



# GL10-P4551

G10

**SMALL PHOTOELECTRIC SENSORS**

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

| Type       | Part no. |
|------------|----------|
| GL10-P4551 | 1064702  |

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

### Detailed technical data

#### Features

|                                        |                                                                |
|----------------------------------------|----------------------------------------------------------------|
| <b>Sensor/ detection principle</b>     | Photoelectric retro-reflective sensor, Dual lens               |
| <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>              | 0.15 m ... 12 m <sup>1)</sup><br>0.15 m ... 10 m <sup>2)</sup> |
| <b>Sensing range</b>                   | 0.3 m ... 9.5 m <sup>1)</sup><br>0.3 m ... 8 m <sup>2)</sup>   |
| <b>Type of light</b>                   | Visible red light                                              |
| <b>Light source</b>                    | PinPoint LED <sup>3)</sup>                                     |
| <b>Light spot size (distance)</b>      | Ø 58 mm (5 m)                                                  |
| <b>Wave length</b>                     | 625 nm                                                         |
| <b>Adjustment</b>                      | None                                                           |
| <b>Special applications</b>            | Detecting objects wrapped in film                              |
| <b>Special features</b>                | High functional reliability on foil-wrapped objects            |

<sup>1)</sup> Reflector PL80A.

<sup>2)</sup> Reflector P250.

<sup>3)</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>                          | $\pm 5 V_{pp}$ <sup>2)</sup>                                             |
| <b>Power consumption</b>               | 20 mA                                                                    |
| <b>Switching output</b>                | PNP                                                                      |
| <b>Switching mode</b>                  | Light switching                                                          |
| <b>Output current I<sub>max.</sub></b> | ≤ 100 mA                                                                 |
| <b>Response time</b>                   | ≤ 1 ms <sup>3)</sup>                                                     |
| <b>Switching frequency</b>             | 500 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>Polarisation filter</b>             | ✓                                                                        |
| <b>Housing material</b>                | Plastic, ABS/PMMA                                                        |
| <b>Enclosure rating</b>                | IP67                                                                     |
| <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>                     | NRKH.E348498 & NRKH7.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).

## Safety-related parameters

|                         |             |
|-------------------------|-------------|
| <b>MTTF<sub>D</sub></b> | 2,293 years |
| <b>DC<sub>avg</sub></b> | 0%          |

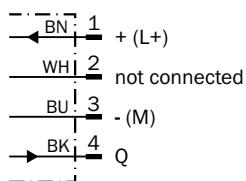
## Classifications

|                     |          |
|---------------------|----------|
| <b>ECI@ss 5.0</b>   | 27270902 |
| <b>ECI@ss 5.1.4</b> | 27270902 |
| <b>ECI@ss 6.0</b>   | 27270902 |
| <b>ECI@ss 6.2</b>   | 27270902 |
| <b>ECI@ss 7.0</b>   | 27270902 |
| <b>ECI@ss 8.0</b>   | 27270902 |

|                       |          |
|-----------------------|----------|
| <b>ECl@ss 8.1</b>     | 27270902 |
| <b>ECl@ss 9.0</b>     | 27270902 |
| <b>ECl@ss 10.0</b>    | 27270902 |
| <b>ECl@ss 11.0</b>    | 27270902 |
| <b>ETIM 5.0</b>       | EC002717 |
| <b>ETIM 6.0</b>       | EC002717 |
| <b>ETIM 7.0</b>       | EC002717 |
| <b>UNSPSC 16.0901</b> | 39121528 |

