



Photoelectric sensors  
W12-2 Laser, Photoelectric retro-reflective  
sensor, autocollimation

WL12L-2B530A01



**Model Name** > [WL12L-2B530A01](#)  
**Part No.** > [1018479](#)



**At a glance**

- Laser protection class 1 or 2
- Autocollimation optics
- Rugged sensors for industrial use
- Highly visible laser 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
- Adjustable sensing range and focus

**Your benefits**

Reliable detection of all types of objects

High immunity to optical interference ensures fewer false readings and less downtime

Highly visible laser light spot provides quick and easy setup

Highly visible status LEDs simplify commissioning and reduce installation time

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

Laser protection class 1 or 2 for eye safety

Rotatable connectors simplify installation



**Features**

Sensor/detection principle:	Photoelectric retro-reflective sensor, autocollimation
Dimensions (W x H x D):	15 mm x 49 mm x 41.5 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0 m ... 18 m <sup>1)</sup>
Type of light:	Visible red light
Light source:	Laser <sup>2)</sup>
Light spot (distance):	0.8 mm (300 mm)
Wave length:	650 nm

<sup>1)</sup> PL80A <sup>2)</sup> Average service life 50,000 h at Ta = +25 °C

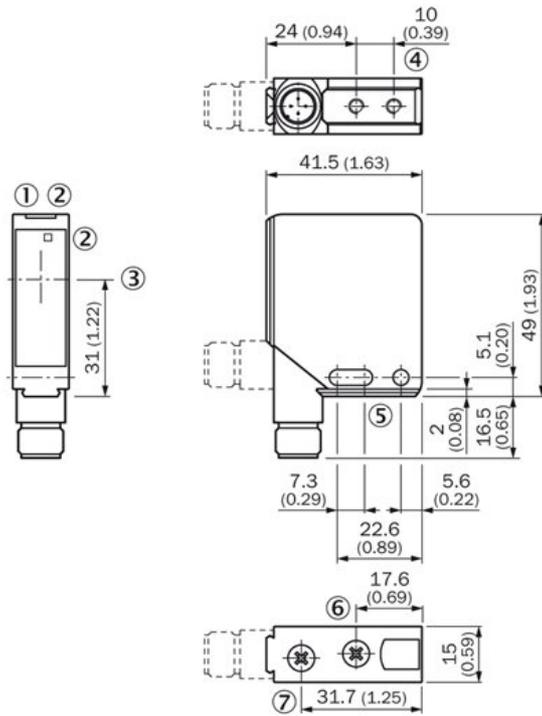
## Mechanics/electronics

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Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	$\leq 5 \text{ Vpp}$ <sup>2)</sup>
Power consumption:	$\leq 55 \text{ mA}$ <sup>3)</sup>
Output type:	NPN, PNP, Dark-switching, Selectable via L/D control wire, Complementary
Signal voltage PNP HIGH/LOW:	$U_v - < 2.9 \text{ V}, U_v \text{ V}/0 \text{ V} \leq 1.5 \text{ V}$
Signal voltage NPN HIGH/LOW:	$U_v - < 2.9 \text{ V}, U_v \text{ V}/0 \text{ V} \leq 1.5 \text{ V}$
Output current I <sub>max.</sub> :	100 mA
Response time:	$\leq 200 \mu\text{s}$ <sup>4)</sup>
Switching frequency:	2,500 Hz <sup>5)</sup>
Connection type:	Connector M12, 5-pin
Circuit protection:::	A, C, D <sup>6) 7) 8)</sup>
Protection class:	II
Weight:	130 g
Polarisation filter:	✓
Special device:	✓
Enclosure rating:	IP 67 IP 69K
Special features:	American version
Ambient operating temperature:	-10 °C ... 50 °C
Ambient storage temperature:	-25 °C ... 75 °C
UL File-No.:	American Version, 242362, 242361 (0312012-00)

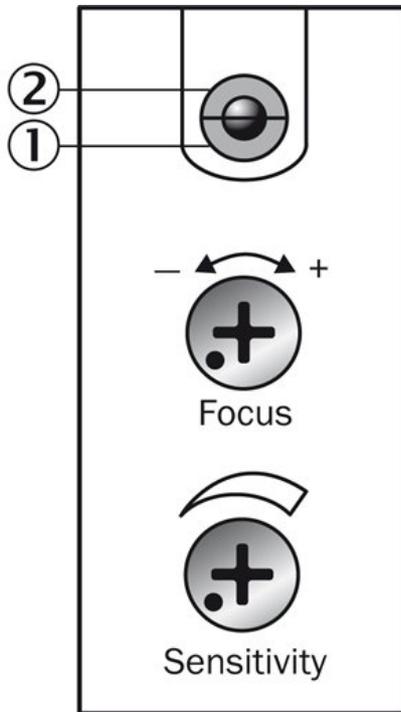
<sup>1)</sup> Limit values <sup>2)</sup> May not exceed or fall short of  $V_S$  <sup>3)</sup> Without load <sup>4)</sup> Signal transit time with resistive load <sup>5)</sup> With light/dark ratio 1:1 <sup>6)</sup> A =  $V_S$  connections reverse-polarity protected <sup>7)</sup> C = interference suppression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

