



# GTE10-P4212

G10

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

| Type        | Part no. |
|-------------|----------|
| GTE10-P4212 | 1065867  |

Other models and accessories → [www.sick.com/G10](http://www.sick.com/G10)

## Detailed technical data

### Features

|                                        |                                           |
|----------------------------------------|-------------------------------------------|
| <b>Sensor/detection principle</b>      | Photoelectric proximity sensor, energetic |
| <b>Dimensions (W x H x D)</b>          | 20 mm x 50 mm x 39 mm                     |
| <b>Housing design (light emission)</b> | Rectangular                               |
| <b>Sensing range max.</b>              | 20 mm ... 1,300 mm <sup>1)</sup>          |
| <b>Sensing range</b>                   | 40 mm ... 950 mm <sup>1)</sup>            |
| <b>Type of light</b>                   | Visible red light                         |
| <b>Light source</b>                    | PinPoint LED <sup>2)</sup>                |
| <b>Light spot size (distance)</b>      | Ø 28 mm (1,400 mm)                        |
| <b>Wave length</b>                     | 625 nm                                    |
| <b>Adjustment</b>                      | Potentiometer, 270°                       |

<sup>1)</sup> Object with 90 % reflectance (referred to standard white, DIN 5033).

<sup>2)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

### Mechanics/electronics

|                          |                                   |
|--------------------------|-----------------------------------|
| <b>Supply voltage</b>    | 10 V DC ... 30 V DC <sup>1)</sup> |
| <b>Ripple</b>            | ± 5 V <sub>pp</sub> <sup>2)</sup> |
| <b>Power consumption</b> | ≤ 20 mA                           |

<sup>1)</sup> Limit values when operated in short-circuit protected network: max. 8 A.

<sup>2)</sup> May not exceed or fall below U<sub>V</sub> tolerances.

<sup>3)</sup> Signal transit time with resistive load.

<sup>4)</sup> With light/dark ratio 1:1.

<sup>5)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>6)</sup> B = inputs and output reverse-polarity protected.

<sup>7)</sup> C = interference suppression.

<sup>8)</sup> D = outputs overcurrent and short-circuit protected.

<sup>9)</sup> Complies with the UL325 standard when used with sturdy protection hood (e.g. BEF-G10WSG, 2071960).

|                                             |                                                                          |
|---------------------------------------------|--------------------------------------------------------------------------|
| <b>Output type</b>                          | PNP                                                                      |
| <b>Switching mode</b>                       | Light/dark switching                                                     |
| <b>Switching mode selector</b>              | Selectable via light/dark selector                                       |
| <b>Output current <math>I_{\max}</math></b> | $\leq 100 \text{ mA}$                                                    |
| <b>Response time</b>                        | $\leq 500 \mu\text{s}$ <sup>3)</sup>                                     |
| <b>Switching frequency</b>                  | 1,000 Hz <sup>4)</sup>                                                   |
| <b>Connection type</b>                      | Male connector M12, 4-pin                                                |
| <b>Circuit protection</b>                   | A <sup>5)</sup><br>B <sup>6)</sup><br>C <sup>7)</sup><br>D <sup>8)</sup> |
| <b>Protection class</b>                     | III                                                                      |
| <b>Weight</b>                               | 35 g                                                                     |
| <b>Housing material</b>                     | Plastic, ABS/PMMA                                                        |
| <b>Enclosure rating</b>                     | IP67                                                                     |
| <b>Items supplied</b>                       | Mounting bracket BEF-G10DC01                                             |
| <b>EMC</b>                                  | EN 60947-5-2                                                             |
| <b>Ambient operating temperature</b>        | -30 °C ... +60 °C                                                        |
| <b>Ambient storage temperature</b>          | -40 °C ... +70 °C                                                        |
| <b>UL File No.</b>                          | E348498                                                                  |
| <b>More standards</b>                       | UL325 <sup>9)</sup>                                                      |

<sup>1)</sup> Limit values when operated in short-circuit protected network: max. 8 A.

<sup>2)</sup> May not exceed or fall below  $U_V$  tolerances.

<sup>3)</sup> Signal transit time with resistive load.

<sup>4)</sup> With light/dark ratio 1:1.

<sup>5)</sup> A =  $V_S$  connections reverse-polarity protected.

