



GL6G-P1211

G6

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
GL6G-P1211	1059924

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

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.	0.03 m ... 6 m ¹⁾						
Sensing range	0.07 m ... 5 m ¹⁾						
Polarisation filters	Yes						
Emitted beam	<table> <tr> <td>Light source</td><td>PinPoint LED ²⁾</td></tr> <tr> <td>Type of light</td><td>Visible red light</td></tr> <tr> <td>Light spot size (distance)</td><td>Ø 8 mm (350 mm)</td></tr> </table>	Light source	PinPoint LED ²⁾	Type of light	Visible red light	Light spot size (distance)	Ø 8 mm (350 mm)
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Type of light	Visible red light						
Light spot size (distance)	Ø 8 mm (350 mm)						
Key LED figures	<table> <tr> <td>Wave length</td><td>650 nm</td></tr> </table>	Wave length	650 nm				
Wave length	650 nm						
Adjustment	Potentiometer, 270 °						
Special applications	Detecting transparent objects						

¹⁾ Reflector PL80A.

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

Safety-related parameters

MTTF_D	1,630 years
DC_{avg}	0 %
T_M (mission time)	20 years

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	
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 $I_{\text{max.}}$	$\leq 100\text{ mA}$ ⁴⁾
Response time	$< 625\text{ }\mu\text{s}$ ⁵⁾
Switching frequency	1,000 Hz ⁶⁾
Attenuation along light beam	> 20 %
Circuit protection	A ⁷⁾ B ⁸⁾ D ⁹⁾
Special feature	Detecting transparent objects

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 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.

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	60 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.

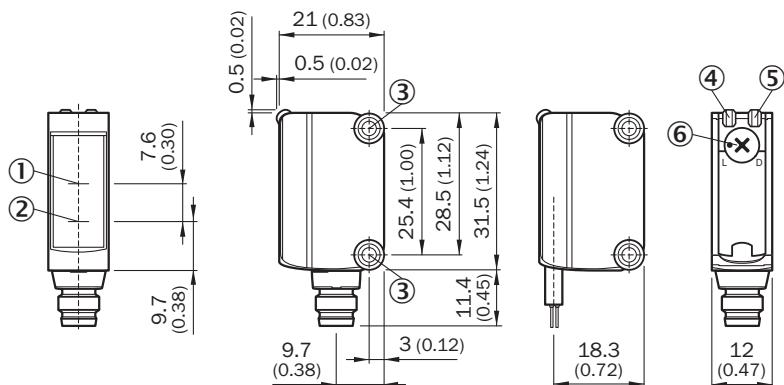
Certificates

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	27270902
ECLASS 5.1.4	27270902
ECLASS 6.0	27270902
ECLASS 6.2	27270902
ECLASS 7.0	27270902
ECLASS 8.0	27270902
ECLASS 8.1	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902
ECLASS 11.0	27270902
ECLASS 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

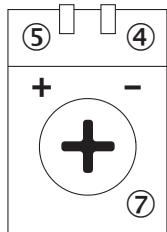
Dimensional drawing



Dimensions in mm (inch)

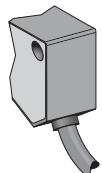
- ① Optical axis, receiver
- ② Optical axis, sender
- ③ Mounting holes M3
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ Light/ dark rotary switch: L = light switching, D = dark switching

Adjustments Adjustment possibility

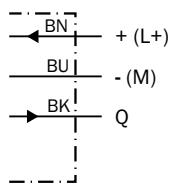


- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑦ Sensitivity control: potentiometer

Connection type

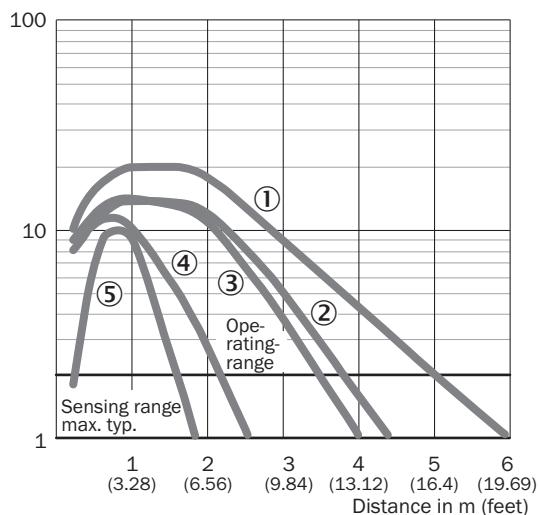


Connection diagram Cd-043



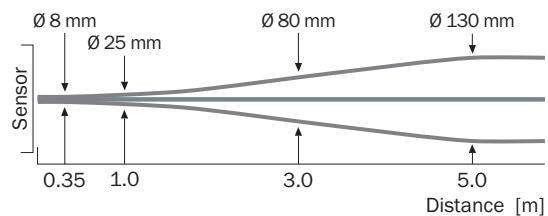
Characteristic curve GL6

Operating reserve

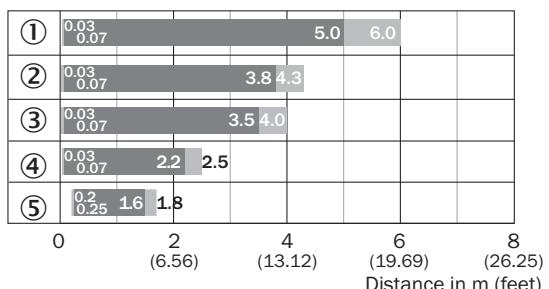


- ① Reflector PL80A
- ② Reflector PL40A
- ③ Reflector P250
- ④ Reflector PL20A
- ⑤ Reflective tape REF-IRF-56

Light spot size GL6, GL6G



Sensing range diagram GL6, GL6G



■ Sensing range ■ Sensing range max.

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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	BEF-WN-G6	2062909
	<ul style="list-style-type: none">• Description: Universal mounting bracket for reflectors• Dimensions (W x H x L): 85 mm x 90 mm x 35 mm• Material: Steel• Details: Steel, zinc coated• Suitable for: C110A, P250, PL20, PL30A, PL40A, PL80A	BEF-WN-REFX	2064574
reflectors and optics			
	<ul style="list-style-type: none">• Description: Rectangular, screw connection• Dimensions: 51 mm x 61 mm• Ambient operating temperature: -30 °C ... +65 °C	P250	5304812
connectors and cables			
	<ul style="list-style-type: none">• Connection type head A: Male connector, M8, 3-pin, straight, A-coded• Description: Unshielded• 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