



# GTE20M-QK111170ZZZ

G20

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	part no.
GTE20M-QK111170ZZZ	1120838

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

### Detailed technical data

#### Features

<b>Functional principle</b>	Photoelectric proximity sensor
<b>Functional principle detail</b>	Energetic
<b>Sensing range</b>	<p>Sensing range min. 0.005 m</p> <p>Sensing range max. 3.5 m</p> <p>Reference object Object with 90% remission factor (complies with standard white according to DIN 5033)</p>
<b>Emitted beam</b>	<p>Light source LED</p> <p>Type of light Infrared light</p> <p>Shape of light spot Rectangular</p> <p>Light spot size (distance) Ø 28 mm (500 mm)</p> <p>Maximum dispersion of the emitted beam around the standardized transmission axis (squint angle) &lt; +/- 1.5° (at T<sub>a</sub> = +23 °C)</p>
<b>Key LED figures</b>	<p>Normative reference EN 62471:2008-09   IEC 62471:2006, modified</p> <p>LED risk group marking Free group</p> <p>Wave length 850 nm</p> <p>Average service life 100,000 h at T<sub>a</sub> = +25 °C</p>
<b>Adjustment</b>	<p>Potentiometer For sensitivity adjustment, 270°</p>
<b>Display</b>	<p>LED green Operating indicator Static on: power on</p> <p>LED yellow Status of received light beam Static on: object present</p>

Static off: object not present

## Safety-related parameters

<b>MTTF<sub>D</sub></b>	667 years
<b>DC<sub>avg</sub></b>	0%

## Electronics

<b>Supply voltage U<sub>B</sub></b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	< 5 V <sub>pp</sub>
<b>Usage category</b>	DC-13 (according to EN 60947-1)
<b>Current consumption</b>	≤ 30 mA, without load. At U <sub>B</sub> = 24 V
<b>Protection class</b>	III
<b>Digital output</b>	
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>
<b>Pin/Wire assignment</b>	
BN 1	+ (L+)
BU 2	- (M)
BU 3	Q Digital output, light switching, object present → output Q HIGH
BK 4	$\bar{Q}$ Digital output, dark switching, object present → output $\bar{Q}$ LOW

<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 <sup>1)</sup>
<b>UL File No.</b>	NRKH.E348498 & NRKH7.E348498

<sup>1)</sup> The device can cause interference when it is used in a residential environment.

### 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>Photobiological safety (IEC EN 62471)</b>	✓

### Classifications

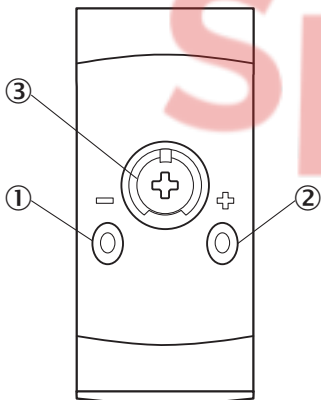
<b>ECLASS 5.0</b>	27270904
<b>ECLASS 5.1.4</b>	27270904
<b>ECLASS 6.0</b>	27270904
<b>ECLASS 6.2</b>	27270904
<b>ECLASS 7.0</b>	27270904
<b>ECLASS 8.0</b>	27270904
<b>ECLASS 8.1</b>	27270904
<b>ECLASS 9.0</b>	27270904
<b>ECLASS 10.0</b>	27270904
<b>ECLASS 11.0</b>	27270904
<b>ECLASS 12.0</b>	27270903
<b>ETIM 5.0</b>	EC002719
<b>ETIM 6.0</b>	EC002719
<b>ETIM 7.0</b>	EC002719
<b>ETIM 8.0</b>	EC002719
<b>UNSPSC 16.0901</b>	39121528

