



# GTB6-F4421V

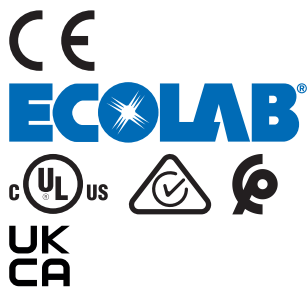
G6

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



Ordering information

| Type        | part no. |
|-------------|----------|
| GTB6-F4421V | 1084093  |

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

Detailed technical data

Features

|                             |                            |                                |
|-----------------------------|----------------------------|--------------------------------|
| Functional principle        |                            | Photoelectric proximity sensor |
| Functional principle detail |                            | Background suppression         |
| Sensing range max.          |                            | 5 mm ... 420 mm <sup>1)</sup>  |
| Sensing range               |                            | 50 mm ... 200 mm               |
| Emitted beam                |                            |                                |
|                             | Light source               | LED <sup>2)</sup>              |
|                             | Type of light              | Infrared light                 |
|                             | Light spot size (distance) | Ø 8 mm (100 mm)                |
| Key LED figures             |                            |                                |
|                             | Wave length                | 850 nm                         |
| Adjustment                  |                            | Mechanical spindle, 5 turns    |
| Special applications        |                            | Hygienic and washdown zones    |

<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.

## 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/dark 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                          | $< 1.25\text{ ms}$ <sup>5)</sup>                       |
| Switching frequency                    | 500 Hz <sup>6)</sup>                                   |
| <b>Output function</b>                 | Complementary switching output                         |
| <b>Circuit protection</b>              | A <sup>7)</sup><br>B <sup>8)</sup><br>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> | 15 mm x 44 mm x 22 mm                     |
| <b>Connection</b>             | Male connector M8, 4-pin                  |
| <b>Material</b>               |                                           |
| Housing                       | Metal, Stainless steel V4A (1.4404, 316L) |
| Front screen                  | Plastic, PMMA                             |
| <b>Weight</b>                 | 40 g                                      |

## Ambient data

|                                      |                                                                               |
|--------------------------------------|-------------------------------------------------------------------------------|
| <b>Enclosure rating</b>              | IP67<br>IP69K <sup>1)</sup>                                                   |
| <b>Ambient operating temperature</b> | $-25\text{ }^{\circ}\text{C} \dots +55\text{ }^{\circ}\text{C}$ <sup>2)</sup> |
| <b>Ambient temperature, storage</b>  | $-30\text{ }^{\circ}\text{C} \dots +75\text{ }^{\circ}\text{C}$               |
| <b>UL File No.</b>                   | NRKH.E348498 & NRKH7.E348498                                                  |

<sup>1)</sup> According to ISO 20653:2013-03.

<sup>2)</sup> Temperature stability following adjustment  $\pm 10\text{ }^{\circ}\text{C}$ .

## Certificates

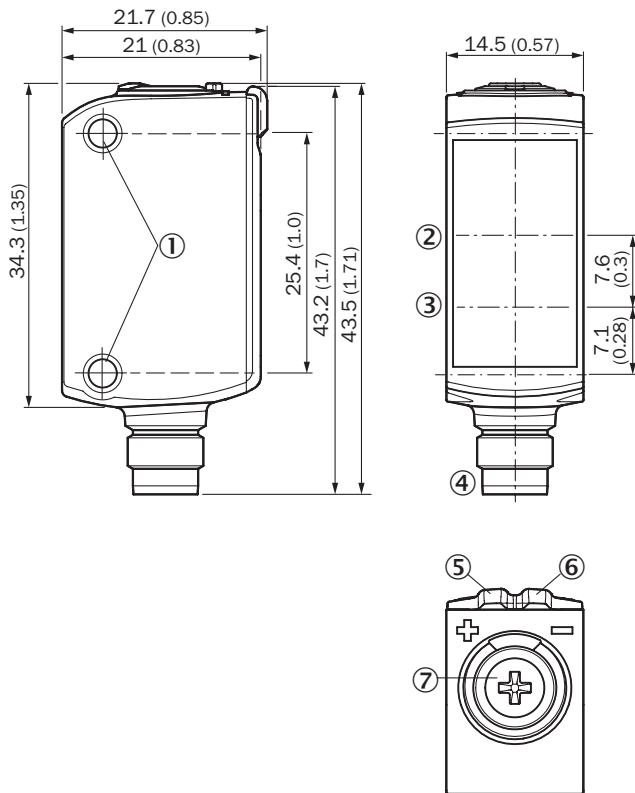
|                                     |   |
|-------------------------------------|---|
| <b>EU declaration of conformity</b> | ✓ |
|-------------------------------------|---|

|                                                          |   |
|----------------------------------------------------------|---|
| <b>UK declaration of conformity</b>                      | ✓ |
| <b>ACMA declaration of conformity</b>                    | ✓ |
| <b>Moroccan declaration of conformity</b>                | ✓ |
| <b>China RoHS</b>                                        | ✓ |
| <b>ECOLAB certificate</b>                                | ✓ |
| <b>cULus certificate</b>                                 | ✓ |
| <b>Photobiological safety (DIN EN 62471) certificate</b> | ✓ |

