



WL4SLGC-3P3052B01  
W4

MINIATURE PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
WL4SLGC-3P3052B01	1119068

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

### 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 ... 3.5 m <sup>1) 2)</sup>
<b>Sensing range</b>	0 m ... 2.2 m <sup>1) 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 0.4 mm (60 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>	IO-Link, Single teach-in button

<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>U</sub> = +25 °C.

<b>Special applications</b>	Detecting transparent objects, Detecting small objects
<b>Mounting hole</b>	M3
<b>Pin 2 configuration</b>	External input, Teach-in input, Sender off input, Detection output, logic output, Device contamination alarm output
<b>AutoAdapt</b>	✓

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

## Safety-related parameters

<b>MTTF<sub>D</sub></b>	655 years (EN ISO 13849-1) <sup>1)</sup>
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<sup>1)</sup> Mode of calculation: Parts-Count-calculation.

## Communication interface

<b>IO-Link</b>	✓, COM2 (38,4 kBaud)
Data transmission rate	COM2 (38,4 kBaud)
Cycle time	2.3 ms
Process data length	16 Bit
Process data structure	Bit 0 = switching signal $Q_{L1}$ Bit 1 = switching signal $Q_{L2}$ Bit 2 ... 15 = empty
VendorID	26
DeviceID HEX	0x800115
DeviceID DEC	8388885

## Electronics

<b>Supply voltage <math>U_B</math></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	PNP <sup>4) 5)</sup>
Switching mode	Light/dark switching <sup>4)</sup>
Output current $I_{max}$	≤ 100 mA
Response time	≤ 0.5 ms <sup>6)</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  $U_V$  tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> Q = light switching.

<sup>5)</sup> Pin 4: This switching output must not be connected to another output.

<sup>6)</sup> Signal transit time with resistive load.

<sup>7)</sup> Valid for Q \ on Pin2, if configured with software.

<sup>8)</sup> With light/dark ratio 1:1.

<sup>9)</sup> A =  $V_S$  connections reverse-polarity protected.

<sup>10)</sup> B = inputs and output reverse-polarity protected.

<sup>11)</sup> C = interference suppression.

<sup>12)</sup> With light / dark ratio 1:1, valid for Q \ on Pin2, if configured with software.

Repeatability (response time)	150 $\mu$ s <sup>7)</sup>
Switching frequency	1,000 Hz <sup>8)</sup>
<b>Output function</b>	Complementary
<b>Circuit protection</b>	A <sup>9)</sup> B <sup>10)</sup> C <sup>11)</sup>
<b>Response time Q/ on Pin 2</b>	300 $\mu$ s ... 450 $\mu$ s <sup>6) 7)</sup>
<b>Switching frequency Q / to pin 2</b>	1,000 Hz <sup>12)</sup>

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

2) May not fall below or exceed  $U_V$  tolerances.

3) Without load.

4) Q = light switching.

5) Pin 4: This switching output must not be connected to another output.

6) Signal transit time with resistive load.

7) Valid for Q \ on Pin2, if configured with software.

8) With light/dark ratio 1:1.

9) A =  $V_S$  connections reverse-polarity protected.

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12) With light / dark ratio 1:1, valid for Q \ on Pin2, if configured with software.

## 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 with M8 male connector, 4-pin
<b>Connection detail</b>	
Length of cable (L)	150 mm
<b>Material</b>	
Housing	Plastic, Novodur
Front screen	Plastic, PMMA
<b>Weight</b>	100 g

## 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
<b>UL File No.</b>	NRKH.E181493
<b>RoHS certificate</b>	✓

1) 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.

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

## Smart Task

<b>Smart Task name</b>	Base logics
<b>Logic function</b>	Direct AND OR WINDOW Hysteresis
<b>Timer function</b>	Deactivated Switch-on delay Off delay ON and OFF delay Impulse (one shot)
<b>Inverter</b>	Yes
<b>Switching frequency</b>	SIO Direct: 1000 Hz <sup>1)</sup> SIO Logic: 1000 Hz <sup>2)</sup> IOL: 900 Hz <sup>3)</sup>
<b>Response time</b>	SIO Direct: 300 µs ... 450 µs <sup>1)</sup> SIO Logic: 500 µs ... 600 µs <sup>2)</sup> IOL: 500 µs ... 900 µs <sup>3)</sup>
<b>Repeatability</b>	SIO Direct: 150 µs <sup>1)</sup> SIO Logic: 150 µs <sup>2)</sup> IOL: 400 µs <sup>3)</sup>
<b>Switching signal</b>	
Switching signal Q <sub>L1</sub>	Switching output
Switching signal Q <sub>L2</sub>	Switching output

<sup>1)</sup> SIO Direct: sensor operation in standard I/O mode without IO-Link communication and without using internal sensor logic or time parameters (set to "direct"/"deactivated").

<sup>2)</sup> SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used.

<sup>3)</sup> IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.

