



# GLD20G-QK112170ZZZ

## G20

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
GLD20G-QK112170ZZZ	1120842

Other models and accessories → [www.sick.com/G20](http://www.sick.com/G20)

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.	20 m
	Maximum distance range from reflector to sensor (operating reserve 1)	0.03 m ... 20 m
	Recommended distance range from reflector to sensor (operating reserve 2)	0.03 m ... 16 m
	Reference reflector	Reflector PL80A
<b>Polarisation filters</b>		Yes
<b>Emitted beam</b>		
	Light source	LED
	Type of light	Visible red light
	Shape of light spot	Rectangular
	Light spot size (distance)	Ø 200 mm (5,000 mm)
	Maximum dispersion of the emitted beam around the standardized transmission axis (squint angle)	< +/- 1.5° (at Ta = +23 °C)
<b>Key LED figures</b>		
	Normative reference	EN 62471:2008-09   IEC 62471:2006, modified
	LED risk group marking	Free group
	Wave length	630 nm
	Average service life	100,000 h at Ta = +25 °C
<b>Adjustment</b>		

<b>Display</b>	Potentiometer	For sensitivity adjustment, 270°
	LED green	Operating indicatorStatic on: power onStatic off: object present
	LED yellow	Status of received light beamStatic on: object not presentStatic off: object present

## Safety-related parameters

<b>MTTF<sub>D</sub></b>	736 years
<b>DC<sub>avg</sub></b>	0%

## Electronics

Supply voltage U <sub>B</sub>		10 V DC ... 30 V DC <sup>1)</sup>	
Ripple		< 5 V <sub>pp</sub>	
Usage category		DC-13 (according to EN 60947-1)	
Current consumption		≤ 30 mA, without load. At U <sub>B</sub> = 24 V	
Protection class		III	
Digital output			
		Number	2 (Complementary)
		Type	Push-pull: PNP/NPN
		Switching mode	Light/dark switching
		Signal voltage PNP HIGH/LOW	V <sub>S</sub> - (≤ 3 V) / approx. 0 V
		Signal voltage NPN HIGH/LOW	V <sub>S</sub> - (≤ 3 V) / approx. 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	≤ 500 μs		
Switching frequency	1,000 Hz <sup>3)</sup>		
Pin/Wire assignment			
	BN 1	+ (L+)	
	BU 2	- (M)	
	BK 3	QDigital output, light switching, object present → output Q LOW	
	WH 4	Q̄Digital output, dark switching, object present → output Q̄ HIGH	

<sup>1)</sup> Limit values.<sup>2)</sup> At U<sub>B</sub> > 24 V, I<sub>max.</sub> = 100 mA.<sup>3)</sup> With light/dark ratio 1:1.

## Mechanics

<b>Housing</b>	Rectangular	
<b>Dimensions (W x H x D)</b>	23.5 mm x 74.5 mm x 52.5 mm	
<b>Connection</b>	Terminal connection, 4 terminals	
<b>Material</b>	Housing	Plastic, ABS
	Front screen	Plastic, PMMA
<b>Weight</b>	Approx. 88 g	

## Ambient data

<b>Enclosure rating</b>	IP67 (EN 60529)
<b>Ambient operating temperature</b>	-30 °C ... +60 °C
<b>Ambient temperature, storage</b>	-40 °C ... +70 °C
<b>Typ. Ambient light immunity</b>	Sunlight: ≤ 20,000 lx
<b>Shock resistance</b>	30 g, 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 ... 1,000 Hz (Amplitude 1 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

