

SICK.COM



DATA SHEET

WLG4-3N1382

W4
Photoelectric sensors

SICK Sensor Intelligence

PHOTOELECTRIC SENSORS

WLG4-3N1382

ORDERING INFORMATION

Type	part no.
WLG4-3N1382	1040493

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



Illustration may differ

DETAILED TECHNICAL DATA

FEATURES

Functional principle	Photoelectric retro-reflective sensor	
Sensing range max.	0.01 m ... 1.6 m ¹⁾	
Sensing range	0.02 m ... 0.9 m ¹⁾	
Emitted beam	Light source	PinPoint LED ²⁾
	Type of light	Visible red light
	Light spot size (distance)	Ø 75 mm (1.5 m)
Key LED figures	Wave length	650 nm
	Adjustment	Single teach-in button
Special features	Without polarisation filter	
Special applications	Detecting transparent objects	
AutoAdapt	✓	

¹⁾ Reflector PL80A.

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

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	<table border="0"> <tr> <td>Type</td> <td>NPN</td> </tr> <tr> <td>Switching mode</td> <td>Light 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	NPN	Switching mode	Light switching	Output current I_{max}	≤ 100 mA	Response time	< 0.5 ms ⁴⁾	Switching frequency	1,000 Hz ⁵⁾
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Switching mode	Light switching										
Output current I_{max}	≤ 100 mA										
Response time	< 0.5 ms ⁴⁾										
Switching frequency	1,000 Hz ⁵⁾										
Attenuation along light beam	> 8 %										
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_B connections reverse-polarity protected.

⁷⁾ C = interference suppression.

⁸⁾ D = outputs overcurrent and short-circuit protected.

MECHANICS

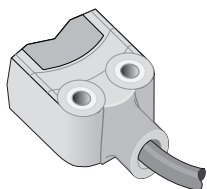
Housing	Rectangular						
Design detail	Flat						
Dimensions (W x H x D)	16 mm x 39.5 mm x 12 mm						
Connection	Cable, 3-wire, 2 m ¹⁾						
Connection detail	<table border="0"> <tr> <td>Conductor size</td> <td>0.14 mm²</td> </tr> <tr> <td>Cable diameter</td> <td>Ø 3.4 mm</td> </tr> <tr> <td>Length of cable (L)</td> <td>2 m ¹⁾</td> </tr> </table>	Conductor size	0.14 mm ²	Cable diameter	Ø 3.4 mm	Length of cable (L)	2 m ¹⁾
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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						

¹⁾ Do not bend below 0 °C.

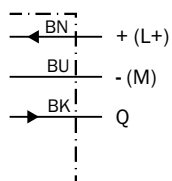
AMBIENT DATA

Enclosure rating	IP67 IP66
Ambient operating temperature	-40 °C ... +60 °C
Ambient temperature, storage	-40 °C ... +75 °C

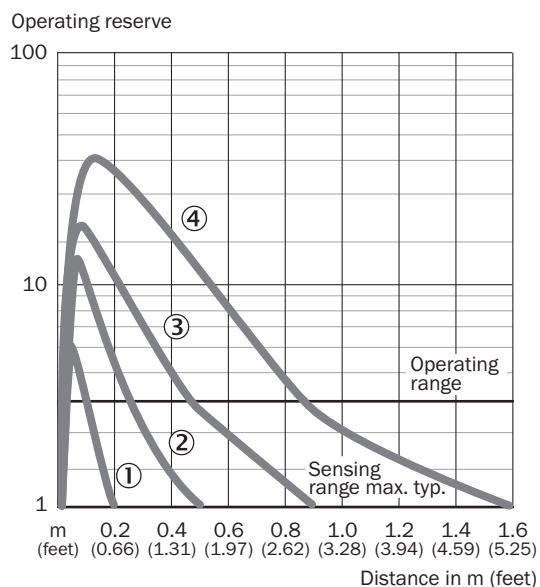
CONNECTION TYPE



CONNECTION DIAGRAM CD-043

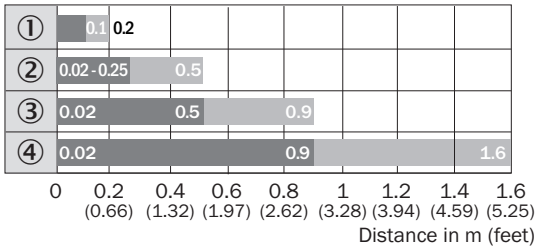


CHARACTERISTIC CURVE WLG4-3 WITHOUT POLARISATION FILTER



- ① PL10F reflector
- ② Reflector PL20A
- ③ Reflector PL40A
- ④ Reflector PL80A

SENSING RANGE DIAGRAM WLG4-3 WITHOUT POLARISATION FILTER



■ Sensing range ■ Sensing range max.

- ① PL10F reflector
- ② Reflector PL20A
- ③ Reflector PL40A
- ④ Reflector PL80A

MODIFIED TEACH MODE

**Geänderter Teach Modus
modified teach mode
WLG4-3**

Bitte neuen Teach-In-Mode ab Herstellungswoche
01/2013 berücksichtigen.

Teach-In-Taste drücken:

- **2 Sek.** für transparente Objekte (8% Schaltschwelle mit autom. Nachführung)
- **8 Sek.** für Standardanwendungen (Schaltschwelle 50%)

Teach-In-Mode **vor** Herstellungswoche **01/2013**

Teach-In-Taste drücken:

- **2 Sek.** (50% Schaltschwelle ohne Nachführung)
 - **8 Sek.** für transparente Objekte (Schaltschwelle 10%)
-

Please consider new teach-in mode as of
production week **01/2013**.

Press teach-in button:

- **2 sec.** for clear objects (8% threshold with continuous threshold adaption)
- **8 sec.** for standard mode (50% threshold)

Teach-In-Mode **before** production week **01/2013**.

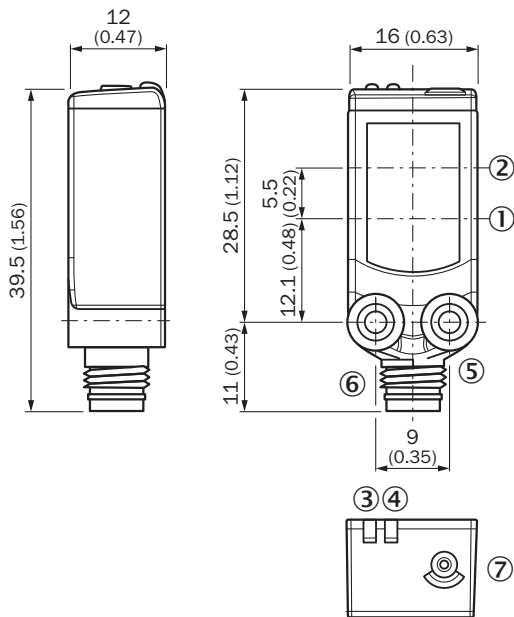
Press teach-in button:

- **2 sec.** (50% threshold without continuous threshold adaption)
 - **8 sec.** for clear objects (threshold 10%)
-

Bsp. Herstellungswoche 1309 = KW09/2013
eg production week 1309 = CW09/2013



DIMENSIONAL DRAWING WLG4-3



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
- ⑤ Threaded mounting hole M3
- ⑥ Connection
- ⑦ 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/1040493



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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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