SICK.COM



DATA SHEET

# GL10-R3712

G10
Photoelectric sensors

SICK
Sensor Intelligence



Illustration may differ

## PHOTOELECTRIC SENSORS

# GL10-R3712

### ORDERING INFORMATION

| Type | part no. |
|---|---|
| GL10-R3712 | 1065897 |

Further device versions and accessories at www.sick.com/G10

## DETAILED TECHNICAL DATA

### FEATURES

| | |
|---|---|
| Functional principle | Photoelectric retro-reflective sensor |
| Functional principle detail | With minimum distance to reflector (dual lens system) |
| Dimensions (W x H x D) | 20 mm x 50 mm x 51.5 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 0.08 m ... 15 m [1]<br>0.08 m ... 12 m [2] |
| Sensing range | 0.15 m ... 12 m [1]<br>0.15 m ... 10 m [2] |
| Type of light | Visible red light |
| Light source | PinPoint LED [3] |
| Light spot size (distance) | Ø 58 mm (5 m) |
| Wave length | 625 nm |
| Adjustment | None |

[1] Reflector PL80A.

[2] Reflector P250.

[3] Average service life: 100,000 h at $T_U$ = +25 °C.

## MECHANICS/ELECTRONICS

| | |
|---|---|
| Supply voltage $U_e$ | 24 V AC/DC ... 240 V AC/DC [1] |
| Ripple | < 10 % |
| Power consumption | ≤ 2.5 VA |
| Switching output | Relay, SPDT, electrically isolated [2] |
| Switching mode | Light/dark switching [2] |
| Switching load max. (current/voltage) | 0.11 A (250 V DC)<br>3 A (30 V DC)<br>3 A (250 V AC) |
| Response time | ≤ 10 ms |
| Switching frequency | 20 Hz [3] |
| Connection type | Cable, 5-wire, 2 m [4] |
| Cable material | Plastic, PVC |
| Conductor cross section | 0.25 mm² |
| Circuit protection | C [5] |
| Protection class | II [6] |
| Weight | 115 g |
| Polarizing filter | ✓ |
| Interference emission | EN 61000-6-3 (2011-09) [7] |
| Housing material | Plastic, ABS/PMMA |
| Enclosure rating | IP67 |
| Relay switching cycles min. | 100.000 cycles (3 A) |
| Items supplied | Mounting bracket BEF-G10UC01, Reflector P250 |
| Usage category | DC-13 (according to EN 60947-1)<br>AC-15 (according to EN 60947-1) |
| Electromagnetic compatibility (EMC) | EN 60947-5-2<br>EN 61000-6-3 (2011-09) |
| Ambient operating temperature | –30 °C ... +60 °C [8] |
| Ambient temperature, storage | –40 °C ... +70 °C |
| UL File No. | NRKH.E348498 & NRKH7.E348498 |
| More standards | UL325 [9] |

[1] +- 10 %.

[2] Provide suitable spark suppression for inductive or capacitive loads.

[3] With light/dark ratio 1:1.

[4] Do not bend below 0 °C.

[5] C = interference suppression.

[6] Reference voltage: 250 V AC.

[7] In the case of a DC supply (ref. to EN 61000-6-3) the length of cable between the supply source and the sensor must be < 30 m.

[8] UL: 0 °C ... +50 °C.

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

## SAFETY-RELATED PARAMETERS

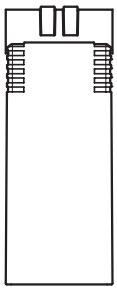
| | |
|---|---|
| $MTTF_D$ | 1,456 years |
| $DC_{avg}$ | 0 % |
| $B_{10D}$ | 65,693 Switching cycles [1] |

[1] Only for devices containing electro-mechanical components. In this case, the $MTTF_D$ value of the entire device must be calculated from the given $B_{10D}$ value, the number of switching cycles and the given $MTTF_D$ value.

