



DATA SHEET

WL4SLG-3K2432VS01

W4
Photoelectric sensors

SICK Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

WL4SLG-3K2432VS01

ORDERING INFORMATION

Type	part no.
WL4SLG-3K2432VS01	1065697

Further device versions and accessories at www.sick.com/W4



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 ... 4.5 m ¹⁾ 2)
Sensing range	0 m ... 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 features	Deactivation delay, 15 ms (± 5 %)
Special applications	Hygienic and washdown zones, Detecting transparent objects, Detecting small objects
Housing design	Washdown ⁵⁾
Mounting hole	M3

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⁾ 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.

Off delay	16 ms
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SAFETY-RELATED PARAMETERS

MTTF _D	655 years (EN ISO 13849-1) ¹⁾
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¹⁾ Mode of calculation: Parts-Count-calculation.

ELECTRONICS

Supply voltage U _B	10 V DC ... 24 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} ≤ 50 mA Response time ≤ 0.33 ms ⁵⁾ Switching frequency 1,500 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_B 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_B 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	Male connector M12, 4-pin ¹⁾
Material	Housing Metal, Stainless steel V4A (1.4404, 316L)

¹⁾ Max. tightening torque: 0.7 Nm.

PHOTOELECTRIC SENSORS - WL4SLG-3K2432VS01

	Front screen	Plastic, PMMA
Weight		100 g

¹⁾ Max. tightening torque: 0.7 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.

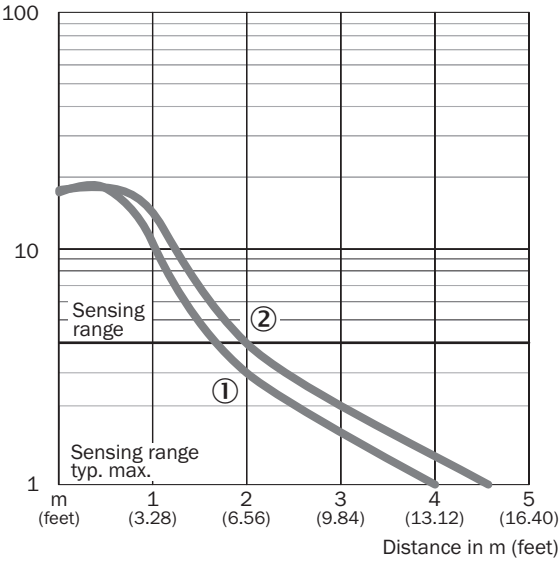
CERTIFICATES

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

CONNECTION DIAGRAM CD-101

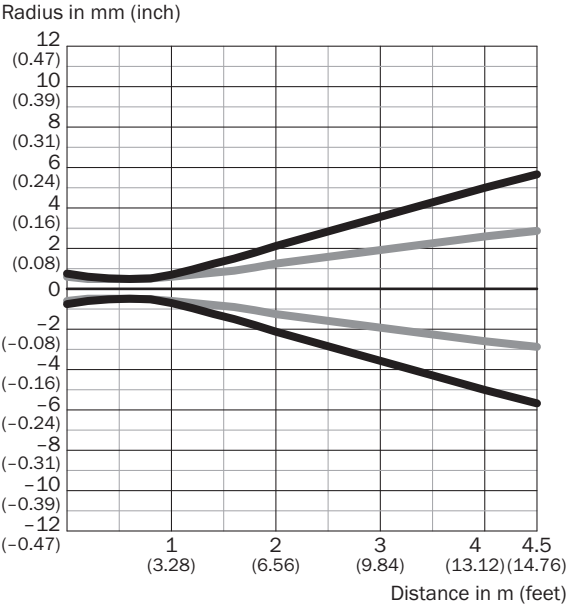


CHARACTERISTIC CURVE



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

LIGHT SPOT SIZE OVERVIEW

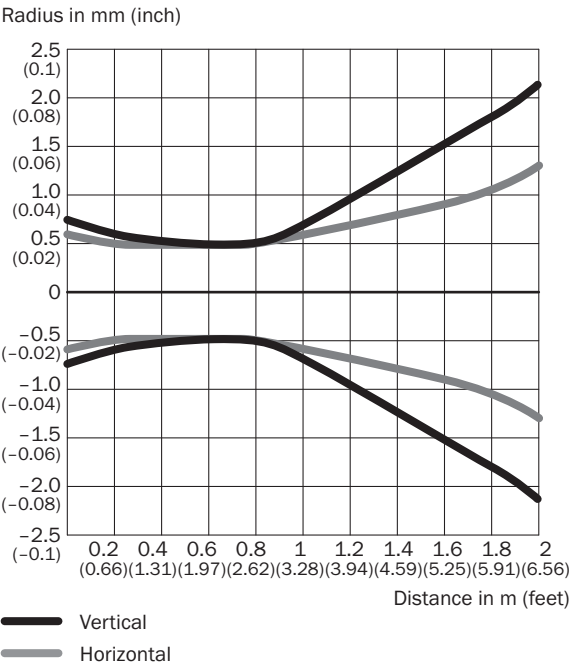


Dimensions in mm (inch)

