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DATA SHEET

GTB2F-N1101S10

G2
Photoelectric sensors

SICK Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

GTB2F-N1101S10

ORDERING INFORMATION

Type	part no.
GTB2F-N1101S10	1132641

Further device versions and accessories at 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	1 mm ... 20 mm [2]
Type of light	Visible red light
Light source	PinPoint LED [3]
Light spot size (distance)	Ø 2.5 mm (15 mm)
Wave length	660 nm
Adjustment	None

[1] In 5 mm distance.

[2] Object with 6% 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, 3-wire, 2 m [5]
Cable material	Plastic, PVC
Cable diameter	Ø 2.3 mm
Circuit protection	A [6] C [7] D [8]
Weight	22 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	< 0.5 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.

SAFETY-RELATED PARAMETERS

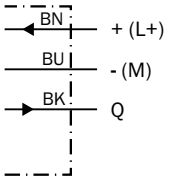
$MTTF_D$	1,107 years
DC_{avg}	0%
T_M (mission time)	20 years

CERTIFICATES

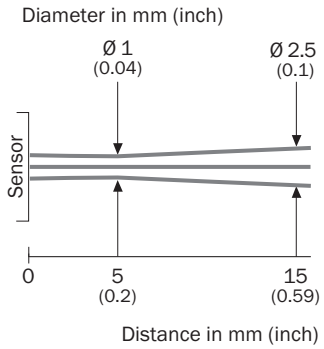
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓

cRUus certificate	✓

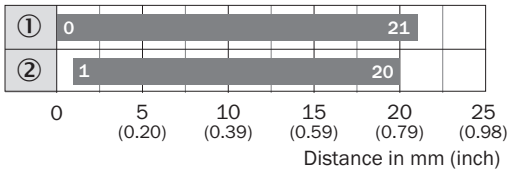
CONNECTION DIAGRAM CD-043



LIGHT SPOT SIZE GTB2 FLAT, 15 MM



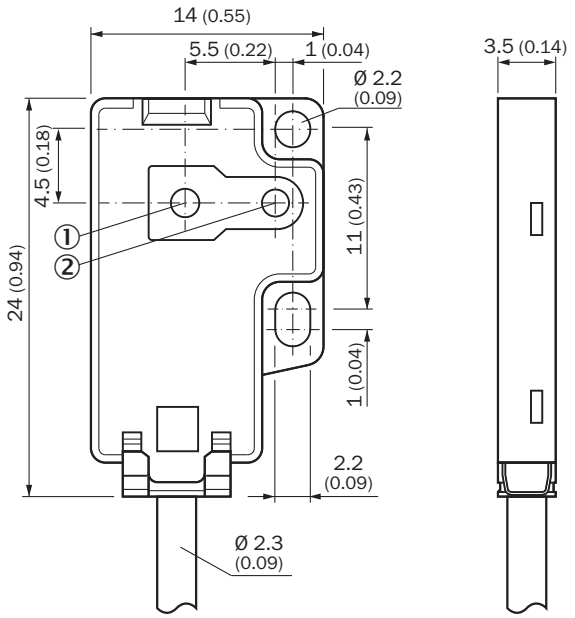
SENSING RANGE DIAGRAM



Sensing range

minimum distance between sensor and background must be more than 35 mm
① Sensing range on white, 90% remission factor
② Sensing range on black, 6% remission factor

DIMENSIONAL DRAWING



Dimensions in mm (inch)
① optical axis, receiver
② optical axis, sender

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1132641

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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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