



Photoelectric sensors  
G10, Photoelectric proximity sensor, Background  
suppression

GTB10-P4611S03



**Model Name** > **GTB10-P4611S03**  
**Part No.** > **1069042**



*Illustration may differ*

#### At a glance

- Long sensing ranges: up to 1,200 mm with background suppression
- PinPoint LED with bright and precise light spot or infrared LED
- Immunity to ambient light
- 10 V DC ... 30 V DC or 24 V AC/DC ... 240 V AC/DC power supply with PNP/NPN or relay output
- Small housing design
- Rugged sensor housing with metal-reinforced holes for assembly
- Q-Lock assembly system for mounting and aligning the sensor within a few seconds

#### Your benefits

- Long sensing ranges for maximum operating reserves
- Powerful background suppression ensures precise detection, regardless of reflective surfaces and objects
- Efficient installation: the GTB10 and the Q-Lock assembly system save valuable hours when mounting and commissioning multiple sensors
- Universal DC or AC/DC power supply for even greater application flexibility
- Highly reliable and durable despite optical interference and mechanical loads
- Wide range of accessories simplifies sensor integration: aids for assembly and connectors



#### Features

|                                  |                                                        |
|----------------------------------|--------------------------------------------------------|
| Sensor/detection principle:      | Photoelectric proximity sensor, Background suppression |
| Dimensions (W x H x D):          | 20 mm x 50 mm x 39 mm                                  |
| Housing design (light emission): | Rectangular                                            |
| Sensing range max.:              | 20 mm ... 950 mm <sup>1)</sup>                         |
| Type of light:                   | Visible red light                                      |
| Light source:                    | PinPoint LED <sup>2)</sup>                             |
| Wave length:                     | 625 nm                                                 |
| Special features:                | High functional reliability on foil-wrapped objects    |
| Adjustment:                      | Potentiometer, 5 turns                                 |
| Light spot size (distance):      | Ø 8 mm (700 mm)                                        |

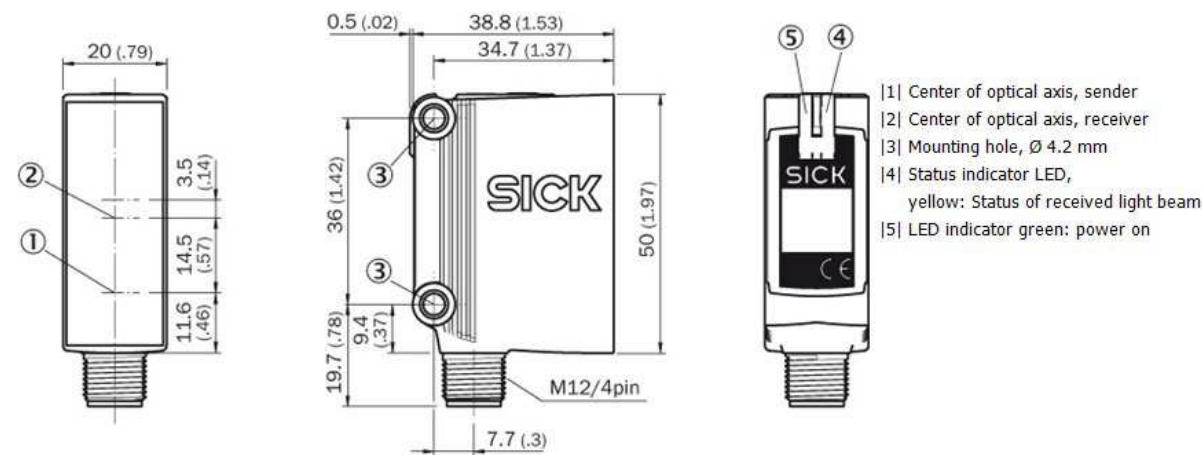
<sup>1)</sup> Object with 90 % reflectance (referred to standard white, DIN 5033) <sup>2)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C