display and adjustment elements



② LED yellow

display and adjustment elements

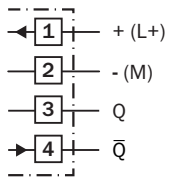


- ① LED green
- ② LED yellow
- ③ Potentiometer

Connection type

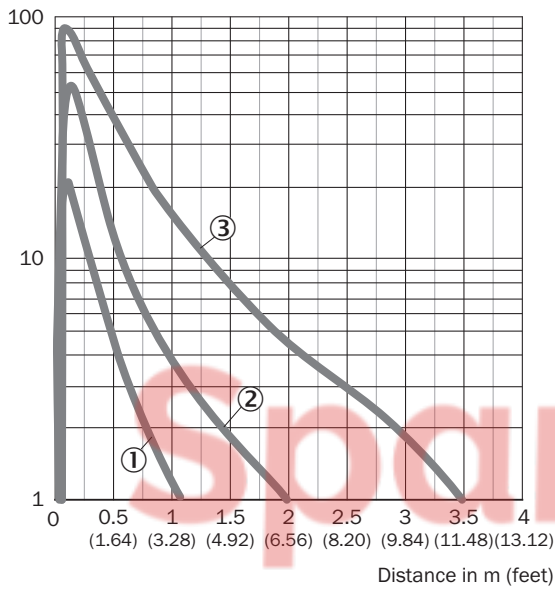


Connection diagram Cd-583



Characteristic curve

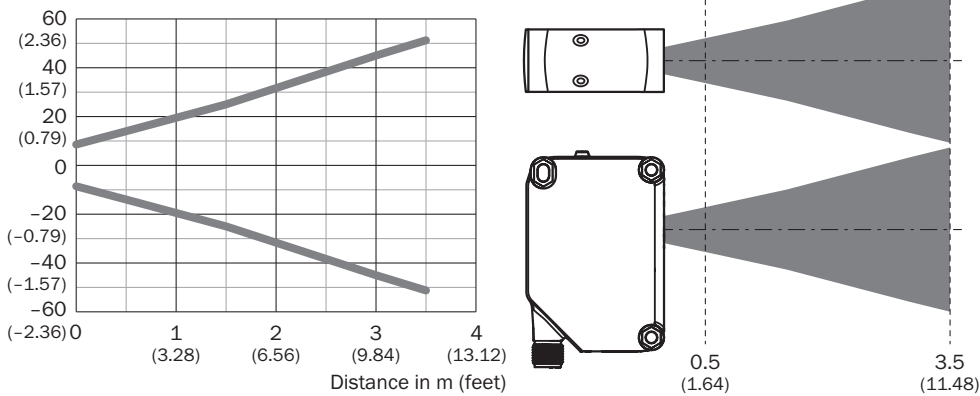
Operating reserve



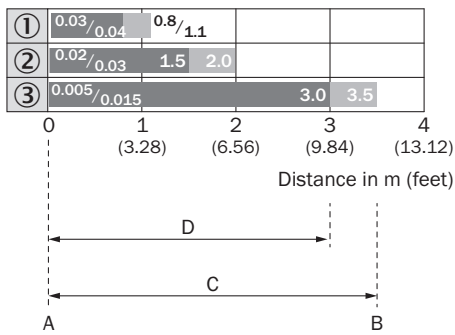
- ① Black object, 6% remission factor
- ② Gray object, 18% remission factor
- ③ White object, 90% remission factor

Light spot size

Dimensions in mm (inch)

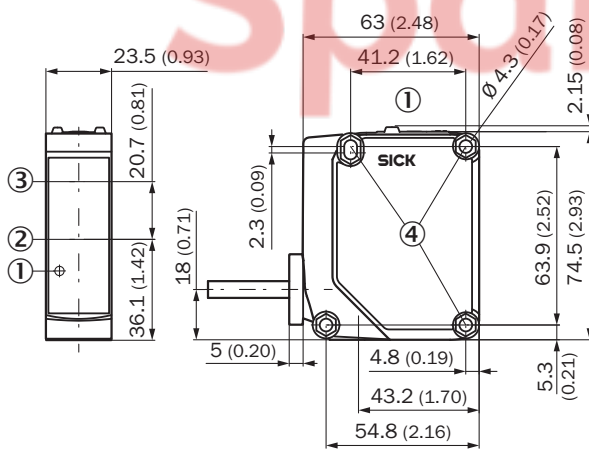


### Sensing range diagram



1	Black object, 6% remission factor
2	Gray object, 18% remission factor
3	White object, 90% remission factor
A	Sensing range min. in m
B	Sensing range max. in m
C	Maximum distance range from sensor to object
D	Recommended distance range from sensor to object

### 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](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

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## 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)

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