GTB10-P4411S01

G10

SMALL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

GTB10-P4411S01 | G10
SMALL PHOTOELECTRIC SENSORS

Illustration may differ

Ordering information

Type	Part no.
GTB10-P4411S01	1066852

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

Detailed technical data

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]
Light spot size (distance)	Ø 8 mm (700 mm)
Wave length	625 nm
Adjustment	Potentiometer, 5 turns
Special features	High functional reliability on foil-wrapped objects

[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 V_{pp} [2]
Power consumption	20 mA

[1] Limit values when operated 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] With light/dark ratio 1:1.
[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).

Switching output	PNP
Switching mode	Light switching
Output current $I_{max.}$	≤ 100 mA
Response time	≤ 1 ms [3]
Switching frequency	500 Hz [4]
Connection type	Male connector M12, 4-pin
Circuit protection	A [5] B [6] C [7] D [8]
Protection class	III
Weight	35 g
Special device	✓
Housing material	Plastic, ABS/PMMA
Enclosure rating	IP67
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
More standards	UL325 [9]

[1] Limit values when operated 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] With light/dark ratio 1:1.

[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).

Classifications

ECl@ss 5.0	27270904
ECl@ss 5.1.4	27270904
ECl@ss 6.0	27270904
ECl@ss 6.2	27270904
ECl@ss 7.0	27270904
ECl@ss 8.0	27270904
ECl@ss 8.1	27270904
ECl@ss 9.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719
UNSPSC 16.0901	39121528

Adjustments possible

GTB10, logistics, DC
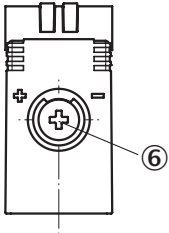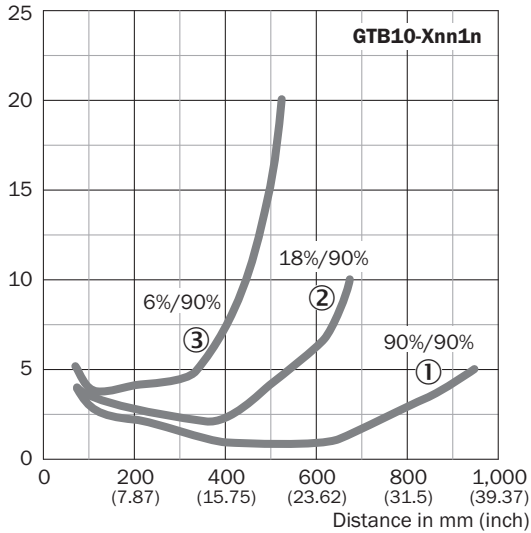
⑥ Adjustment of sensing range

Connection diagram

Cd-066

BN	1	+ (L+)
WH	2	not connected
BU	3	- (M)
BK	4	Q
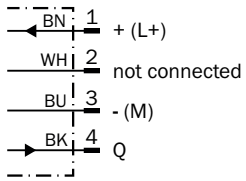
Characteristic curve

GTB10, redlight

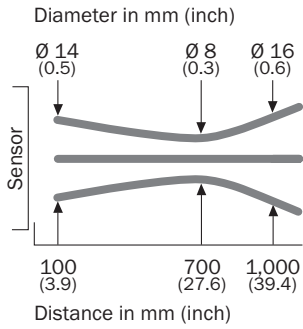% of sensing range

GTB10-Xnn1n

18%/90%
②

6%/90%
③

90%/90%
①

Distance in mm (inch)

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

Light spot size

GTB10, redlight

Diameter in mm (inch)

Ø 14 (0.5)   Ø 8 (0.3)   Ø 16 (0.6)

Sensor

100 (3.9)   700 (27.6)   1,000 (39.4)

Distance in mm (inch)

Sensing range diagram

GTB10, redlight

①	20	100	950
②	40	100	675
③	60	100	525

0   200 (7.87)   400 (15.75)   600 (23.62)   800 (31.5)   1,000 (39.37)

Distance in mm (inch)

■ Sensing range   ▨ Sensing range max.

