



# G2S

No space is too small

**PHOTOELECTRIC SENSORS**

**SICK**  
Sensor Intelligence.



### Technical data overview

<b>Dimensions (W x H x D)</b>	7.7 mm x 21.8 mm x 13.5 mm 7.7 mm x 27.5 mm x 13.5 mm
<b>Sensing range max.</b>	1 mm ... 18 mm <sup>1)</sup> 1 mm ... 19 mm <sup>1)</sup> 1 mm ... 36 mm <sup>1)</sup> 2 mm ... 120 mm <sup>1)</sup> 0.02 m ... 3 m <sup>2)</sup> 0 m ... 2 m 0 m ... 3 m
<b>Light source</b>	PinPoint LED / LED (depending on type)
<b>Type of light</b>	Visible red light / Infrared light (depending on type)
<b>Enclosure rating</b>	IP67
<b>Housing material</b>	Plastic ABS
<b>Adjustment</b>	None / potentiometer, 3 turns (depending on type)

<sup>1)</sup> Object with 90 % reflectance (referred to standard white, DIN 5033).

<sup>2)</sup> Reflector PL40A.

### Product description

Machines and systems are becoming more compact while the space available for sensors is shrinking. Sub-miniature sensors in the G2S product family feature a rugged, compact housing that can be integrated into various applications with limited space. These sensors feature a long sensing range with reliable object detection.

### At a glance

- Complete product family of photoelectric sensors in a tried-and-tested sensor design
- Adjustable BGS photoelectric proximity sensor with an sensing range up to 120 mm
- Optical performance data that exceeds market standards for sensing range and housing design
- Reliable detection of jet-black, poorly reflective and highly reflective objects
- PinPoint LED ensures high sensing ranges and reliable object detection

### Your benefits

- Reliable object detection in confined environments helps cut costs and save space
- Sub-miniature housing enables seamless integration and creates opportunities for new machine designs
- Tried-and-tested, rugged housing design can be easily integrated into compact machines and systems
- Complete, ultra-small product family with operating functions for every application
- The 45-degree tilted cable entry offers maximum installation flexibility with additional soft rubber bearings to absorb vibrations and tensile loads

### Fields of application

- Detects electronic cards
- Integrates with gripper arms for pick-and-place robotic applications
- Detects plastic containers
- Detects solar cells

## Ordering information

Other models and accessories → [www.sick.com/G2S](http://www.sick.com/G2S)

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Light switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
1 mm ... 18 mm	NPN	None	Cable with connector M8, 3-pin, 200 mm <sup>1)</sup>	GTB2S-N5311	1064349
			Cable, 3-wire, 2 m <sup>1)</sup>	GTB2S-N1311	1062840
				GTB2S-N1311S02	1070337
	PNP	None	Cable with connector M8, 3-pin, 200 mm <sup>1)</sup>	GTB2S-P5311	1062872
			Cable with connector, JST, XHR-3, 3-pin, 0.6 m <sup>1)</sup>	GTB2S-P0311S14	1115899
			Cable, 3-wire, 2 m <sup>1)</sup>	GTB2S-P1311	1064345
1 mm ... 36 mm	NPN	None	Cable with connector M8, 3-pin, 200 mm <sup>1)</sup>	GTB2S-N5331	1064355
			Cable, 3-wire, 2 m <sup>1)</sup>	GTB2S-N1331	1062929
	PNP	None	Cable with connector M8, 3-pin, 200 mm <sup>1)</sup>	GTB2S-P5331	1062930
			Cable, 3-wire, 2 m <sup>1)</sup>	GTB2S-P1331	1064351
			Cable, 3-wire, 5 m <sup>1)</sup>	GTB2S-P0331S03	1074990
2 mm ... 120 mm	NPN	Potentiometer	Cable with connector M8, 3-pin, 200 mm <sup>1)</sup>	GTB2S-N5451	1064343
			Cable, 3-wire, 2 m <sup>1)</sup>	GTB2S-N1451	1060203
	PNP	Potentiometer	Cable with connector M8, 3-pin, 200 mm <sup>1)</sup>	GTB2S-P5451	1060204
			Cable with connector, JST, 3-pin, 60 mm <sup>1)</sup>	GTB2S-P0451S16	1119180
			Cable, 3-wire, 2 m <sup>1)</sup>	GTB2S-P1451	1060205

<sup>1)</sup> Do not bend below 0 °C.

