Product data sheet



WL4SLG-3F2434V

W4

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	Part no.
WL4SLG-3F2434V	1058263

Other models and accessories → www.sick.com/W4

Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Autocollimation
Sensing range max.	0 m ... 4.5 m [1) 2)]
Sensing range	0 m ... 2 m [1) 2)]
Polarisation filters	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
Wave length	650 nm

[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)] Adjustment via cable (ET): white cable or PIN2 according to the desired sensitivity > 2 ... < 8 s or put > 8 s on L+ (PNP) or on M (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.

Adjustment	Cable, Single teach-in button [4]
Special applications	Hygienic and washdown zones, Detecting transparent objects, Detecting small objects
Housing design	Washdown [5]
Mounting hole	M3

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Safety-related parameters

$MTTF_D$	655 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	PNP
Switching mode	Dark 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]

[1] Limit values when operated in short-circuit protected network: max. 8 A.

[2] May not exceed or fall below 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.

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	Male connector M12, 4-pin [1]

[1] Max. tightening torque: 0.7 Nm.

Material	
Housing	Stainless steel, Stainless steel V4A (1.4404, 316L)
Front screen	Plastic, PMMA
Weight	45 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.

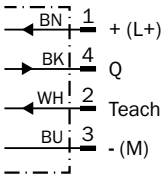
[3] Operation below Tu –10 °C is possible if the sensor is already switched on at Tu > –10 °C, then cools down, and the supply voltage is subsequently not switched off. Switching on below Tu –10 °C is not permissible.

Classifications

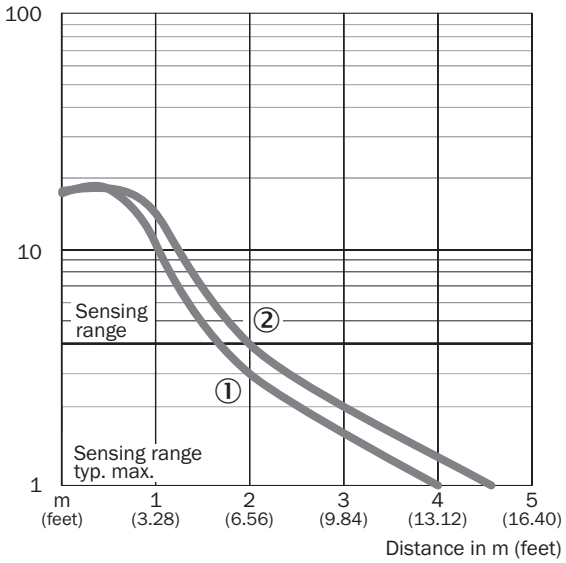
ECLASS 5.0	27270902
ECLASS 5.1.4	27270902
ECLASS 6.0	27270902
ECLASS 6.2	27270902
ECLASS 7.0	27270902
ECLASS 8.0	27270902
ECLASS 8.1	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902
ECLASS 11.0	27270902
ECLASS 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

