



GTE6-F2431V

G6

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

ECOLAB



Ordering information

| Type | Part no. |
|-------------|----------|
| GTE6-F2431V | 1086173 |

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

Detailed technical data

Features

| | |
|------------------------------------|--------------------------------|
| Device type | Photoelectric sensors |
| Functional principle | Photoelectric proximity sensor |
| Functional principle detail | Energetic |
| Sensing range max. | 30 mm ... 900 mm ¹⁾ |
| Sensing range | 40 mm ... 760 mm |
| Polarisation filters | No |
| Emitted beam | |
| Light source | PinPoint LED ²⁾ |
| Type of light | Visible red light |
| Light spot size (distance) | Ø 6 mm (100 mm) |
| Key LED figures | |
| Wave length | 650 nm |
| Adjustment | Mechanical spindle, 5 turns |
| Special applications | Hygienic and washdown zones |

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033).

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

Electrical data

| | |
|--|--|
| Supply voltage U_B | 10 V DC ... 30 V DC ¹⁾ |
| Ripple | $\pm 10\%$ ²⁾ |
| Power consumption | 30 mA ³⁾ |
| Protection class | III |
| Digital output | |
| Type | PNP |
| 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 | $< 1.25\text{ ms}$ ⁵⁾ |
| Switching frequency | 500 Hz ⁶⁾ |
| Switching mode | Light/dark switching |
| Output function | Complementary switching output |
| Circuit protection | A ⁷⁾ B ⁸⁾ D ⁹⁾ |

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

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.

Mechanical data

| | |
|-------------------------------|---|
| Housing | Rectangular |
| Dimensions (W x H x D) | 15 mm x 44 mm x 22 mm |
| Connection | Cable, 4-wire, 2 m ¹⁾ |
| Connection detail | |
| Conductor size | 0.14 mm ² |
| Length of cable | 2 m |
| Material | |
| Housing | Stainless steel, Stainless steel V4A (1.4404, 316L) |
| Front screen | Plastic, PMMA |
| Cable | PVC |
| Weight | 70 g |

¹⁾ Do not bend below 0 °C.

Ambient data

| | |
|-------------------------|-----------------------------|
| Enclosure rating | IP67 IP69K ¹⁾ |
|-------------------------|-----------------------------|

¹⁾ According to ISO 20653:2013-03.

²⁾ Temperature stability following adjustment +/-10 °C.

| | |
|--------------------------------------|---------------------------------|
| Ambient operating temperature | -25 °C ... +55 °C ²⁾ |
| Ambient temperature, storage | -30 °C ... +75 °C |
| UL File No. | NRKH.E348498 & NRKH7.E348498 |

¹⁾ According to ISO 20653:2013-03.

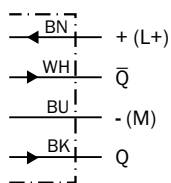
²⁾ Temperature stability following adjustment +/-10 °C.

Classifications

| | |
|-----------------------|----------|
| ECl@ss 5.0 | 27270903 |
| ECl@ss 5.1.4 | 27270903 |
| ECl@ss 6.0 | 27270903 |
| ECl@ss 6.2 | 27270903 |
| ECl@ss 7.0 | 27270903 |
| ECl@ss 8.0 | 27270903 |
| ECl@ss 8.1 | 27270903 |
| ECl@ss 9.0 | 27270903 |
| ECl@ss 10.0 | 27270904 |
| ECl@ss 11.0 | 27270904 |
| ETIM 5.0 | EC001821 |
| ETIM 6.0 | EC001821 |
| ETIM 7.0 | EC002719 |
| ETIM 8.0 | EC002719 |
| UNSPSC 16.0901 | 39121528 |

