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DATA SHEET

WL4S-3V2232V

W4
Photoelectric sensors

SICK Sensor Intelligence

PHOTOELECTRIC SENSORS

WL4S-3V2232V

ORDERING INFORMATION

Type	part no.
WL4S-3V2232V	1046422

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 ... 5 m ¹⁾	
Sensing range	0 m ... 3 m ¹⁾	
Polarisation filter	Yes	
Emitted beam	Light source	PinPoint LED ²⁾
	Type of light	Visible red light
	Light spot size (distance)	Ø 45 mm (1.5 m)
Key LED figures	Wave length	650 nm
Adjustment	Single teach-in button	
Special applications	Hygienic and washdown zones	
Housing design	Washdown	
Alarm output	✓	

¹⁾ Reflector PL80A.

²⁾ Average service life: 100,000 h at T_u = +25 °C.

SAFETY-RELATED PARAMETERS

MTTF _D	1,668 years
DC _{avg}	0 %

T_M (mission time)	20 years
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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	<table border="0"> <tr> <td>Type</td> <td>PNP</td> </tr> <tr> <td>Switching mode</td> <td>Dark switching</td> </tr> <tr> <td>Output current I_{max}</td> <td>≤ 100 mA</td> </tr> <tr> <td>Response time</td> <td>< 0.5 ms ⁴⁾</td> </tr> <tr> <td>Switching frequency</td> <td>1,000 Hz ⁵⁾</td> </tr> </table>	Type	PNP	Switching mode	Dark switching	Output current I_{max}	≤ 100 mA	Response time	< 0.5 ms ⁴⁾	Switching frequency	1,000 Hz ⁵⁾
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Circuit protection	<table border="0"> <tr> <td>A ⁶⁾</td> </tr> <tr> <td>B ⁷⁾</td> </tr> <tr> <td>C ⁸⁾</td> </tr> </table>	A ⁶⁾	B ⁷⁾	C ⁸⁾							
A ⁶⁾											
B ⁷⁾											
C ⁸⁾											

¹⁾ Limit values, reverse-polarity protected, operation in short-circuit protected network; max. 8 A.

²⁾ May not fall below or exceed U_B tolerances.

³⁾ Without load.

⁴⁾ Signal transit time with resistive load.

⁵⁾ With light/dark ratio 1:1.

⁶⁾ A = V_B 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)	15.25 mm x 44.9 mm x 22.2 mm				
Connection	Male connector M8, 4-pin ¹⁾				
Material	<table border="0"> <tr> <td>Housing</td> <td>Metal, Stainless steel V4A (1.4404, 316L)</td> </tr> <tr> <td>Front screen</td> <td>Plastic, PMMA</td> </tr> </table>	Housing	Metal, Stainless steel V4A (1.4404, 316L)	Front screen	Plastic, PMMA
Housing	Metal, Stainless steel V4A (1.4404, 316L)				
Front screen	Plastic, PMMA				
Weight	40 g				

¹⁾ Max. tightening torque: 0.6 Nm.

AMBIENT DATA

Enclosure rating	IP66 IP67 IP68 IP69K ¹⁾
Ambient operating temperature	-30 °C ... +70 °C ²⁾ -30 °C ... +60 °C
Ambient temperature, storage	-30 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

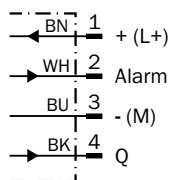
¹⁾ Only in case of correctly mounted IP69K connecting cable.

²⁾ At $UV \leq 24$ V and $IA < 30$ mA.

CERTIFICATES

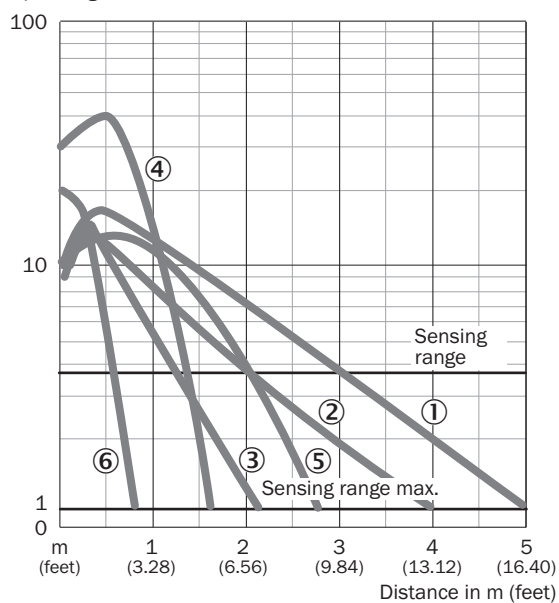
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
ECOLAB certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

