

G20

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
GLD20G-QLRC217GZZZ	1138030

Other models and accessories → 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 filters		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 Ta = +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 Ta = +25 °C
Adjustment		
	Potentiometer 1	For sensitivity adjustment, 270°

Indication	Operating mode switch	For inverting the switching function (light/dark switching)
	Potentiometer 2	For adjusting the delay time
	Potentiometer 3	For selecting the delay time
	LED green	Operating indicator Static on: power on Static off: object present
	LED yellow	Status of received light beam Static on: object not present Static off: object present

Electronics

Supply voltage U_e	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, ≤ 45 mA, Without load At 230 V AC/DC, Without load At 24 V AC/DC
Protection class	II
Digital output	
	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 DCUL: 4 A@250 V AC, general use4 A @ 250 V AC, resistive (NO)3 A @ 250 V AC, resistive (NC)4 A @ 24 V DC, NO, general use3 A @ 24 V DC, NC, general useR300/B300 (NO contacts only)
	Response time ≤ 15 ms
	Switching frequency 10 Hz ³⁾
	Time functions Deactivated (factory setting), switch-on delay, off delay, ON and OFF delay
	Delay time Adjustable via time delay selector switch, 0 ms ... 10,000 ms, 0 ms (factory setting)
Pin/Wire assignment	
	BN 1 L/(+)
	BU 2 N/(-)
	WH 3 Relay COM
	BK 4 Relay NC Relay output, light switching, object present → output LOW
	GY 5 Relay NO 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	Terminal connection, 5 terminals
Material	
	Housing Plastic, ABS

	Front screen	Plastic, PMMA
Weight		Approx. 90 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
UL File No.	NRKH.E348498 & NRKH7.E348498

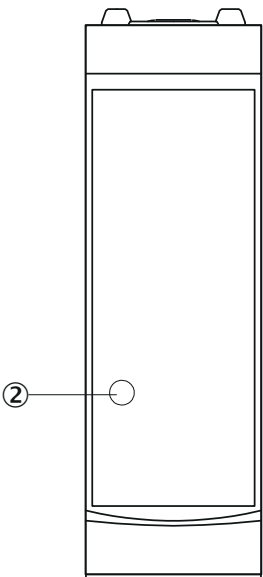
¹⁾ The max. ambient temperature is 50 °C (UL).

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	27270904
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

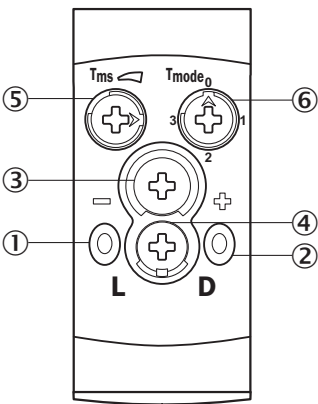
Adjustments

Display and adjustment elements



② LED yellow

Display and adjustment elements



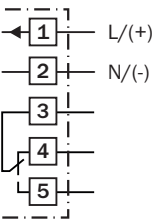
- ① LED green
- ② LED yellow
- ③ Potentiometer 1
- ④ Operating mode switch
- ⑤ Potentiometer 2
- ⑥ Potentiometer 3

