



GL10-00531S13  
G10

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	part no.
GL10-00531S13	1102892

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 39 mm
<b>Housing design (light emission)</b>	Rectangular
<b>Sensing range max.</b>	0.15 m ... 17 m <sup>1)</sup> 0.15 m ... 5 m <sup>2)</sup>
<b>Sensing range</b>	0.3 m ... 14 m <sup>1)</sup> 0.3 m ... 4 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 features</b>	Test input

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

<sup>2)</sup> Reflective tape REF-IRF-56.

<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>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	< 5 V <sub>pp</sub> <sup>2)</sup>
<b>Current consumption</b>	20 mA
<b>Switching output</b>	PNP
<b>Switching mode</b>	Light switching
<b>Output current <math>I_{max}</math></b>	≤ 100 mA
<b>Response time</b>	≤ 1 ms <sup>3)</sup>
<b>Switching frequency</b>	400 Hz <sup>4)</sup>
<b>Connection type</b>	Cable with plug M12, 5-pin, 300 mm <sup>5)</sup>
<b>Cable material</b>	Plastic, PVC
<b>Circuit protection</b>	A <sup>6)</sup> B <sup>7)</sup> C <sup>8)</sup> D <sup>9)</sup>
<b>Protection class</b>	III
<b>Weight</b>	70 g
<b>Polarizing filter</b>	✓
<b>Housing material</b>	Plastic, ABS/PMMA
<b>Enclosure rating</b>	IP67
<b>Electromagnetic compatibility (EMC)</b>	EN 60947-5-2
<b>Ambient operating temperature</b>	-30 °C ... +60 °C
<b>Ambient temperature, storage</b>	-40 °C ... +70 °C
<b>UL File No.</b>	NRKH.E348498 & NRKH7.E348498
<b>More standards</b>	UL325 <sup>10)</sup>

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

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

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

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

<sup>5)</sup> Do not bend below 0 °C.

<sup>6)</sup> A =  $V_S$  connections reverse-polarity protected.

<sup>7)</sup> B = inputs and output reverse-polarity protected.

<sup>8)</sup> C = interference suppression.

<sup>9)</sup> D = outputs overcurrent and short-circuit protected.

<sup>10)</sup> Complies with the UL325 standard when used with sturdy protection hood (e.g. BEF-G10WSG, 2071960).

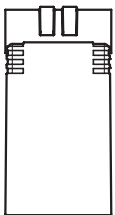
## Certificates

<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 (DIN EN 62471) certificate</b>	✓

### Classifications

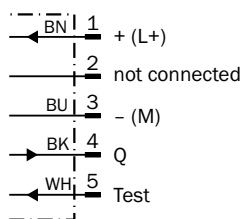
<b>ECLASS 5.0</b>	27270902
<b>ECLASS 5.1.4</b>	27270902
<b>ECLASS 6.0</b>	27270902
<b>ECLASS 6.2</b>	27270902
<b>ECLASS 7.0</b>	27270902
<b>ECLASS 8.0</b>	27270902
<b>ECLASS 8.1</b>	27270902
<b>ECLASS 9.0</b>	27270902
<b>ECLASS 10.0</b>	27270902
<b>ECLASS 11.0</b>	27270902
<b>ECLASS 12.0</b>	27270902
<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 GL10, logistics, DC

