



GSE10-P4112

G10

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|-------------|----------|
| GSE10-P4112 | 1065900 |

Other models and accessories → www.sick.com/G10

Detailed technical data

Features

| | |
|--|-----------------------------------|
| Sensor/detection principle | Through-beam photoelectric sensor |
| Dimensions (W x H x D) | 20 mm x 50 mm x 39 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 0 m ... 40 m |
| Sensing range | 0 m ... 35 m |
| Type of light | Visible red light |
| Light source | PinPoint LED ¹⁾ |
| Light spot size (distance) | Ø 180 mm (15 m) |
| Wave length | 625 nm |
| Adjustment | None |

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

Mechanics/electronics

| | |
|------------------------------------|-----------------------------------|
| Supply voltage | 10 V DC ... 30 V DC ¹⁾ |
| Ripple | ± 5 V _{pp} ²⁾ |
| Power consumption, sender | ≤ 15 mA |
| Power consumption, receiver | ≤ 20 mA |
| Output type | PNP |
| Switching mode | Light/dark switching |

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

²⁾ May not exceed or fall below U_V tolerances.

³⁾ Signal transit time with resistive load.

⁴⁾ With light/dark ratio 1:1.

⁵⁾ A = V_S connections reverse-polarity protected.

⁶⁾ B = inputs and output reverse-polarity protected.

⁷⁾ C = interference suppression.

⁸⁾ D = outputs overcurrent and short-circuit protected.

⁹⁾ Complies with the UL325 standard when used with sturdy protection hood (e.g. BEF-G10WSG, 2071960).

| | |
|---------------------------------------|--|
| Switching mode selector | Selectable via light/dark selector |
| Output current I_{max} | ≤ 100 mA |
| Response time | ≤ 500 μs ³⁾ |
| Switching frequency | 1,000 Hz ⁴⁾ |
| Connection type | Male connector M12, 4-pin |
| Circuit protection | A ⁵⁾ B ⁶⁾ C ⁷⁾ D ⁸⁾ |
| Protection class | III |
| Weight | 70 g |
| Housing material | Plastic, ABS/PMMA |
| Enclosure rating | IP67 |
| Items supplied | Mounting bracket BEF-G10DC01 (2x) |
| EMC | EN 60947-5-2 |
| Test input | Sender OFF at "Test" 0 V |
| Ambient operating temperature | -30 °C ... +60 °C |
| Ambient storage temperature | -40 °C ... +70 °C |
| UL File No. | NRKH.E348498 & NRKH7.E348498 |
| More standards | UL325 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) Signal transit time with resistive load.

4) With light/dark ratio 1:1.

5) A = V_S connections reverse-polarity protected.

6) B = inputs and output reverse-polarity protected.

7) C = interference suppression.

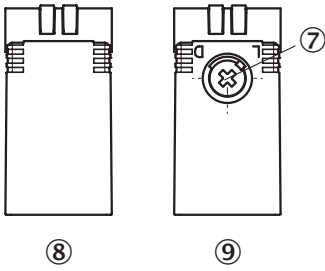
8) D = outputs overcurrent and short-circuit protected.

9) Complies with the UL325 standard when used with sturdy protection hood (e.g. BEF-G10WSG, 2071960).

Classifications

| | |
|-----------------------|----------|
| ECl@ss 5.0 | 27270901 |
| ECl@ss 5.1.4 | 27270901 |
| ECl@ss 6.0 | 27270901 |
| ECl@ss 6.2 | 27270901 |
| ECl@ss 7.0 | 27270901 |
| ECl@ss 8.0 | 27270901 |
| ECl@ss 8.1 | 27270901 |
| ECl@ss 9.0 | 27270901 |
| ETIM 5.0 | EC002716 |
| ETIM 6.0 | EC002716 |
| UNSPSC 16.0901 | 39121528 |

