



# GL6-N4111

G6

MINIATURE PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

| Type      | Part no. |
|-----------|----------|
| GL6-N4111 | 1050707  |

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

Illustration may differ



### Detailed technical data

#### Features

|  |  |
|--|--|
| <b>Sensor/ detection principle</b>     | Photoelectric retro-reflective sensor, Dual lens |
| <b>Dimensions (W x H x D)</b>          | 12 mm x 31.5 mm x 21 mm                          |
| <b>Housing design (light emission)</b> | Rectangular                                      |
| <b>Sensing range max.</b>              | ≤ 6 m <sup>1)</sup>                              |
| <b>Sensing range</b>                   | ≤ 5 m <sup>1)</sup>                              |
| <b>Type of light</b>                   | Visible red light                                |
| <b>Light source</b>                    | PinPoint LED <sup>2)</sup>                       |
| <b>Light spot size (distance)</b>      | Ø 8 mm (350 mm)                                  |
| <b>Wave length</b>                     | 650 nm   |
| <b>Adjustment</b>                      | None   |

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

<sup>2)</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>         | ± 10 % <sup>2)</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<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.

<sup>10)</sup> Temperature stability following adjustment +/-10 °C.

|   |   |
|---|---|
| <b>Power consumption</b>                          | 30 mA <sup>3)</sup>                                   |
| <b>Switching output</b>                           | NPN   |
| <b>Switching mode</b>                             | Light/dark switching                                  |
| <b>Switching mode selector</b>                    | Selectable via light/dark selector                    |
| <b>Signal voltage NPN HIGH/LOW</b>                | Approx. $V_S / \leq 3 \text{ V}$                      |
| <b>Output current <math>I_{\text{max}}</math></b> | $\leq 100 \text{ mA}$ <sup>4)</sup>                   |
| <b>Response time</b>                              | $< 625 \mu\text{s}$ <sup>5)</sup>                     |
| <b>Switching frequency</b>                        | 1,000 Hz <sup>6)</sup>                                |
| <b>Connection type</b>                            | Male connector M8, 4-pin                              |
| <b>Circuit protection</b>                         | A <sup>7)</sup><br>B <sup>8)</sup><br>D <sup>9)</sup> |
| <b>Protection class</b>                           | III   |
| <b>Weight</b>                                     | 20 g  |
| <b>Polarisation filter</b>                        | ✓   |
| <b>Housing material</b>                           | Plastic, ABS/PC                                       |
| <b>Optics material</b>                            | Plastic, PMMA   |
| <b>Enclosure rating</b>                           | IP67  |
| <b>Ambient operating temperature</b>              | $-25 \text{ °C} \dots +55 \text{ °C}$ <sup>10)</sup>  |
| <b>Ambient storage temperature</b>                | $-40 \text{ °C} \dots +70 \text{ °C}$                 |
| <b>UL File No.</b>                                | NRKH.E348498 & NRKH7.E348498                          |

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

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

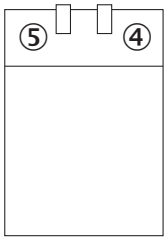
10) Temperature stability following adjustment  $\pm 10 \text{ °C}$ .

## Classifications

|                       |          |
|-----------------------|----------|
| <b>ECl@ss 5.0</b>     | 27270902 |
| <b>ECl@ss 5.1.4</b>   | 27270902 |
| <b>ECl@ss 6.0</b>     | 27270902 |
| <b>ECl@ss 6.2</b>     | 27270902 |
| <b>ECl@ss 7.0</b>     | 27270902 |
| <b>ECl@ss 8.0</b>     | 27270902 |
| <b>ECl@ss 8.1</b>     | 27270902 |
| <b>ECl@ss 9.0</b>     | 27270902 |
| <b>ETIM 5.0</b>       | EC002717 |
| <b>ETIM 6.0</b>       | EC002717 |
| <b>UNSPSC 16.0901</b> | 39121528 |

