

Illustration may differ



### Ordering information

| Type               | part no. |
|--------------------|----------|
| GTE20G-24111170ZZZ | 1119847  |

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>  |   |
| Sensing range min.  | 0.02 m  |
| Sensing range max.  | 2 m   |
| Reference object  | Object with 90% remission factor (complies with standard white according to DIN 5033) |
| <b>Emitted beam</b>   |   |
| Light source  | LED   |
| Type of light   | Visible red 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 <sub>a</sub> = +23 °C)   |
| <b>Key LED figures</b>  |   |
| Normative reference   | EN 62471:2008-09   IEC 62471:2006, modified   |
| LED risk group marking  | Free group  |
| Wave length   | 630 nm  |
| Average service life  | 100,000 h at T <sub>a</sub> = +25 °C  |
| <b>Adjustment</b>   |   |
| Potentiometer   | For sensitivity adjustment, 270°  |
| <b>Display</b>  |   |
| LED green   | Operating indicator<br>Static on: power on  |
| LED yellow  | Status of received light beam<br>Static on: object present                            |

|  |                                |
|--|--------------------------------|
|  | Static off: object not present |
|--|--------------------------------|

### Safety-related parameters

|                         |           |
|-------------------------|-----------|
| <b>MTTF<sub>D</sub></b> | 726 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+)   |
| WH 2                                | $\bar{Q}$<br>Digital output, dark switching, object present → output $\bar{Q}$ LOW |
| BU 3                                | - (M)  |
| BK 4                                | Q<br>Digital output, light switching, object present → output Q HIGH               |

<sup>1)</sup> Limit values.

<sup>2)</sup> At U<sub>B</sub> > 24 V, I max. = 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>             | Male connector M12, 4-pin   |
| <b>Material</b>               |                             |
| Housing                       | Plastic, ABS                |
| Front screen                  | Plastic, PMMA               |
| <b>Weight</b>                 | Approx. 55 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  |
| <b>UL File No.</b>                         | NRKH.E348498 & NRKH7.E348498  |

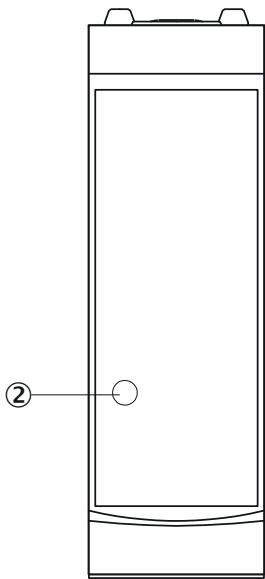
### Certificates

|  |   |
|--|---|
| <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>China-RoHS</b>                            | ✓ |
| <b>cULus certificate</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



