



Photoelectric sensors G2S, Photoelectric proximity sensor, Background suppression

GTB2S-E1331



Model Name > [GTB2S-E1331](#)
Part No. > [1064354](#)



At a glance

- Reliable detection of black and white objects at distances up to 30 mm
- Background blanking from 36 mm
- Laser-type light spot 3 mm in diameter at a distance of 15 mm

Your benefits

- Faster machine cycles due to the brilliant, small light spots that allow accurate switching points and extremely small gaps between objects
- Universal use, since the sensors detect objects independent of their remission, 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



Illustration may differ

Features

Sensor/detection principle:	Photoelectric proximity sensor, 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⁾
Type of light:	Visible red light
Light source:	PinPoint LED ³⁾
Wave length:	640 nm
Light spot size (distance):	Ø 3 mm (15 mm)
Background suppression typ. from:	38 mm

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

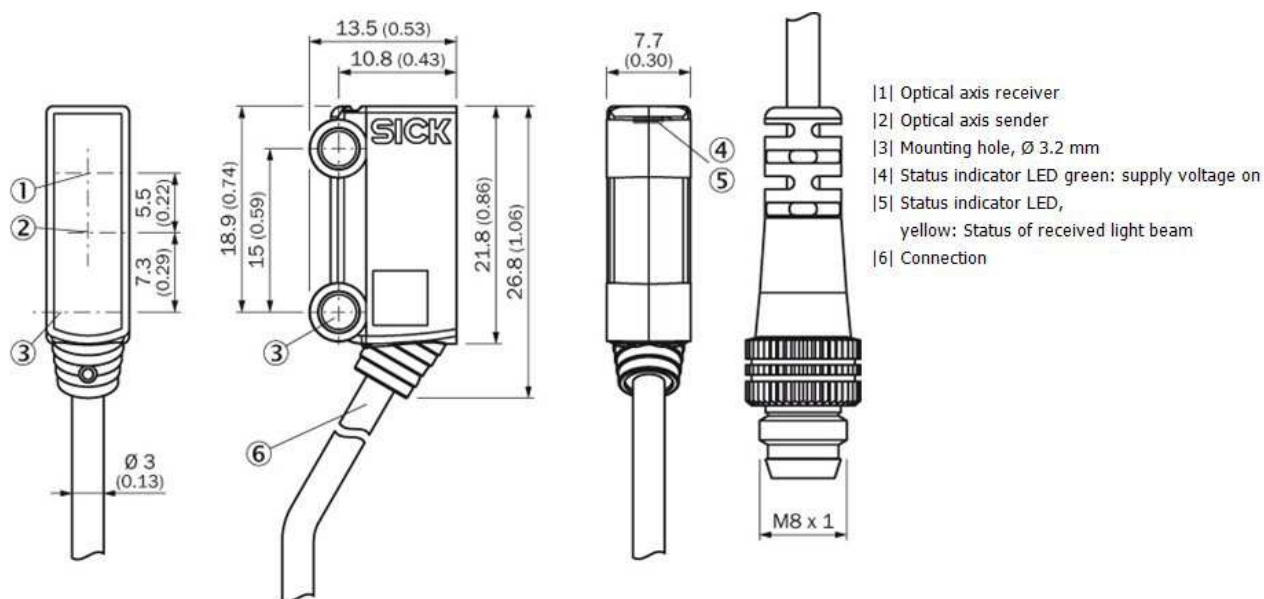
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	≤ 5 Vpp ²⁾
Power consumption:	≤ 20 mA ³⁾
Output type:	NPN
Switching mode:	Dark switching
Output current I _{max} :	< 50 mA

