

SICK.COM



DATA SHEET

**WL4-3P3230**

W4  
Photoelectric sensors

**SICK** Sensor Intelligence

## PHOTOELECTRIC SENSORS

## WL4-3P3230

## ORDERING INFORMATION

Type	part no.
WL4-3P3230	1028145

Further device versions and accessories at [www.sick.com/W4](http://www.sick.com/W4)



Illustration may differ

## DETAILED TECHNICAL DATA

## FEATURES

Functional principle	Photoelectric retro-reflective sensor	
Functional principle detail	With minimum distance to reflector (dual lens system)	
Sensing range max.	0.01 m ... 4.5 m <sup>1)</sup>	
Sensing range	0.02 m ... 3.5 m <sup>1)</sup>	
Polarisation filter	Yes	
Emitted beam	Light source	PinPoint LED <sup>2)</sup>
	Type of light	Visible red light
	Light spot size (distance)	Ø 75 mm (1.5 m)
Key LED figures	Wave length	650 nm
	Adjustment	None

<sup>1)</sup> Reflector PL80A.

<sup>2)</sup> Average service life: 100,000 h at T<sub>u</sub> = +25 °C.

**ELECTRONICS**

Supply voltage $U_B$	10 V DC ... 30 V DC <sup>1)</sup>										
Ripple	< 5 V <sub>pp</sub> <sup>2)</sup>										
Current consumption	20 mA <sup>3)</sup>										
Protection class	III										
Digital output	<table border="0"> <tr> <td>Type</td> <td>PNP</td> </tr> <tr> <td>Switching mode</td> <td>Light/dark switching</td> </tr> <tr> <td>Output current <math>I_{max}</math></td> <td>≤ 100 mA</td> </tr> <tr> <td>Response time</td> <td>&lt; 0.5 ms <sup>4)</sup></td> </tr> <tr> <td>Switching frequency</td> <td>1,000 Hz <sup>5)</sup></td> </tr> </table>	Type	PNP	Switching mode	Light/dark switching	Output current $I_{max}$	≤ 100 mA	Response time	< 0.5 ms <sup>4)</sup>	Switching frequency	1,000 Hz <sup>5)</sup>
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Switching mode	Light/dark switching										
Output current $I_{max}$	≤ 100 mA										
Response time	< 0.5 ms <sup>4)</sup>										
Switching frequency	1,000 Hz <sup>5)</sup>										
Output function	Complementary										
Circuit protection	A <sup>6)</sup> C <sup>7)</sup> D <sup>8)</sup>										

<sup>1)</sup> Limit values.

<sup>2)</sup> May not fall below or exceed  $U_V$  tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> Signal transit time with resistive load.

<sup>5)</sup> With light/dark ratio 1:1.

<sup>6)</sup> A =  $V_B$  connections reverse-polarity protected.

<sup>7)</sup> C = interference suppression.

<sup>8)</sup> D = outputs overcurrent and short-circuit protected.

**MECHANICS**

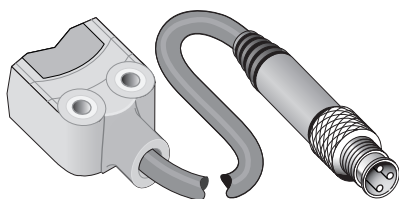
Housing	Rectangular						
Design detail	Flat						
Dimensions (W x H x D)	16 mm x 39.5 mm x 12 mm						
Connection	Cable with M8 male connector, 4-pin <sup>1)</sup>						
Connection detail	<table border="0"> <tr> <td>Length of cable (L)</td> <td>100 mm <sup>1)</sup></td> </tr> </table>	Length of cable (L)	100 mm <sup>1)</sup>				
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Material	<table border="0"> <tr> <td>Housing</td> <td>Plastic, ABS</td> </tr> <tr> <td>Front screen</td> <td>Plastic, PMMA</td> </tr> <tr> <td>Cable</td> <td>Plastic, PVC</td> </tr> </table>	Housing	Plastic, ABS	Front screen	Plastic, PMMA	Cable	Plastic, PVC
Housing	Plastic, ABS						
Front screen	Plastic, PMMA						
Cable	Plastic, PVC						
Weight	30 g						

<sup>1)</sup> Do not bend below 0 °C.

