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Product data sheet



GTB6-N1212

G6

MINIATURE PHOTOELECTRIC SENSORS

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Sensor Intelligence.

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GTB6-N1212 | G6

MINIATURE PHOTOELECTRIC SENSORS



Illustration may differ

Ordering information

Type	Part no.
GTB6-N1212	1052445

Included in delivery: BEF-W100-A (1)

Other models and accessories ➜ 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
Polarisation filters	No
Emitted beam	
Light source	PinPoint LED [2]
Type of light	Visible red light
Light spot size (distance)	Ø 6 mm (100 mm)
Key LED figures	
Wave length	650 nm
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.

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Electrical data

Supply voltage U_B	10 V DC ... 30 V DC [1]
Ripple	± 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 / ≤ 3 V
Output current $I_{max.}$	≤ 100 mA [4]
Response time	< 625 µs [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 exceed or fall below U_V tolerances.
[3] Without load.
[4] At Uv > 24 V, IA 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.

Mechanical data

Housing	Rectangular
Dimensions (W x H x D)	12 mm x 31.5 mm x 21 mm
Connection	Cable, 3-wire, 2 m [1]
Connection detail	
Conductor size	0.14 mm²
Length of cable (L)	2 m [1]
Material	
Housing	Plastic, ABS/PC
Front screen	Plastic, PMMA
Cable	PVC
Weight	60 g

[1] Do not bend below 0 °C.

Ambient data

Enclosure rating	IP67
Ambient operating temperature	–25 °C ... +55 °C [1]

[1] Temperature stability following adjustment +/-10 °C.

Ambient temperature, storage	–40 °C ... +70 °C
UL File No.	NRKH.E348498 & NRKH7.E348498

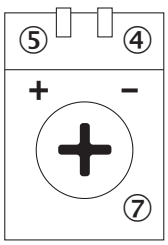
[1] Temperature stability following adjustment +/-10 °C.

Classifications

ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

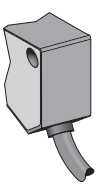
Adjustments

Adjustment possibility



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

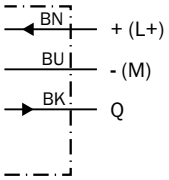
Connection type



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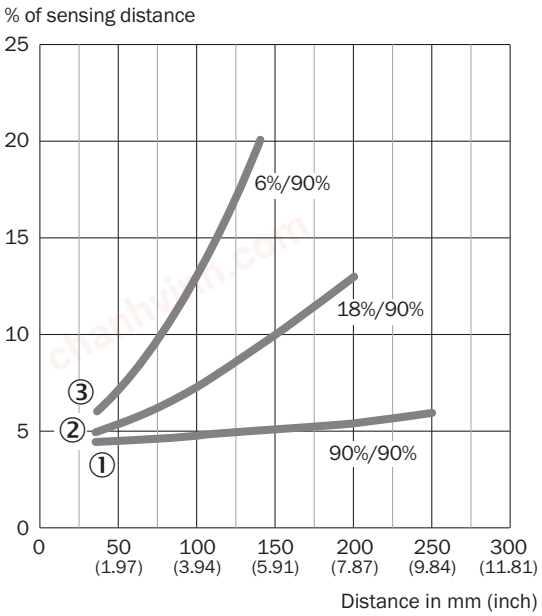
Connection diagram

Cd-043



Characteristic curve

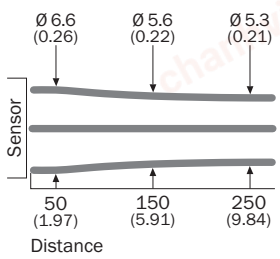
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① Object with 90% remission (based on standard white, DIN 5033)
② Sensing range on gray, 18% remission factor
③ Sensing range on black, 6% remission factor

Light spot size

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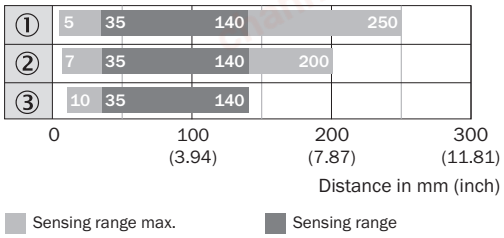
All dimensions in mm (inch)

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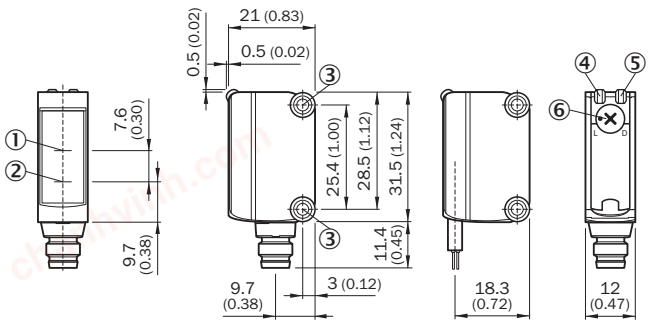
Sensing range diagram

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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

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

Recommended accessories

Other models and accessories → www.sick.com/G6

	Brief description	Type	Part no.
Universal bar clamp systems			
	Clamp bar to fix G6 sensors on rods of 12 mm, clamp-on design up to 4 mm wall thickness, aluminum (clamp bar), stainless steel (bracket), clamp bar mounting and clamp function, mounting bracket, mounting hardware	BEF-KHS-IS12G6	2086865
Mounting brackets and plates			
	Stainless steel (1.4301)	BEF-WN-G6	2062909

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	Brief description	Type	Part no.
Plug connectors and cables			
	• **Connection type head A:** Male connector, M8, 3-pin, straight • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** 0.14 mm² ... 0.5 mm²	STE-0803-G	6037322

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SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is "Sensor Intelligence."

WORLDWIDE PRESENCE:

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