



Photoelectric sensors  
G10, Photoelectric retro-reflective sensor,  
Standard optics

GL10-P8111



Type > [GL10-P8111](#)  
Part No. > [1071896](#)



Illustration may differ

**At a glance**

- Long sensing ranges: up to 15 m on PL80A reflector
- PinPoint LED with bright and precise light spot
- Immunity to ambient light
- 10 V DC ... 30 V DC or 24 V AC/DC ... 240 V AC/DC power supply with PNP/NPN or relay output
- With or without sensitivity adjustment
- Small housing design
- Rugged sensor housing with metal-reinforced holes for assembly
- Q-Lock assembly system for mounting and aligning the sensor within a few seconds

**Your benefits**

- Long sensing ranges for maximum operating reserves
- Efficient installation: the GL10 and the Q-Lock assembly system save valuable hours when mounting and commissioning multiple sensors
- Universal DC or AC/DC power supply for even greater application flexibility
- Highly reliable and durable despite optical interference or mechanical loads
- Wide range of accessories simplifies sensor integration: aids for assembly, connecting cables, and reflectors



**Features**

Sensor/detection principle:	Photoelectric retro-reflective sensor, Dual lens
Dimensions (W x H x D):	20 mm x 50 mm x 39 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0.08 m ... 12 m, 0.08 m ... 15 m <sup>1) 2)</sup>
Sensing range::	0.15 m ... 10 m, 0.15 m ... 12 m <sup>3) 4)</sup>
Type of light:	Visible red light
Light source:	PinPoint LED <sup>5)</sup>
Wave length:	625 nm
Light spot size (distance):	Ø 58 mm (5 m)

<sup>1) 3)</sup> PL80A <sup>2) 4)</sup> P250 <sup>5)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C

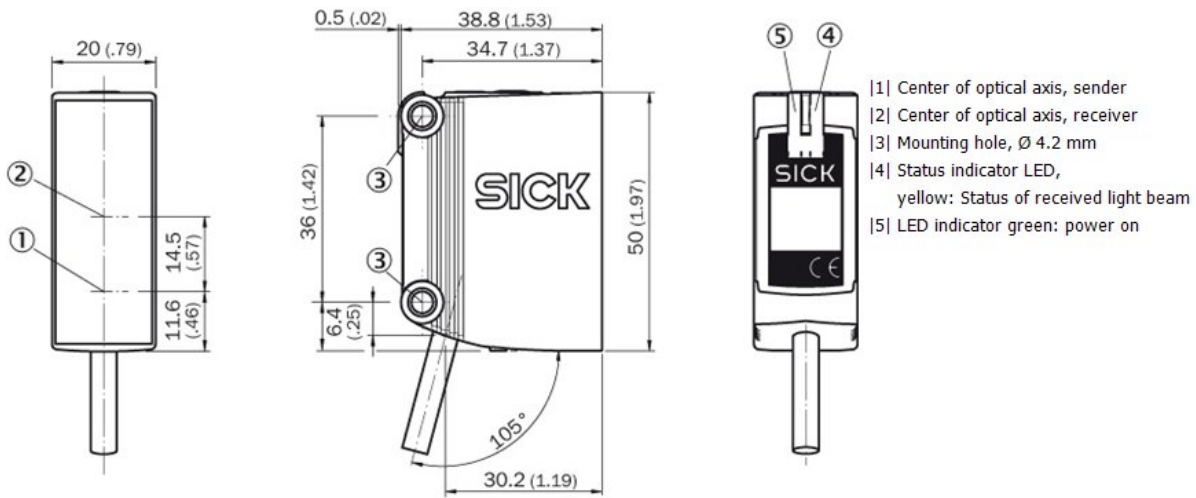
**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	± 5 Vpp <sup>2)</sup>
Power consumption:	≤ 20 mA

