



WL4SLG-3N1132

W4

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	part no.
WL4SLG-3N1132	1058247

Other models and accessories → [www.sick.com/W4](http://www.sick.com/W4)

Illustration may differ



### Detailed technical data

#### Features

<b>Functional principle</b>	Photoelectric retro-reflective sensor	
<b>Functional principle detail</b>	Without reflector minimum distance (autocollimation/coaxial optics)	
<b>Sensing range max.</b>	0 m ... 4.5 m <sup>1)</sup> <sup>2)</sup>	
<b>Sensing range</b>	0 m ... 2 m <sup>1)</sup> <sup>2)</sup>	
<b>Polarisation filters</b>	Yes	
<b>Emitted beam</b>		
Light source	Laser <sup>3)</sup>	
Type of light	Visible red light	
Light spot size (distance)	Ø 1 mm (500 mm)	
<b>Key laser figures</b>		
Normative reference	EN 60825-1:2014, IEC 60825-1:2014 / CDRH 21 CFR 1040.10 & 1040.11	
Laser class	1	
Wave length	650 nm	
<b>Adjustment</b>	Single teach-in button	
<b>Special applications</b>	Detecting transparent objects, Detecting small objects	

<sup>1)</sup> Reflective tape REF-AC1000.

<sup>2)</sup> To ensure reliable operation, we recommend using REF-AC1000 reflective tape or reflective-tape reflectors such as P41F, PLV14-A, PLH25-M12, or PLH25-D12. Reflectors with large-scale triple structures must only be used if deemed suitable for the application.

<sup>3)</sup> Average service life: 50,000 h at  $T_U = +25$  °C.

<b>Mounting hole</b>	M3
<b>AutoAdapt</b>	✓

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3) Average service life: 50,000 h at  $T_U = +25^\circ\text{C}$ .

## Safety-related parameters

<b>MTTF<sub>D</sub></b>	647 years (EN ISO 13849-1) <sup>1)</sup>
<b>DC<sub>avg</sub></b>	0 %

1) Mode of calculation: Parts-Count-calculation.

## Electronics

<b>Supply voltage U<sub>B</sub></b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	< 5 V <sub>pp</sub> <sup>2)</sup>
<b>Current consumption</b>	30 mA <sup>3)</sup>
<b>Protection class</b>	III
<b>Digital output</b>	
Type	NPN <sup>4)</sup>
Switching mode	Light/dark switching <sup>4)</sup>
Output current I <sub>max</sub>	≤ 100 mA
Response time	≤ 0.5 ms <sup>5)</sup>
Switching frequency	1,000 Hz <sup>6)</sup>
<b>Output function</b>	Complementary
<b>Circuit protection</b>	A <sup>7)</sup> B <sup>8)</sup> C <sup>9)</sup>

1) Limit values when operated in short-circuit protected network: max. 8 A.

2) May not fall below or exceed U<sub>y</sub> tolerances.

3) Without load.

4) Q = light switching.

5) Signal transit time with resistive load.

6) With light/dark ratio 1:1.

7) A = V<sub>S</sub> connections reverse-polarity protected.

8) B = inputs and output reverse-polarity protected.

9) C = interference suppression.

## Mechanics

<b>Housing</b>	Rectangular
<b>Design detail</b>	Slim
<b>Dimensions (W x H x D)</b>	12.2 mm x 41.8 mm x 17.3 mm
<b>Connection</b>	Cable, 4-wire, 2 m <sup>1)</sup>
<b>Connection detail</b>	
Conductor size	0.14 mm <sup>2</sup>

1) Do not bend below 0 °C.

	Length of cable (L)	2 m <sup>1)</sup>
<b>Material</b>	Housing	Plastic, Novodur
	Front screen	Plastic, PMMA
	Cable	Plastic, PVC
<b>Weight</b>	100 g	

<sup>1)</sup> Do not bend below 0 °C.

## Ambient data

<b>Enclosure rating</b>	IP66 IP67
<b>Ambient operating temperature</b>	-10 °C ... +50 °C
<b>Ambient operating temperature extended</b>	-30 °C ... +55 °C <sup>1)</sup> <sup>2)</sup>
<b>Ambient temperature, storage</b>	-30 °C ... +70 °C
<b>RoHS certificate</b>	✓

<sup>1)</sup> As of T<sub>a</sub> = 50 °C, a max. supply voltage V<sub>max.</sub> = 24 V and a max. load current I<sub>max.</sub> = 50 mA is permitted.

