

GTB2S-P5331

G2

PHOTOELECTRIC SENSORS





Ordering information

Туре	part no.
GTB2S-P5331	1062930

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

Illustration may differ



Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Dimensions (W x H x D)	7.7 mm x 21.8 mm x 13.5 mm
Housing design (light emission)	Rectangular
Sensing range max.	1 mm 36 mm ¹⁾
Sensing range	5 mm 30 mm ²⁾
Background suppression typ. from	38 mm
Type of light	Visible red light
Light source	PinPoint LED ³⁾
Light spot size (distance)	Ø 3 mm (15 mm)
Wave length	640 nm
Adjustment	None
Special applications	Detecting small objects

 $^{^{1)}}$ Object with 90% remission (based on standard white, DIN 5033).

 $^{^{2)}}$ Object with 6 % remission.

 $^{^{3)}}$ Average service life: 100,000 h at TU = +25 °C.

Mechanics/electronics

Supply voltage U _B 10 ∨ DC 30 ∨ DC ¹⁾ Ripple < 5 ∨ _{pp} ²⁾ 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 Plastic, PVC Cable diameter Ø 3 mm Circuit protection A ⁷⁾		
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 Plastic, PVC Cable diameter Ø 3 mm Circuit protection A ⁻¹ C S B D B D B D D D D D D D D D D D D D D	Supply voltage U _B	10 V DC 30 V DC ¹⁾
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 Plastic, PVC Cable diameter Ø 3 mm Circuit protection A ⁷⁾	Ripple	$<$ 5 $V_{pp}^{2)}$
Switching mode Light switching Output current I _{max} . Response time < 0.6 ms ⁴⁾ Switching frequency 800 Hz ⁵⁾ Connection type Cable with connector M8, 3-pin, 200 mm ⁶⁾ Cable material Plastic, PVC Cable diameter Ø 3 mm Circuit protection A ⁷⁾ C ⁸⁾ D ⁹⁾ Weight Housing material Plastic, ABS Optics material Plastic, PMMA Enclosure rating Ambient operating temperature -25 °C +50 °C Ambient temperature, storage Light switching 2 50 mA 40 °C +75 °C	Current consumption	20 mA ³⁾
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 Plastic, PVC Cable diameter Ø 3 mm Circuit protection A ⁷⁾	Switching output	PNP
Response time < 0.6 ms ⁴⁾ Switching frequency 800 Hz ⁵⁾ Connection type Cable with connector M8, 3-pin, 200 mm ⁶⁾ Cable material Plastic, PVC Cable diameter Ø 3 mm Circuit protection A ⁷⁾ C ⁸⁾ D ⁹⁾ Weight 17.5 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	Switching mode	Light switching
Switching frequency Connection type Cable with connector M8, 3-pin, 200 mm ⁶⁾ Cable material Plastic, PVC Cable diameter Ø 3 mm Circuit protection A ⁷⁾ C ⁸⁾ D ⁹⁾ Weight Housing material Plastic, ABS Optics material Plastic, PMMA Enclosure rating Ambient operating temperature -25 °C +50 °C Ambient temperature, storage	Output current I _{max.}	≤ 50 mA
Connection type Cable with connector M8, 3-pin, 200 mm ⁶⁾ Cable material Plastic, PVC Cable diameter Ø 3 mm Circuit protection A ⁷⁾ C ⁸⁾ D ⁹⁾ Weight 17.5 g Housing material Plastic, ABS Optics material Plastic, PMMA Enclosure rating Ambient operating temperature -25 ° C +50 ° C Ambient temperature, storage -40 ° C +75 ° C	Response time	< 0.6 ms ⁴⁾
Cable material Plastic, PVC Cable diameter Ø 3 mm Circuit protection A C B C B C B D B C B C B C B C B C B C B	Switching frequency	800 Hz ⁵⁾
Cable diameter Circuit protection A ⁷⁾ C ⁸⁾ D ⁹⁾ Weight 17.5 g Housing material Plastic, ABS Optics material Plastic, PMMA Enclosure rating IP67 Ambient operating temperature -25 °C +50 °C -40 °C +75 °C	Connection type	Cable with connector M8, 3-pin, 200 mm ⁶⁾
Circuit protection A 7) C 8) D 9) Weight 17.5 g Housing material Plastic, ABS Optics material Plastic, PMMA Enclosure rating Ambient operating temperature -25 °C +50 °C -40 °C +75 °C	Cable material	Plastic, PVC
C 8) D 9) Weight 17.5 g Housing material Plastic, ABS Optics material Plastic, PMMA Enclosure rating IP67 Ambient operating temperature -25 °C +50 °C -40 °C +75 °C	Cable diameter	Ø 3 mm
Housing material Optics material Plastic, ABS Plastic, PMMA Enclosure rating IP67 Ambient operating temperature -25 °C +50 °C -40 °C +75 °C	Circuit protection	C 8)
Optics material Plastic, PMMA Enclosure rating IP67 Ambient operating temperature -25 °C +50 °C Ambient temperature, storage -40 °C +75 °C	Weight	17.5 g
Enclosure rating IP67 Ambient operating temperature -25 °C +50 °C Ambient temperature, storage -40 °C +75 °C	Housing material	Plastic, ABS
Ambient operating temperature $-25 ^{\circ}\text{C} \dots +50 ^{\circ}\text{C}$ Ambient temperature, storage $-40 ^{\circ}\text{C} \dots +75 ^{\circ}\text{C}$	Optics material	Plastic, PMMA
Ambient temperature, storage -40 °C +75 °C	Enclosure rating	IP67
	Ambient operating temperature	-25 °C +50 °C
UL File No. NRKH.E181493	Ambient temperature, storage	-40 °C +75 °C
	UL File No.	NRKH.E181493

