



GLD6SP-34E1217EZZZ

G6

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
GLD6SP-34E1217EZZZ	1151722

Included in delivery: P250 (1), BEF-W100-A (1)

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		
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	
Polarisation filters	Yes	
Emitted beam		
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)	
Key LED figures		
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 $T_a = +25^\circ\text{C}$	
Adjustment		
Potentiometer	For setting the sensing range, 270°	

Display	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
Items supplied	Mounting bracket BEF-W100-A, Reflector P250	
Electronics		
Supply voltage U_B	10 V DC ... 30 V DC ¹⁾	
Ripple	$\leq 5 \text{ V}_{\text{pp}}$	
Usage category	DC-12 (According to EN 60947-5-2) DC-13 (According to EN 60947-5-2)	
Current consumption	$\leq 20 \text{ mA}$, without load. At $U_B = 24 \text{ V}$	
Protection class	III	
Digital output		
	Number	1
	Type	NPN: open collector
	Switching mode	Light switching
	Signal voltage NPN HIGH/LOW	Approx. $U_B / \leq 3 \text{ V}$
	Output current $I_{\text{max.}}$	$\leq 100 \text{ mA}$ ²⁾
	Circuit protection outputs	Reverse polarity protected
		Overcurrent protected
		Short-circuit protected
	Response time	$\leq 625 \text{ } \mu\text{s}$ ³⁾
	Switching frequency	1,000 Hz ⁴⁾
Pin/Wire assignment		
	Function of pin 4/black (BK)	Digital output, light switching, object present \rightarrow output Q HIGH
	Function of pin 4/black (BK) – detail	The pin 4 function of the sensor can be switched
		Additional possible settings via operating mode switch

¹⁾ Limit values.

²⁾ At $U_B > 24 \text{ V}$, $I_{\text{max.}} = 50 \text{ mA}$.

³⁾ Signal transit time with resistive load.

⁴⁾ With light/dark ratio 1:1.

Mechanics

Housing	Rectangular	
Dimensions (W x H x D)	12 mm x 31.6 mm x 21 mm	
Connection	Cable with M12 male connector, 4-pin, 348 mm	
Connection detail		
	Deep-freeze property	Do not bend below 0 °C
	Conductor size	0.14 mm ²
	Cable diameter	Ø 3.4 mm
	Length of cable (L)	300 mm
Material		
	Housing	Plastic, ABS

Front screen	Plastic, PMMA
Cable	Plastic, PVC
Male connector	Metal, copper alloy (C3604 CUZN39PB3)
Weight	Approx. 23 g
Maximum tightening torque of the fixing screws	0.4 Nm

Ambient data

Enclosure rating	IP67 (EN 60529)
Ambient operating temperature	-30 °C ... +55 °C
Ambient temperature, storage	-40 °C ... +70 °C
Typ. Ambient light immunity	Sunlight: ≤ 30,000 lx
Shock resistance	11 ms (3 positive and 3 negative shocks along X, Y, Z axes, 18 total shocks (EN60068-2-27))
Vibration resistance	10 Hz ... 55 Hz (Amplitude 0.5 mm, 3 x 30 min (EN60068-2-6))
Air humidity	35 % ... 95 %, relative humidity (no condensation)
Electromagnetic compatibility (EMC)	EN 60947-5-2
UL File No.	NRKH.E348498 & NRKH7.E348498

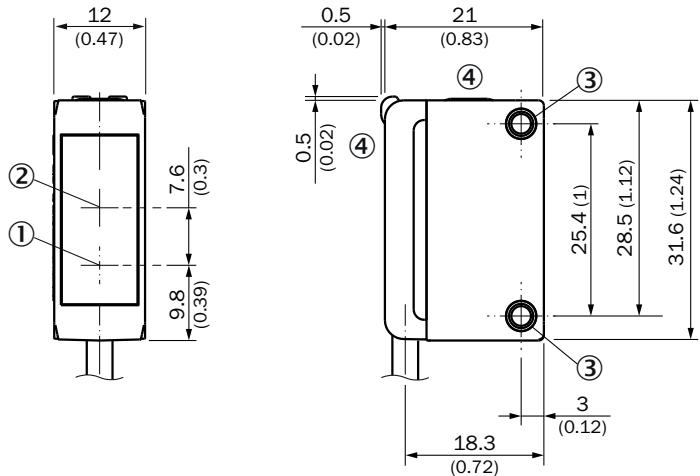
Certificates

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

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

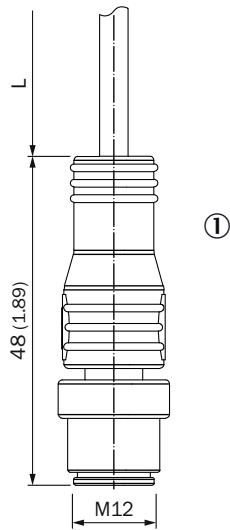
Dimensional drawing



Dimensions in mm (inch)

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

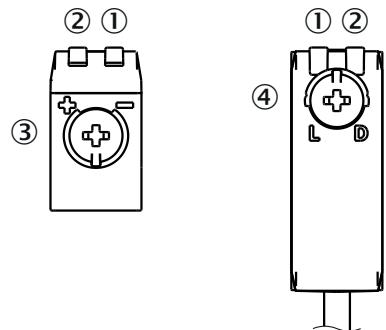
Dimensional drawing, connection



Dimensions in mm (inch)

