



# GL10-R3712

G10

**SMALL PHOTOELECTRIC SENSORS**

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

Type	Part no.
GL10-R3712	1065897

**Included in delivery:** BEF-G10UC01 (1), P250 (1)

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

## Detailed technical data

### Features

<b>Functional principle</b>	Photoelectric retro-reflective sensor
<b>Functional principle detail</b>	With minimum distance to reflector (dual lens system)
<b>Dimensions (W x H x D)</b>	20 mm x 50 mm x 51.5 mm
<b>Housing design (light emission)</b>	Rectangular
<b>Sensing range max.</b>	0.08 m ... 15 m <sup>1)</sup> 0.08 m ... 12 m <sup>2)</sup>
<b>Sensing range</b>	0.15 m ... 12 m <sup>1)</sup> 0.15 m ... 10 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

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

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

<sup>3)</sup> Average service life: 100,000 h at T<sub>J</sub> = +25 °C.

## Mechanics/electronics

<b>Supply voltage <math>U_B</math></b>	24 V AC/DC ... 240 V AC/DC <sup>1)</sup>
<b>Ripple</b>	< 10 %
<b>Power consumption</b>	≤ 2.5 VA
<b>Switching output</b>	Relay, SPDT, electrically isolated <sup>2)</sup>
<b>Switching load max. (current/voltage)</b>	0.11 A (250 V DC) 3 A (30 V DC) 3 A (250 V AC)
<b>Response time</b>	≤ 10 ms
<b>Switching frequency</b>	20 Hz <sup>3)</sup>
<b>Connection type</b>	Cable, 5-wire, 2 m <sup>4)</sup>
<b>Cable material</b>	Plastic, PVC
<b>Conductor cross section</b>	0.25 mm <sup>2</sup>
<b>Circuit protection</b>	C <sup>5)</sup>
<b>Protection class</b>	II <sup>6)</sup>
<b>Weight</b>	115 g
<b>Polarisation filter</b>	✓
<b>Interference emission</b>	EN 61000-6-3 (2011-09) <sup>7)</sup>
<b>Housing material</b>	Plastic, ABS/PMMA
<b>Enclosure rating</b>	IP67
<b>Relay switching cycles min.</b>	100.000 cycles (3 A)
<b>Items supplied</b>	Mounting bracket BEF-G10UC01, Reflector P250
<b>Electromagnetic compatibility (EMC)</b>	EN 60947-5-2 EN 61000-6-3 (2011-09)
<b>Ambient operating temperature</b>	-30 °C ... +60 °C <sup>8)</sup>
<b>Ambient temperature, storage</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> ± 10 %.

<sup>2)</sup> Provide suitable spark suppression for inductive or capacitive loads.

<sup>3)</sup> With light/dark ratio 1:1.

<sup>4)</sup> Do not bend below 0 °C.

<sup>5)</sup> C = interference suppression.

<sup>6)</sup> Reference voltage: 250 V AC.

<sup>7)</sup> In the case of a DC supply (ref. to EN 61000-6-3) the length of cable between the supply source and the sensor must be < 30 m.

<sup>8)</sup> UL: 0 °C ... +50 °C.

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

## Safety-related parameters

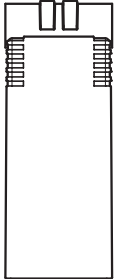
<b>MTTF<sub>D</sub></b>	1,456 years
<b>DC<sub>avg</sub></b>	0 %
<b>B<sub>10D</sub></b>	65,693 Switching cycles <sup>1)</sup>

<sup>1)</sup> Only for devices containing electro-mechanical components. In this case, the MTTFD value of the entire device must be calculated from the given B10D value, the number of switching cycles and the given MTTFD value.

Classifications

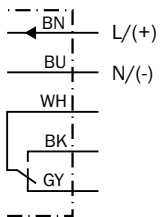
<b>ECLASS 5.0</b>	27270902
<b>ECLASS 5.1.4</b>	27270902
<b>ECLASS 6.0</b>	27270902
<b>ECLASS 6.2</b>	27270902
<b>ECLASS 7.0</b>	27270902
<b>ECLASS 8.0</b>	27270902
<b>ECLASS 8.1</b>	27270902
<b>ECLASS 9.0</b>	27270902
<b>ECLASS 10.0</b>	27270902
<b>ECLASS 11.0</b>	27270902
<b>ECLASS 12.0</b>	27270902
<b>ETIM 5.0</b>	EC002717
<b>ETIM 6.0</b>	EC002717
<b>ETIM 7.0</b>	EC002717
<b>ETIM 8.0</b>	EC002717
<b>UNSPSC 16.0901</b>	39121528

