



Photoelectric sensors
G10, Photoelectric proximity sensor, Background
suppression

GTB10-P1212



Model Name > [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 ¹⁾
Type of light:	Visible red light
Light source:	PinPoint LED ²⁾
Wave length:	625 nm
Adjustment:	Potentiometer, 5 turns
Light spot size (distance):	Ø 8 mm (700 mm)

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033) ²⁾ Average service life: 100,000 h at T_U = +25 °C

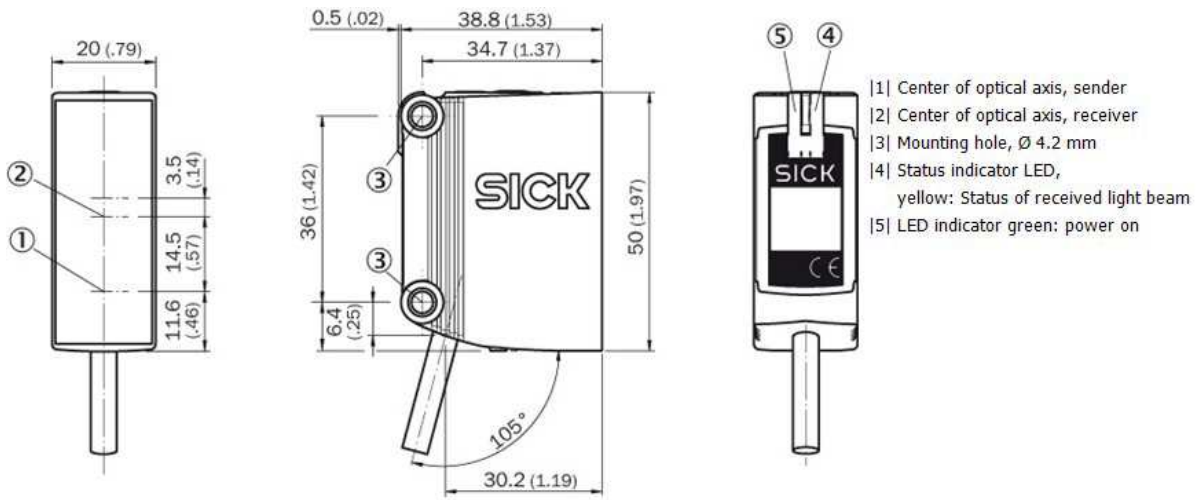
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	± 5 Vpp ²⁾

Power consumption:	≤ 20 mA
Output type:	PNP
Switching mode:	Light/dark switching
Switching mode selector:	Selectable via light/dark selector
Output current I _{max} :	≤ 100 mA
Response time:	≤ 500 μs ³⁾
Connection type:	Cable, 3-wire, 2 m ⁴⁾
Cable material:	PVC
Conductor cross-section:	0.14 mm ²
Circuit protection:::::	A, B, C, D ^{5) 6) 7) 8)}
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 temperature operation:	-30 °C ... +60 °C
Ambient storage temperature:	-40 °C ... +70 °C
UL File No.:	NRKH.E348498 & NRKH7.E348498
Further standards:	UL325 ⁹⁾
Switching frequency max.:	1,000 Hz ¹⁰⁾
Housing material:	PVC/PMMA, Plastic

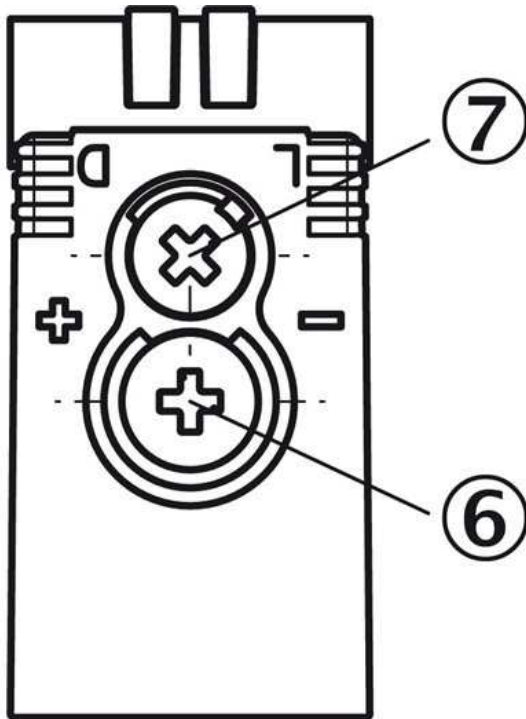
¹⁾ Limit values: operation in short-circuit protected network max. 8 A
²⁾ May not exceed or fall below U_v tolerances
³⁾ Signal transit time with resistive load
⁴⁾ Do not bend below 0 °C
⁵⁾ A = V_S connections reverse-polarity protected
⁶⁾ B = inputs and output reverse-polarity protected
⁷⁾ C = interference suppression
⁸⁾ D = outputs overcurrent and short-circuit protected
⁹⁾ Complies with the UL325 standard when used with sturdy protection hood (e.g. BEF-G10WSG, 2071960).
¹⁰⁾ With light/dark ratio 1:1