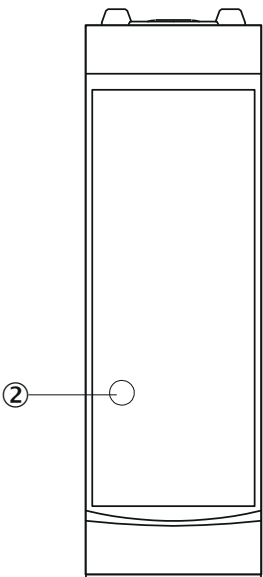
## Certificates

<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

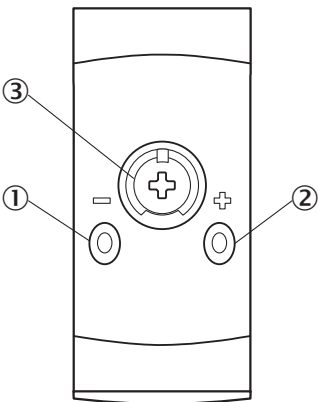
<b>ECLASS 5.0</b>	27270902
<b>ECLASS 5.1.4</b>	27270902
<b>ECLASS 6.0</b>	27270902
<b>ECLASS 6.2</b>	27270902
<b>ECLASS 7.0</b>	27270902
<b>ECLASS 8.0</b>	27270902
<b>ECLASS 8.1</b>	27270902
<b>ECLASS 9.0</b>	27270902
<b>ECLASS 10.0</b>	27270902
<b>ECLASS 11.0</b>	27270902
<b>ECLASS 12.0</b>	27270904
<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

display and adjustment elements



② LED yellow

display and adjustment elements

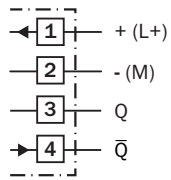


- ① LED green
- ② LED yellow
- ③ Potentiometer

Connection type

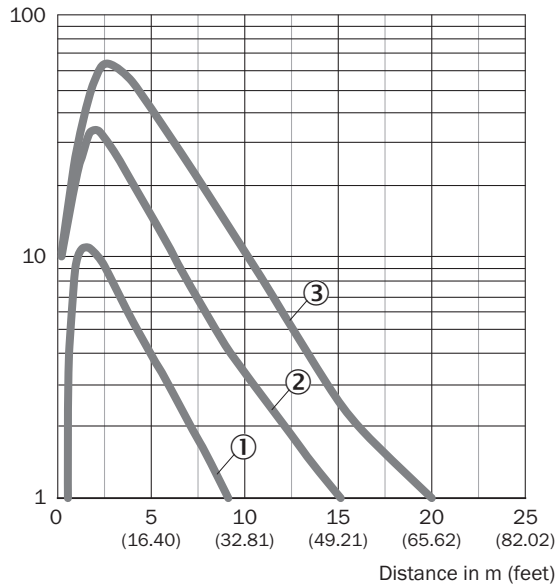


## Connection diagram Cd-583



## Characteristic curve

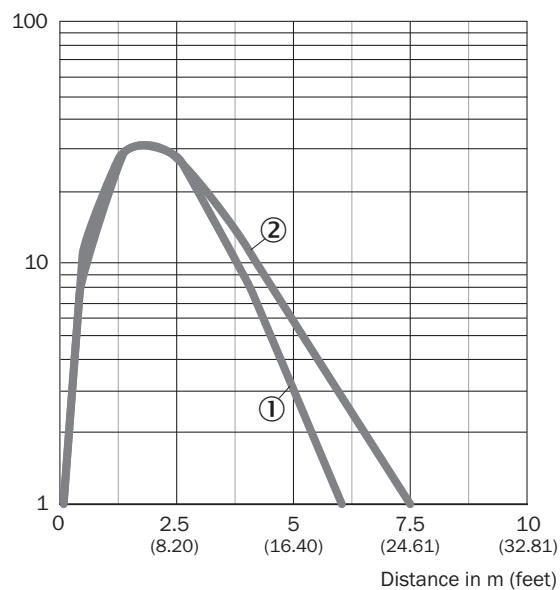
Operating reserve



- ① Reflector PL20A
- ② Reflector PL50A, P250, PL30A, PL31A, PL40A
- ③ reflector PL80A, C110A, PL100

