

Detailed technical data

Features

	DC	AC/DC
Sensor principle	Photoelectric proximity sensor	
Detection principle	Background suppression	
Dimensions (W x H x D)	20 mm x 50 mm x 39 mm	20 mm x 50 mm x 51.5 mm
Housing design (light emission)	Rectangular	
Sensing range max.		
Visible red light	20 mm ... 950 mm ¹⁾	
Infrared light	20 mm ... 1,200 mm ¹⁾	
Type of light	Visible red light	Visible red light / Infrared light (depending on type)
Light source	PinPoint LED ²⁾	PinPoint LED ²⁾ LED ²⁾ (depending on type)
Light spot size (distance)		
Visible red light	Ø 8 mm (700 mm)	
Infrared light	Ø 22 mm (700 mm)	
Wave length		
Visible red light	625 nm	
Infrared light	850 nm	
Adjustment	Potentiometer, 5 turns	

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033)

²⁾ Average service life of 100,000 h at T_A = +25 °C.

Mechanics/electronics

	DC	AC/DC
Supply voltage	10 V DC ... 30 V DC ¹⁾	24 V AC/DC ... 240 V AC/DC ²⁾
Ripple ³⁾	± 5 V _{ss}	
Power consumption	≤ 20 mA ⁴⁾	≤ 2,5 VA
Output type	PNP NPN, open collector (depending on type)	Relay, SPDT, electrically isolated ⁵⁾
Switching mode	Light/dark-switching / Light switching (depending on type)	–
Switching mode selector	Selectable via light/dark selector	–
Output current I_{max}	≤ 100 mA	–
Switching current max. (switching voltage)	–	0.11 A (250 V DC) 3 A (30 V DC) 3 A (250 V AC)
Switching frequency max. ⁷⁾ (Response time)	1,000 Hz (≤ 500 µs ⁶⁾) 500 Hz (≤ 1 ms ⁶⁾) (depending on type)	20 Hz (≤ 10 ms)
Connection type	Connector, M12 Cable, 2 m ⁸⁾ (depending on type)	Cable, 2 m ⁸⁾
Circuit protection	A ⁹⁾ B ¹⁰⁾ C ¹¹⁾ D ¹²⁾	C ¹¹⁾
Protection class	III	II ¹³⁾

	DC	AC/DC
Weight		
Connector M12, 4-pin	Ca. 35 g	–
Cable, 3-wire	Ca. 90 g	–
Cable, 5-wire	–	Ca. 115 g
Interference emission	–	EN 61000-6-3 (2011-09) ¹⁴⁾
Housing material	PVC / PMMA	
Enclosure rating	IP 67	
Relay switching cycles min.	–	100.000 cycles (3 A)
Items supplied	Mounting bracket BEF-G10DC01 (depending on type)	Mounting bracket BEF-G10UC01 (depending on type)
Usage category	–	AC-15, DC-13, according to EN 60947-1
EMC	EN 60947-5-2	
UL File No.	E348498	
Ambient operating temperature	–30 °C ... +60 °C	
Ambient storage temperature	–40 °C ... +70 °C	

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

²⁾ +/- 10 %.

³⁾ May not exceed or fall short of V_S tolerances.

⁴⁾ Without load.

⁵⁾ Provide suitable spark suppression for inductive or capacitive loads.

⁶⁾ Signal transit time with resistive load.

⁷⁾ With light/dark ratio 1:1.

⁸⁾ Do not bend below 0 °C.

⁹⁾ A = V_S connections reverse-polarity protected.

¹⁰⁾ B = inputs and output reverse-polarity protected.

¹¹⁾ C = interference suppression.

¹²⁾ D = outputs overcurrent and short-circuit protected.

¹³⁾ Reference voltage: 250 V AC.

¹⁴⁾ In the case of a DC supply (ref. to EN 61000-6-3) the length of cable between the supply source and the sensor must be < 30 m.

