



Photoelectric sensors  
G10, Photoelectric proximity sensor, Background  
suppression

GTB10-R3821



**Model Name** > **GTB10-R3821**  
**Part No.** > **1065863**



*Illustration may differ*

**At a glance**

- Long sensing ranges: up to 1,200 mm with background suppression
- PinPoint LED with bright and precise light spot or infrared LED
- Immunity to ambient light
- 10 V DC ... 30 V DC or 24 V AC/DC ... 240 V AC/DC power supply with PNP/NPN or relay output
- Small housing design
- Rugged sensor housing with metal-reinforced holes for assembly
- Q-Lock assembly system for mounting and aligning the sensor within a few seconds

**Your benefits**

- Long sensing ranges for maximum operating reserves
- Powerful background suppression ensures precise detection, regardless of reflective surfaces and objects
- Efficient installation: the GTB10 and the Q-Lock assembly system save valuable hours when mounting and commissioning multiple sensors
- Universal DC or AC/DC power supply for even greater application flexibility
- Highly reliable and durable despite optical interference and mechanical loads
- Wide range of accessories simplifies sensor integration: aids for assembly and connectors



**Features**

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	20 mm x 50 mm x 51.5 mm
Housing design (light emission):	Rectangular
Sensing range max.:	20 mm ... 1,200 mm <sup>1)</sup>
Type of light:	Infrared light
Light source:	LED <sup>2)</sup>
Wave length:	850 nm
Adjustment:	Potentiometer, 5 turns
Light spot size (distance):	Ø 22 mm (700 mm)

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

**Mechanics/electronics**

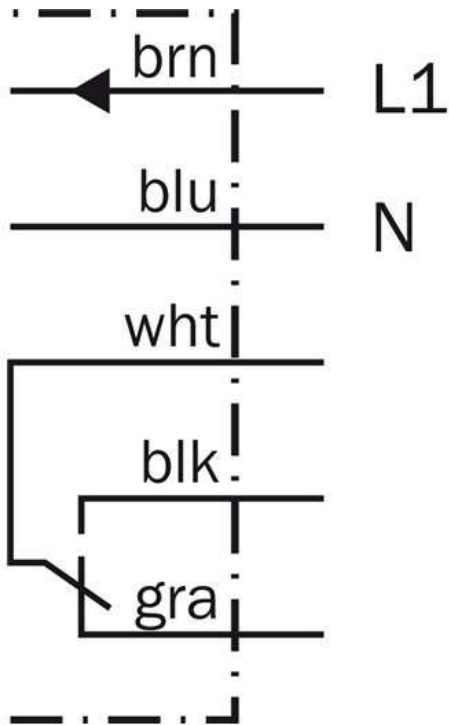
Supply voltage:	24 V AC/DC ... 240 V AC/DC <sup>1)</sup>
Ripple:	± 5 Vpp <sup>2)</sup>

Power consumption:	≤ 2.5 VA
Output type:	Relay, SPDT, electrically isolated <sup>3)</sup>
Response time:	≤ 10 ms
Connection type:	Cable, 5-wire, 2 m <sup>4)</sup>
Cable material:	PVC
Conductor cross-section:	0.25 mm <sup>2</sup>
Circuit protection:	C <sup>5)</sup>
Protection class:	II <sup>6)</sup>
Weight:	115 g
Polarisation filter:	-
Interference emission:	EN 61000-6-3 (2011-09) <sup>7)</sup>
Special device:	-
Enclosure rating:	IP 67
Usage category:	AC-15, DC-13, According to EN 60947-1
EMC:	EN 60947-5-2
Ambient temperature operation:	-30 °C ... +60 °C <sup>8)</sup>
Ambient storage temperature:	-40 °C ... +70 °C
UL File No.:	NRKH.E348498 & NRKH7.E348498
Further standards:	UL325 <sup>9)</sup>
Switching frequency max.:	20 Hz <sup>10)</sup>
Switching load max. (current/voltage):	0.11 A (250 V DC), 3 A (250 V AC), 3 A (30 V DC)
Relay switching cycles min.:	100.000 cycles (3 A)
Housing material:	PVC/PMMA, Plastic

