



WL4SLG-3P3452V

W4

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | part no. |
|----------------|----------|
| WL4SLG-3P3452V | 1076057 |

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

Illustration may differ



Detailed technical data

Features

| | |
|------------------------------------|---|
| Functional principle | Photoelectric retro-reflective sensor |
| Functional principle detail | Without reflector minimum distance (autocollimation/coaxial optics) |
| Sensing range max. | 0 m ... 3.5 m ¹⁾ ²⁾ |
| Sensing range | 0 m ... 2.2 m ¹⁾ ²⁾ |
| Polarisation filter | Yes |
| Emitted beam | |
| Light source | Laser ³⁾ |
| Type of light | Visible red light |
| Light spot size (distance) | Ø 1 mm (500 mm) |
| Key laser figures | |
| Normative reference | EN 60825-1:2014, IEC 60825-1:2014 / CDRH 21 CFR 1040.10 & 1040.11 |
| Laser class | 1 ⁴⁾ |
| Wave length | 650 nm |
| Adjustment | Single teach-in button |
| Special applications | Hygienic and washdown zones, Detecting transparent objects, Detecting small objects |

¹⁾ Reflective tape REF-AC1000.

²⁾ To the object leading edge.

³⁾ Average service life: 50,000 h at $T_U = +25$ °C.

⁴⁾ Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

⁵⁾ Difference between standard/washdown and hygiene: The essential difference between a standard/washdown product and a hygiene product is that where the process and contact with the medium (activity in the vicinity of the food) are concerned, a hygiene product is designed in accordance with the latest standards and hygiene design guidelines, and materials are selected accordingly.

| | |
|-----------------------|------------------------|
| Housing design | Washdown ⁵⁾ |
| Mounting hole | M3 |

1) Reflective tape REF-AC1000.

2) To the object leading edge.

3) Average service life: 50,000 h at $T_U = +25$ °C.

4) Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

5) Difference between standard/washdown and hygiene: The essential difference between a standard/washdown product and a hygiene product is that where the process and contact with the medium (activity in the vicinity of the food) are concerned, a hygiene product is designed in accordance with the latest standards and hygiene design guidelines, and materials are selected accordingly.

Safety-related parameters

| | |
|-------------------------|--|
| MTTF_D | 647 years (EN ISO 13849-1) ¹⁾ |
| DC_{avg} | 0 % |

1) Mode of calculation: Parts-Count-calculation.

Electronics

| | |
|-------------------------------------|---|
| 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 ⁴⁾ |
| Output current I _{max.} | ≤ 100 mA |
| Response time | ≤ 0.5 ms ⁵⁾ |
| Switching frequency | 1,000 Hz ⁶⁾ |
| Output function | Complementary |
| Circuit protection | A ⁷⁾ B ⁸⁾ C ⁹⁾ |

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) 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.

Mechanics

| | |
|-------------------------------|--|
| Housing | Rectangular |
| Design detail | Slim |
| Dimensions (W x H x D) | 15.3 mm x 55.4 mm x 22.2 mm |
| Connection | Cable with M12 male connector, 4-pin ¹⁾ |

1) Max. tightening torque: 0.6 Nm.

| | |
|--------------------------|---|
| Connection detail | |
| Length of cable (L) | 150 mm |
| Material | |
| Housing | Metal, Stainless steel V4A (1.4404, 316L) |
| Front screen | Plastic, PMMA |
| Weight | 40 g |

¹⁾ Max. tightening torque: 0.6 Nm.

Ambient data

| | |
|---|---|
| Enclosure rating | IP66 IP67 IP68 IP69K ¹⁾ |
| Ambient operating temperature | -10 °C ... +50 °C |
| Ambient operating temperature extended | -30 °C ... +55 °C ²⁾ ³⁾ |
| Ambient temperature, storage | -30 °C ... +70 °C |
| RoHS certificate | ✓ |

¹⁾ Only in case of correctly mounted IP69K connecting cable.

²⁾ 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.

³⁾ Operation below Tu -10 °C is possible if the sensor is already switched on at Tu > -10 °C, then cools down, and the supply voltage is subsequently not switched off. Switching on below Tu -10 °C is not permissible.