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
1 mm ... 18 mm	NPN	None	Cable, 3-wire, 2 m <sup>1)</sup>	GTB2S-E1311	1064348
	PNP	None	Cable with connector M8, 3-pin, 200 mm <sup>1)</sup>	GTB2S-F5311	1064347
			Cable, 3-wire, 2 m <sup>1)</sup>	GTB2S-F1311	1064346
1 mm ... 36 mm	NPN	None	Cable, 3-wire, 2 m <sup>1)</sup>	GTB2S-E1331	1064354
	PNP	None	Cable with connector M8, 3-pin, 200 mm <sup>1)</sup>	GTB2S-F5331	1064353
			Cable, 3-wire, 2 m <sup>1)</sup>	GTB2S-F1331	1064352
2 mm ... 120 mm	NPN	Potentiometer	Cable with connector M8, 3-pin, 200 mm <sup>1)</sup>	GTB2S-E5451	1064344
			Cable, 3-wire, 2 m <sup>1)</sup>	GTB2S-E1451	1064342
	PNP	Potentiometer	Cable with connector M8, 3-pin, 200 mm <sup>1)</sup>	GTB2S-F5451	1064341
			Cable, 3-wire, 2 m <sup>1)</sup>	GTB2S-F1451	1064340

<sup>1)</sup> Do not bend below 0 °C.

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Dark switching
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
1 mm ... 19 mm	NPN	None	Cable, 3-wire, 2 m <sup>1)</sup>	GTB2S-E1301S07	1090217

<sup>1)</sup> Do not bend below 0 °C.

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light switching
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
1 mm ... 19 mm	NPN	None	Cable, 3-wire, 2 m <sup>1)</sup>	GTB2S-N1301S15	1119148
	PNP	None	Cable, 3-wire, 2 m <sup>1)</sup>	GTB2S-P1301S10	1091653

<sup>1)</sup> Do not bend below 0 °C.

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
1 mm ... 36 mm	NPN	None	Cable with M8 male connector, 4-pin, 200 mm <sup>1)</sup>	GTB2S-N6331	1115445
2 mm ... 120 mm	NPN	Potentiometer	Cable, 4-wire, 2 m <sup>1)</sup>	GTB2S-N2451	1087766

<sup>1)</sup> Do not bend below 0 °C.

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** Dual lens
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Light switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0.02 m ... 3 m	NPN	None	Cable, 3-wire, 2 m <sup>1)</sup>	GL2S-N1311	1064360
				GL2S-N1312	1064423
	PNP	None	Cable with MOLEX-connector 43020-0409, 200 mm <sup>1)</sup>	GL2S-P0311S08	1109135
			Cable with connector M8, 3-pin, 200 mm <sup>1)</sup>	GL2S-P5311	1064359
				GL2S-P5311S10	1113290
			Cable with connector M8, 3-pin, 300 mm <sup>1)</sup>	GL2S-P0311S09	1112777
			Cable, 3-wire, 2 m <sup>1)</sup>	GL2S-P1311	1064357

<sup>1)</sup> Do not bend below 0 °C.

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** Dual lens
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0.02 m ... 3 m	NPN	None	Cable with connector M8, 3-pin, 200 mm <sup>1)</sup>	GL2S-E5311	1064361
			Cable, 3-wire, 2 m <sup>1)</sup>	GL2S-E1311	1063009
				GL2S-E1312	1064424
	PNP	None	Cable with connector M8, 3-pin, 200 mm <sup>1)</sup>	GL2S-F5311	1063008
			Cable, 3-wire, 2 m <sup>1)</sup>	GL2S-F1311	1064358
			Cable, 3-wire, 5 m <sup>1)</sup>	GL2S-F0311S07	1103742

<sup>1)</sup> Do not bend below 0 °C.

