



GL10-P4151

G10

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
GL10-P4151	1069860

Other models and accessories → 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 39 mm
Housing design (light emission)	Rectangular
Sensing range max.	0.15 m ... 12 m ¹⁾ 0.15 m ... 10 m ²⁾
Sensing range	0.3 m ... 9.5 m ¹⁾ 0.3 m ... 8 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
Special applications	Detecting objects wrapped in film
Special features	High functional reliability on foil-wrapped objects

¹⁾ Reflector PL80A.

²⁾ Reflector P250.

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

Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	20 mA
Switching output	PNP
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark selector
Output current I_{max}	≤ 100 mA
Response time	≤ 1 ms ³⁾
Switching frequency	500 Hz ⁴⁾
Connection type	Male connector M12, 4-pin
Circuit protection	A ⁵⁾ B ⁶⁾ C ⁷⁾ D ⁸⁾
Protection class	III
Weight	35 g
Polarizing filter	✓
Housing material	Plastic, ABS/PMMA
Enclosure rating	IP67
Electromagnetic compatibility (EMC)	EN 60947-5-2
Ambient operating temperature	-30 °C ... +60 °C
Ambient temperature, storage	-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 fall below or exceed U_y 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).

Safety-related parameters

MTTF_D	2,293 years
DC_{avg}	0 %

Certificates

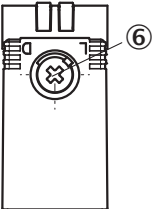
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓

cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

Classifications

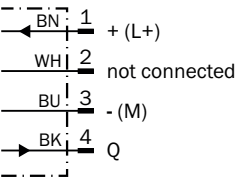
ECLASS 5.0	27270902
ECLASS 5.1.4	27270902
ECLASS 6.0	27270902
ECLASS 6.2	27270902
ECLASS 7.0	27270902
ECLASS 8.0	27270902
ECLASS 8.1	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902
ECLASS 11.0	27270902
ECLASS 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

Adjustments



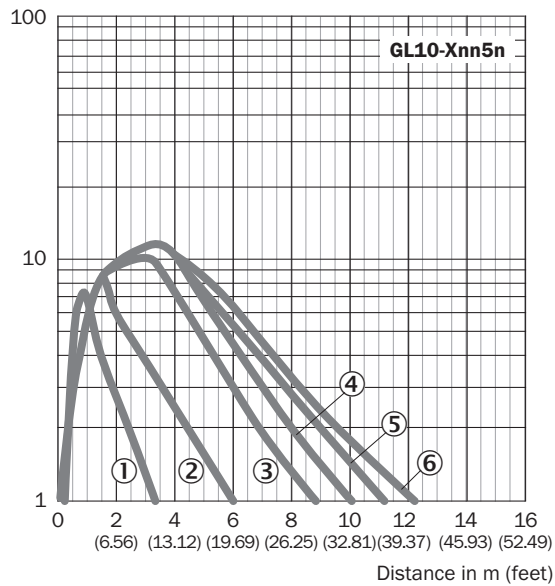
⑥ Light/dark selector

Connection diagram Cd-066



Characteristic curve GL10, Logistik, DC, GL10G, DC

Operating Reserve

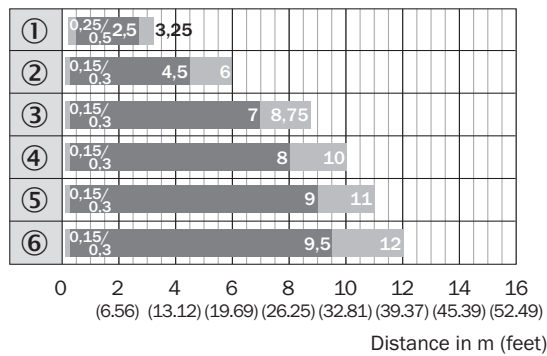


- ① Reflective tape REF-IRF-56
- ② Reflector PL20A
- ③ Reflector PL30A
- ④ Reflector P250
- ⑤ Reflector PL40A
- ⑥ Reflector PL80A

Light spot size

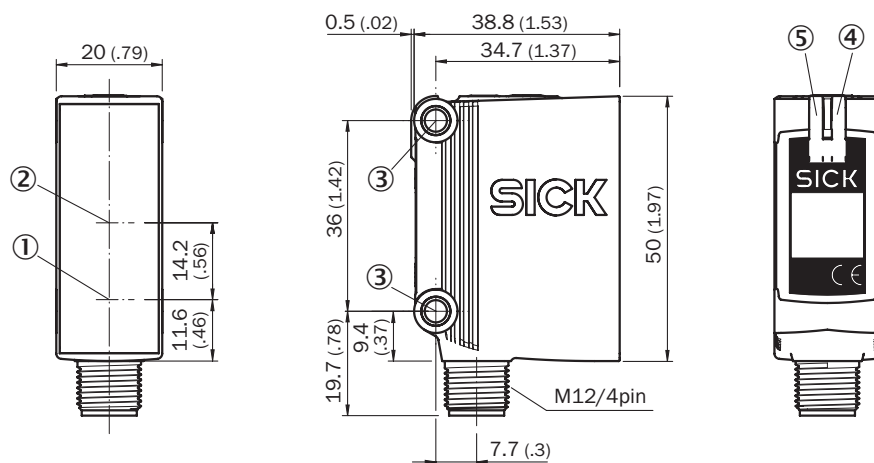


Sensing range diagram GL10, Logistik, DC, GL10G, DC



- 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, DC, connector



- 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

Recommended accessories

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

	Brief description	Type	part no.
Mounting systems			
	Description: Q-Lock, bar clamp system for G10 and reflector P250 Material: Zinc diecast, steel Details: Die-cast zinc, steel, zinc coated Suitable for: G10 and reflector P250	BEF-KHSQ12R01	2071260
	Description: Mounting bracket with articulated arm Material: Steel Details: Steel, zinc coated Items supplied: Mounting hardware included Suitable for: W16, W26, W11, W12, W23, W27, Dx50, W280, G10	BEF-WN-MULTI2	2093945
	Description: Universal mounting bracket for reflectors Dimensions (W x H x L): 85 mm x 90 mm x 35 mm Material: Steel Details: Steel, zinc coated Suitable for: C110A, P250, PL20, PL30A, PL40A, PL80A	BEF-WN-REFX	2064574
reflectors and optics			
	Description: Rectangular, screw connection Dimensions: 51 mm 61 mm Ambient operating temperature: -30 °C ... +65 °C	P250	5304812
connectors and cables			
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones	YF2A14-050VB3XLEAX	2096235
	Connection type head A: Male connector, M12, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm²	STE-1204-G	6009932
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-050UB3XLEAX	2095608

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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