



GL6-F4511S24

G6

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|--------------|----------|
| GL6-F4511S24 | 1062735 |

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

Detailed technical data

Features

| | |
|--|--|
| Sensor/ detection principle | Photoelectric retro-reflective sensor, Dual lens |
| Dimensions (W x H x D) | 12 mm x 31.5 mm x 21 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | ≤ 6 m ¹⁾ |
| Sensing range | ≤ 5 m ¹⁾ |
| Type of light | Visible red light |
| Light source | PinPoint LED ²⁾ |
| Light spot size (distance) | Ø 8 mm (350 mm) |
| Wave length | 650 nm |
| Adjustment | None |

¹⁾ Reflector PL80A.

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

Mechanics/electronics

| | |
|-----------------------|-----------------------------------|
| Supply voltage | 10 V DC ... 30 V DC ¹⁾ |
| Ripple | ± 10 % ²⁾ |

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 U_V > 24 V, I_A 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.

¹⁰⁾ Temperature stability following adjustment +/-10 °C.

| | |
|--|---|
| Power consumption | 30 mA ³⁾ |
| Switching output | PNP |
| Output function | Complementary |
| Switching mode | Light switching |
| Signal voltage PNP HIGH/LOW | V _S - (≤ 3 V) / approx. 0 V |
| Output current I_{max.} | ≤ 100 mA ⁴⁾ |
| Response time | < 315 μs ⁵⁾ |
| Switching frequency | 2 kHz ⁶⁾ |
| Connection type | Male connector M8, 4-pin |
| Circuit protection | A ⁷⁾ B ⁸⁾ D ⁹⁾ |
| Protection class | III |
| Weight | 60 g |
| Polarisation filter | ✓ |
| Special device | ✓ |
| Housing material | Plastic, ABS/PC |
| Optics material | Plastic, PMMA |
| Enclosure rating | IP67 |
| Ambient operating temperature | -25 °C ... +55 °C ¹⁰⁾ |
| Ambient storage temperature | -40 °C ... +70 °C |
| UL File No. | NRKH.E348498 & NRKH7.E348498 |

1) Limit values when operated in short-circuit protected network: max. 8 A.

2) May not exceed or fall below U_y tolerances.

3) Without load.

4) At U_v > 24 V, I_A 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.

10) Temperature stability following adjustment +/-10 °C.

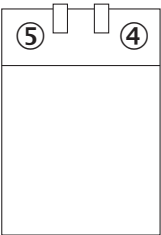
Classifications

| | |
|---------------------|----------|
| ECI@ss 5.0 | 27270902 |
| ECI@ss 5.1.4 | 27270902 |
| ECI@ss 6.0 | 27270902 |
| ECI@ss 6.2 | 27270902 |
| ECI@ss 7.0 | 27270902 |
| ECI@ss 8.0 | 27270902 |
| ECI@ss 8.1 | 27270902 |
| ECI@ss 9.0 | 27270902 |
| ETIM 5.0 | EC002717 |
| ETIM 6.0 | EC002717 |

