Data sheet

GTB2F-N5141

G2

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
GTB2F-N5141	1093732

Other models and accessories ➜ www.sick.com/G2

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Dimensions (W x H x D)	14 mm x 24 mm x 3.5 mm
Housing design (light emission)	Rectangular
Minimum detectable object (MDO)	0.1 mm [1]
Sensing range max.	1 mm ... 9 mm
Sensing range	1 mm ... 8 mm [2]
Type of light	Visible red light
Light source	PinPoint LED [3]
Light spot size (distance)	Ø 1 mm (5 mm)
Wave length	660 nm
Adjustment	None

[1] In 5 mm distance.
[2] Object with 90% remission (based on standard white, DIN 5033).
[3] Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC
Ripple	< 5 V_{pp} [1]
Current consumption	20 mA [2]
Switching output	NPN
Switching mode	Light switching
Output current $I_{max.}$	≤ 50 mA
Response time	< 0.625 ms [3]
Switching frequency	800 Hz [4]
Connection type	Cable with connector M8, 3-pin, 200 mm [5]
Cable material	Plastic, PVC
Cable diameter	Ø 2.3 mm
Circuit protection	A [6] C [7] D [8]
Weight	13 g
Housing material	Plastic, VISTAL®
Optics material	Plastic, MABS
Enclosure rating	IP67
Ambient operating temperature	–20 °C ... +50 °C
Ambient temperature, storage	–40 °C ... +70 °C
UL File No.	NRKH.E348498 & NRKH7.E348498
Repeatability (T_a not constant)	0.1 mm
Hysteresis	< 0.3 mm

[1] May not fall below or exceed U_V tolerances.
[2] Without load.
[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] C = interference suppression.
[8] D = outputs overcurrent and short-circuit protected.

Certificates

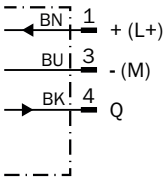
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cRUus certificate	✓

Classifications

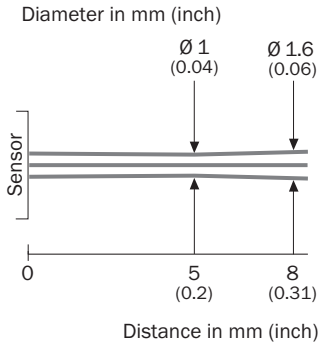
ECLASS 5.0	27270904
ECLASS 5.1.4	27270904

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

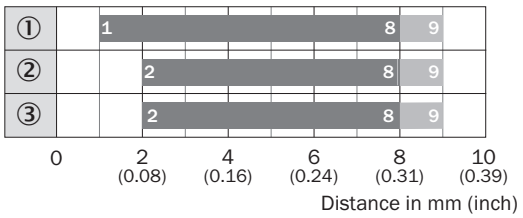
Connection diagram Cd-045



Light spot size GTB2 Flat, 8 mm

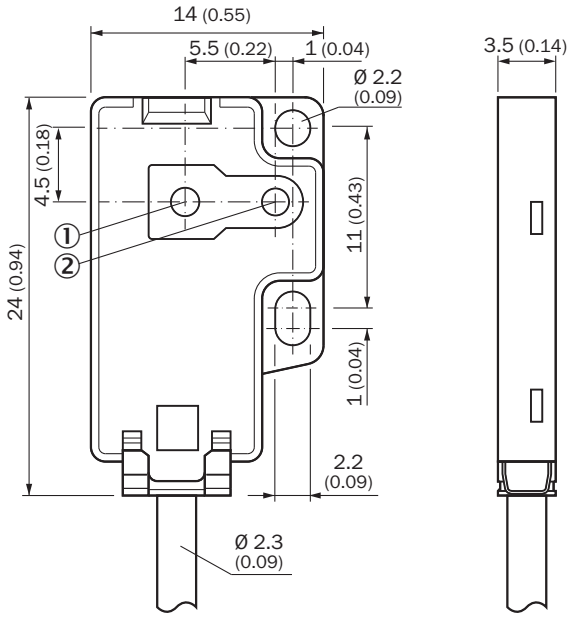


Sensing range diagram GTB2 Flat, 8 mm



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)
① optical axis, receiver
② optical axis, sender

Recommended accessories

Other models and accessories ➜ www.sick.com/G2

	Brief description	Type	part no.
Mounting systems			
	• **Description:** Mounting plate for direct mounting, from the rear, on wall or machine, not adjustable. 10 Piece ,Black ,Plastic, VISTAL®. Suitable for GTB2F and GSE2F • **Packing unit:** 10 pieces	BEF-G2F-FLAT-SPACER-M2	2107263
connectors and cables			
	• **Connection type head A:** Female connector, M8, 3-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 3-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with chemicals	YF8U13-050VA1XLEAX	2095884
	• **Description:** Unshielded • **Connection type head A:** Male connector, M8, 3-pin, straight, A-coded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** 0.14 mm² ... 0.5 mm²	STE-0803-G	6037322
	• **Connection type head A:** Female connector, M8, 3-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 3-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation	YF8U13-050UA1XLEAX	2094788

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.”

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