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

WL12L-2B530

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Model Name > WL12L-2B530
Part No. > 1018252

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)]
Light spot (distance):	0.8 mm (300 mm)
Wave length:	650 nm
Sensitivity adjustment:	Potentiometer

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[1] PL80A [2] Average service life 50,000 h at Ta = +25 °C

Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC [1]
Ripple:	≤ 5 Vpp [2]
Power consumption:	≤ 55 mA [3]
Switching output:	NPN, Dark-switching, 0 V or not connected, light-switching, PNP, Light-switching, Selectable via L/D control wire, Uv, dark-switching
Signal voltage PNP HIGH/LOW:	Uv - < 2.9 V, Uv V/0 V ≤ 1.5 V
Signal voltage NPN HIGH/LOW:	Uv - < 2.9 V, Uv V/0 V ≤ 1.5 V
Output current Imax.:	100 mA
Response time:	≤ 200 µs [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:	✓
Enclosure rating:	IP 67 IP 69K
Ambient operating temperature:	-10 °C ... 50 °C
Ambient storage temperature:	-25 °C ... 75 °C
UL File-No.:	UL No. NRKH.E181493, CDRH-Konform (0312012-00)

[1] Limit values [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

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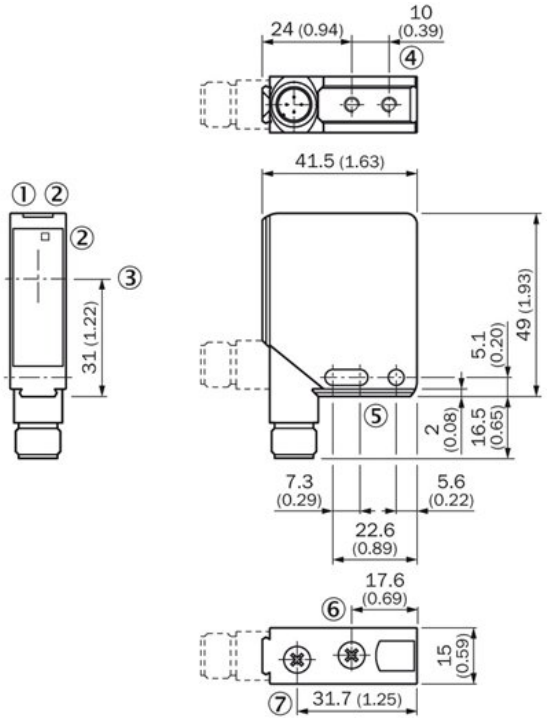
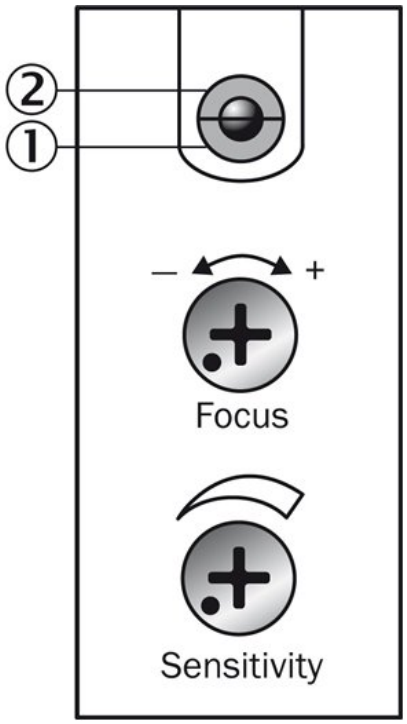
Dimensional drawing



|1| Operating indicator, green
|2| LED reception indicator, yellow
|3| Center of optical axis

