



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

WL12L-2B530A03



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Model Name > [WL12L-2B530A03](#)
Part No. > [1023362](#)



Illustration may differ

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 ¹⁾ |
| Type of light: | Visible red light |
| Light source: | Laser ²⁾ |
| Laser class: | II |
| Special features: | American version |
| Light spot size (distance): | Ø 0.8 mm (300 mm) |

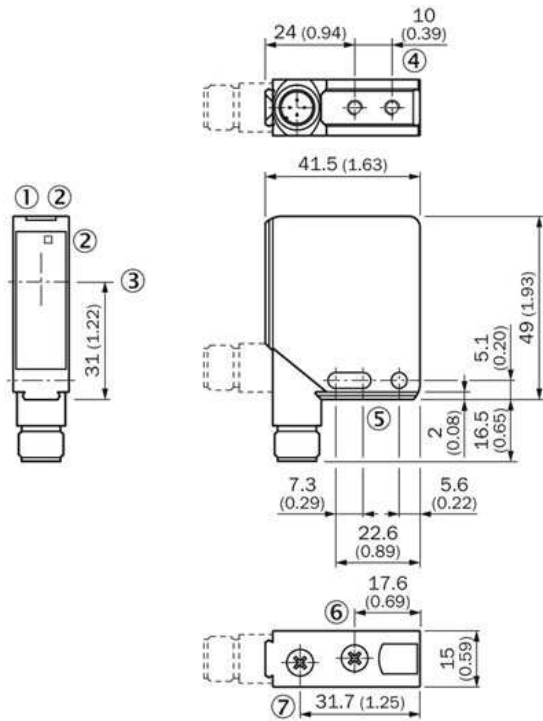
¹⁾ PL80A ²⁾ Average service life 50,000 h at T_A = +25 °C

Mechanics/electronics

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

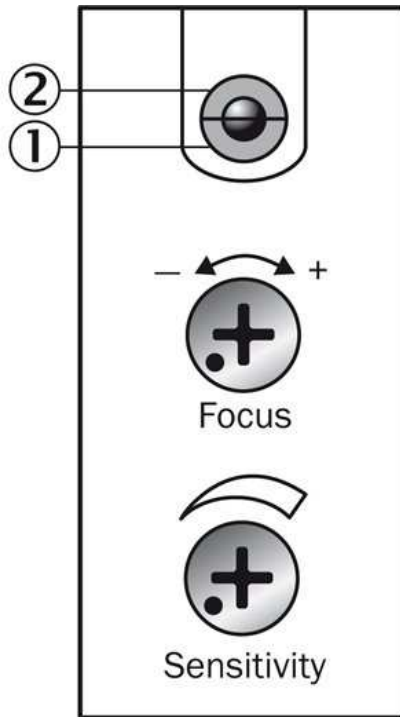
¹⁾ Limit values, operation in short-circuit protected network max. 8 A ²⁾ May not exceed or fall short of V_S tolerances ³⁾ Without load ⁴⁾ Signal transit time with resistive load ⁵⁾ With light/dark ratio 1:1 ⁶⁾ A = V_S connections reverse-polarity protected ⁷⁾ C = interference suppression ⁸⁾ D = outputs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

Dimensional drawing



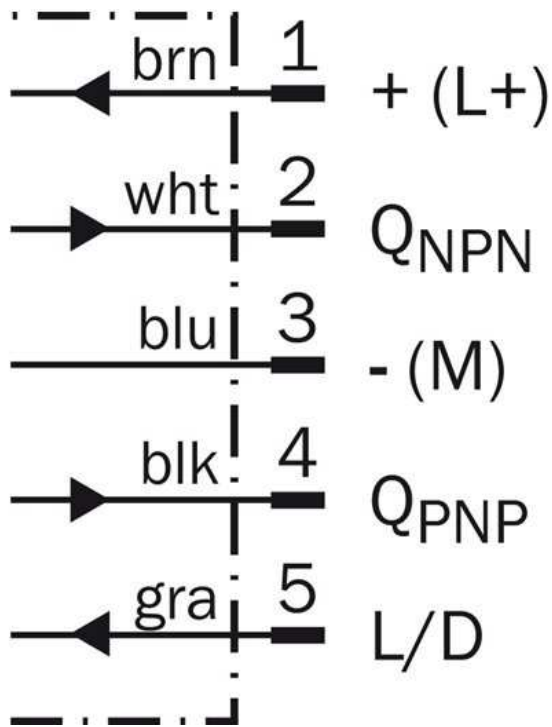
- |1| Operating indicator, green
- |2| LED reception indicator, yellow
- |3| Center of optical axis
- |5| Mounting hole, \varnothing 4.2 mm
- |6| Focal adjustment
- |7| Sensitivity adjustment

