



# GSE6-P6112

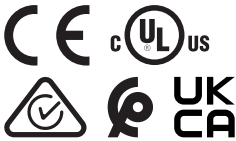
G6

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



Ordering information

| Type       | part no. |
|------------|----------|
| GSE6-P6112 | 1054850  |

Included in delivery: BEF-W100-A (1)  
Other models and accessories → [www.sick.com/G6](http://www.sick.com/G6)

Detailed technical data

Features

|                            |                                                          |
|----------------------------|----------------------------------------------------------|
| Functional principle       | Through-beam photoelectric sensor                        |
| Sensing range max.         | 0 m ... 15 m                                             |
| Sensing range              | 0 m ... 10 m                                             |
| Polarisation filter        | No                                                       |
| Emitted beam               |                                                          |
| Light source               | PinPoint LED <sup>1)</sup>                               |
| Type of light              | Visible red light                                        |
| Light spot size (distance) | Ø 375 mm (12 m)                                          |
| Key LED figures            |                                                          |
| Wave length                | 650 nm                                                   |
| Adjustment                 | None                                                     |
| Items supplied             | Stainless steel mounting bracket (1.4301/304) BEF-W100-A |

<sup>1)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

Electronics

|                               |                                   |
|-------------------------------|-----------------------------------|
| Supply voltage U <sub>B</sub> | 10 V DC ... 30 V DC <sup>1)</sup> |
| Ripple                        | ± 10 % <sup>2)</sup>              |
| Current consumption           | 30 mA <sup>3)</sup>               |
| Protection class              | III                               |
| Digital output                |                                   |

<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<sub>V</sub> tolerances.  
<sup>3)</sup> Without load.  
<sup>4)</sup> At U<sub>V</sub> > 24 V, I<sub>A</sub> max. = 50 mA.  
<sup>5)</sup> Signal transit time with resistive load.  
<sup>6)</sup> With light/dark ratio 1:1.  
<sup>7)</sup> A = V<sub>S</sub> connections reverse-polarity protected.  
<sup>8)</sup> B = inputs and output reverse-polarity protected.  
<sup>9)</sup> D = outputs overcurrent and short-circuit protected.

|                                 |                                                          |
|---------------------------------|----------------------------------------------------------|
| Type                            | PNP                                                      |
| Switching mode                  | Light/dark switching                                     |
| Switching mode selector         | Selectable via light/dark selector                       |
| Signal voltage PNP HIGH/LOW     | $V_S - (\leq 3 \text{ V}) / \text{approx. } 0 \text{ V}$ |
| Output current $I_{\text{max}}$ | $\leq 100 \text{ mA}^{4)}$                               |
| Response time                   | $< 500 \mu\text{s}^{5)}$                                 |
| Switching frequency             | $1,000 \text{ Hz}^{6)}$                                  |
| <b>Circuit protection</b>       | A <sup>7)</sup><br>B <sup>8)</sup><br>D <sup>9)</sup>    |

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

2) May not fall below or exceed  $U_V$  tolerances.

3) Without load.

4) At  $U_V > 24 \text{ V}$ ,  $I_A \text{ max.} = 50 \text{ mA}$ .

5) Signal transit time with resistive load.

6) With light/dark ratio 1:1.

7) A =  $V_S$  connections reverse-polarity protected.

8) B = inputs and output reverse-polarity protected.

9) D = outputs overcurrent and short-circuit protected.

## Mechanics

|                               |                                                   |
|-------------------------------|---------------------------------------------------|
| <b>Housing</b>                | Rectangular                                       |
| <b>Dimensions (W x H x D)</b> | 12 mm x 31.5 mm x 21 mm                           |
| <b>Connection</b>             | Cable with M8 male connector, 4-pin <sup>1)</sup> |
| <b>Connection detail</b>      |                                                   |
| Conductor size                | 0.14 mm <sup>2</sup>                              |
| Length of cable (L)           | 300 mm <sup>1)</sup>                              |
| <b>Material</b>               |                                                   |
| Housing                       | Plastic, ABS/PC                                   |
| Front screen                  | Plastic, PMMA                                     |
| Cable                         | Plastic, PVC                                      |
| <b>Weight</b>                 | 40 g                                              |

1) Do not bend below  $0^\circ \text{C}$ .