|5| Mounting hole, Ø 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

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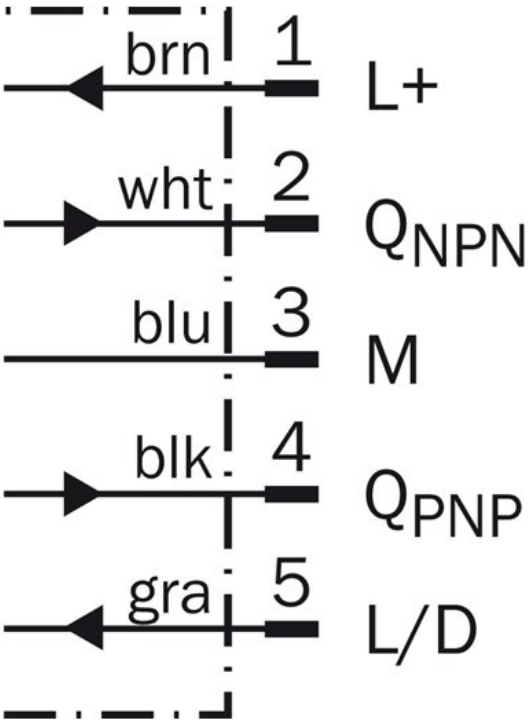
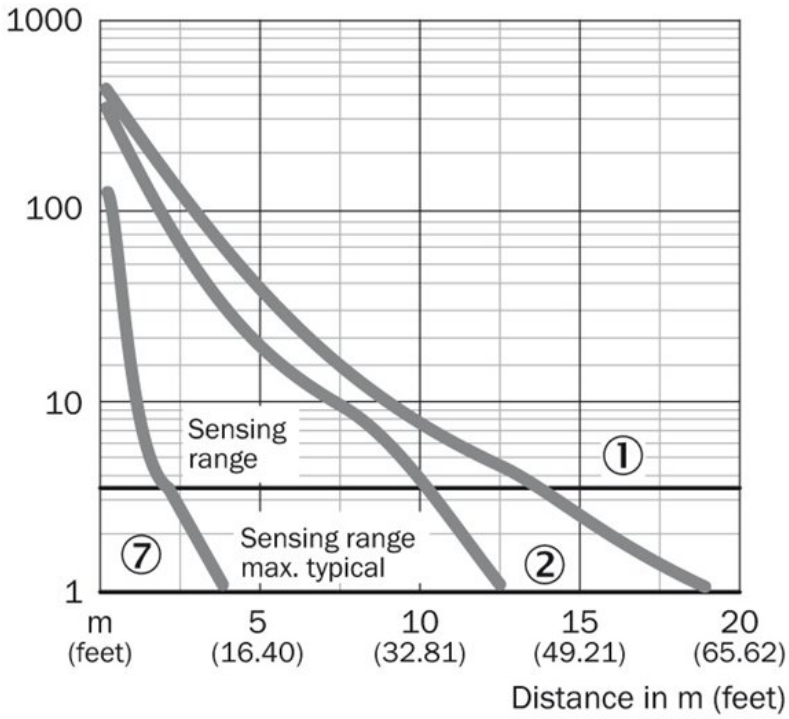
Connection diagram



Characteristic curve



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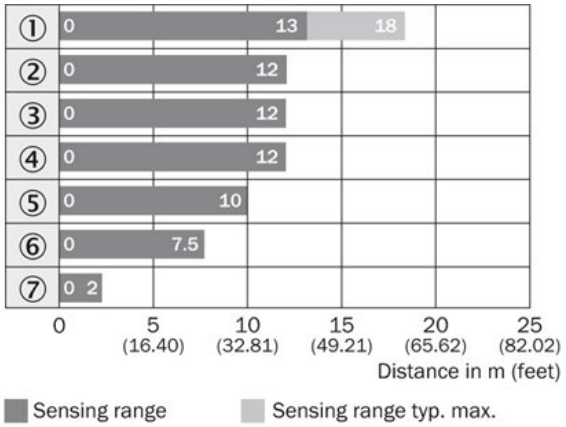
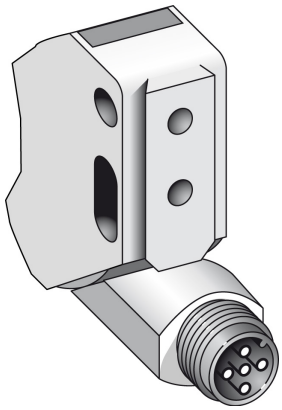
Sensing range diagram



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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