



## GLD20G-1IRC2170ZZZ G20

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.

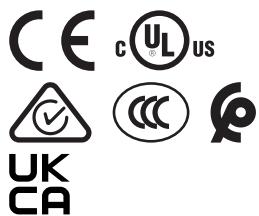


## Ordering information

Type	part no.
GLD20G-1IRC2170ZZZ	1119873

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

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

## Electronics

<b>Supply voltage <math>U_e</math></b>	24 V AC/DC ... 240 V AC/DC <sup>1)</sup>	
<b>Ripple</b>	< 10 %	
<b>Usage category</b>	DC-13 (according to EN 60947-1) AC-15 (according to EN 60947-1)	
<b>Current consumption</b>	$\leq 10$ mA, Without load At 230 V AC/DC $\leq 45$ mA, Without load At 24 V AC/DC	
<b>Protection class</b>	II	
<b>Digital output</b>	<b>Number</b> 2 (Complementary)  <b>Type</b> Relay, SPDT, electrically isolated <sup>2)</sup>  <b>Switching mode</b> Light/dark switching  <b>Output current <math>I_{max.}</math></b> 4 A@250 V AC, 4 A@24 VDC, 0.11 A@250 V DC  UL: 4 A@250 V AC, general use 4 A @ 250 V AC, resistive (NO) 3 A @ 250 V AC, resistive (NC) 4 A @ 24 V DC, NO, general use 3 A @ 24 V DC, NC, general use R300/B300 (NO contacts only)  <b>Response time</b> $\leq 15$ ms  <b>Switching frequency</b> 10 Hz <sup>3)</sup>	
<b>Pin/Wire assignment</b>		
	BN L/(+)	
	BU N/(-)	
	WH Relay COM	
	BK Relay NCRelay output, light switching, object present → output LOW	
	GY Relay NORelay output, dark switching, object present → output HIGH	

<sup>1)</sup> +/- 10 %.<sup>2)</sup> Valid only for devices manufactured before June 18, 2023 with a date code of 2324 or earlier. Suitable arc suppression with inductive or capacitive load. Relay contacts are separated from the supply voltage by a base insulation of 3.2 mm. Depending on the application, additional insulation may be required in the user wiring.<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 63 mm
<b>Connection</b>	Cable, 5-wire, 2 m
<b>Connection detail</b>	Do not bend below 0 °C
	Conductor size 0.32 mm <sup>2</sup>

	Cable diameter	Ø 5 mm
	Length of cable (L)	2 m
<b>Material</b>	Housing	Plastic, ABS
	Front screen	Plastic, PMMA
	Cable	Plastic, PVC
<b>Weight</b>	Approx. 153 g	

## Ambient data

<b>Enclosure rating</b>	IP67 (EN 60529)
<b>Ambient operating temperature</b>	-30 °C ... +60 °C <sup>1)</sup>
<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, EN 61000-6-3
<b>UL File No.</b>	NRKH.E348498 & NRKH7.E348498

<sup>1)</sup> The max. ambient temperature is 50 °C (UL).

## Certificates

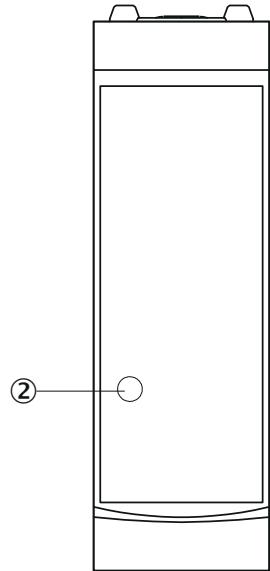
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>China-RoHS</b>	✓
<b>CCC certificate</b>	✓
<b>cULus certificate</b>	✓
<b>Photobiological safety (IEC EN 62471)</b>	✓

