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DATA SHEET

WL4SLGC-3P5232HA00

W4
Photoelectric sensors

SICK Sensor Intelligence

PHOTOELECTRIC SENSORS

WL4SL- GC-3P5232HA00

ORDERING INFORMATION

Type	part no.
WL4SLGC-3P5232HA00	1153463

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



Illustration may differ

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, IO-Link	
Special applications	Hygienic and washdown zones, Detecting transparent objects, Detecting small objects	
Housing design	Hygiene ⁵⁾	

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.

SAFETY-RELATED PARAMETERS

MTTF _D	655 years (EN ISO 13849-1) ¹⁾
DC _{avg}	0 %

¹⁾ Mode of calculation: Parts-Count-calculation.

COMMUNICATION INTERFACE

IO-Link	✓, IO-Link V1.1
Data transmission rate	COM2 (38,4 kBaud)
Cycle time	2.3 ms
Process data length	16 Bit
Process data structure	Bit 0 = switching signal Q _{L1} Bit 1 = switching signal Q _{L2} Bit 2 ... 15 = empty
VendorID	26
DeviceID HEX	0x8001CE
DeviceID DEC	8389070
Compatible master port type	A
SIO mode support	Yes

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⁾
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⁾ 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
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¹⁾ Max. tightening torque: 0.6 Nm.

PHOTOELECTRIC SENSORS - WL4SLGC-3P5232HA00

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 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.

SMART TASK

Smart Task name	Base logics	
Logic function	Direct AND OR WINDOW Hysteresis	
Timer function	Deactivated Switch-on delay Off delay ON and OFF delay Impulse (one shot)	
Inverter	Yes	
Switching frequency	SIO Direct: 1000 Hz SIO Logic: 1000 Hz IOL: 900 Hz	
Response time	SIO Direct: 300 µs ... 450 µs ¹⁾ SIO Logic: 500 µs ... 600 µs ²⁾ IOL: 500 µs ... 900 µs ³⁾	
Repeatability	SIO Direct: 150 µs ¹⁾ SIO Logic: 150 µs ²⁾ IOL: 400 µs ³⁾	
Switching signal	Switching signal Q_{L1}	Switching output
	Switching signal Q_{L2}	Switching output

¹⁾ SIO Direct: sensor operation in standard I/O mode without IO-Link communication and without using internal sensor logic or time parameters (set to "direct"/"deactivated").

²⁾ SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used.

³⁾ IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.

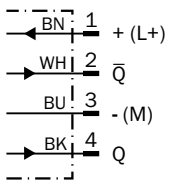
DIAGNOSIS

Device status	Yes
Quality of teach	Yes
Quality of run	Yes, Contamination display

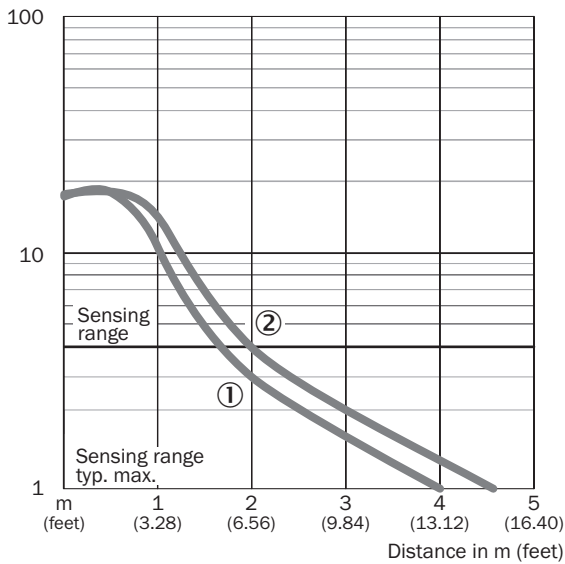
CERTIFICATES

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	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

