



**WL4S-3P3232H**  
W4

**PHOTOELECTRIC SENSORS**

**SICK**  
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
WL4S-3P3232H	1048117

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 ... 5 m <sup>1)</sup>
<b>Sensing range</b>		0 m ... 3 m <sup>1)</sup>
<b>Polarisation filters</b>		Yes
<b>Emitted beam</b>		
	Light source	PinPoint LED <sup>2)</sup>
	Type of light	Visible red light
	Light spot size (distance)	Ø 45 mm (1.5 m)
<b>Key LED figures</b>		
	Wave length	650 nm
<b>Adjustment</b>		Single teach-in button
<b>Special applications</b>		Hygienic and washdown zones
<b>Housing design</b>		Hygiene

<sup>1)</sup> Reflector PL80A.  
<sup>2)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

Safety-related parameters

<b>MTTF<sub>D</sub></b>	1,530 years
<b>DC<sub>avg</sub></b>	0 %

<b>T<sub>M</sub> (mission time)</b>	20 years
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## 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	PNP
Switching mode	Light/dark switching
Output current I <sub>max.</sub>	≤ 100 mA
Response time	< 0.5 ms <sup>4)</sup>
Switching frequency	1,000 Hz <sup>5)</sup>
<b>Output function</b>	Complementary
<b>Circuit protection</b>	A <sup>6)</sup> B <sup>7)</sup> C <sup>8)</sup>

<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

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

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

<sup>4)</sup> Signal transit time with resistive load.

<sup>5)</sup> With light/dark ratio 1:1.

<sup>6)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>7)</sup> B = inputs and output reverse-polarity protected.

<sup>8)</sup> C = interference suppression.

## Mechanics

<b>Housing</b>	Rectangular
<b>Design detail</b>	Slim
<b>Dimensions (W x H x D)</b>	15.25 mm x 63.2 mm x 22.15 mm
<b>Connection</b>	Cable with M8 male connector, 4-pin <sup>1) 2)</sup>
<b>Connection detail</b>	
Length of cable (L)	150 mm <sup>2)</sup>
<b>Material</b>	
Housing	Metal, Stainless steel V4A (1.4404, 316L)
Front screen	Plastic, PMMA
Cable	Plastic, PVC
<b>Weight</b>	50 g

<sup>1)</sup> Max. tightening torque: 0.6 Nm.

<sup>2)</sup> Do not bend below 0 °C.

## Ambient data

<b>Enclosure rating</b>	IP66 IP67
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<sup>1)</sup> At UV ≤ 24 V and IA < 30 mA.

	IP68 IP69K
<b>Ambient operating temperature</b>	-30 °C ... +70 °C <sup>1)</sup> -30 °C ... +60 °C
<b>Ambient temperature, storage</b>	-30 °C ... +75 °C
<b>UL File No.</b>	FDA, UL No. NRKH.E181493 & cUL No. NRKH7.E181493

<sup>1)</sup> At UV ≤ 24 V and IA < 30 mA.

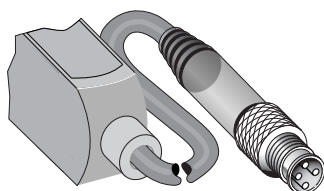
#### Certificates

<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>Photobiological safety (DIN EN 62471) certificate</b>	✓

