



GTB10-P0211S04

G10

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | part no. |
|----------------|----------|
| GTB10-P0211S04 | 1077416 |

Other models and accessories → www.sick.com/G10

Detailed technical data

Features

| | |
|--|--------------------------------|
| Functional principle | Photoelectric proximity sensor |
| Functional principle detail | 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⁾ |
| Light spot size (distance) | Ø 8 mm (700 mm) |
| Wave length | 625 nm |
| Adjustment | Potentiometer, 5 turns |
| Special features | Cable length 480 mm |

¹⁾ Object with 90% remission (based on standard white, DIN 5033).²⁾ Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage U_B10 V DC ... 30 V DC ¹⁾¹⁾ Limit values when operated in short-circuit protected network: max. 8 A.²⁾ May not fall below or exceed U_V tolerances.³⁾ Signal transit time with resistive load.⁴⁾ With light/dark ratio 1:1.⁵⁾ Do not bend below 0 °C.⁶⁾ A = V_S connections reverse-polarity protected.⁷⁾ B = inputs and output reverse-polarity protected.⁸⁾ C = interference suppression.⁹⁾ D = outputs overcurrent and short-circuit protected.¹⁰⁾ Complies with the UL325 standard when used with sturdy protection hood (e.g. BEF-G10WSG, 2071960).

| | |
|--|--|
| Ripple | < 5 V _{pp} ²⁾ |
| Current consumption | 20 mA |
| Switching output | 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⁾ |
| Switching frequency | 1,000 Hz ⁴⁾ |
| Connection type | Cable, 3-wire, 480 mm ⁵⁾ |
| Cable material | Plastic, PVC |
| Conductor cross section | 0.14 mm ² |
| Circuit protection | A ⁶⁾ B ⁷⁾ C ⁸⁾ D ⁹⁾ |
| Protection class | III |
| Weight | 55 g |
| Special device | ✓ |
| Housing material | Plastic, ABS/PMMA |
| Enclosure rating | IP67 |
| Electromagnetic compatibility (EMC) | EN 60947-5-2 |
| Ambient operating temperature | -30 °C ... +60 °C |
| Ambient temperature, storage | -40 °C ... +70 °C |
| UL File No. | NRKH.E348498 & NRKH7.E348498 |
| More standards | UL325 ¹⁰⁾ |

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

2) May not fall below or exceed U_V tolerances.

3) Signal transit time with resistive load.

4) With light/dark ratio 1:1.

5) Do not bend below 0 °C.

6) A = V_S connections reverse-polarity protected.

7) B = inputs and output reverse-polarity protected.

8) C = interference suppression.

9) D = outputs overcurrent and short-circuit protected.

10) Complies with the UL325 standard when used with sturdy protection hood (e.g. BEF-G10WSG, 2071960).

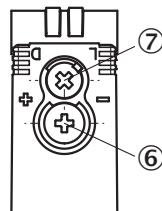
Certificates

| | |
|--|---|
| 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

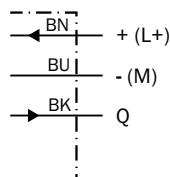
| | |
|-----------------------|----------|
| ECLASS 5.0 | 27270904 |
| ECLASS 5.1.4 | 27270904 |
| ECLASS 6.0 | 27270904 |
| ECLASS 6.2 | 27270904 |
| ECLASS 7.0 | 27270904 |
| ECLASS 8.0 | 27270904 |
| ECLASS 8.1 | 27270904 |
| ECLASS 9.0 | 27270904 |
| ECLASS 10.0 | 27270904 |
| ECLASS 11.0 | 27270904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

