



WL4SLG-3E1134

W4

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|---------------|----------|
| WL4SLG-3E1134 | 1058248 |

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 ... 4.5 m ^{1) 2)} |
| Sensing range | 0 m ... 2 m ^{1) 2)} |
| Polarisation filters | 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 |
| Wave length | 650 nm |
| Adjustment | Cable ⁴⁾ Single teach-in button |

¹⁾ Reflective tape REF-AC1000.

²⁾ To ensure reliable operation, we recommend using REF-AC1000 reflective tape or reflective-tap reflectors such as P41F, PLV14-A, PLH25-M12, or PLH25-D12. Reflectors with large-scale triple structures must only be used if deemed suitable for the application.

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

⁴⁾ Adjustment via cable (ET): white cable or PIN2 according to the desired sensitivity > 2 ... < 8 s or put > 8 s on L+ (PNP) or on M (NPN).

| | |
|-----------------------------|--|
| Special applications | Detecting transparent objects, Detecting small objects |
| Mounting hole | M3 |
| AutoAdapt | ✓ |

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Safety-related parameters

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

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

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 | NPN ⁴⁾ |
| Output current I_{max} | ≤ 100 mA |
| Response time | ≤ 0.5 ms ⁵⁾ |
| Switching frequency | 1,000 Hz ⁶⁾ |
| Switching mode | Dark switching ⁴⁾ |
| Circuit protection | A ⁷⁾ B ⁸⁾ C ⁹⁾ |
| Special feature | Detecting transparent objects |

1) Limit values when operated in short-circuit protected network: max. 8 A.

2) May not exceed or fall below U_{V} tolerances.

3) Without load.

4) Q = dark 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.

Mechanical data

| | |
|-------------------------------|----------------------------------|
| Housing | Rectangular |
| Design detail | Slim |
| Dimensions (W x H x D) | 12.2 mm x 41.8 mm x 17.3 mm |
| Connection | Cable, 4-wire, 2 m ¹⁾ |
| Connection detail | |

1) Do not bend below 0 °C.

| | | |
|-----------------|---------------------|----------------------|
| | Conductor size | 0.14 mm ² |
| | Length of cable (L) | 2 m ¹⁾ |
| Material | Housing | Plastic, Novodur |
| | Front screen | Plastic, PMMA |
| | Cable | PVC |
| | Weight | 100 g |

¹⁾ Do not bend below 0 °C.

Ambient data

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

¹⁾ As of $T_a = 50\text{ °C}$, a max. supply voltage $V_{max.} = 24\text{ V}$ and a max. load current $I_{max.} = 50\text{ mA}$ is permitted.

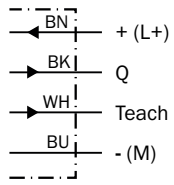
²⁾ Operation below $T_u -10\text{ °C}$ is possible if the sensor is already switched on at $T_u > -10\text{ °C}$, then cools down, and the supply voltage is subsequently not switched off. Switching on below $T_u -10\text{ °C}$ is not permissible.

Classifications

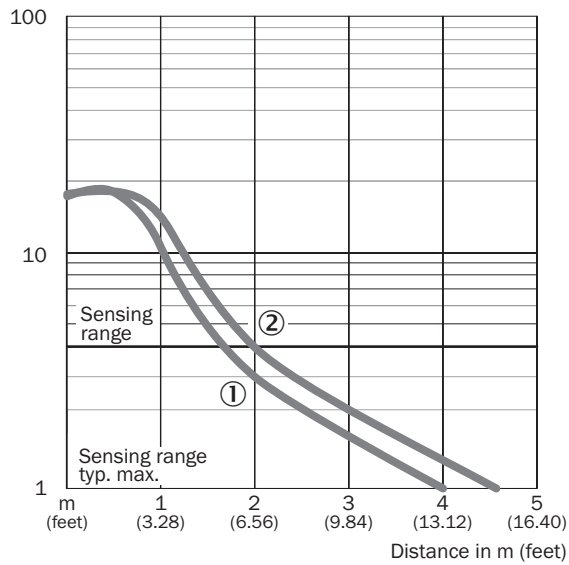
| | |
|-----------------------|----------|
| eCl@ss 5.0 | 27270902 |
| eCl@ss 5.1.4 | 27270902 |
| eCl@ss 6.0 | 27270902 |
| eCl@ss 6.2 | 27270902 |
| eCl@ss 7.0 | 27270902 |
| eCl@ss 8.0 | 27270902 |
| eCl@ss 8.1 | 27270902 |
| eCl@ss 9.0 | 27270902 |
| eCl@ss 10.0 | 27270902 |
| eCl@ss 11.0 | 27270902 |
| eCl@ss 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-212



