



GSE20M-QLRC2170ZZZ

G20

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
GSE20M-QLRC2170ZZZ	1120855

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

Illustration may differ



Detailed technical data

Features

Functional principle	Through-beam photoelectric sensor
Sensing range	
Sensing range min.	0 m
Sensing range max.	120 m
Maximum distance range from receiver to sender (operating reserve 1)	0 m ... 120 m
Recommended distance range from receiver to sender (operating reserve 2)	0 m ... 85 m
Emitted beam	
Light source	LED
Type of light	Infrared light
Shape of light spot	Rectangular
Light spot size (distance)	Ø 800 mm (20,000 mm)
Maximum dispersion of the emitted beam around the standardized transmission axis (squint angle)	< +/- 1.5° (at T _a = +23 °C)
Key LED figures	
Normative reference	EN 62471:2008-09 IEC 62471:2006, modified
LED risk group marking	Free group
Wave length	850 nm
Average service life	100,000 h at T _a = +25 °C
Adjustment	
Potentiometer	For sensitivity adjustment, 270°
Indication	
LED green	Operating indicator Static on: power on
LED yellow	Status of received light beam Static on: object not present Static off: object present

Electrical data

Supply voltage U_B	21.6 V AC/DC ... 253 V AC/DC
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	
Number	2 (Complementary)
Type	Relay, SPDT, electrically isolated ¹⁾
Output current I_{max}	3 A@250 V AC, 4 A@24 VDC, 0.22 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 ²⁾
Pin/Wire assignment, sender	
BN 1	+ (L+)
BU 2	N
Pin/Wire assignment, receiver	
BN 1	+ (L+)
BU 2	N
WH 3	Relay COM
BK 4	Relay NO Relay output, light switching, object present → output HIGH
GY 5	Relay NC Relay output, dark switching, object present → output LOW

¹⁾ Suitable arc suppression with inductive or capacitive load. Relay contacts are separated from the supply voltage by a basic isolation of 3.2 mm. Depending on the application, additional insulation may be required in the user wiring.

²⁾ With light/dark ratio 1:1.

Mechanical data

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	171 g

Ambient data

Enclosure rating	IP67 (EN 60529)
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¹⁾ The max. ambient temperature is 50 °C (UL).

²⁾ The device can cause interference when it is used in a residential environment.

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 ²⁾
UL File No.	NRKH.E348498 & NRKH7.E348498

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

²⁾ The device can cause interference when it is used in a residential environment.

Classifications

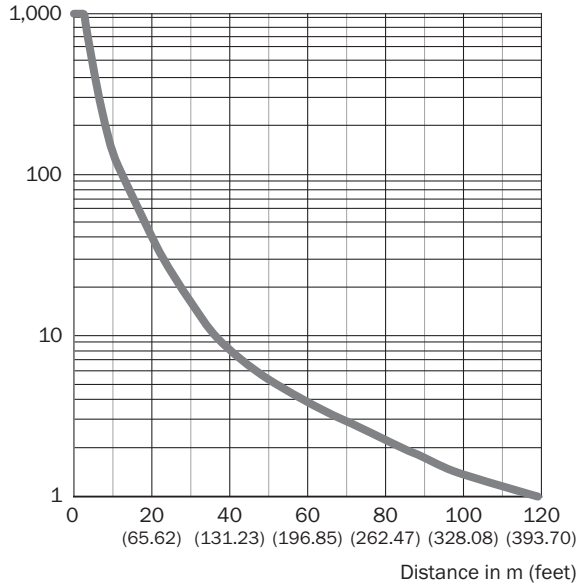
eCl@ss 5.0	27270901
eCl@ss 5.1.4	27270901
eCl@ss 6.0	27270901
eCl@ss 6.2	27270901
eCl@ss 7.0	27270901
eCl@ss 8.0	27270901
eCl@ss 8.1	27270901
eCl@ss 9.0	27270901
eCl@ss 10.0	27270901
eCl@ss 11.0	27270901
eCl@ss 12.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

Connection type

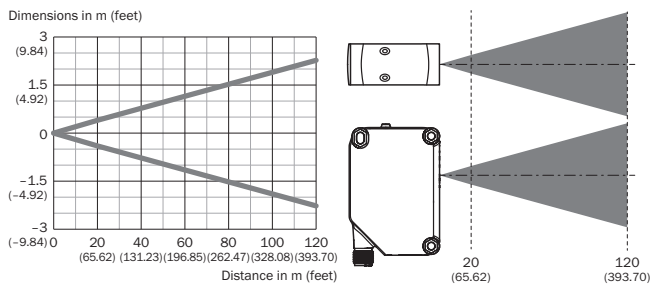


Characteristic curve

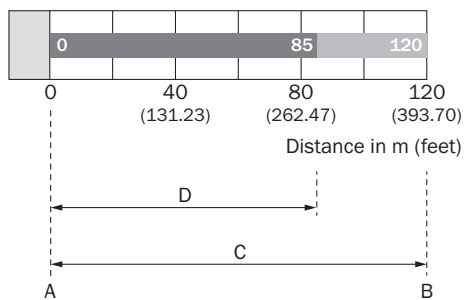
Operating reserve



Light spot size

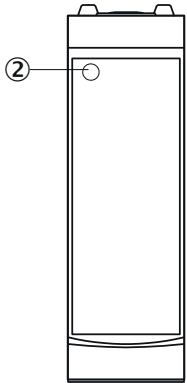


Sensing range diagram



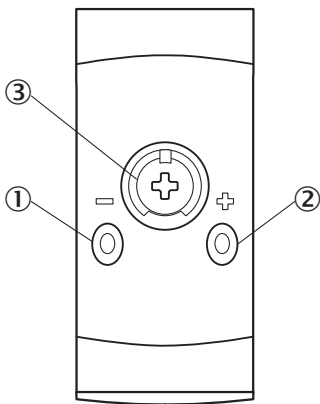
Adjustments

Display and adjustment elements



② LED yellow

Display and adjustment elements

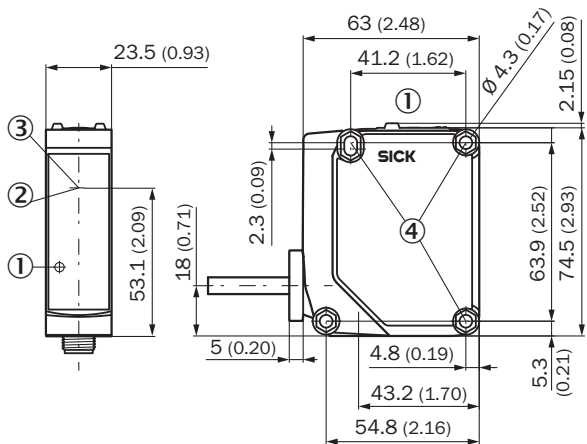


① LED green

② LED yellow

③ Potentiometer


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			
	Mounting bracket, Stainless steel V2A (1.4301), 2 screws, 2 nuts, 2 circlips, 2 washers for mounting the sensor	BEF-W280	5313885

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.”

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