



# WSE4SL-3N1137

W4

MINIATURE PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ

## Ordering information

Type	Part no.
WSE4SL-3N1137	1058250

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



## Detailed technical data

### Features

<b>Functional principle</b>	Through-beam photoelectric sensor
<b>Sensing range max.</b>	0 m ... 60 m
<b>Sensing range</b>	0 m ... 50 m
<b>Emitted beam</b>	
Light source	Laser <sup>1)</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 small objects
<b>Part number of individual components</b>	2064096 WS4SL-3D1136 2064098 WE4SL-3N1132
<b>Mounting hole</b>	M3

<sup>1)</sup> Average service life: 50,000 h at T<sub>U</sub> = +25 °C.

### Safety-related parameters

<b>MTTF<sub>D</sub></b>	350 years (EN ISO 13849-1) <sup>1)</sup>
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<sup>1)</sup> Mode of calculation: Parts-Count-calculation.

<b>DC<sub>avg</sub></b>	0 %
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### Electrical data

<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>

<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>y</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.

### Mechanical data

<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>
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) 2)</sup>
<b>Ambient temperature, storage</b>	-30 °C ... +70 °C

<sup>1)</sup> As of  $T_a = 50\text{ °C}$ , a max. supply voltage  $V_{max.} = 24\text{ V}$  and a max. load current  $I_{max.} = 50\text{ mA}$  is permitted.

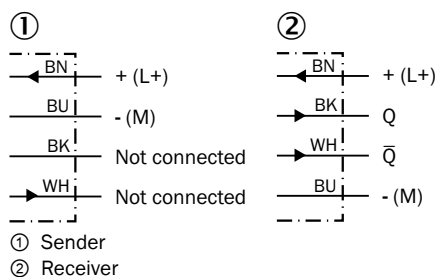
<sup>2)</sup> Operation below  $T_u -10\text{ °C}$  is possible if the sensor is already switched on at  $T_u > -10\text{ °C}$ , then cools down, and the supply voltage is subsequently not switched off. Switching on below  $T_u -10\text{ °C}$  is not permissible.

Classifications

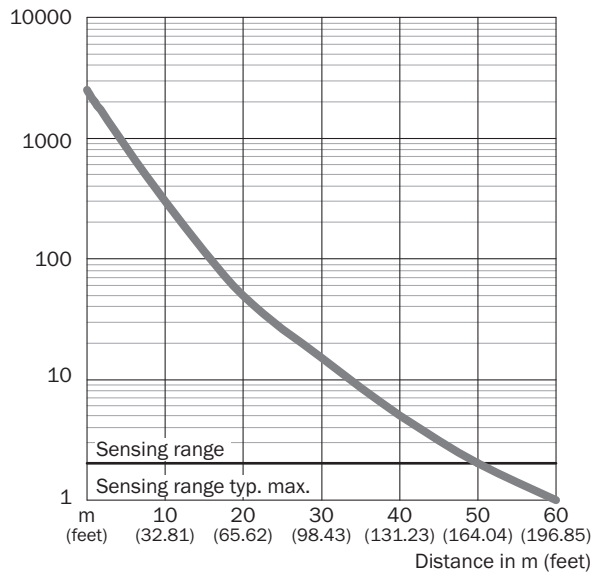
<b>ECLASS 5.0</b>	27270901
<b>ECLASS 5.1.4</b>	27270901
<b>ECLASS 6.0</b>	27270901
<b>ECLASS 6.2</b>	27270901
<b>ECLASS 7.0</b>	27270901
<b>ECLASS 8.0</b>	27270901
<b>ECLASS 8.1</b>	27270901
<b>ECLASS 9.0</b>	27270901
<b>ECLASS 10.0</b>	27270901
<b>ECLASS 11.0</b>	27270901
<b>ECLASS 12.0</b>	27270901
<b>ETIM 5.0</b>	EC002716
<b>ETIM 6.0</b>	EC002716
<b>ETIM 7.0</b>	EC002716
<b>ETIM 8.0</b>	EC002716
<b>UNSPSC 16.0901</b>	39121528

