



GSE6-P0121S56

G6

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|---------------|----------|
| GSE6-P0121S56 | 1084759 |

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

Detailed technical data

Features

| | |
|---|---|
| Functional principle | Through-beam photoelectric sensor |
| Sensing range max. | 0 m ... 14.5 m |
| Sensing range | 0 m ... 10.6 m |
| Polarisation filters | No |
| Emitted beam | Light source LED ¹⁾ |
| | Type of light Infrared light |
| Key LED figures | Wave length 850 nm |
| | |
| Adjustment | None |
| Part number of individual components | 2076406 GS6-D0321S48 2076408 GE6-P0121S48 |

¹⁾ Average service life: 100,000 h at T_J = +25 °C.

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 |
| | |

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.

| | |
|---------------------------------|---|
| Switching mode | Light/dark switching |
| Switching mode selector | Selectable via light/dark selector |
| Signal voltage PNP HIGH/LOW | $V_S - (\leq 3 \text{ V}) / \text{ approx. } 0 \text{ V}$ |
| Output current I_{max} | $\leq 100 \text{ mA}^4)$ |
| Response time | $< 500 \mu\text{s}^5)$ |
| Switching frequency | $1,000 \text{ Hz}^6)$ |
| Circuit protection | A ⁷⁾ B ⁸⁾ D ⁹⁾ |

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²⁾ May not exceed or fall below U_V tolerances.

³⁾ Without load.

⁴⁾ At $U_V > 24 \text{ V}$, $I_A \text{ max.} = 50 \text{ mA}$.

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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 connector M8, 3-pin ¹⁾ |
| Connection detail | |
| Length of cable (L) | 700 mm ¹⁾ |
| Material | |
| Housing | Plastic, ABS/PC |
| Front screen | Plastic, PMMA |
| Cable | PVC |
| Weight | 60 g |

¹⁾ Do not bend below $0 \text{ }^\circ\text{C}$.

Ambient data

| | |
|--------------------------------------|--|
| Enclosure rating | IP67 |
| Ambient operating temperature | $-25 \text{ }^\circ\text{C} \dots +55 \text{ }^\circ\text{C}^1)$ |
| Ambient temperature, storage | $-40 \text{ }^\circ\text{C} \dots +70 \text{ }^\circ\text{C}$ |
| UL File No. | NRKH.E348498 & NRKH7.E348498 |

¹⁾ Temperature stability following adjustment $\pm 10 \text{ }^\circ\text{C}$.

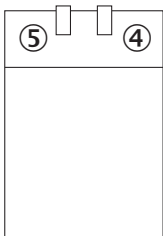
Classifications

| | |
|---------------------|----------|
| ECLASS 5.0 | 27270901 |
| ECLASS 5.1.4 | 27270901 |
| ECLASS 6.0 | 27270901 |
| ECLASS 6.2 | 27270901 |
| ECLASS 7.0 | 27270901 |

| | |
|-----------------------|----------|
| ECLASS 8.0 | 27270901 |
| ECLASS 8.1 | 27270901 |
| ECLASS 9.0 | 27270901 |
| ECLASS 10.0 | 27270901 |
| ECLASS 11.0 | 27270901 |
| ECLASS 12.0 | 27270901 |
| ETIM 5.0 | EC002716 |
| ETIM 6.0 | EC002716 |
| ETIM 7.0 | EC002716 |
| ETIM 8.0 | EC002716 |
| UNSPSC 16.0901 | 39121528 |

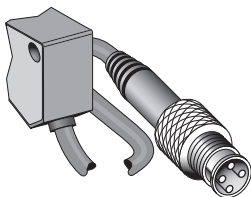
Adjustments

No adjustment possibility



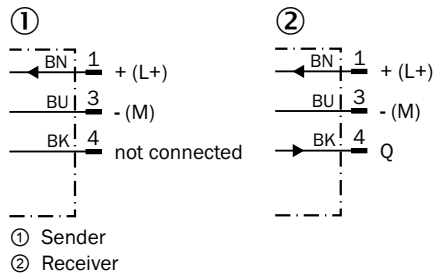
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam

