



Photoelectric sensors
W4SLG-3, Photoelectric retro-reflective sensor,
autocollimation

WL4SLG-3N1132



Model Name > [WL4SLG-3N1132](#)
Part No. > [1058247](#)

At a glance

- Precise laser light spot, laser class 1
- Teach-in button can be switched between detection of transparent and smallest non-transparent objects
- Automatic switching threshold adaptation provides automatic adjustment to changes in light conditions
- Sensing ranges up to 4.5 m
- Autocollimation optics prevent blind spots
- Choice of adjustment via teach-in button, potentiometer, cable, or IO-Link

Your benefits

- One device for detecting both transparent objects and the smallest non-transparent objects at sensing ranges up to 4.5 m, thus reducing the variety of sensors and saving on storage costs
- Highly visible, even laser light spot with a sharp contour to facilitate alignment
- The highest degree of machine design flexibility. Autocollimation permits detection even through small drilled holes
- High-quality sensor manufacturing and testing reduce maintenance costs
- Established and proven housing design for easy installation
- IO-Link facilitates initial system performance diagnostics and uses additional sensor functions to reduce complex control programming



Illustration may differ



Features

Sensor/detection principle:	Photoelectric retro-reflective sensor, autocollimation
Dimensions (W x H x D):	12.2 mm x 41.8 mm x 17.3 mm
Housing design (light emission):	Rectangular
Mounting hole:	M3
Sensing range max.:	0 m ... 4.5 m ^{1) 2)}
Sensing range::	0 m ... 2 m ^{3) 4)}
Type of light:	Visible red light
Light source:	Laser ⁵⁾
Laser class:	1, 1 (EN60825-1:2008-05 & IEC 60825-1:2007-03/CDRH 21 CFR 1040.10 & 1040.11)
Wave length:	650 nm
Adjustment:	Single teach-in button
Light spot size (distance):	Ø 1 mm (500 mm)

^{1) 3)} REF-AC1000 ^{2) 4)} We recommend using reflective tape REF-AC1000 or reflectors based on this reflective tape, like P41F, PLV14-A, PLH25-M12 or PLH25-D12, to ensure reliable operation. Reflectors with larger-scaled triple structures should only be used after application clarification ⁵⁾ Average service life 50,000 h at T_A = +25

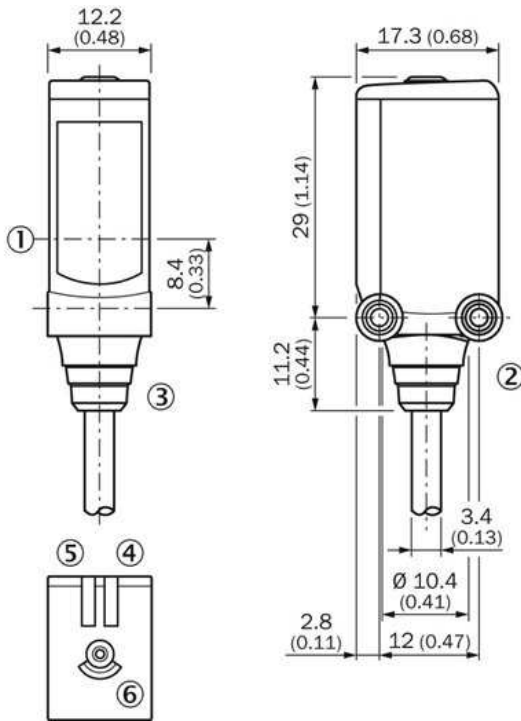
°C

Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	< 5 Vpp ²⁾
Power consumption:	≤ 30 mA ³⁾
Output type:	NPN ⁴⁾
Output function:	Complementary
Switching mode:	Light/dark switching ⁵⁾
Output current I _{max.} :	≤ 100 mA
Response time:	≤ 0.5 ms ⁶⁾
Switching frequency:	1,000 Hz ⁷⁾
Connection type:	Cable, 4-wire, 2 m ⁸⁾
Cable material:	PVC
Conductor cross-section:	0.14 mm ²
Circuit protection:::	A, B, C ⁹⁾ ¹⁰⁾ ¹¹⁾
Protection class:	III
Weight:	100 g
Polarisation filter:	✓
IO-Link:	-
Optics material:	PMMA
Enclosure rating:	IP 66 IP 67
Special feature:	Detection of transparent objects
Ambient operating temperature:	-10 °C ... +50 °C
Ambient storage temperature:	-30 °C ... +70 °C
Ambient operating temperature extended:::	-30 °C ... +55 °C ¹²⁾ ¹³⁾
Housing material:	Plastic, Bayblend