Connection diagram

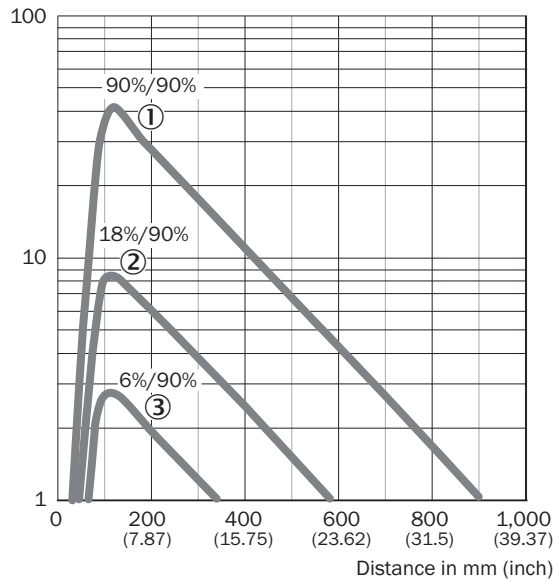
Cd-094



Characteristic curve

GTE6 Inox, Red, LongRange

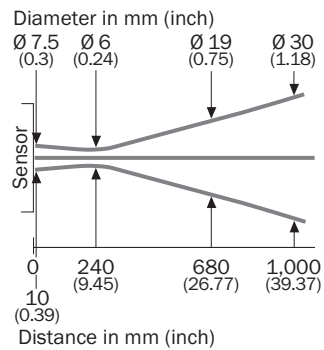
Function reserve



- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90% remission

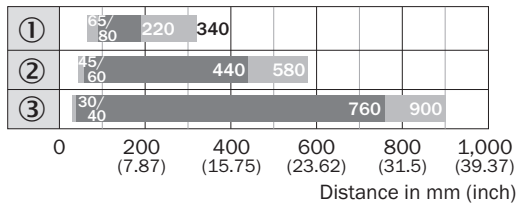
Light spot size

GTE6 Inox, Red, LongRange



Sensing range diagram

GTE6 Inox, Red, LongRange

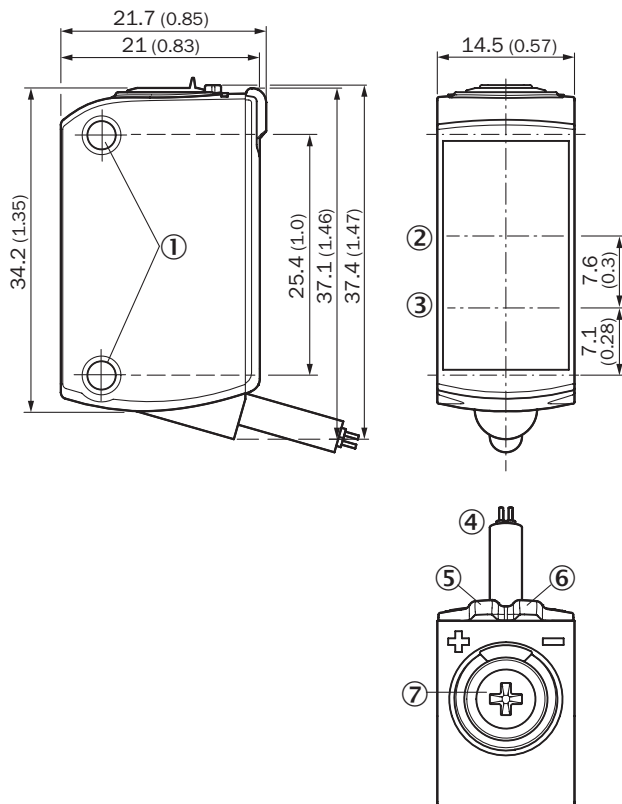


■ Sensing range ■ Sensing range max.

- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90% remission

Dimensional drawing (Dimensions in mm (inch))



GTB6, GTE6, GL6, GSE6 Inox, cable (with male connector)



- ① M3 mounting hole
- ② Optical axis, receiver
- ③ Optical axis, sender
- ④ Connection
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ LED indicator green: Supply voltage active
- ⑦ Potentiometer

Recommended accessories

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

| | Brief description | Type | Part no. |
|---|---|------------|----------|
| Mounting brackets and plates | | | |
|  | Mounting bracket for wall mounting, stainless steel, mounting hardware included | BEF-W100-A | 5311520 |
| Plug connectors and cables | | | |
|  | Head A: male connector, M8, 4-pin, straight Head B: - Cable: unshielded | STE-0804-G | 6037323 |

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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