



**GLD6SP-21A1217EZZZ**

G6

**PHOTOELECTRIC SENSORS**

**SICK**  
Sensor Intelligence.



## Ordering information

Type	part no.
GLD6SP-21A1217EZZZ	1150450

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

Illustration may differ



## 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 $T_a = +25^\circ\text{C}$
<b>Adjustment</b>	
Potentiometer	For setting the sensing range, 270°

<b>Display</b>	Operating mode switch	For inverting the switching function (light/dark switching)
	LED green	Operating indicatorStatic on: power on
	LED yellow	Status of received light beamStatic on: object not presentStatic off: object present

## Electronics

<b>Supply voltage <math>U_B</math></b>	10 V DC ... 30 V DC <sup>1)</sup>	
<b>Ripple</b>	$\leq 5 V_{pp}$	
<b>Usage category</b>	DC-12 (According to EN 60947-5-2) DC-13 (According to EN 60947-5-2)	
<b>Current consumption</b>	$\leq 20 \text{ mA}$ , without load. At $U_B = 24 \text{ V}$	
<b>Protection class</b>	III	
<b>Digital output</b>		
Number	1	
Type	PNP	
Switching mode	Light switching	
Signal voltage PNP HIGH/LOW	Approx. $U_B - 3 \text{ V} / 0 \text{ V}$	
Output current $I_{max.}$	$\leq 100 \text{ mA}$ <sup>2)</sup>	
Circuit protection outputs	Reverse polarity protected Overcurrent protected Short-circuit protected	
Response time	$\leq 625 \mu\text{s}$ <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 $\rightarrow$ output Q LOW	
Function of pin 4/black (BK) – detail	The pin 4 function of the sensor can be switched	
	Additional possible settings via operating mode switch	

<sup>1)</sup> Limit values.<sup>2)</sup> At  $U_B > 24 \text{ V}$ ,  $I_{max.} = 50 \text{ mA}$ .<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>	Connector M8, 3-pin	
<b>Material</b>	Housing Front screen Male connector	Plastic, ABS
		Plastic, PMMA
		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
<b>Ambient temperature, storage</b>	-40 °C ... +70 °C
<b>Typ. Ambient light immunity</b>	Sunlight: ≤ 30,000 lx
<b>Shock resistance</b>	11 ms (3 positive and 3 negative shocks along X, Y, Z axes, 18 total shocks (EN60068-2-27))
<b>Vibration resistance</b>	10 Hz ... 55 Hz (Amplitude 0.5 mm, 3 x 30 min (EN60068-2-6))
<b>Air humidity</b>	35 % ... 95 %, relative humidity (no condensation)
<b>Electromagnetic compatibility (EMC)</b>	EN 60947-5-2
<b>UL File No.</b>	NRKH.E348498 & NRKH7.E348498

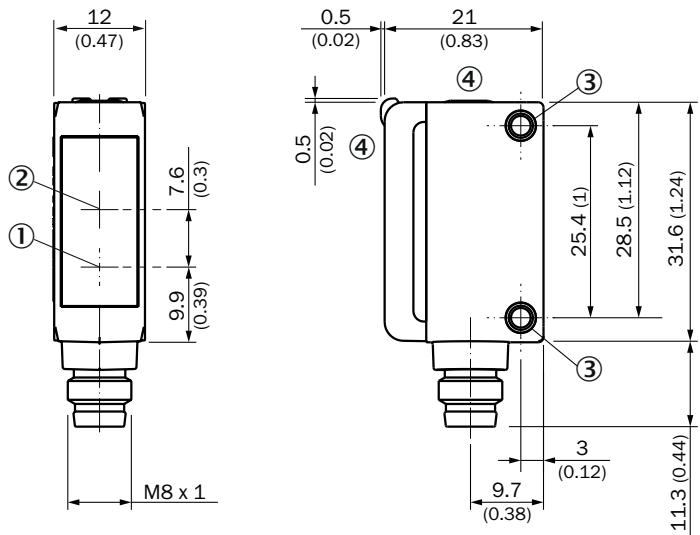
## Certificates

<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>China-RoHS</b>	✓
<b>cULus certificate</b>	✓
<b>Photobiological safety (IEC EN 62471)</b>	✓

