



# GLD6SP-22A121A0ZZZ

G6

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
GLD6SP-22A121A0ZZZ	1135404

Other models and accessories → [www.sick.com/G6](http://www.sick.com/G6)

Detailed technical data

Features

<b>Functional principle</b>		Photoelectric retro-reflective sensor
<b>Functional principle detail</b>		With minimum distance to reflector (dual lens system)
<b>Sensing range</b>		
	Sensing range min.	0.03 m
	Sensing range max.	6 m
	Maximum distance range from reflector to sensor (operating reserve 1)	0.03 m ... 6 m
	Recommended distance range from reflector to sensor (operating reserve 2)	0.07 m ... 5 m
	Reference reflector	Reflector PL80A
	Recommended sensing range for the best performance	0.25 m ... 1.6 m
<b>Polarisation filters</b>		Yes
<b>Emitted beam</b>		
	Light source	PinPoint LED
	Type of light	Visible red light
	Shape of light spot	Point-shaped
	Light spot size (distance)	Ø 11.5 mm (350 mm)
<b>Key LED figures</b>		
	Normative reference	EN 62471:2008-09   IEC 62471:2006, modified
	LED risk group marking	Free group
	Wave length	640 nm
	Average service life	100,000 h at T <sub>a</sub> = +25 °C
<b>Adjustment</b>		
	None	–
<b>Display</b>		
	LED green	Operating indicatorStatic on: power on
	LED yellow	Status of received light beamStatic on: object not presentStatic off: object present

## Safety-related parameters

<b>MTTF<sub>D</sub></b>	4,112 years
<b>DC<sub>avg</sub></b>	0%
<b>T<sub>M</sub> (mission time)</b>	20 years

## Electronics

<b>Supply voltage U<sub>B</sub></b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	≤ 5 V <sub>pp</sub>
<b>Usage category</b>	DC-12 (According to EN 60947-5-2) DC-13 (According to EN 60947-5-2)
<b>Current consumption</b>	≤ 20 mA, without load. At U <sub>B</sub> = 24 V
<b>Protection class</b>	III
<b>Digital output</b>	
Number	1
Type	PNP
Switching mode	Light switching
Signal voltage PNP HIGH/LOW	Approx. U <sub>B</sub> -3 V / 0 V
Output current I <sub>max.</sub>	≤ 100 mA <sup>2)</sup>
Circuit protection outputs	Reverse polarity protected Overcurrent protected Short-circuit protected
Response time	≤ 625 μs <sup>3)</sup>
Switching frequency	1,000 Hz <sup>4)</sup>
<b>Pin/Wire assignment</b>	
Function of pin 4/black (BK)	Digital output, light switching, object present → output Q LOW

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

<sup>2)</sup> At U<sub>B</sub> > 24 V, I max. = 50 mA.

<sup>3)</sup> Signal transit time with resistive load.

<sup>4)</sup> With light/dark ratio 1:1.

## Mechanics

<b>Housing</b>	Rectangular
<b>Dimensions (W x H x D)</b>	12 mm x 31.6 mm x 21 mm
<b>Connection</b>	Male connector M8, 4-pin
<b>Material</b>	
Housing	Plastic, ABS
Front screen	Plastic, PMMA
Male connector	Metal, copper alloy (C3604 CUZN39PB3)
<b>Weight</b>	Approx. 10 g
<b>Maximum tightening torque of the fixing screws</b>	0.4 Nm

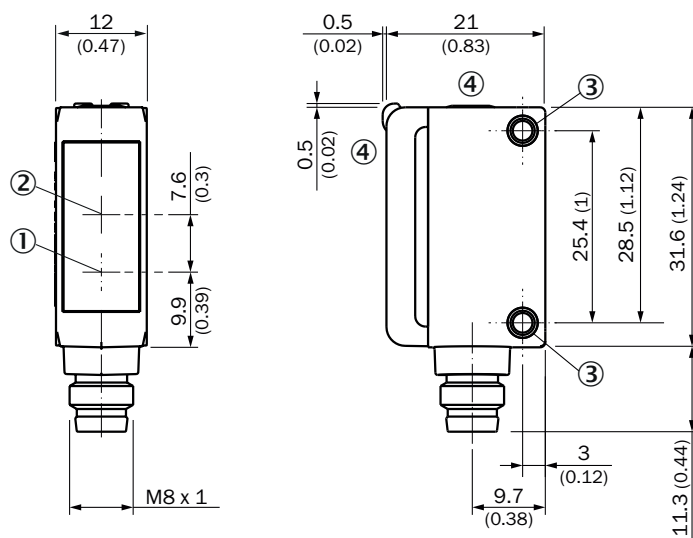
## Ambient data

<b>Enclosure rating</b>	IP67 (EN 60529)
<b>Ambient operating temperature</b>	-30 °C ... +55 °C

## Classifications

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

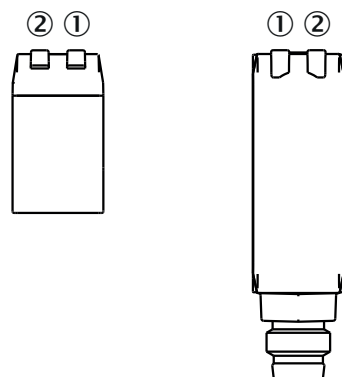
## Dimensional drawing



Dimensions in mm (inch)

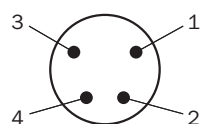
- ① Center of optical axis, sender
- ② Center of optical axis, receiver
- ③ Mounting holes M3
- ④ display and adjustment elements

