Data sheet

GL6G-F4611V

G6

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
GL6G-F4611V	1139446

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

Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	With minimum distance to reflector (dual lens system)
Sensing range max.	0.03 m ... 6 m [1]
Sensing range	0.07 m ... 5 m [1]
Polarisation filter	Yes
Emitted beam	
Light source	PinPoint LED [2]
Type of light	Visible red light
Light spot size (distance)	Ø 8 mm (350 mm)
Key LED figures	
Wave length	650 nm
Adjustment	Potentiometer, 270°
Special applications	Hygienic and washdown zones, Detecting transparent objects

[1] Reflector PL80A.
[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]
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	< 625 µs [5]
Switching frequency	1,000 Hz [6]
Attenuation along light beam	> 20 %
Pin/Wire assignment	
Function of pin 4/black (BK)	Digital output, light switching, object present → output Q LOW
Function of pin 2/white (WH)	Digital output, dark switching, object present → output $\bar{Q}$ HIGH
Output function	Complementary switching output
Circuit protection	A [7] B [8] D [9]
Special feature	Detecting transparent objects

[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)	15 mm x 44 mm x 22 mm
Connection	Male connector M8, 4-pin
Material	
Housing	Metal, Stainless steel V4A (1.4404, 316L)
Front screen	Plastic, PMMA
Weight	40 g

Ambient data

Enclosure rating	IP67 IP69K [1]

[1] According to ISO 20653:2013-03.
[2] Temperature stability following adjustment +/-10 °C.

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 +/-10 °C.

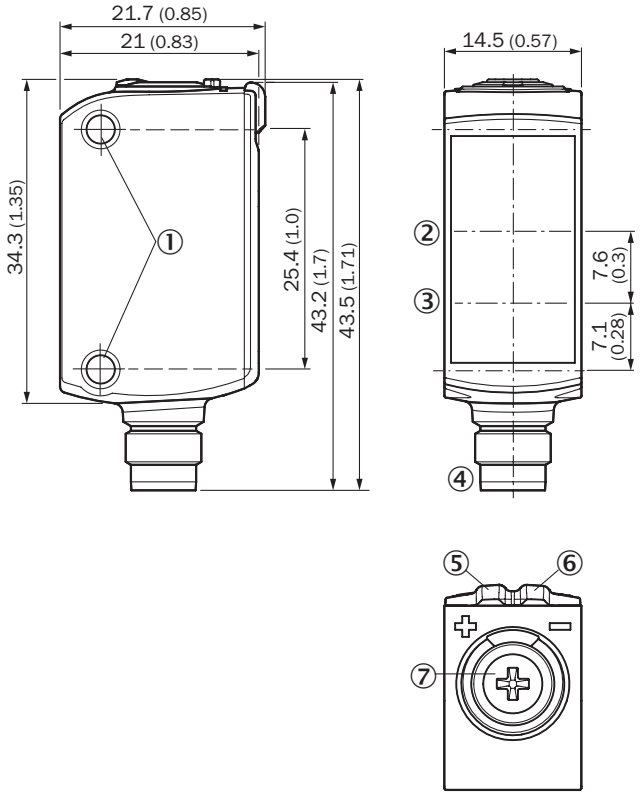
Certificates

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

Classifications

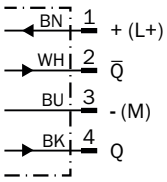
ECLASS 5.0	27270902
ECLASS 5.1.4	27270902
ECLASS 6.0	27270902
ECLASS 6.2	27270902
ECLASS 7.0	27270902
ECLASS 8.0	27270902
ECLASS 8.1	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902
ECLASS 11.0	27270902
ECLASS 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

Dimensional drawing GTB6, GTE6, GL6, GSE6 Inox, male connector

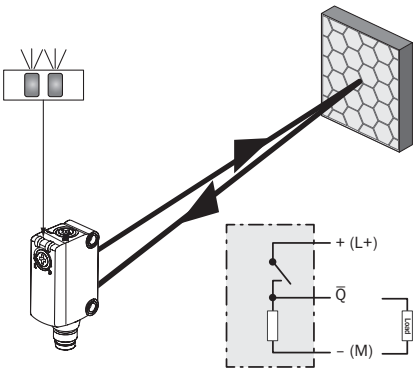
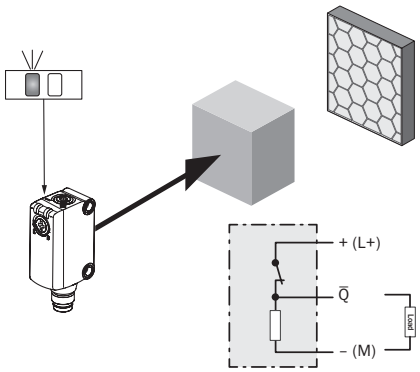


Dimensions in mm (inch)
① M3 mounting hole
② Optical axis, receiver
③ Optical axis, sender
④ Connection
⑤ LED indicator yellow: Status of received light beam
⑥ LED indicator green: Supply voltage active
⑦ Potentiometer

