



Photoelectric sensors
W12G, Photoelectric retro-reflective sensor,
autocollimation

WL12G-3B2531



Model Name > [WL12G-3B2531](#)
Part No. > [1041456](#)



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):	15.6 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:	LED ²⁾
Wave length:	640 nm
Angle of dispersion:	Ca. 1.5 °
Adjustment:	Potentiometer, 11 turns
Light spot size (distance):	Ø 25 mm (1.5 m)

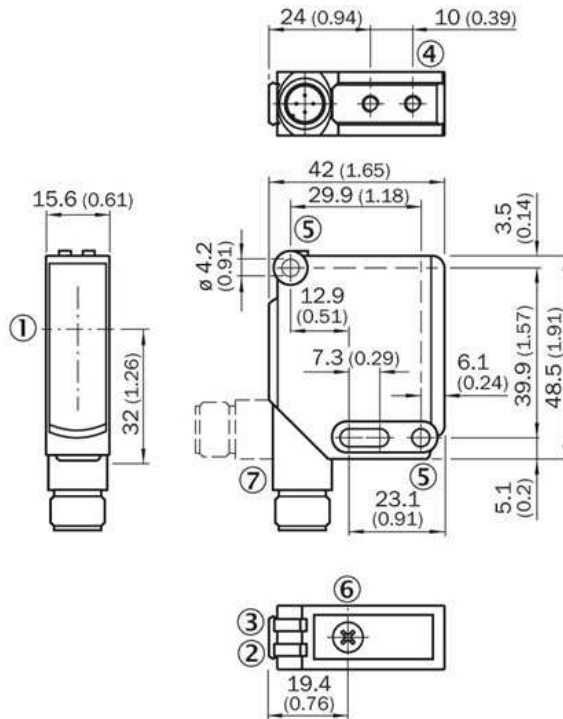
1) PL80A 2) Average service life of 100,000 h at $T_A = +25\text{ °C}$

Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	$\leq 5\text{ Vpp}$ ²⁾
Power consumption:	$\leq 30\text{ mA}$ ³⁾
Output type:	NPN, PNP
Switching mode:	Dark switching, Light switching
Switching mode selector:	Selectable via L/D control wire
Output current $I_{max.}$:	100 mA
Response time:	$\leq 330\text{ }\mu\text{s}$ ⁴⁾
Switching frequency:	$\pm 1,500\text{ Hz}$ ⁵⁾
Connection type:	Connector M12, 5-pin
Circuit protection:::	A, C, D ^{6) 7) 8)}
Protection class:	II
Weight:	120 g
Polarisation filter:	✓
Housing material:	Metal
Enclosure rating:	IP 66 IP 67 IP 69K
Special feature:	For transparent objects
Ambient operating temperature:	-40 °C ... 60 °C
Ambient storage temperature:	-40 °C ... 75 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493
Signal voltage PNP HIGH/LOW:	$> U_v - 3\text{ V}/\text{ca. } 0\text{ V}$

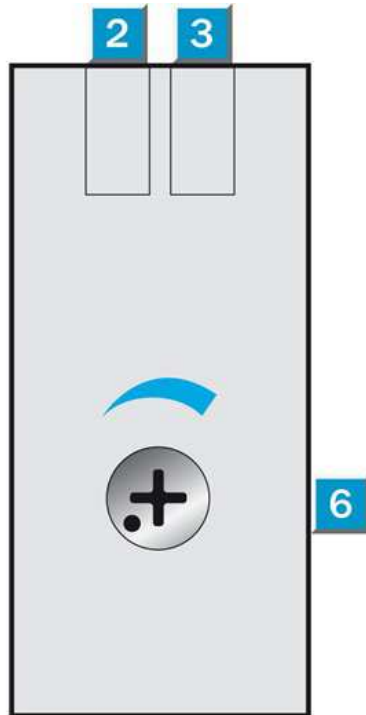
1) Limit values, operation in short-circuit protected network max. 8 A 2) May not exceed or fall short of V_S tolerances 3) Without load 4) Signal transit time with resistive load 5) With light/dark ratio 1:1 6) A = V_S connections reverse-polarity protected 7) C = interference suppression 8) D = outputs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

