



**WL4S-3P5230H**  
W4

**PHOTOELECTRIC SENSORS**

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

| Type         | part no. |
|--------------|----------|
| WL4S-3P5230H | 1057052  |

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 ... 4 m <sup>1)</sup>   |
| <b>Sensing range</b>               | 0 m ... 2.5 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>                  | None  |
| <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>             | 2,700 years |
| <b>DC<sub>avg</sub></b>             | 0 %         |
| <b>T<sub>M</sub> (mission time)</b> | 20 years    |

## 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   |
| 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><br>B <sup>7)</sup><br>C <sup>8)</sup> |
| <b>Special feature</b>                 | D12 adapter shaft                                     |

<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>y</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 48.6 mm x 22.15 mm             |
| <b>Connection</b>             | Male connector M8, 4-pin <sup>1)</sup>    |
| <b>Material</b>               |   |
| Housing                       | Metal, Stainless steel V4A (1.4404, 316L) |
| Front screen                  | Plastic, PMMA                             |
| <b>Weight</b>                 | 140 g                                     |

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

## Ambient data

|                                      |  |
|--------------------------------------|--|
| <b>Enclosure rating</b>              | IP66<br>IP67<br>IP68<br>IP69K                        |
| <b>Ambient operating temperature</b> | -30 °C ... +70 °C <sup>1)</sup><br>-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.

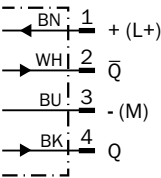
Certificates

|  |   |
|--|---|
| <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> | ✓ |

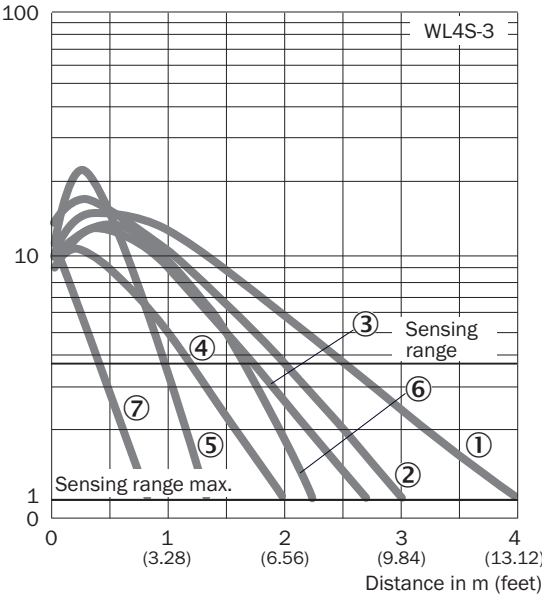
Classifications

|                       |          |
|-----------------------|----------|
| <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 diagram Cd-083

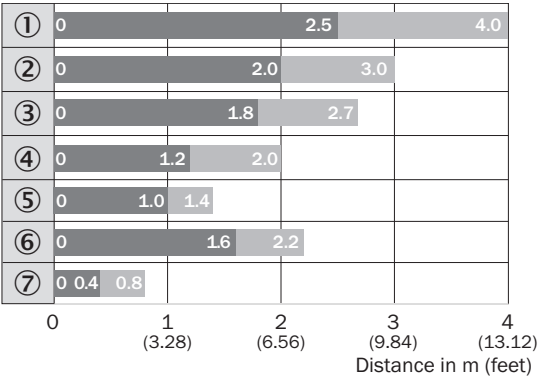


Characteristic curve WL4S-3, WLG4S-3, 4 m



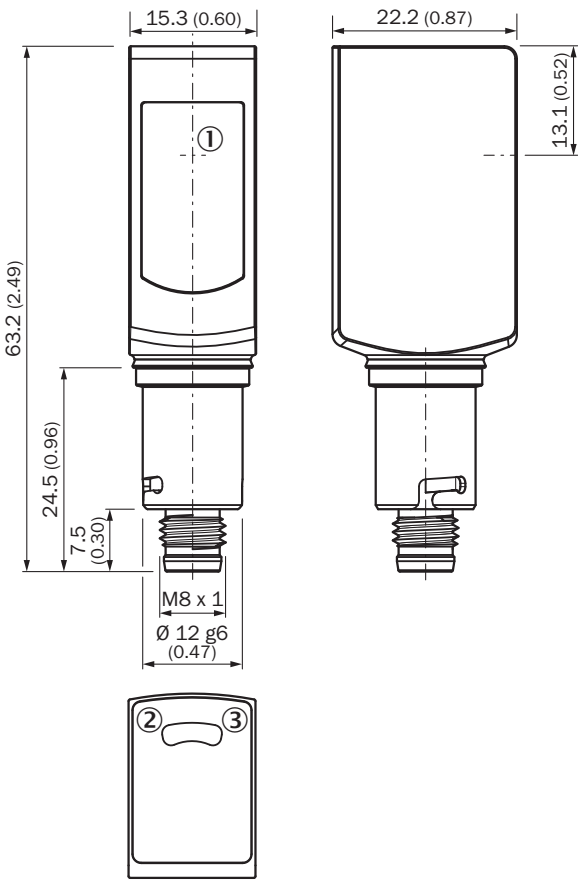
- ① Reflector PL80A
- ② Reflector P250F
- ③ Reflector PL40A
- ④ Reflector PL20A
- ⑤ PL10F reflector
- ⑥ Reflector P250 CHEM
- ⑦ Reflective tape REF-IRF-56

Sensing range diagram WL4S-3, WLG4S-3, 4 m



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- ② Reflector P250F
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Dimensional drawing WL4S-3H, WLG4S-3H, without single teach-in button, D12 adapter shaft, I-adaption





Dimensions in mm (inch)  
① Center of optical axis  
② LED indicator green: Supply voltage active  
③ LED indicator yellow: Status of received light beam

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  |

|   | Brief description  | Type            | part no. |
|---|--|-----------------|----------|
| 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)