



DATA SHEET

# WL4SLG-3P2232

W4  
Photoelectric sensors

# SICK

Sensor Intelligence

## PHOTOELECTRIC SENSORS

## WL4SLG-3P2232

## ORDERING INFORMATION

Type	part no.
WL4SLG-3P2232	1058243

Further device versions and accessories at [www.sick.com/W4](http://www.sick.com/W4)



Illustration may differ



## DETAILED TECHNICAL DATA

## FEATURES

Functional principle	Photoelectric retro-reflective sensor	
Functional principle detail	Without reflector minimum distance (autocollimation/coaxial optics)	
Sensing range max.	0 m ... 4.5 m <sup>1)</sup> 2)	
Sensing range	0 m ... 2 m <sup>1)</sup> 2)	
Polarisation filter	Yes	
Emitted beam	Light source	Laser <sup>3)</sup>
	Type of light	Visible red light
	Light spot size (distance)	Ø 1 mm (500 mm)
Key laser figures	Normative reference	EN 60825-1:2014, IEC 60825-1:2014 / CDRH 21 CFR 1040.10 & 1040.11
	Laser class	1 <sup>4)</sup>
	Wave length	650 nm
Adjustment	Single teach-in button	
Special applications	Detecting transparent objects, Detecting small objects	
Mounting hole	M3	

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

<sup>2)</sup> To ensure reliable operation, we recommend using REF-AC1000 reflective tape or reflective-tap 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<sub>v</sub> = +25 °C.

<sup>4)</sup> Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

AutoAdapt	✓
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**SAFETY-RELATED PARAMETERS**

MTTF <sub>D</sub>	655 years (EN ISO 13849-1) <sup>1)</sup>
DC <sub>avg</sub>	0 %

<sup>1)</sup> Mode of calculation: Parts-Count-calculation.

**ELECTRONICS**

Supply voltage U <sub>B</sub>	10 V DC ... 30 V DC <sup>1)</sup>										
Ripple	< 5 V <sub>pp</sub> <sup>2)</sup>										
Current consumption	30 mA <sup>3)</sup>										
Protection class	III										
Digital output	<table border="0" style="width: 100%;"> <tr> <td style="text-align: right;">Type</td> <td>PNP <sup>4)</sup></td> </tr> <tr> <td style="text-align: right;">Switching mode</td> <td>Light/dark switching <sup>4)</sup></td> </tr> <tr> <td style="text-align: right;">Output current I<sub>max</sub></td> <td>≤ 100 mA</td> </tr> <tr> <td style="text-align: right;">Response time</td> <td>≤ 0.5 ms <sup>5)</sup></td> </tr> <tr> <td style="text-align: right;">Switching frequency</td> <td>1,000 Hz <sup>6)</sup></td> </tr> </table>	Type	PNP <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>
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Output current I <sub>max</sub>	≤ 100 mA										
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Switching frequency	1,000 Hz <sup>6)</sup>										
Output function	Complementary										
Circuit protection	A <sup>7)</sup> B <sup>8)</sup> C <sup>9)</sup>										

- <sup>1)</sup> Limit values when operated in short-circuit protected network: max. 8 A.
- <sup>2)</sup> May not fall below or exceed U<sub>B</sub> tolerances.
- <sup>3)</sup> Without load.
- <sup>4)</sup> Q = light switching.
- <sup>5)</sup> Signal transit time with resistive load.
- <sup>6)</sup> With light/dark ratio 1:1.
- <sup>7)</sup> A = V<sub>S</sub> connections reverse-polarity protected.
- <sup>8)</sup> B = inputs and output reverse-polarity protected.
- <sup>9)</sup> C = interference suppression.

**MECHANICS**

Housing	Rectangular				
Design detail	Slim				
Dimensions (W x H x D)	12.2 mm x 41.8 mm x 17.3 mm				
Connection	Male connector M8, 4-pin				
Material	<table border="0" style="width: 100%;"> <tr> <td style="text-align: right;">Housing</td> <td>Plastic, Novodur</td> </tr> <tr> <td style="text-align: right;">Front screen</td> <td>Plastic, PMMA</td> </tr> </table>	Housing	Plastic, Novodur	Front screen	Plastic, PMMA
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Front screen	Plastic, PMMA				
Weight	100 g				

**AMBIENT DATA**

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

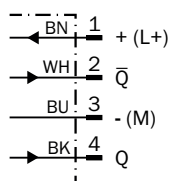
<sup>1)</sup> As of T<sub>a</sub> = 50 °C, a max. supply voltage V<sub>max</sub> = 24 V and a max. load current I<sub>max</sub> = 50 mA is permitted.

