



GTB6-E2431V

G6

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
GTB6-E2431V	1084443

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 ... 400 mm ¹⁾
Sensing range		50 mm ... 220 mm
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
Special applications		Hygienic and washdown zones

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

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

Electronics

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	± 10 % ²⁾

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 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.

Current consumption	30 mA ³⁾
Protection class	III
Digital output	
Type	NPN
Switching mode	Light/dark switching
Signal voltage NPN HIGH/LOW	Approx. V _S / ≤ 3 V
Output current I _{max.}	≤ 100 mA ⁴⁾
Response time	< 1.25 ms ⁵⁾
Switching frequency	500 Hz ⁶⁾
Output function	Complementary switching output
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 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)	15 mm x 44 mm x 22 mm
Connection	Cable, 4-wire, 2 m ¹⁾
Connection detail	
Conductor size	0.14 mm ²
Length of cable (L)	2 m ¹⁾
Material	
Housing	Metal, Stainless steel V4A (1.4404, 316L)
Front screen	Plastic, PMMA
Cable	Plastic, PVC
Weight	70 g

- 1) Do not bend below 0 °C.

Ambient data

Enclosure rating	IP67 IP69K ¹⁾
Ambient operating temperature	–25 °C ... +55 °C ²⁾
Ambient temperature, storage	–30 °C ... +75 °C
UL File No.	NRKH.E348498 & NRKH7.E348498

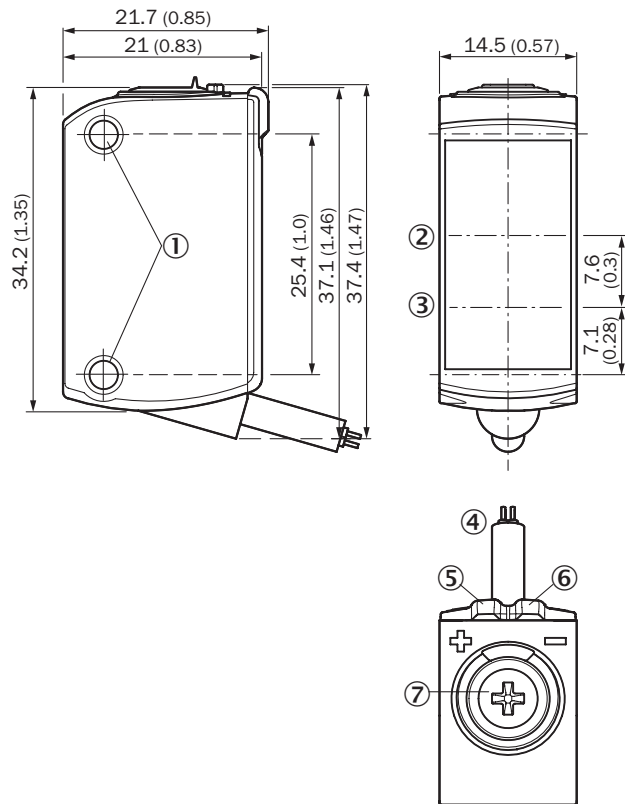
- 1) According to ISO 20653:2013-03.
2) Temperature stability following adjustment $\pm 10^\circ\text{C}$.

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))

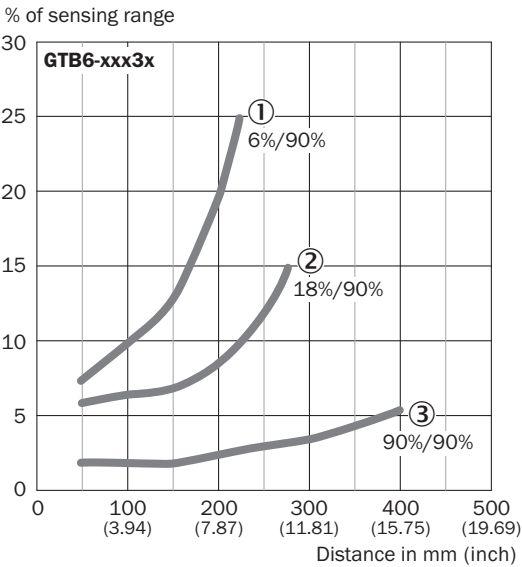
GTB6, GTE6, GL6, GSE6 Inox, cable (with male connector)



- ① M3 mounting hole
- ② Optical axis, receiver
- ③ Optical axis, sender
- ④ Connection
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ LED indicator green: Supply voltage active
- ⑦ Potentiometer

Characteristic curve

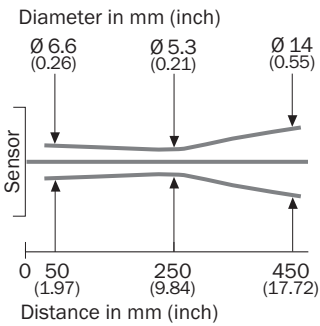
GTB6 Inox, Red, LongRange



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

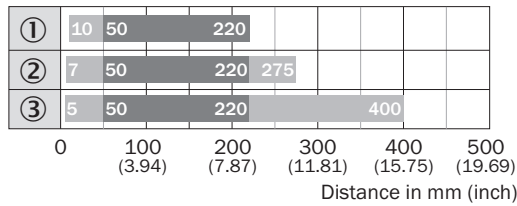
Light spot size

GTB6 Inox, Red, LongRange



Sensing range diagram

GTB6 Inox, Red, LongRange



- Sensing range ■ Sensing range max.
- ① Sensing range on black, 6% remission factor
 ② Sensing range on gray, 18% remission factor
 ③ Sensing range on white, 90% remission factor

Recommended accessories

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

	Brief description	Type	Part no.
Mounting brackets and plates			
	Description: Mounting bracket for wall mounting Material: Stainless steel Details: Stainless steel Items supplied: Mounting hardware included Suitable for: W8, W8G, W8 Laser, W8 Inox, G6, G6 Inox, W100 Laser, W100-2, KTM Core, KTM Prime, CSM, LUTM, W4S	BEF-W100-A	5311520
Universal bar clamp systems			
	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
Others			
	Connection type head A: Male connector, M8, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: 0.14 mm² ... 0.5 mm²	STE-0804-G	6037323

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