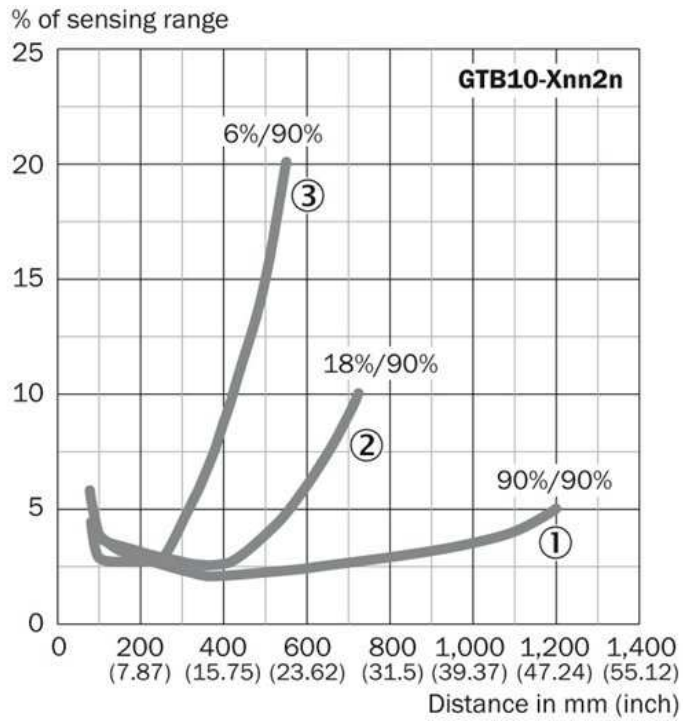
<sup>1)</sup> +/- 10 % <sup>2)</sup> May not exceed or fall below U<sub>v</sub> tolerances <sup>3)</sup> Provide suitable spark suppression for inductive or capacitive loads <sup>4)</sup> Do not bend below 0 °C <sup>5)</sup> C = interference suppression <sup>6)</sup> Reference voltage: 250 V AC <sup>7)</sup> In the case of a DC supply (ref. to EN 61000-6-3) the length of cable between the supply source and the sensor must be < 30 m <sup>8)</sup> UL: 0 °C ... +60 °C <sup>9)</sup> Complies with the UL325 standard when used with sturdy protection hood (e.g. BEF-G10WSG, 2071960). <sup>10)</sup> With light/dark ratio 1:1



Connection diagram

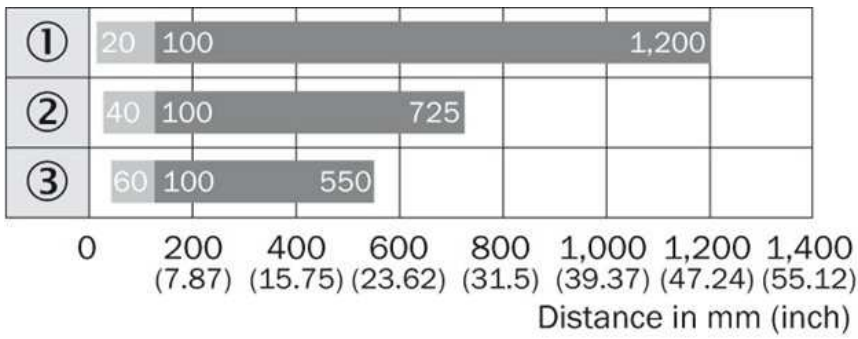


Scanning range



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

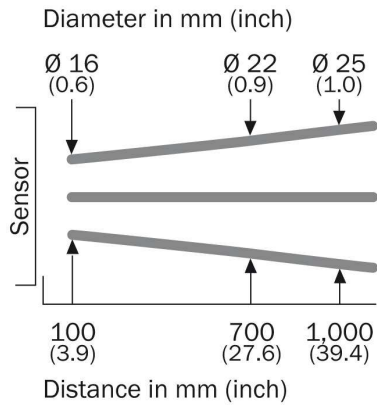
### Scanning range



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- |3| Sensing range on black, 6 % remission

■ Sensing range      ■ Sensing range max.

### Light spot size



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