## 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

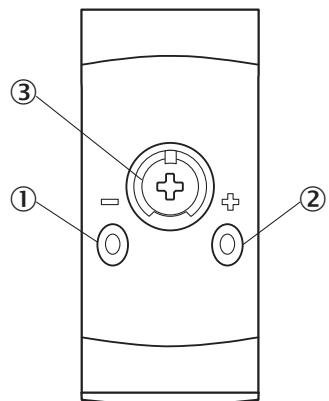
<b>ETIM 6.0</b>	EC002717
<b>ETIM 7.0</b>	EC002717
<b>ETIM 8.0</b>	EC002717
<b>UNSPSC 16.0901</b>	39121528

display and adjustment elements



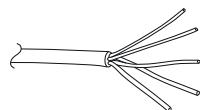
② LED yellow

display and adjustment elements

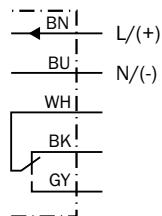


① LED green  
② LED yellow  
③ Potentiometer

Connection type Cable, 5-wire

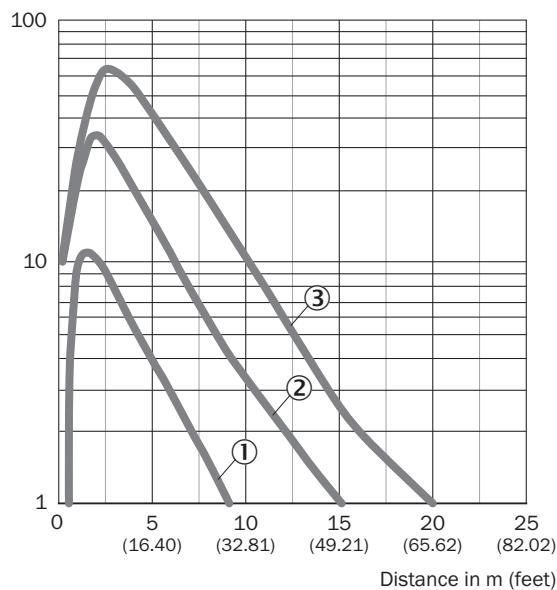


Connection diagram Cd-579



Characteristic curve

Operating reserve



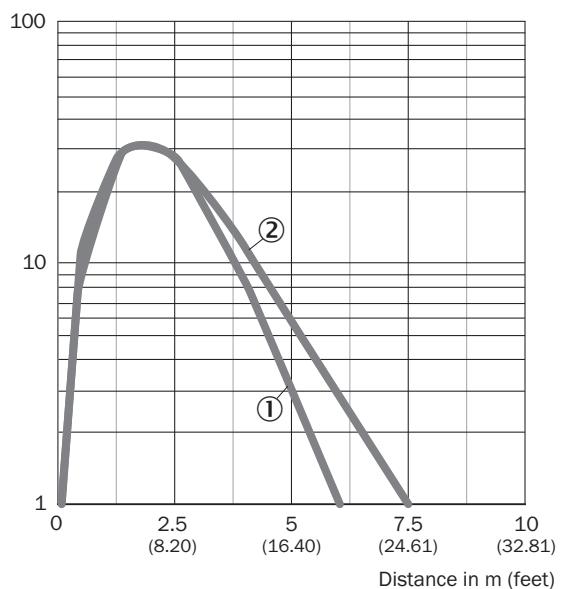
① Reflector PL20A

② Reflector PL50A, P250, PL30A, PL31A, PL40A

③ reflector PL80A, C110A, PL100

## Characteristic curve

Operating reserve

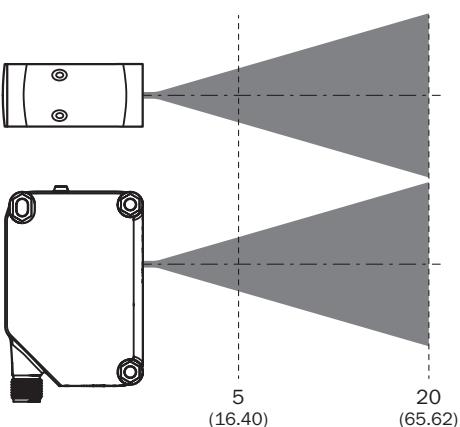
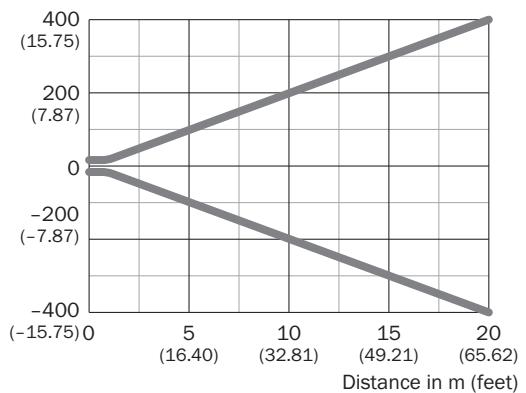