#### Mechanics/electronics

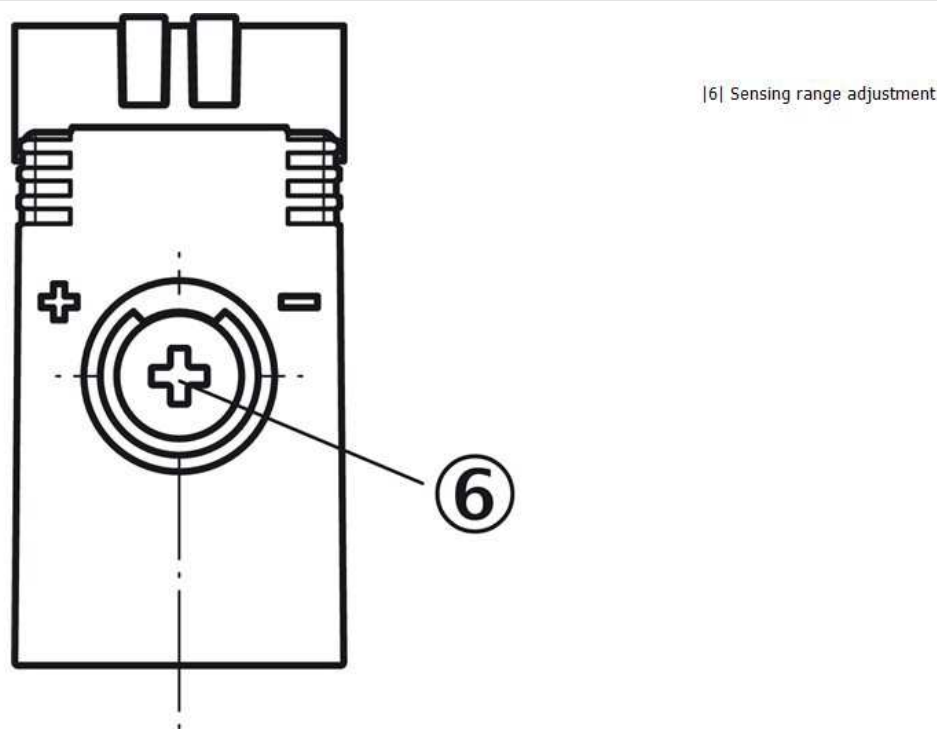
|                                    |                                                                    |
|------------------------------------|--------------------------------------------------------------------|
| Supply voltage:                    | 10 V DC ... 30 V DC <sup>1)</sup>                                  |
| Residual ripple:                   | $\pm 5 \text{ Vpp}$ <sup>2)</sup>                                  |
| Power consumption:                 | $\leq 20 \text{ mA}$                                               |
| Output type:                       | PNP                                                                |
| Switching mode:                    | Dark switching                                                     |
| Output current I <sub>max.</sub> : | $\leq 100 \text{ mA}$                                              |
| Response time:                     | $\leq 1 \text{ ms}$ <sup>3)</sup>                                  |
| Electrical connection:             | Connector M12, 4-pin                                               |
| Circuit protection:::              | A, B, C, D <sup>4)</sup> <sup>5)</sup> <sup>6)</sup> <sup>7)</sup> |
| Protection class:                  | III                                                                |
| Weight:                            | 35 g                                                               |
| Polarisation filter:               | -                                                                  |
| Special device:                    | ✓                                                                  |
| Enclosure rating:                  | IP 67                                                              |
| EMC:                               | EN 60947-5-2                                                       |
| Ambient operating temperature:     | -30 °C ... +60 °C                                                  |
| Ambient storage temperature:       | -40 °C ... +70 °C                                                  |
| UL File No.:                       | NRKH.E348498 & NRKH7.E348498                                       |
| Further standards:                 | UL325 <sup>8)</sup>                                                |
| Switching frequency max.:          | 500 Hz <sup>9)</sup>                                               |
| Housing material:                  | PVC/PMMA, Plastic                                                  |

<sup>1)</sup> Limit values: operation in short-circuit protected network max. 8 A   
 <sup>2)</sup> May not exceed or fall below  $U_v$  tolerances   
 <sup>3)</sup> Signal transit time with resistive load   
 <sup>4)</sup> A = V<sub>S</sub>  
 connections reverse-polarity protected   
 <sup>5)</sup> B = inputs and output reverse-polarity protected   
 <sup>6)</sup> C = interference suppression   
 <sup>7)</sup> D = outputs overcurrent and short-circuit  
 protected   
 <sup>8)</sup> Complies with the UL325 standard when used with sturdy protection hood (e.g. BEF-G10WSG, 2071960).   
 <sup>9)</sup> With light/dark ratio 1:1