| | |
|----------------|----------|
| UNSPSC 16.0901 | 39121528 |
|----------------|----------|

Adjustments possible

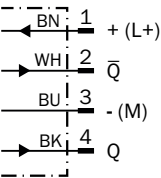
No adjustment possibility



- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam

Connection diagram

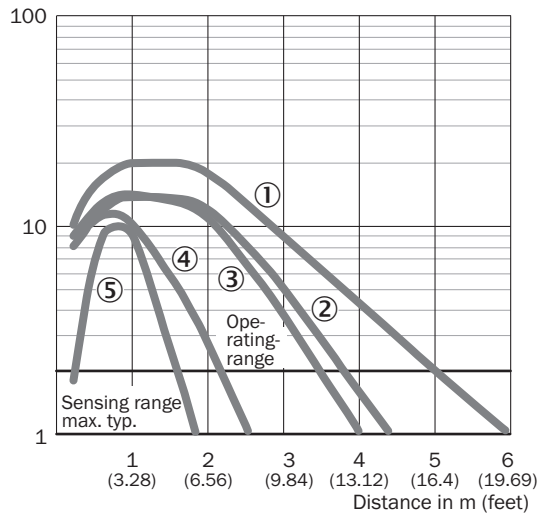
Cd-083



Characteristic curve

GL6

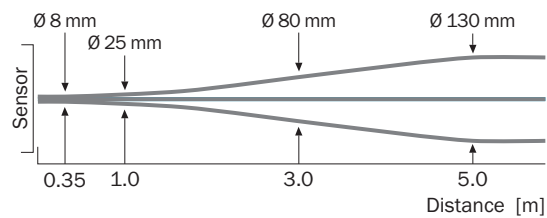
Operating reserve



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

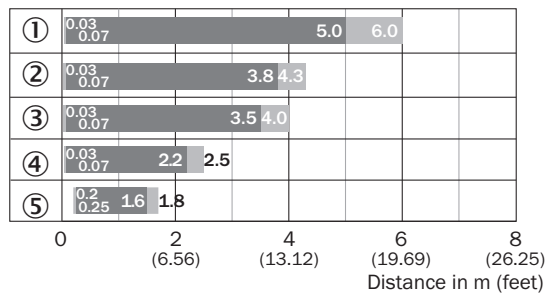
Light spot size

GL6, GL6G



Sensing range diagram

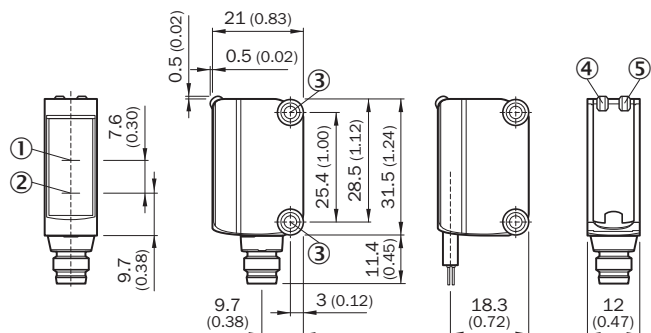
GL6, GL6G



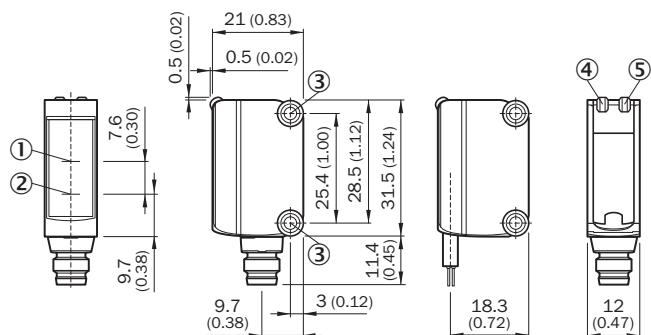
■ Sensing range ■ Sensing range max.

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

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




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Recommended accessories

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

| | Brief description | Type | Part no. |
|---|--|--------------------|----------|
| Universal bar clamp systems | | | |
|  | Clamp bar to fix G6 and W16 sensors on rods of 10 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-ISG6 | 2075080 |
| Device protection (mechanical) | | | |
|  | Stainless steel 1.4301 (SVS 304), 3 mm thick protective sleeve for G6, stainless steel 1.4301, mounting hardware included | BEF-SG-G6-01 | 2069044 |
| Mounting brackets and plates | | | |
|  | Stainless steel (1.4301) | BEF-WN-G6 | 2062909 |
| Plug connectors and cables | | | |
|  | Head A: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m | YF8U14-020VA3XLEAX | 2095888 |
| | Head A: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF8U14-050VA3XLEAX | 2095889 |
|  | Head A: female connector, M8, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m | YG8U14-020VA3XLEAX | 2095962 |
| | Head A: female connector, M8, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YG8U14-050VA3XLEAX | 2095963 |
|  | Head A: female connector, M8, 4-pin, straight Head B: - Cable: unshielded | DOS-0804-G | 6009974 |
|  | Head A: female connector, M8, 4-pin, angled Head B: - Cable: unshielded | DOS-0804-W | 6009975 |
| Masks | | | |
|  | Slit mask, vertical slots, slot width: 1.0 mm, 2 pieces, black, Aluminum, Slit mask (2 pieces) | BEF-SLIT MASK-G6 | 2075254 |
| Reflectors | | | |
|  | Rectangular, screw connection, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting | P250 | 5304812 |
|  | Rectangular, screw connection, 56 mm x 28 mm, PMMA/ABS, Screw-on, 2 hole mounting | PL30A | 1002314 |
|  | Rectangular, screw connection, 80 mm x 80 mm, PMMA/ABS, Screw-on, 2 hole mounting | PL80A | 1003865 |
|  | Self-adhesive | REF-IRF-56 | 5314244 |

| | Brief description | Type | Part no. |
|---|--|--------|----------|
|  | Round, plugable for metal plates, PMMA/ABS, Plug-in for sheets | PL22-3 | 1004488 |

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