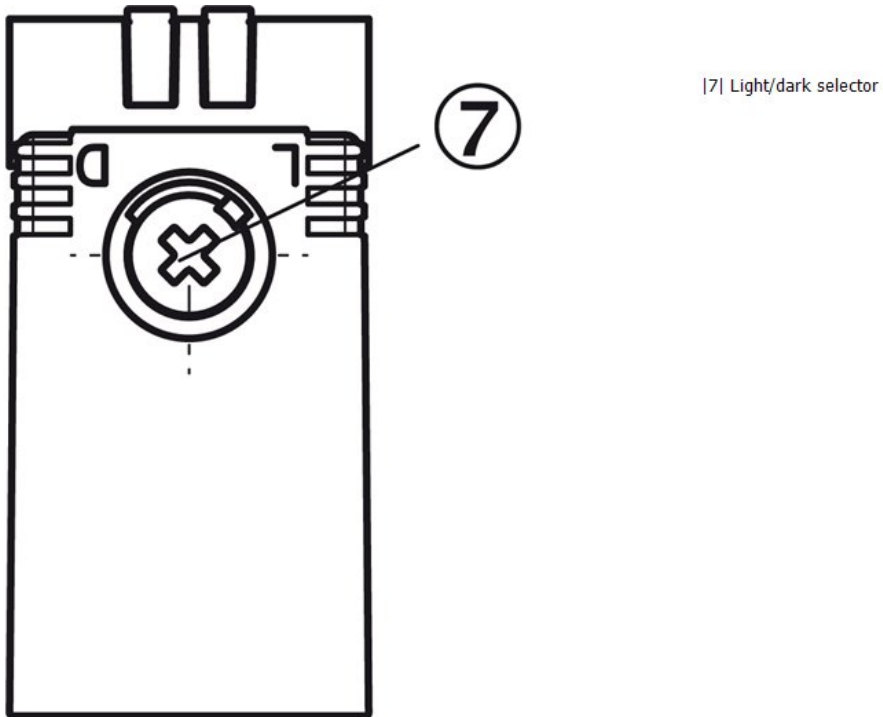
Output type:	PNP
Switching mode:	Light/dark switching
Switching mode selector:	Selectable via light/dark selector
Output current I <sub>max</sub> :	≤ 100 mA
Response time:	≤ 500 μs <sup>3)</sup>
Connection type:	Cable, 3-wire, 5 m <sup>4)</sup>
Cable material:	PVC
Conductor cross-section:	0.14 mm <sup>2</sup>
Circuit protection:::	A, B, C, D <sup>5) 6) 7) 8)</sup>
Protection class:	III
Weight:	90 g
Polarisation filter:	✓
Special device:	-
Enclosure rating:	IP 67
EMC:	EN 60947-5-2
Ambient operating temperature:	-30 °C ... +60 °C
Ambient storage temperature:	-40 °C ... +70 °C
UL File No.:	NRKH.E348498 & NRKH7.E348498
Further standards:	UL325 <sup>9)</sup>
Switching frequency max.:	1,000 Hz <sup>10)</sup>
Housing material:	PVC/PMMA, Plastic

1) Limit values: operation in short-circuit protected network max. 8 A<sup>2)</sup> May not exceed or fall below U<sub>v</sub> tolerances<sup>3)</sup> Signal transit time with resistive load<sup>4)</sup> Do not bend below 0 °C<sup>5)</sup> A = V<sub>S</sub> connections reverse-polarity protected<sup>6)</sup> B = inputs and output reverse-polarity protected<sup>7)</sup> C = interference suppression<sup>8)</sup> D = outputs overcurrent and short-circuit protected<sup>9)</sup> Complies with the UL325 standard when used with sturdy protection hood (e.g. BEF-G10WSG, 2071960).<sup>10)</sup> With light/dark ratio 1:1