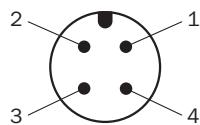
For length of cable (L), see technical data
 ① Cable with M12 male connector

display and adjustment elements

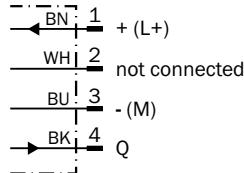


- ① LED green
- ② LED yellow
- ③ Potentiometer
- ④ operating mode switch

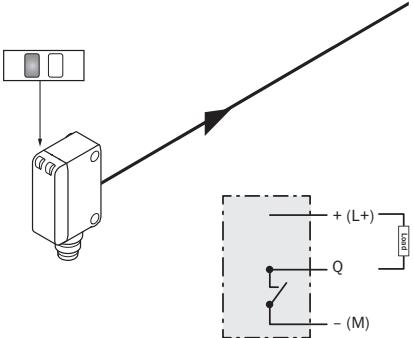
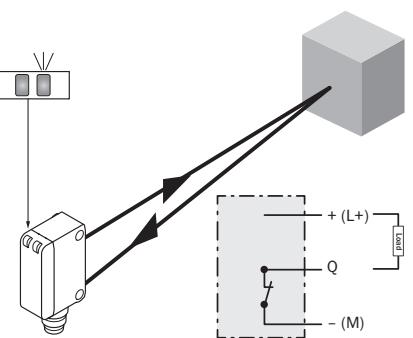
Connection type M12 male connector, 4-pin



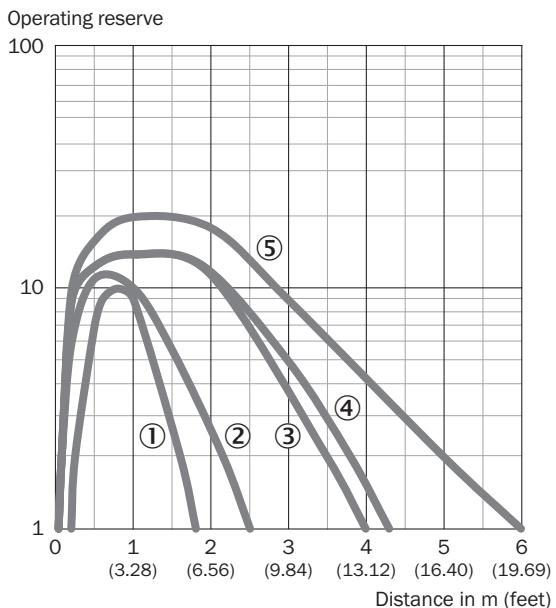
Connection diagram Cd-066



Truth table NPN - light switching Q

	Light switching Q (normally open)	
	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

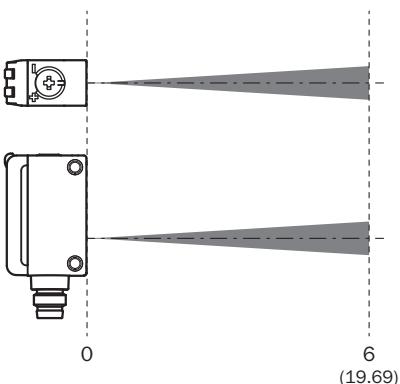
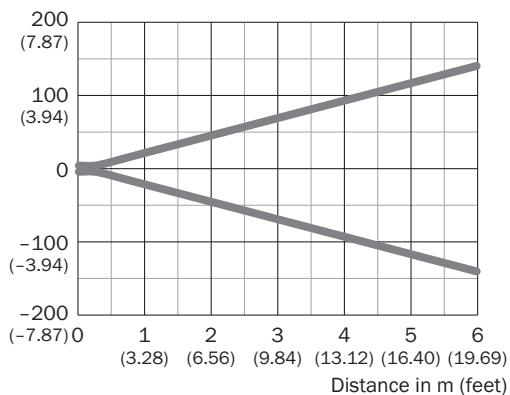
③ Reflector P250

④ Reflector PL40A

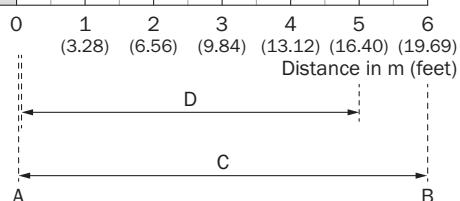
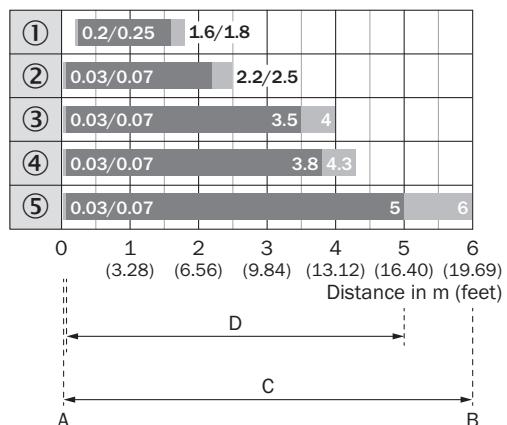
⑤ Reflector PL80A

Light spot size

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

	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: 84 mm 84 mm Ambient operating temperature: -30 °C ... +65 °C 	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