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DATA SHEET

WL4SLG-3P5254H

W4
Photoelectric sensors

SICK Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

WL4SLG-3P5254H

ORDERING INFORMATION

Type	part no.
WL4SLG-3P5254H	1109333

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 ... 3.5 m [1]
Sensing range	0 m ... 2.2 m [1]
Polarisation filter	Yes
Emitted beam	
Light source	Laser [2]
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 [3]
Wave length	650 nm
Adjustment	Teach-in by wire [4]
Special applications	Hygienic and washdown zones, Detecting transparent objects, Detecting small objects
Housing design	Hygiene [5]

[1] Reflective tape REF-AC1000.

[2] Average service life: 50,000 h at T_U = +25 °C.

[3] Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

[4] External teach-in: pulse > 2 s with voltage Uv with PNP and M with NPN.

[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.

SAFETY-RELATED PARAMETERS

$MTTF_D$	589 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
Switching mode	Light switching
Output current $I_{max.}$	≤ 100 mA
Response time	≤ 0.5 ms [4]
Switching frequency	1,000 Hz [5]
Circuit protection	A [6] B [7] C [8]
Special feature	D12 adapter shaft

[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] Signal transit time with resistive load.

[5] With light/dark ratio 1:1.

[6] A = V_S connections reverse-polarity protected.

[7] B = inputs and output reverse-polarity protected.

[8] C = interference suppression.

MECHANICS

Housing	Rectangular
Design detail	Slim
Dimensions (W x H x D)	15.3 mm x 63.2 mm x 22.2 mm
Connection	Male connector M8, 4-pin [1]
Material	
Housing	Metal, Stainless steel V4A (1.4404, 316L)
Front screen	Plastic, PMMA
Weight	140 g

[1] Max. tightening torque: 0.6 Nm.

AMBIENT DATA

Enclosure rating	IP66 IP67 IP68

[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.

	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.

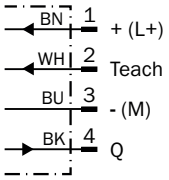
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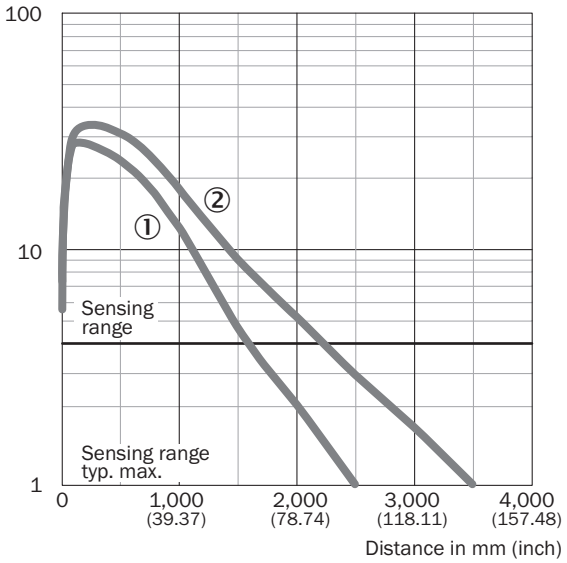
CERTIFICATES

