



GTE20M-QK111170ZZZ G20

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
GTE20M-QK111170ZZZ	1120838

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

Illustration may differ



Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Energetic
Sensing range	
Sensing range min.	0.005 m
Sensing range max.	3.5 m
Reference object	Object with 90% remission factor (complies with standard white according to DIN 5033)
Emitted beam	
Light source	LED
Type of light	Infrared light
Shape of light spot	Rectangular
Light spot size (distance)	Ø 28 mm (500 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°
Display	
LED green	Operating indicatorStatic on: power onStatic off: object not present

LED yellow	Status of received light beam Static on: object present Static off: object not present
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Safety-related parameters

MTTF_D	667 years
DC_{avg}	0%

Electronics

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp}
Usage category	DC-13 (according to EN 60947-1)
Current consumption	≤ 30 mA, without load. At U _B = 24 V
Protection class	III
Digital output	
Number	2 (Complementary)
Type	Push-pull: PNP/NPN
Switching mode	Light/dark switching
Signal voltage PNP HIGH/LOW	V _S - (≤ 3 V) / approx. 0 V
Signal voltage NPN HIGH/LOW	V _S - (≤ 3 V) / approx. 0 V
Output current I _{max.}	≤ 100 mA ²⁾
Circuit protection outputs	Reverse polarity protected
	Overcurrent protected
	Short-circuit protected
Response time	≤ 500 µs
Switching frequency	1,000 Hz ³⁾
Pin/Wire assignment	
BN 1	+(L+)
BU 2	-(M)
BU 3	QDigital output, light switching, object present → output Q HIGH
BK 4	Q̄Digital output, dark switching, object present → output Q̄ LOW

¹⁾ Limit values.²⁾ At U_B > 24 V, I max. = 100 mA.³⁾ With light/dark ratio 1:1.

Mechanics

Housing	Rectangular
Dimensions (W x H x D)	23.5 mm x 74.5 mm x 52.5 mm
Connection	Terminal connection, 4 terminals
Material	
Housing	Plastic, ABS
Front screen	Plastic, PMMA
Weight	Approx. 88 g

Ambient data

Enclosure rating	IP67 (EN 60529)
Ambient operating temperature	-30 °C ... +60 °C
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 ¹⁾
UL File No.	NRKH.E348498 & NRKH7.E348498

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

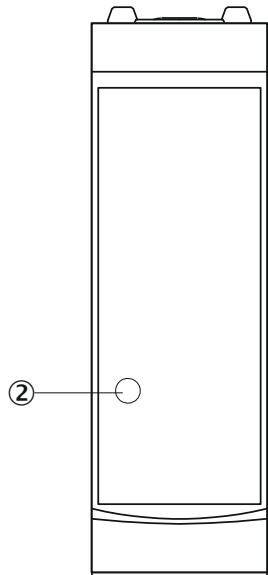
Certificates

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

Classifications

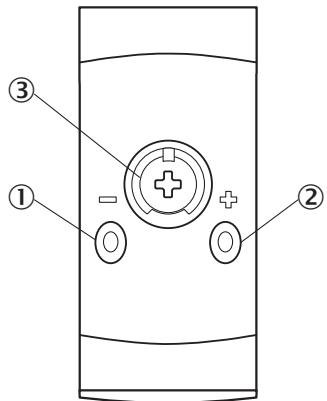
ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC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