Adjustments



Connection diagram

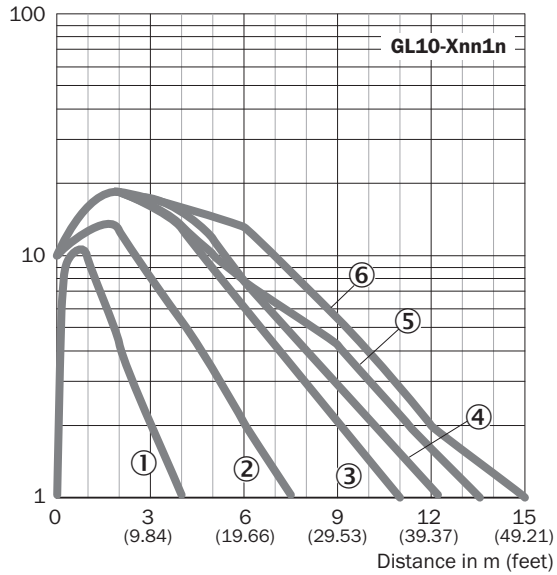
Cd-163



### Characteristic curve

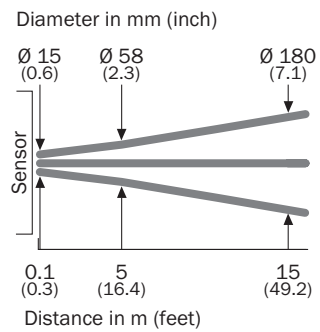
GL10

Operating reserve



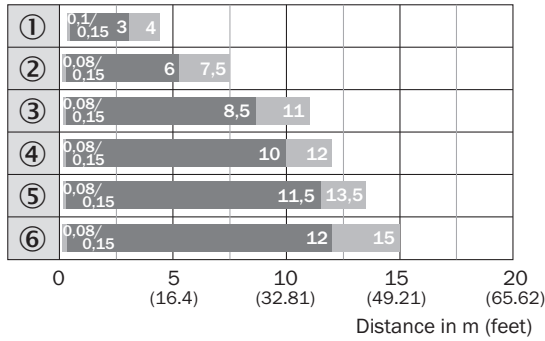
### Light spot size

Light spot size



## Sensing range diagram

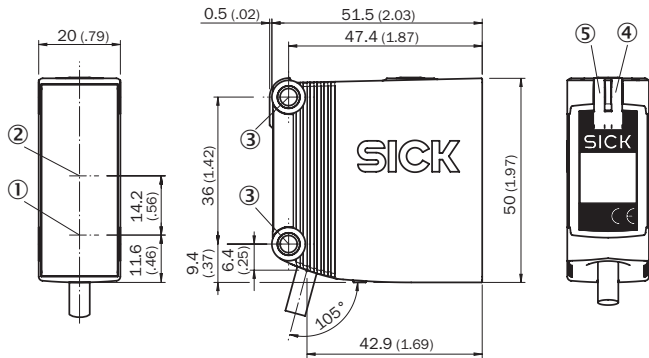
GL10



- Sensing range      ■ Sensing range max.
- ① Reflective tape REF-IRF-56
  - ② Reflector PL20A
  - ③ Reflector PL30A
  - ④ Reflector P250
  - ⑤ Reflector PL40A
  - ⑥ Reflector PL80A

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


GTE10, GL10, GL10G, AC/DC, cable






- ① Center of optical axis, sender
- ② Center of optical axis, receiver
- ③ Mounting hole,  $\varnothing$  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

	Brief description	Type	Part no.
<b>Mounting brackets and plates</b>			
	Universal mounting bracket for reflectors, steel, zinc coated	BEF-WN-REFX	2064574
<b>Reflectors</b>			
	Rectangular, screw connection, 51 mm x 61 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250	5304812
<b>Others</b>			
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Description:</b> Unshielded, Head A: male connector, M12, 5-pin, straight, unshielded, for cable diameter 4 mm ... 6 mm Head B: -</li> <li>• <b>Connection systems:</b> Screw-type terminals</li> <li>• <b>Permitted cross-section:</b> ≤ 0.75 mm<sup>2</sup></li> <li>• <b>Note:</b> For field bus technology</li> </ul>	STE-1205-G	6022083

## 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)