



WSE4SL-3P1137V

W4

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

| Type | Part no. |
|----------------|----------|
| WSE4SL-3P1137V | 1115139 |

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



Detailed technical data

Features

| | |
|---|---|
| Functional principle | Through-beam photoelectric sensor |
| Sensing range max. | 0 m ... 60 m |
| Sensing range | 0 m ... 50 m |
| Emitted beam | |
| Light source | Laser ¹⁾ |
| 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 | Single teach-in button |
| Special applications | Hygienic and washdown zones, Detecting small objects |
| Part number of individual components | 2064101 WS4SL-3D1136V, 2119595 WE4SL-3P1132V |
| Housing design | Washdown ²⁾ |
| Mounting hole | M3 |

¹⁾ Average service life: 50,000 h at T_U = +25 °C.

²⁾ 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 | 350 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 | 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_y 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.

Mechanical data

| | |
|-------------------------------|---|
| Housing | Rectangular |
| Design detail | Slim |
| Dimensions (W x H x D) | 15.3 mm x 55.4 mm x 22.2 mm |
| Connection | Cable, 4-wire, 2 m ¹⁾ |
| Connection detail | |
| Conductor size | 0.14 mm ² |
| Length of cable (L) | 2 m ¹⁾ |
| Material | |
| Housing | Metal, Stainless steel V4A (1.4404, 316L) |
| Front screen | Plastic, PMMA |
| Cable | Plastic, PVC |
| Weight | 80 g |

¹⁾ Do not bend below 0 °C.

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

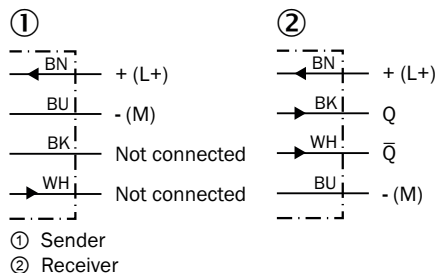
³⁾ Operation below $T_u -10\text{ °C}$ is possible if the sensor is already switched on at $T_u > -10\text{ °C}$, then cools down, and the supply voltage is subsequently not switched off. Switching on below $T_u -10\text{ °C}$ is not permissible.

Classifications

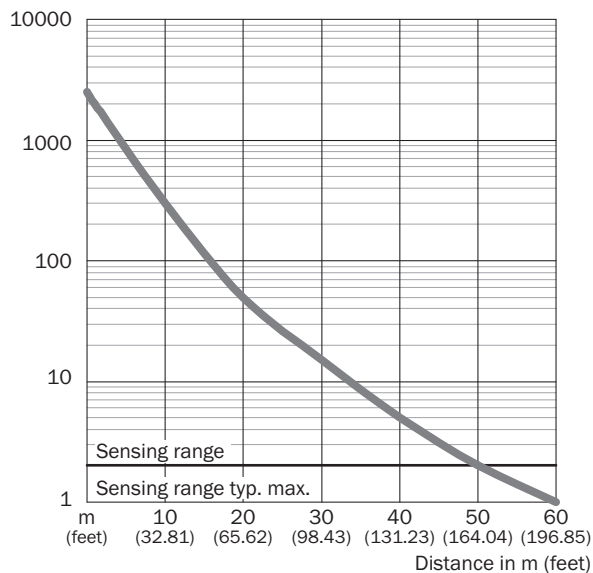
| | |
|-----------------------|----------|
| ECLASS 5.0 | 27270901 |
| ECLASS 5.1.4 | 27270901 |
| ECLASS 6.0 | 27270901 |
| ECLASS 6.2 | 27270901 |
| ECLASS 7.0 | 27270901 |
| ECLASS 8.0 | 27270901 |
| ECLASS 8.1 | 27270901 |
| ECLASS 9.0 | 27270901 |
| ECLASS 10.0 | 27270901 |
| ECLASS 11.0 | 27270901 |
| ECLASS 12.0 | 27270901 |
| ETIM 5.0 | EC002716 |
| ETIM 6.0 | EC002716 |
| ETIM 7.0 | EC002716 |
| ETIM 8.0 | EC002716 |
| UNSPSC 16.0901 | 39121528 |