Certificates

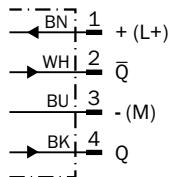
| | |
|---|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| ECOLAB certificate | ✓ |
| Laser safety (IEC 60825-1) certificate | ✓ |

Classifications

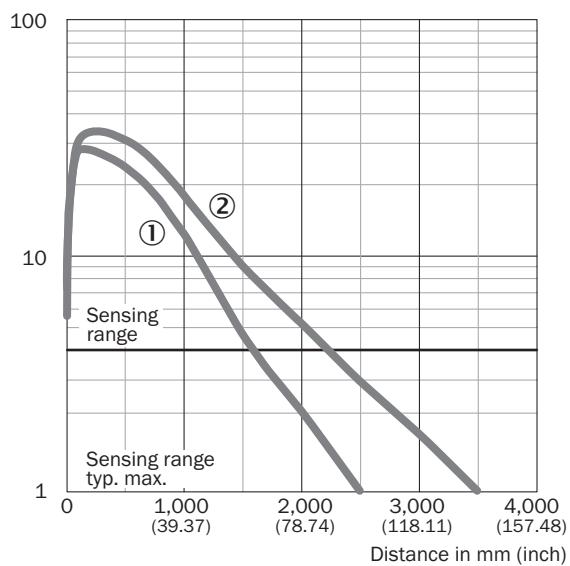
| | |
|---------------------|----------|
| ECLASS 5.0 | 27270902 |
| ECLASS 5.1.4 | 27270902 |
| ECLASS 6.0 | 27270902 |
| ECLASS 6.2 | 27270902 |
| ECLASS 7.0 | 27270902 |
| ECLASS 8.0 | 27270902 |
| ECLASS 8.1 | 27270902 |
| ECLASS 9.0 | 27270902 |
| ECLASS 10.0 | 27270902 |
| ECLASS 11.0 | 27270902 |
| 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-083



Characteristic curve

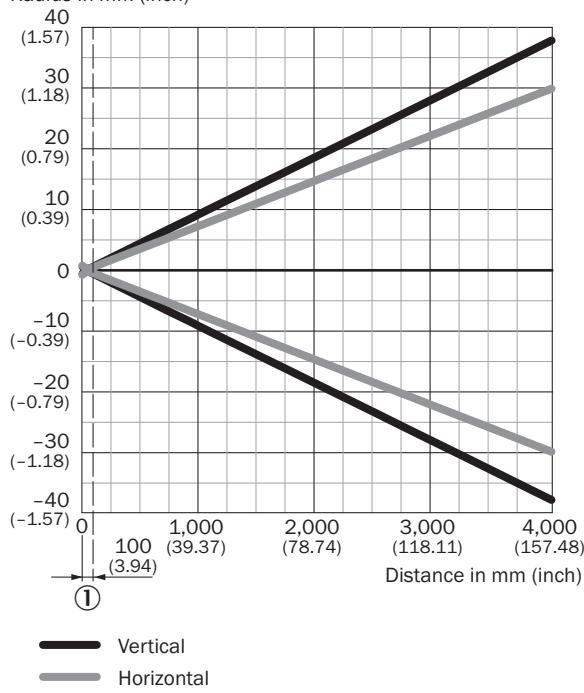


① Reflector PLV14-A / PLH25-M12 / PLH25-D12

② Reflector P41F / reflective tape REF-AC1000

Light spot size

Radius in mm (inch)



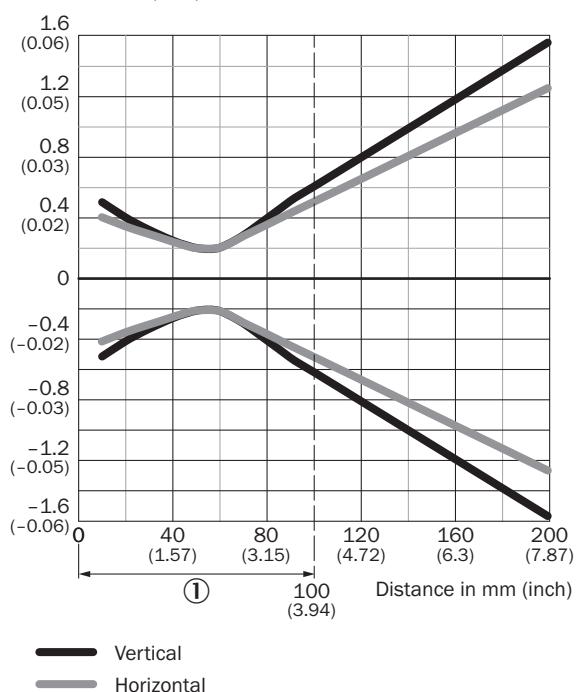
Dimensions in mm (inch)