<sup>2)</sup> Operation below T<sub>u</sub> -10 °C is possible if the sensor is already switched on at T<sub>u</sub> > -10 °C, then cools down, and the supply voltage is subsequently not switched off. Switching on below T<sub>u</sub> -10 °C is not permissible.

## Certificates

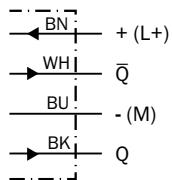
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>China-RoHS</b>	✓
<b>ECOLAB certificate</b>	✓
<b>cULus certificate</b>	✓
<b>Laser safety (IEC 60825-1) certificate</b>	✓

## Classifications

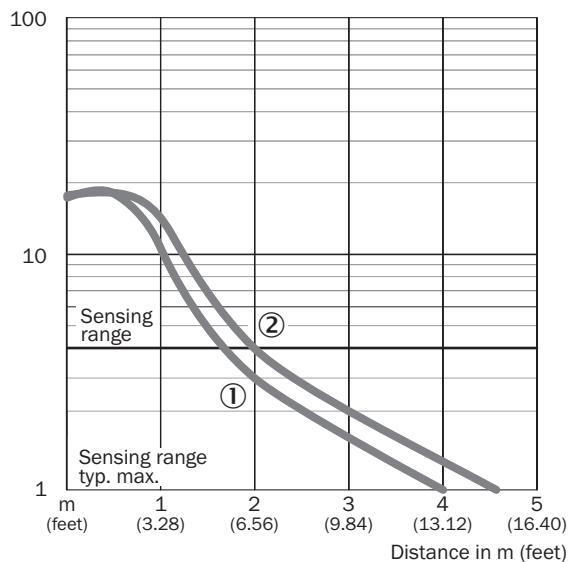
<b>ECLASS 5.0</b>	27270902
<b>ECLASS 5.1.4</b>	27270902
<b>ECLASS 6.0</b>	27270902
<b>ECLASS 6.2</b>	27270902
<b>ECLASS 7.0</b>	27270902
<b>ECLASS 8.0</b>	27270902
<b>ECLASS 8.1</b>	27270902
<b>ECLASS 9.0</b>	27270902
<b>ECLASS 10.0</b>	27270902
<b>ECLASS 11.0</b>	27270902
<b>ECLASS 12.0</b>	27270902
<b>ETIM 5.0</b>	EC002717
<b>ETIM 6.0</b>	EC002717
<b>ETIM 7.0</b>	EC002717

ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

## Connection diagram Cd-094



## Characteristic curve

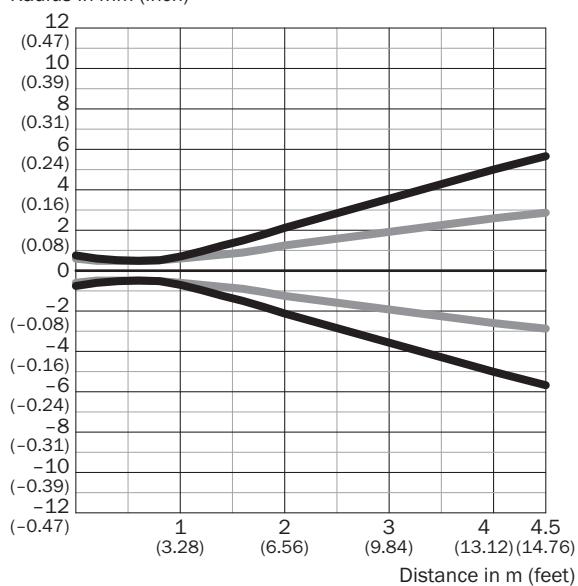


① Reflector PLV14-A / PLH25-M12 / PLH25-D12

② Reflector P41F / reflective tape REF-AC1000

## Light spot size Overview

Radius in mm (inch)



