



# GL6-P4112

G6

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
GL6-P4112	1051777

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>J</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>Output type</b>	PNP
<b>Switching mode</b>	Light/dark switching
<b>Switching mode selector</b>	Selectable via light/dark selector
<b>Signal voltage PNP HIGH/LOW</b>	V <sub>S</sub> - (≤ 3 V) / approx. 0 V
<b>Output current I<sub>max.</sub></b>	≤ 100 mA <sup>4)</sup>
<b>Response time</b>	< 625 μs <sup>5)</sup>
<b>Switching frequency</b>	1,000 Hz <sup>6)</sup>
<b>Connection type</b>	Connector M8, 4-pin
<b>Circuit protection</b>	A <sup>7)</sup> B <sup>8)</sup> 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>Items supplied</b>	Stainless steel mounting bracket (1.4301/304) BEF-W100-A, Reflector P250
<b>Ambient operating temperature</b>	-25 °C ... +55 °C <sup>10)</sup>
<b>Ambient storage temperature</b>	-40 °C ... +70 °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<sub>v</sub> tolerances.

3) Without load.

4) At U<sub>v</sub> > 24 V, I<sub>A</sub> max. = 50 mA.

5) Signal transit time with resistive load.

6) With light/dark ratio 1:1.

7) A = V<sub>S</sub> 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 +/-10 °C.

## Classifications

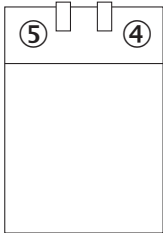
<b>ECl@ss 5.0</b>	27270902
<b>ECl@ss 5.1.4</b>	27270902
<b>ECl@ss 6.0</b>	27270902
<b>ECl@ss 6.2</b>	27270902
<b>ECl@ss 7.0</b>	27270902
<b>ECl@ss 8.0</b>	27270902
<b>ECl@ss 8.1</b>	27270902
<b>ECl@ss 9.0</b>	27270902
<b>ETIM 5.0</b>	EC002717
<b>ETIM 6.0</b>	EC002717

UNSPSC 16.0901

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### Adjustments possible

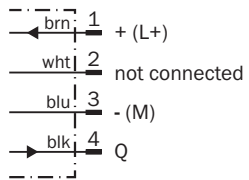
No adjustment possibility



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

### Connection diagram

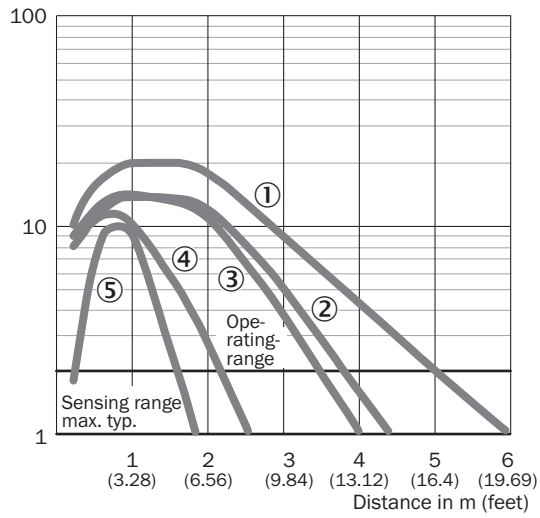
Cd-066



## Characteristic curve

GL6

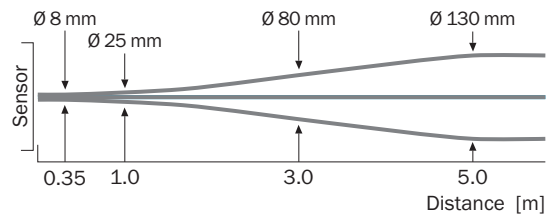
Operating reserve



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

## Light spot size

GL6, GL6G



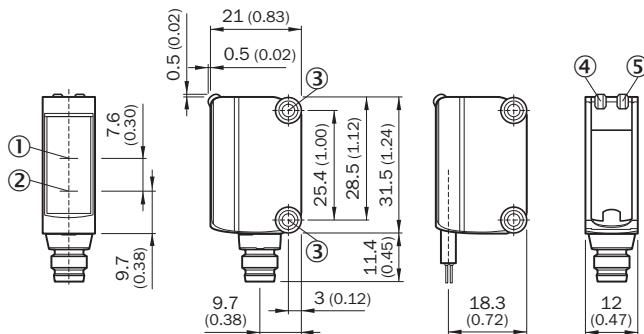
### Sensing range diagram

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.
Universal bar clamp systems			
	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 for 10 mm rod mounting and clamp function, mounting bracket, mounting hardware	BEF-KHS-ISG6	2075080
Device protection (mechanical)			
	Stainless steel 1.4301 (SVS 304), 3 mm thick protective sleeve for G6, stainless steel 1.4301, mounting hardware included	BEF-SG-G6	2069044

	Brief description	Type	Part no.
<b>Mounting brackets and plates</b>			
		BEF-WN-G6	2062909
<b>Plug connectors and cables</b>			
	Head A: female connector, M8, 4-pin, straight Head B: cable Cable: PVC, unshielded, 2 m	DOL-0804-G02M	6009870
	Head A: female connector, M8, 4-pin, straight Head B: cable Cable: PVC, unshielded, 5 m	DOL-0804-G05M	6009872
	Head A: female connector, M8, 4-pin, angled Head B: cable Cable: PVC, unshielded, 2 m	DOL-0804-W02M	6009871
	Head A: female connector, M8, 4-pin, angled Head B: cable Cable: PVC, unshielded, 5 m	DOL-0804-W05M	6009873
	Head A: female connector, M8, 4-pin, straight Head B: - Cable: unshielded	DOS-0804-G	6009974
	Head A: female connector, M8, 4-pin, angled Head B: - Cable: unshielded	DOS-0804-W	6009975
	Head A: male connector, M8, 4-pin, straight Head B: - 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
	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)