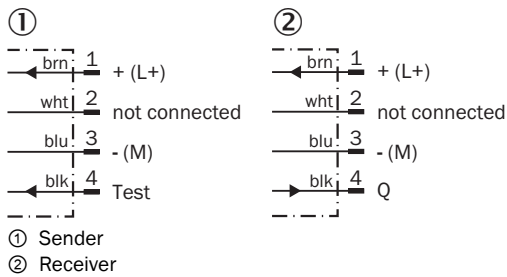
Adjustments possible



- ⑦ Light/dark selector
- ⑧ Sender
- ⑨ Receiver

Connection diagram

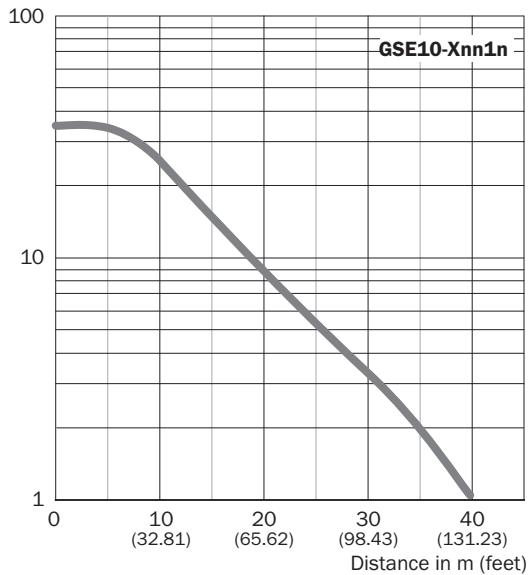
Cd-073



Characteristic curve

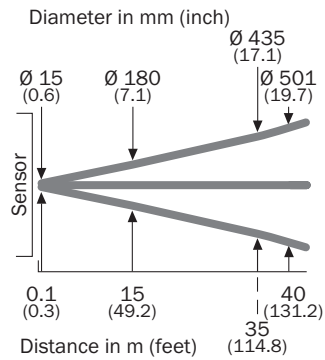
GSE10, red light

Operating reserve



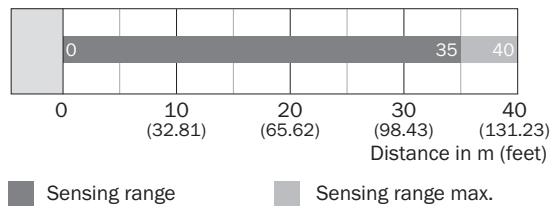
Light spot size

GSE10, red light



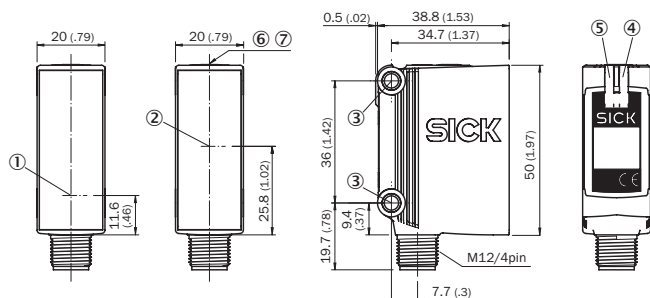
Sensing range diagram

GSE10, red light



Dimensional drawing (Dimensions in mm (inch))

GSE10, DC, connector



- ① Center of optical axis, sender
- ② Center of optical axis, receiver
- ③ Mounting hole, \varnothing 4.2 mm
- ④ LED indicator yellow: Status of received light beam
- ⑤ LED indicator green: power on

Recommended accessories

Other models and accessories → www.sick.com/G10

| | Brief description | Type | Part no. |
|---|---|----------------|----------|
| Universal bar clamp systems | | | |
|  | Clamp bar to fix G10 sensors on rods of 10 mm, clamp-on design up to 4 mm wall thickness, aluminum (clamp bar), stainless steel (bracket), clamp bar for 10 mm rod mounting and clamp function, mounting bracket, mounting hardware | BEF-KHS-ISG10 | 2073756 |
|  | Q-Lock, bar clamp system for G10 and reflector P250, Die-cast zinc, steel, zinc coated | BEF-KHSQ12R01 | 2071260 |
| | Bar clamp system for G10 and reflector P250, Die-cast zinc, steel, zinc coated, mounting hardware included | BEF-KHSQ12R02 | 2087586 |
|  | Q-Lock, bar clamp system for G10 and reflector P250, Die-cast zinc, steel, zinc coated, incl. slot-in sheet clamp | BEF-KHSQ12ZR01 | 2071262 |
|  | Mounting bar, straight, 200 mm, steel, steel, zinc coated, without mounting hardware | BEF-MS12G-A | 4056054 |
| | Mounting bar, straight, 300 mm, steel, steel, zinc coated, without mounting hardware | BEF-MS12G-B | 4056055 |
|  | Mounting bar, L-shaped, 150 mm x 150 mm, steel, steel, zinc coated, without mounting hardware | BEF-MS12L-A | 4056052 |
| | Mounting bar, L-shaped, 250 x 250 mm, steel, steel, zinc coated, without mounting hardware | BEF-MS12L-B | 4056053 |
|  | Mounting bar, Z-shaped, 150 mm x 70 mm x 150 mm, steel, steel, zinc coated, without mounting hardware | BEF-MS12Z-A | 4056056 |
| | Mounting bar, Z-shaped, 150 mm x 70 mm x 250 mm, steel, steel, zinc coated, without mounting hardware | BEF-MS12Z-B | 4056057 |
|  | Bar clamp for bar diameter of 12 mm (fixing the mounting rod), Aluminum, 2 screws M6 x 30, 2 spring discs | BEF-RMC-D12 | 5321878 |
| Mounting brackets and plates | | | |
|  | Mounting bracket for wall and floor mounting for G10 DC, steel, zinc coated, mounting hardware included | BEF-G10DC01 | 2071258 |
|  | Mounting bracket for wall and floor mounting for G10 AC/DC, steel, zinc coated, mounting hardware included | BEF-G10UC01 | 2071259 |
| Plug connectors and cables | | | |
|  | Head A: female connector, M12, 4-pin, straight Head B: cable Cable: PVC, unshielded, 2 m | DOL-1204-G02M | 6009382 |
| | Head A: female connector, M12, 4-pin, straight Head B: cable Cable: PVC, unshielded, 5 m | DOL-1204-G05M | 6009866 |
|  | Head A: female connector, M12, 4-pin, angled Head B: cable Cable: PVC, unshielded, 2 m | DOL-1204-W02M | 6009383 |
| | Head A: female connector, M12, 4-pin, angled Head B: cable Cable: PVC, unshielded, 5 m | DOL-1204-W05M | 6009867 |

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