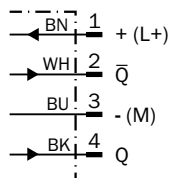
**AMBIENT DATA**

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

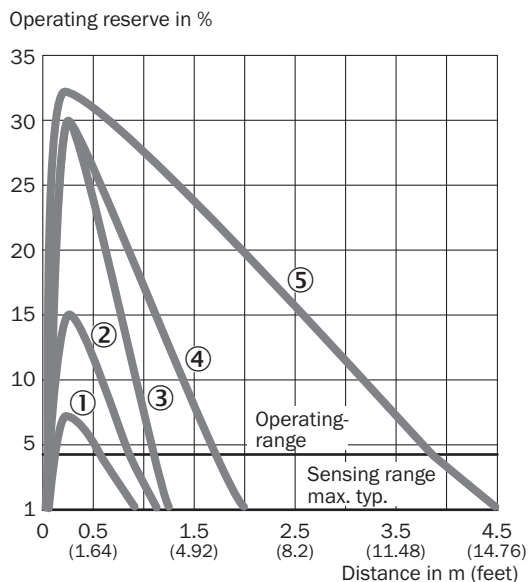
**CONNECTION TYPE**



**CONNECTION DIAGRAM CD-083**

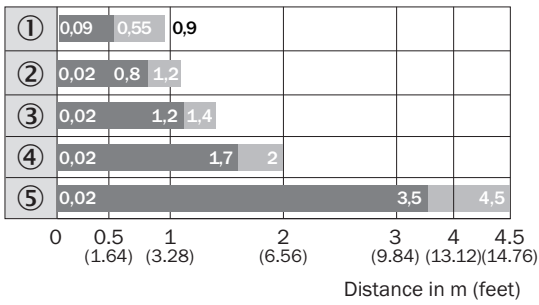


**CHARACTERISTIC CURVE WLG4-3 WITH POLARISATION FILTER**



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

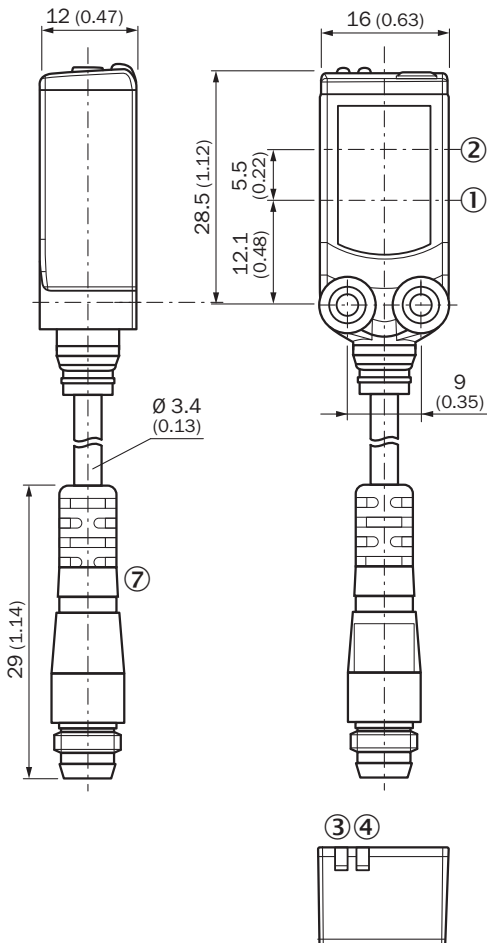
**SENSING RANGE DIAGRAM WLG4-3 WITH POLARISATION FILTER**



■ Sensing range    ■ Sensing range max.

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

**DIMENSIONAL DRAWING WL4-3**



Dimensions in mm (inch)

- ① Center of optical axis, sender
- ② Center of optical axis, receiver
- ③ Orange LED indicator: status of received light beam
- ④ LED indicator green: Supply voltage active
- ⑦ Connection

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/1028145](http://www.sick.com/1028145)



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WALDKIRCH  
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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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