Connection type

☐	
☐	5
☐	4
☐	3
☐	2
☐	1

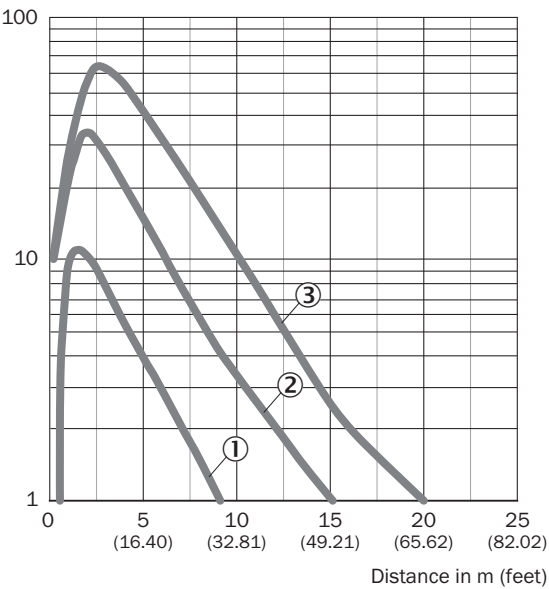
Connection diagram

Cd-589



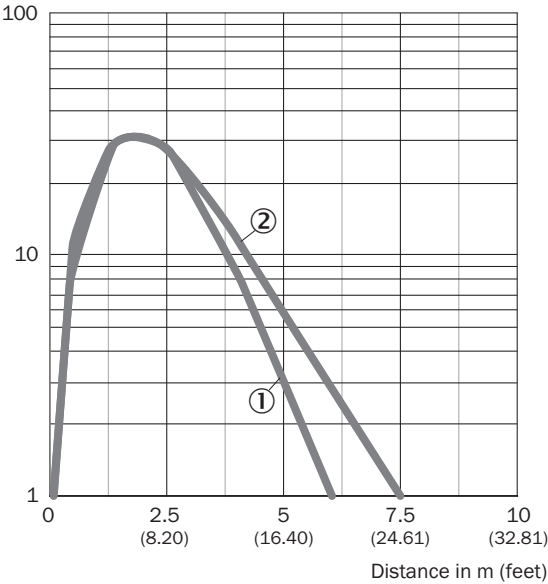
Characteristic curve

Operating reserve



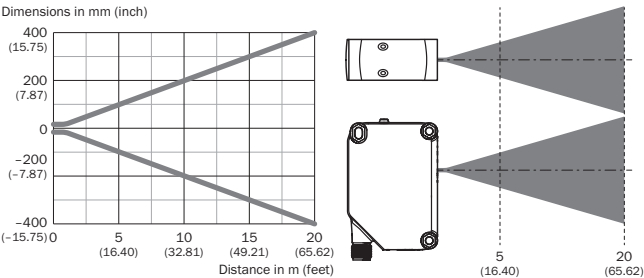
- ① Reflector PL20A
- ② Reflector PL50A, P250, PL30A, PL31A, PL40A
- ③ Reflector PL80A, C110A, PL100

Operating reserve

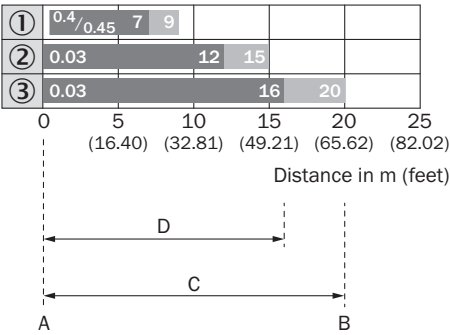


- ① Reflective tape REF-IRF-56
- ② Diamond Grade reflective tape, 100 mm x 100 mm

Light spot size

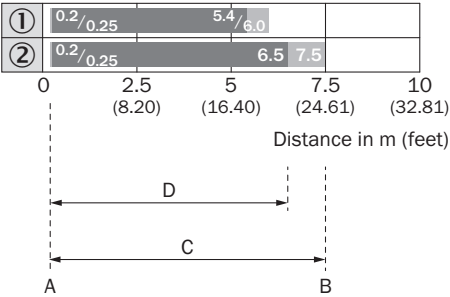


Sensing range diagram



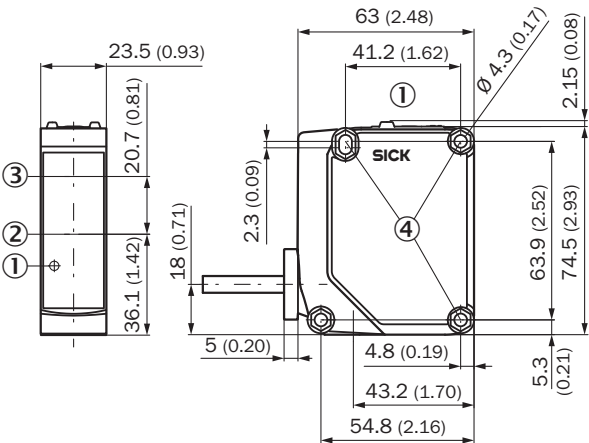
1	Reflector PL20A
2	Reflector PL50A, P250, PL30A, PL31A, PL40A

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)



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))



- 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

Recommended accessories

Other models and accessories → www.sick.com/G20

	Brief description	Type	Part no.
Mounting brackets and plates			
	Description: Mounting bracket Material: Stainless steel Details: Stainless steel V2A (1.4301) Items supplied: 2 screws, 2 nuts, 2 circlips, 2 washers for mounting the sensor Suitable for: W280-2, G20	BEF-W280	5313885
	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
Others			
	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