### display and adjustment elements

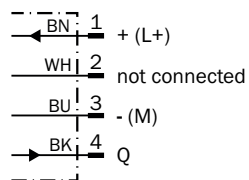


- ① LED green
- ② LED yellow

### Connection type Male connector M8, 4-pin



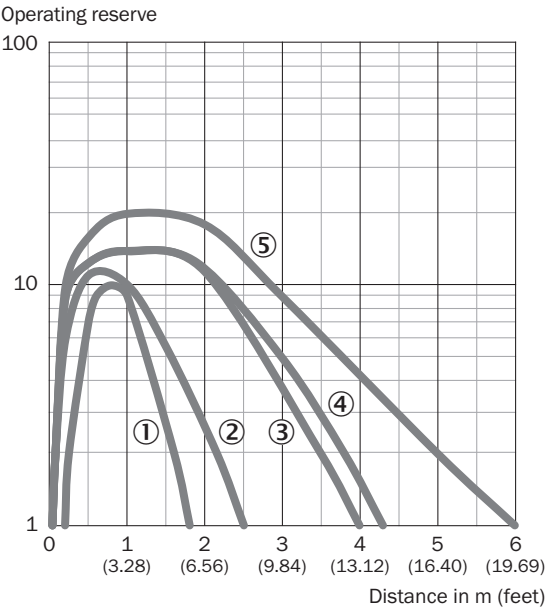
### Connection diagram Cd-066



Truth table PNP - light switching Q

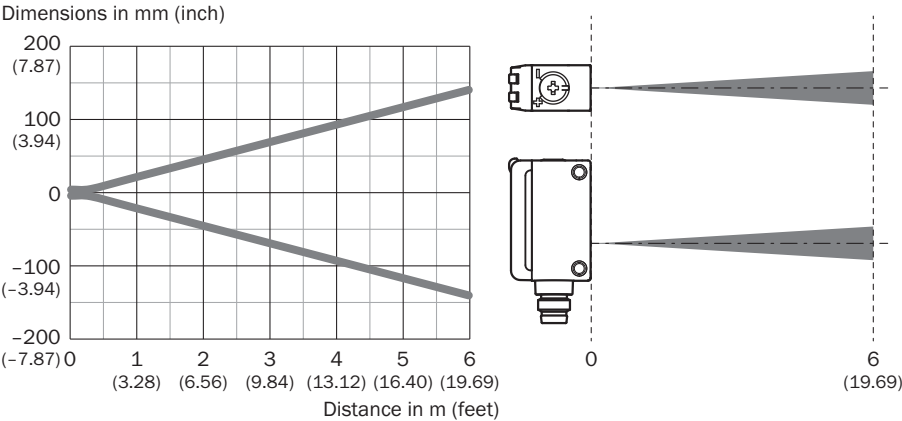
	Light switching Q (normally closed)	
	Object not present → Output HIGH	Object present → Output LOW
Light receive	✓	✗
Light receive indicator	☀	✗
Load resistance	⚡	✗

Characteristic curve

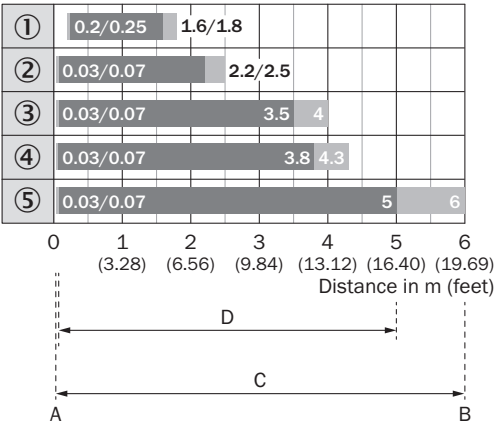


- ① Reflective tape REF-IRF-56
- ② Reflector PL20A
- ③ Reflector P250
- ④ Reflector PL40A
- ⑤ Reflector PL80A

Light spot size







Sensing range diagram



1	Reflective tape REF-IRF-56
2	Reflector PL20A
3	Reflector P250
4	Reflector PL40A
5	Reflector PL80A
A	Sensing range min. in m
B	Sensing range max. in m
C	Maximum distance range from reflector to sensor (operating reserve 1)
D	Recommended distance range from re- flector to sensor (operating reserve 2)

## Recommended accessories

Other models and accessories → [www.sick.com/G6](http://www.sick.com/G6)

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> <li><b>Description:</b> Clamp bar to fix G6 sensors on rods of 12 mm, clamp-on design up to 4 mm wall thickness</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Aluminum (clamp bar), stainless steel (bracket)</li> <li><b>Items supplied:</b> Clamp bar mounting and clamp function, mounting bracket, mounting hardware</li> </ul>	BEF-KHS-IS12G6	2086865
	<ul style="list-style-type: none"> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel (1.4301)</li> <li><b>Suitable for:</b> W4S</li> </ul>	BEF-WN-G6	2062909
	<ul style="list-style-type: none"> <li><b>Description:</b> Universal mounting bracket for reflectors</li> <li><b>Dimensions (W x H x L):</b> 85 mm x 90 mm x 35 mm</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Suitable for:</b> C110A, P250, PL20, PL30A, PL40A, PL80A</li> </ul>	BEF-WN-REFX	2064574
reflectors and optics			
	<ul style="list-style-type: none"> <li><b>Description:</b> Rectangular, screw connection</li> <li><b>Dimensions:</b> 84 mm 84 mm</li> <li><b>Ambient operating temperature:</b> -30 °C ... +65 °C</li> </ul>	PL80A	1003865



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