



DATA SHEET

GLD20G-6IRC2170ZZZ

G20
Photoelectric sensors

SICK

Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

GLD20G-6IRC2170ZZZ

ORDERING INFORMATION

Type	part no.
GLD20G-6IRC2170ZZZ	1119874

Further device versions and accessories at www.sick.com/G20



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.	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
Polarisation filter	Yes
Emitted beam	
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 T _u = +23 °C)
Key LED figures	
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 T _a = +25 °C
Adjustment	
Potentiometer	For sensitivity adjustment, 270°
Display	
LED green	Operating indicator Static on: power on
LED yellow	Status of received light beam Static on: object not present Static off: object present

ELECTRONICS

Supply voltage U_s	24 V AC/DC ... 240 V AC/DC ¹⁾												
Ripple	< 10 %												
Usage category	DC-13 (according to EN 60947-1) AC-15 (according to EN 60947-1)												
Current consumption	≤ 10 mA, Without load At 230 V AC/DC ≤ 45 mA, Without load At 24 V AC/DC												
Protection class	II												
Digital output	<table> <tr> <td>Number</td><td>2 (Complementary)</td></tr> <tr> <td>Type</td><td>Relay, SPDT, electrically isolated ²⁾</td></tr> <tr> <td>Switching mode</td><td>Light/dark switching</td></tr> <tr> <td>Output current I_{max}</td><td>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)</td></tr> <tr> <td>Response time</td><td>≤ 15 ms</td></tr> <tr> <td>Switching frequency</td><td>10 Hz ³⁾</td></tr> </table>	Number	2 (Complementary)	Type	Relay, SPDT, electrically isolated ²⁾	Switching mode	Light/dark switching	Output current I_{max}	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)	Response time	≤ 15 ms	Switching frequency	10 Hz ³⁾
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Response time	≤ 15 ms												
Switching frequency	10 Hz ³⁾												
Pin/Wire assignment	<table> <tr> <td>Function of pin 4/black (BK)</td><td>Relay output, light switching, object present → output LOW</td></tr> <tr> <td>Pin 5 function/gray (GY)</td><td>Relay output, dark switching, object present → output HIGH</td></tr> </table>	Function of pin 4/black (BK)	Relay output, light switching, object present → output LOW	Pin 5 function/gray (GY)	Relay output, dark switching, object present → output HIGH								
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Pin 5 function/gray (GY)	Relay output, dark switching, object present → output HIGH												

¹⁾ ± 10 %.²⁾ 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.³⁾ With light/dark ratio 1:1.**MECHANICS**

Housing	Rectangular								
Dimensions (W x H x D)	23.5 mm x 74.5 mm x 63 mm								
Connection	Cable, 5-wire, 5 m								
Connection detail	<table> <tr> <td>Deep-freeze property</td><td>Do not bend below 0 °C</td></tr> <tr> <td>Conductor size</td><td>0.32 mm²</td></tr> <tr> <td>Cable diameter</td><td>Ø 5 mm</td></tr> <tr> <td>Length of cable (L)</td><td>5 m</td></tr> </table>	Deep-freeze property	Do not bend below 0 °C	Conductor size	0.32 mm ²	Cable diameter	Ø 5 mm	Length of cable (L)	5 m
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Cable diameter	Ø 5 mm								
Length of cable (L)	5 m								
Material	<table> <tr> <td>Housing</td><td>Plastic, ABS</td></tr> <tr> <td>Front screen</td><td>Plastic, PMMA</td></tr> <tr> <td>Cable</td><td>Plastic, PVC</td></tr> </table>	Housing	Plastic, ABS	Front screen	Plastic, PMMA	Cable	Plastic, PVC		
Housing	Plastic, ABS								
Front screen	Plastic, PMMA								
Cable	Plastic, PVC								
Weight	Approx. 303 g								

AMBIENT DATA

Enclosure rating	IP67 (EN 60529)
Ambient operating temperature	-30 °C ... +60 °C ¹⁾
Ambient temperature, storage	-40 °C ... +70 °C
Typ. Ambient light immunity	Sunlight: ≤ 20,000 lx
Shock resistance	30 g, 11 ms (3 positive and 3 negative shocks along X, Y, Z axes, 18 total shocks (EN60068-2-27))
Vibration resistance	10 Hz ... 1,000 Hz (Amplitude 1 mm, 3 x 30 min (EN60068-2-6))
Air humidity	35 % ... 95 %, relative humidity (no condensation)
Electromagnetic compatibility (EMC)	EN 60947-5-2, EN 61000-6-3

¹⁾ The max. ambient temperature is 50 °C (UL).