#### Classifications

|                       |          |
|-----------------------|----------|
| <b>ECLASS 5.0</b>     | 27270904 |
| <b>ECLASS 5.1.4</b>   | 27270904 |
| <b>ECLASS 6.0</b>     | 27270904 |
| <b>ECLASS 6.2</b>     | 27270904 |
| <b>ECLASS 7.0</b>     | 27270904 |
| <b>ECLASS 8.0</b>     | 27270904 |
| <b>ECLASS 8.1</b>     | 27270904 |
| <b>ECLASS 9.0</b>     | 27270904 |
| <b>ECLASS 10.0</b>    | 27270904 |
| <b>ECLASS 11.0</b>    | 27270904 |
| <b>ECLASS 12.0</b>    | 27270903 |
| <b>ETIM 5.0</b>       | EC002719 |
| <b>ETIM 6.0</b>       | EC002719 |
| <b>ETIM 7.0</b>       | EC002719 |
| <b>ETIM 8.0</b>       | EC002719 |
| <b>UNSPSC 16.0901</b> | 39121528 |

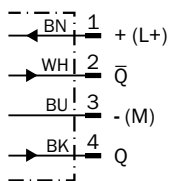
## Dimensional drawing GTB6, GTE6, GL6, GSE6 Inox, male connector



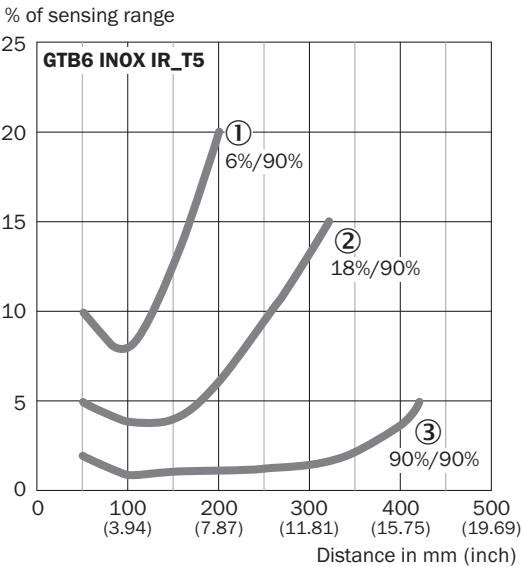
Dimensions in mm (inch)

- ① M3 mounting hole
- ② Optical axis, receiver
- ③ Optical axis, sender
- ④ Connection
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ LED indicator green: Supply voltage active
- ⑦ Potentiometer

## Connection diagram Cd-084

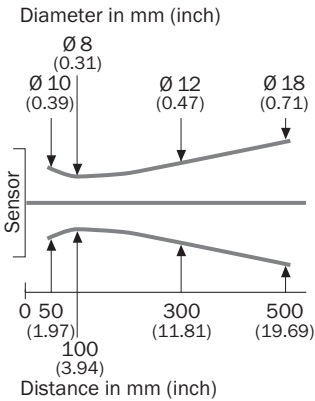


Characteristic curve GTB6 Inox, IR, Standard

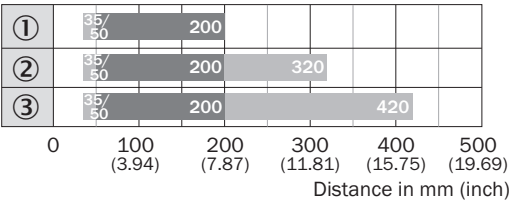


- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on white, 90% remission factor

Light spot size GTB6 Inox, IR, Standard



Sensing range diagram GTB6 Inox, IR, Standard



- Sensing range
- Sensing range max.
- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor

③ Sensing range on white, 90% remission factor

## 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>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | BEF-KHS-IS12G6  | 2086865  |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket for wall mounting</li> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel</li> <li><b>Items supplied:</b> Mounting hardware included</li> <li><b>Suitable for:</b> W8, W8G, W8 Laser, W8 Inox, G6, G6 Inox, W100 Laser, W100-2, KTM Core, KTM Prime, CSM, LUTM, W4S</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | BEF-W100-A      | 5311520  |
|   | <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, W4S</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | BEF-WN-G6       | 2062909  |
| connectors and cables                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |          |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 4-pin, straight</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, 4-wire, PP</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Connection systems:</b> Flying leads</li> <li><b>Note:</b> This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid &amp; hydrogen peroxide (H2O2)</li> <li><b>Application:</b> Hygienic and washdown zones, Drag chain operation, Robot, cold bending resistant, seawater resistant</li> </ul> | DOL-0804-G05MRN | 6058511  |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M8, 4-pin, straight</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, 4-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Connection systems:</b> Flying leads</li> <li><b>Note:</b> This product is generally resistant to chemical cleaning agents (see ECOLAB). Please do not use cleaning agents of any other Kind., Not resistant against lactic acid &amp; hydrogen peroxide (H2O2)</li> <li><b>Application:</b> Uncontaminated zones, Hygienic and washdown zones, Zones with chemicals</li> </ul>                                                                                                                                                  | DOL-0804-G05MNI | 6059194  |

## 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)