<sup>6)</sup> B = inputs and output reverse-polarity protected.

<sup>7)</sup> C = interference suppression.

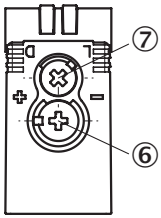
<sup>8)</sup> D = outputs overcurrent and short-circuit protected.

<sup>9)</sup> Complies with the UL325 standard when used with sturdy protection hood (e.g. BEF-G10WSG, 2071960).

## Classifications

|                       |          |
|-----------------------|----------|
| <b>ECI@ss 5.0</b>     | 27270903 |
| <b>ECI@ss 5.1.4</b>   | 27270903 |
| <b>ECI@ss 6.0</b>     | 27270903 |
| <b>ECI@ss 6.2</b>     | 27270903 |
| <b>ECI@ss 7.0</b>     | 27270903 |
| <b>ECI@ss 8.0</b>     | 27270903 |
| <b>ECI@ss 8.1</b>     | 27270903 |
| <b>ECI@ss 9.0</b>     | 27270903 |
| <b>ETIM 5.0</b>       | EC001821 |
| <b>ETIM 6.0</b>       | EC001821 |
| <b>UNSPSC 16.0901</b> | 39121528 |

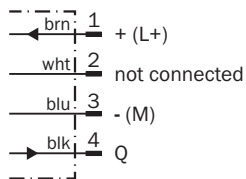
## Adjustments possible



- ⑥ Adjustment of sensing range
- ⑦ Light/dark selector

## Connection diagram

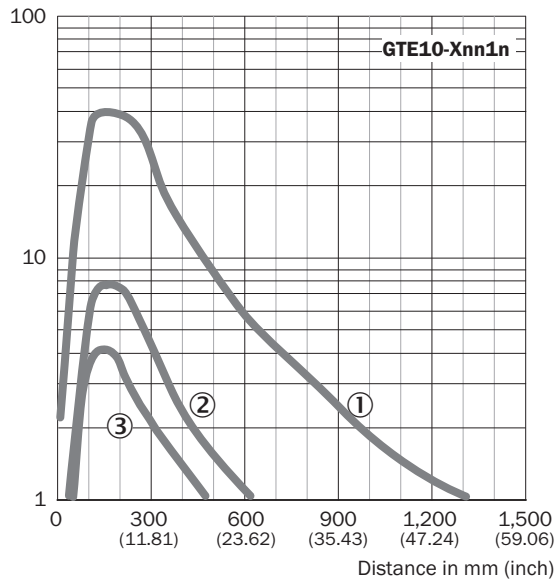
Cd-066



## Characteristic curve

GTE10, red light

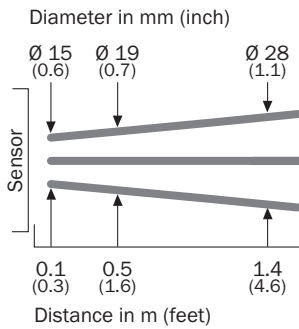
Operating reserve



- ① Sensing range on white, 90% remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on black, 6% remission

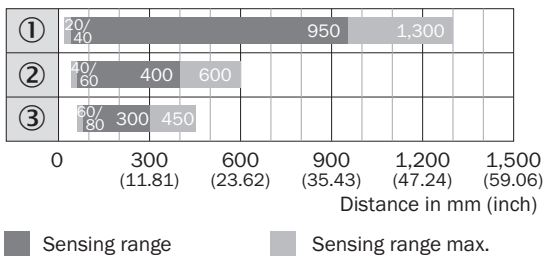
## Light spot size

GTE10, red light



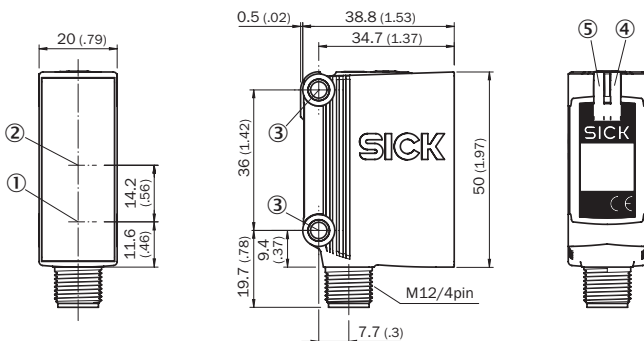
## Sensing range diagram

GTE10, red light



## Dimensional drawing (Dimensions in mm (inch))

GTE10, GL10, GL10G, DC, connector



## Recommended accessories

Other models and accessories → [www.sick.com/G10](http://www.sick.com/G10)

