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Product data sheet



# GSE6-P6212

## G6

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

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# GSE6-P6212 | G6

MINIATURE PHOTOELECTRIC SENSORS



Illustration may differ

## Ordering information

| Type | Part no. |
|---|---|
| GSE6-P6212 | 1061848 |

**Included in delivery:** BEF-W100-A (2)

Other models and accessories ➜ 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 filters** | No |
| **Emitted beam** | |
| Light source | PinPoint LED [1] |
| Type of light | Visible red light |
| Light spot size (distance) | Ø 375 mm (12 m) |
| **Key LED figures** | |
| Wave length | 650 nm |
| **Adjustment** | Potentiometer, 270 ° |
| **Items supplied** | 2 Stainless steel mounting brackets (1.4301/304) BEF-W100-A |

[1] Average service life: 100,000 h at $T_U$ = +25 °C.

### Safety-related parameters

| | |
|---|---|
| **$MTTF_D$** | 887 years |
| **$DC_{avg}$** | 0 % |

### Electrical data

| | |
|---|---|
| **Supply voltage $U_B$** | 10 V DC ... 30 V DC [1] |
| **Ripple** | ± 10 % [2] |

[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 Uv > 24 V, IA max. = 50 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.

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| | |
|---|---|
| **Current consumption** | 30 mA [3] |
| **Protection class** | III |
| **Digital output** | |
| Type | PNP |
| Switching mode | Light/dark switching |
| Switching mode selector | Selectable via light/dark selector |
| Signal voltage PNP HIGH/LOW | $V_S$ - (≤ 3 V) / approx. 0 V |
| Output current $I_{max.}$ | ≤ 100 mA [4] |
| Response time | < 500 µs [5] |
| Switching frequency | 1,000 Hz [6] |
| **Circuit protection** | A [7]<br>B [8]<br>D [9] |

[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 Uv > 24 V, IA max. = 50 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.

## Mechanical data

| | |
|---|---|
| **Housing** | Rectangular |
| **Dimensions (W x H x D)** | 12 mm x 31.5 mm x 21 mm |
| **Connection** | Cable with M8 male connector, 4-pin [1] |
| **Connection detail** | |
| Conductor size | 0.14 mm² |
| Length of cable (L) | 300 mm [1] |
| **Material** | |
| Housing | Plastic, ABS/PC |
| Front screen | Plastic, PMMA |
| Cable | PVC |
| **Weight** | 170 g |

[1] Do not bend below 0 °C.

## Ambient data

| | |
|---|---|
| **Enclosure rating** | IP67 |
| **Ambient operating temperature** | –25 °C ... +55 °C [1] |
| **Ambient temperature, storage** | –40 °C ... +70 °C |
| **UL File No.** | NRKH.E348498 & NRKH7.E348498 |

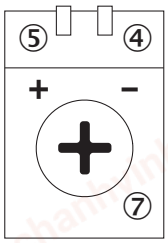
[1] Temperature stability following adjustment +/-10 °C.

## Classifications

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

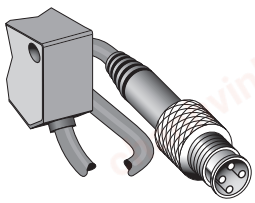
## Adjustments

Adjustment possibility




④ LED indicator green: Supply voltage active
⑤ LED indicator yellow: Status of received light beam
⑦ Sensitivity control: potentiometer

## Connection type

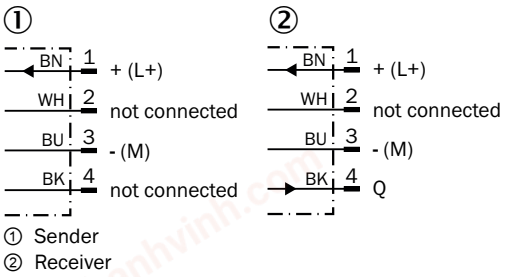


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## Connection diagram

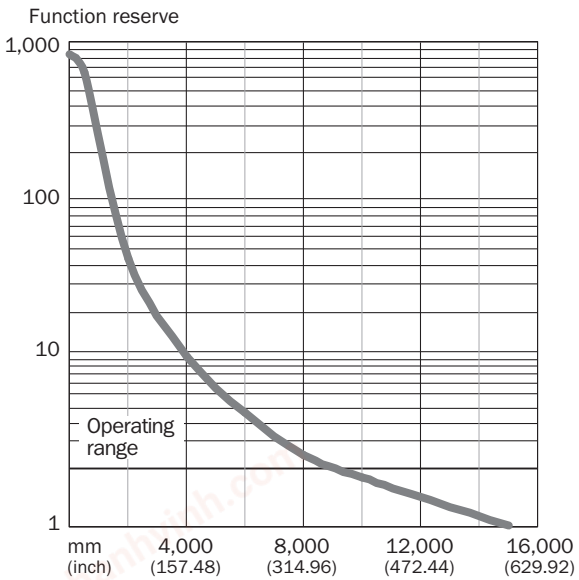
Cd-057



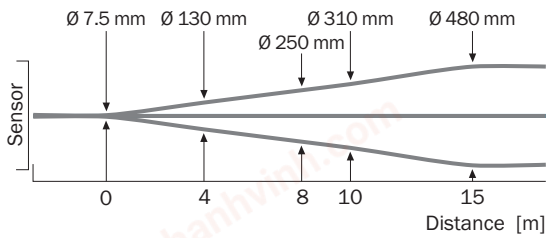

① Sender
② Receiver

## Characteristic curve

With GE6-P1111, GE6-N1111, GE6-P1111S63




## Light spot size

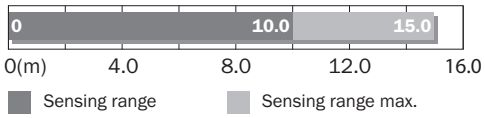


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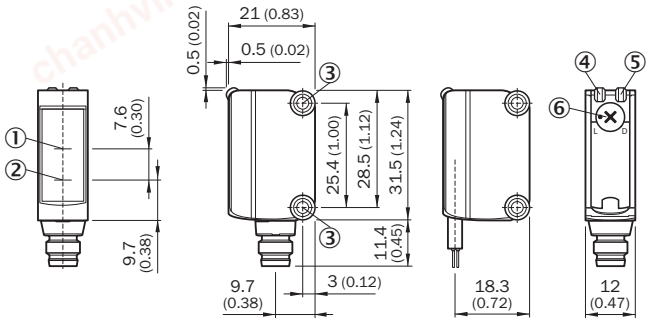
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## Sensing range diagram




## 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

## Recommended accessories

Other models and accessories ➜ www.sick.com/G6

| | Brief description | Type | Part no. |
|---|---|---|---|
| Universal bar clamp systems | | | |
|  | 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 |
| Mounting brackets and plates | | | |
|  | Stainless steel (1.4301) | BEF-WN-G6 | 2062909 |
| Plug connectors and cables | | | |
|  | • **Connection type head A:** Female connector, M8, 4-pin, straight, A-coded<br>• **Connection type head B:** Flying leads<br>• **Signal type:** Sensor/actuator cable<br>• **Cable:** 5 m, 4-wire, PVC<br>• **Description:** Sensor/actuator cable, unshielded<br>• **Application:** Zones with chemicals | YF8U14-050VA3XLEAX | 2095889 |
|  | • **Connection type head A:** Male connector, M8, 4-pin, straight<br>• **Description:** Unshielded<br>• **Connection systems:** Screw-type terminals<br>• **Permitted cross-section:** 0.14 mm² ... 0.5 mm² | STE-0804-G | 6037323 |

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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."**

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