## Characteristic curve

Operating reserve

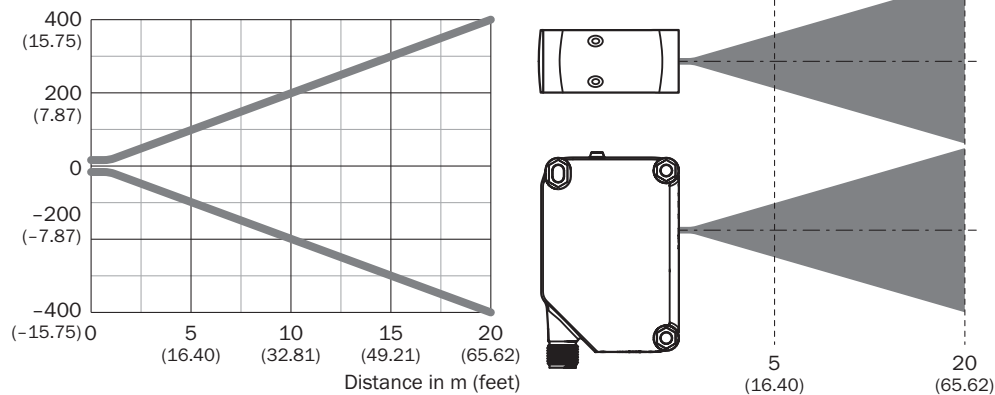


① Reflective tape REF-IRF-56

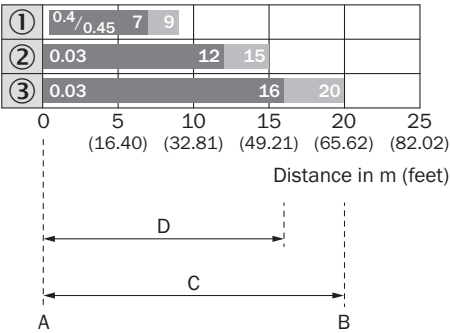
② Diamond Grade reflective tape, 100 mm x 100 mm

## Light spot size

Dimensions in mm (inch)

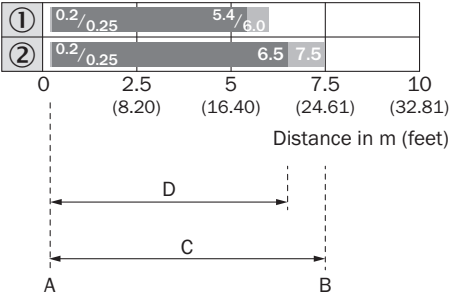


Sensing range diagram



1	Reflector PL20A
2	Reflector PL50A, P250, PL30A, PL31A, PL40A
3	Reflector PL80A, C110A, PL100
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)

Sensing range diagram



1	Reflective tape REF-IRF-56
2	Diamond Grade reflective tape, 100 mm x 100 mm
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)



Technical drawing of the SICK S3000 sensor, showing front and side views with dimensions in mm and inches.

**Front View Dimensions:**

- Total width: 63 (2.48)
- Distance from centerline to mounting hole center: 41.2 (1.62)
- Mounting hole diameter:  $\varnothing 4.3$  (0.17)
- Distance from centerline to mounting hole edge: 2.15 (0.08)
- Distance from centerline to mounting hole edge (bottom): 63.9 (2.52)
- Distance from centerline to mounting hole edge (bottom): 74.5 (2.93)
- Distance from centerline to mounting hole edge (bottom): 54.8 (2.16)
- Distance from centerline to mounting hole edge (bottom): 43.2 (1.70)
- Distance from centerline to mounting hole edge (bottom): 4.8 (0.19)
- Distance from centerline to mounting hole edge (bottom): 5.3 (0.21)

**Side View Dimensions:**

- Total height: 23.5 (0.93)
- Distance from centerline to mounting hole center: 20.7 (0.81)
- Distance from centerline to mounting hole center: 36.1 (1.42)
- Distance from centerline to mounting hole center: 18 (0.71)
- Distance from centerline to mounting hole center: 2.3 (0.09)
- Distance from centerline to mounting hole center: 5 (0.20)

**Other Labels:**

- ①: Mounting hole
- ②: Mounting hole
- ③: Mounting hole
- ④: Mounting hole
- SICK: Manufacturer logo

- ① display and adjustment elements
- ② Center of optical axis, sender
- ③ Center of optical axis, receiver
- ④ Fixing hole  $\varnothing$  4.3 mm, both sides for hexagon nut M4

Other models and accessories → [www.sick.com/G20](http://www.sick.com/G20)

2025-08-03 09:04:11 | Data sheet  
Subject to change without notice

## 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)