



# GTB6-P5441

G6

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
GTB6-P5441	1081388

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>		Background suppression
<b>Sensing range max.</b>		5 mm ... 500 mm <sup>1)</sup>
<b>Sensing range</b>		50 mm ... 450 mm
<b>Emitted beam</b>		
	Light source	LED <sup>2)</sup>
	Type of light	Infrared light
	Light spot size (distance)	Ø 9 mm (100 mm)
<b>Key LED figures</b>		
	Wave length	850 nm
<b>Adjustment</b>		Mechanical spindle, 5 turns

<sup>1)</sup> Object with 90% remission (based on 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>	1,923 years
<b>DC<sub>avg</sub></b>	0 %

## Electronics

<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>Current consumption</b>	30 mA <sup>3)</sup>
<b>Protection class</b>	III
<b>Digital output</b>	
Type	PNP
Switching mode	Light switching
Signal voltage PNP HIGH/LOW	$V_S - (\leq 3\text{ V}) / \text{approx. } 0\text{ V}$
Output current $I_{\max}$	$\leq 100\text{ mA}$ <sup>4)</sup>
Response time	$< 1\text{ ms}$ <sup>5)</sup>
Switching frequency	500 Hz <sup>6)</sup>
<b>Circuit protection</b>	A <sup>7)</sup> B <sup>8)</sup> D <sup>9)</sup>

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

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

## Mechanics

<b>Housing</b>	Rectangular
<b>Dimensions (W x H x D)</b>	12 mm x 31.5 mm x 21 mm
<b>Connection</b>	Cable with connector M8, 3-pin <sup>1)</sup>
<b>Connection detail</b>	
Conductor size	0.14 mm <sup>2</sup>
Length of cable (L)	300 mm <sup>1)</sup>
<b>Material</b>	
Housing	Plastic, ABS/PC
Front screen	Plastic, PMMA
Cable	Plastic, PVC
<b>Weight</b>	20 g

<sup>1)</sup> Do not bend below 0 °C.

## Ambient data

<b>Enclosure rating</b>	IP67
<b>Ambient operating temperature</b>	-25 °C ... +55 °C <sup>1)</sup>
<b>Ambient temperature, storage</b>	-40 °C ... +70 °C

<sup>1)</sup> Temperature stability following adjustment +/-10 °C.

UL File No.	NRKH.E348498 & NRKH7.E348498
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<sup>1)</sup> Temperature stability following adjustment +/-10 °C.

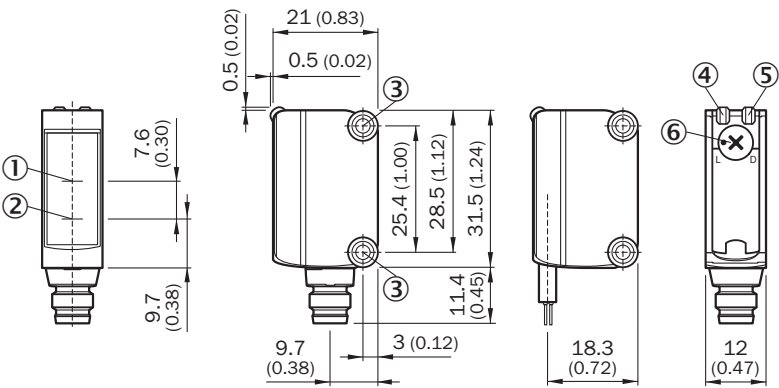
Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

Classifications

ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

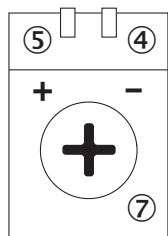
Dimensional drawing



Dimensions in mm (inch)

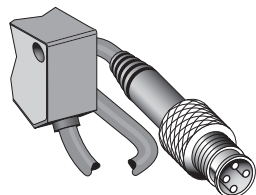
- ① Optical axis, receiver
- ② Optical axis, sender
- ③ Mounting holes M3
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ Light/ dark rotary switch: L = light switching, D = dark switching

