



Photoelectric sensors  
G10, Photoelectric proximity sensor, Background  
suppression

GTB10-P1212



**Type** > [GTB10-P1212](#)  
**Part No.** > [1065856](#)



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
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

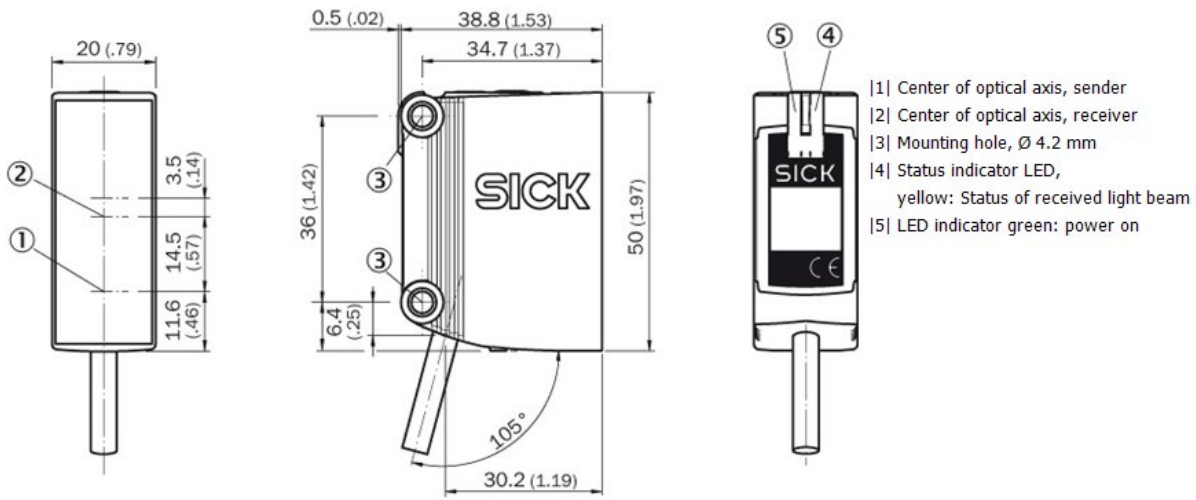
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	± 5 Vpp <sup>2)</sup>

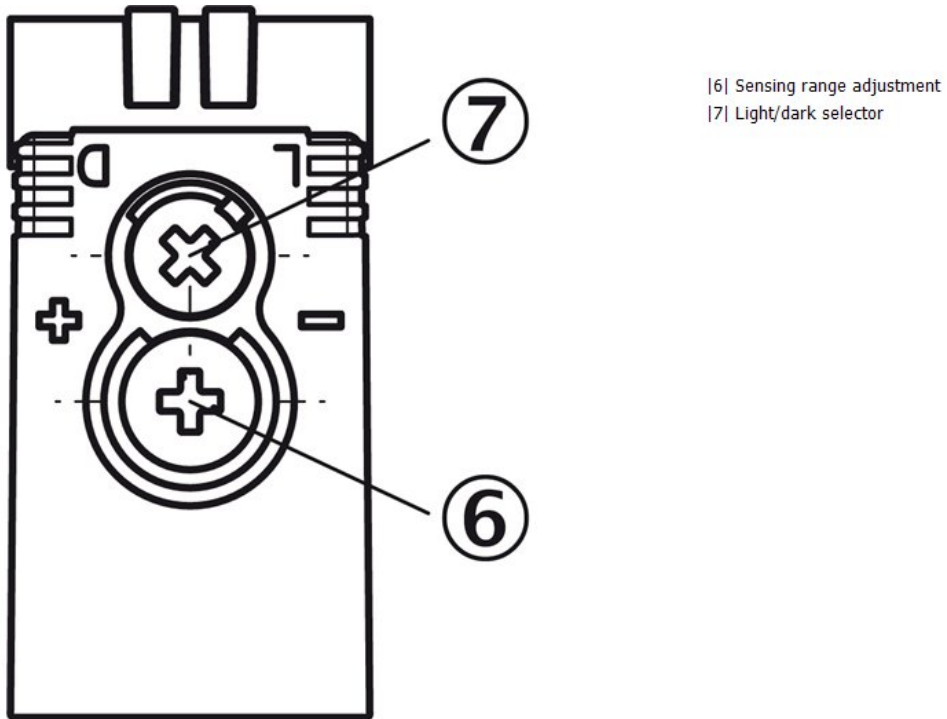
Power consumption:	≤ 20 mA
Output type:	PNP
Switching mode:	Light/dark switching
Switching mode selector:	Selectable via light/dark selector
Output current I <sub>max</sub> :	≤ 100 mA
Response time:	≤ 500 μs <sup>3)</sup>
Connection type:	Cable, 3-wire, 2 m <sup>4)</sup>
Cable material:	PVC
Conductor cross-section:	0.14 mm <sup>2</sup>
Circuit protection:::	A, B, C, D <sup>5) 6) 7) 8)</sup>
Protection class:	III
Weight:	90 g
Polarisation filter:	-
Special device:	-
Enclosure rating:	IP 67
Items supplied:	Mounting bracket BEF-G10DC01
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>9)</sup>
Switching frequency max.:	1,000 Hz <sup>10)</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<sub>v</sub> tolerances   
<sup>3)</sup> Signal transit time with resistive load   
<sup>4)</sup> Do not bend below 0 °C   
<sup>5)</sup> A = V<sub>S</sub> connections reverse-polarity protected   
<sup>6)</sup> B = inputs and output reverse-polarity protected   
<sup>7)</sup> C = interference suppression   
<sup>8)</sup> D = outputs overcurrent and short-circuit protected   
<sup>9)</sup> Complies with the UL325 standard when used with sturdy protection hood (e.g. BEF-G10WSG, 2071960).   
<sup>10)</sup> With light/dark ratio 1:1