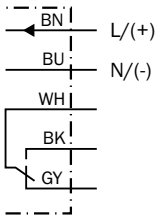
## CERTIFICATES

| | |
|---|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| CCC certificate | ✓ |
| cULus certificate | ✓ |
| Photobiological safety (DIN EN 62471) certificate | ✓ |

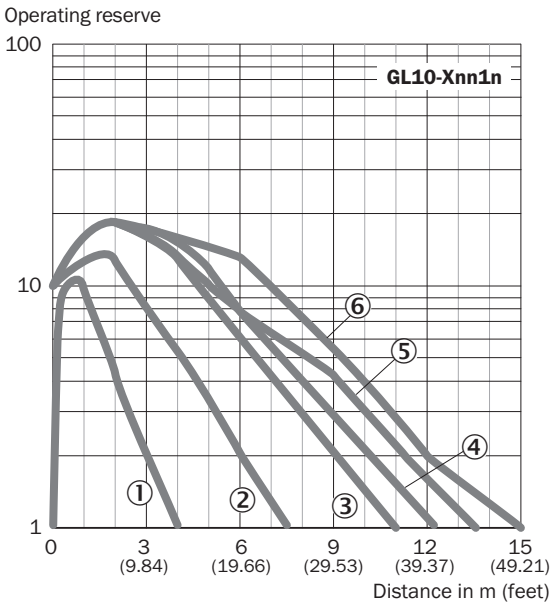
## ADJUSTMENTS



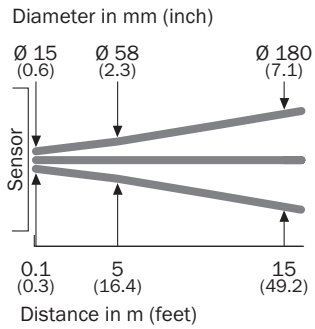
## CONNECTION DIAGRAM CD-163



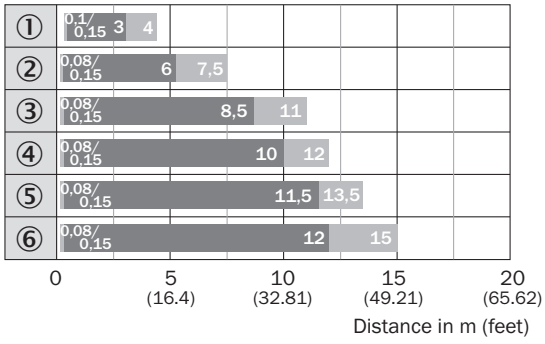
## CHARACTERISTIC CURVE GL10




## LIGHT SPOT SIZE



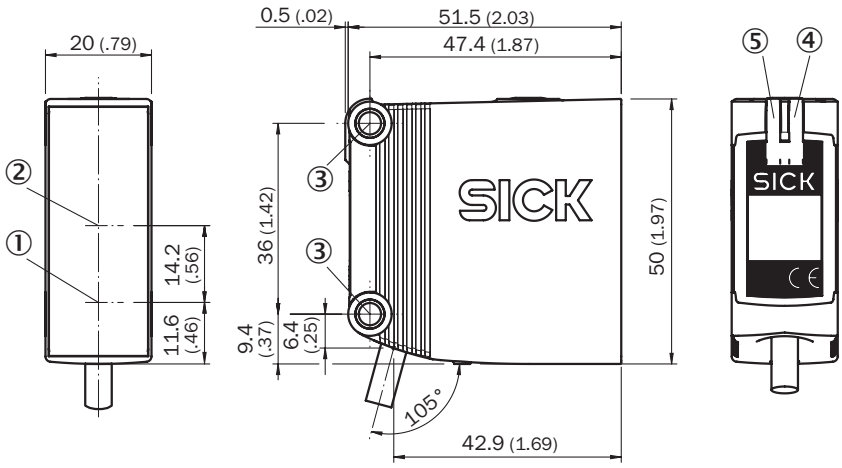

## SENSING RANGE DIAGRAM GL10




Sensing range  Sensing range max.

① Reflective tape REF-IRF-56
② Reflector PL20A
③ Reflector PL30A
④ Reflector P250
⑤ Reflector PL40A
⑥ Reflector PL80A

**DIMENSIONAL DRAWING GTE10, GL10, GL10G, AC/DC, CABLE**




Dimensions in mm (inch)
① Center of optical axis, sender
② Center of optical axis, receiver
③ Mounting hole, Ø 4.2 mm
④ LED indicator yellow: Status of received light beam
⑤ LED indicator green: power on

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1065897

SICK AG
WALDKIRCH
GERMANY
SICK.COM

# SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

SICK

Sensor Intelligence