Connection type



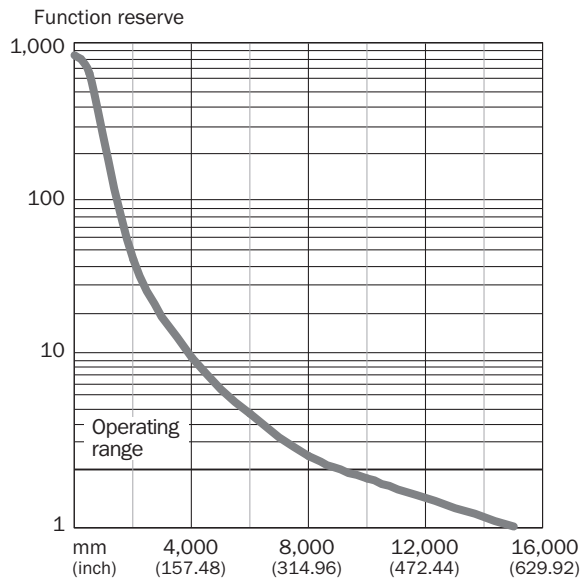
Connection diagram

Cd-051

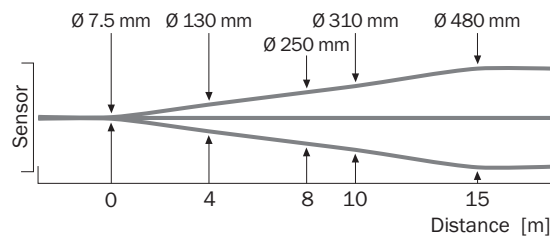


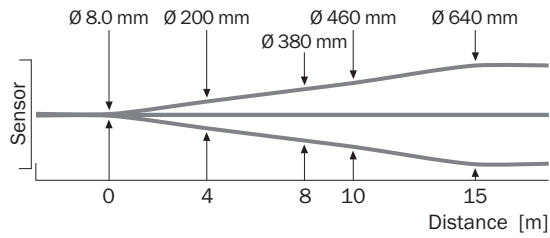
Characteristic curve

With GE6-P1111, GE6-N1111, GE6-P1111S63

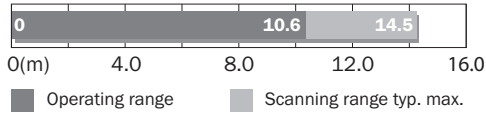


Light spot size

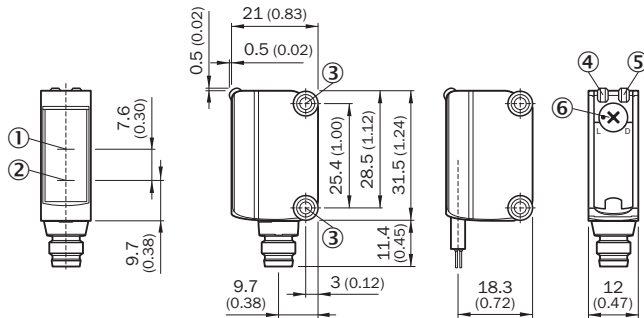




Sensing range diagram





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
- ⑥ Light/ dark rotary switch: L = light switching, D = dark switching

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 |

| | Brief description | Type | Part no. |
|---|--|--------------------|----------|
| Plug connectors and cables | | | |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 3-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 3-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals | YF8U13-050VA1XLEAX | 2095884 |
|  | <ul style="list-style-type: none"> • Connection type head A: Male connector, M8, 3-pin, straight • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: 0.14 mm² ... 0.5 mm² | STE-0803-G | 6037322 |

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