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

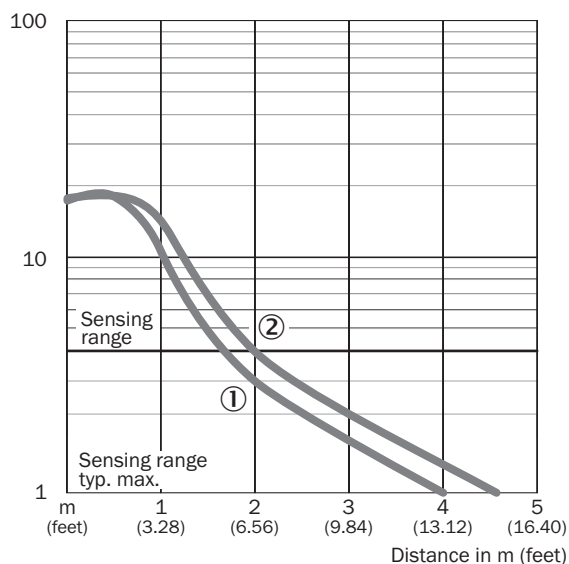
**CERTIFICATES**

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

**CONNECTION DIAGRAM CD-083**

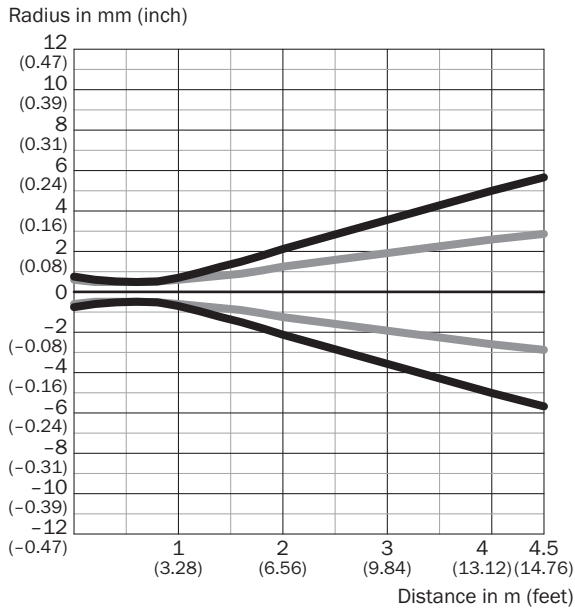


**CHARACTERISTIC CURVE**



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

**LIGHT SPOT SIZE OVERVIEW**

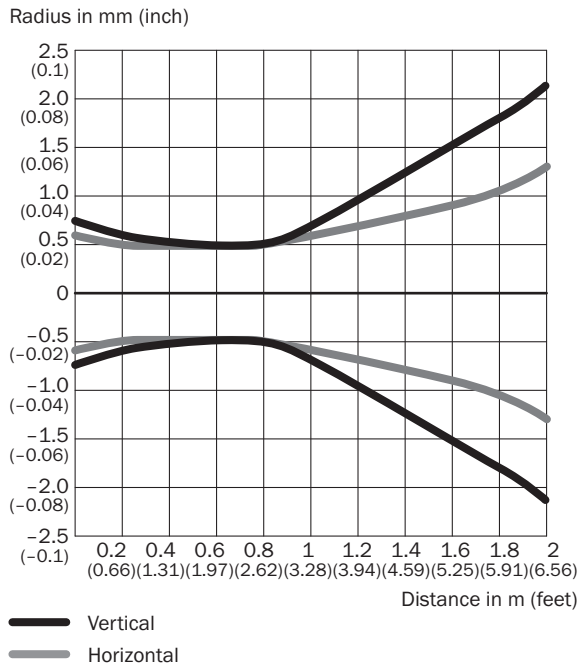


**Dimensions in mm (inch)**

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)

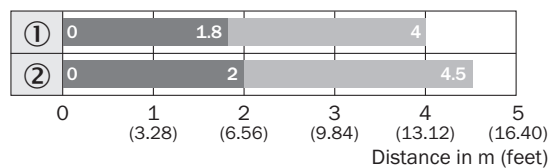
— Vertical  
— Horizontal

**LIGHT SPOT SIZE (DETAILED VIEW)**



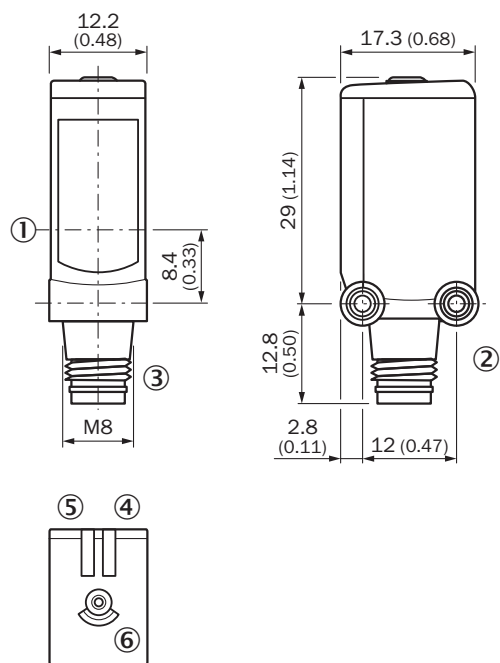
— Vertical  
— Horizontal

**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, PLUG**



- 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

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at [www.sick.com/1058243](http://www.sick.com/1058243)



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WALDKIRCH  
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# SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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