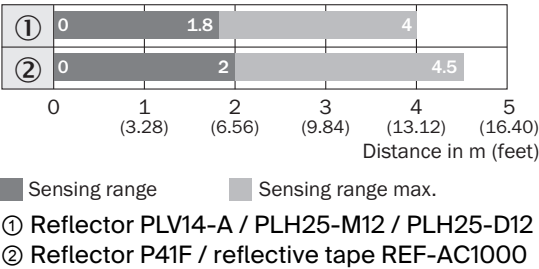
Sensing range	Vertical	Horizontal
0.5 m (1.64 feet)	< 1.0 (0.04)	< 1.0 (0.04)
1 m (3.28 feet)	1.5 (0.06)	1.2 (0.05)
2 m (6.56 feet)	4.3 (0.17)	2.6 (0.10)
4.5 m (14.76 feet)	11.3 (0.44)	5.6 (0.22)

— Vertical
— Horizontal

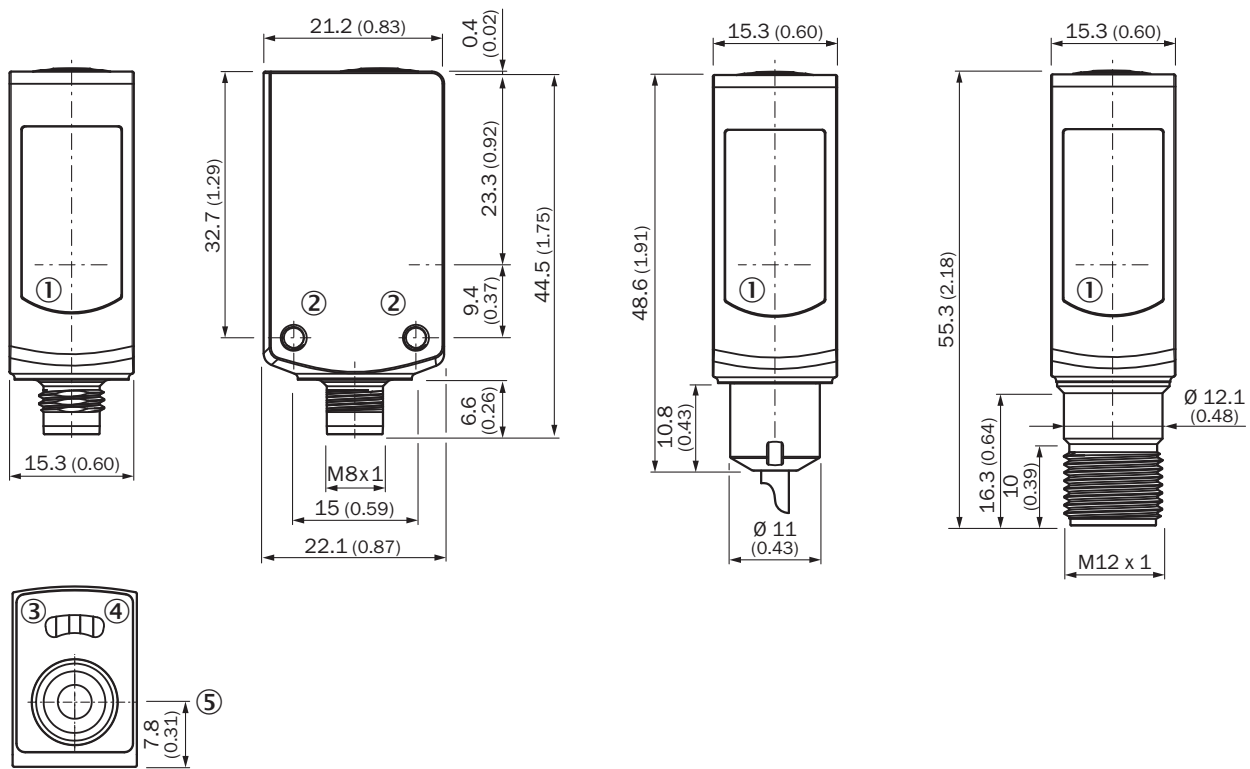
LIGHT SPOT SIZE (DETAILED VIEW)



SENSING RANGE DIAGRAM



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

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/1065697



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SICK AT A GLANCE

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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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