## 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

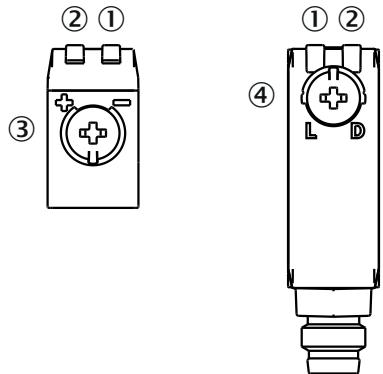
## Dimensional drawing



Dimensions in mm (inch)

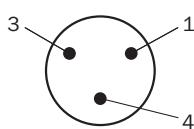
- ① Center of optical axis, sender
- ② Center of optical axis, receiver
- ③ Mounting holes M3
- ④ display and adjustment elements

## display and adjustment elements

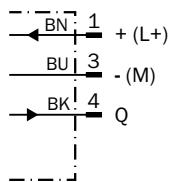


- ① LED green
- ② LED yellow
- ③ Potentiometer
- ④ operating mode switch

## Connection type Connector M8, 3-pin

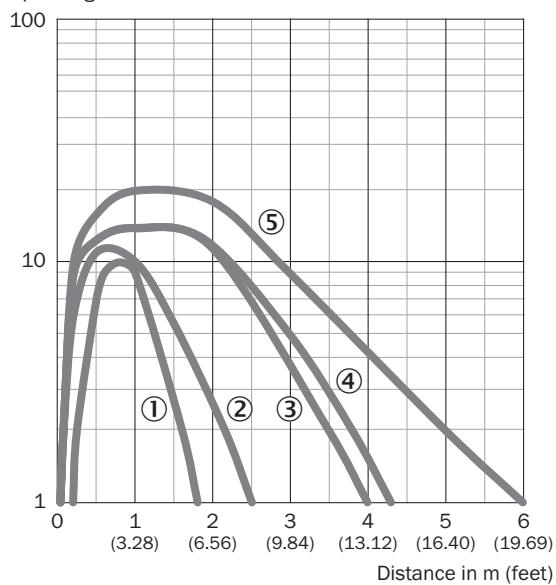


## Connection diagram Cd-045



## Characteristic curve

Operating reserve



① Reflective tape REF-IRF-56

② Reflector PL20A

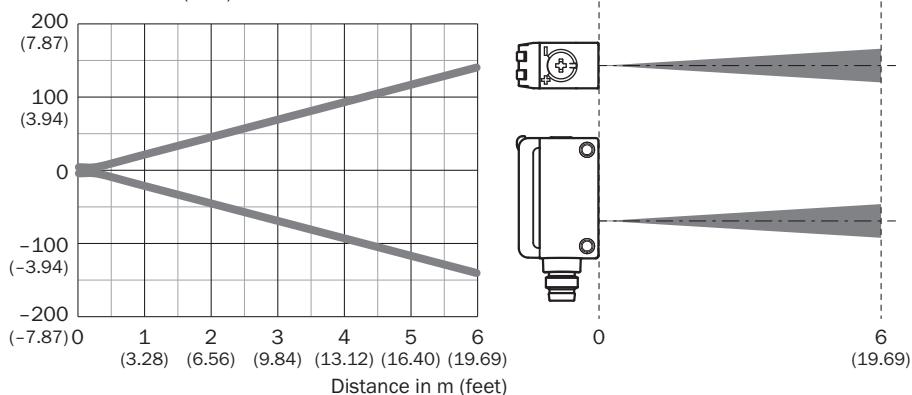
③ Reflector P250

④ Reflector PL40A

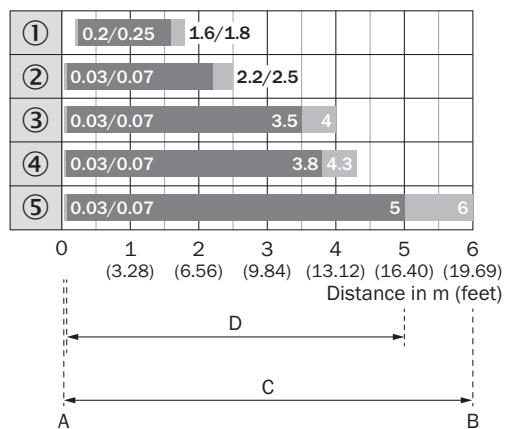
⑤ Reflector PL80A

## Light spot size

Dimensions in mm (inch)



## 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 reflector 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		
	BEF-KHS-IS12G6	2086865
<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> <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
	BEF-WN-REFX	2064574
<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>		

	<b>Brief description</b>	<b>Type</b>	<b>part no.</b>
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)