Ordering information

Other models available at www.mysick.com/en/GTB10

GTB10, DC

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression
- **Supply voltage:** 10 V DC ... 30 V DC
- **Switching frequency max.:** 1,000 Hz
- **Light spot size (distance):** Ø 8 mm (700 mm)
- **Type of light:** visible red light
- **Switching mode:** Light/dark-switching
- **Adjustment:** potentiometer, 5 turns

Sensing range max. ¹⁾	Output type	Connection	Connection diagram	Items supplied	Model name	Part no.
20 mm ... 950 mm	PNP	Cable, 3-wire, 2 m, PVC	Cd-044	-	GTB10-P1211	1065854
				Mounting bracket BEF-G10DC01	GTB10-P1212	1065856
		Connector M12, 4-pin	Cd-066	-	GTB10-P4211	1064694
				Mounting bracket BEF-G10DC01	GTB10-P4212	1065857
	NPN	Cable, 3-wire, 2 m, PVC	Cd-044	-	GTB10-N1211	1065858
				Mounting bracket BEF-G10DC01	GTB10-N1212	1065859
		Connector M12, 4-pin	Cd-066	-	GTB10-N4211	1065860
				Mounting bracket BEF-G10DC01	GTB10-N4212	1065861

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033)

GTB10, DC, optimized for logistics applications

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression
- **Supply voltage:** 10 V DC ... 30 V DC
- **Switching frequency max.:** 500 Hz
- **Light spot size (distance):** Ø 8 mm (700 mm)
- **Type of light:** visible red light
- **Switching mode:** Light switching
- **Adjustment:** potentiometer, 5 turns

Sensing range max. ¹⁾	Output type	Connection	Connection diagram	Items supplied	Model name	Part no.
20 mm ... 950 mm	PNP	Connector M12, 4-pin	Cd-066	-	GTB10-P4411S01	1066852
	NPN	Cable, 3-wire, 2 m, PVC	Cd-044	-	GTB10-N1411S02	1066853

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033)

GTB10, AC/DC

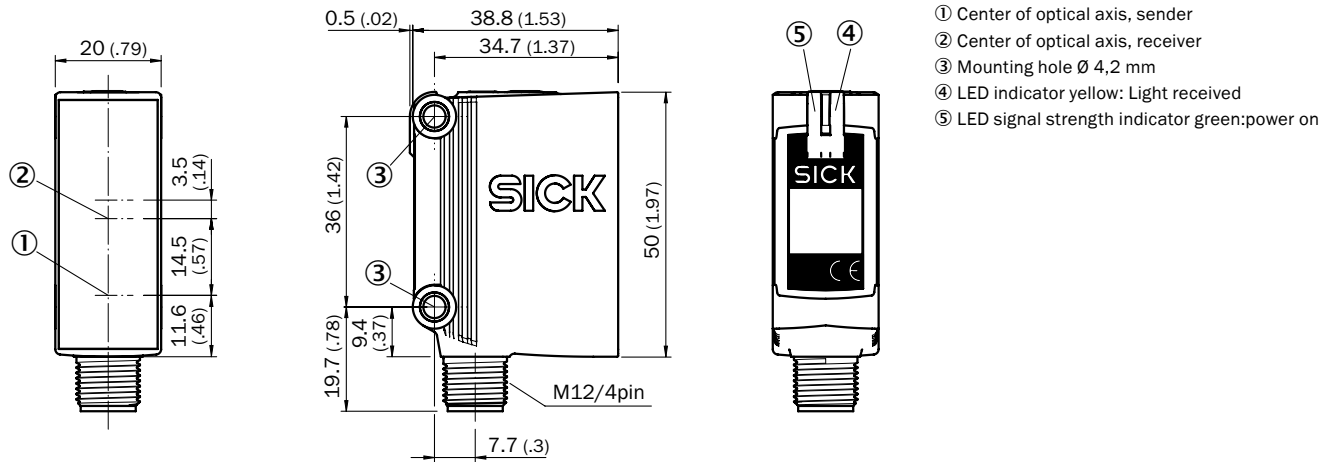
- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression
- **Supply voltage:** 24 V AC/DC ... 240 V AC/DC
- **Switching frequency max.:** 20 Hz
- **Output type:** relay
- **Adjustment:** potentiometer, 5 turns
- **Connection:** Cable, 5-wire, 2 m, PVC

Sensing range max. ¹⁾	Light spot size (distance)	Type of light	Connection diagram	Items supplied	Model name	Part no.
20 mm ... 950 mm	Ø 8 mm (700 mm)	Visible red light	Cd-163	–	GTB10-R3811	1064686
				Mounting bracket BEF-G10UC01	GTB10-R3812	1065862
20 mm ... 1,200 mm	Ø 22 mm (700 mm)	Infrared light	Cd-163	–	GTB10-R3821	1065863
				Mounting bracket BEF-G10UC01	GTB10-R3822	1065864

