GTB6-F7441S82

G6

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

GTB6-F7441S82 | G6
MINIATURE PHOTOELECTRIC SENSORS

Ordering information

Type	Part no.
GTB6-F7441S82	1096774

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

Illustration may differ

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Sensing range max.	5 mm ... 500 mm [1]
Sensing range	50 mm ... 450 mm
Polarisation filters	No
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
Adjustment	Mechanical spindle, 5 turns, non-sealed
Special features	Lens material to suppress High Frequency Lamp, part number 4096236

[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

$MTTF_D$	1,795 years
DC_{avg}	0 %
T_M (mission time)	20 years

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	PNP Complementary
Switching mode	Light switching
Output characteristic	Complementary
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)]
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 with M12 male connector, 4-pin [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	PVC
Weight	20 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.

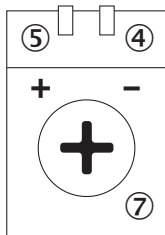| Ambient temperature, storage	−40 °C … +70 °C
UL File No.	NRKH.E348498 & NRKH7.E348498

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

Classifications

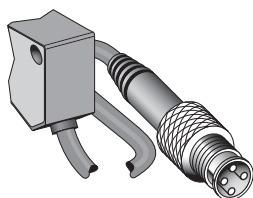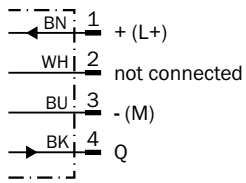|	
ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC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

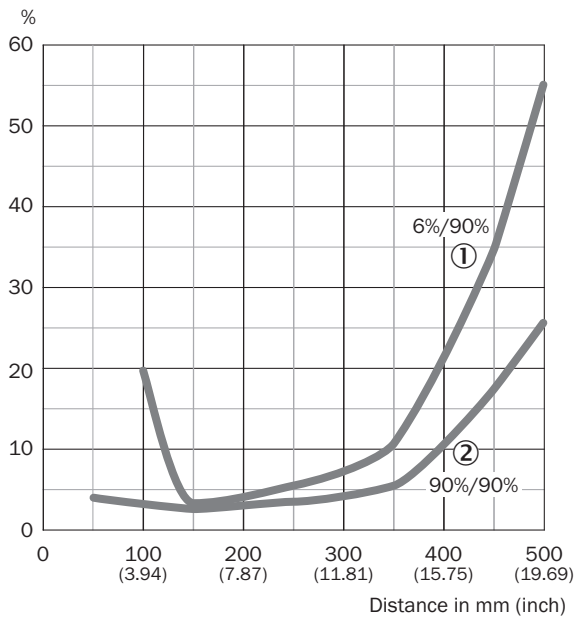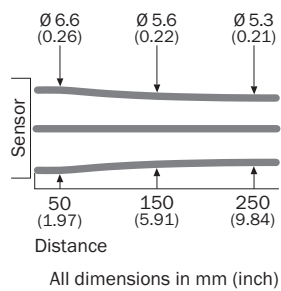## Connection diagram

Cd-066

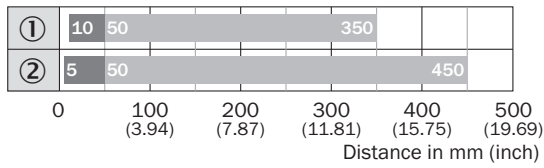|		
BN	1	+ (L+)
WH	2	not connected
BU	3	- (M)
BK	4	Q

Characteristic curve

① Sensing range on black, 6% remission factor
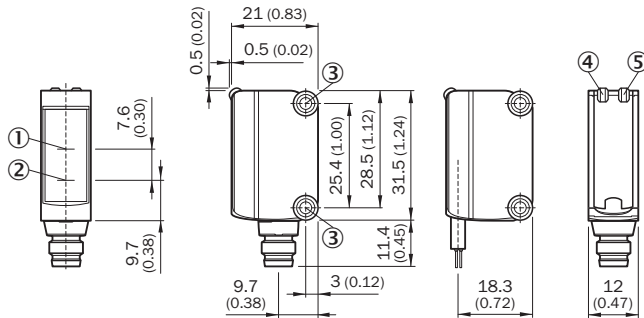② Sensing range on white, 90% remission factor

Light spot size

GTB6

All dimensions in mm (inch)

Sensing range diagram

①	10 50	350		
②	5 50		450	

```
0      100      200      300      400      500
     (3.94)   (7.87)  (11.81)  (15.75)  (19.69)
              Distance in mm (inch)
```

■ Sensing range max.   ■ Sensing range

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

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

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
Plug 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:** Zones with chemicals	YF2A14-050VB3XLEAX	2096235

	Brief description	Type	Part no.
	• **Connection type head A:** Male connector, M12, 4-pin, straight • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** ≤ 0.75 mm²	STE-1204-G	6009932

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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