



**GSE6-F7311V**

G6

**MINIATURE PHOTOELECTRIC SENSORS**

**SICK**  
Sensor Intelligence.



Illustration may differ

**ECOLAB**



### Ordering information

| Type        | Part no. |
|-------------|----------|
| GSE6-F7311V | 1092108  |

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

### Detailed technical data

#### Features

|                             |                                   |
|-----------------------------|-----------------------------------|
| <b>Functional principle</b> | Through-beam photoelectric sensor |
| <b>Sensing range max.</b>   | 0 m ... 14.5 m                    |
| <b>Sensing range</b>        | 0 m ... 10 m                      |
| <b>Polarisation filters</b> | No                                |
| <b>Emitted beam</b>         |                                   |
| Light source                | PinPoint LED <sup>1)</sup>        |
| Type of light               | Visible red light                 |
| Light spot size (distance)  | Ø 310 mm (10 m)                   |
| <b>Key LED figures</b>      |                                   |
| Wave length                 | 650 nm                            |
| <b>Adjustment</b>           | None                              |
| <b>Special applications</b> | Hygienic and washdown zones       |

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

#### Safety-related parameters

|                         |           |
|-------------------------|-----------|
| <b>MTTF<sub>D</sub></b> | 849 years |
| <b>DC<sub>avg</sub></b> | 0 %       |

#### Electronics

|                                     |                                   |
|-------------------------------------|-----------------------------------|
| <b>Supply voltage U<sub>B</sub></b> | 10 V DC ... 30 V DC <sup>1)</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<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.

|                                 |  |
|---------------------------------|--|
| <b>Ripple</b>                   | $\pm 10\%$ <sup>2)</sup>                               |
| <b>Current consumption</b>      | 30 mA <sup>3)</sup>                                    |
| <b>Protection class</b>         | III  |
| <b>Digital output</b>           |  |
| Type                            | PNP  |
| Switching mode                  | Light/dark switching                                   |
| Signal voltage PNP HIGH/LOW     | $V_S - (\leq 3\text{ V}) / \text{approx. } 0\text{ V}$ |
| Output current $I_{\text{max}}$ | $\leq 100\text{ mA}$ <sup>4)</sup>                     |
| Response time                   | $< 625\ \mu\text{s}$ <sup>5)</sup>                     |
| Switching frequency             | 1,000 Hz <sup>6)</sup>                                 |
| <b>Output function</b>          | Complementary switching output                         |
| <b>Circuit protection</b>       | A <sup>7)</sup><br>B <sup>8)</sup><br>D <sup>9)</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  $U_V$  tolerances.

<sup>3)</sup> Without load.

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

<sup>5)</sup> Signal transit time with resistive load.

<sup>6)</sup> With light/dark ratio 1:1.

<sup>7)</sup> A =  $V_S$  connections reverse-polarity protected.

<sup>8)</sup> B = inputs and output reverse-polarity protected.

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

## Mechanics

|                               |   |
|-------------------------------|---|
| <b>Housing</b>                | Rectangular                               |
| <b>Dimensions (W x H x D)</b> | 15 mm x 44 mm x 22 mm                     |
| <b>Connection</b>             | Cable with M12 male connector, 4-pin      |
| <b>Connection detail</b>      |   |
| Length of cable (L)           | 300 mm                                    |
| <b>Material</b>               |   |
| Housing                       | Metal, Stainless steel V4A (1.4404, 316L) |
| Front screen                  | Plastic, PMMA                             |
| <b>Weight</b>                 | 90 g                                      |

## Ambient data

|                                      |   |
|--------------------------------------|---|
| <b>Enclosure rating</b>              | IP67<br>IP69K <sup>1)</sup>   |
| <b>Ambient operating temperature</b> | $-25\text{ }^\circ\text{C} \dots +55\text{ }^\circ\text{C}$ <sup>2)</sup> |
| <b>Ambient temperature, storage</b>  | $-30\text{ }^\circ\text{C} \dots +75\text{ }^\circ\text{C}$               |
| <b>UL File No.</b>                   | NRKH.E348498 & NRKH7.E348498  |

<sup>1)</sup> According to ISO 20653:2013-03.