**Adjustments possible**

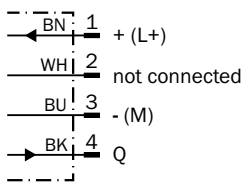
No adjustment possibility



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

**Connection diagram**

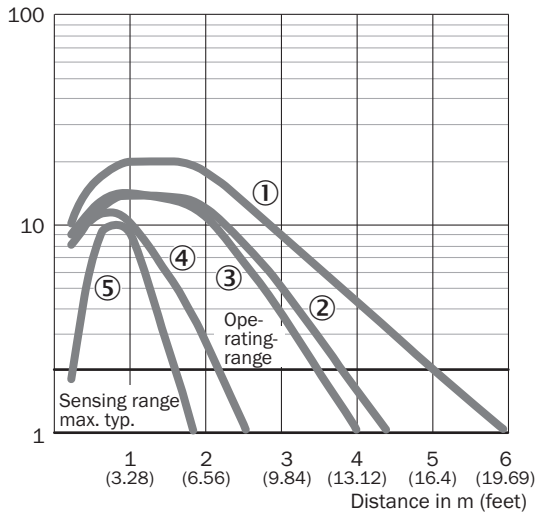
Cd-066



**Characteristic curve**

GL6

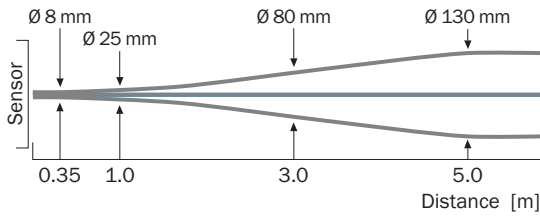
Operating reserve



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

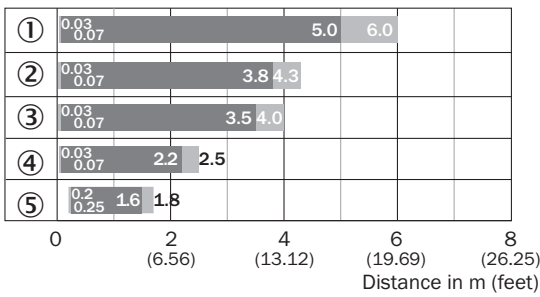
### Light spot size

GL6, GL6G



### Sensing range diagram

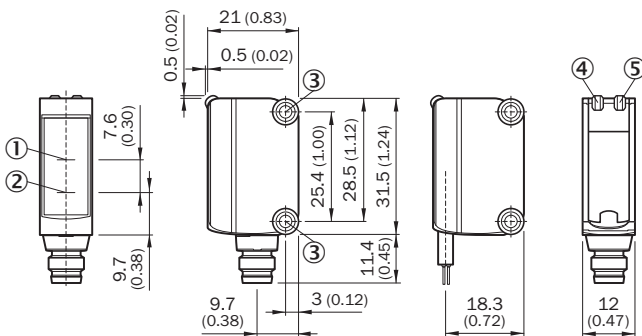
GL6, GL6G



■ Sensing range      ■ Sensing range max.

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

### 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

**Recommended accessories**

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

|   | Brief description  | Type               | Part no. |
|---|--|--------------------|----------|
| <b>Universal bar clamp systems</b>  |  |                    |          |
|    | Clamp bar to fix G6 sensors on rods of 10 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-ISG6       | 2075080  |
| <b>Device protection (mechanical)</b>   |  |                    |          |
|    | Stainless steel 1.4301 (SVS 304), 3 mm thick protective sleeve for G6, stainless steel 1.4301, mounting hardware included  | BEF-SG-G6-01       | 2069044  |
| <b>Mounting brackets and plates</b>   |  |                    |          |
|    |  | BEF-WN-G6          | 2062909  |
| <b>Plug connectors and cables</b>   |  |                    |          |
|    | Head A: female connector, M8, 4-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 2 m   | YF8U14-020VA3XLEAX | 2095888  |
|   | Head A: female connector, M8, 4-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 5 m   | YF8U14-050VA3XLEAX | 2095889  |
|   | Head A: female connector, M8, 4-pin, angled, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 2 m   | YG8U14-020VA3XLEAX | 2095962  |
|   | Head A: female connector, M8, 4-pin, angled, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 5 m   | YG8U14-050VA3XLEAX | 2095963  |
|  | Head A: female connector, M8, 4-pin, straight<br>Head B: -<br>Cable: unshielded  | DOS-0804-G         | 6009974  |
|  | Head A: female connector, M8, 4-pin, angled<br>Head B: -<br>Cable: unshielded  | DOS-0804-W         | 6009975  |
|  | Head A: male connector, M8, 4-pin, straight<br>Head B: -<br>Cable: unshielded  | STE-0804-G         | 6037323  |
| <b>Masks</b>  |  |                    |          |
|  | Slit mask, vertical slots, slot width: 1.0 mm, 2 pieces, black, Aluminum, Slit mask (2 pieces)   | BEF-SLIT MASK-G6   | 2075254  |
| <b>Reflectors</b>   |  |                    |          |
|  | Rectangular, screw connection, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting  | P250               | 5304812  |
|  | Rectangular, screw connection, 56 mm x 28 mm, PMMA/ABS, Screw-on, 2 hole mounting  | PL30A              | 1002314  |
|  | Rectangular, screw connection, 80 mm x 80 mm, PMMA/ABS, Screw-on, 2 hole mounting  | PL80A              | 1003865  |

|   | <b>Brief description</b>  | <b>Type</b> | <b>Part no.</b> |
|---|---|-------------|-----------------|
|  | Fine triple reflector, screw connection, suitable for laser sensors, 18 mm x 18 mm, PMMA/ABS, Screw-on, 2 hole mounting | PL10F       | 5311210         |
|  | Self-adhesive   | REF-IRF-56  | 5314244         |
|  | Round, plugable for metal plates, PMMA/ABS, Plug-in for sheets  | PL22-3      | 1004488         |

## 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)