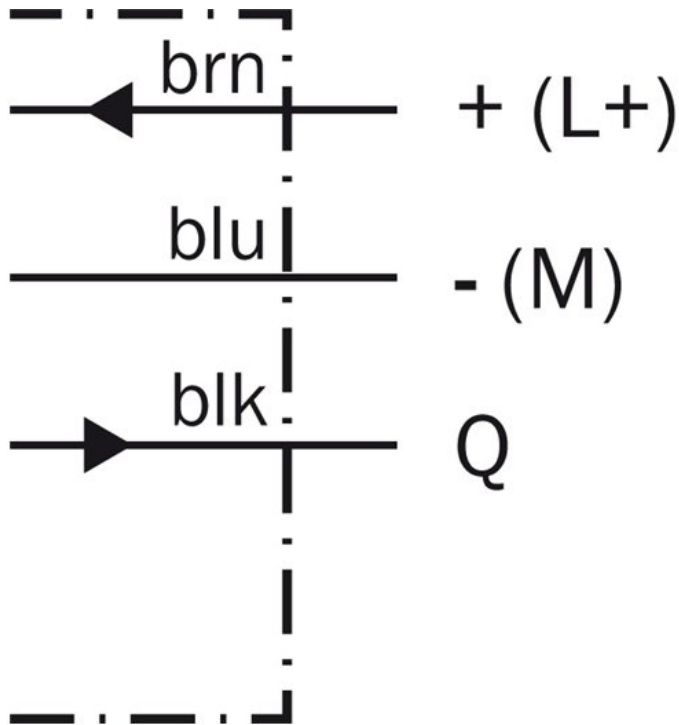
**Dimensional drawing**



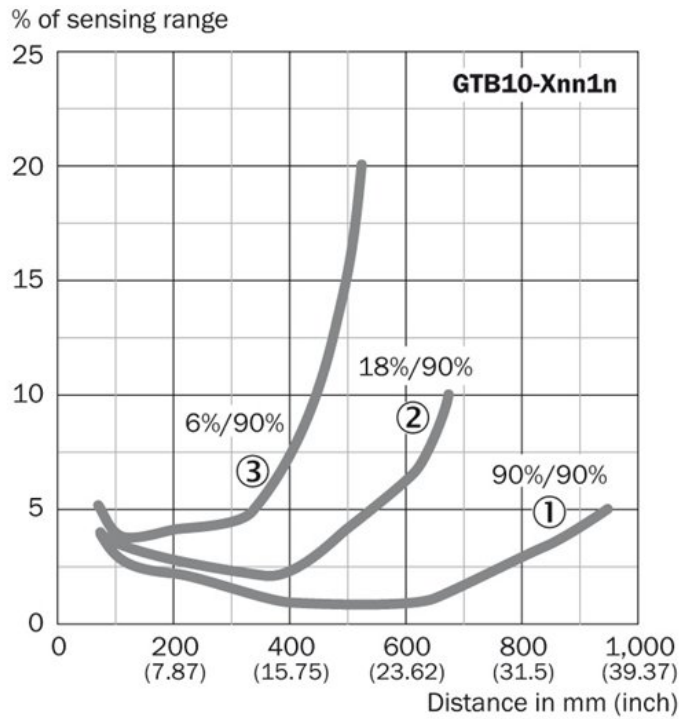
**Adjustments possible**



Connection diagram

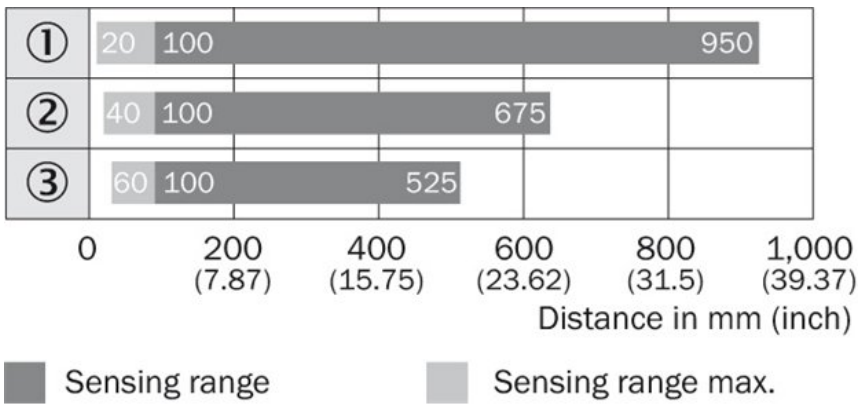


Characteristic curve



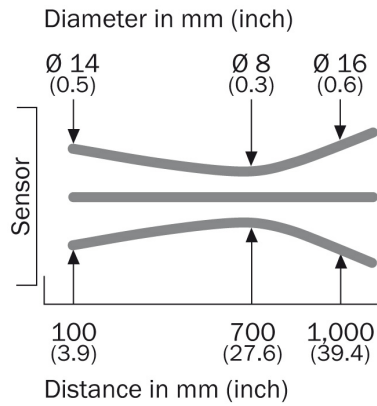
- [1] Sensing range on white, 90 % remission
- [2] Sensing range on gray, 18 % remission
- [3] Sensing range on black, 6 % remission

## 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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