| Sensing range | Vertical | Horizontal |
|--------------------------------------|---------------|---------------|
| 60 mm (2.36) | 0.4 (0.02) | 0.4 (0.02) |
| 200 mm (7.87) | 3.2 (0.13) | 2.4 (0.09) |
| 2,000 mm (78.74) | 40 (1.57) | 30 (0.18) |
| 3,500 mm (137.80) | 60 (2.36) | 50 (1.97) |

① Minimum distance between sensor and reflector

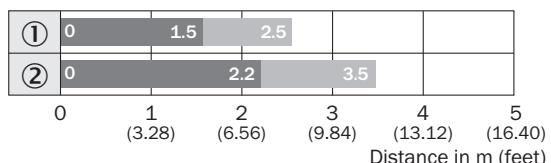
Light spot size (detailed view)

Radius in mm (inch)



① Minimum distance between sensor and reflector

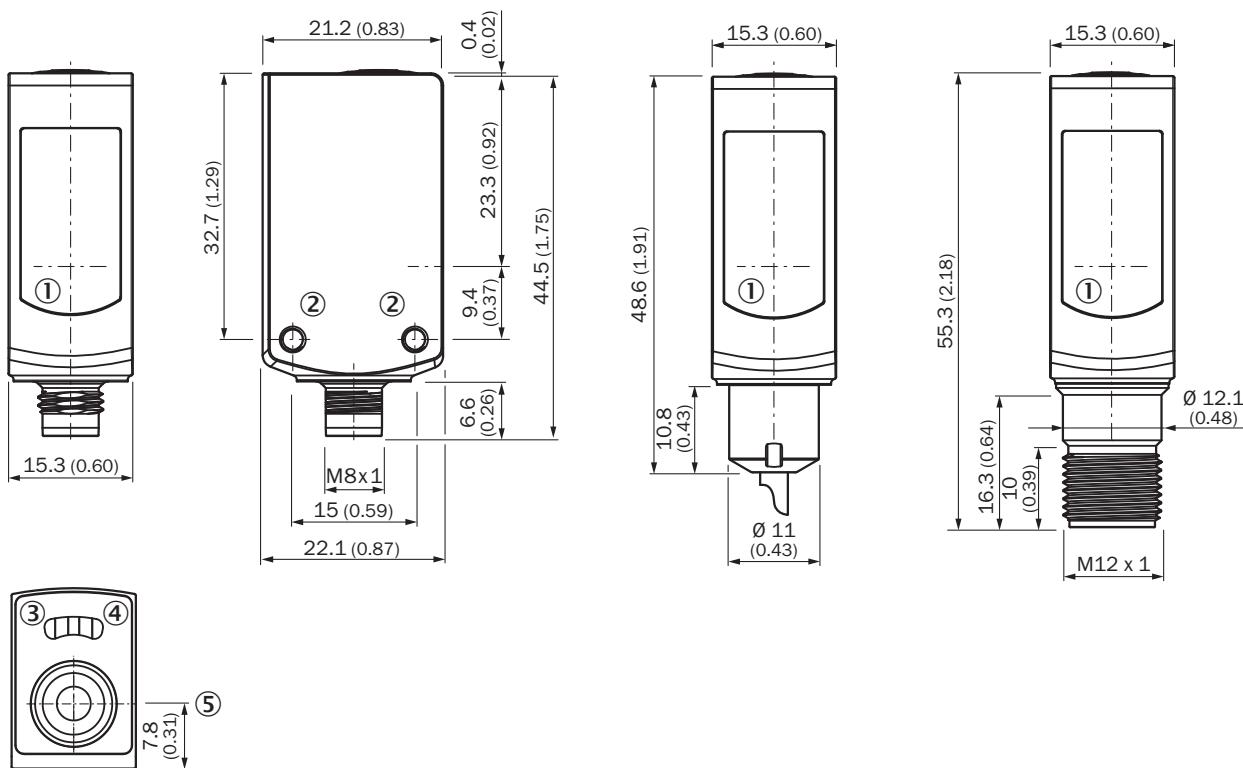
Sensing range diagram



■ Sensing range ■ Sensing range max.