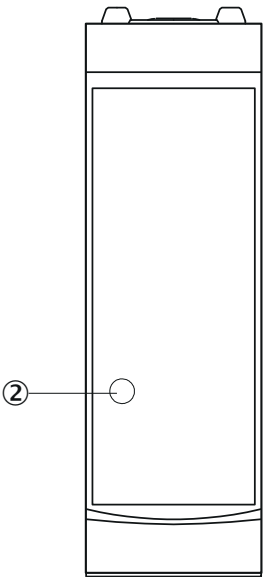
UL File No.	NRKH.E348498 & NRKH7.E348498
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⁹ The max. ambient temperature is 50 °C (UL).

CERTIFICATES

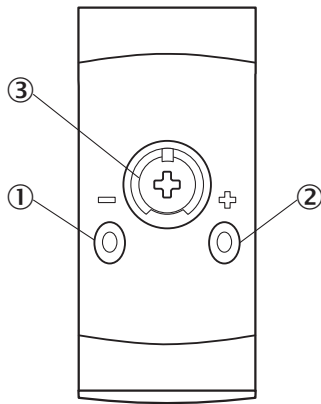
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
CCC certificate	✓
cULus certificate	✓
Photobiological safety (IEC EN 62471)	✓

DISPLAY AND ADJUSTMENT ELEMENTS



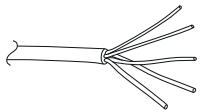
② LED yellow

DISPLAY AND ADJUSTMENT ELEMENTS

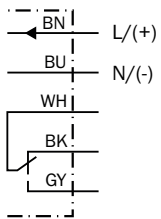


- ① LED green
- ② LED yellow
- ③ Potentiometer

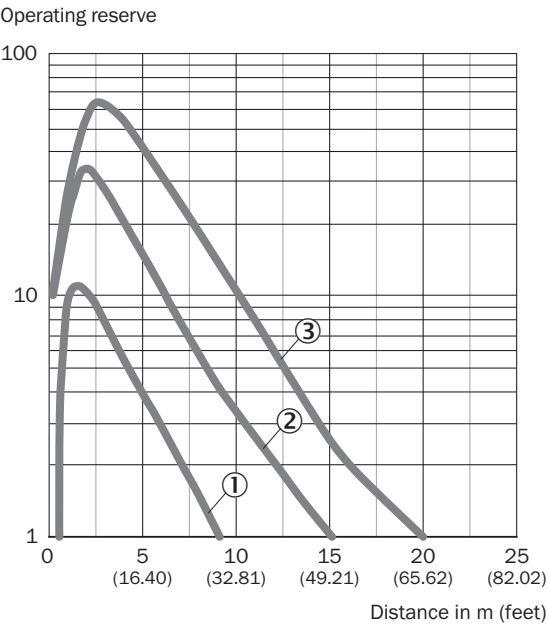
CONNECTION TYPE CABLE, 5-WIRE



CONNECTION DIAGRAM CD-579

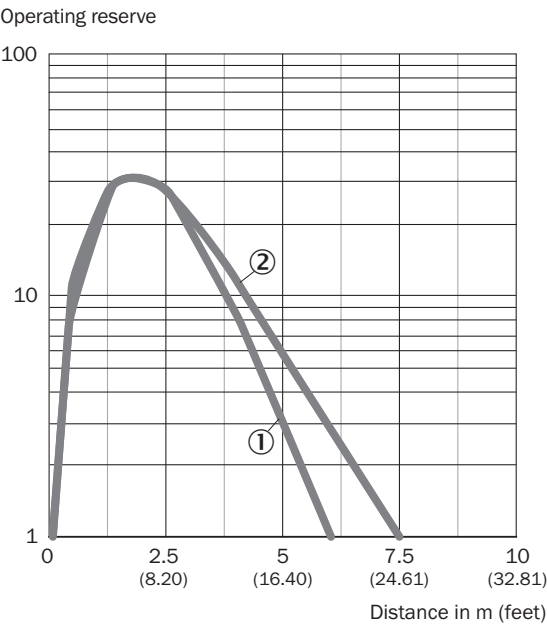


CHARACTERISTIC CURVE



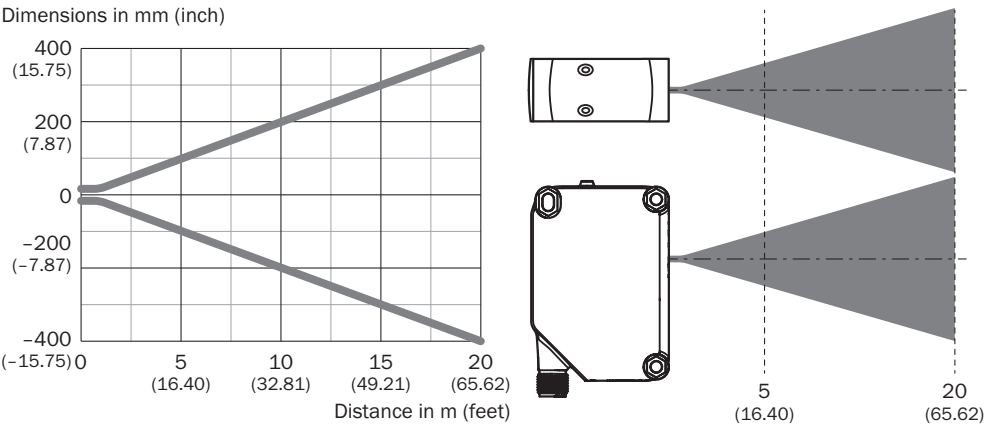
- ① Reflector PL20A
