Data sheet



GL6-P7102S107

G6

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
GL6-P7102S107	1116810

Included in delivery: P250 (1), BEF-W100-A (1)

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.	0.05 m ... 5 m [1]
Sensing range	0.08 m ... 4.1 m [1]
Polarisation filter	Yes
Emitted beam	
Light source	PinPoint LED
Type of light	Visible red light
Light spot size (distance)	Ø 8 mm (350 mm)
Key LED figures	
Wave length	650 nm
Adjustment	None
Special features	High functional reliability on foil-wrapped objects
Special applications	Detecting objects wrapped in film
Items supplied	Stainless steel mounting bracket (1.4301/304) BEF-W100-A, Reflector P250

[1] Reflector PL80A.

Safety-related parameters

$MTTF_D$	2,141 years
DC_{avg}	0 %
T_M (mission time)	20 years

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
Switching mode selector	Selectable via light/dark selector
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]
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 [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	60 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.

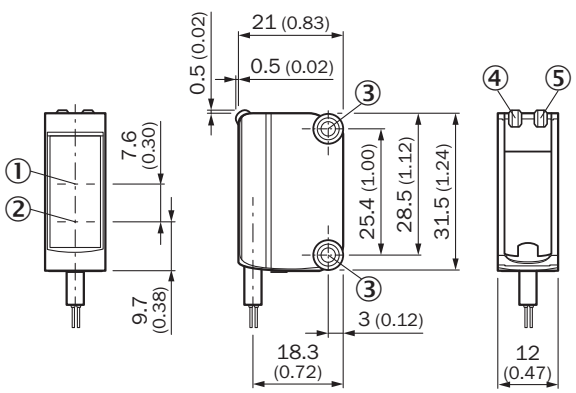
Certificates

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

Classifications

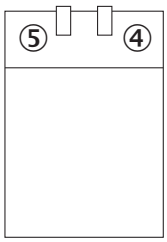
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ECLASS 5.1.4	27270902
ECLASS 6.0	27270902
ECLASS 6.2	27270902
ECLASS 7.0	27270902
ECLASS 8.0	27270902
ECLASS 8.1	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902
ECLASS 11.0	27270902
ECLASS 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0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

Dimensional drawing



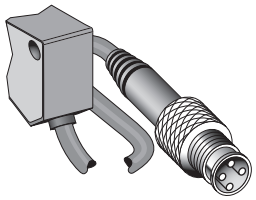
Dimensions in mm (inch)
① Optical axis, receiver
② Optical axis, sender
③ Mounting holes M3
④ LED indicator green: Supply voltage active
⑤ LED indicator yellow: Status of received light beam

Adjustments No adjustment possibility

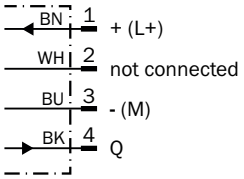


④ LED indicator green: Supply voltage active
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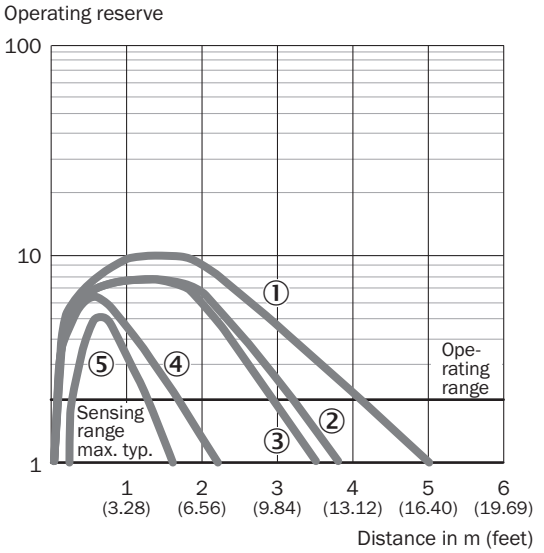
Connection type



Connection diagram Cd-066

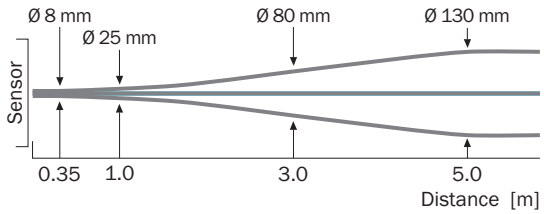


Characteristic curve

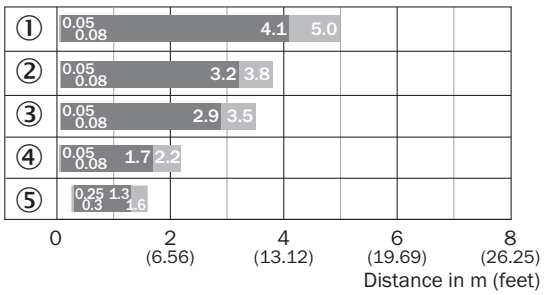


① Reflector PL80A
② Reflector PL40A
③ Reflector PL250
④ Reflector PL20A
⑤ reflective tape REF-IRF-56

Light spot size GL6, GL6G



Sensing range diagram



Sensing range
Sensing range max.

① Reflector PL80A
② Reflector PL40A
③ Reflector PL250
④ Reflector PL20A

⑤ Reflective tape REF-IRF-56

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:** Zones with chemicals, Uncontaminated zones	YF2A14-050VB3XLEAX	2096235
	• **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
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
	• **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
reflectors and optics			
	• **Description:** Rectangular, screw connection • **Dimensions:** 51 mm 61 mm • **Ambient operating temperature:** –30 °C ... +65 °C	P250	5304812

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