 $^{^{1)}\,\}mbox{Limit}$ values when operated in short-circuit protected network: max. 8 A.

Safety-related parameters

MTTF _D	3,487 years
DC _{avg}	0 %

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	✓

 $^{^{2)}}$ May not fall below or exceed 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.

Classifications

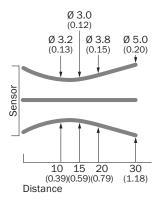
ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC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

Connection type

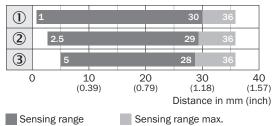


Connection diagram Cd-045

Light spot size GTB2S, 30 mm

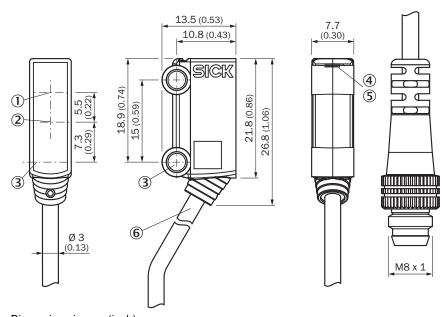


Sensing range diagram GTB2S, 30 mm



- 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 GTB2S, 15 mm, 30 mm



Dimensions in mm (inch)

① optical axis, receiver

PHOTOELECTRIC SENSORS

- 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 Connection

Recommended accessories

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

	Brief description	Туре	part no.	
Mounting sys	Mounting systems			
	 Description: Mounting bracket for floor mounting Material: Steel Details: Steel, zinc coated Items supplied: Without mounting hardware Suitable for: W2S-2 	BEF-W2S-A	4034748	
	 Description: Plate N11N for universal clamp bracket Material: Stainless steel Details: Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp) Items supplied: Universal clamp (5322627), mounting hardware Usable for: DeltaPac, Glare, WTD20E 	BEF-KHS-N11N	2071081	
connectors ar	connectors and cables			
0	 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: Zones with chemicals, Uncontaminated zones 	YF8U13-050VA1XLEAX	2095884	
No.	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: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF8U13-050UA1XLEAX	2094788	
	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	

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

