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Product data sheet



# WLG4SC-3P5232HA00

W4

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

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# WLG4SC-3P5232HA00 | W4

MINIATURE PHOTOELECTRIC SENSORS



Illustration may differ

## Ordering information

| Type | Part no. |
|---|---|
| WLG4SC-3P5232HA00 | 1090378 |

Other models and accessories → www.sick.com/W4

## Detailed technical data

### Features

| | |
|---|---|
| **Functional principle** | Photoelectric retro-reflective sensor |
| **Functional principle detail** | Autocollimation |
| **Sensing range max.** | 0 m ... 5 m [1] |
| **Sensing range** | 0 m ... 3 m [1] |
| **Polarisation filters** | Yes |
| **Emitted beam** | |
| Light source | PinPoint LED [2] |
| Type of light | Visible red light |
| Light spot size (distance) | Ø 45 mm (1.5 m) |
| **Key LED figures** | |
| Wave length | 650 nm |
| **Adjustment** | Single teach-in button |
| **Special applications** | Hygienic and washdown zones, Detecting transparent objects |
| **Housing design** | Hygiene |
| **AutoAdapt** | ✓ |

[1] Reflector PL80A.

[2] Average service life: 100,000 h at $T_U$ = +25 °C.

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## Safety-related parameters

| | |
|---|---|
| **$MTTF_D$** | 1,222 years |
| **$DC_{avg}$** | 0 % |

## Communication interface

| | |
|---|---|
| **IO-Link** | ✓, 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 $Q_{L1}$<br>Bit 1 = switching signal $Q_{L2}$<br>Bit 2 ... 15 = empty |
| VendorID | 26 |
| DeviceID HEX | 0x8001CE |
| DeviceID DEC | 8389070 |

## Electrical data

| | |
|---|---|
| **Supply voltage $U_B$** | 10 V DC ... 30 V DC [1] |
| **Ripple** | < 5 $V_{pp}$ [2] |
| **Current consumption** | 30 mA [3] |
| **Protection class** | III |
| **Digital output** | |
| Type | PNP [4] |
| Switching mode | Light/dark switching |
| Output current $I_{max.}$ | ≤ 100 mA |
| Response time | < 0.5 ms [5] |
| Switching frequency | 1,000 Hz [6] |
| **Attenuation along light beam** | > 8 % |
| **Circuit protection** | A, B, C [7] [8] [9] |
| **Special feature** | Detecting transparent objects, D12 adapter shaft |

[1] Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.
[2] May not exceed or fall below $U_V$ tolerances.
[3] Without load.
[4] Pin 4: This switching output must not be connected to another output.
[5] Signal transit time with resistive load.
[6] With light/dark ratio 1:1.
[7] A = $V_S$ connections reverse-polarity protected.
[8] B = inputs and output reverse-polarity protected.
[9] C = interference suppression.

## Mechanical data

| | |
|---|---|
| **Housing** | Rectangular |
| **Design detail** | Slim |
| **Dimensions (W x H x D)** | 15.25 mm x 63.2 mm x 22.15 mm |
| **Connection** | Male connector M8, 4-pin [1] |

[1] Max. tightening torque: 0.6 Nm.

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| | |
|---|---|
| **Material** | |
| Housing | Stainless steel, Stainless steel V4A (1.4404, 316L) |
| Front screen | Plastic, PMMA |
| **Weight** | 140 g |

[1] Max. tightening torque: 0.6 Nm.

## Ambient data

| | |
|---|---|
| **Enclosure rating** | IP66<br>IP67<br>IP68<br>IP69K |
| **Ambient operating temperature** | –30 °C ... +70 °C [1]<br>–30 °C ... +60 °C |
| **Ambient temperature, storage** | –30 °C ... +75 °C |
| **UL File No.** | FDA, UL No. NRKH.E181493 & cUL No. NRKH7.E181493 |

[1] At UV ≤ 24 V and IA < 30 mA.

## Smart Task

| | |
|---|---|
| **Smart Task name** | Base logics |
| **Logic function** | Direct<br>AND<br>OR<br>WINDOW<br>Hysteresis |
| **Timer function** | Deactivated<br>On delay<br>Off delay<br>ON and OFF delay<br>Impulse (one shot) |
| **Inverter** | Yes |
| **Switching frequency** | SIO Direct: 1000 Hz<br>SIO Logic: 1000 Hz<br>IOL: 900 Hz |
| **Response time** | SIO Direct: 300 µs ... 450 µs [1]<br>SIO Logic: 500 µs ... 600 µs [2]<br>IOL: 500 µs ... 900 µs [3] |
| **Repeatability** | SIO Direct: 150 µs [1]<br>SIO Logic: 150 µs [2]<br>IOL: 400 µs [3] |
| **Switching signal** | |
| Switching signal $Q_{L1}$ | Switching output |
| Switching signal $Q_{L2}$ | Switching output |

[1] 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").
[2] SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used.
[3] IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.

