



GL10-F4531S09

G10

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
GL10-F4531S09	1102888

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 ... 17 m ¹⁾ 0.15 m ... 5 m ²⁾
Sensing range	0.3 m ... 14 m ¹⁾ 0.3 m ... 4 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⁾ Reflective tape REF-IRF-56.
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
Output function	Complementary
Switching mode	Light/dark switching
Output current I_{max}	≤ 100 mA
Response time	≤ 1 ms ³⁾
Switching frequency	400 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 %

Classifications

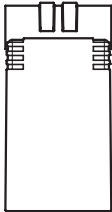
ECLASS 5.0	27270902
ECLASS 5.1.4	27270902
ECLASS 6.0	27270902
ECLASS 6.2	27270902
ECLASS 7.0	27270902

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

Certificates

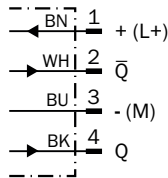
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

Adjustments GL10, logistics, DC

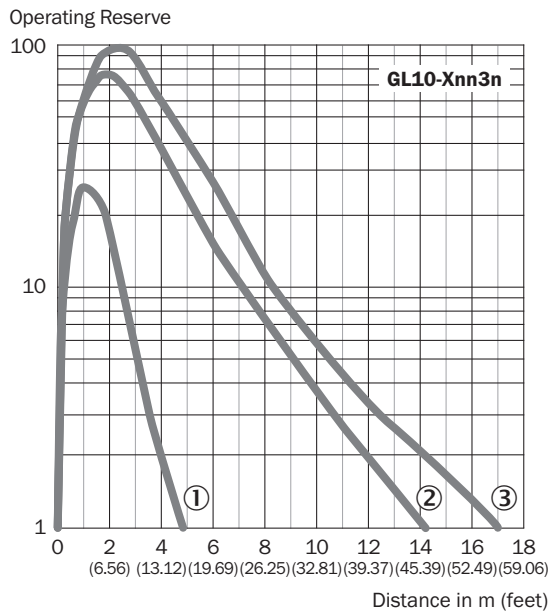


no adjustment possibility

Connection diagram Cd-084

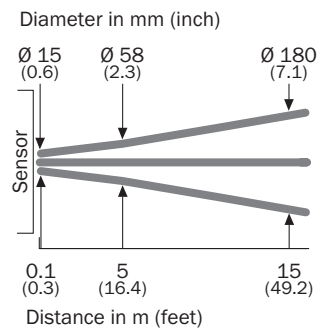


Characteristic curve GL10, Logistik, DC, GL10G, DC

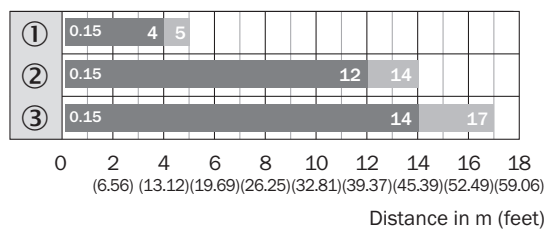


- ① Reflective tape REF-IRF-56
- ② Reflector PL40A
- ③ Reflector PL80A

Light spot size



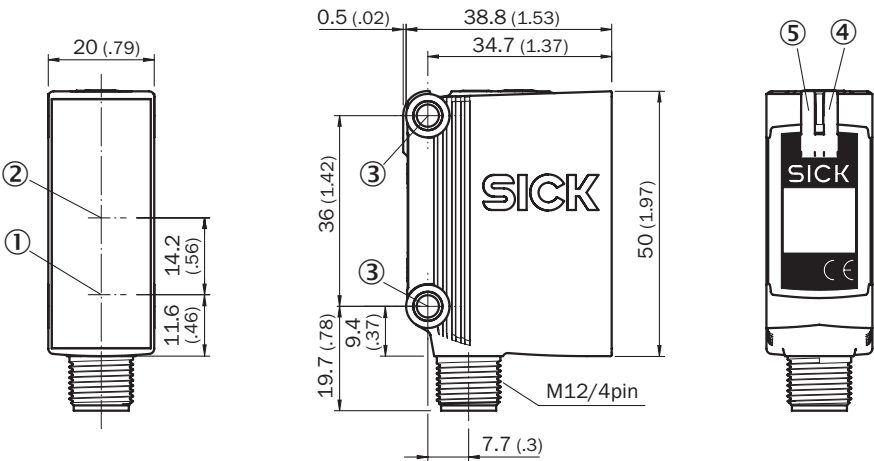
Sensing range diagram GL10, Logistik, DC, GL10G, DC



■ Sensing range ■ Sensing range max.

- ① Reflective tape REF-IRF-56
- ② Reflector PL40A
- ③ 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, $\varnothing$ 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.
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: 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

	Brief description	Type	part no.
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

SICK AT A GLANCE

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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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