- ② Reflector PL50A, P250, PL30A, PL31A, PL40A
- ③ reflector PL80A, C110A, PL100

CHARACTERISTIC CURVE

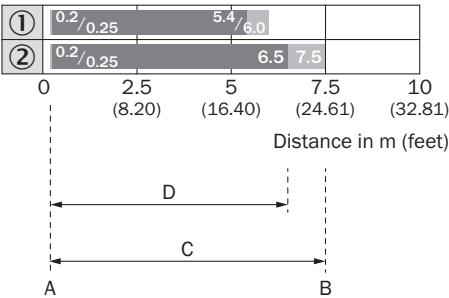


- ① Reflective tape REF-IRF-56
- ② Diamond Grade reflective tape, 100 mm x 100 mm

LIGHT SPOT SIZE

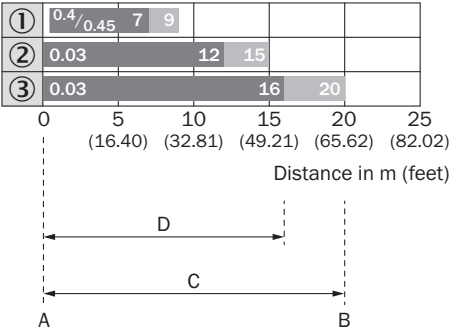


SENSING RANGE DIAGRAM



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)

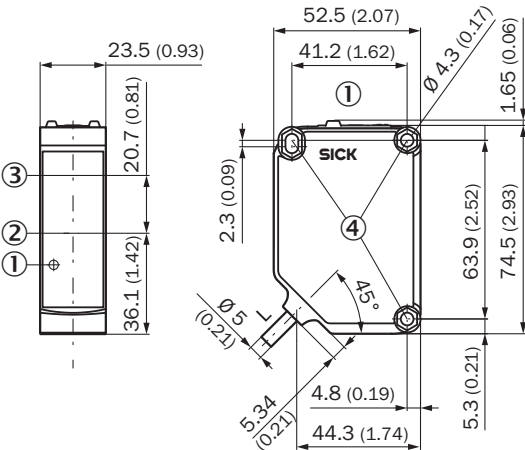
SENSING RANGE DIAGRAM



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)

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 $\varnothing$ 4.3 mm, both sides for hexagon nut M4

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1119874



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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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