Dimensional drawing



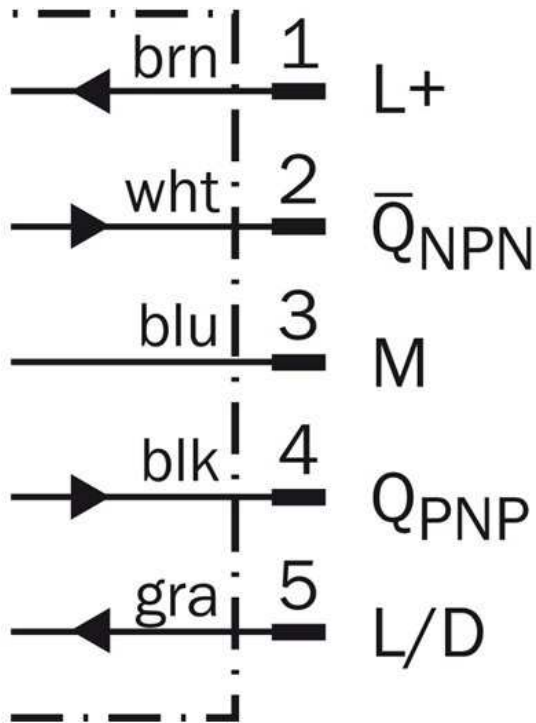
- |1| Optical axis
- |2| LED indicator yellow: Light received
- |3| Green LED indicator: supply voltage active
- |4| M4 threaded mounting hole, 4 mm deep
- |5| Mounting hole, \varnothing 4.2 mm
- |6| Sensitivity adjustment: poti
- |7| Connection

Adjustments possible

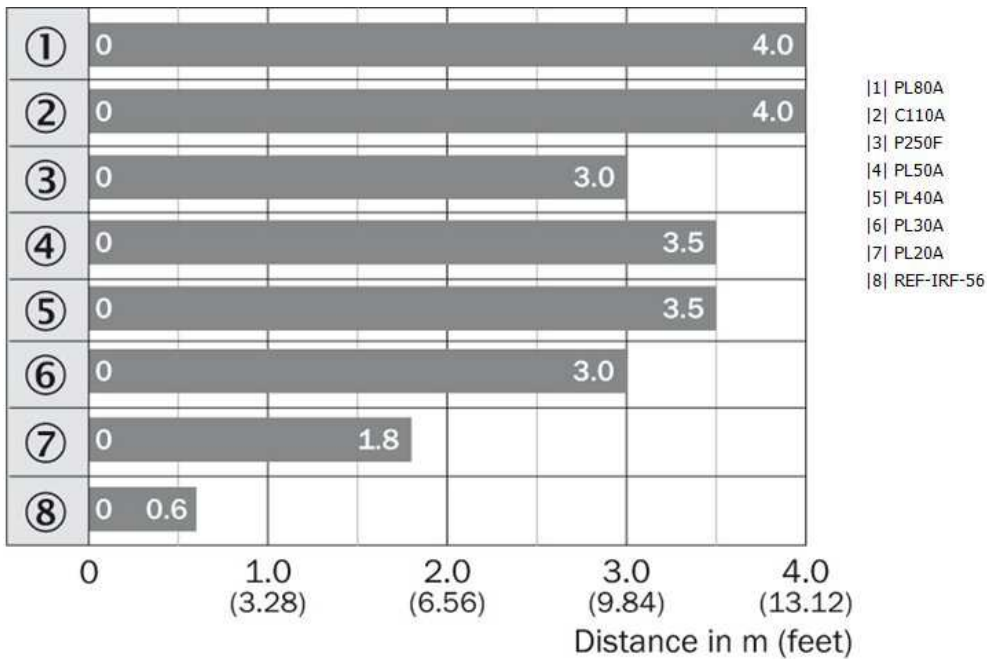


- |2| LED indicator yellow: Light received
- |3| Green LED indicator: supply voltage active
- |6| Sensitivity adjustment: poti

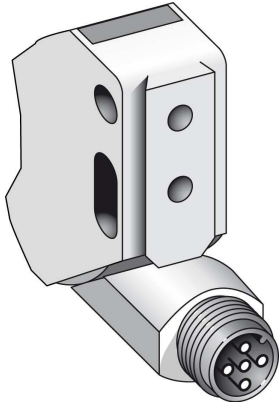
Connection diagram



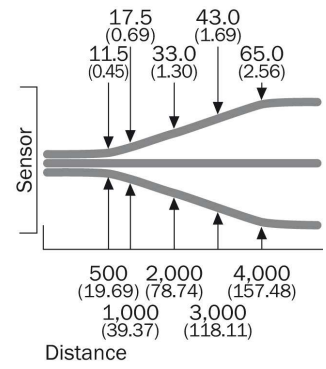
Sensing range diagram



Connection type



Light spot size



All dimensions in mm (inch)

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