## Diagnosis

| | |
|---|---|
| **Device status** | Yes |
| **Quality of teach** | Yes |
| **Quality of run** | Yes, Contamination display |

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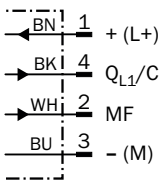


## Classifications

| | |
|---|---|
| **ECLASS 5.0** | 27270902 |
| **ECLASS 5.1.4** | 27270902 |
| **ECLASS 6.0** | 27270902 |
| **ECLASS 6.2** | 27270902 |
| **ECLASS 7.0** | 27270902 |
| **ECLASS 8.0** | 27270902 |
| **ECLASS 8.1** | 27270902 |
| **ECLASS 9.0** | 27270902 |
| **ECLASS 10.0** | 27270902 |
| **ECLASS 11.0** | 27270902 |
| **ECLASS 12.0** | 27270902 |
| **ETIM 5.0** | EC002717 |
| **ETIM 6.0** | EC002717 |
| **ETIM 7.0** | EC002717 |
| **ETIM 8.0** | EC002717 |
| **UNSPSC 16.0901** | 39121528 |

## Connection diagram

Cd-367

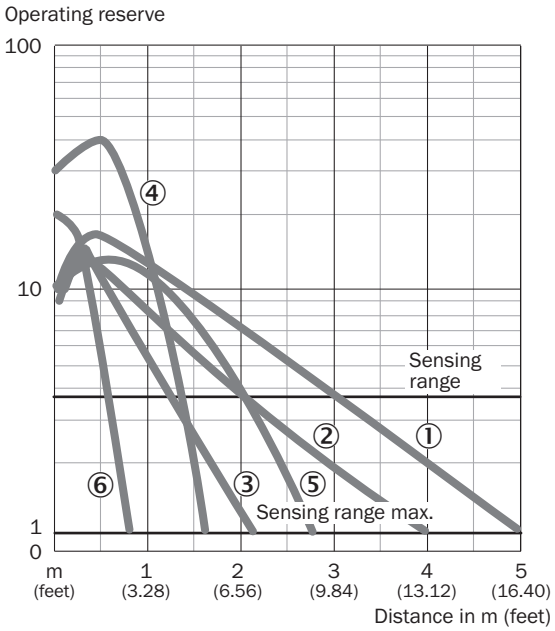


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## Characteristic curve

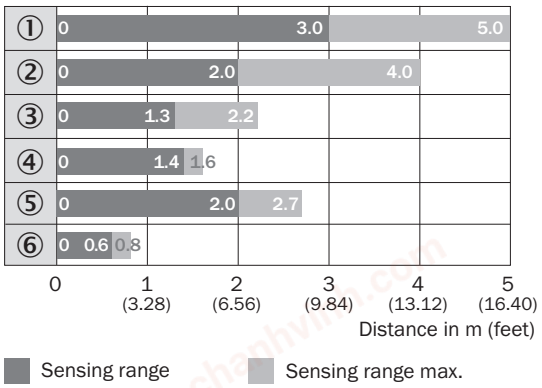
WL4S-3, WLG4S-3, 5 m




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

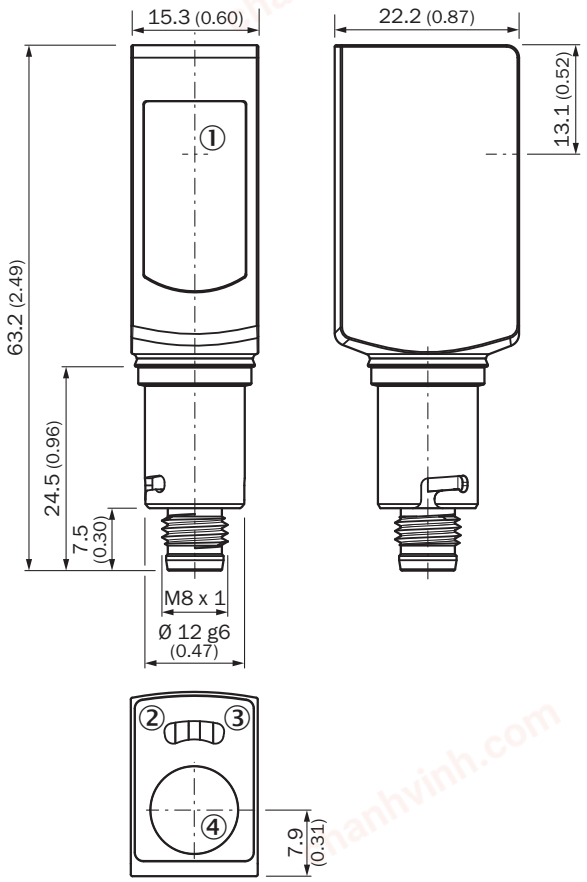



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## Dimensional drawing (Dimensions in mm (inch))




① Center of optical axis
② LED indicator yellow: Status of received light beam
③ LED indicator green: Supply voltage active
④ Teach-in button

## Recommended accessories

Other models and accessories ➜ www.sick.com/W4

| | Brief description | Type | Part no. |
|---|---|---|---|
| Other mounting accessories | | | |
|  | Diameter 18 mm x 100 mm for W4S-3 Inox hygiene. Hygienic integration without holes and brackets. Cable run inside tube | BEF-MR18G-NA | 4065853 |

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| | Brief description | Type | Part no. |
|---|---|---|---|
| Plug connectors and cables | | | |
|  | • **Connection type head A:** Female connector, M8, 4-pin, straight<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 5 m, 4-wire, PVC<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Connection systems:** Flying leads<br>• **Note:** 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 & hydrogen peroxide (H2O2)<br>• **Application:** Hygienic and washdown zones | DOL-0804-G05MNI | 6059194 |
| Reflectors | | | |
|  | Chemically resistant, screw connection, 52 mm x 61 mm, plastic, Screw-on, 2 hole mounting | P250 CHEM | 5321097 |

## Recommended services

Additional services ➜ www.sick.com/W4

| | Type | Part no. |
|---|---|---|
| Function Block Factory | | |
| • **Description:** The Function Block Factory supports common programmable logic controllers (PLCs) from various manufacturers, such as Siemens, Beckhoff, Rockwell Automation and B&R. More information on the FBF can be found <a href=https://fbf.cloud.sick.com target="_blank"> here</a>.<br>• **Note:** You can configure your function block at <a href=https://fbf.cloud.sick.com target="_blank"> Function Block Factory.</a> As a login please use your SICK ID. | Function Block Factory | On request |

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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."**

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