Connection diagram

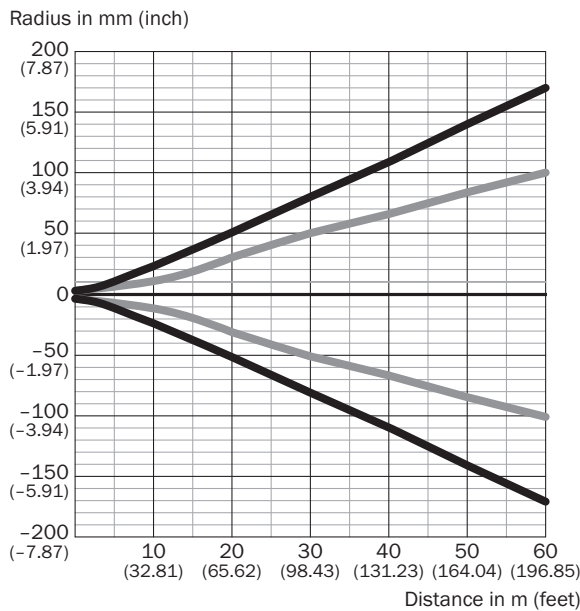
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### Characteristic curve



### Light spot size



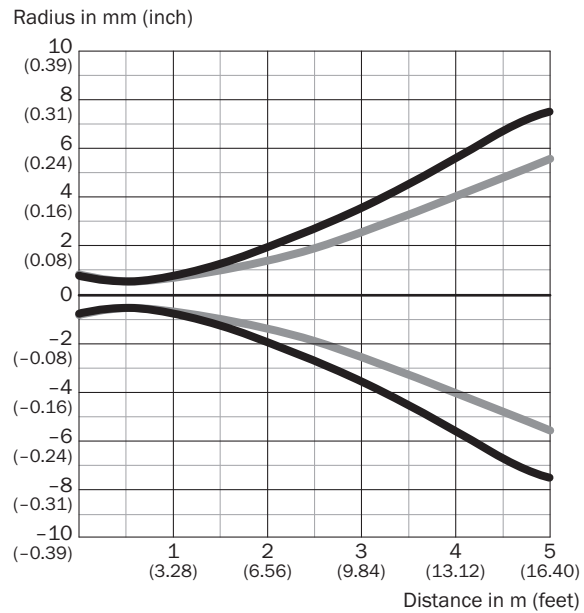
#### Dimensions in mm (inch)

Sensing range	Vertical	Horizontal
<b>0.5 m</b> (1.64 feet)	< 1.0 (0.04)	< 1.0 (0.04)
<b>1 m</b> (3.28 feet)	1.5 (0.06)	1.2 (0.05)
<b>5 m</b> (16.40 feet)	15 (0.59)	11 (0.43)
<b>10 m</b> (32.81 feet)	45 (1.77)	28 (1.10)
<b>60 m</b> (196.85 feet)	336 (13.23)	200 (7.87)

Vertical  
 Horizontal

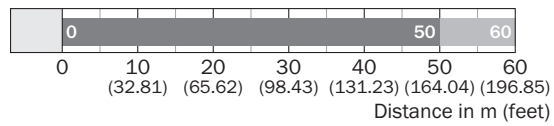
### Light spot size (detailed view)

Detailed view close range



- Vertical
- Horizontal

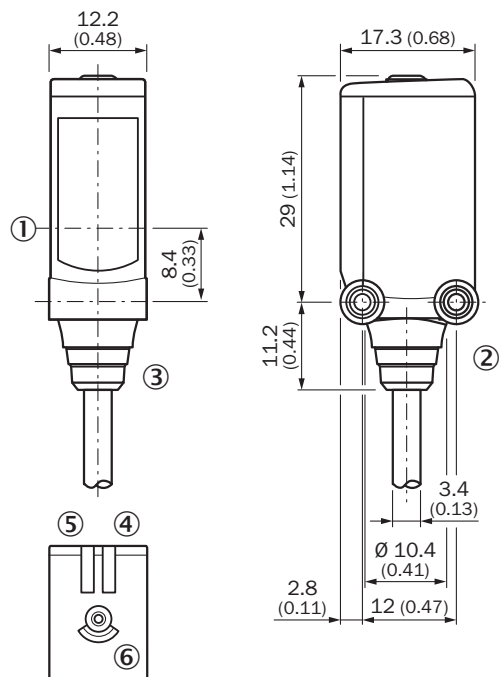
### Sensing range diagram



- Sensing range
- Sensing range typ. max.

**Dimensional drawing** (Dimensions in mm (inch))


WL4SL-3, WL4SLG-3, WSE4SL-3, cable



- 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)

	Brief description	Type	Part no.
Others			
	<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)