Connection diagram

Cd-195



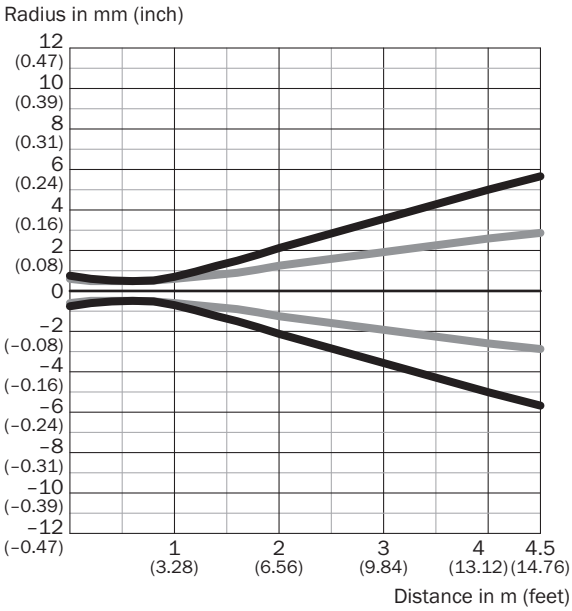
Characteristic curve



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

Light spot size

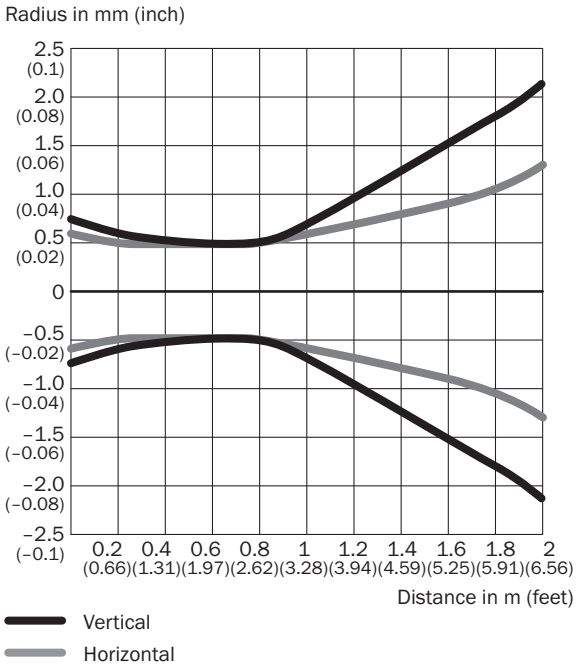
Overview



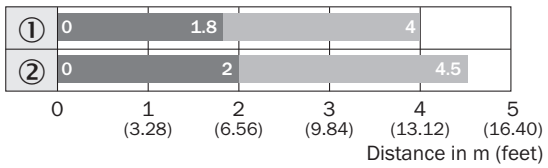
Dimensions in mm (inch)

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)

Light spot size (detailed view)



Sensing range diagram

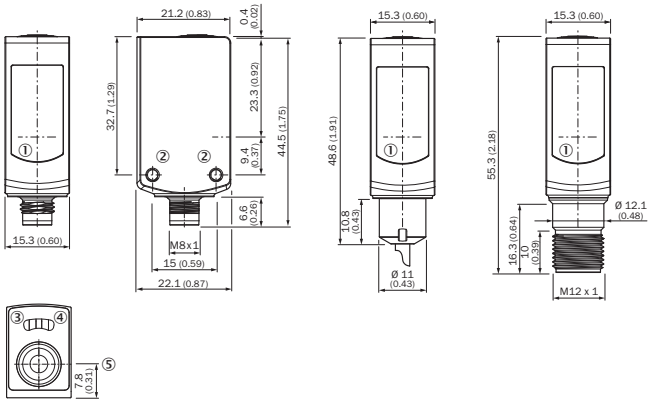


Sensing range Sensing range max.

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

Dimensional drawing (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.
Mounting brackets and plates			
	Mounting bracket for floor mounting, Stainless steel 1.4571, mounting hardware included	BEF-W4-B	2051630

	Brief description	Type	Part no.
Plug connectors and cables			
	• **Connection type head A:** Female connector, M12, 4-pin, straight • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Connection systems:** Flying leads • **Note:** This product is generally resistant to chemical cleaning agents (see ECOLAB). Please do not use cleaning agents of any other Kind., Not resistant against lactic acid & hydrogen peroxide (H2O2) • **Application:** Hygienic and washdown zones	DOL-1204-G05MNI	6052615
Reflectors			
	Stainless steel reflector, washdown design, chemically resistant, IP 69K enclosure rating, screw connection, PMMA front screens, 14 mm, Stainless steel V4A (1.4404, 316L), Screw-on, 2 hole mounting	PLV14-A	2063405

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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.”

WORLDWIDE PRESENCE:

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