



Photoelectric sensors  
G2S, Photoelectric proximity sensor, Background  
suppression

GTB2S-N1451



**Model Name** > **GTB2S-N1451**  
**Part No.** > **1060203**



Illustration may differ

**At a glance**

- Accurate adjustment of the operating distance due to easy operation of the 3-turn potentiometer
- Reliable detection of objects of all types regardless of their reflective properties
- Minimum black/white shift, less than 10% under 80 mm

**Your benefits**

- Precise, repeatably accurate switching points with a small, brilliant and sharply defined light spot
- Universal use, since a minimum black/white shift allows the sensor to be used irrespective of object contours and backgrounds
- High throughput and less downtime due to the sensor's ability to suppress active and passive interference in industrial environments.
- The 45-degree tilted cable entry offers maximum installation flexibility with additional soft rubber bearings to absorb vibrations and tensile loads
- The powerful PinPoint LED permits reliable detection of jet-black and poorly reflective objects



**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 <sup>1)</sup>
Sensing range:	25 mm ... 90 mm <sup>2)</sup>
Type of light:	Visible red light
Light source:	PinPoint LED <sup>3)</sup>
Wave length:	640 nm
Adjustment:	Potentiometer, 3 turns
Light spot size (distance):	Ø 3.5 mm (50 mm)

<sup>1)</sup> Object with 90 % reflectance (referred to standard white, DIN 5033) <sup>2)</sup> Object with 6 % remission <sup>3)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

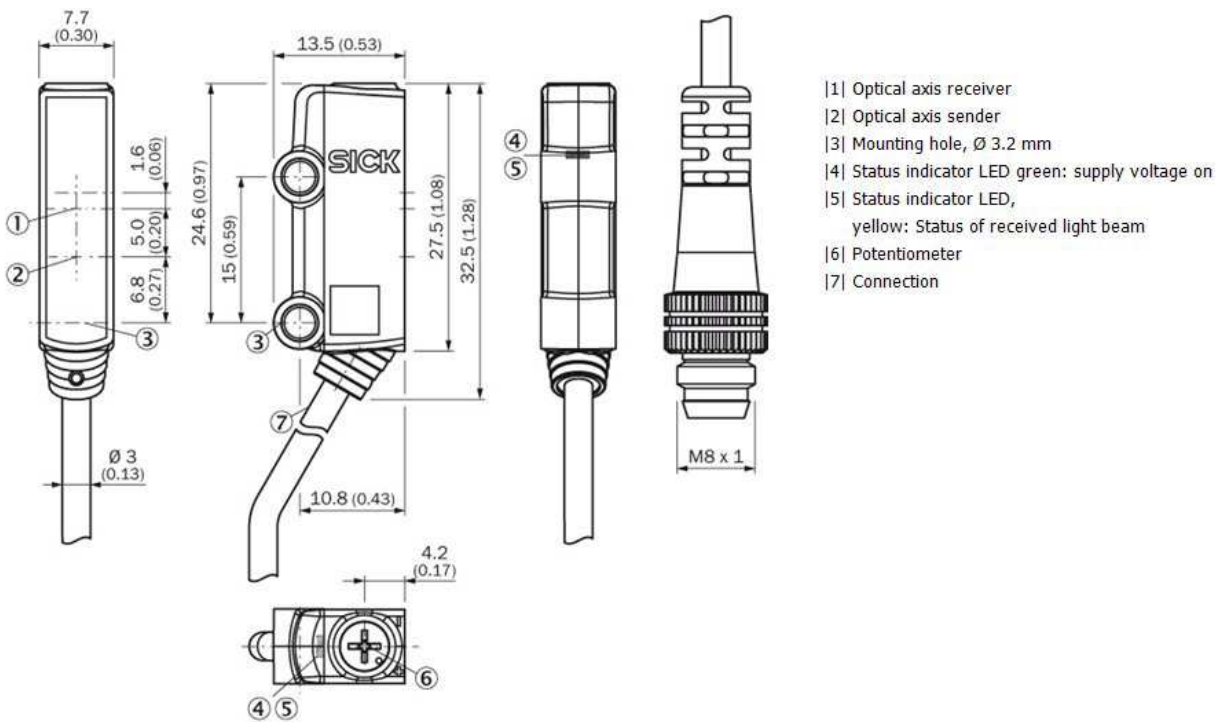
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	≤ 5 Vpp <sup>2)</sup>
Power consumption:	≤ 20 mA <sup>3)</sup>
Output type:	NPN
Switching mode:	Light switching

