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Product data sheet



GTB2S-P5451

G2S

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

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MINIATURE PHOTOELECTRIC SENSORS



Illustration may differ

Ordering information

Type	Part no.
GTB2S-P5451	1060204

Other models and accessories → www.sick.com/G2S

Detailed technical data

Features

Sensor/ detection principle	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D)	7.7 mm x 27.5 mm x 13.5 mm
Housing design (light emission)	Rectangular
Sensing range max.	2 mm ... 120 mm [1]
Sensing range	25 mm ... 90 mm [2]
Type of light	Visible red light
Light source	PinPoint LED [3]
Light spot size (distance)	Ø 3.5 mm (50 mm)
Wave length	640 nm
Adjustment	Potentiometer, 3 turns

[1] Object with 90 % reflectance (referred to standard white, DIN 5033).
[2] Object with 6 % remission.
[3] 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]

[1] Limit values when operated in short-circuit protected network: max. 8 A.
[2] May not exceed or fall below U_V tolerances.
[3] Without load.
[4] Signal transit time with resistive load.
[5] With light/dark ratio 1:1.
[6] Do not bend below 0 °C.
[7] A = V_S connections reverse-polarity protected.
[8] C = interference suppression.
[9] D = outputs overcurrent and short-circuit protected.

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Current consumption	20 mA [3]
Switching output	PNP
Switching mode	Light switching
Output current $I_{max.}$	≤ 50 mA
Response time	< 0.6 ms [4]
Switching frequency	800 Hz [5]
Connection type	Cable with connector M8, 3-pin, 200 mm [6]
Cable material	PVC
Cable diameter	Ø 3 mm
Circuit protection	A [7] C [8] D [9]
Weight	17.9 g
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67
Ambient operating temperature	–25 °C ... +50 °C
Ambient temperature, storage	–40 °C ... +75 °C
UL File No.	NRKH.E181493

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Safety-related parameters

$MTTF_D$	3,138 years
DC_{avg}	0 %

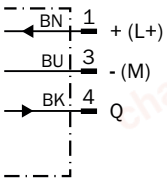
Classifications

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
ECl@ss 10.0	27270904
ECl@ss 11.0	27270904
ETIM 5.0	EC002719

ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

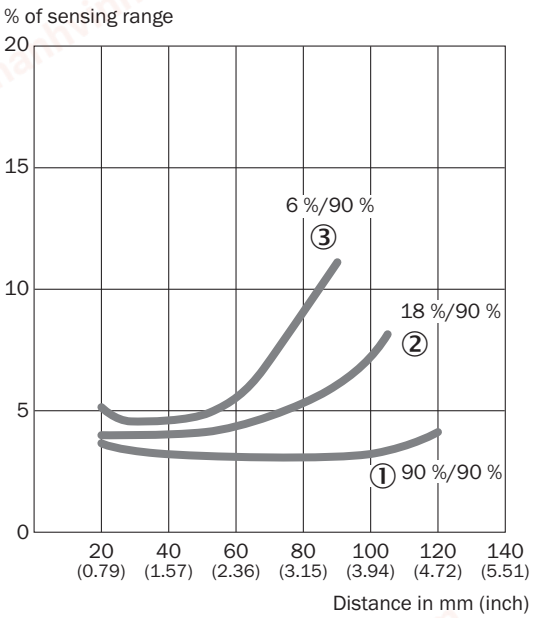
Connection diagram

Cd-045



Characteristic curve

GTB2S, 120 mm

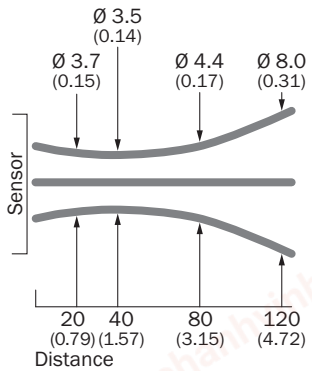


① Sensing range on white, 90% remission
② Sensing range on gray, 18 % remission
③ Sensing range on black, 6% remission

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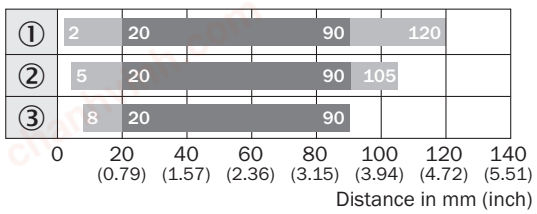
Light spot size

GTB2S, 120 mm



Sensing range diagram

GTB2S, 120 mm



Sensing range Sensing range max.

① Sensing range on white, 90% remission
② Sensing range on gray, 18 % remission
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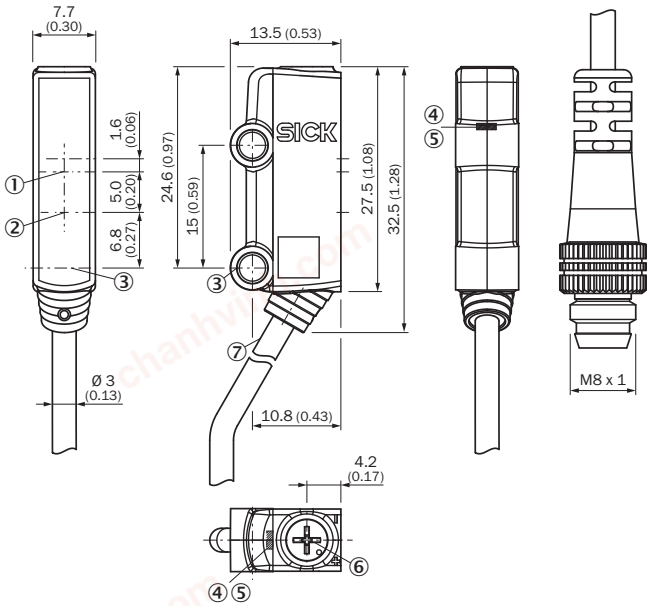
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MINIATURE PHOTOELECTRIC SENSORS

Dimensional drawing (Dimensions in mm (inch))

GTB2S, 120 mm



① Optical axis, receiver
② Optical axis, sender
③ Mounting hole, Ø 3.2 mm
④ LED indicator green: Supply voltage active
⑤ LED indicator yellow: Status of received light beam
⑥ Potentiometer
⑦ Connection

Recommended accessories

Other models and accessories ➜ www.sick.com/G2S

	Brief description	Type	Part no.
Plug connectors and cables			
	• **Connection type head A:** Female connector, M8, 3-pin, straight, A-coded • **Connection type head B:** Flying leads • **Authorizations:** UL • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 3-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals	YF8U13-050VA1XLEAX	2095884
	• **Connection type head A:** Male connector, M8, 3-pin, straight • **Connection type head B:** - • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** 0.14 mm² ... 0.5 mm²	STE-0803-G	6037322

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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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