## Ambient data

|                                      |                                                    |
|--------------------------------------|----------------------------------------------------|
| <b>Enclosure rating</b>              | IP67                                               |
| <b>Ambient operating temperature</b> | $-25^\circ \text{C} \dots +55^\circ \text{C}^{1)}$ |
| <b>Ambient temperature, storage</b>  | $-40^\circ \text{C} \dots +70^\circ \text{C}$      |
| <b>UL File No.</b>                   | NRKH.E348498 & NRKH7.E348498                       |

1) Temperature stability following adjustment  $\pm 10^\circ \text{C}$ .

## Certificates

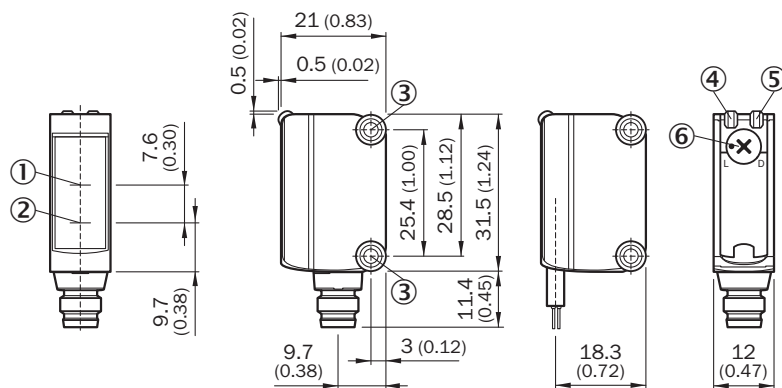
|                                       |   |
|---------------------------------------|---|
| <b>EU declaration of conformity</b>   | ✓ |
| <b>UK declaration of conformity</b>   | ✓ |
| <b>ACMA declaration of conformity</b> | ✓ |

|                                                   |   |
|---------------------------------------------------|---|
| Moroccan declaration of conformity                | ✓ |
| China RoHS                                        | ✓ |
| cULus certificate                                 | ✓ |
| Photobiological safety (DIN EN 62471) certificate | ✓ |

## Classifications

|                       |          |
|-----------------------|----------|
| <b>ECLASS 5.0</b>     | 27270901 |
| <b>ECLASS 5.1.4</b>   | 27270901 |
| <b>ECLASS 6.0</b>     | 27270901 |
| <b>ECLASS 6.2</b>     | 27270901 |
| <b>ECLASS 7.0</b>     | 27270901 |
| <b>ECLASS 8.0</b>     | 27270901 |
| <b>ECLASS 8.1</b>     | 27270901 |
| <b>ECLASS 9.0</b>     | 27270901 |
| <b>ECLASS 10.0</b>    | 27270901 |
| <b>ECLASS 11.0</b>    | 27270901 |
| <b>ECLASS 12.0</b>    | 27270901 |
| <b>ETIM 5.0</b>       | EC002716 |
| <b>ETIM 6.0</b>       | EC002716 |
| <b>ETIM 7.0</b>       | EC002716 |
| <b>ETIM 8.0</b>       | EC002716 |
| <b>UNSPSC 16.0901</b> | 39121528 |

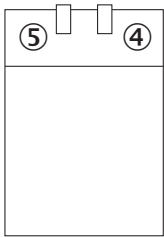
## Dimensional drawing



Dimensions in mm (inch)

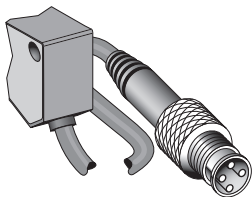
- ① Optical axis, receiver
- ② Optical axis, sender
- ③ Mounting holes M3
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ Light/ dark rotary switch: L = light switching, D = dark switching