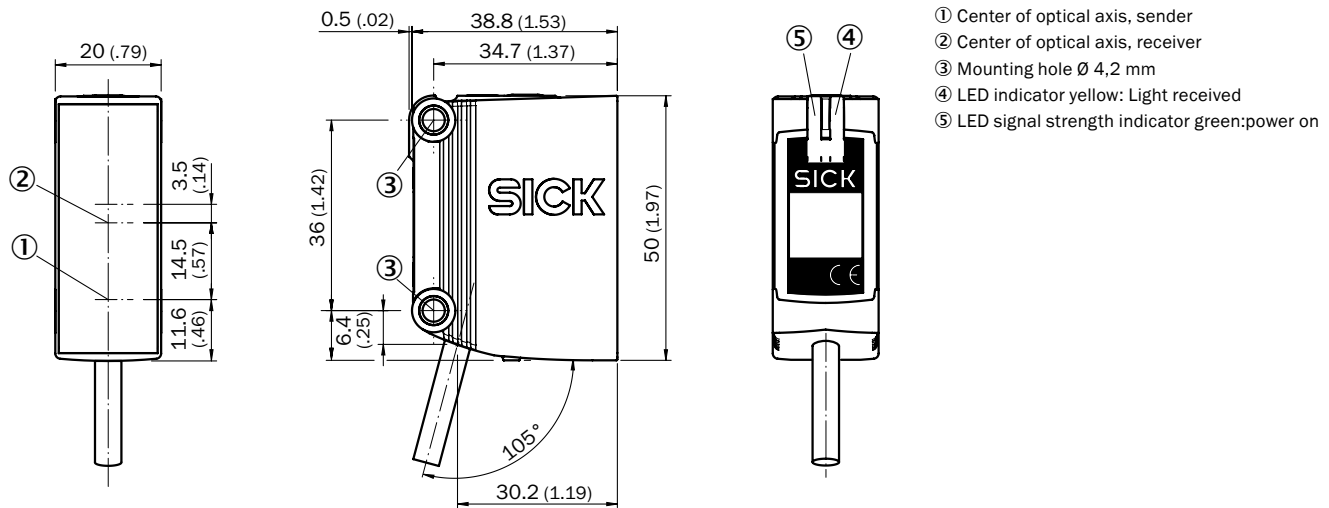
¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033)

Dimensional drawings (Dimensions in mm (inch))

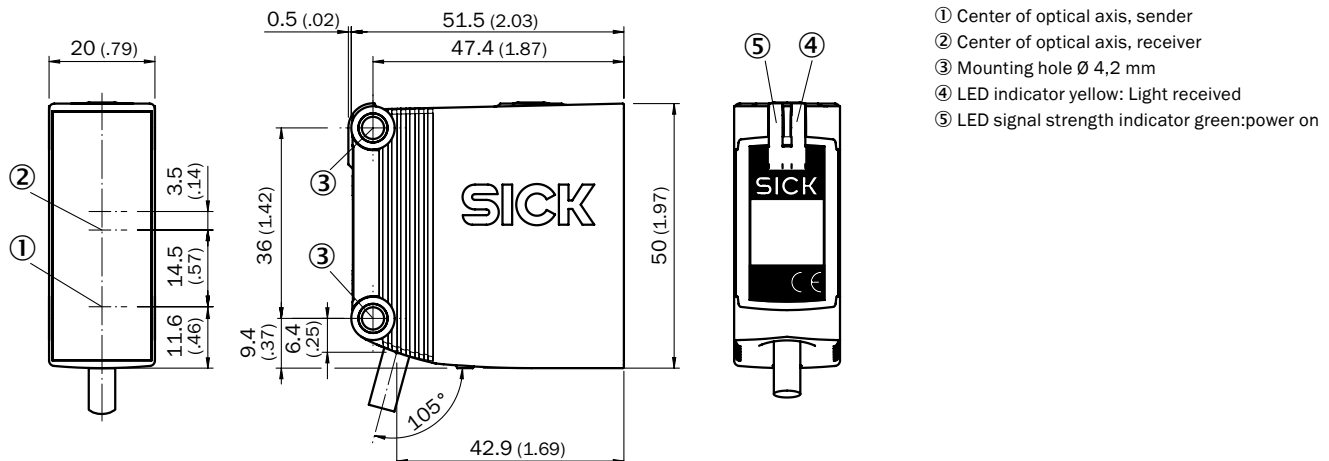
GTB10, DC, connector



GTB10, DC, cable

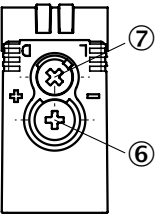


GTB10, AC/DC, cable



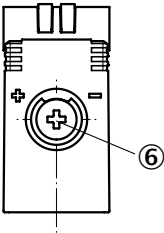
Adjustments

GTB10, DC



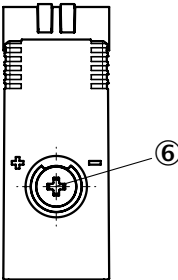
- ⑥ Sensing range adjustment
- ⑦ Light/dark selector

