



GLD6SP-88A1217EZZZ

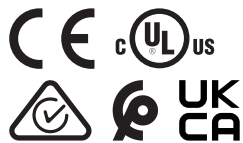
G6

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | part no. |
|--------------------|----------|
| GLD6SP-88A1217EZZZ | 1148202 |

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 | | |
| | Sensing range min. | 0.03 m |
| | Sensing range max. | 6 m |
| | Maximum distance range from reflector to sensor (operating reserve 1) | 0.03 m ... 6 m |
| | Recommended distance range from reflector to sensor (operating reserve 2) | 0.07 m ... 5 m |
| | Reference reflector | Reflector PL80A |
| | Recommended sensing range for the best performance | 0.25 m ... 1.6 m |
| Polarisation filters | | Yes |
| Emitted beam | | |
| | Light source | PinPoint LED |
| | Type of light | Visible red light |
| | Shape of light spot | Point-shaped |
| | Light spot size (distance) | Ø 11.5 mm (350 mm) |
| Key LED figures | | |
| | Normative reference | EN 62471:2008-09 IEC 62471:2006, modified |
| | LED risk group marking | Free group |
| | Wave length | 640 nm |
| | Average service life | 100,000 h at T _a = +25 °C |
| Adjustment | | |
| | Potentiometer | For setting the sensing range, 270° |

| | | |
|----------------|-----------------------|--|
| Display | Operating mode switch | For inverting the switching function (light/dark switching) |
| | LED green | Operating indicatorStatic on: power on |
| | LED yellow | Status of received light beamStatic on: object not presentStatic off: object present |

Safety-related parameters

| | |
|-------------------------------------|-------------|
| MTTF_D | 4,112 years |
| DC_{avg} | 0% |
| T_M (mission time) | 20 years |

Electronics

| | |
|---------------------------------------|--|
| Supply voltage U _B | 10 V DC ... 30 V DC ¹⁾ |
| Ripple | ≤ 5 V _{pp} |
| Usage category | DC-12 (According to EN 60947-5-2) DC-13 (According to EN 60947-5-2) |
| Current consumption | ≤ 20 mA, without load. At U _B = 24 V |
| Protection class | III |
| Digital output | |
| Number | 1 |
| Type | PNP |
| Switching mode | Light switching |
| Signal voltage PNP HIGH/LOW | Approx. U _B -3 V / 0 V |
| Output current I _{max.} | ≤ 100 mA ²⁾ |
| Circuit protection outputs | Reverse polarity protected |
| | Overcurrent protected |
| | Short-circuit protected |
| Response time | ≤ 625 μs ³⁾ |
| Switching frequency | 1,000 Hz ⁴⁾ |
| Pin/Wire assignment | |
| Function of pin 4/black (BK) | Digital output, light switching, object present → output Q LOW |
| Function of pin 4/black (BK) – detail | The pin 4 function of the sensor can be switched |
| | Additional possible settings via operating mode switch |

¹⁾ Limit values.

²⁾ At U_B > 24 V, I max. = 50 mA.

³⁾ Signal transit time with resistive load.

⁴⁾ With light/dark ratio 1:1.

Mechanics

| | |
|-------------------------------|---|
| Housing | Rectangular |
| Dimensions (W x H x D) | 12 mm x 31.6 mm x 21 mm |
| Connection | Cable with M8 male connector, 4-pin, 537 mm |
| Connection detail | |
| | |
| Deep-freeze property | Do not bend below 0 °C |
| Conductor size | 0.14 mm² |

| | |
|---|---------------------------------------|
| Cable diameter | Ø 3.4 mm |
| Length of cable (L) | 500 mm |
| Material | |
| Housing | Plastic, ABS |
| Front screen | Plastic, PMMA |
| Cable | Plastic, PVC |
| Male connector | Metal, copper alloy (C3604 CUZN39PB3) |
| Weight | Approx. 16 g |
| Maximum tightening torque of the fixing screws | 0.4 Nm |