### Connection diagram

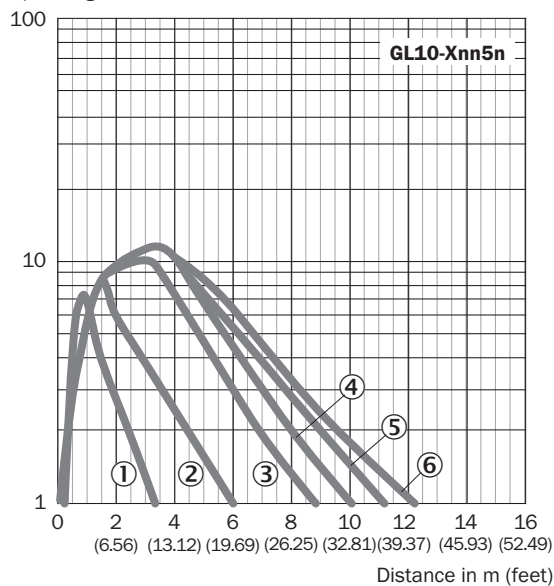
Cd-066



### Characteristic curve

GL10, Logistik, DC, GL10G, DC

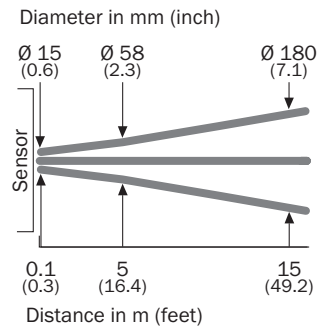
Operating Reserve



- ① Reflective tape REF-IRF-56
- ② Reflector PL20A
- ③ Reflector PL30A
- ④ Reflector P250
- ⑤ Reflector PL40A
- ⑥ Reflector PL80A

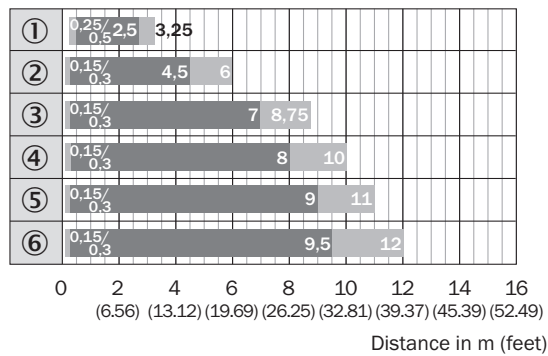
## Light spot size

Light spot size



## Sensing range diagram

GL10, Logistik, DC, GL10G, DC

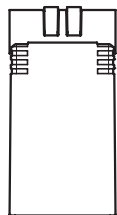


■ Sensing range ■ Sensing range max.

- ① Reflective tape REF-IRF-56
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- ⑤ Reflector PL40A
- ⑥ Reflector PL80A

## Adjustments possible

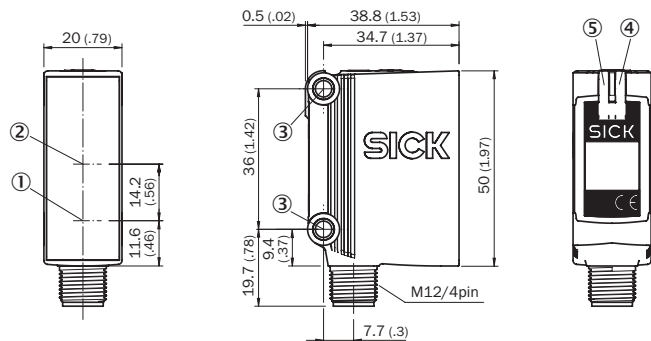
GL10, logistics, DC



No adjustment possibility

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

GTE10, GL10, GL10G, DC, connector



- ① Center of optical axis, sender
- ② Center of optical axis, receiver
- ③ Mounting hole, Ø 4.2 mm
- ④ LED indicator yellow: Status of received light beam
- ⑤ LED indicator green: power on

### Recommended accessories

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

|                              | Brief description                                                                                                                     | Type               | Part no. |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
| Universal bar clamp systems  |                                                                                                                                       |                    |          |
|                              | Q-Lock, bar clamp system for G10 and reflector P250, Die-cast zinc, steel, zinc coated                                                | BEF-KHSQ12R01      | 2071260  |
| Mounting brackets and plates |                                                                                                                                       |                    |          |
|                              | Universal mounting bracket for reflectors, steel, zinc coated                                                                         | BEF-WN-REFX        | 2064574  |
| Plug connectors and cables   |                                                                                                                                       |                    |          |
|                              | Head A: female connector, M12, 4-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF2A14-050VB3XLEAX | 2096235  |
|                              | Head A: male connector, M12, 4-pin, straight<br>Head B: -<br>Cable: unshielded                                                        | STE-1204-G         | 6009932  |
| Reflectors                   |                                                                                                                                       |                    |          |
|                              | Rectangular, screw connection, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting                                                     | P250               | 5304812  |

## 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)