Adjustments possible

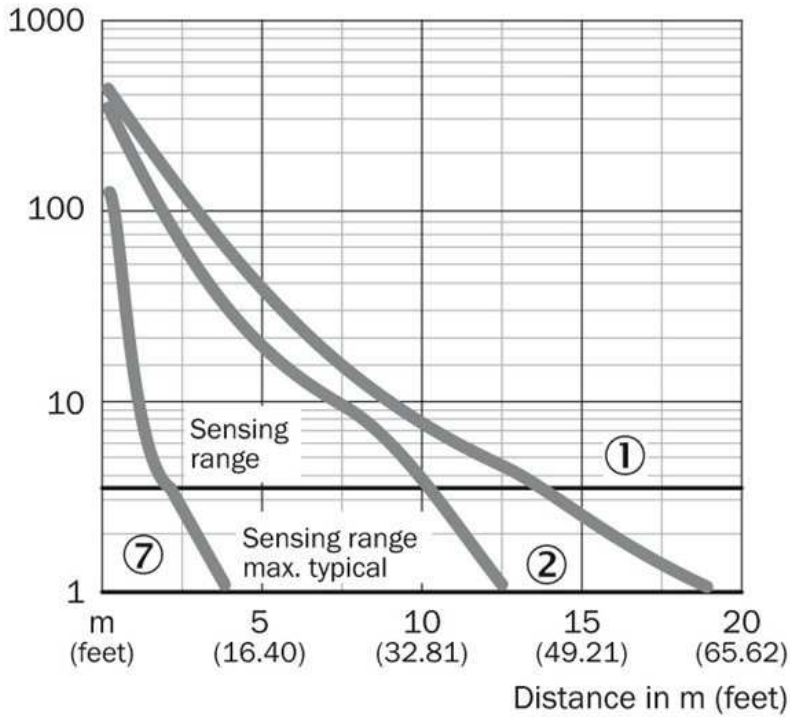


- |1| Operating indicator, green
- |2| LED reception indicator, yellow
- |6| Focal adjustment
- |7| Sensitivity adjustment

Connection diagram

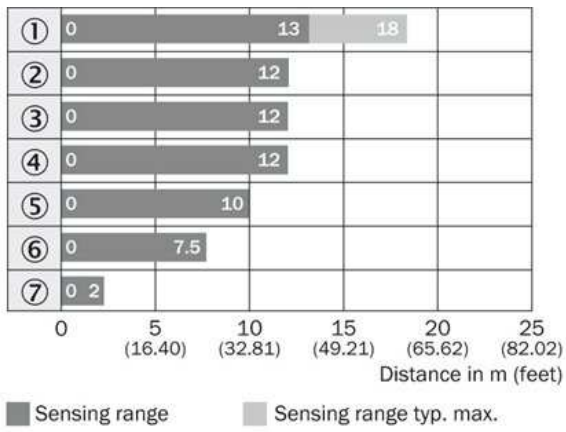


Characteristic curve



- [1] PL80A
- [2] PL50A
- [3] Reflective tape Diamond Grade

Sensing range diagram

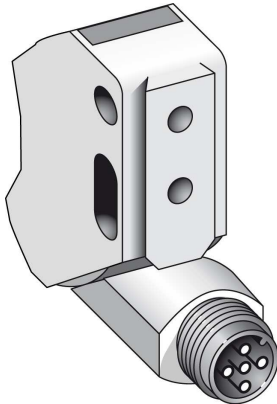


- |1| PL80A
- |2| PL50A
- |3| PL40A
- |4| P250
- |5| PL30A
- |6| PL20A
- |7| Reflective tape Diamond Grade

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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