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** Dual lens
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0.02 m ... 3 m	NPN	None	Cable, 4-wire, 2 m <sup>1)</sup>	GL2S-N2311	1067404
			Cable with special connector 3M, 4-wire, 0.35 m <sup>1)</sup>	GL2S-N0311S01	1075790
			Cable with special connector 3M, 4-wire, 0.45 m <sup>1)</sup>	GL2S-N0311S02	1075791
			Cable with special connector 3M, 4-wire, 0.63 m <sup>1)</sup>	GL2S-N0311S03	1075792
			Cable with special connector 3M, 4-wire, 0.8 m <sup>1)</sup>	GL2S-N0311S11	1113640
			Cable with special connector 3M, 4-wire, 0.96 m <sup>1)</sup>	GL2S-N0311S04	1075793
			Cable with special connector 3M, 4-wire, 1.25 m <sup>1)</sup>	GL2S-N0311S14	1113643
			Cable with special connector 3M, 4-wire, 1.2 m <sup>1)</sup>	GL2S-N0311S13	1113642
			Cable with special connector 3M, 4-wire, 1.45 m <sup>1)</sup>	GL2S-N0311S16	1113645
			Cable with special connector 3M, 4-wire, 1.4 m <sup>1)</sup>	GL2S-N0311S15	1113644
			Cable with special connector 3M, 4-wire, 1 m <sup>1)</sup>	GL2S-N0311S12	1113641
			Cable with special connector Typ 3M (37104-4101-G00 FL), 4-wire, 0.2 m <sup>1)</sup>	GL2S-N0311S17	1115096

<sup>1)</sup> Do not bend below 0 °C.

- **Sensor principle:** Through-beam photoelectric sensor
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 2 m	NPN	None	Cable with connector M8, 3-pin, 200 mm <sup>1)</sup>	GSE2S-E5311	1064366
			Cable, 3-wire, 2 m <sup>1)</sup>	GSE2S-E1311	1063070
			Cable with special connector Typ 3M (37104-4101-G00 FL), 4-wire, 2 m <sup>1)</sup>	GSE2S-E0311S07	1117064
	PNP	None	Cable with connector M8, 3-pin, 200 mm <sup>1)</sup>	GSE2S-F5311	1063072
			Cable, 3-wire, 2 m <sup>1)</sup>	GSE2S-F1311	1064363

<sup>1)</sup> Do not bend below 0 °C.

- **Sensor principle:** Through-beam photoelectric sensor
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Light switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 2 m	NPN	None	Cable, 3-wire, 2 m <sup>1)</sup>	GSE2S-N1311	1064365
	PNP	None	Cable with connector M8, 3-pin, 200 mm <sup>1)</sup>	GSE2S-P5311	1064364
			Cable with connector M8, 3-pin, 500 mm <sup>1)</sup>	GSE2S-P0311S06	1103167
			Cable, 3-wire, 2 m <sup>1)</sup>	GSE2S-P1311	1064362

<sup>1)</sup> Do not bend below 0 °C.

- **Sensor principle:** Through-beam photoelectric sensor
- **Voltage type:** DC
- **Switching mode:** Light switching

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 3 m	PNP	None	Cable, 3-wire, 2 m <sup>1)</sup>	GE2S-P1321	2095646

<sup>1)</sup> Do not bend below 0 °C.



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- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Dark switching
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 3 m	NPN	None	Cable, 3-wire, 2 m <sup>1)</sup>	GSE2S-E1321S03	1092425

<sup>1)</sup> Do not bend below 0 °C.

- **Sensor principle:** Through-beam photoelectric sensor
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light switching
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 3 m	PNP	None	Cable, 3-wire, 2 m <sup>1)</sup>	GS2S-D1321S04	2095647
				GSE2S-P1321S01	1089630

<sup>1)</sup> Do not bend below 0 °C.

- **Sensor principle:** Through-beam photoelectric sensor
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 2 m	NPN	None	Cable, 4-wire, 2 m <sup>1)</sup>	GSE2S-N2311	1089006

<sup>1)</sup> Do not bend below 0 °C.

## 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](http://www.sick.com)