display and adjustment elements



② LED yellow

display and adjustment elements

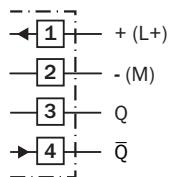


① LED green
② LED yellow
③ Potentiometer

Connection type

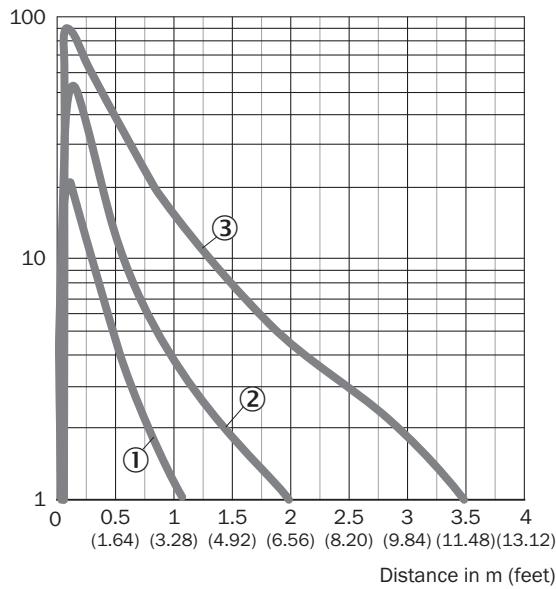


Connection diagram Cd-583



Characteristic curve

Operating reserve



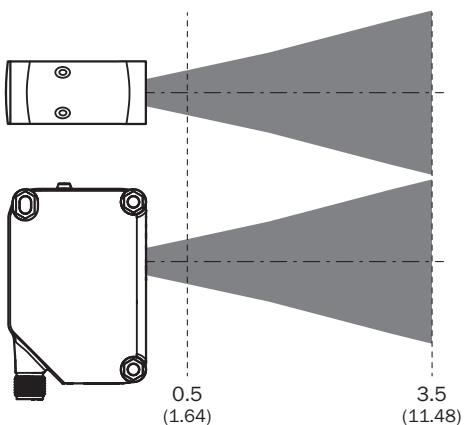
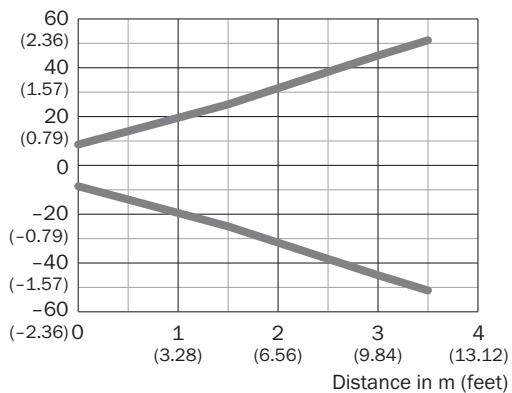
① Black object, 6% remission factor

② Gray object, 18% remission factor

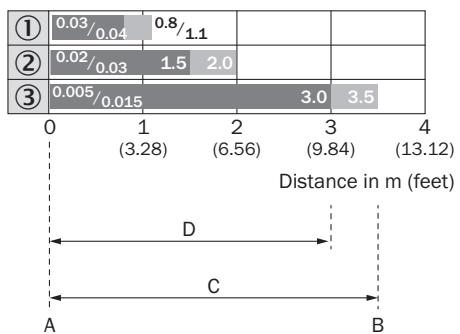
③ White object, 90% remission factor

Light spot size

Dimensions in mm (inch)

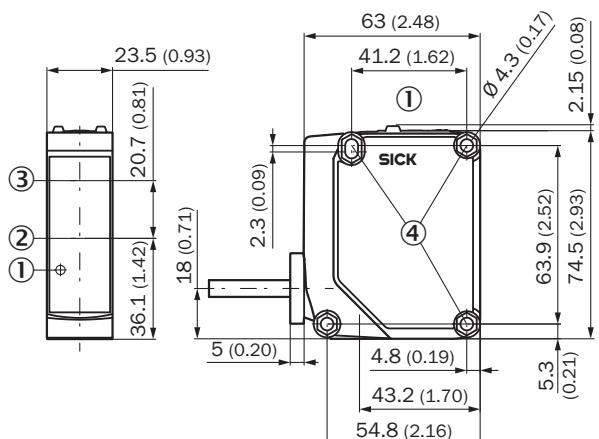


Sensing range diagram



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 ø 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 systems	 <ul style="list-style-type: none">Description: Mounting bracketMaterial: Stainless steelDetails: Stainless steel V2A (1.4301)Items supplied: 2 screws, 2 nuts, 2 circlips, 2 washers for mounting the sensorSuitable for: W280-2, G20	BEF-W280	5313885

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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:

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