

SICK.COM



DATA SHEET

GSE6-N1212

G6
Photoelectric sensors

SICK Sensor Intelligence

PHOTOELECTRIC SENSORS

GSE6-N1212

ORDERING INFORMATION

Type	part no.
GSE6-N1212	1060795

Further device versions and accessories at www.sick.com/G6



Illustration may differ



DETAILED TECHNICAL DATA

FEATURES

Functional principle	Through-beam photoelectric sensor	
Sensing range max.	0 m ... 15 m	
Sensing range	0 m ... 10 m	
Polarisation filter	No	
Emitted beam	Light source	PinPoint LED ¹⁾
	Type of light	Visible red light
	Light spot size (distance)	Ø 375 mm (12 m)
Key LED figures	Wave length	650 nm
	Adjustment	Potentiometer, 270°
Items supplied	Stainless steel mounting bracket (1.4301/304) BEF-W100-A	

¹⁾ Average service life: 100,000 h at T_v = +25 °C.

ELECTRONICS

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾														
Ripple	$\pm 10\%$ ²⁾														
Current consumption	30 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/dark switching</td> </tr> <tr> <td>Switching mode selector</td> <td>Selectable via light/dark selector</td> </tr> <tr> <td>Signal voltage PNP HIGH/LOW</td> <td>$V_S - (\leq 3\text{ V}) / \text{approx. } 0\text{ V}$</td> </tr> <tr> <td>Output current I_{max}</td> <td>$\leq 100\text{ mA}$ ⁴⁾</td> </tr> <tr> <td>Response time</td> <td>$< 500\ \mu\text{s}$ ⁵⁾</td> </tr> <tr> <td>Switching frequency</td> <td>1,000 Hz ⁶⁾</td> </tr> </table>	Type	NPN	Switching mode	Light/dark switching	Switching mode selector	Selectable via light/dark selector	Signal voltage PNP HIGH/LOW	$V_S - (\leq 3\text{ V}) / \text{approx. } 0\text{ V}$	Output current I_{max}	$\leq 100\text{ mA}$ ⁴⁾	Response time	$< 500\ \mu\text{s}$ ⁵⁾	Switching frequency	1,000 Hz ⁶⁾
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Circuit protection	<table border="0"> <tr> <td>A</td> <td>⁷⁾</td> </tr> <tr> <td>B</td> <td>⁸⁾</td> </tr> <tr> <td>D</td> <td>⁹⁾</td> </tr> </table>	A	⁷⁾	B	⁸⁾	D	⁹⁾								
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B	⁸⁾														
D	⁹⁾														

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

²⁾ May not fall below or exceed U_V tolerances.

³⁾ Without load.

⁴⁾ At $U_V > 24\text{ V}$, $I_A \text{ max.} = 50\text{ mA}$.

⁵⁾ Signal transit time with resistive load.

⁶⁾ With light/dark ratio 1:1.

⁷⁾ A = V_S connections reverse-polarity protected.

⁸⁾ B = inputs and output reverse-polarity protected.

⁹⁾ D = outputs overcurrent and short-circuit protected.

MECHANICS

Housing	Rectangular						
Dimensions (W x H x D)	12 mm x 31.5 mm x 21 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>Length of cable (L)</td> <td>2 m ¹⁾</td> </tr> </table>	Conductor size	0.14 mm ²	Length of cable (L)	2 m ¹⁾		
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Housing	Plastic, ABS/PC						
Front screen	Plastic, PMMA						
Cable	Plastic, PVC						
Weight	170 g						

¹⁾ Do not bend below 0 °C.