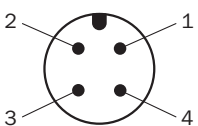
② LED yellow

display and adjustment elements

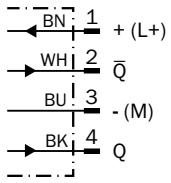


① LED green  
② LED yellow  
③ Potentiometer

Connection type M12 male connector, 4-pin

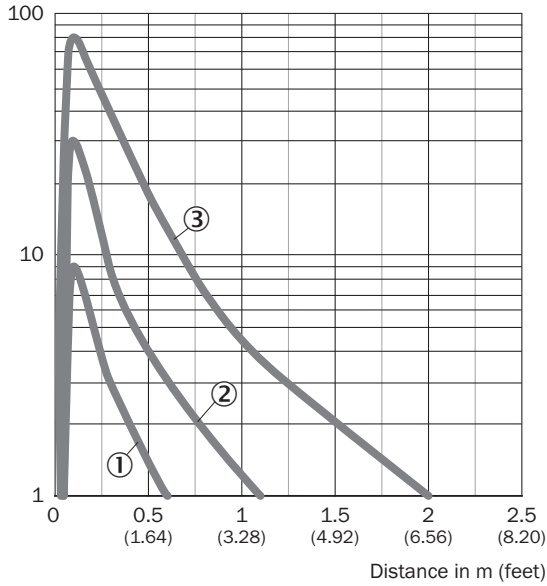


Connection diagram Cd-084



Characteristic curve

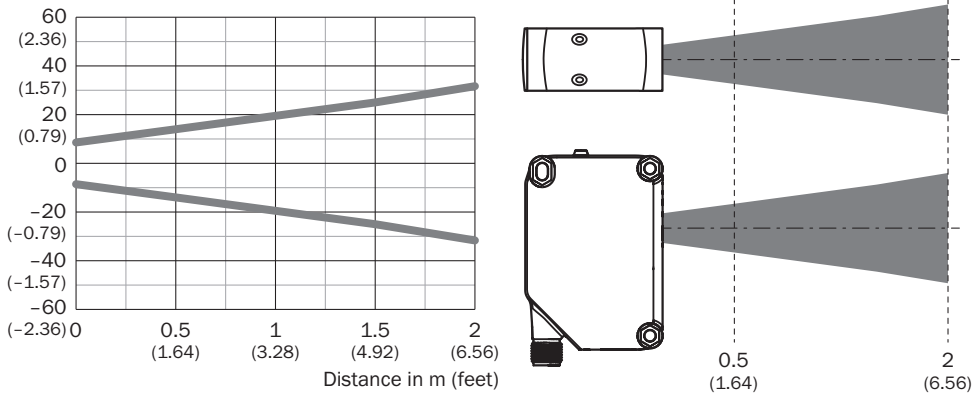
Operating reserve



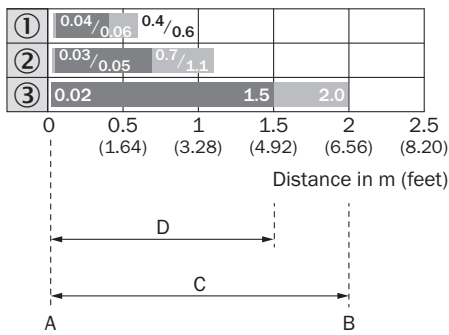
- ① Black object, 6% remission factor
- ② Gray object, 18% remission factor
- ③ White object, 90% remission factor

Light spot size

Dimensions in mm (inch)

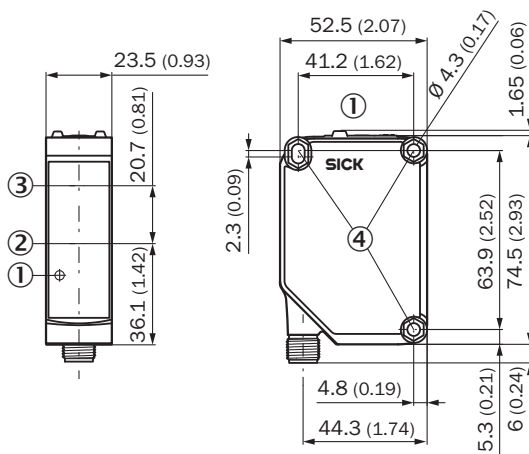


### Sensing range diagram



|   |  |
|---|--|
| 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. |
|--|--|--------------------|----------|
| <b>Mounting systems</b>  |  |                    |          |
|   | <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  |
| <b>connectors and cables</b>   |  |                    |          |
|   | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul> | YF2A14-050UB3XLEAX | 2095608  |
|   | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 4-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>  | YF2A14-050VB3XLEAX | 2096235  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, straight, A-coded</li> <li><b>Description:</b> Unshielded</li> <li><b>Connection systems:</b> Screw-type terminals</li> <li><b>Permitted cross-section:</b> ≤ 0.75 mm<sup>2</sup></li> </ul>   | STE-1204-G         | 6009932  |

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