



GS6-D4312S71

G6

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|--------------|----------|
| GS6-D4312S71 | 1112773 |

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

Detailed technical data

Features

| | |
|-----------------------------|--|
| Functional principle | Through-beam photoelectric sensor |
| Sensing range max. | 0 m ... 10 m |
| Sensing range | 0 m ... 8 m |
| Polarisation filters | No |
| Emitted beam | |
| Light source | PinPoint LED ¹⁾ |
| Type of light | Visible red light |
| Light spot size (distance) | Ø 1,550 mm (10 m) |
| Key LED figures | |
| Wave length | 650 nm |
| Adjustment | None |
| Special features | Wide optical angle of dispersion Sender only. To work with GE6-P4212S71, 1112774 Mounting holes M3 un-threaded |
| Items supplied | Fastening screws included |

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

Electronics

| | |
|--|---|
| Supply voltage U_B | 10 V DC ... 30 V DC ¹⁾ |
| Ripple | $\pm 10\%$ ²⁾ |
| Current consumption | 30 mA ³⁾ |
| Protection class | III |
| Digital output | |
| Output current I_{max} . | ≤ 100 mA ⁴⁾ |
| Response time | < 350 μ s ⁵⁾ |
| Switching frequency | 1,700 Hz ⁶⁾ |
| Circuit protection | A ⁷⁾ B ⁸⁾ D ⁹⁾ |
| Special feature | Sender |

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 $U_V > 24$ 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.

Mechanics

| | |
|-------------------------------|--------------------------|
| Housing | Rectangular |
| Dimensions (W x H x D) | 12 mm x 31.5 mm x 21 mm |
| Connection | Male connector M8, 4-pin |
| Material | |
| Housing | Plastic, ABS/PC |
| Front screen | Plastic, PMMA |
| Weight | Approx. 40 g |

Ambient data

| | |
|--------------------------------------|-------------------------------------|
| Enclosure rating | IP67 |
| Ambient operating temperature | -25 °C ... $+55$ °C ¹⁾ |
| Ambient temperature, storage | -40 °C ... $+70$ °C |
| UL File No. | NRKH.E348498 & NRKH7.E348498 |

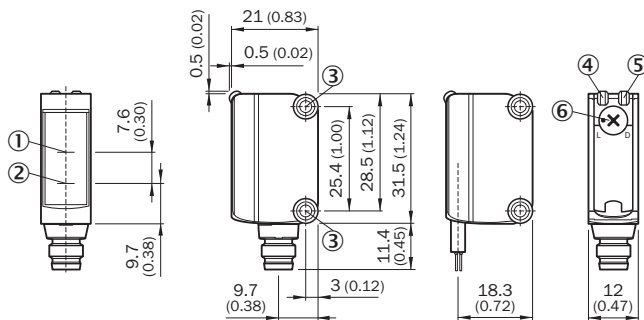
¹⁾ Temperature stability following adjustment ± 10 °C.

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 |

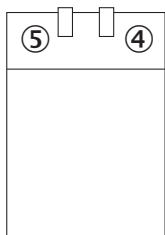
Dimensional drawing (Dimensions in mm (inch))



- 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

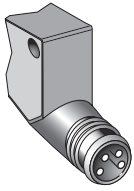
Adjustments

No adjustment possibility



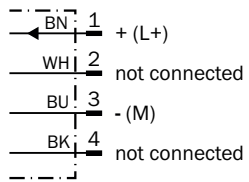
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam

Connection type



Connection diagram

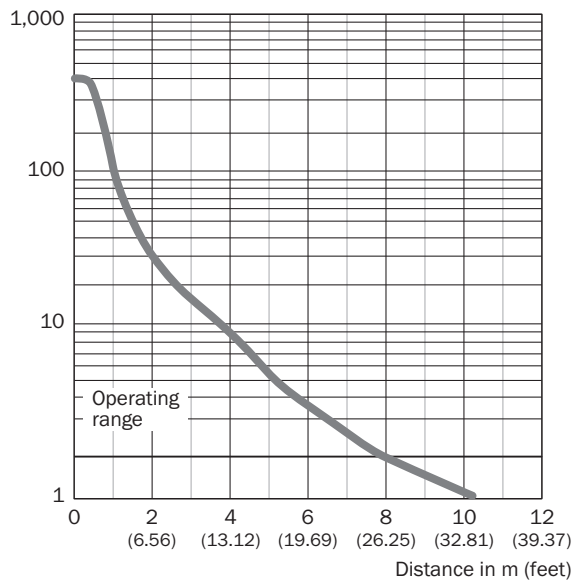
Cd-071



Characteristic curve

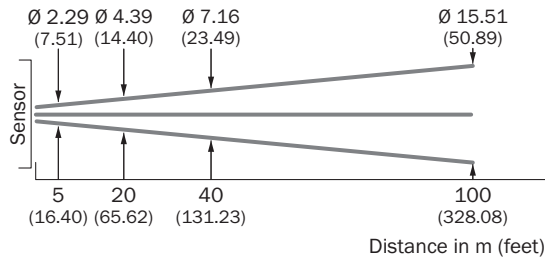
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Function reserve



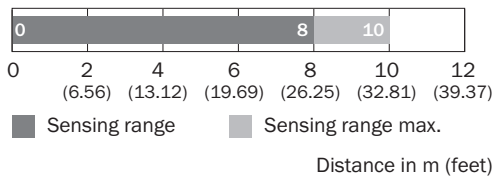
Light spot size

GS6-D4311S69, GE6-P4211S69; GS6-D4312S71, GE6-P4212S71







Sensing range diagram

GS6-D4311S69, GE6-P4211S69; GS6-D4312S71, GE6-P4212S71



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 |
| Others | | | |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M8, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: 0.14 mm² ... 0.5 mm² | STE-0804-G | 6037323 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M8, 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 | YF8U14-050VA3XLEAX | 2095889 |

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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