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DATA SHEET

WL4S-3P2230

W4
Photoelectric sensors

SICK Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

WL4S-3P2230

ORDERING INFORMATION

Type	part no.
WL4S-3P2230	1042066

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 m [1]
Sensing range	0 m ... 2.5 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	None

[1] Reflector PL80A.

[2] Average service life: 100,000 h at T_U = +25 °C.

SAFETY-RELATED PARAMETERS

$MTTF_D$	2,700 years
DC_{avg}	0 %
T_M (mission time)	20 years

ELECTRONICS

Supply voltage U_B	10 V DC ... 30 V DC [1]
Ripple	< 5 V_{pp} [2]
Current consumption	20 mA [3]
Protection class	III
Digital output	
Type	PNP
Switching mode	Light/dark switching
Output current $I_{max.}$	≤ 100 mA
Response time	< 0.5 ms [4]
Switching frequency	1,000 Hz [5]
Circuit protection	A [6] C [7] D [8]

[1] Limit values.

[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] C = interference suppression.

[8] D = outputs overcurrent and short-circuit protected.

MECHANICS

Housing	Rectangular
Design detail	Slim
Dimensions (W x H x D)	12.2 mm x 41.8 mm x 17.3 mm
Connection	Male connector M8, 4-pin
Material	
Housing	Plastic, ABS
Front screen	Plastic, PMMA
Weight	30 g

AMBIENT DATA

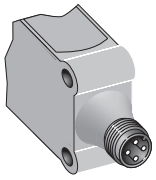
Enclosure rating	IP67 IP66
Ambient operating temperature	–40 °C ... +60 °C
Ambient temperature, storage	–40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

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	✓
Photobiological safety (DIN EN 62471) certificate	✓

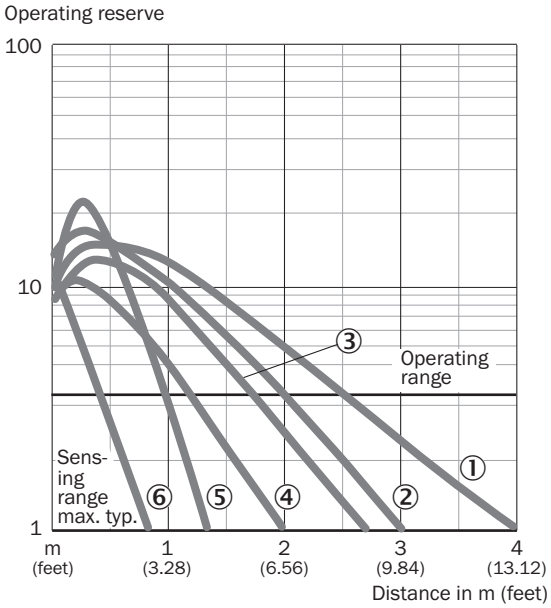
CONNECTION TYPE



CONNECTION DIAGRAM CD-083

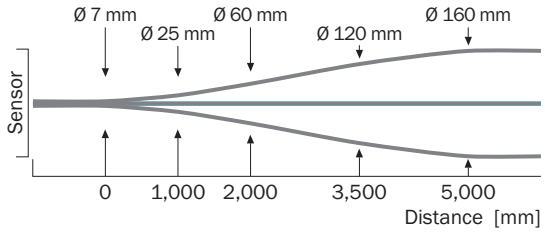


CHARACTERISTIC CURVE WL4S-3

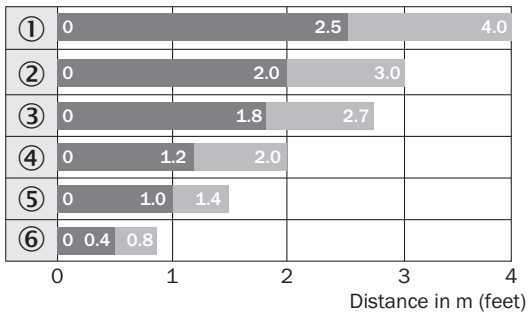


① Reflector PL80A
② Reflector P250F
③ Reflector PL40A
④ Reflector PL20F
⑤ PL10F reflector
⑥ Reflective tape REF-IRF-56

LIGHT SPOT SIZE



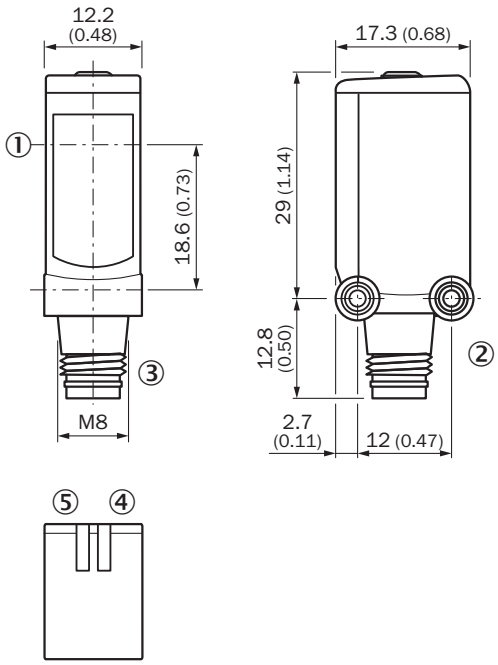
SENSING RANGE DIAGRAM WL4S-3, WLG4S-3, 4 M



Sensing range Sensing range max.

① Reflector PL80A
② Reflector P250F
③ Reflector PL40A
④ Reflector PL20F
⑤ PL10F reflector
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DIMENSIONAL DRAWING WL4S-3, WSE4S-3, POTENTIOMETER



Dimensions in mm (inch)
① Center of optical axis
② Threaded mounting hole M3
③ Connection
④ LED indicator green: Supply voltage active
⑤ LED indicator yellow: Status of received light beam

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/1042066

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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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