Output current I <sub>max</sub> ..:	< 50 mA
Response time:	< 0.6 ms <sup>4)</sup>
Switching frequency:	800 Hz <sup>5)</sup>
Connection type:	Cable, 3-wire, 2 m <sup>6)</sup>
Cable diameter:	Ø 3 mm
Circuit protection:::	A, C, D <sup>7)</sup> 8) 9)
Optics material:	PMMA
Enclosure rating:	IP 67
Ambient operating temperature:	-25 °C ... +50 °C
Ambient storage temperature:	-40 °C ... +75 °C
UL File No.:	NRKH.E181493
Housing material:	ABS, Plastic

1) Limit values, operation in short-circuit protected network max. 8 A 2) May not exceed or fall short of V<sub>S</sub> 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<sub>S</sub> connections reverse-polarity protected 8) C = interference suppression 9) D = outputs overcurrent and short-circuit protected

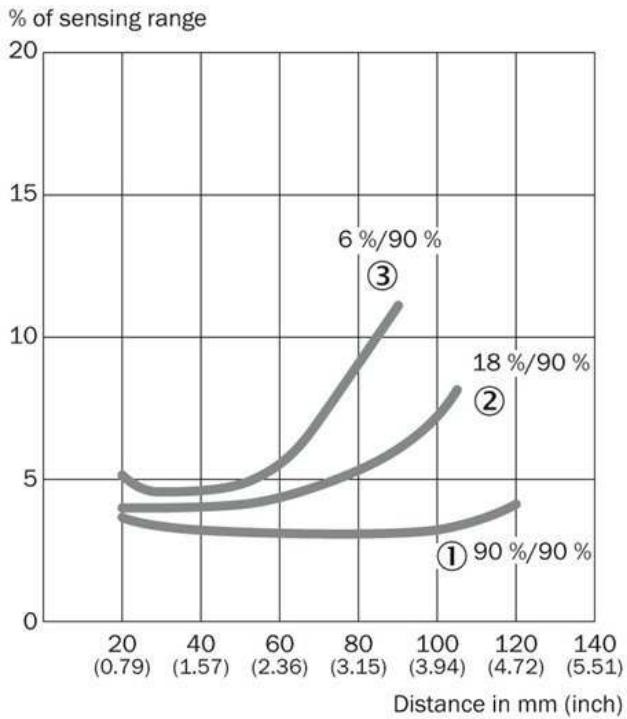
## Dimensional drawing



Connection diagram

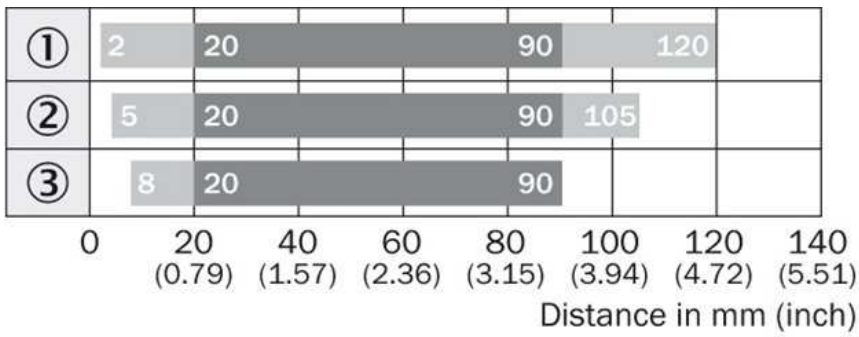


Characteristic curve



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

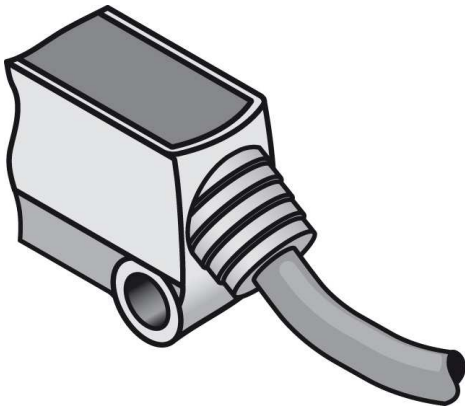
### Sensing range diagram



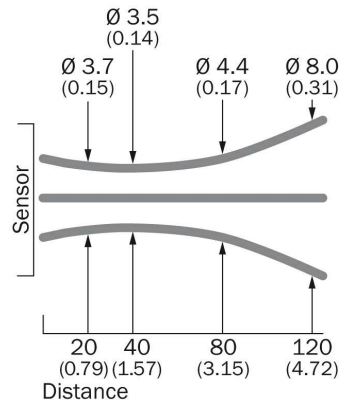
- |1| Sensing range on white, 90 % remission
- |2| Sensing range on gray, 18 % remission
- |3| Sensing range on black, 6 % remission

■ Sensing range      ■ Sensing range max.

### Connection type



### Light spot size



**Australia**

Phone +61 3 9457 0600  
1800 33 48 02 – tollfree  
E-Mail sales@sick.com.au

**Belgium/Luxembourg**

Phone +32 (0)2 466 55 66  
E-Mail info@sick.be

**Brasil**

Phone +55 11 3215-4900  
E-Mail marketing@sick.com.br

**Canada**

Phone +1 905 771 14 44  
E-Mail information@sick.com

**Česká republika**

Phone +420 2 57 91 18 50  
E-Mail sick@sick.cz

**China**

Phone +86 4000 121 000  
E-Mail info.china@sick.net.cn  
Phone +852-2153 6300  
E-Mail ghk@sick.com.hk