① Sensing range on white, 90% remission
② Sensing range on gray, 18 % remission
③ Sensing range on black, 6% remission
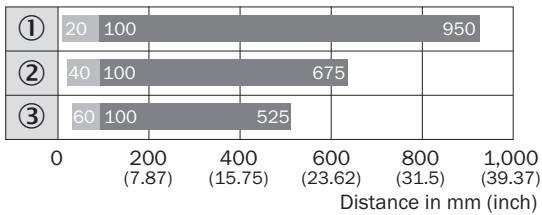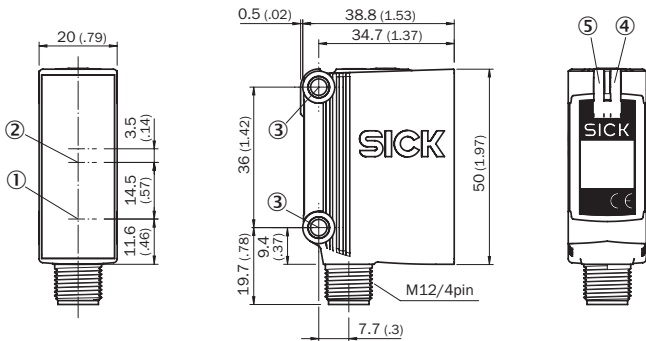
Dimensional drawing (Dimensions in mm (inch))

GTB10, DC, connector

20 (.79)

3.5 (.14)
14.5 (.57)
11.6 (.46)

0.5 (.02)   38.8 (1.53)   34.7 (1.37)

36 (1.42)   SICK   50 (1.97)

19.7 (.78)   9.4 (.37)

M12/4pin

7.7 (.3)

⑤ ④

SICK   C€

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.
Universal bar clamp systems			
	Clamp bar to fix G10 sensors on rods of 10 mm, clamp-on design up to 4 mm wall thickness, aluminum (clamp bar), stainless steel (bracket), clamp bar mounting and clamp function, mounting bracket, mounting hardware	BEF-KHS-ISG10	2073756
	Q-Lock, bar clamp system for G10 and reflector P250, Die-cast zinc, steel, zinc coated	BEF-KHSQ12R01	2071260
	Bar clamp system for G10 and reflector P250, Die-cast zinc, steel, zinc coated, mounting hardware included	BEF-KHSQ12R02	2087586
	Q-Lock, bar clamp system for G10 and reflector P250, Die-cast zinc, steel, zinc coated, incl. slot-in sheet clamp	BEF-KHSQ12ZR01	2071262
	Mounting bar, straight, 200 mm, steel, steel, zinc coated, without mounting hardware	BEF-MS12G-A	4056054
	Mounting bar, straight, 300 mm, steel, steel, zinc coated, without mounting hardware	BEF-MS12G-B	4056055
	Mounting bar, L-shaped, 150 mm x 150 mm, steel, steel, zinc coated, without mounting hardware	BEF-MS12L-A	4056052
	Mounting bar, L-shaped, 250 x 250 mm, steel, steel, zinc coated, without mounting hardware	BEF-MS12L-B	4056053
	Mounting bar, Z-shaped, 150 mm x 70 mm x 150 mm, steel, steel, zinc coated, without mounting hardware	BEF-MS12Z-A	4056056
	Mounting bar, Z-shaped, 150 mm x 70 mm x 250 mm, steel, steel, zinc coated, without mounting hardware	BEF-MS12Z-B	4056057
	Bar clamp for bar diameter of 12 mm (fixing the mounting rod), Aluminum, 2 screws M6 x 30, 2 spring discs	BEF-RMC-D12	5321878
Mounting brackets and plates			
	Mounting bracket for wall and floor mounting for G10 DC, Stainless steel (1.4301), mounting hardware included	BEF-G10DC01	2071258
	Mounting bracket for wall and floor mounting for G10 AC/DC, steel, zinc coated, mounting hardware included	BEF-G10UC01	2071259
Plug connectors and cables			
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	YF2A14-020VB3XLEAX	2096234
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A14-050VB3XLEAX	2096235
	Head A: female connector, M12, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	YG2A14-020VB3XLEAX	2095895
	Head A: female connector, M12, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YG2A14-050VB3XLEAX	2095897

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**

SICK AG | Waldkirch | Germany | www.sick.com

SICK
Sensor Intelligence.