|                                                                                     | Brief description                                                                                                                                                                                                                   | Type           | Part no. |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|
| Universal bar clamp systems                                                         |                                                                                                                                                                                                                                     |                |          |
|    | Clamp bar to fix G10 sensors on rods of 10 mm, clamp-on design up to 4 mm wall thickness, aluminum (clamp bar), stainless steel (bracket), clamp bar for 10 mm rod mounting and clamp function, mounting bracket, mounting hardware | BEF-KHS-ISG10  | 2073756  |
|    | Q-Lock, bar clamp system for G10 and reflector P250, Die-cast zinc, steel, zinc coated                                                                                                                                              | BEF-KHSQ12R01  | 2071260  |
|                                                                                     | Bar clamp system for G10 and reflector P250, Die-cast zinc, steel, zinc coated, mounting hardware included                                                                                                                          | BEF-KHSQ12R02  | 2087586  |
|    | Q-Lock, bar clamp system for G10 and reflector P250, Die-cast zinc, steel, zinc coated, incl. slot-in sheet clamp                                                                                                                   | BEF-KHSQ12ZR01 | 2071262  |
|    | Mounting bar, straight, 200 mm, steel, steel, zinc coated, without mounting hardware                                                                                                                                                | BEF-MS12G-A    | 4056054  |
|                                                                                     | Mounting bar, straight, 300 mm, steel, steel, zinc coated, without mounting hardware                                                                                                                                                | BEF-MS12G-B    | 4056055  |
|    | Mounting bar, L-shaped, 150 mm x 150 mm, steel, steel, zinc coated, without mounting hardware                                                                                                                                       | BEF-MS12L-A    | 4056052  |
|                                                                                     | Mounting bar, L-shaped, 250 x 250 mm, steel, steel, zinc coated, without mounting hardware                                                                                                                                          | BEF-MS12L-B    | 4056053  |
|   | Mounting bar, Z-shaped, 150 mm x 70 mm x 150 mm, steel, steel, zinc coated, without mounting hardware                                                                                                                               | BEF-MS12Z-A    | 4056056  |
|                                                                                     | Mounting bar, Z-shaped, 150 mm x 70 mm x 250 mm, steel, steel, zinc coated, without mounting hardware                                                                                                                               | BEF-MS12Z-B    | 4056057  |
|  | Bar clamp for bar diameter of 12 mm (fixing the mounting rod), Aluminum, 2 screws M6 x 30, 2 spring discs                                                                                                                           | BEF-RMC-D12    | 5321878  |
| Mounting brackets and plates                                                        |                                                                                                                                                                                                                                     |                |          |
|  | Mounting bracket for wall and floor mounting for G10 DC, steel, zinc coated, mounting hardware included                                                                                                                             | BEF-G10DC01    | 2071258  |
|  | Mounting bracket for wall and floor mounting for G10 AC/DC, steel, zinc coated, mounting hardware included                                                                                                                          | BEF-G10UC01    | 2071259  |
| Plug connectors and cables                                                          |                                                                                                                                                                                                                                     |                |          |
|  | Head A: female connector, M12, 4-pin, straight<br>Head B: cable<br>Cable: PVC, unshielded, 2 m                                                                                                                                      | DOL-1204-G02M  | 6009382  |
|                                                                                     | Head A: female connector, M12, 4-pin, straight<br>Head B: cable<br>Cable: PVC, unshielded, 5 m                                                                                                                                      | DOL-1204-G05M  | 6009866  |
|  | Head A: female connector, M12, 4-pin, angled<br>Head B: cable<br>Cable: PVC, unshielded, 2 m                                                                                                                                        | DOL-1204-W02M  | 6009383  |
|                                                                                     | Head A: female connector, M12, 4-pin, angled<br>Head B: cable<br>Cable: PVC, unshielded, 5 m                                                                                                                                        | DOL-1204-W05M  | 6009867  |

## 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)