



GTE20M-1IRC1170ZZZ

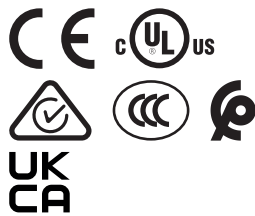
G20

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
GTE20M-1IRC1170ZZZ	1120839

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

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 Ta = +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 Ta = +25 °C
Adjustment		
	Potentiometer	For sensitivity adjustment, 270°
Display		
	LED green	Operating indicator

LED yellow	Static on: power on
	Status of received light beam
	Static on: object present
	Static off: object not 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, 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 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⁾
Pin/Wire assignment		
	BN	L/(+)
	BU	N/(-)
	WH	Relay COM
	BK	Relay NO Relay output, light switching, object present → output HIGH
	GY	Relay NC Relay output, dark switching, object present → output LOW

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, 2 m
Connection detail		
	Deep-freeze property	Do not bend below 0 °C
	Conductor size	0.32 mm ²
	Cable diameter	Ø 5 mm

Length of cable (L)	2 m
Material	
Housing	Plastic, ABS
Front screen	Plastic, PMMA
Cable	Plastic, PVC
Weight	Approx. 153 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).

Certificates

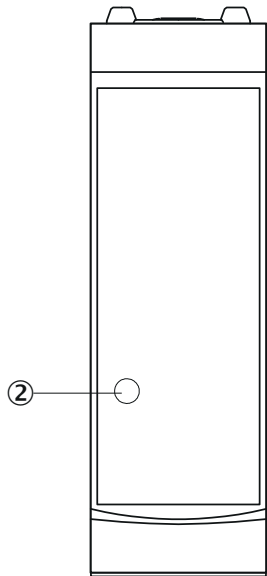
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
CCC certificate	✓
cULus certificate	✓
Photobiological safety (IEC EN 62471)	✓

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

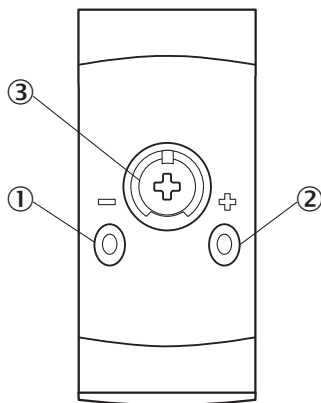
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

display and adjustment elements



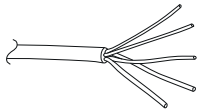
② LED yellow

display and adjustment elements

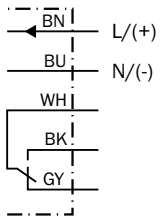


- ① LED green
- ② LED yellow
- ③ Potentiometer

Connection type Cable, 5-wire

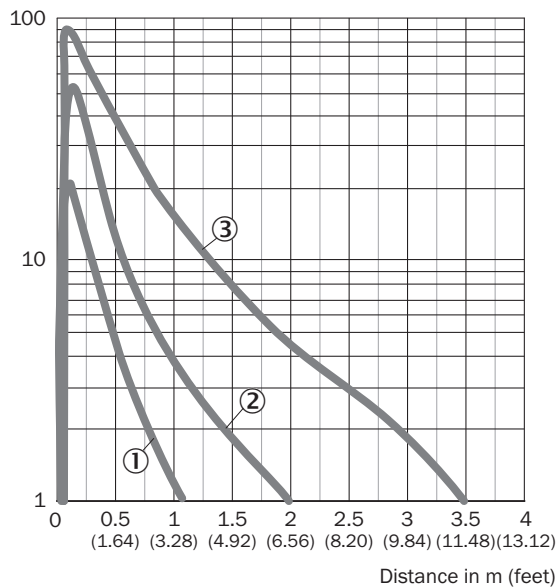


Connection diagram Cd-163



Characteristic curve

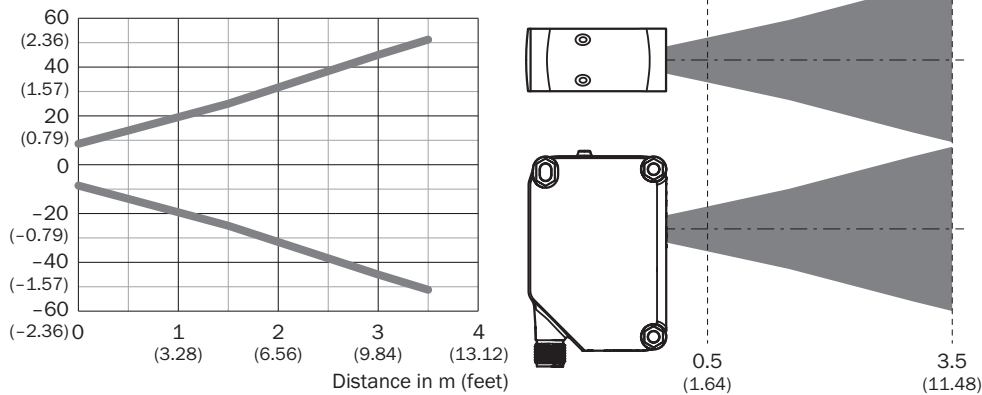
Operating reserve



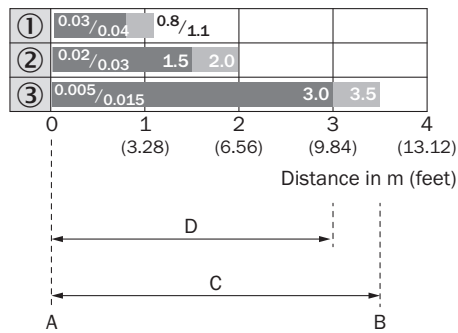
- ① Black object, 6% remission factor
- ② Gray object, 18% remission factor
- ③ White object, 90% remission factor

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

[illegible]

④ Fixing hole $\varnothing$ 4.3 mm, both sides for hexagon nut M4

	Brief description	Type	part no.
Mounting systems			
	• 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
connectors and cables			
	• Connection type head A: Male connector, M12, 5-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm² • Note: For field bus technology	STE-1205-G	6022083

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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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