



Photoelectric sensors
W12G, Photoelectric retro-reflective sensor,
autocollimation

WL12G-3B2531S37



Model Name > [WL12G-3B2531S37](#)
Part No. > [1044111](#)



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):	15.6 mm x 48.5 mm x 42 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0 m ... 2 m ¹⁾
Sensing range:	0 m ... 0.5 m ²⁾
Type of light:	Visible red light
Light source:	LED ³⁾
Light spot (distance):	25 mm (1.5 m)
Wave length:	640 nm

Sensitivity adjustment: Potentiometer, 11-turn

Angle of dispersion: Ca. 1.5 °

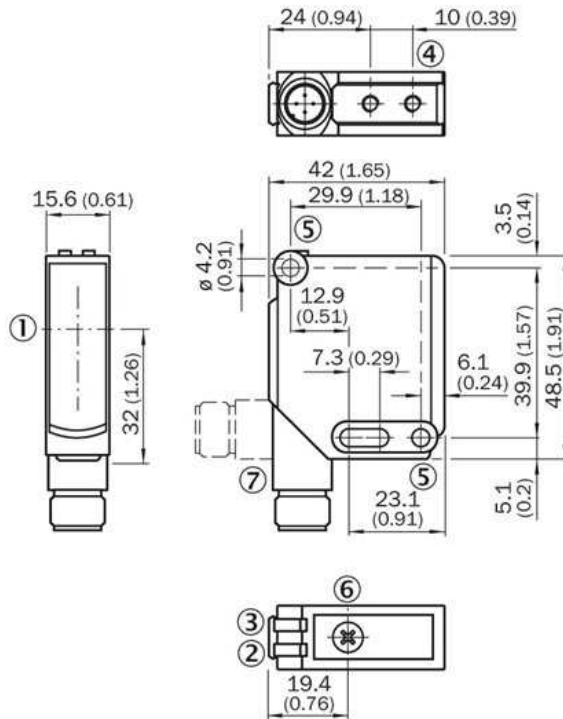
1) 2) PL80A 3) Average service life 100,000 h at Ta = +25 °C

Mechanics/electronics

Supply voltage: 10 V DC ... 30 V DC ¹⁾
Ripple: ≤ 5 Vpp ²⁾
Power consumption: ≤ 30 mA ³⁾
Output type: NPN, PNP, Light/dark-switching, Selectable via L/D control wire
Output current I_{max.}: 100 mA
Response time: ≤ 330 μs ⁴⁾
Switching frequency: 1,500 Hz ⁵⁾
Connection type: Connector M12, 5-pin
Circuit protection::: A, C, D ^{6) 7) 8)}
Protection class: II
Weight: 120 g
Polarisation filter: ✓
Special device: ✓
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.: UL No. NRKH.E181493 & cUL No. NRKH7.E181493

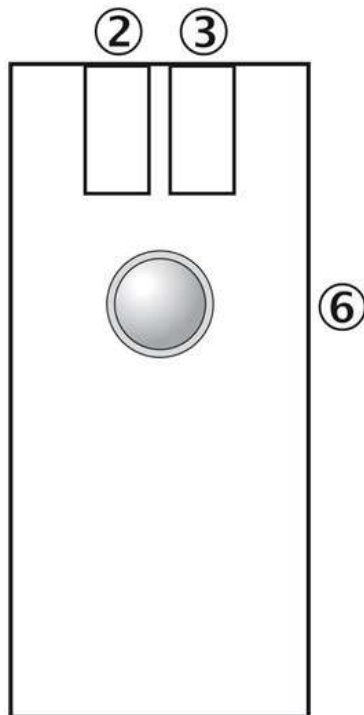
1) Limit values, operation in short-circuit protected network max. 8 A 2) May not exceed or fall short of V_S ³⁾ Without load ⁴⁾ Signal transit time with resistive load ⁵⁾
With light/dark ratio 1:1 ⁶⁾ A = V_S connections reverse-polarity protected ⁷⁾ C = interference suppression ⁸⁾ D = outputs overcurrent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