**Danmark**

Phone +45 45 82 64 00  
E-Mail sick@sick.dk

**Deutschland**

Phone +49 211 5301-301  
E-Mail info@sick.de

**España**

Phone +34 93 480 31 00  
E-Mail info@sick.es

**France**

Phone +33 1 64 62 35 00  
E-Mail info@sick.fr

**Great Britain**

Phone +44 (0)1727 831121  
E-Mail info@sick.co.uk

**India**

Phone +91-22-4033 8333  
E-Mail info@sick-india.com

**Israel**

Phone +972-4-6881000  
E-Mail info@sick-sensors.com

**Italia**

Phone +39 02 27 43 41  
E-Mail info@sick.it

**Japan**

Phone +81 (0)3 5309 2112  
E-Mail support@sick.jp

**Magyarország**

Phone +36 1 371 2680  
E-Mail office@sick.hu

**Nederland**

Phone +31 (0)30 229 25 44  
E-Mail info@sick.nl

**Norge**

Phone +47 67 81 50 00  
E-Mail sick@sick.no

**Österreich**

Phone +43 (0)22 36 62 28 8-0  
E-Mail office@sick.at

**Polska**

Phone +48 22 837 40 50  
E-Mail info@sick.pl

**România**

Phone +40 356 171 120  
E-Mail office@sick.ro

**Russia**

Phone +7-495-775-05-30  
E-Mail info@sick.ru

**Schweiz**

Phone +41 41 619 29 39  
E-Mail contact@sick.ch

**Singapore**

Phone +65 6744 3732  
E-Mail sales.gsg@sick.com

**Slovenija**

Phone +386 (0)1-47 69 990  
E-Mail office@sick.si

**South Africa**

Phone +27 11 472 3733  
E-Mail info@sickautomation.co.za

**South Korea**

Phone +82 2 786 6321/4  
E-Mail info@sickkorea.net

**Suomi**

Phone +358-9-25 15 800  
E-Mail sick@sick.fi

**Sverige**

Phone +46 10 110 10 00  
E-Mail info@sick.se

**Taiwan**

Phone +886 2 2375-6288  
E-Mail sales@sick.com.tw

**Türkiye**

Phone +90 (216) 528 50 00  
E-Mail info@sick.com.tr

**United Arab Emirates**

Phone +971 (0) 4 88 65 878  
E-Mail info@sick.ae

**USA/México**

Phone +1(952) 941-6780  
1 (800) 325-7425 – tollfree  
E-Mail info@sickusa.com

More representatives and agencies  
at [www.sick.com](http://www.sick.com)