## Adjustments No adjustment possibility

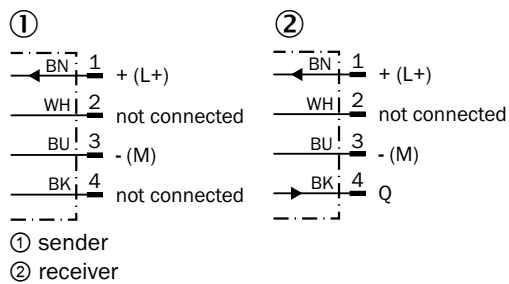


- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam

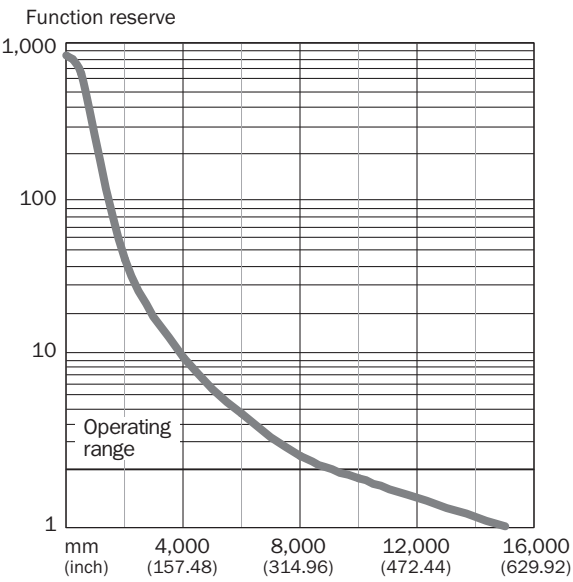
## Connection type



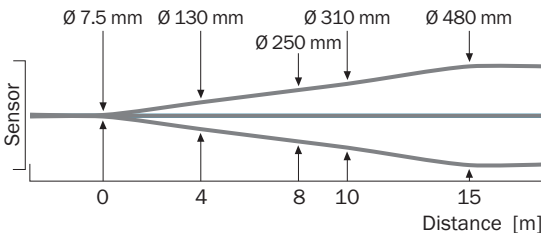
## Connection diagram Cd-057



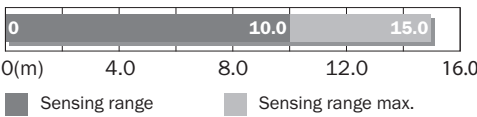
Characteristic curve With GE6-P1111, GE6-N1111, GE6-P1111S63



Light spot size



Sensing range diagram



## Recommended accessories

Other models and accessories → [www.sick.com/G6](http://www.sick.com/G6)

|                                                                                     | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Type               | part no. |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
| Mounting systems                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |          |
|   | <ul style="list-style-type: none"> <li><b>Description:</b> Clamp bar to fix G6 sensors on rods of 12 mm, clamp-on design up to 4 mm wall thickness</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Aluminum (clamp bar), stainless steel (bracket)</li> <li><b>Items supplied:</b> Clamp bar mounting and clamp function, mounting bracket, mounting hardware</li> </ul>                                                                                           | BEF-KHS-IS12G6     | 2086865  |
|                                                                                     | <ul style="list-style-type: none"> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel (1.4301)</li> <li><b>Suitable for:</b> W4S, W4S</li> </ul>                                                                                                                                                                                                                                                                                                 | BEF-WN-G6          | 2062909  |
|                                                                                     | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket for wall mounting</li> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel</li> <li><b>Items supplied:</b> Mounting hardware included</li> <li><b>Suitable for:</b> W8, W8G, W8 Laser, W8 Inox, G6, G6 Inox, W100 Laser, W100-2, KTM Core, KTM Prime, CSM, LUTM, W4S</li> </ul>                                                                                       | BEF-W100-A         | 5311520  |
|                                                                                     | <ul style="list-style-type: none"> <li><b>Description:</b> Plate N11N for universal clamp bracket</li> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)</li> <li><b>Items supplied:</b> Universal clamp (5322627), mounting hardware</li> <li><b>Usable for:</b> DeltaPac, Glare, WTD20E</li> </ul>                                                                                             | BEF-KHS-N11N       | 2071081  |
| connectors and cables                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |          |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 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>                                                      | YF8U14-050VA3XLEAX | 2095889  |
|                                                                                     | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 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> | YF8U14-050UA3XLEAX | 2094792  |
|                                                                                     | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M8, 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> 0.14 mm² ... 0.5 mm²</li> </ul>                                                                                                                                                                                | STE-0804-G         | 6037323  |

## 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)