



GTE6-P4212

G6

MINIATURE PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
GTE6-P4212	1051781

**Included in delivery:** BEF-W100-A (1)

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

### Detailed technical data

#### Features

<b>Functional principle</b>	Photoelectric proximity sensor
<b>Functional principle detail</b>	Energetic
<b>Sensing range max.</b>	≤ 300 mm <sup>1)</sup>
<b>Sensing range</b>	≤ 250 mm
<b>Light source</b>	PinPoint LED <sup>2)</sup>
<b>Type of light</b>	Visible red light
<b>Key LED figures</b>	
Wave length	650 nm
<b>Light spot size (distance)</b>	Ø 7 mm (90 mm)
<b>Adjustment</b>	Mechanical spindle, 5 turns

<sup>1)</sup> Object with 90 % reflectance (referred to standard white, DIN 5033).

<sup>2)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

#### Safety-related parameters

<b>MTTF<sub>D</sub></b>	1,879 years
<b>DC<sub>avg</sub></b>	0%

## Electrical data

<b>Supply voltage <math>U_B</math></b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	$\pm 10\%$ <sup>2)</sup>
<b>Power consumption</b>	30 mA <sup>3)</sup>
<b>Protection class</b>	III
<b>Switching outputs</b>	
Switching output	PNP
Signal voltage PNP HIGH/LOW	$V_S - (\leq 3\text{ V}) / \text{approx. } 0\text{ V}$
Signal voltage NPN HIGH/LOW	Approx. $V_S / \leq 3\text{ V}$
Output current $I_{\text{max}}$	$\leq 100\text{ mA}$ <sup>4)</sup>
Response time	$< 1,250\text{ ms}$ <sup>5)</sup>
Switching frequency	500 Hz <sup>6)</sup>
<b>Switching mode</b>	Light/dark switching
<b>Switching mode selector</b>	Selectable via light/dark selector
<b>Circuit protection</b>	A <sup>7)</sup> B <sup>8)</sup> D <sup>9)</sup>
<b>UL File No.</b>	NRKH.E348498 & NRKH7.E348498

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

<sup>2)</sup> May not exceed or fall below  $U_V$  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.

## Mechanical data

<b>Housing</b>	Rectangular
<b>Dimensions (W x H x D)</b>	12 mm x 31.5 mm x 21 mm
<b>Connection</b>	Male connector M8, 4-pin
<b>Material</b>	
Housing	Plastic, ABS/PC
Front screen	Plastic, PMMA
<b>Weight</b>	20 g
<b>Items supplied</b>	Stainless steel mounting bracket (1.4301/304) BEF-W100-A

## Ambient data

<b>Enclosure rating</b>	IP67
<b>Ambient operating temperature</b>	$-25\text{ }^\circ\text{C} \dots +55\text{ }^\circ\text{C}$ <sup>1)</sup>
<b>Ambient storage temperature</b>	$-40\text{ }^\circ\text{C} \dots +70\text{ }^\circ\text{C}$

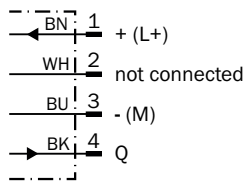
<sup>1)</sup> Temperature stability following adjustment  $\pm 10\text{ }^\circ\text{C}$ .

### Classifications

<b>ECl@ss 5.0</b>	27270903
<b>ECl@ss 5.1.4</b>	27270903
<b>ECl@ss 6.0</b>	27270903
<b>ECl@ss 6.2</b>	27270903
<b>ECl@ss 7.0</b>	27270903
<b>ECl@ss 8.0</b>	27270903
<b>ECl@ss 8.1</b>	27270903
<b>ECl@ss 9.0</b>	27270903
<b>ECl@ss 10.0</b>	27270904
<b>ECl@ss 11.0</b>	27270904
<b>ETIM 5.0</b>	EC001821
<b>ETIM 6.0</b>	EC001821
<b>ETIM 7.0</b>	EC002719
<b>UNSPSC 16.0901</b>	39121528

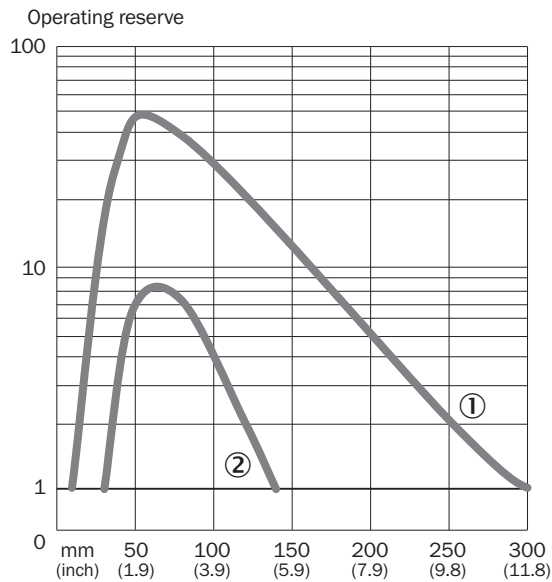
### Connection diagram

Cd-066



### Characteristic curve

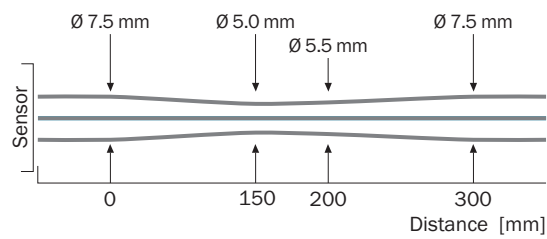
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- ① Sensing range on white, 90% remission
- ② Sensing range on gray, 18 % remission

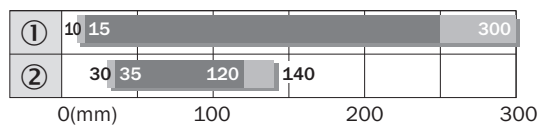
### Light spot size

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### Sensing range diagram

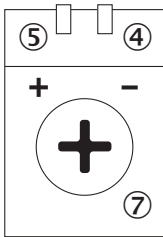
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- Sensing range      ■ Sensing range max.
- ① Object with 90% remission (based on standard white DIN 5033)
- ② Sensing range on gray, 18 % remission

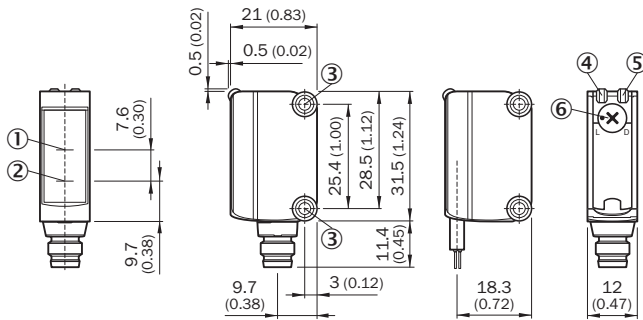
### Adjustments

Adjustment possibility



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



### 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](http://www.sick.com/G6)

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF8U14-050VA3XLEAX	2095889
	Head A: male connector, M8, 4-pin, straight Head B: - Cable: unshielded	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)