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DATA SHEET

GL10-R3811

G10
Photoelectric sensors

SICK
Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

GL10-R3811

ORDERING INFORMATION

Type	part no.
GL10-R3811	1064689

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] 0.08 m ... 12 m [2]
Sensing range	0.15 m ... 12 m [1] 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	Potentiometer, 270°

[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) 3 A (30 V DC) 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)
Usage category	DC-13 (according to EN 60947-1) AC-15 (according to EN 60947-1)
Electromagnetic compatibility (EMC)	EN 60947-5-2 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

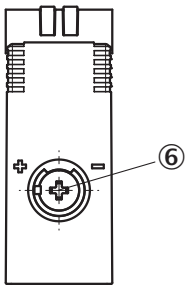
$MTTF_D$	1,173 years
DC_{avg}	0 %
B_{10D}	59,123 Switching cycles [1]

[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

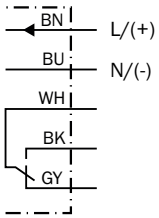
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
CCC certificate	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

ADJUSTMENTS

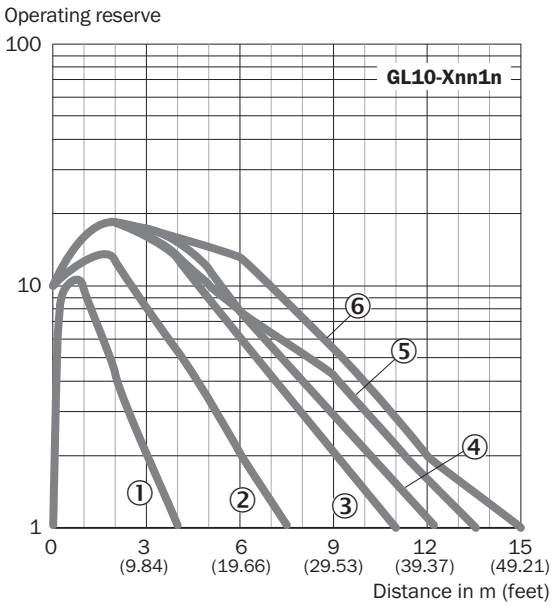


⑥ Adjustment of sensing range

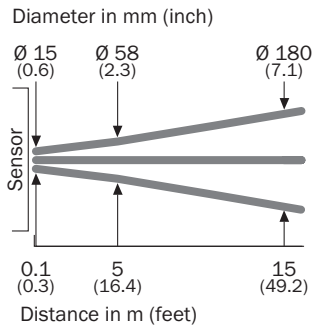
CONNECTION DIAGRAM CD-163



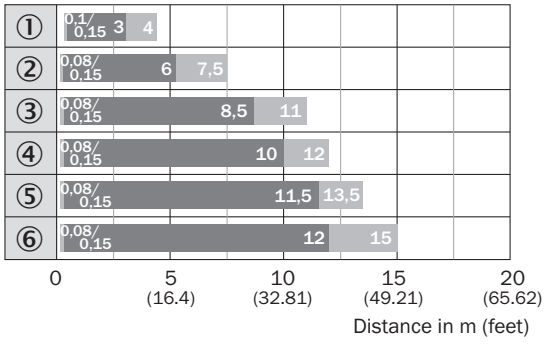
CHARACTERISTIC CURVE GL10



LIGHT SPOT SIZE

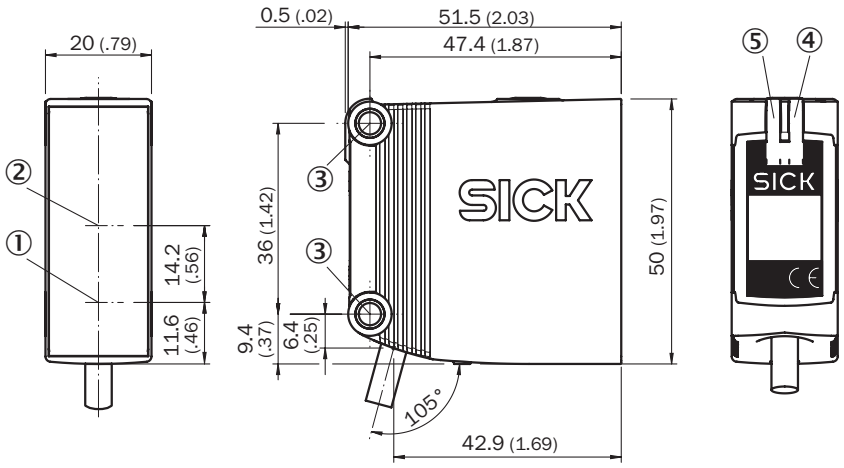


SENSING RANGE DIAGRAM GL10



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/1064689

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SICK AT A GLANCE

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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.

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