CONNECTION DIAGRAM CD-083

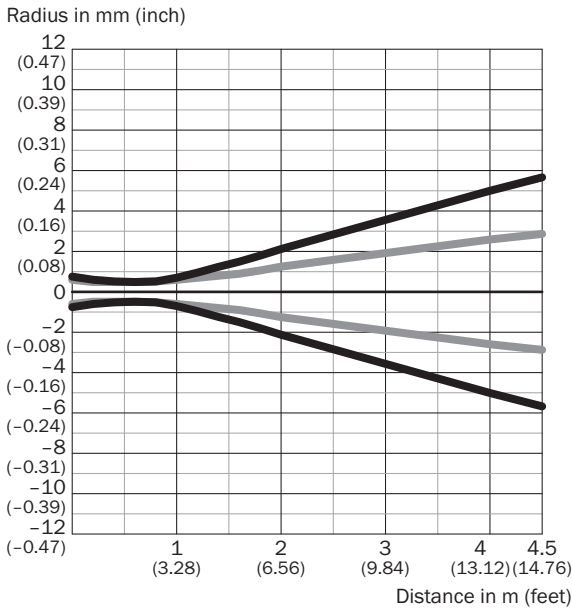


CHARACTERISTIC CURVE



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

LIGHT SPOT SIZE OVERVIEW

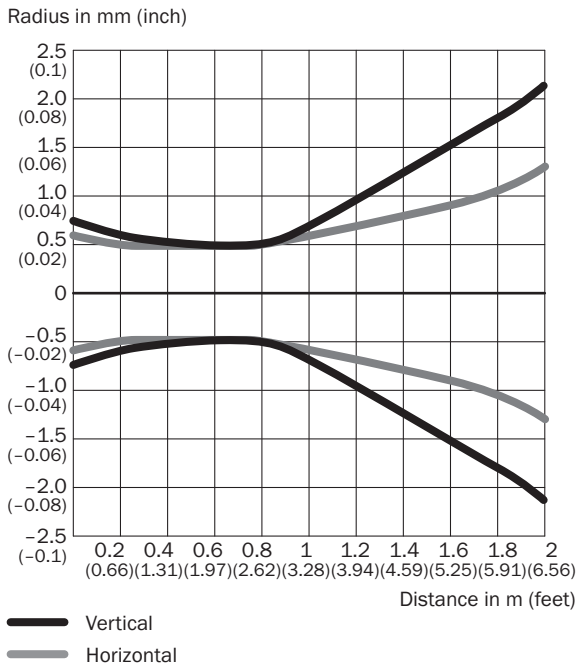


Dimensions in mm (inch)

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)

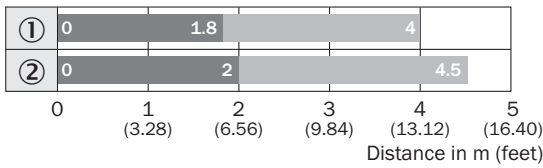
— Vertical
— Horizontal

LIGHT SPOT SIZE (DETAILED VIEW)



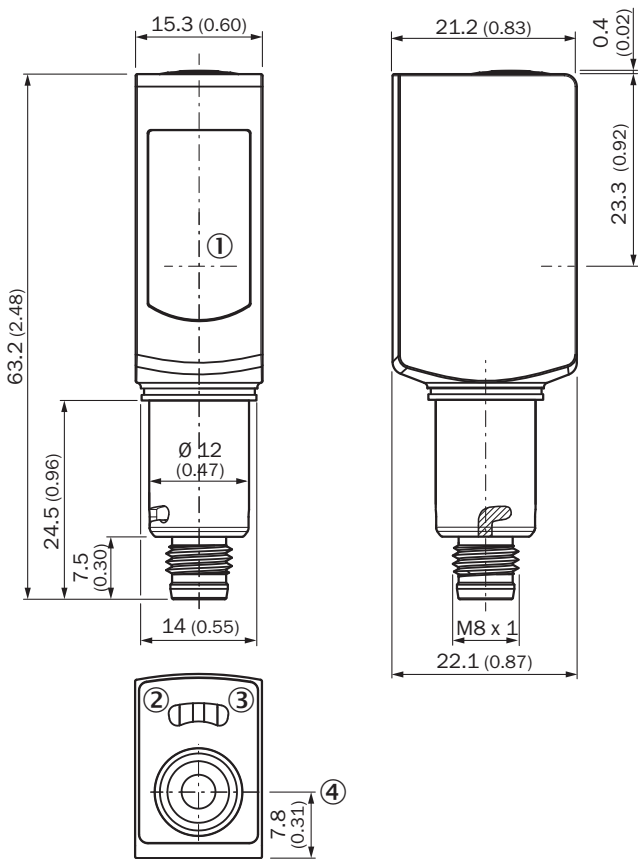
— Vertical
— Horizontal

SENSING RANGE DIAGRAM



- Sensing range ■ Sensing range max.
- 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/1153463



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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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