GTB6-F7441S65

G6

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

GTB6-F7441S65 | G6
PHOTOELECTRIC SENSORS

Ordering information

Type	part no.
GTB6-F7441S65	1086343

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.	0 mm ... 500 mm [1]
Sensing range	0 mm ... 400 mm
Emitted beam	
Light source	LED [2]
Type of light	Infrared light
Light spot size (distance)	Ø 9 mm (100 mm)
Key LED figures	
Wave length	850 nm

[1] Fixed sensing range of 240 mm on black (6% Remission).

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

Safety-related parameters

$MTTF_D$	1,905 years
DC_{avg}	0 %

Electronics

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	PNP
Switching mode	Light/dark switching
Signal voltage PNP HIGH/LOW	V$_S$ - (≤ 3 V) / approx. 0 V
Output current I$_{max.}$	≤ 100 mA [4]
Response time	< 1 ms [5]
Switching frequency	500 Hz [6]
Output function	Complementary
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 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.

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, 300 mm [1]
Connection detail	
Conductor size	0.14 mm²
Length of cable (L)	300 mm [1]
Material	
Housing	Plastic, ABS/PC
Front screen	Plastic, PMMA
Cable	Plastic, PVC
Weight	20 g

[1] Do not bend below 0 °C.

Ambient data

Enclosure rating	IP67
Ambient operating temperature	–30 °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.

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

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
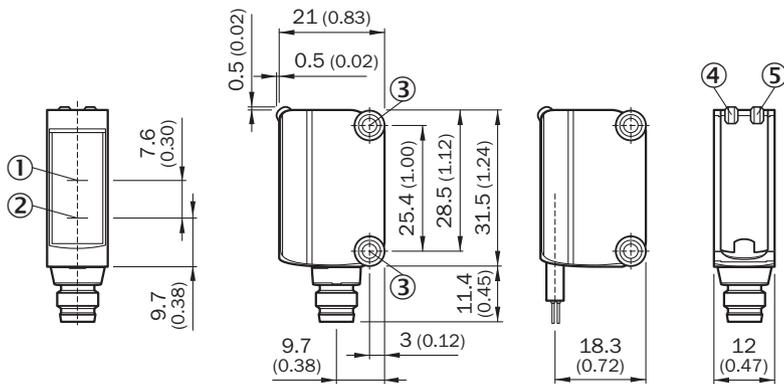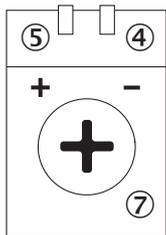
Dimensions in mm (inch)
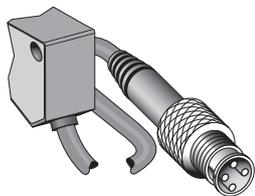① Optical axis, receiver
② Optical axis, sender
③ Mounting holes M3
④ LED indicator green: Supply voltage active
⑤ LED indicator yellow: Status of received light beam
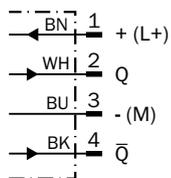
Adjustments Adjustment possibility

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-101

Wire	Pin	Signal
BN	1	+ (L+)
WH	2	Q
BU	3	- (M)
BK	4	$\overline{Q}$

Light spot size GTB6

Ø 6.6 (0.26)	Ø 5.6 (0.22)	Ø 5.3 (0.21)

Sensor

50 (1.97)	150 (5.91)	250 (9.84)

Distance
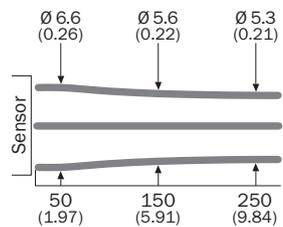
All dimensions in mm (inch)

Sensing range diagram

①		400	500
②		350	500
③	5	235	500

0	200 (3.94)	400 (7.87)	600 (11.81)

Distance in mm (inch)
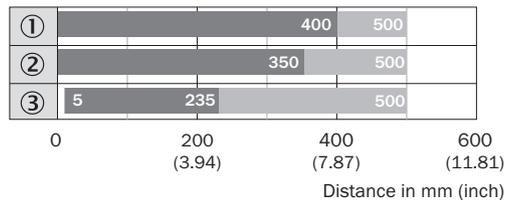
Sensing range max.   Sensing range

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.
connectors and cables			
	• **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:** Uncontaminated zones, Zones with chemicals	YF2A14-050VB3XLEAX	2096235
	• **Description:** Unshielded • **Connection type head A:** Male connector, M12, 4-pin, straight, A-coded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** ≤ 0.75 mm²	STE-1204-G	6009932
Mounting 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
	• **Material:** Stainless steel • **Details:** Stainless steel (1.4301) • **Suitable for:** W4S, W4S	BEF-WN-G6	2062909
	• **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

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."

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