Dimensional drawing



- [1] Center of optical axis, sender
- [2] Center of optical axis, receiver
- [3] Mounting hole, Ø 4.2 mm
- [4] Status indicator LED,
yellow: Status of received light beam
- [5] LED indicator green: power on

Adjustments possible

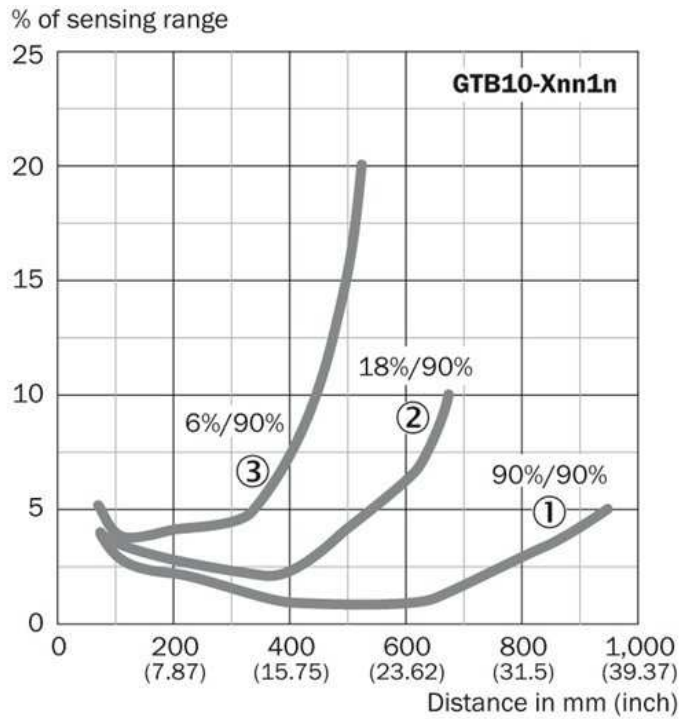


- [6] Sensing range adjustment
- [7] Light/dark selector

Connection diagram

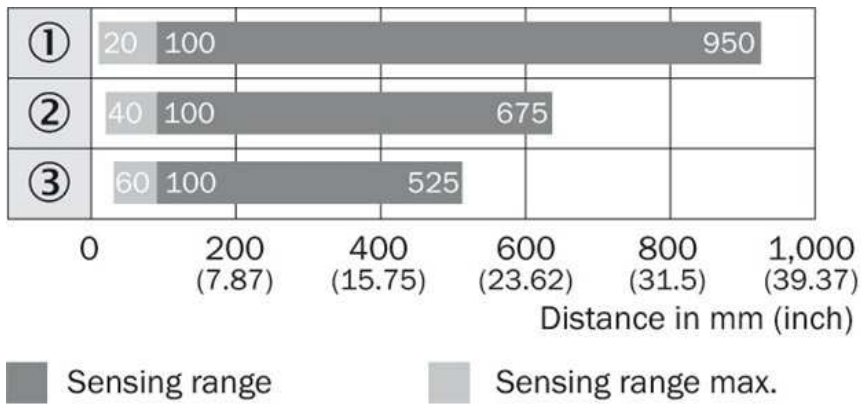


Characteristic curve



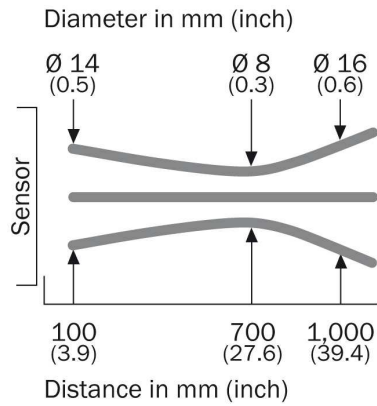
- |1| Sensing range on white, 90 % remission
- |2| Sensing range on gray, 18 % remission
- |3| Sensing range on black, 6 % remission

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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