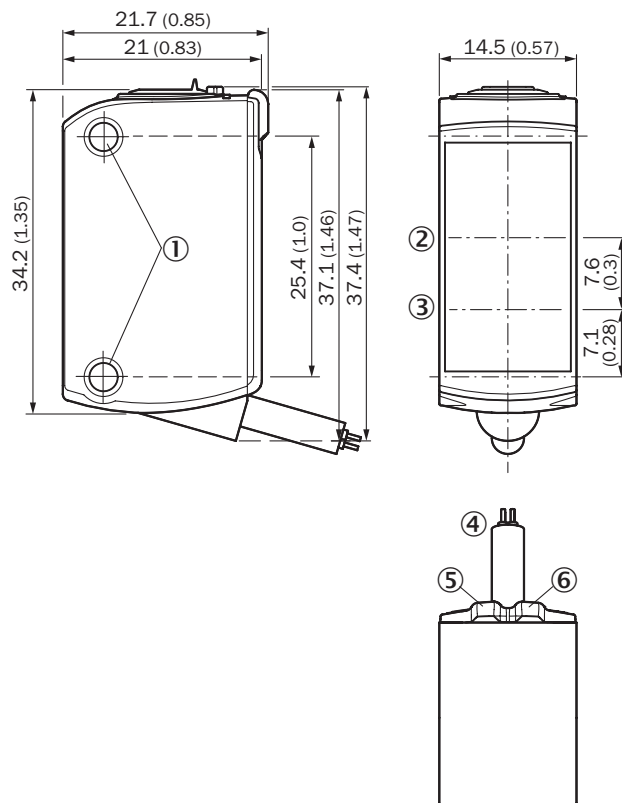
<sup>2)</sup> Temperature stability following adjustment  $\pm 10\text{ }^\circ\text{C}$ .

## 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 |

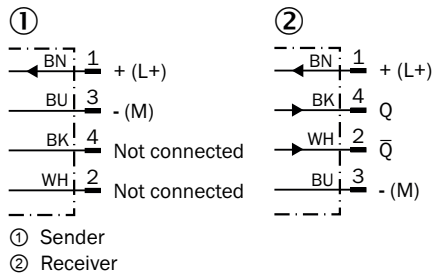
### Dimensional drawing (Dimensions in mm (inch))



- ① M3 mounting hole
- ② Optical axis, receiver
- ③ Optical axis, sender
- ④ Connection
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ LED indicator green: Supply voltage active

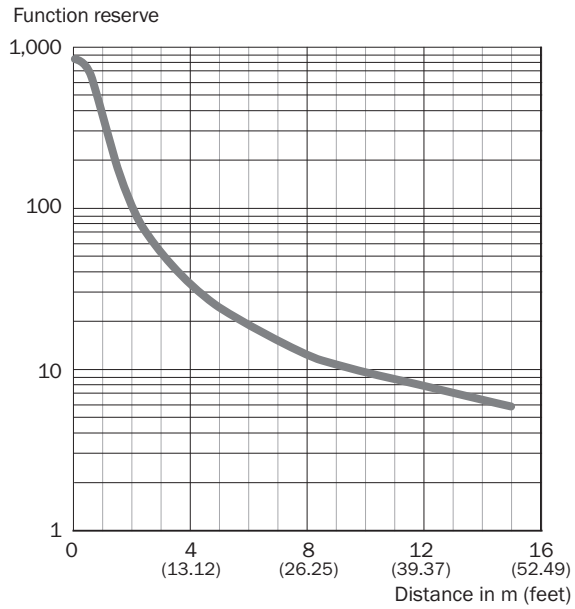
### Connection diagram

Cd-232



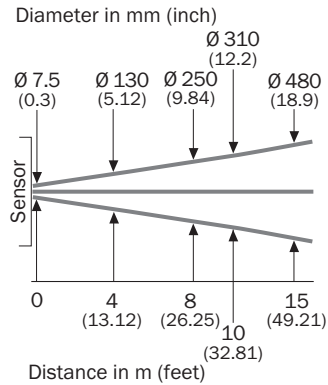
### Characteristic curve

GSE6 Inox, Red, Standard



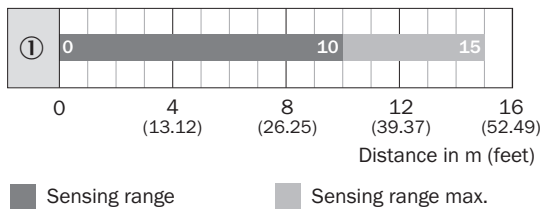
**Light spot size**

GSE6 Inox, Red, Standard





**Sensing range diagram**


GSE6 Inox, Red, Standard



**Recommended accessories**

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

|   | <b>Brief description</b>   | <b>Type</b>    | <b>Part no.</b> |
|---|--|----------------|-----------------|
| <b>Universal bar clamp systems</b>  |  |                |                 |
|  | Clamp bar to fix G6 sensors on rods of 12 mm, clamp-on design up to 4 mm wall thickness, aluminum (clamp bar), stainless steel (bracket), clamp bar mounting and clamp function, mounting bracket, mounting hardware | BEF-KHS-IS12G6 | 2086865         |
| <b>Mounting brackets and plates</b>   |  |                |                 |
|  | Mounting bracket for wall mounting, stainless steel, mounting hardware included  | BEF-W100-A     | 5311520         |

|   | Brief description   | Type            | Part no. |
|---|---|-----------------|----------|
| Others  |   |                 |          |
|  | <ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight</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>Connection systems:</b> Flying leads</li> <li>• <b>Note:</b> This product is generally resistant to chemical cleaning agents (see ECOLAB). Please do not use cleaning agents of any other Kind., Not resistant against lactic acid &amp; hydrogen peroxide (H2O2)</li> <li>• <b>Application:</b> Hygienic and washdown zones</li> </ul> | DOL-1204-G05MNI | 6052615  |

## 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)