## Diagnosis

<b>Device status</b>	Yes
<b>Quality of teach</b>	Yes
<b>Quality of run</b>	Yes, Contamination display

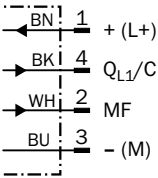
## Classifications

<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

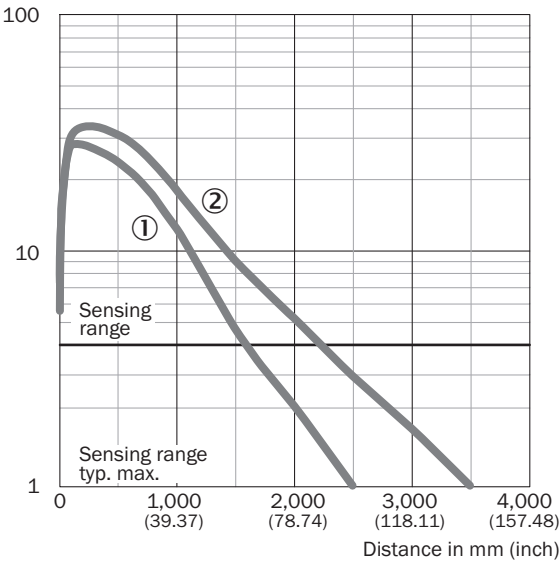
<b>ETIM 6.0</b>	EC002717
<b>ETIM 7.0</b>	EC002717
<b>ETIM 8.0</b>	EC002717
<b>UNSPSC 16.0901</b>	39121528

Connection diagram

Cd-363

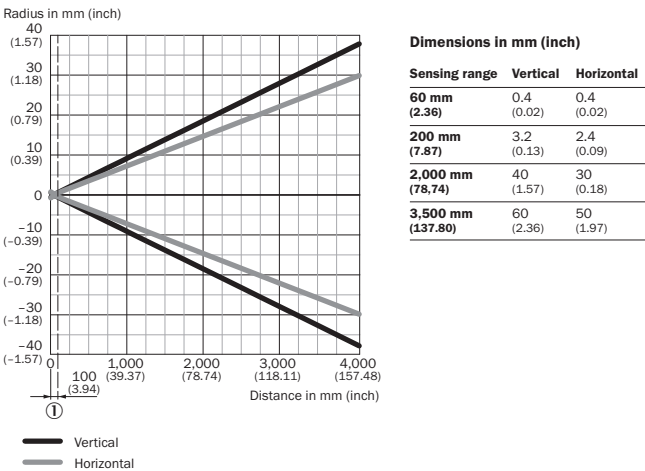


Characteristic curve



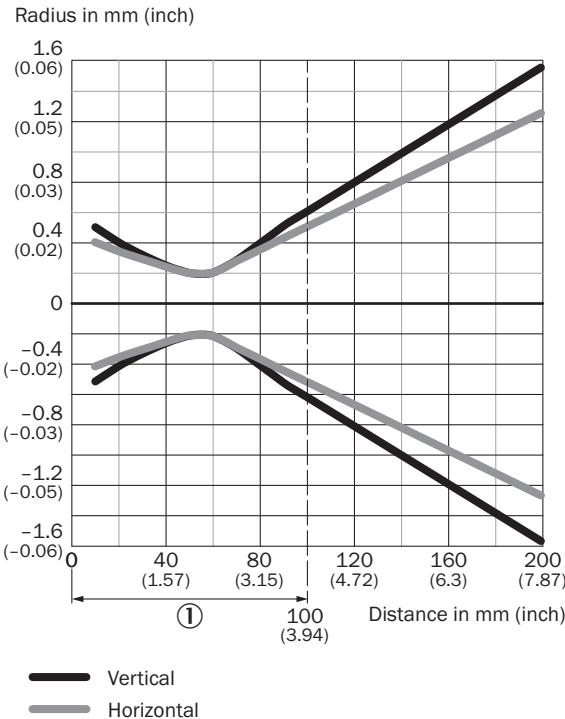
- ① Reflector PLV14-A / PLH25-M12 / PLH25-D12
- ② Reflector P41F / reflective tape REF-AC1000

Light spot size



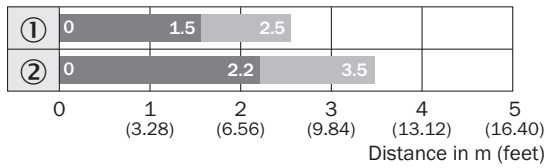
① Minimum distance between sensor and reflector

Light spot size (detailed view)



① Minimum distance between sensor and reflector

### Sensing range diagram



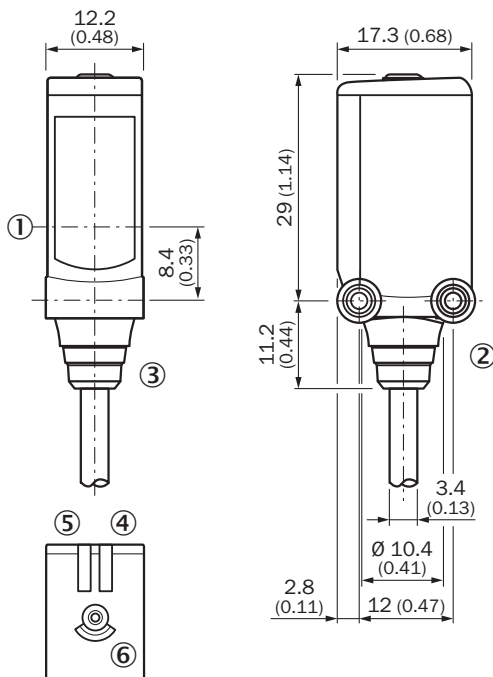
■ Sensing range      ■ Sensing range max.

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

② Reflector P41F / reflective tape REF-AC1000

### Dimensional drawing (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.
Mounting brackets and plates			
	<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
	<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
Others			
	<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

## 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)