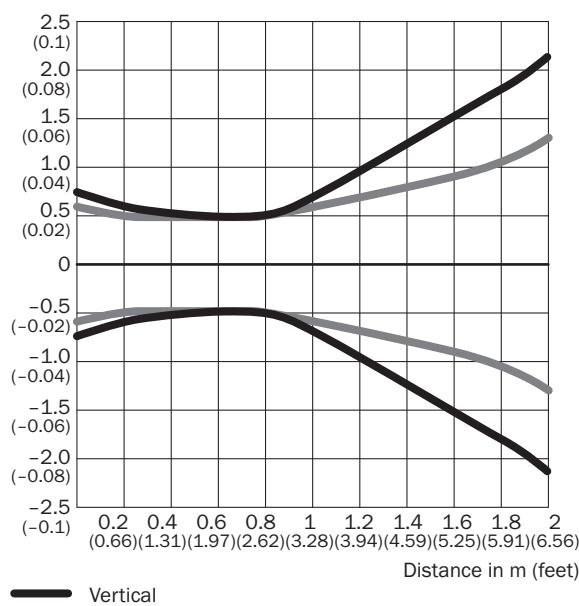
## Dimensions in mm (inch)

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

— Vertical  
— Horizontal

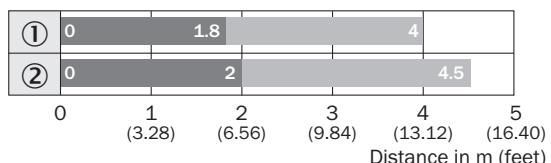
## Light spot size (detailed view)

Radius in mm (inch)



— Vertical  
— Horizontal

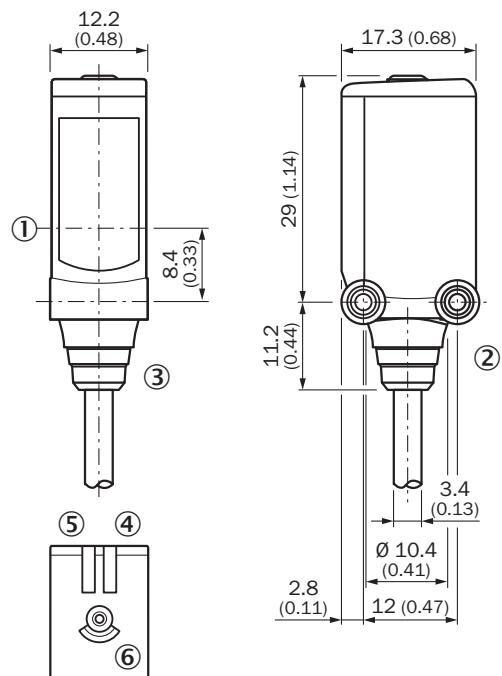
Sensing range diagram



■ Sensing range ■ Sensing range max.

① Reflector PLV14-A / PLH25-M12 / PLH25-D12  
 ② Reflector P41F / reflective tape REF-AC1000

Dimensional drawing WL4SL-3, WL4SLG-3, WSE4SL-3, cable



Dimensions in mm (inch)

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

## Recommended accessories

Other models and accessories → [www.sick.com/W4](http://www.sick.com/W4)

	<b>Brief description</b>	<b>Type</b>	<b>part no.</b>
<b>Mounting systems</b>			
	<ul style="list-style-type: none"> <li><b>Description:</b> Universal mounting bracket for reflectors</li> <li><b>Dimensions (W x H x L):</b> 85 mm x 90 mm x 35 mm</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Suitable for:</b> C110A, P250, PL20, PL30A, PL40A, PL80A</li> </ul>	BEF-WN-REFX	2064574
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket for floor mounting</li> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel 1.4571</li> <li><b>Items supplied:</b> Mounting hardware included</li> <li><b>Suitable for:</b> W4S, W4F, W4S</li> </ul>	BEF-W4-B	2051630
<b>reflectors and optics</b>			
	<ul style="list-style-type: none"> <li><b>Description:</b> Suitable for laser sensors, self-adhesive, cut, see alignment note</li> <li><b>Dimensions:</b> 56.3 mm 56.3 mm</li> <li><b>Ambient operating temperature:</b> -20 °C ... +60 °C</li> </ul>	REF-AC1000-56	4063030
<b>connectors and cables</b>			
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M8, 4-pin, straight, A-coded</li> <li><b>Description:</b> Unshielded</li> <li><b>Connection systems:</b> Screw-type terminals</li> <li><b>Permitted cross-section:</b> 0.14 mm<sup>2</sup> ... 0.5 mm<sup>2</sup></li> </ul>	STE-0804-G	6037323

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

**For us, that is "Sensor Intelligence."**

## WORLDWIDE PRESENCE:

Contacts and other locations [www.sick.com](http://www.sick.com)