Adjustments

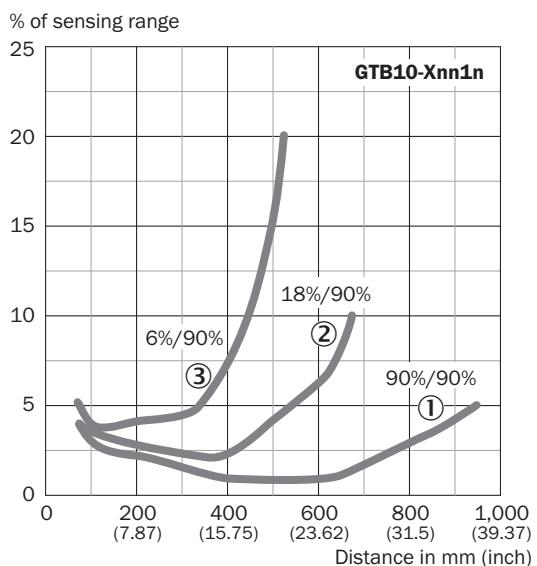


⑥ Adjustment of sensing range
 ⑦ Light/dark selector

Connection diagram Cd-044

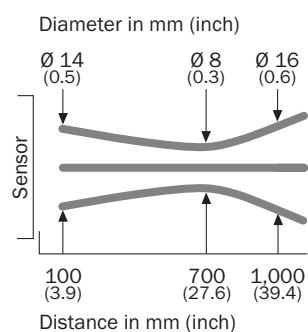


Characteristic curve GTB10, redlight

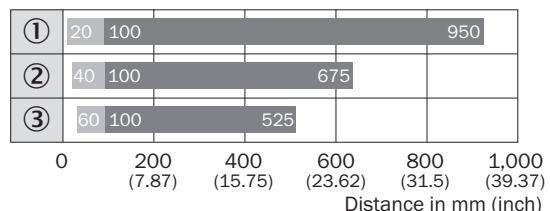


- ① Sensing range on white, 90% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on black, 6% remission factor

Light spot size

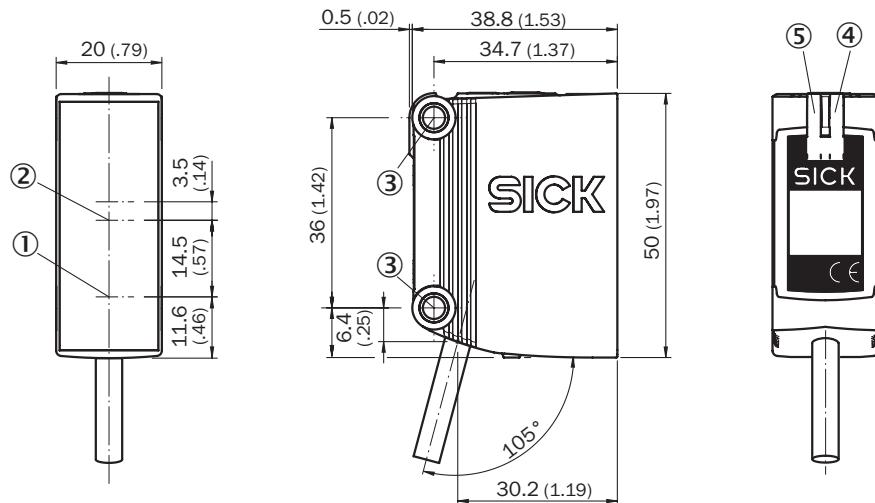


Sensing range diagram GTB10, redlight



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

Dimensional drawing GTB10, DC, cable



Dimensions in mm (inch)

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

Recommended accessories

Other models and accessories ➔ www.sick.com/G10

| | Brief description | Type | part no. |
|---|--|---------------|----------|
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> • Connection type head A: Male connector, M8, 3-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: 0.14 mm² ... 0.5 mm² | STE-0803-G | 6037322 |
| Mounting systems | | | |
|  | <ul style="list-style-type: none"> • Description: Q-Lock, bar clamp system for G10 and reflector P250 • Material: Zinc diecast, steel • Details: Die-cast zinc, steel, zinc coated • Suitable for: G10 and reflector P250 | BEF-KHSQ12R01 | 2071260 |
|  | <ul style="list-style-type: none"> • Description: Mounting bracket with articulated arm • Material: Steel • Details: Steel, zinc coated • Items supplied: Mounting hardware included • Suitable for: W16, W26, W11, W12, W23, W27, Dx50, W280, G10 | BEF-WN-MULTI2 | 2093945 |

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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.

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