



# GTB6-P1231

G6

MINIATURE PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
GTB6-P1231	1074135

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

### Detailed technical data

#### Features

<b>Sensor/ detection principle</b>	Photoelectric proximity sensor, Background suppression
<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>	5 mm ... 400 mm <sup>1)</sup>
<b>Sensing range</b>	50 mm ... 220 mm
<b>Type of light</b>	Visible red light
<b>Light source</b>	PinPoint LED <sup>2)</sup>
<b>Light spot size (distance)</b>	Ø 6 mm (100 mm)
<b>Wave length</b>	625 nm
<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>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> Do not bend below 0 °C.

<sup>8)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>9)</sup> B = inputs and output reverse-polarity protected.

<sup>10)</sup> D = outputs overcurrent and short-circuit protected.

<sup>11)</sup> Temperature stability following adjustment +/-10 °C.

<b>Current consumption</b>	32 mA <sup>3)</sup>
<b>Switching output</b>	PNP
<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>	$< 1.2 \text{ ms}$ <sup>5)</sup>
<b>Switching frequency</b>	500 Hz <sup>6)</sup>
<b>Connection type</b>	Cable, 3-wire, 2 m <sup>7)</sup>
<b>Cable material</b>	PVC
<b>Conductor cross-section</b>	0.14 mm <sup>2</sup>
<b>Circuit protection</b>	A <sup>8)</sup> B <sup>9)</sup> D <sup>10)</sup>
<b>Protection class</b>	III
<b>Weight</b>	60 g
<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>11)</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) Do not bend below 0 °C.

8) A =  $V_S$  connections reverse-polarity protected.

9) B = inputs and output reverse-polarity protected.

10) D = outputs overcurrent and short-circuit protected.

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

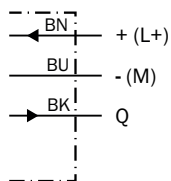
## Classifications

<b>ECl@ss 5.0</b>	27270904
<b>ECl@ss 5.1.4</b>	27270904
<b>ECl@ss 6.0</b>	27270904
<b>ECl@ss 6.2</b>	27270904
<b>ECl@ss 7.0</b>	27270904
<b>ECl@ss 8.0</b>	27270904
<b>ECl@ss 8.1</b>	27270904
<b>ECl@ss 9.0</b>	27270904
<b>ECl@ss 10.0</b>	27270904

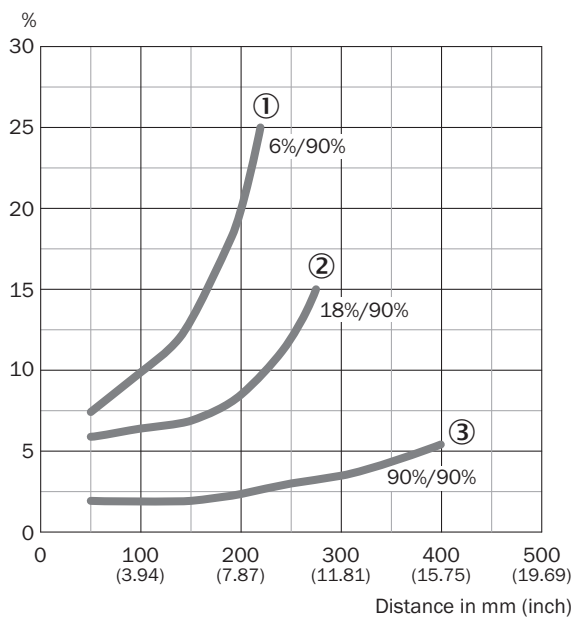
<b>ECl@ss 11.0</b>	27270904
<b>ETIM 5.0</b>	EC002719
<b>ETIM 6.0</b>	EC002719
<b>ETIM 7.0</b>	EC002719
<b>UNSPSC 16.0901</b>	39121528

### Connection diagram

Cd-043

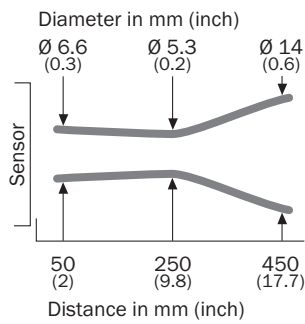


### Characteristic curve

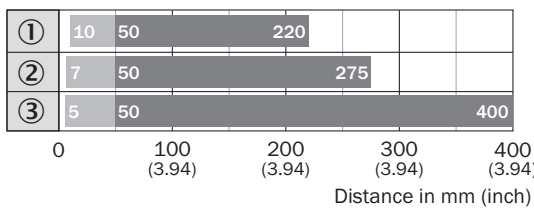


- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18 % remission
- ③ Object with 90% remission (based on standard white DIN 5033)

### Light spot size



### Sensing range diagram

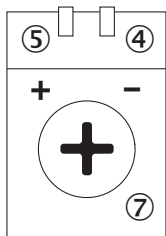


■ Sensing range      ■ Sensing range max. typ.

- ① Sensing range on black, 6 % remission
- ② Sensing range on grey, 18 % remission
- ③ Sensing range on white, 90 % Remission

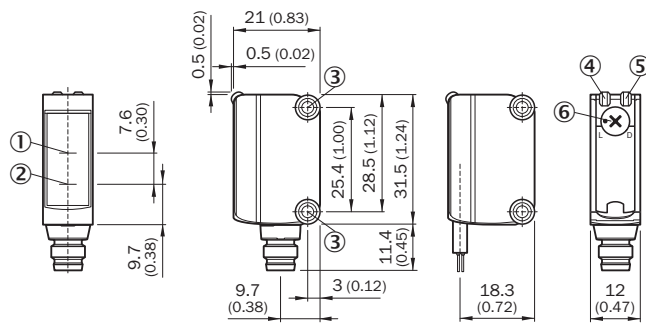
### Adjustments possible

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: male connector, M8, 3-pin, straight Head B: - Cable: unshielded	STE-0803-G	6037322

## 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)