Connection diagram

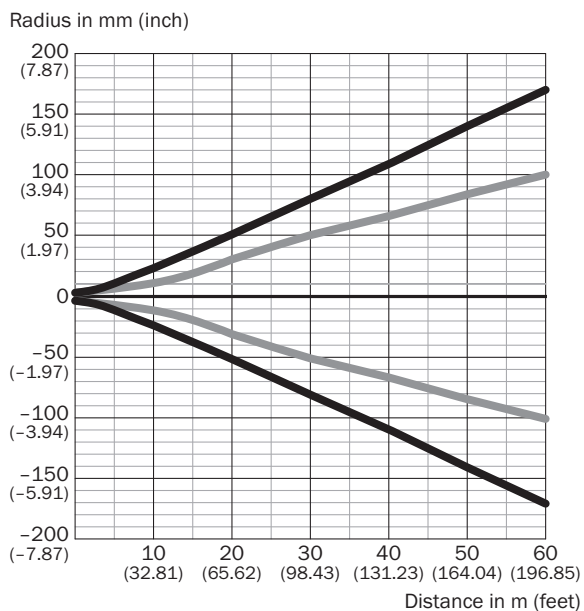
Cd-231



Characteristic curve



Light spot size



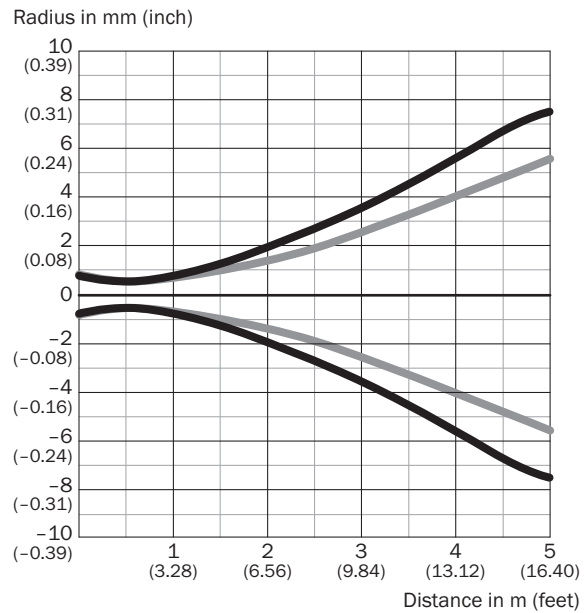
Dimensions in mm (inch)

| 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) |
| 5 m (16.40 feet) | 15 (0.59) | 11 (0.43) |
| 10 m (32.81 feet) | 45 (1.77) | 28 (1.10) |
| 60 m (196.85 feet) | 336 (13.23) | 200 (7.87) |

— Vertical
 — Horizontal

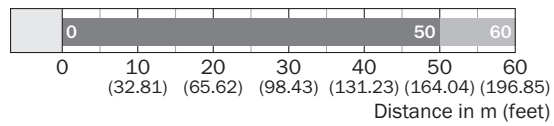
Light spot size (detailed view)

Detailed view close range



- Vertical
- Horizontal

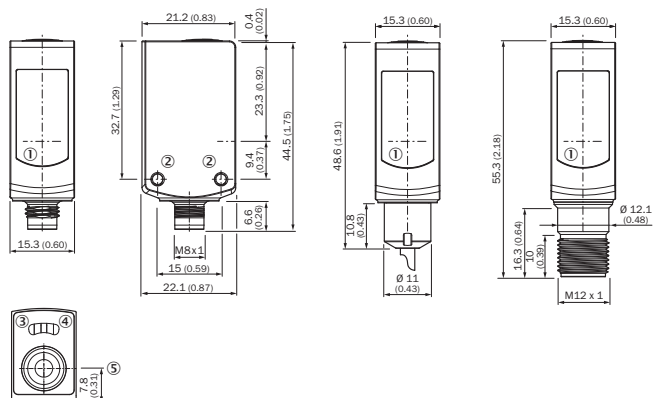
Sensing range diagram



- Sensing range
- Sensing range typ. max.

Dimensional drawing (Dimensions in mm (inch))


WSE4SL-3, WL4SLG-3



- 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

Recommended accessories

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

| | Brief description | Type | Part no. |
|---|--|------------|----------|
| Others | | | |
|  | <ul style="list-style-type: none"> • Connection type head A: Male connector, M8, 4-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: 0.14 mm² ... 0.5 mm² | STE-0804-G | 6037323 |

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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