



GSE6-P1221

G6

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
GSE6-P1221	1073529

Other models and accessories → www.sick.com/G6

Illustration may differ



Detailed technical data

Features

Functional principle	Through-beam photoelectric sensor	
Sensing range max.	0 m ... 14.5 m	
Sensing range	0 m ... 10.6 m	
Polarisation filter	No	
Emitted beam	Light source	LED ¹⁾
	Type of light	Infrared light
Key LED figures	Wave length	850 nm
	Adjustment	Potentiometer, 270 °
Part number of individual components	2070158 GS6-D1321 2079527 GE6-P1221	

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

Electronics

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	± 10 % ²⁾
Current consumption	30 mA ³⁾
Protection class	III

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

²⁾ May not fall below or exceed U_y tolerances.

³⁾ Without load.

⁴⁾ At U_v > 24 V, I_A max. = 50 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.

Digital output	
Type	PNP
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	$1,000 \text{ Hz}^6)$
Circuit protection	
	A ⁷⁾
	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_y 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	
Conductor size	0.14 mm ²
Length of cable (L)	2 m ¹⁾
Material	
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

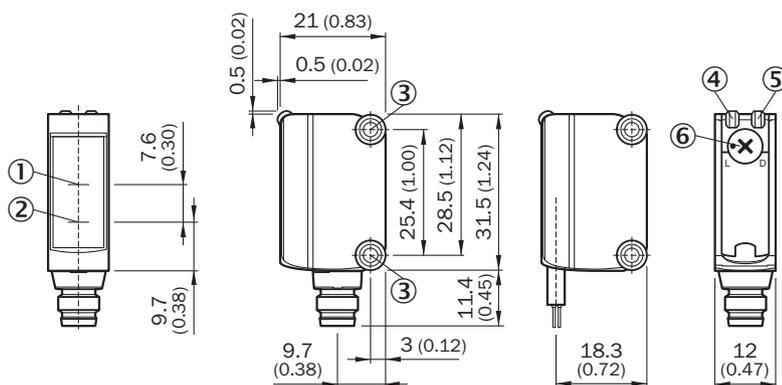
EU declaration of conformity	✓
UK declaration of conformity	✓

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

Classifications

ECLASS 5.0	27270901
ECLASS 5.1.4	27270901
ECLASS 6.0	27270901
ECLASS 6.2	27270901
ECLASS 7.0	27270901
ECLASS 8.0	27270901
ECLASS 8.1	27270901
ECLASS 9.0	27270901
ECLASS 10.0	27270901
ECLASS 11.0	27270901
ECLASS 12.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

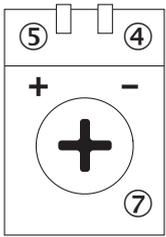
Dimensional drawing



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

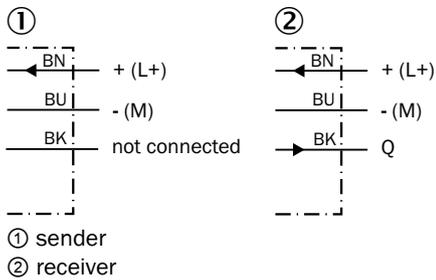


- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑦ Sensitivity control: potentiometer

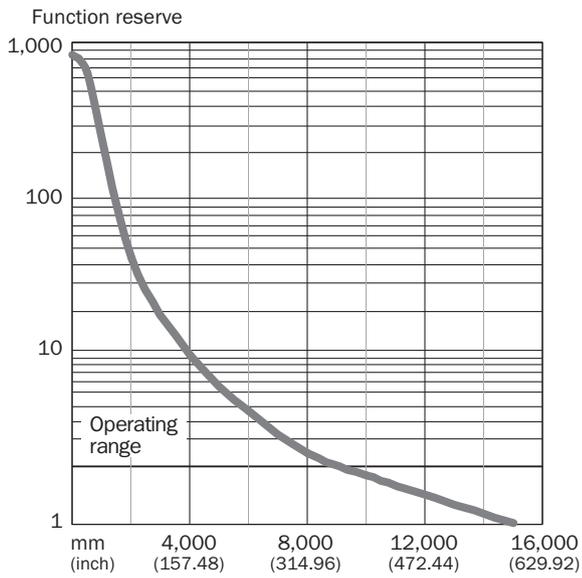
Connection type



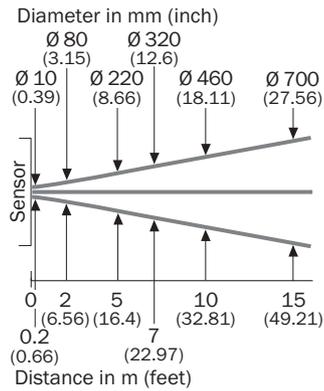
Connection diagram Cd-049



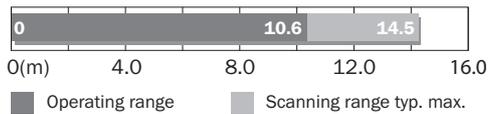
Characteristic curve With GE6-P1111, GE6-N1111, GE6-P1111S63



Light spot size



Sensing range diagram



Recommended accessories

Other models and accessories → www.sick.com/G6

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> Description: Clamp bar to fix G6 sensors on rods of 12 mm, clamp-on design up to 4 mm wall thickness Material: Steel Details: Aluminum (clamp bar), stainless steel (bracket) Items supplied: Clamp bar mounting and clamp function, mounting bracket, mounting hardware 	BEF-KHS-IS12G6	2086865
	<ul style="list-style-type: none"> Material: Stainless steel Details: Stainless steel (1.4301) Suitable for: W4S, W4S 	BEF-WN-G6	2062909
	<ul style="list-style-type: none"> Description: Mounting bracket for wall mounting Material: Stainless steel Details: Stainless steel Items supplied: Mounting hardware included Suitable for: W8, W8G, W8 Laser, W8 Inox, G6, G6 Inox, W100 Laser, W100-2, KTM Core, KTM Prime, CSM, LUTM, W4S 	BEF-W100-A	5311520
connectors and cables			
	<ul style="list-style-type: none"> Description: Unshielded Connection type head A: Male connector, M8, 3-pin, straight, A-coded Connection systems: Screw-type terminals Permitted cross-section: 0.14 mm² ... 0.5 mm² 	STE-0803-G	6037322

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com