① Reflective tape REF-IRF-56

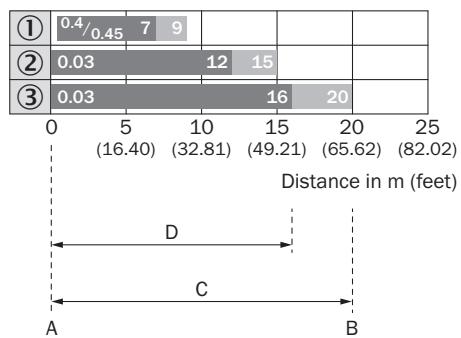
② Diamond Grade reflective tape, 100 mm x 100 mm

## Light spot size

Dimensions in mm (inch)

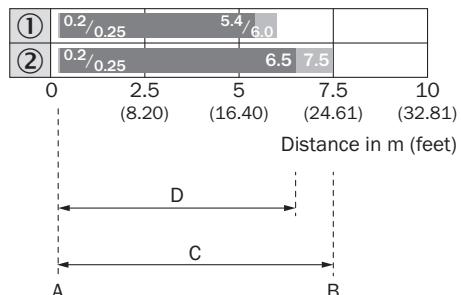


## Sensing range diagram



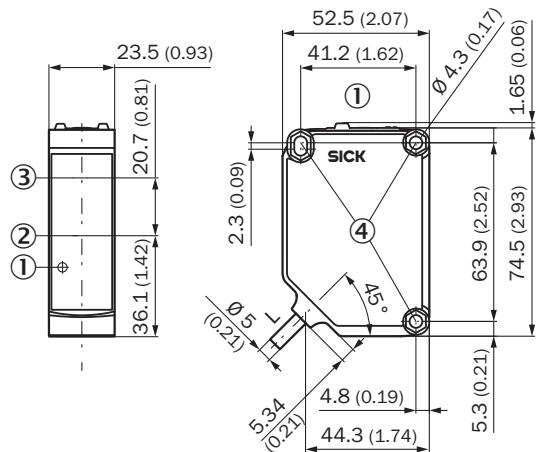
1	Reflector PL20A
2	Reflector PL50A, P250, PL30A, PL31A, PL40A
3	Reflector PL80A, C110A, PL100
A	Sensing range min. in m
B	Sensing range max. in m
C	Maximum distance range from reflector to sensor (operating reserve 1)
D	Recommended distance range from reflector to sensor (operating reserve 2)

## 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 reflector to sensor (operating reserve 2)

## Dimensional drawing



Dimensions in mm (inch)

For length of cable (L), see technical data

① display and adjustment elements

② Center of optical axis, sender

③ Center of optical axis, receiver

④ Fixing hole ø 4.3 mm, both sides for hexagon nut M4

## Recommended accessories

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

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"><li><b>Description:</b> Mounting bracket</li><li><b>Material:</b> Stainless steel</li><li><b>Details:</b> Stainless steel V2A (1.4301)</li><li><b>Items supplied:</b> 2 screws, 2 nuts, 2 circlips, 2 washers for mounting the sensor</li><li><b>Suitable for:</b> W280-2, G20</li></ul>	BEF-W280	5313885
	<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 x 84 mm</li><li><b>Ambient operating temperature:</b> -30 °C ... +65 °C</li></ul>	PL80A	1003865

	<b>Brief description</b>	<b>Type</b>	<b>part no.</b>
connectors and cables	 <ul style="list-style-type: none"><li><b>Connection type head A:</b> Male connector, M12, 5-pin, straight, A-coded</li><li><b>Description:</b> Unshielded</li><li><b>Connection systems:</b> Screw-type terminals</li><li><b>Permitted cross-section:</b> ≤ 0.75 mm<sup>2</sup></li><li><b>Note:</b> For field bus technology</li></ul>	STE-1205-G	6022083

## 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)