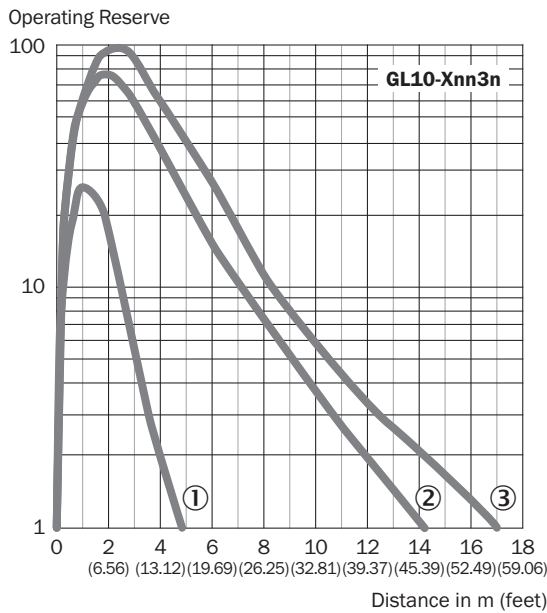


no adjustment possibility

### Connection diagram Cd-457

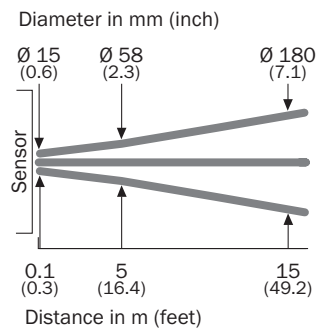


### Characteristic curve GL10, Logistik, DC, GL10G, DC

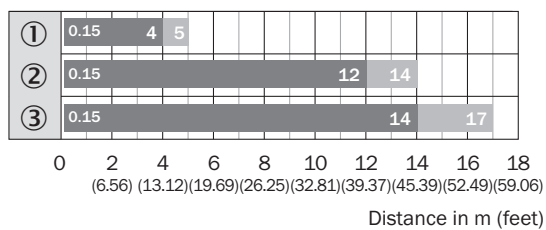


- ① Reflective tape REF-IRF-56
- ② Reflector PL40A
- ③ Reflector PL80A

### Light spot size

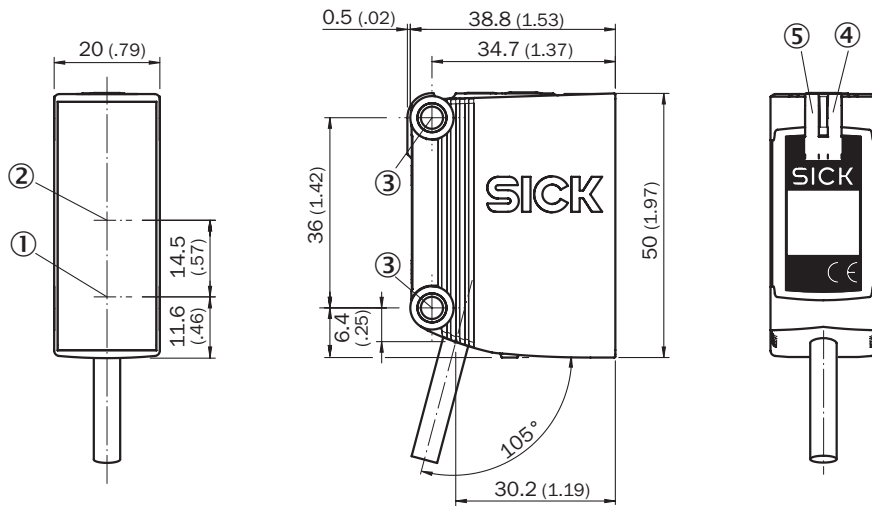


### Sensing range diagram GL10, Logistik, DC, GL10G, DC



- Sensing range
- Sensing range max.
- ① Reflective tape REF-IRF-56
- ② Reflector PL40A
- ③ Reflector PL80A

### Dimensional drawing CableGTE10, GL10, GL10G, DC, connector









Dimensions in mm (inch)

- 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.
Mounting systems			
	<ul style="list-style-type: none"> <li>• <b>Description:</b> Q-Lock, bar clamp system for G10 and reflector P250</li> <li>• <b>Material:</b> Zinc diecast, steel</li> <li>• <b>Details:</b> Die-cast zinc, steel, zinc coated</li> <li>• <b>Suitable for:</b> G10 and reflector P250</li> </ul>	BEF-KHSQ12R01	2071260
	<ul style="list-style-type: none"> <li>• <b>Description:</b> Mounting bracket with articulated arm</li> <li>• <b>Material:</b> Steel</li> <li>• <b>Details:</b> Steel, zinc coated</li> <li>• <b>Items supplied:</b> Mounting hardware included</li> <li>• <b>Suitable for:</b> W16, W26, W11, W12, W23, W27, Dx50, W280, G10</li> </ul>	BEF-WN-MULTI2	2093945
	<ul style="list-style-type: none"> <li>• <b>Description:</b> Universal mounting bracket for reflectors</li> <li>• <b>Dimensions (W x H x L):</b> 85 mm x 90 mm x 35 mm</li> <li>• <b>Material:</b> Steel</li> <li>• <b>Details:</b> Steel, zinc coated</li> <li>• <b>Suitable for:</b> C110A, P250, PL20, PL30A, PL40A, PL80A</li> </ul>	BEF-WN-REFX	2064574

	Brief description	Type	part no.
reflectors and optics			
	<ul style="list-style-type: none"> <li><b>Description:</b> Rectangular, screw connection</li> <li><b>Dimensions:</b> 51 mm 61 mm</li> <li><b>Ambient operating temperature:</b> -30 °C ... +65 °C</li> </ul>	P250	5304812
connectors and cables			
	<ul style="list-style-type: none"> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Connection type head A:</b> Female connector, M12, 5-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, 5-wire, PUR, halogen-free</li> <li><b>Application:</b> Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A15-050UB5XLEAX	2095618
	<ul style="list-style-type: none"> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Connection type head A:</b> Female connector, M12, 5-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, 5-wire, PVC</li> <li><b>Application:</b> Uncontaminated zones, Zones with chemicals</li> </ul>	YF2A15-050VB5XLEAX	2096240

## 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)