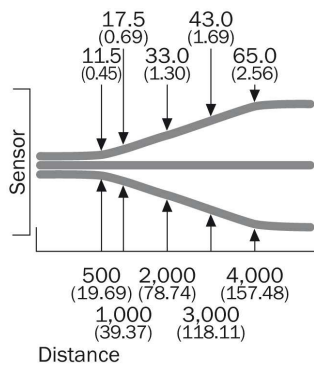


Sensing range diagram



■ Sensing range max.

Light spot size



All dimensions in mm (inch)

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