Ambient data

| | |
|--|---|
| Enclosure rating | IP67 (EN 60529) |
| Ambient operating temperature | -30 °C ... +55 °C |
| Ambient temperature, storage | -40 °C ... +70 °C |
| Typ. Ambient light immunity | Sunlight: ≤ 30,000 lx |
| Shock resistance | 30 g, 11 ms (3 positive and 3 negative shocks along X, Y, Z axes, 18 total shocks (EN60068-2-27)) |
| Vibration resistance | 10 Hz ... 55 Hz (Amplitude 0.5 mm, 3 x 30 min (EN60068-2-6)) |
| Air humidity | 35 % ... 95 %, relative humidity (no condensation) |
| Electromagnetic compatibility (EMC) | EN 60947-5-2 |
| UL File No. | NRKH.E348498 & NRKH7.E348498 |

Certificates

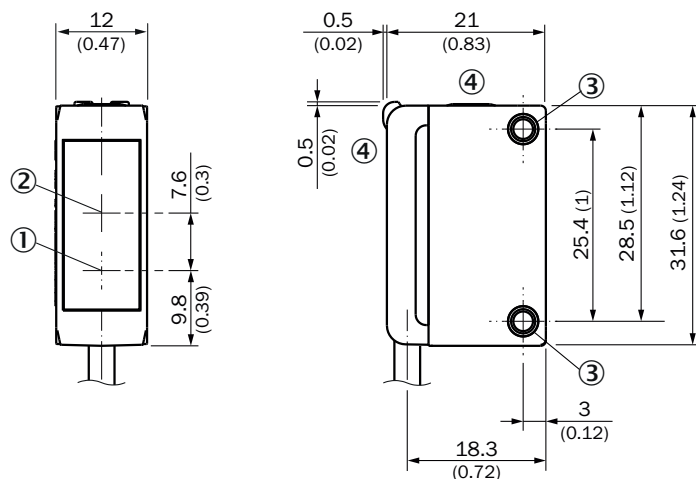
| | |
|--|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China-RoHS | ✓ |
| cULus certificate | ✓ |
| Photobiological safety (IEC EN 62471) | ✓ |

Classifications

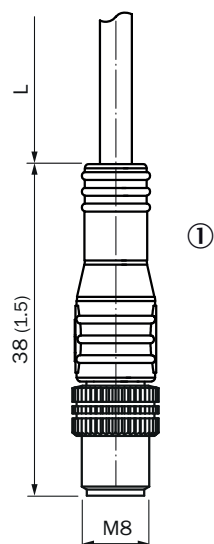
| | |
|---------------------|----------|
| ECLASS 5.0 | 27270902 |
| ECLASS 5.1.4 | 27270902 |
| ECLASS 6.0 | 27270902 |
| ECLASS 6.2 | 27270902 |
| ECLASS 7.0 | 27270902 |
| ECLASS 8.0 | 27270902 |
| ECLASS 8.1 | 27270902 |
| ECLASS 9.0 | 27270902 |
| ECLASS 10.0 | 27270902 |
| ECLASS 11.0 | 27270902 |
| ECLASS 12.0 | 27270902 |
| ETIM 5.0 | EC002717 |

| | |
|-----------------------|----------|
| ETIM 6.0 | EC002717 |
| ETIM 7.0 | EC002717 |
| ETIM 8.0 | EC002717 |
| UNSPSC 16.0901 | 39121528 |