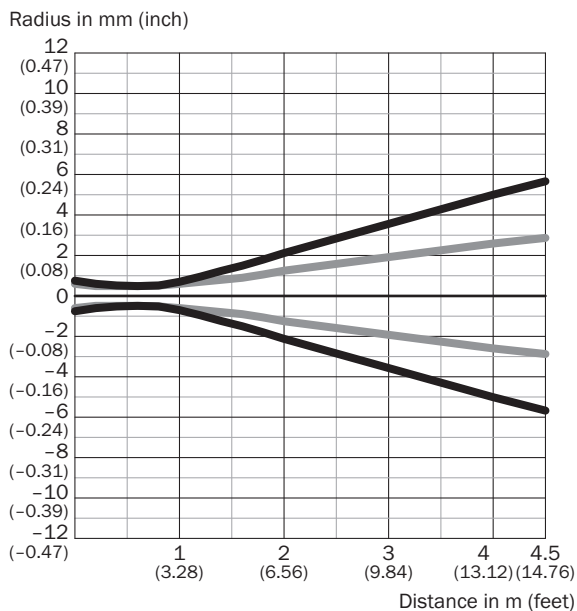
Characteristic curve



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

Light spot size

Overview

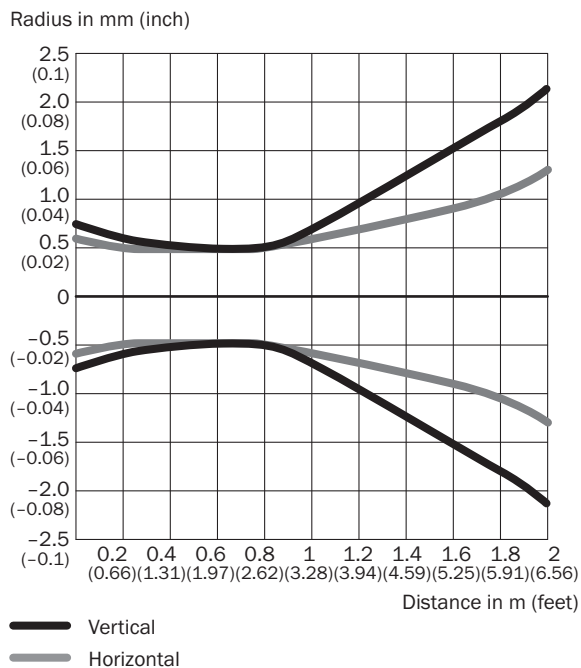


Dimensions in mm (inch)

| Sensing range | Vertical | Horizontal |
|-------------------------------------|-----------------|-----------------|
| 0.5 m (1.64 feet) | < 1.0 (0.04) | < 1.0 (0.04) |
| 1 m (3.28 feet) | 1.5 (0.06) | 1.2 (0.05) |
| 2 m (6.56 feet) | 4.3 (0.17) | 2.6 (0.10) |
| 4.5 m (14.76 feet) | 11.3 (0.44) | 5.6 (0.22) |

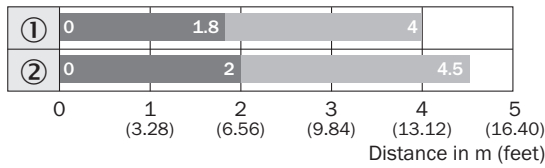
— Vertical
 — Horizontal

Light spot size (detailed view)



— Vertical
 — Horizontal

Sensing range diagram

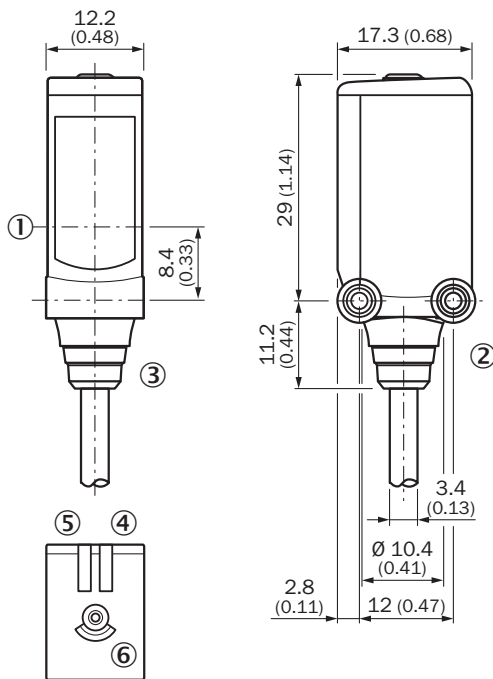


■ Sensing range ■ Sensing range max.

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

Dimensional drawing (Dimensions in mm (inch))





WL4SL-3, WL4SLG-3, WSE4SL-3, cable



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

Recommended accessories

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

| | Brief description | Type | Part no. |
|---|--|---------------|----------|
| Mounting brackets and plates | | | |
|  | Mounting bracket for floor mounting, Stainless steel 1.4571, mounting hardware included | BEF-W4-B | 2051630 |
|  | Universal mounting bracket for reflectors, steel, zinc coated | BEF-WN-REFX | 2064574 |
| Plug connectors and cables | | | |
|  | Head A: male connector, M8, 4-pin, straight Cable: unshielded | STE-0804-G | 6037323 |
| Reflectors | | | |
|  | Suitable for laser sensors, self-adhesive, cut, see alignment note, 56.3 mm x 56.3 mm, self-adhesive | REF-AC1000-56 | 4063030 |

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