CONNECTION DIAGRAM CD-107



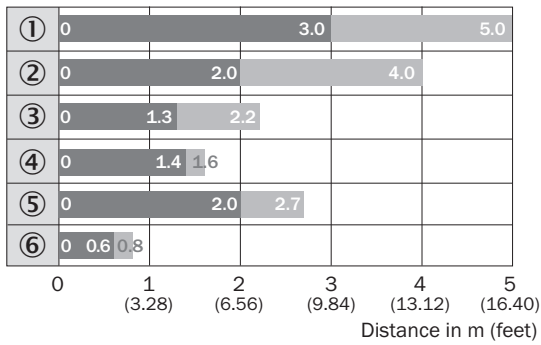
CHARACTERISTIC CURVE WL4S-3, WLG4S-3, 5 M

Operating reserve



- ① Reflector PL80A
- ② Reflector PL40A
- ③ Reflector PL20A
- ④ PL10F reflector
- ⑤ Reflector P250 CHEM
- ⑥ Reflective tape REF-IRF-56

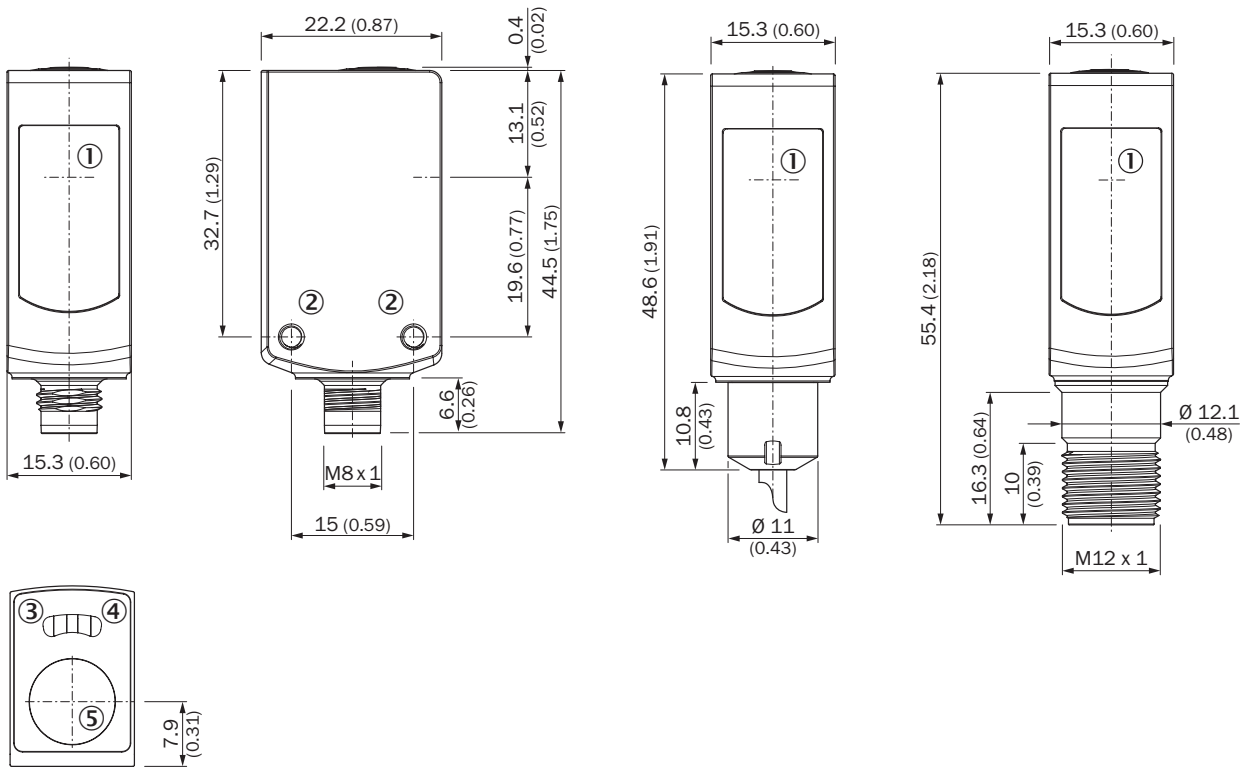
SENSING RANGE DIAGRAM WL4S-3, WLG4S-3, 5 M



■ Sensing range ■ Sensing range max.

- ① Reflector PL80A
- ② Reflector PL40A
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- ⑥ Reflective tape REF-IRF-56

DIMENSIONAL DRAWING WL4S-3V, WLG4S-3V, WITH SINGLE TEACH-IN BUTTON



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 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/1046422



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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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