



GTB6-P7211

G6

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
GTB6-P7211	1057705

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

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	1,896 years
DC_{avg}	0 %

Electronics

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	$\pm 10\%$ ²⁾
Current consumption	30 mA ³⁾
Protection class	III
Digital output	
Type	PNP
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark selector
Signal voltage PNP HIGH/LOW	$V_S - (\leq 3\text{ V}) / \text{approx. } 0\text{ V}$
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_V tolerances.

³⁾ Without load.

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

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	Cable with M12 male connector, 4-pin
Connection detail	
Length of cable (L)	300 mm
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

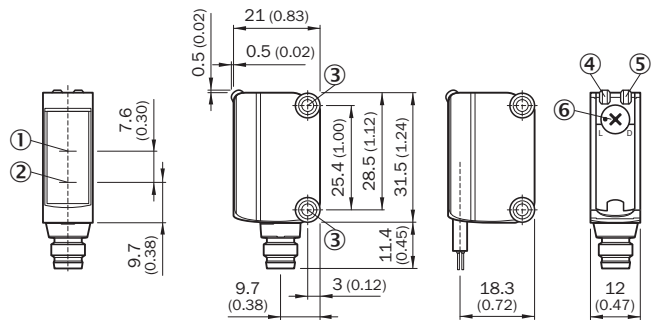
¹⁾ Temperature stability following adjustment $\pm 10\text{ }^{\circ}\text{C}$.

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

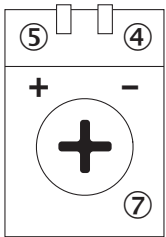
Dimensional drawing (Dimensions in mm (inch))



- 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

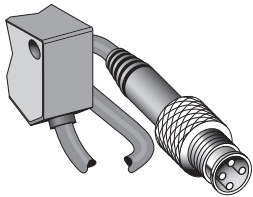
Adjustments

Adjustment possibility



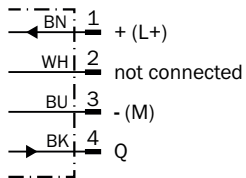
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑦ Sensitivity control: potentiometer

Connection type



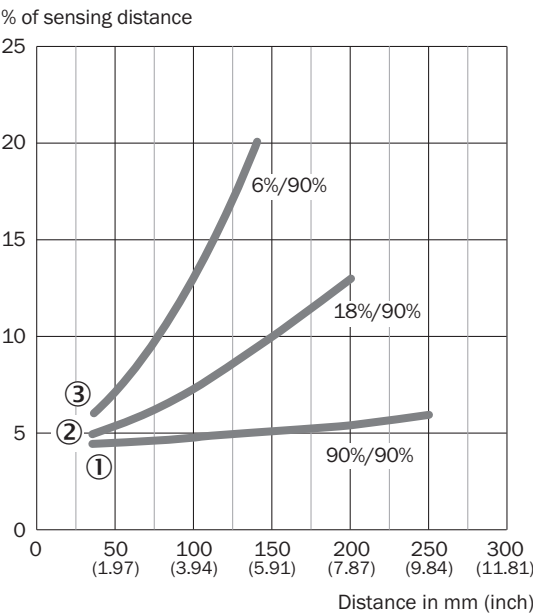
Connection diagram

Cd-066



Characteristic curve

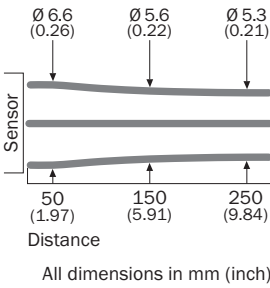
GTB6



- 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

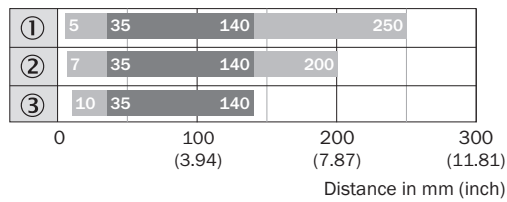
Light spot size

GTB6



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

Recommended accessories

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

	Brief description	Type	Part no.
Others			
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals, Uncontaminated zones 	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none"> • Connection type head A: Male connector, M12, 4-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm² 	STE-1204-G	6009932
	<ul style="list-style-type: none"> • Product family: Brackets • Description: Clamp bar to fix G6 sensors on rods of 12 mm, clamp-on design up to 4 mm wall thickness • Material: Steel • Details: Aluminum (clamp bar), stainless steel (bracket) • Items supplied: Clamp bar mounting and clamp function, mounting bracket, mounting hardware 	BEF-KHS-IS12G6	2086865
	<ul style="list-style-type: none"> • Product family: Brackets • Details: Stainless steel (1.4301) • Suitable for: W4S 	BEF-WN-G6	2062909

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:

Contacts and other locations –www.sick.com