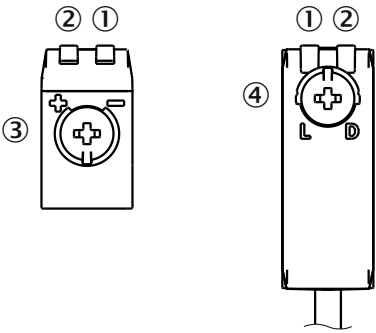
Dimensional drawing



Dimensional drawing, connection

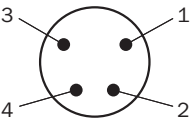


display and adjustment elements



- ① LED green
- ② LED yellow
- ③ Potentiometer
- ④ operating mode switch

Connection type Male connector M8, 4-pin

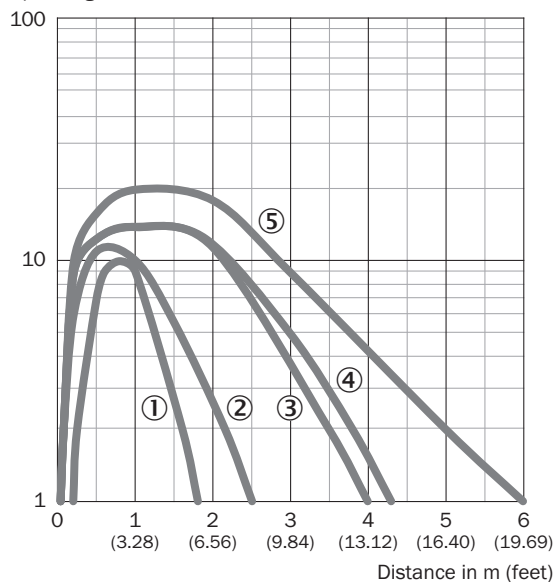


Truth table PNP - light switching Q

| | Light switching Q (normally closed) | |
|-------------------------|-------------------------------------|-----------------------------|
| | Object not present → Output HIGH | Object present → Output LOW |
| Light receive | ✓ | ✗ |
| Light receive indicator | ☀ | ✗ |
| Load resistance | ⚡ | ✗ |
| | | |

Characteristic curve

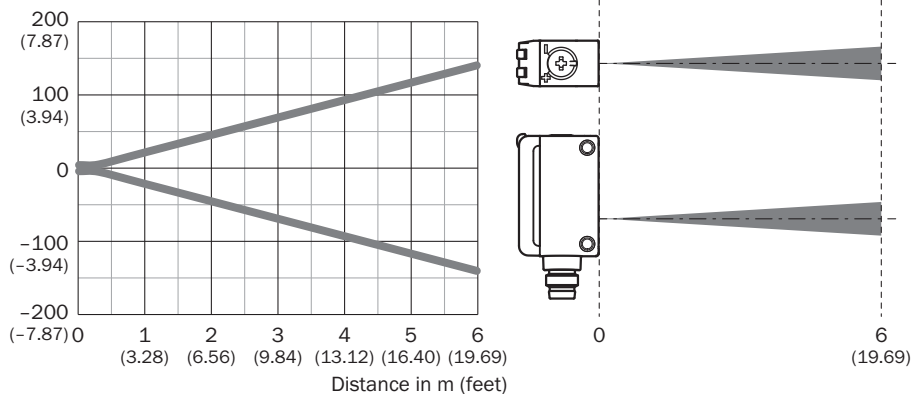
Operating reserve



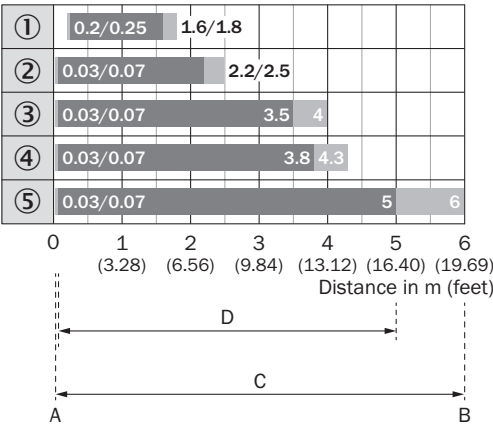
- ① Reflective tape REF-IRF-56
- ② Reflector PL20A
- ③ Reflector P250
- ④ Reflector PL40A
- ⑤ Reflector PL80A

Light spot size

Dimensions in mm (inch)






Sensing range diagram




| 1 | Reflective tape REF-IRF-56 |
|---|--|
| 2 | Reflector PL20A |
| 3 | Reflector P250 |
| 4 | Reflector PL40A |
| 5 | Reflector PL80A |
| A | Sensing range min. in m |
| B | Sensing range max. in m |
| C | Maximum distance range from reflector to sensor (operating reserve 1) |
| D | Recommended distance range from re- flector to sensor (operating reserve 2) |

Recommended accessories

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

| | Brief description | Type | part no. |
|---|--|----------------|----------|
| Mounting systems | | | |
|  | <ul style="list-style-type: none">• 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 |
|  | <ul style="list-style-type: none">• Material: Stainless steel• Details: Stainless steel (1.4301)• Suitable for: W4S | BEF-WN-G6 | 2062909 |
|  | <ul style="list-style-type: none">• 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 | | | |
|  | <ul style="list-style-type: none">• Description: Rectangular, screw connection• Dimensions: 84 mm 84 mm• Ambient operating temperature: -30 °C ... +65 °C | PL80A | 1003865 |

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:

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