GTB10, logistics, DC



- ⑥ Sensing range adjustment

GTB10, AC/DC

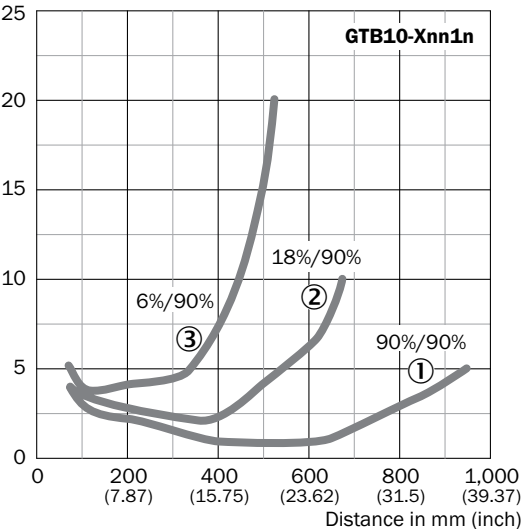


- ⑥ Sensing range adjustment

Sensing range

GTB10, redlight

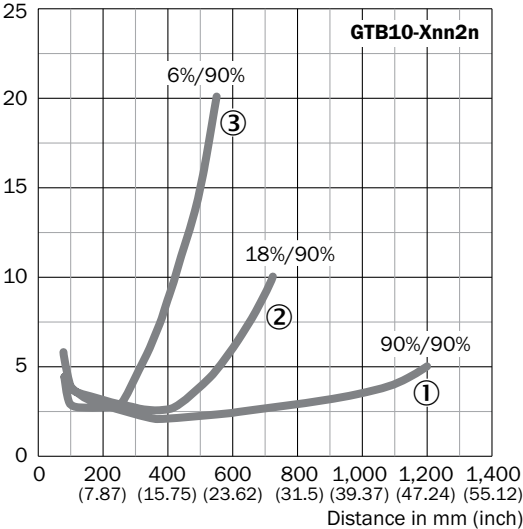
% of sensing range



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

GTB10, infrared light

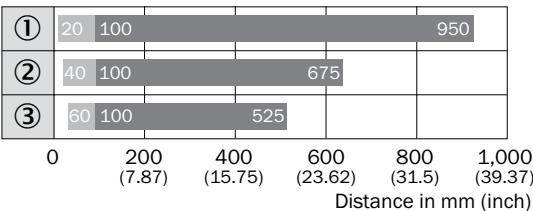
% of sensing range



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

Bar diagrams

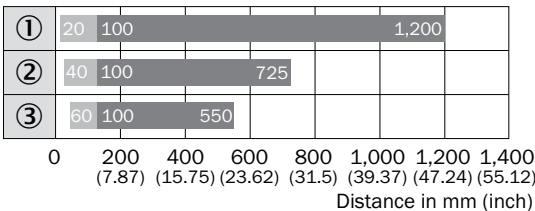
GTB10, redlight



■ Sensing range ■ Sensing range max.

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

GTB10, infrared light

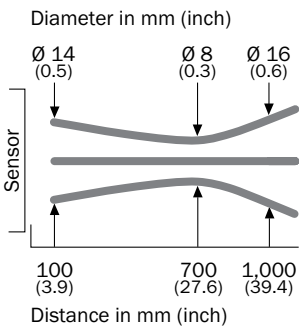


■ Sensing range ■ Sensing range max.

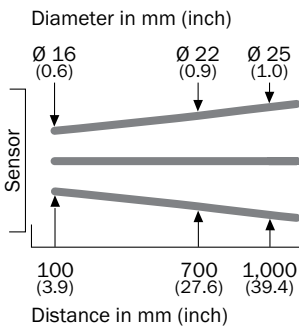
- ① Sensing range on white, 90 % remission
- ② Sensing range on grey, 18 % remission
- ③ Sensing range on black, 6 % remission

Light spot diameter

GTB10, redlight

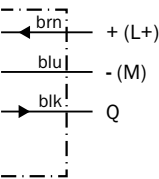


GTB10, infrared light

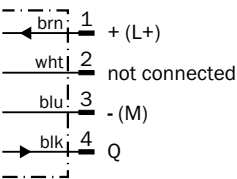


Connection diagram

Cd-044



Cd-066



Cd-163