AMBIENT DATA

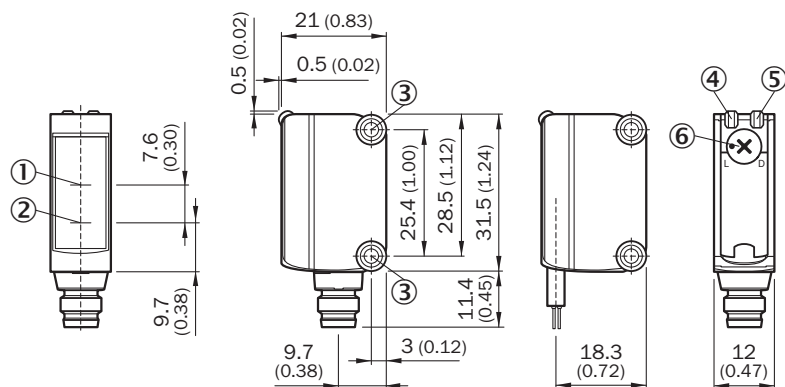
Enclosure rating	IP67
Ambient operating temperature	-25 °C ... +55 °C ¹⁾
Ambient temperature, storage	-40 °C ... +70 °C
UL File No.	NRKH.E348498 & NRKH7.E348498

¹⁾ Temperature stability following adjustment +/-10 °C.

CERTIFICATES

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

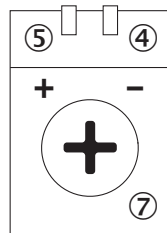
DIMENSIONAL DRAWING



Dimensions in mm (inch)

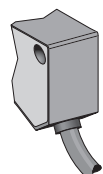
- ① Optical axis, receiver
- ② Optical axis, sender
- ③ Mounting holes M3
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ Light/ dark rotary switch: L = light switching, D = dark switching

ADJUSTMENTS ADJUSTMENT POSSIBILITY

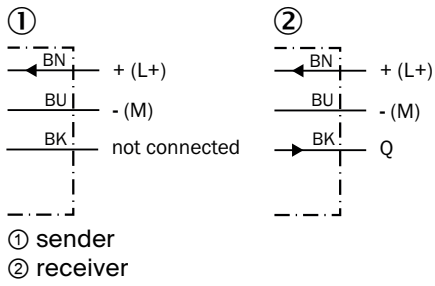


- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑦ Sensitivity control: potentiometer

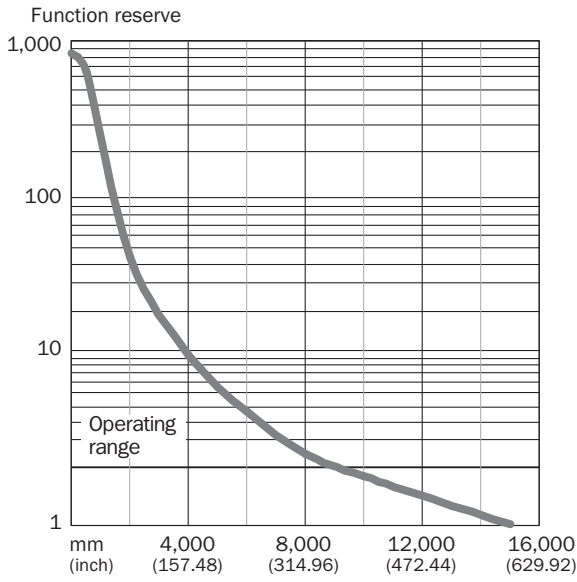
CONNECTION TYPE



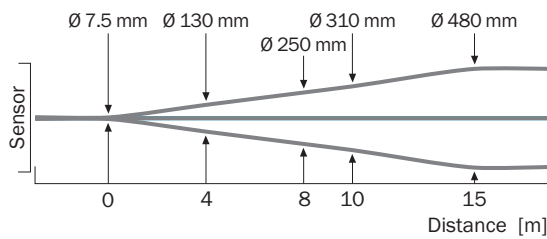
CONNECTION DIAGRAM CD-049



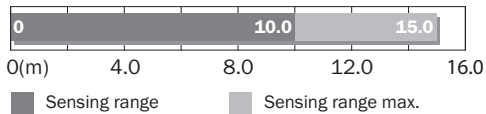
CHARACTERISTIC CURVE WITH GE6-P1111, GE6-N1111, GE6-P1111S63



LIGHT SPOT SIZE



SENSING RANGE DIAGRAM



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/1060795



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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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