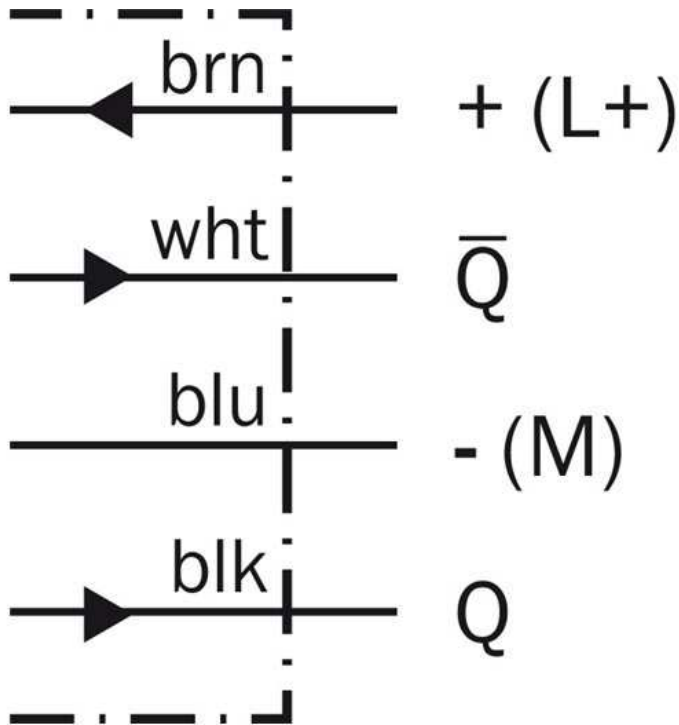
¹⁾ Limit values, operation in short-circuit protected network max. 8 A ²⁾ May not exceed or fall short of V_S tolerances ³⁾ Without load ^{4) 5)} Q = light switching ⁶⁾ Signal transit time with resistive load ⁷⁾ With light/dark ratio 1:1 ⁸⁾ Do not bend below 0 °C ⁹⁾ A = V_S connections reverse-polarity protected ¹⁰⁾ B = inputs and output reverse-polarity protected ¹¹⁾ C = interference suppression ¹²⁾ As of $T_a = 50$ °C, a max. supply voltage $V_{max.} = 24$ V and a max. load current $I_{max.} = 50$ mA is permitted ¹³⁾ Using the sensor below $T_a = -10$ °C is possible, if the sensor is turned on at $T_a > -10$ °C, then the environment cools down and the sensor is not disconnected from the supply voltage during the whole time. It is not allowed to turn on the sensor below $T_a = -10$ °C

Dimensional drawing

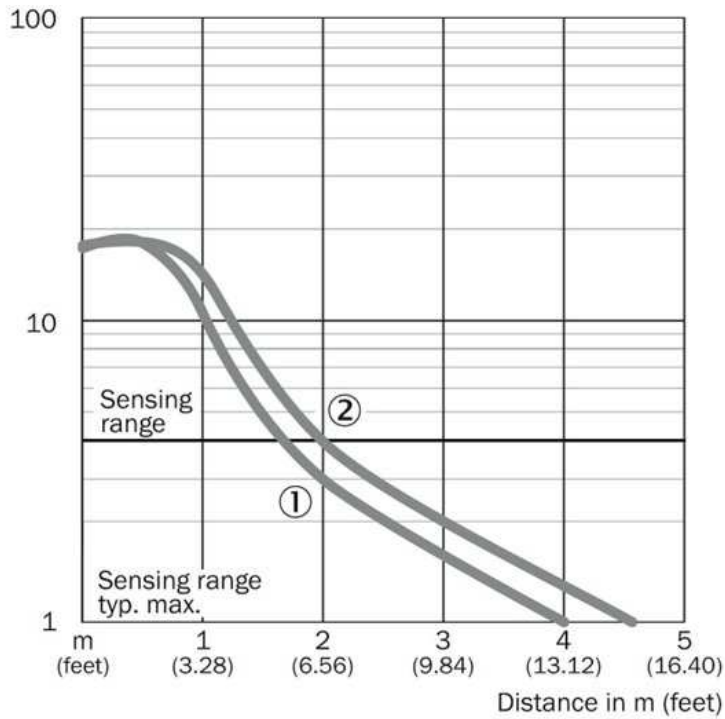


- |1| Center of optical axis
- |2| Threaded mounting hole M3
- |3| Connection
- |4| Status indicator LED green: supply voltage on
- |5| Status indicator LED, yellow: Status of received light beam
- |6| single teach-in button

