



DATA SHEET

WSE4SL-3P1137V

W4
Photoelectric sensors

SICK Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

WSE4SL-3P1137V

ORDERING INFORMATION

Type	part no.
WSE4SL-3P1137V	1115139

Further device versions and accessories at 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 ²⁾
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 ³⁾
Mounting hole	M3

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

²⁾ Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

³⁾ 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.

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, 4-wire, 2 m ¹⁾
Connection detail	Conductor size 0.14 mm² 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⁾
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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 $T_u - 10$ °C is possible if the sensor is already switched on at $T_u > -10$ °C, then cools down, and the supply voltage is subsequently not switched off. Switching on below $T_u - 10$ °C is not permissible.

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.

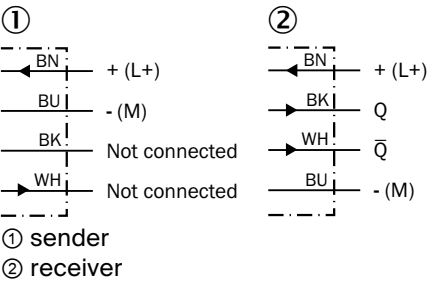
²⁾ As of T_a = 50 °C, a max. supply voltage V_{max} = 24 V and a max. load current I_{max} = 50 mA is permitted.

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.

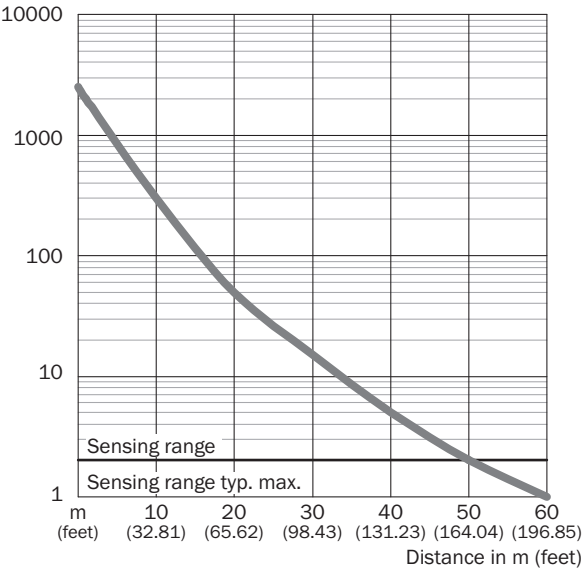
CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) ex-empt	✓
ECOLAB certificate	✓
Laser safety (IEC 60825-1) certificate	✓

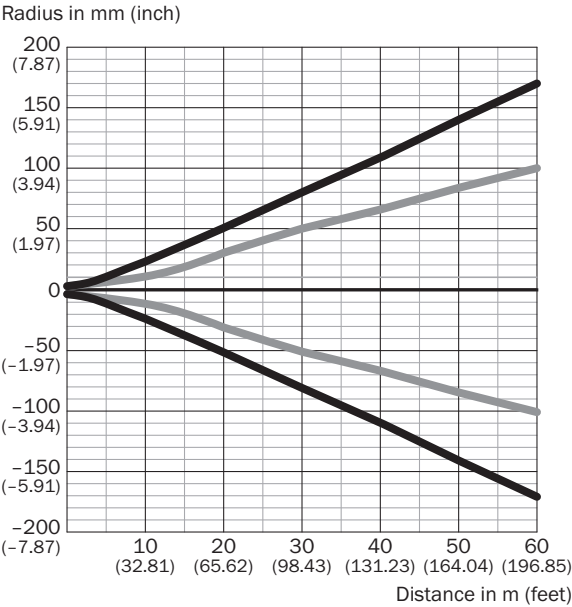
CONNECTION DIAGRAM CD-231



CHARACTERISTIC CURVE



LIGHT SPOT SIZE

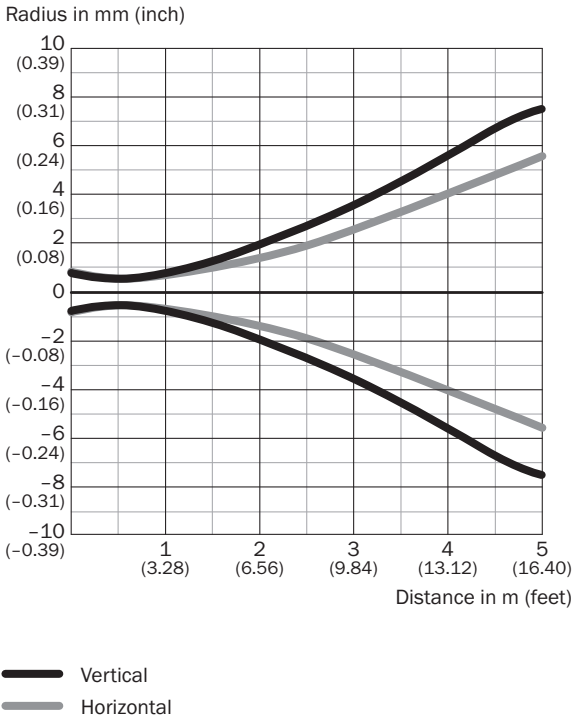


Dimensions in mm (inch)

