



WSE4SL-3N1137V

W4

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	Part no.
WSE4SL-3N1137V	1058270

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 2064104 WE4SL-3N1132V
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	NPN 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.

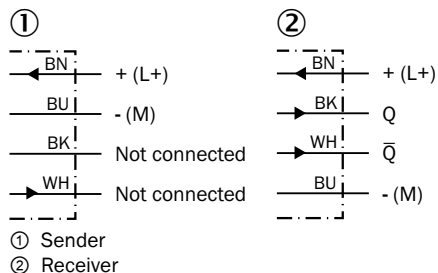
³⁾ Operation below $T_u -10\text{ °C}$ is possible if the sensor is already switched on at $T_u > -10\text{ °C}$, then cools down, and the supply voltage is subsequently not switched off. Switching on below $T_u -10\text{ °C}$ is not permissible.

Classifications

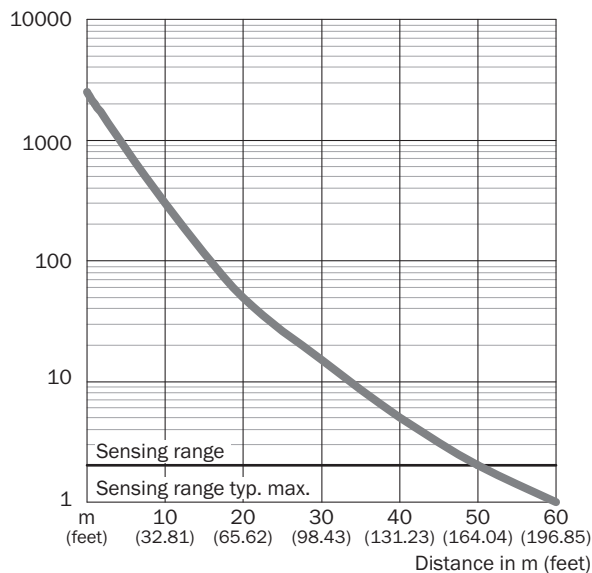
ECLASS 5.0	27270901
ECLASS 5.1.4	27270901
ECLASS 6.0	27270901
ECLASS 6.2	27270901
ECLASS 7.0	27270901
ECLASS 8.0	27270901
ECLASS 8.1	27270901
ECLASS 9.0	27270901
ECLASS 10.0	27270901
ECLASS 11.0	27270901
ECLASS 12.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC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

Connection diagram

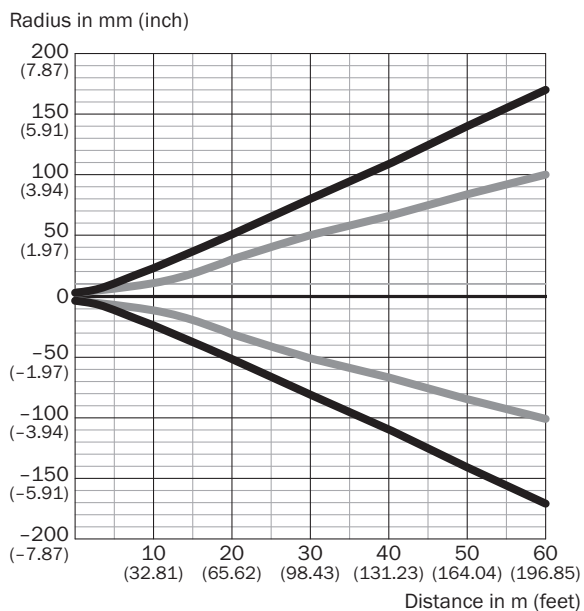
Cd-231



Characteristic curve



Light spot size



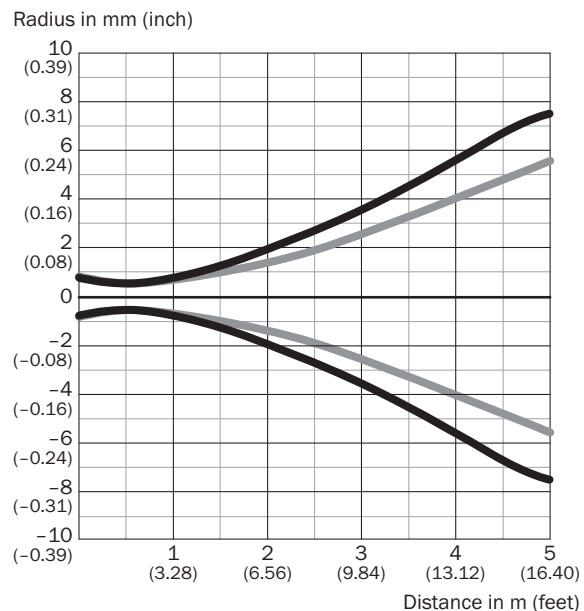
Dimensions in mm (inch)

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

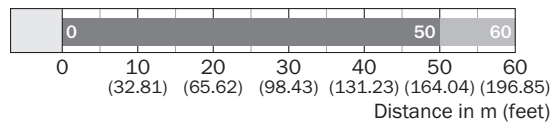
Light spot size (detailed view)

Detailed view close range



— Vertical
 — Horizontal

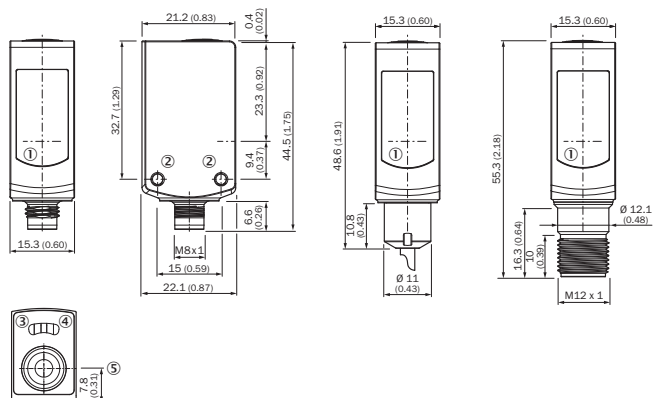
Sensing range diagram



■ 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

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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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