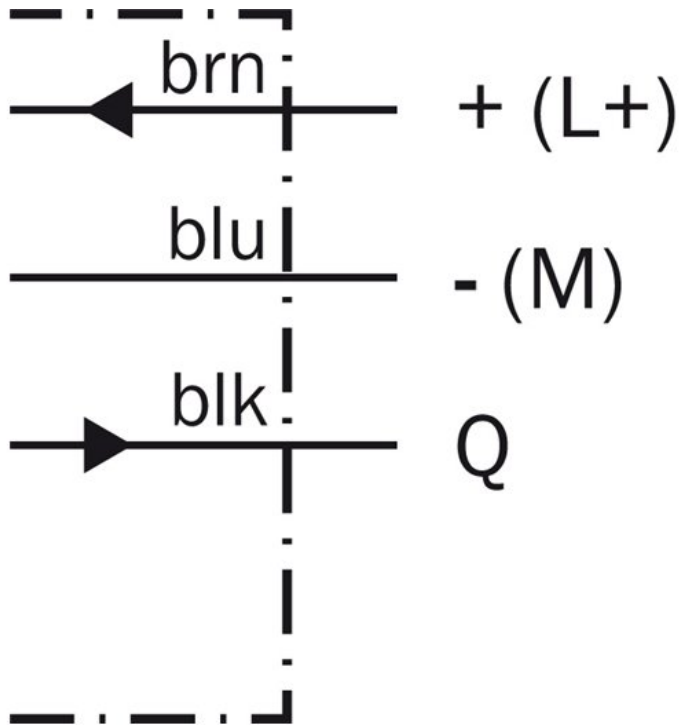
## Dimensional drawing



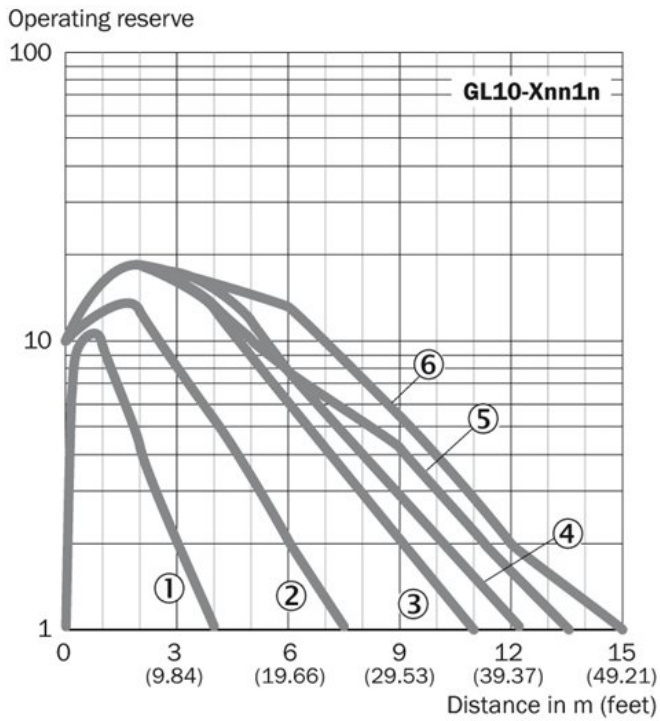
## Adjustments possible



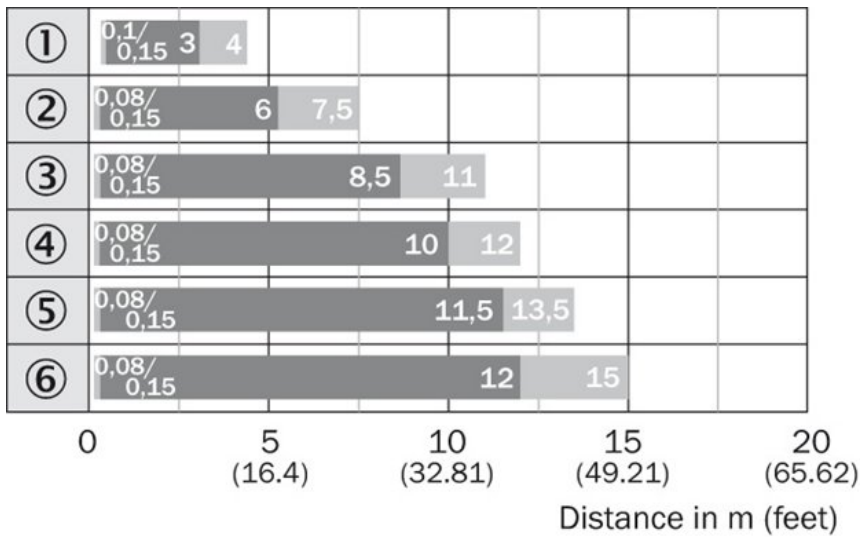
Connection diagram



Characteristic curve



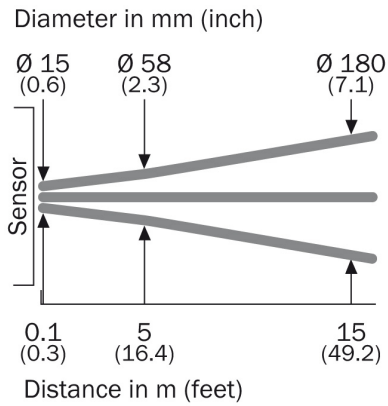
### Sensing range diagram



- |1| REF-IRF-56
- |2| PL20A
- |3| PL30A
- |4| P250
- |5| PL40A
- |6| PL80A

Sensing range     
  Sensing range max.

### Light spot size



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