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

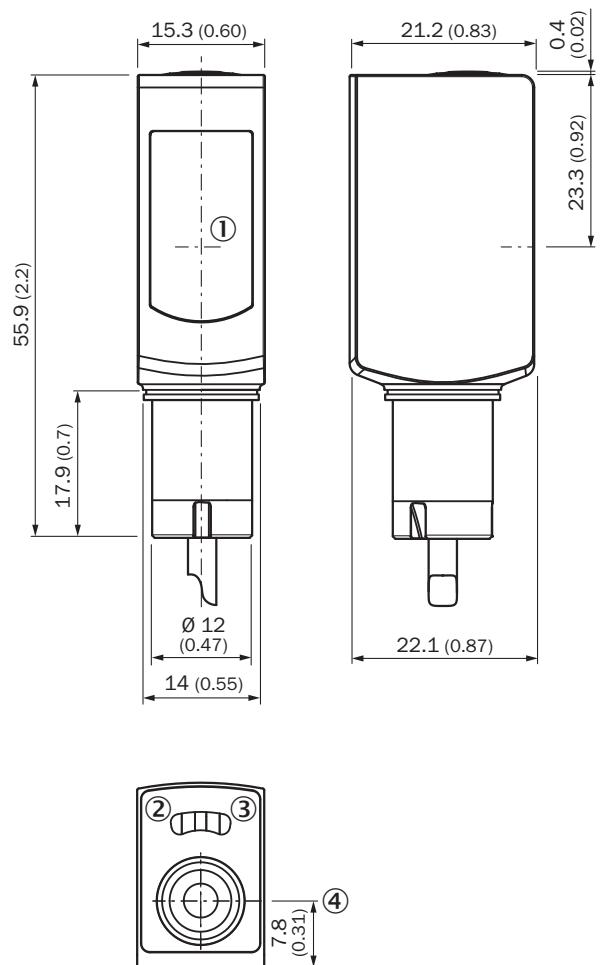
Dimensional drawing WSE4SL-3, WL4SLG-3



Dimensions in mm (inch)

- ① Center of optical axis
- ② Threaded mounting hole M3
- ③ LED indicator yellow: Status of received light beam
- ④ LED indicator green: Supply voltage active
- ⑤ single teach-in button

Dimensional drawing WL4SL-3, WL4SLG-3, WSE4SL-3, cable



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 single teach-in button

Recommended accessories

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

| | Brief description | Type | part no. |
|---|--|-----------------|----------|
| Mounting systems | | | |
|  | <ul style="list-style-type: none"> Description: Mounting bracket for floor mounting Material: Stainless steel Details: Stainless steel 1.4571 Items supplied: Mounting hardware included Suitable for: W4S, W4F, W4S | BEF-W4-B | 2051630 |
|  | <ul style="list-style-type: none"> Description: Plate N02N for universal clamp bracket Material: Stainless steel, stainless steel Details: Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp) Items supplied: Universal clamp (5322627), mounting hardware Usable for: 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 | BEF-KHS-N02N | 2051618 |
| reflectors and optics | | | |
|  | <ul style="list-style-type: none"> Description: Stainless steel reflector, washdown design, chemically resistant, IP 69K enclosure rating, screw connection, PMMA front screens Dimensions: 14 mm Ambient operating temperature: -20 °C ... +60 °C | PLV14-A | 2063405 |
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, straight Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Connection systems: Flying leads 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) Application: Uncontaminated zones, Hygienic and washdown zones, Zones with chemicals | DOL-1204-G05MNI | 6052615 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, straight Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PP Description: Sensor/actuator cable, unshielded Connection systems: Flying leads Note: 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 & hydrogen peroxide (H2O2) Application: Hygienic and washdown zones, Drag chain operation, Robot, cold bending resistant, seawater resistant | DOL-1204-G05MRN | 6058476 |

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."

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Contacts and other locations www.sick.com