



WLG4SC-3P2232A71

W4

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



## Ordering information

| Type             | part no. |
|------------------|----------|
| WLG4SC-3P2232A71 | 1067765  |

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

Illustration may differ



## 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 filter</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>                  | IO-Link, Single teach-in button   |
| <b>Special applications</b>        | Detecting transparent objects   |
| <b>Pin 2 configuration</b>         | External input, Teach-in input, Sender off input, Detection output, logic output, Device contamination alarm output |
| <b>AutoAdapt</b>                   | ✓   |

<sup>1)</sup> Reflector PL80A.

<sup>2)</sup> Average service life: 100,000 h at  $T_U = +25^\circ\text{C}$ .

## Safety-related parameters

|                         |             |
|-------------------------|-------------|
| <b>MTTF<sub>D</sub></b> | 1,222 years |
|-------------------------|-------------|

**DC<sub>avg</sub>**

0 %

## 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 <sub>L1</sub><br>Bit 1 = switching signal Q <sub>L2</sub><br>Bit 2 ... 15 = measuring value |
| VendorID               | 26   |
| DeviceID HEX           | 0x8000E0   |
| DeviceID DEC           | 8388832  |

## 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>              | 20 mA <sup>3)</sup>  |
| <b>Protection class</b>                 | III  |
| <b>Digital output</b>                   |  |
| Type                                    | PNP <sup>4)</sup>  |
| Switching mode                          | Light/dark switching   |
| Output current I <sub>max</sub>         | ≤ 100 mA   |
| Repeatability (response time)           | 150 µs   |
| Switching frequency                     | 1,000 Hz   |
| <b>Attenuation along light beam</b>     | > 8 %  |
| <b>Circuit protection</b>               | A <sup>5)</sup><br>B <sup>6)</sup><br>C <sup>7)</sup><br>D <sup>8)</sup> |
| <b>Response time Q/ on Pin 2</b>        | 300 µs ... 450 µs <sup>10) 9)</sup>                                      |
| <b>Switching frequency Q / to pin 2</b> | 1,000 Hz <sup>11)</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> Pin 4: This switching output must not be connected to another output.<sup>5)</sup> A = V<sub>S</sub> connections reverse-polarity protected.<sup>6)</sup> B = inputs and output reverse-polarity protected.<sup>7)</sup> C = interference suppression.<sup>8)</sup> D = outputs overcurrent and short-circuit protected.<sup>9)</sup> Signal transit time with resistive load.<sup>10)</sup> Valid for Q \ on Pin2, if configured with software.<sup>11)</sup> 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>             | Male connector M8, 4-pin    |               |
| <b>Material</b>               | Housing                     | Plastic, ABS  |
|                               | Front screen                | Plastic, PMMA |
| <b>Weight</b>                 | 30 g                        |               |

## Ambient data

|                                      |                              |
|--------------------------------------|------------------------------|
| <b>Enclosure rating</b>              | IP67<br>IP66                 |
| <b>Ambient operating temperature</b> | -40 °C ... +60 °C            |
| <b>Ambient temperature, storage</b>  | -40 °C ... +75 °C            |
| <b>UL File No.</b>                   | NRKH.E181493 & NRKH7.E181493 |

## Smart Task

|  |   |   |
|--|---|---|
| <b>Smart Task name</b>                                 | Counter + debouncing  |   |
| <b>Logic function</b>                                  | Direct<br>WINDOW<br>Hysteresis  |   |
| <b>Timer function</b>                                  | Deactivated<br>Switch-on delay<br>Off delay<br>ON and OFF delay<br>Impulse (one shot)         |   |
| <b>Inverter</b>  | Yes   |   |
| <b>Response time</b>                                   | 1)<br>2)  |   |
| <b>Repeatability</b>                                   | 1)<br>2)  |   |
| <b>Maximum counting frequency</b>                      | SIO Direct: -- <sup>3)</sup><br>SIO Logic: 1000 µs <sup>1)</sup><br>IOL: 900 µs <sup>2)</sup> |   |
| <b>Counter reset</b>                                   | SIO Direct: --<br>SIO Logic: 1,5 ms<br>IOL: 1,5 ms  |   |
| <b>Min. Time between two process events (switches)</b> | SIO Direct: --<br>SIO Logic: 450 µs<br>IOL: 500 µs  |   |
| <b>Debounce time max.</b>                              | SIO Direct: --<br>SIO Logic: 30.000 ms<br>IOL: 30.000 ms                                      |   |
| <b>Switching signal</b>                                |   |   |
|  | Switching signal Q <sub>L1</sub>  | Output type (dependant on the adjusted threshold) |
|  | Switching signal Q <sub>L2</sub>  | Output type (dependant on the adjusted threshold) |
| <b>Measuring value</b>                                 | Counting value  |   |