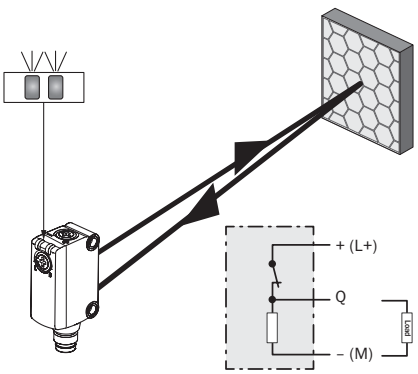
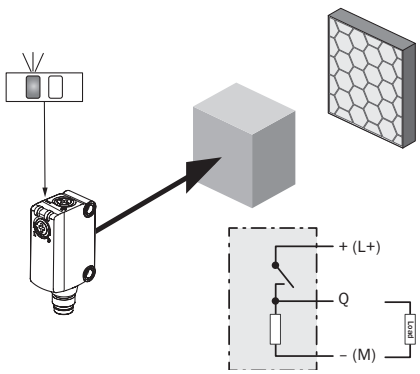
Connection diagram Cd-084



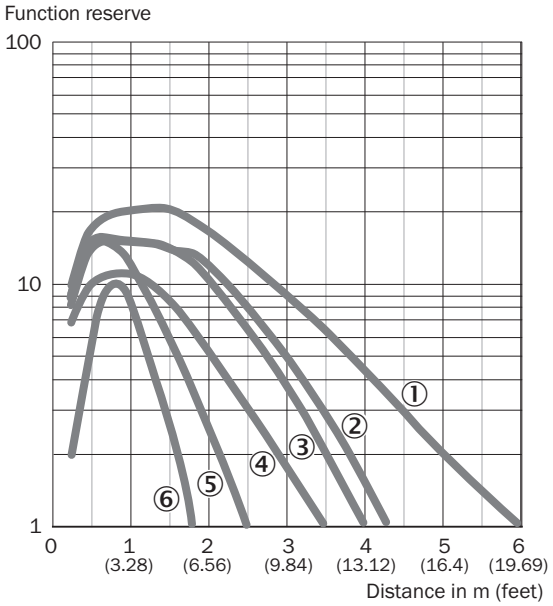
Truth table PNP - dark switching

	Dark switching $\overline{Q}$ (normally open)	
	Object not present ➜ Output LOW	Object present ➜ Output HIGH
Light receive	✓	✗
Light receive indicator	☀	✗
Load resistance	✗	⚠
		

Truth table PNP - light switching

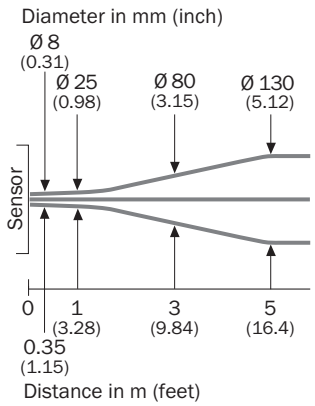
	Light switching Q (normally closed)	
	Object not present ➜ Output HIGH	Object present ➜ Output LOW
Light receive	✓	✗
Light receive indicator	☀	✗
Load resistance	⚠	✗
		

Characteristic curve GL6 Inox, Red, Standard

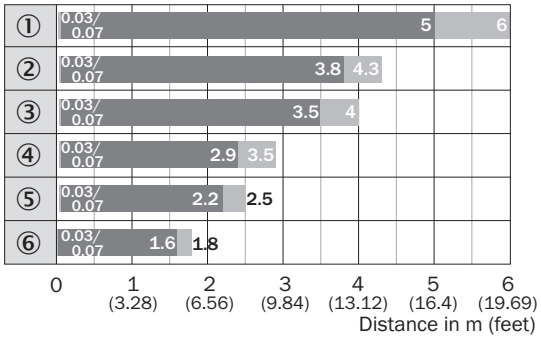


① Reflector PL80A
② Reflector PL40A
③ Reflector P250
④ Reflector P250 CHEM
⑤ Reflector PL20A
⑥ reflective tape REF-IRF-56

Light spot size GL6 Inox, Red, Standard



Sensing range diagram GL6 Inox, Red, Standard

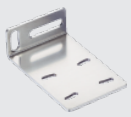


Sensing range Sensing range max.

① Reflector PL80A
② Reflector PL40A
③ Reflector P250
④ Reflector P250 CHEM
⑤ Reflector PL20A
⑥ reflective tape REF-IRF-56

Recommended accessories

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

	Brief description	Type	part no.
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
	• **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
	• **Material:** Stainless steel • **Details:** Stainless steel (1.4301) • **Suitable for:** W4S, W4S	BEF-WN-G6	2062909
	• **Description:** Universal mounting bracket for reflectors • **Dimensions (W x H x L):** 85 mm x 90 mm x 35 mm • **Material:** Steel • **Details:** Steel, zinc coated • **Suitable for:** C110A, P250, PL20, PL30A, PL40A, PL80A	BEF-WN-REFX	2064574

	Brief description	Type	part no.
reflectors and optics			
	• **Description:** Chemically resistant, screw connection • **Dimensions:** 52 mm 61 mm • **Ambient operating temperature:** –20 °C ... +140 °C	P250 CHEM	5321097

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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