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-092

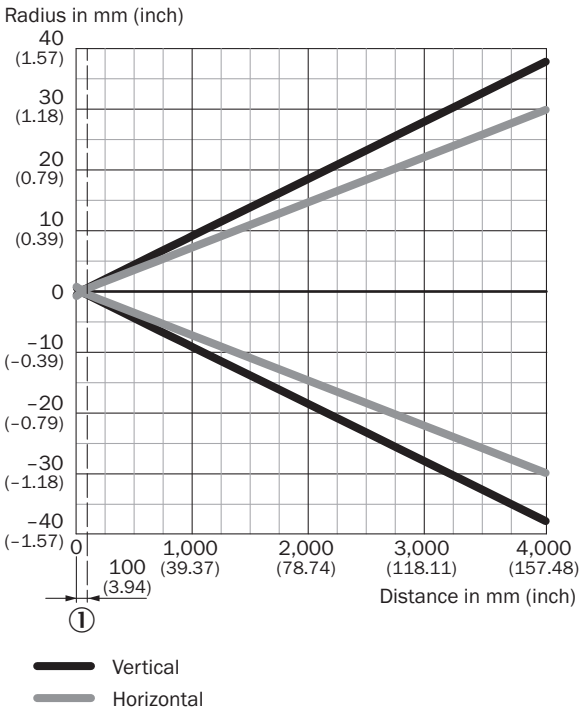


CHARACTERISTIC CURVE



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

LIGHT SPOT SIZE

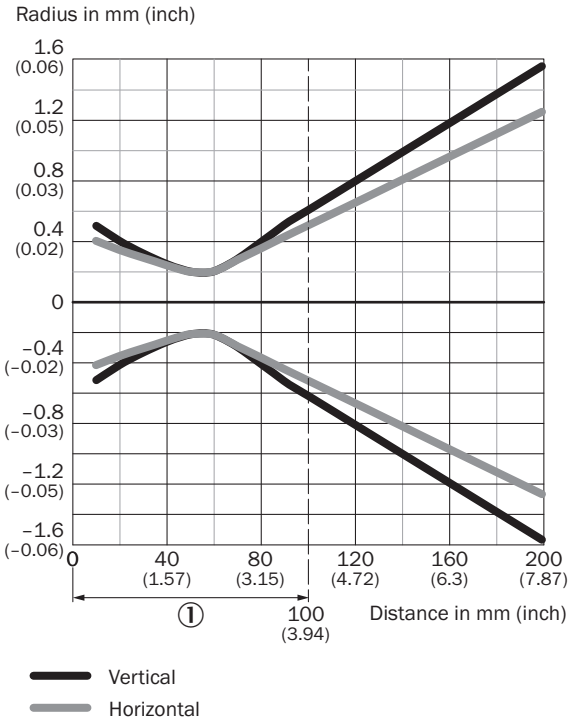


① Minimum distance between sensor and reflector

Dimensions in mm (inch)

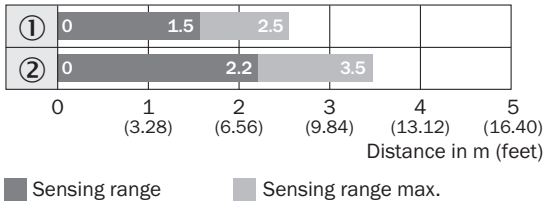
Sensing range	Vertical	Horizontal
60 mm (2.36)	0.4 (0.02)	0.4 (0.02)
200 mm (7.87)	3.2 (0.13)	2.4 (0.09)
2,000 mm (78,74)	40 (1.57)	30 (0.18)
3,500 mm (137.80)	60 (2.36)	50 (1.97)

LIGHT SPOT SIZE (DETAILED VIEW)



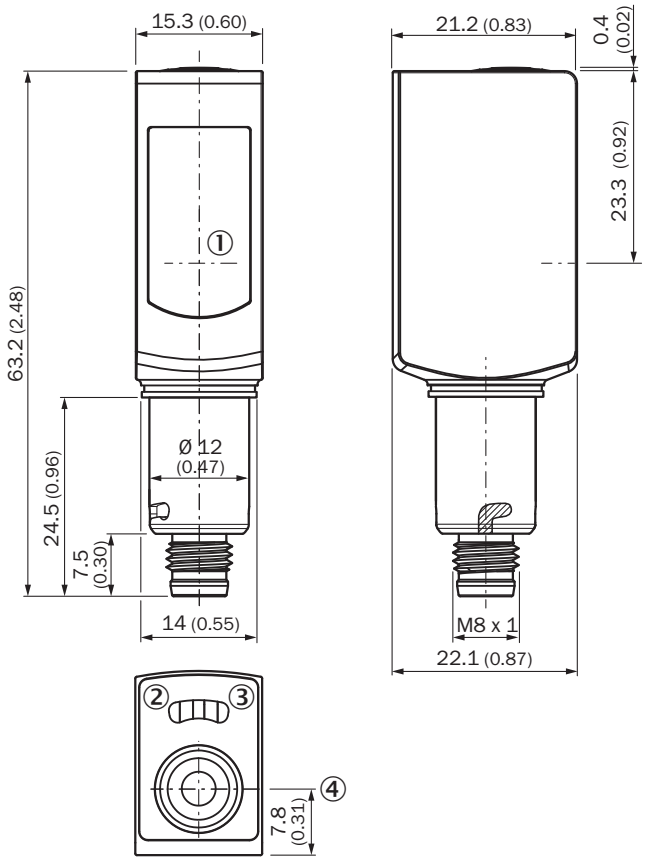
① Minimum distance between sensor and reflector

SENSING RANGE DIAGRAM



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

DIMENSIONAL DRAWING WTB4S-3H, WTF4S-3H, WITH SINGLE TEACH-IN BUTTON, D12 ADAPTER SHAFT, L-ADAPTION



Dimensions in mm (inch)
① Center of optical axis
② LED indicator yellow: Status of received light beam
③ LED indicator green: Supply voltage active
④ 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/1109333

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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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