## Dimensional drawing



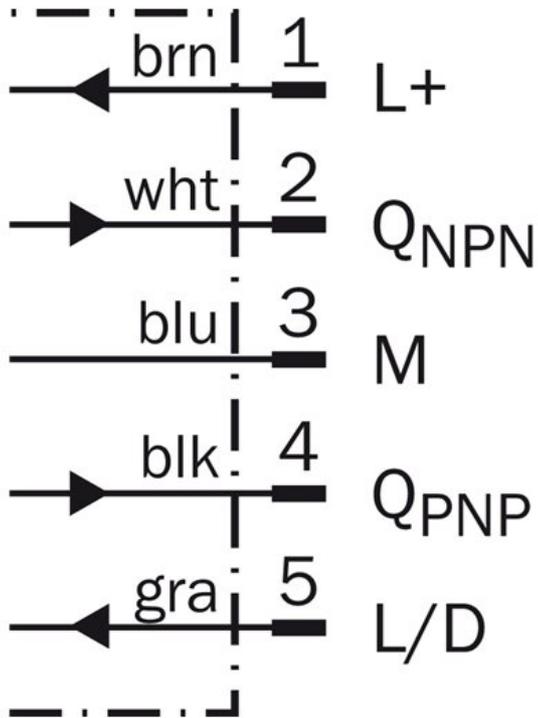
- |1| Operating indicator, green
- |2| LED reception indicator, yellow
- |3| Center of optical axis
- |5| Mounting hole,  $\varnothing$  4.2 mm
- |6| Focal adjustment
- |7| Sensitivity adjustment

## Adjustments possible

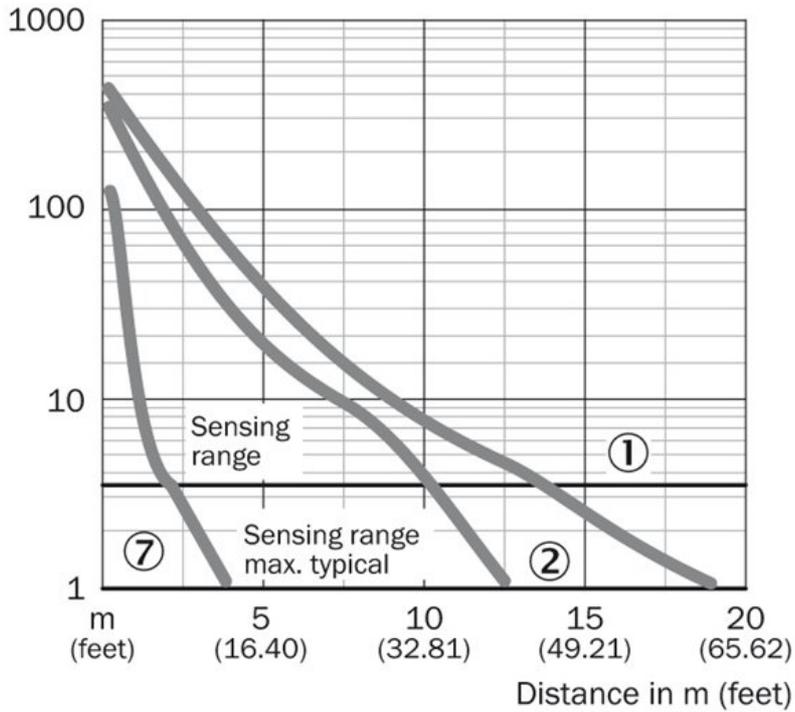


- |1| Operating indicator, green
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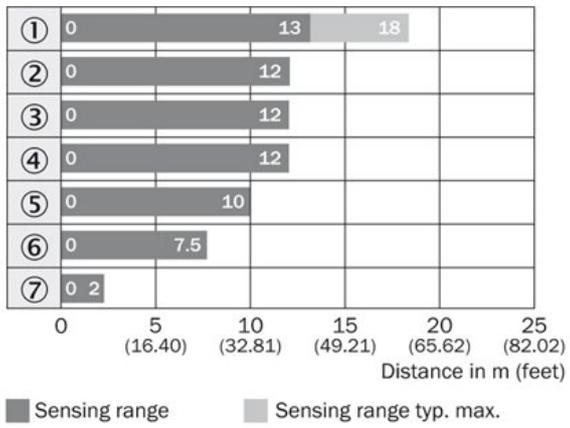
Connection diagram



Characteristic curve



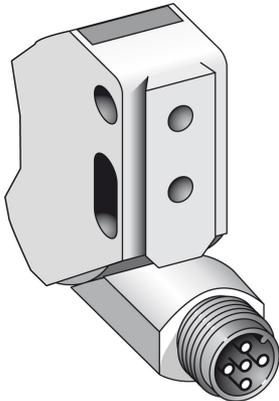
## Sensing range diagram



### Reflector type

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

## Connection type



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