

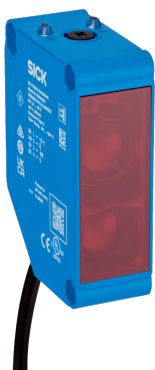


GTE20M-1IRC1170ZZZ

G20

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
GTE20M-1IRC1170ZZZ	1120839

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 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°
Indication	
LED green	Operating indicator Static on: power on
LED yellow	Status of received light beam Static on: object present

Static off: object not 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	
BN	+ (L+)
BU	N
WH	Relay COM
BK	Relay NO Relay output, light switching, object present → output LOW
GY	Relay NC Relay output, dark switching, object present → output HIGH

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	Cable, 5-wire, 2 m
Connection detail	
Deep-freeze property	Do not bend below 0 °C
Conductor size	0.14 mm ²
Cable diameter	Ø 8 mm
Length of cable (L)	2 m
Material	
Housing	Plastic, ABS
Front screen	Plastic, PMMA
Cable	PVC
Weight	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

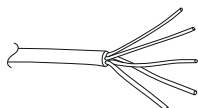
¹⁾ The max. ambient temperature is 50 °C (UL).

Classifications

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

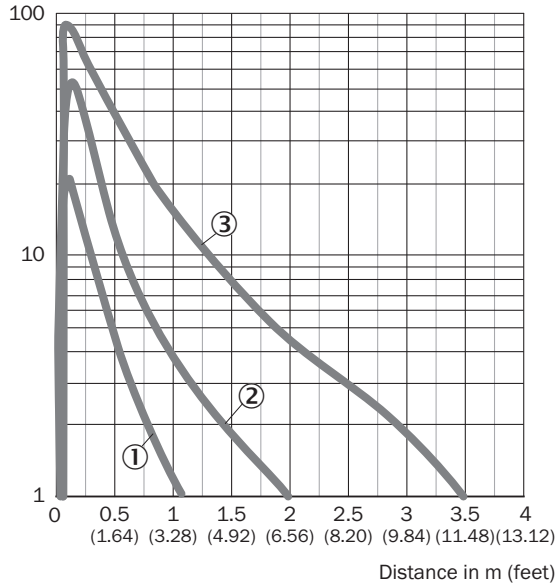
Connection type

Cable, 5-wire



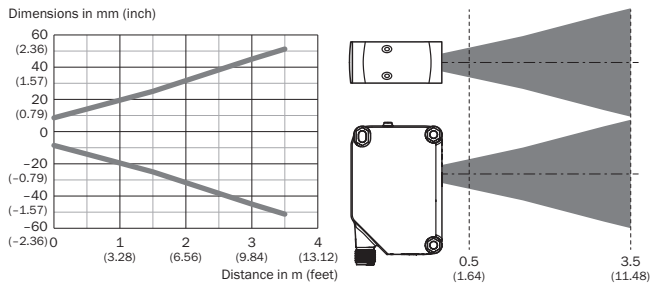
Characteristic curve

Operating reserve

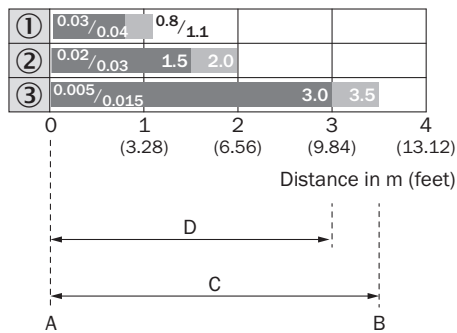


- ① Black object, 6% remission factor
- ② Gray object, 18% remission factor
- ③ White object, 90% remission factor

Light spot size

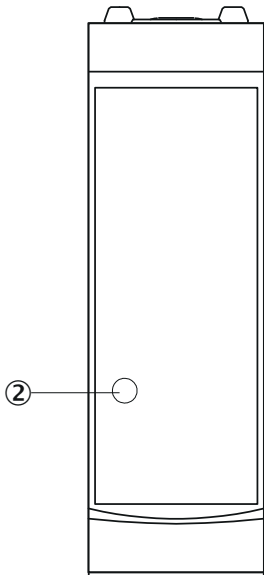


Sensing range diagram



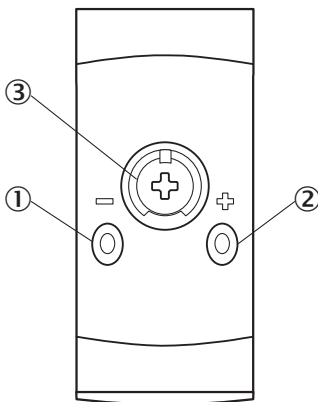
Adjustments

Display and adjustment elements



② LED yellow

Display and adjustment elements

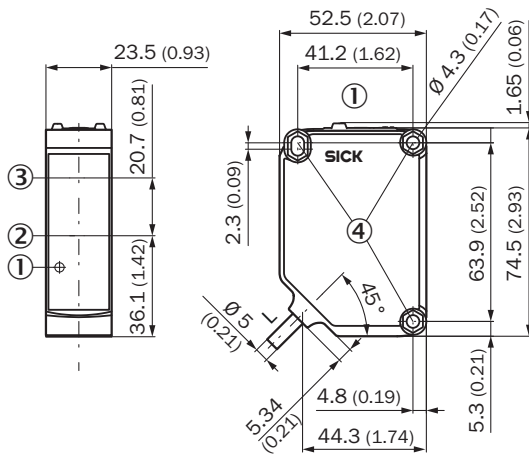


① LED green

② LED yellow

③ Potentiometer

Dimensional drawing (Dimensions in mm (inch))





For length of cable (L), see technical data

- 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
Plug connectors and cables			
	Head A: male connector, M12, 5-pin, straight Cable: unshielded For field bus technology	STE-1205-G	6022083

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