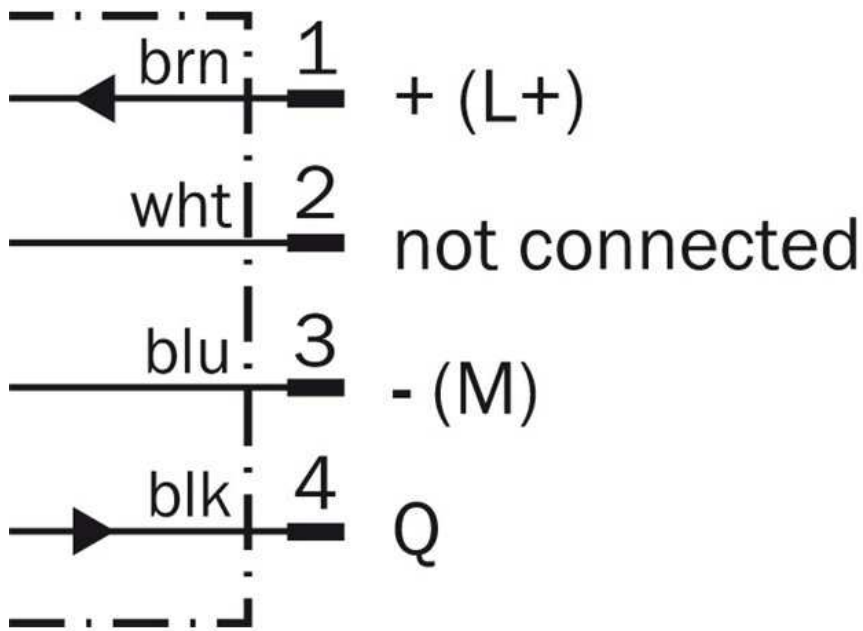
Dimensional drawing



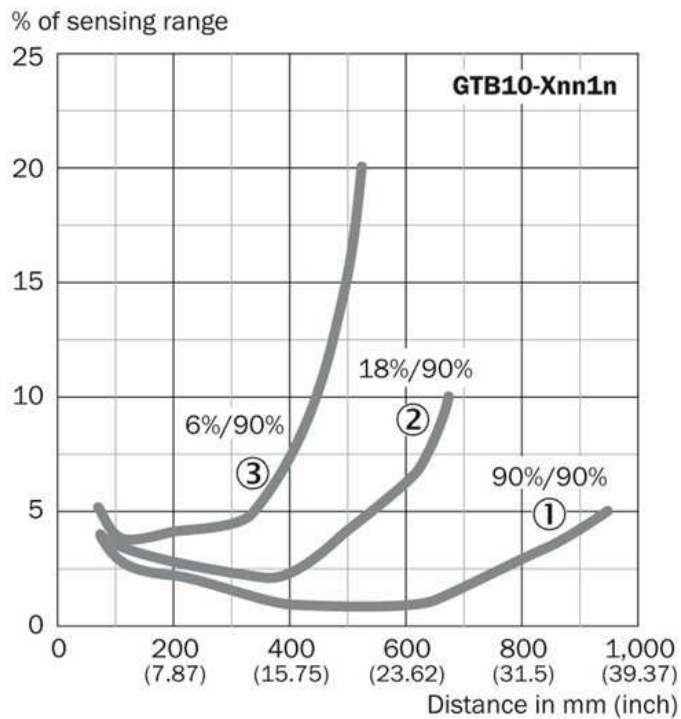
Adjustments possible



## Connection diagram

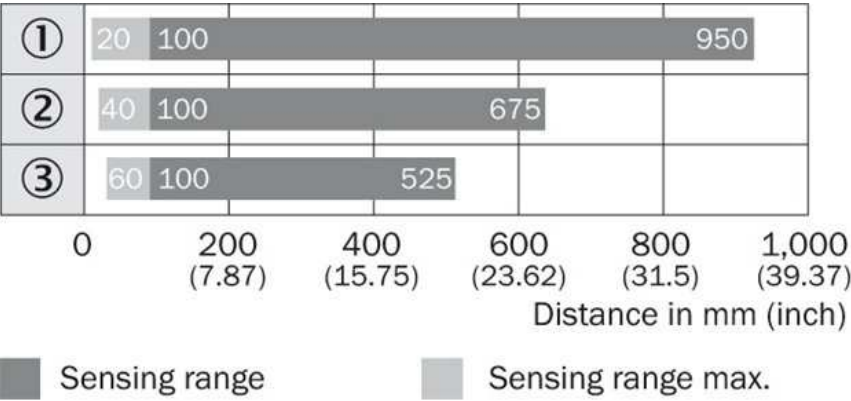


## Characteristic curve



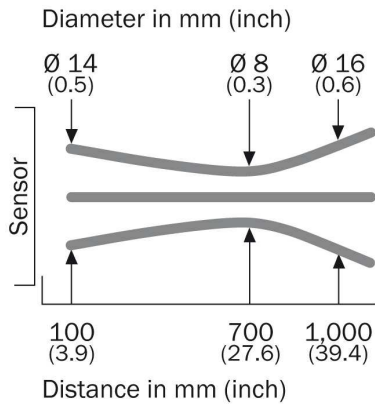
- |1| Sensing range on white, 90 % remission
- |2| Sensing range on gray, 18 % remission
- |3| Sensing range on black, 6 % remission

Sensing range diagram



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

Light spot size



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