Dimensional drawing



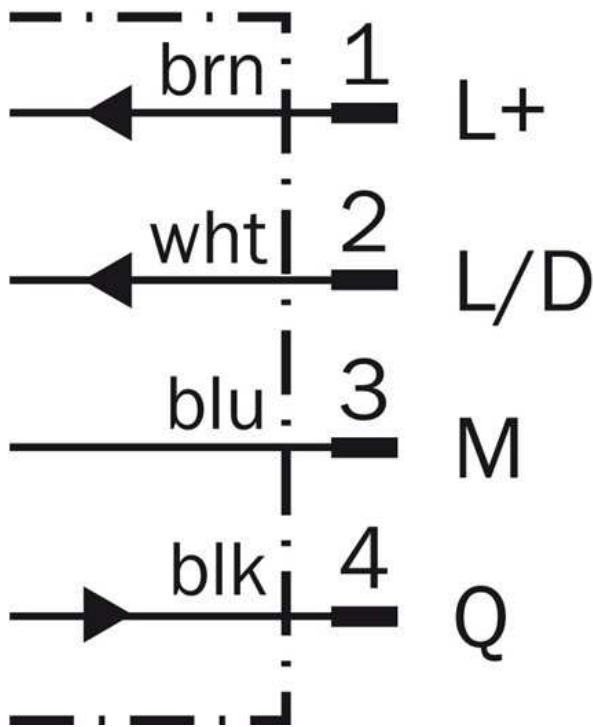
- |1| Optical axis
- |2| LED indicator yellow: Light received
- |3| Green LED indicator: supply voltage active
- |4| M4 threaded mounting hole, 4 mm deep
- |5| Mounting hole, \varnothing 4.2 mm
- |6| Sensitivity adjustment: poti
- |7| Connection

Adjustments possible

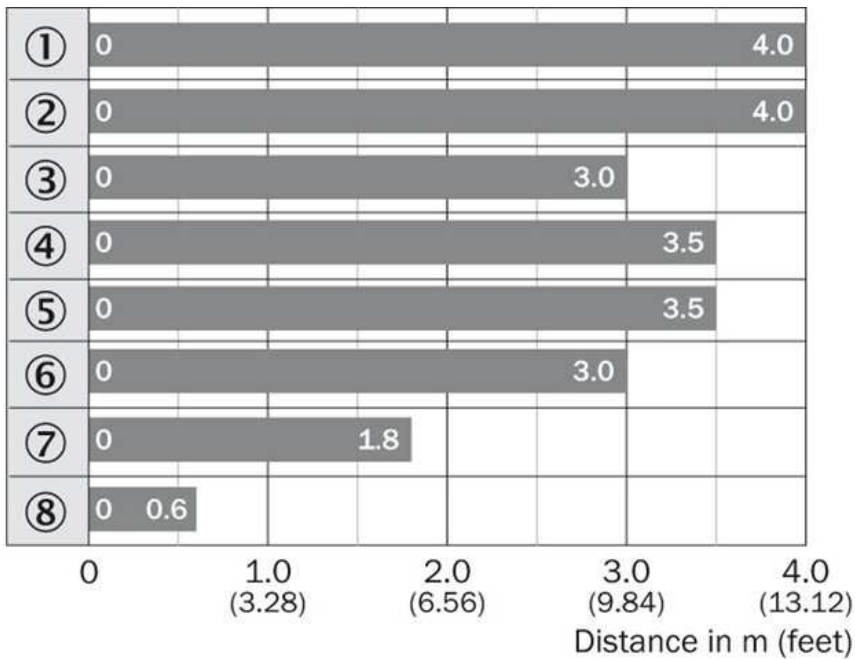


- |2| LED indicator yellow: Light received
- |3| LED indicator, green: power on, teach-in mode I, LED indicator, blue: teach-in mode II
- |6| Single-teach-in button, function
 - 1: teach-in sensitivity on reflector
 - , function 2: change operation/teach-in mode

Connection diagram

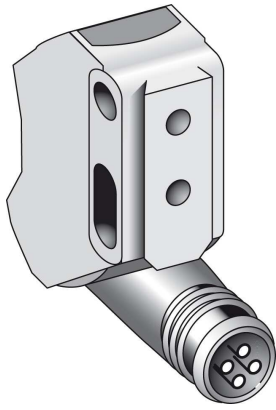


Sensing range diagram

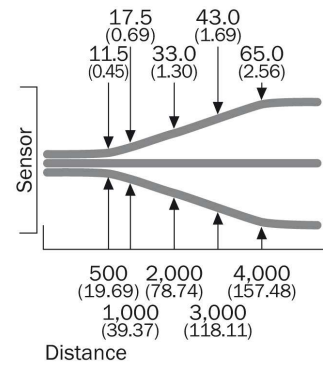


■ Sensing range max.

Connection type



Light spot size



All dimensions in mm (inch)

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