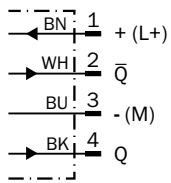
#### Classifications

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

#### Connection type

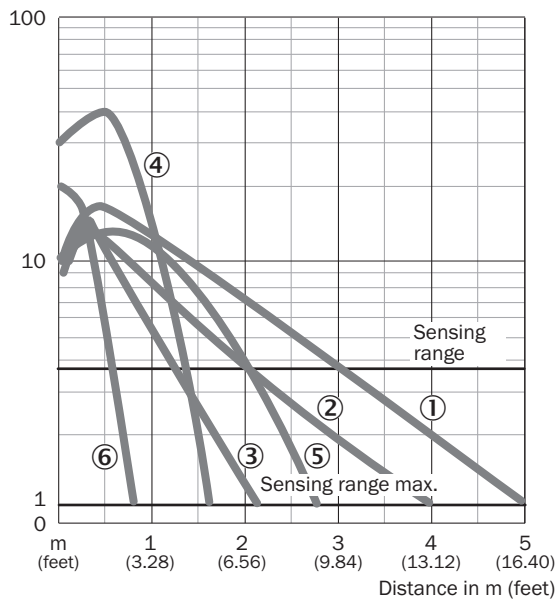


## Connection diagram Cd-083



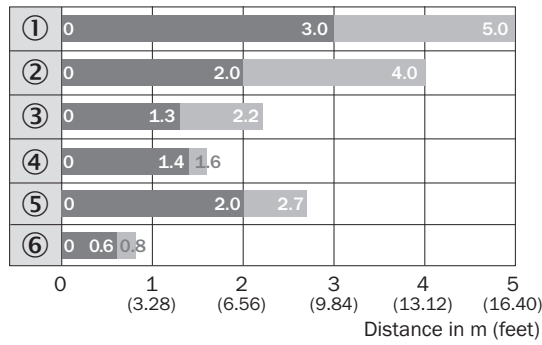
## Characteristic curve WL4S-3, WLG4S-3, 5 m

Operating reserve



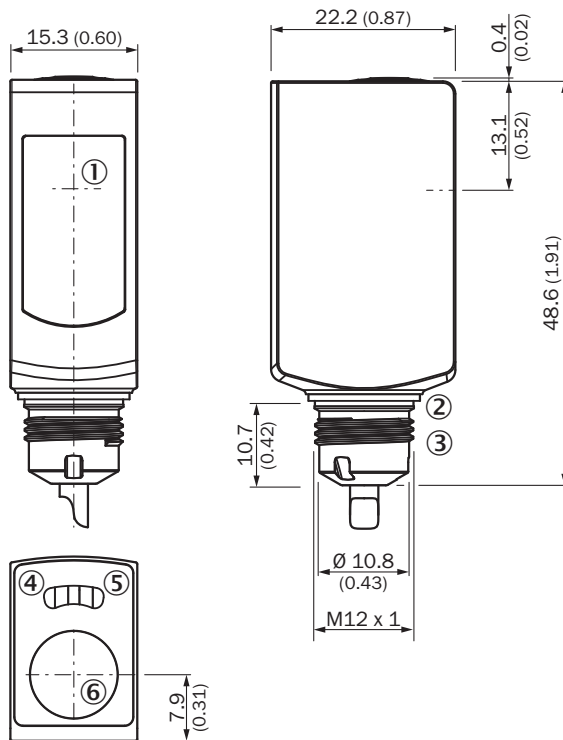
- ① Reflector PL80A
- ② Reflector PL40A
- ③ Reflector PL20A
- ④ PL10F reflector
- ⑤ Reflector P250 CHEM
- ⑥ Reflective tape REF-IRF-56

## Sensing range diagram WL4S-3, WLG4S-3, 5 m



- ① Reflector PL80A
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- ③ Reflector PL20A
- ④ PL10F reflector
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## Dimensional drawing WL4S-3H, WLG4S-3H, with single teach-in button






Dimensions in mm (inch)

- ① Center of optical axis
- ② Sealing ring (tightening torque 6 Nm)
- ③ Connector M12
- ④ LED indicator yellow: Status of received light beam
- ⑤ LED indicator green: Supply voltage active
- ⑥ Teach-in button

## Recommended accessories

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

	Brief description	Type	part no.
reflectors and optics			
	<ul style="list-style-type: none"> <li><b>Description:</b> Stainless steel reflector, hygienic design, chemically resistant, Enclosure rating IP 69K, M12-adapter thread, PMMA front screens</li> <li><b>Dimensions:</b> 25 mm</li> <li><b>Ambient operating temperature:</b> -20 °C ... +60 °C</li> </ul>	PLH25-M12	2063403
connectors and cables			
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 4-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 4-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Connection systems:</b> Flying leads</li> <li><b>Note:</b> This product is generally resistant to chemical cleaning agents (see ECOLAB). Please do not use cleaning agents of any other Kind., Not resistant against lactic acid &amp; hydrogen peroxide (H2O2)</li> <li><b>Application:</b> Hygienic and washdown zones</li> </ul>	DOL-0804-G05MNI	6059194
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 4-pin, straight</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 4-wire, PP</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Connection systems:</b> Flying leads</li> <li><b>Note:</b> This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid &amp; hydrogen peroxide (H2O2)</li> <li><b>Application:</b> Hygienic and washdown zones, Drag chain operation</li> </ul>	DOL-0804-G05MRN	6058511

## 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)