## Adjustments Adjustment possibility

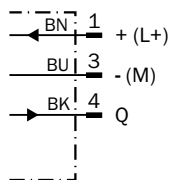


- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑦ Sensitivity control: potentiometer

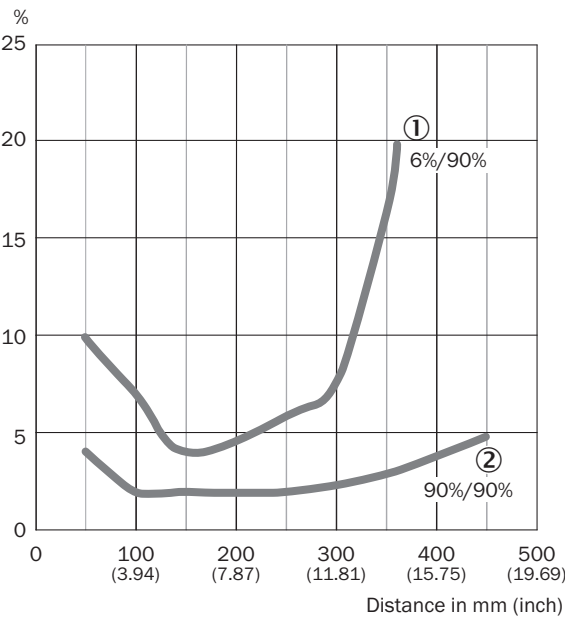
## Connection type



## Connection diagram Cd-045

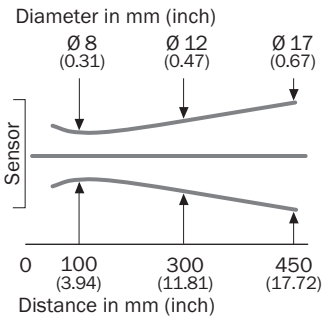


Characteristic curve

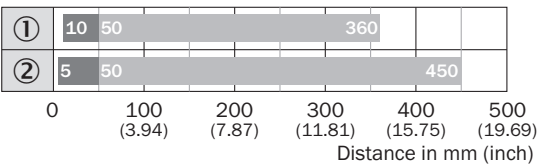


- ① Sensing range on black, 6% remission factor
- ② Sensing range on white, 90% remission factor

Light spot size






Sensing range diagram



- Sensing range max.
- Sensing range
- ① Sensing range on black, 6% remission factor
- ② object with 90% remission (based on standard white, DIN 5033)

## Recommended accessories

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

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"><li>• <b>Description:</b> Clamp bar to fix G6 sensors on rods of 12 mm, clamp-on design up to 4 mm wall thickness</li><li>• <b>Material:</b> Steel</li><li>• <b>Details:</b> Aluminum (clamp bar), stainless steel (bracket)</li><li>• <b>Items supplied:</b> Clamp bar mounting and clamp function, mounting bracket, mounting hardware</li></ul> <ul style="list-style-type: none"><li>• <b>Material:</b> Stainless steel</li><li>• <b>Details:</b> Stainless steel (1.4301)</li><li>• <b>Suitable for:</b> W4S</li></ul>	BEF-KHS-IS12G6	2086865
		BEF-WN-G6	2062909
connectors and cables			
	<ul style="list-style-type: none"><li>• <b>Connection type head A:</b> Male connector, M8, 3-pin, straight, A-coded</li><li>• <b>Description:</b> Unshielded</li><li>• <b>Connection systems:</b> Screw-type terminals</li><li>• <b>Permitted cross-section:</b> 0.14 mm² ... 0.5 mm²</li></ul>	STE-0803-G	6037322
	<ul style="list-style-type: none"><li>• <b>Connection type head A:</b> Female connector, M8, 3-pin, straight, A-coded</li><li>• <b>Connection type head B:</b> Flying leads</li><li>• <b>Signal type:</b> Sensor/actuator cable</li><li>• <b>Cable:</b> 5 m, 3-wire, PVC</li><li>• <b>Description:</b> Sensor/actuator cable, unshielded</li><li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li></ul>	YF8U13-050VA1XLEAX	2095884

## 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)