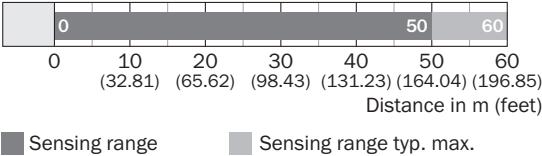
Sensing range	Vertical	Horizontal
0.5 m (1.64 feet)	< 1.0 (0.04)	< 1.0 (0.04)
1 m (3.28 feet)	1.5 (0.06)	1.2 (0.05)
5 m (16.40 feet)	15 (0.59)	11 (0.43)
10 m (32.81 feet)	45 (1.77)	28 (1.10)
60 m (196.85 feet)	336 (13.23)	200 (7.87)

Vertical
Horizontal

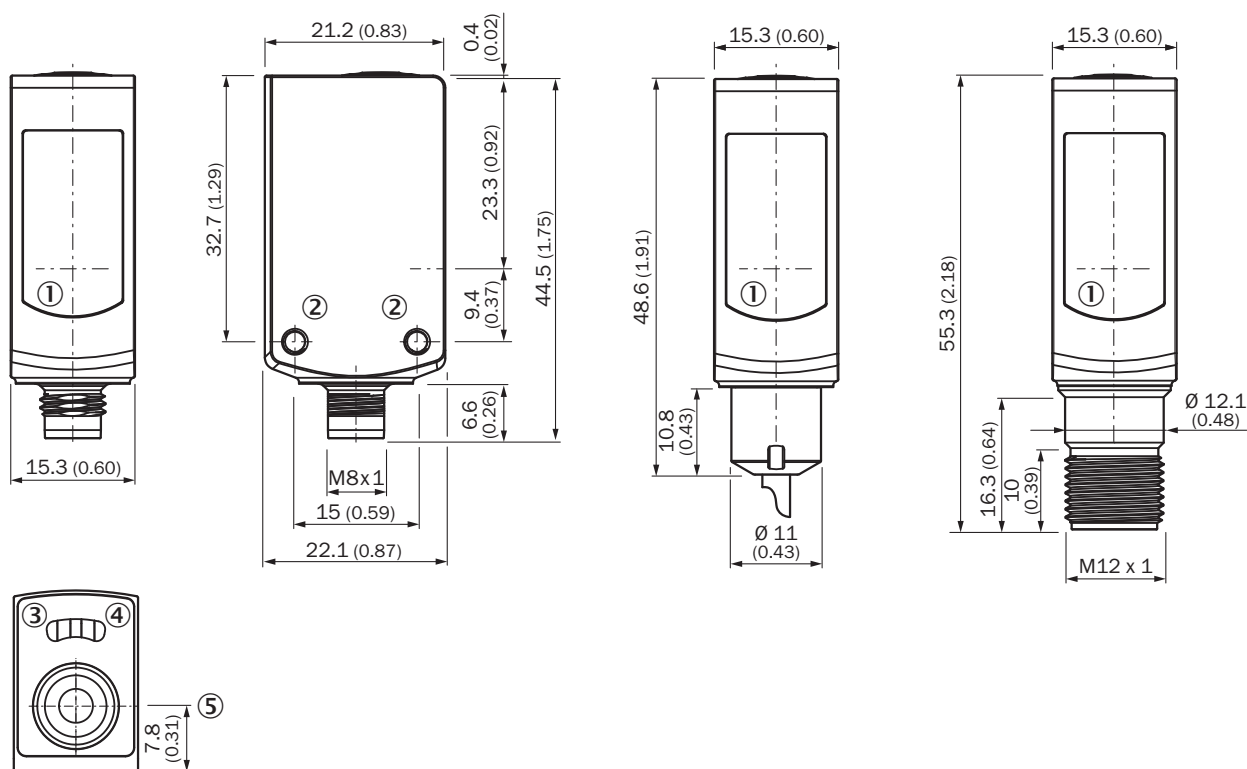
LIGHT SPOT SIZE (DETAILED VIEW) DETAILED VIEW CLOSE RANGE



SENSING RANGE DIAGRAM



DIMENSIONAL DRAWING WSE4SL-3, WL4SLG-3



Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1115139



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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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