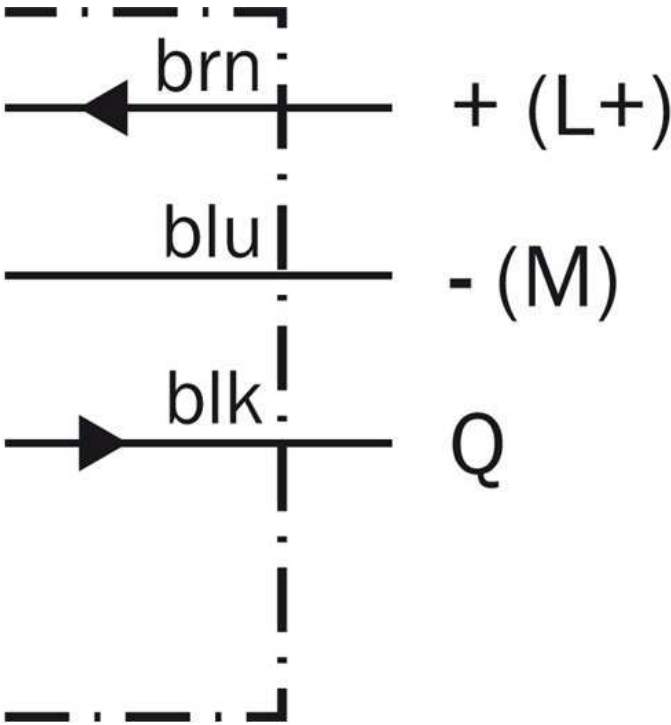
Response time:	< 0.6 ms ⁴⁾
Switching frequency:	800 Hz ⁵⁾
Connection type:	Cable, 3-wire, 2 m ⁶⁾
Cable diameter:	Ø 3 mm
Circuit protection:::	A, C, D ⁷⁾ 8) 9)
Optics material:	PMMA
Enclosure rating:	IP 67
Ambient temperature operation:	-25 °C ... +50 °C
Ambient storage temperature:	-40 °C ... +75 °C
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_S 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

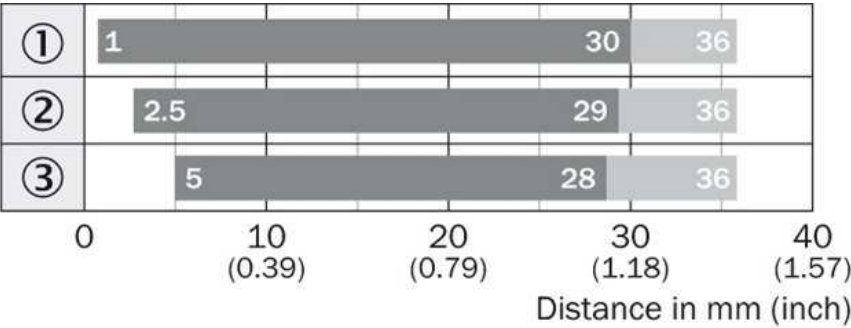
Dimensional drawing



Connection diagram



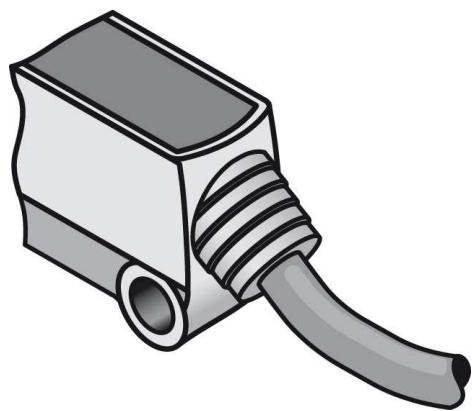
Sensing range diagram



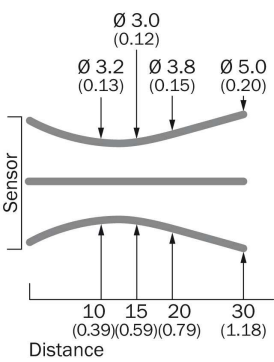
- |1| Sensing range on white, 90 % remission
- |2| Sensing range on gray, 18 % remission
- |3| Sensing range on black, 6 % remission

■ Sensing range ■ Sensing range max.

Connection type



Light spot size



All dimensions in mm (inch)

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