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DATA SHEET

GTB6-N4212

G6
Photoelectric sensors

SICK

Sensor Intelligence

PHOTOELECTRIC SENSORS - GTB6-N4212



Illustration may differ

PHOTOELECTRIC SENSORS

GTB6-N4212

ORDERING INFORMATION

Type	part no.
GTB6-N4212	1052443

Further device versions and accessories at www.sick.com/G6



DETAILED TECHNICAL DATA

FEATURES

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Sensing range max.	5 mm ... 250 mm ¹⁾
Sensing range	35 mm ... 140 mm
Emitted beam	Light source Type of light Light spot size (distance)
Key LED figures	Wave length
Adjustment	Mechanical spindle, 5 turns
Items supplied	Stainless steel mounting bracket (1.4301/304) BEF-W100-A

¹⁾ Object with 90% remission (based on standard white, DIN 5033).

²⁾ Average service life: 100,000 h at T_u = +25 °C.

SAFETY-RELATED PARAMETERS

MTTF _D	1,770 years
DC _{avg}	0%

PHOTOELECTRIC SENSORS - GTB6-N4212

ELECTRONICS

Supply voltage U_s	10 V DC ... 30 V DC ¹⁾
Ripple	$\pm 10\%$ ²⁾
Current consumption	30 mA ³⁾
Protection class	III
Digital output	Type NPN Switching mode Light/dark switching Switching mode selector Selectable via light/dark selector Signal voltage NPN HIGH/LOW Approx. $V_s / \leq 3\text{ V}$ Output current I_{max} $\leq 100\text{ mA}$ ⁴⁾ Response time $< 625\text{ }\mu\text{s}$ ⁵⁾ Switching frequency 1,000 Hz ⁶⁾
Circuit protection	A ⁷⁾ B ⁸⁾ D ⁹⁾

¹⁾ Limit values when operated in short-circuit protected network; max. 8 A.

²⁾ May not fall below or exceed U_s tolerances.

³⁾ Without load.

⁴⁾ At $U_v > 24\text{ V}$, I_A max. = 50 mA.

⁵⁾ Signal transit time with resistive load.

⁶⁾ With light/dark ratio 1:1.

⁷⁾ A = V_s connections reverse-polarity protected.

⁸⁾ B = inputs and output reverse-polarity protected.

⁹⁾ D = outputs overcurrent and short-circuit protected.

MECHANICS

Housing	Rectangular
Dimensions (W x H x D)	12 mm x 31.5 mm x 21 mm
Connection	Male connector M8, 4-pin
Material	Housing Plastic, ABS/PC Front screen Plastic, PMMA
Weight	20 g

AMBIENT DATA

Enclosure rating	IP67
Ambient operating temperature	$-25\text{ }^{\circ}\text{C} \dots +55\text{ }^{\circ}\text{C}$ ¹⁾
Ambient temperature, storage	$-40\text{ }^{\circ}\text{C} \dots +70\text{ }^{\circ}\text{C}$
UL File No.	NRKH.E348498 & NRKH7.E348498

¹⁾ Temperature stability following adjustment $\pm 10\text{ }^{\circ}\text{C}$.

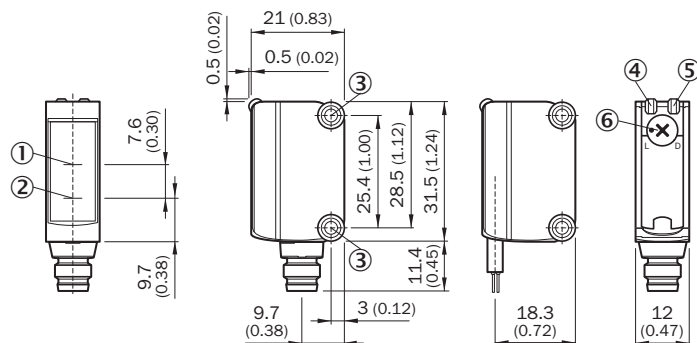
CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓

PHOTOELECTRIC SENSORS - GTB6-N4212

Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

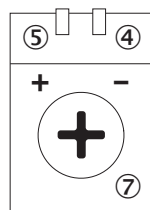
DIMENSIONAL DRAWING



Dimensions in mm (inch)

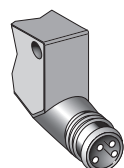
- ① Optical axis, receiver
- ② Optical axis, sender
- ③ Mounting holes M3
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ Light/ dark rotary switch: L = light switching, D = dark switching

ADJUSTMENTS ADJUSTMENT POSSIBILITY



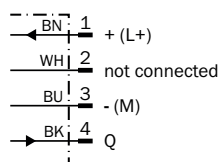
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑦ Sensitivity control: potentiometer

CONNECTION TYPE

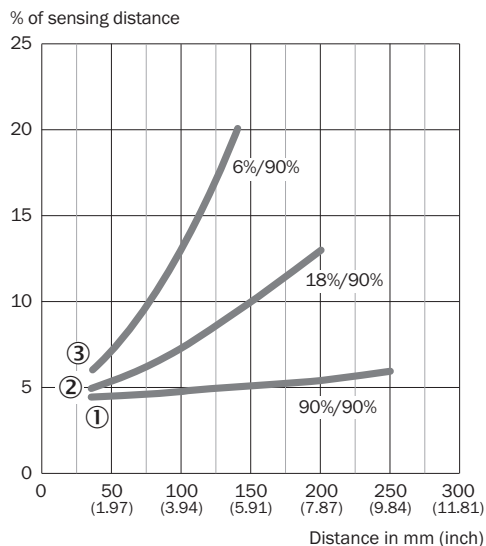


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CONNECTION DIAGRAM CD-066

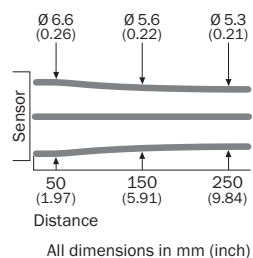


CHARACTERISTIC CURVE GTB6



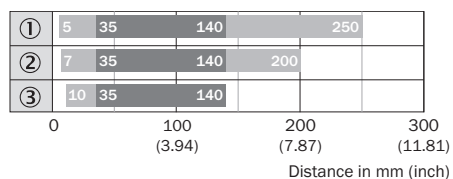
- ① object with 90% remission (based on standard white, DIN 5033)
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on black, 6% remission factor

LIGHT SPOT SIZE GTB6



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SENSING RANGE DIAGRAM GTB6



■ Sensing range max. ■ Sensing range

- ① object with 90% remission (based on standard white, DIN 5033)
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on black, 6% remission factor

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/1052443



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SICK AT A GLANCE

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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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Include the product title and any required part number or quantity.

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PRODUCT: GTB6-N4212 / G6 Photoelectric Proximity Sensor with Background Suppression

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