Connection diagram

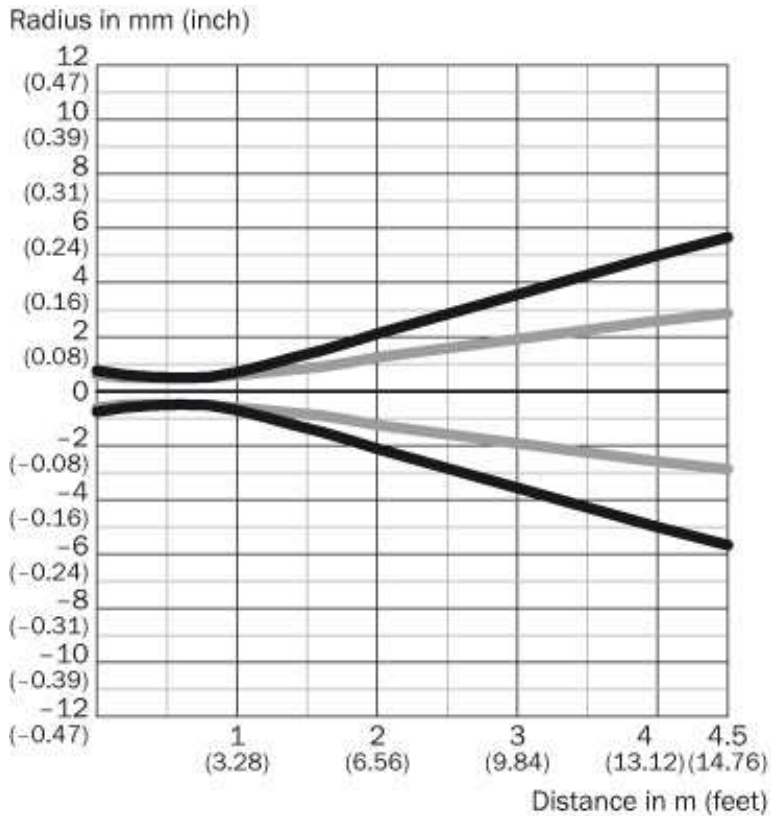


Characteristic curve



[1] PLV14-A / PLH25-M12 / PLH25-D12
 [2] P41F / REF-AC1000

Light spot size

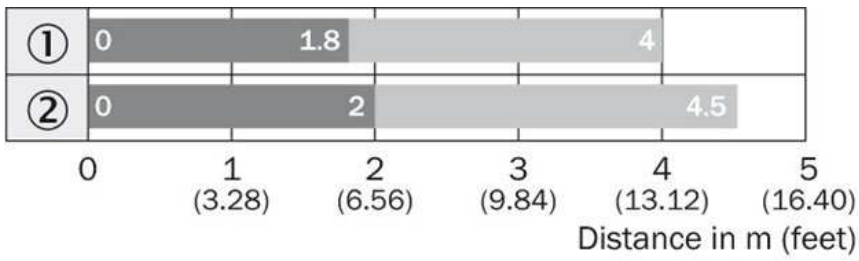


Dimensions in mm (inch)

Sensing range	Vertical	Horizontal
0.5 m (1.64 feet)	< 1.0 (0.04)	< 1.0 (0.04)
1 m (3.28 feet)	1.5 (0.06)	1.2 (0.05)
2 m (6.56 feet)	4.3 (0.17)	2.6 (0.10)
4.5 m (14.76 feet)	11.3 (0.44)	5.6 (0.22)

— Vertical
 — Horizontal

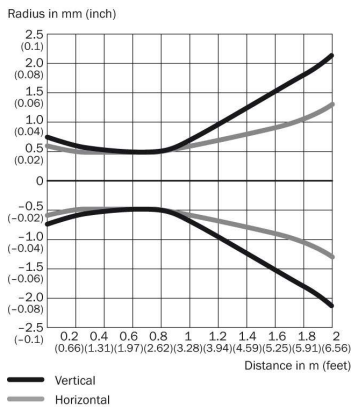
Sensing range diagram



|1| PLV14-A / PLH25-M12 / PLH25-D12
|2| P41F / REF-AC1000

■ Sensing range ■ Sensing range max.

Lichtfleckgröße (Detailansicht)



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