<sup>1)</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>2)</sup> IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.<sup>3)</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").

## Diagnosis

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

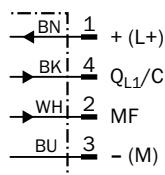
## Certificates

|  |   |
|--|---|
| <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>IO-Link certificate</b>   | ✓ |
| <b>Photobiological safety (DIN EN 62471) certificate</b>                     | ✓ |
| <b>Information according to Art. 3 of Data Act (Regulation EU 2023/2854)</b> | ✓ |

## Classifications

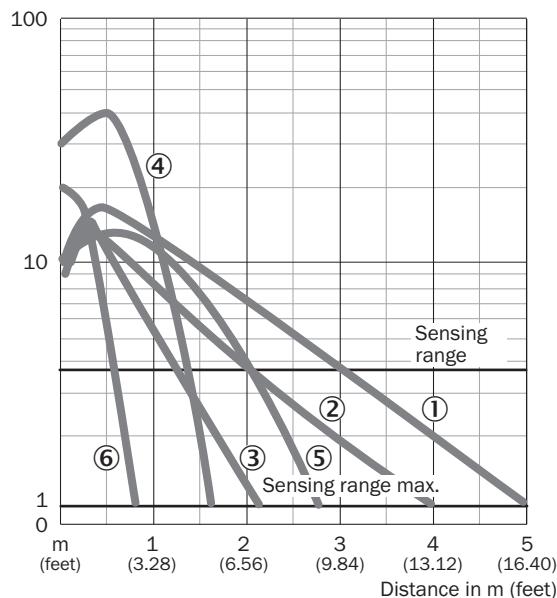
|                       |          |
|-----------------------|----------|
| <b>ECLASS 5.0</b>     | 27270902 |
| <b>ECLASS 5.1.4</b>   | 27270902 |
| <b>ECLASS 6.0</b>     | 27270902 |
| <b>ECLASS 6.2</b>     | 27270902 |
| <b>ECLASS 7.0</b>     | 27270902 |
| <b>ECLASS 8.0</b>     | 27270902 |
| <b>ECLASS 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-367



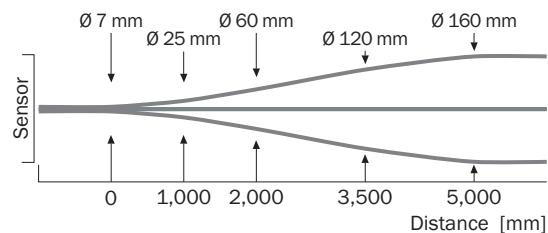
## Characteristic curve WL4S-3, WLG4S-3, 5 m

Operating reserve

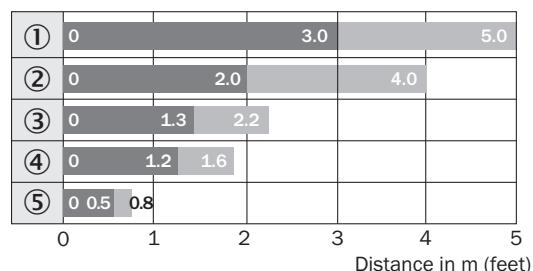


- ① Reflector PL80A
- ② Reflector PL40A
- ③ Reflector PL20A
- ④ PL10F reflector
- ⑤ Reflector P250 CHEM
- ⑥ Reflective tape REF-IRF-56

## Light spot size



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

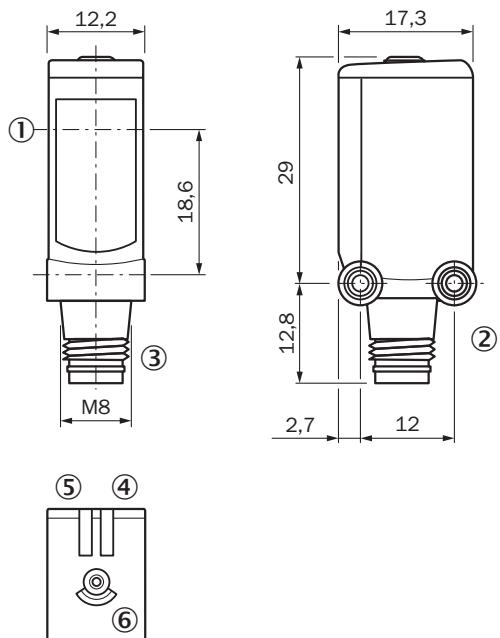


■ Sensing range      ■ Sensing range max.

① Reflector PL80A

- ② Reflector PL40A
- ③ Reflector PL20A
- ④ PL10F reflector
- ⑤ Reflective tape REF-IRF-56

### Dimensional drawing WL4S-3, WLG4S-3, single teach-in button



Dimensions in mm (inch)

- ① Center of optical axis
- ② Threaded mounting hole M3
- ③ Connection
- ④ LED indicator green: Supply voltage active
- ⑤ Orange LED indicator: status of received light beam
- ⑥ Teach-in button

### Recommended accessories

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

|  | 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, A-coded</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>Application:</b> Uncontaminated zones, Zones with chemicals</li> </ul> | YF8U14-050VA3XLEAX | 2095889 |          |
|  <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 |          |

|   | Brief description   | Type         | part no. |
|---|---|--------------|----------|
| Mounting systems  |   |              |          |
|    | <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  |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket for wall 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-A     | 2051628  |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Plate N08 for universal clamp bracket</li> <li><b>Material:</b> Steel, zinc diecast</li> <li><b>Details:</b> Zinc plated steel (sheet), Zinc die cast (clamping bracket)</li> <li><b>Items supplied:</b> Universal clamp (5322626), mounting hardware</li> <li><b>Usable for:</b> W100, W150, W4S, W4F, W8, W9-3, W8G, W8 Laser, W8 Inox, G6, W100 Laser, W100-2, W10, G6 Inox, RAY10, W4SLG-3, W9, GR18, MultiPulse, Reflex Array, MultiLine, LUT3, KT5, KT8, KT10, CS8</li> </ul>  | BEF-KHS-N08  | 2051607  |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Plate N02N for universal clamp bracket</li> <li><b>Material:</b> Stainless steel, stainless steel</li> <li><b>Details:</b> Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)</li> <li><b>Items supplied:</b> Universal clamp (5322627), mounting hardware</li> <li><b>Usable for:</b> W4S-3 Glass, W10, W4SLG-3, W4S-3 Inox, W4S-3 Inox Glass, W9, W11-2, W12-3, W12-2 Laser, W12G, W12 Teflon, W16, W250, W250-2, PowerProx, W11G-2, TranspaTect, WTT12, UC12, P250, G6 Inox, W4S, W4SL-3V, W4SLG-3V, W4SL-3H</li> </ul> | BEF-KHS-N02N | 2051618  |
| reflectors and optics   |   |              |          |
|  | <ul style="list-style-type: none"> <li><b>Description:</b> Fine triple reflector, screw connection, suitable for laser sensors</li> <li><b>Dimensions:</b> 20 mm 32 mm</li> <li><b>Ambient operating temperature:</b> -30 °C ... +65 °C</li> </ul>  | PL10F        | 5311210  |

## 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)