

GSE10-P4112 G10

**PHOTOELECTRIC SENSORS** 

**SICK**Sensor Intelligence.



### Ordering information

Туре	part no.
GSE10-P4112	1065900

Included in delivery: BEF-G10DC01 (1)

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

Illustration may differ



#### Detailed technical data

#### **Features**

Functional principle	Through-beam photoelectric sensor
Dimensions (W x H x D)	20 mm x 50 mm x 39 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m 40 m
Sensing range	0 m 35 m
Type of light	Visible red light
Light source	PinPoint LED 1)
Light spot size (distance)	Ø 180 mm (15 m)
Wave length	625 nm
Adjustment	None

 $<sup>^{1)}</sup>$  Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

### Mechanics/electronics

Supply voltage U <sub>B</sub>	10 V DC 30 V DC <sup>1)</sup>
Ripple	< 5 V <sub>pp</sub> <sup>2)</sup>
Power consumption, sender	≤ 15 mA
Power consumption, receiver	≤ 20 mA
Switching output	PNP
Switching mode	Light/dark switching

 $<sup>^{1)}</sup>$  Limit values when operated in short-circuit protected network: max. 8 A.

 $<sup>^{2)}\,\</sup>mathrm{May}$  not fall below or exceed  $\mathrm{U}_\mathrm{V}$  tolerances.

 $<sup>^{</sup>m 3)}$  Signal transit time with resistive load.

<sup>4)</sup> With light/dark ratio 1:1.

 $<sup>^{5)}</sup>$  A =  $V_S$  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).

Switching mode selector  Output current I <sub>max</sub> .  ≤ 100 mA	
2)	
Response time $\leq 500 \mu s^{3}$	
Switching frequency 1,000 Hz <sup>4)</sup>	
Connection type Male connector M12, 4-pin	
Circuit protection  A 5) B 6) C 7) D 8)	
Protection class	
Weight 70 g	
Housing material Plastic, ABS/PMMA	
Enclosure rating IP67	
Items supplied Mounting bracket BEF-G10DC01 (2x)	
Electromagnetic compatibility (EMC) EN 60947-5-2	
Test input Sender OFF at "Test" 0 V	
Ambient operating temperature -30 °C +60 °C	
Ambient temperature, storage -40 °C +70 °C	
Animient temperature, storage	
UL File No.         NRKH.E348498 & NRKH7.E348498	

 $<sup>^{1)}</sup>$  Limit values when operated in short-circuit protected network: max. 8 A.

#### Certificates

EU declaration of conformity	<b>√</b>
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	27270901
ECLASS 5.1.4	27270901
ECLASS 6.0	27270901
ECLASS 6.2	27270901

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<sup>7)</sup> C = interference suppression.

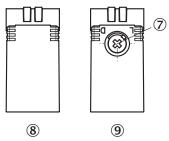
 $<sup>^{8)}</sup>$  D = outputs overcurrent and short-circuit protected.

 $<sup>^{9)}</sup>$  Complies with the UL325 standard when used with sturdy protection hood (e.g. BEF-G10WSG, 2071960).

### PHOTOELECTRIC SENSORS

ECLASS 7.0	27270901
ECLASS 8.0	27270901
ECLASS 8.1	27270901
ECLASS 9.0	27270901
ECLASS 10.0	27270901
ECLASS 11.0	27270901
ECLASS 12.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

## Adjustments



- ① Light/dark selector
- 8 sender
- 9 receiver

## Connection diagram Cd-073

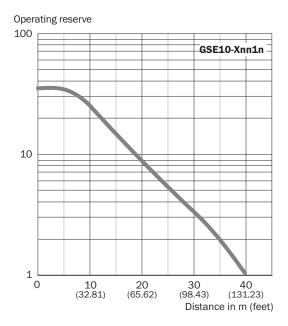
① ② 
$$\frac{BN \cdot 1}{WH \cdot 2} + (L+)$$

$$\frac{WH \cdot 2}{BU \cdot 3} - (M)$$

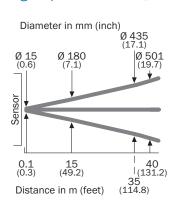
$$\frac{BK \cdot 4}{M} \cdot Test$$
① sender

- 2 receiver

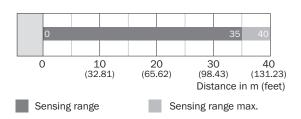
### Characteristic curve GSE10, red light



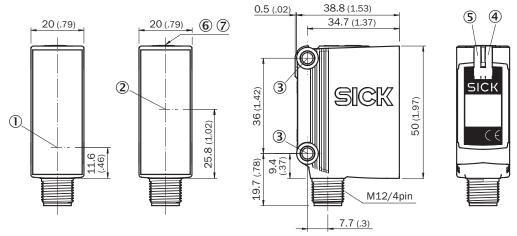
### Light spot size GSE10, red light



## Sensing range diagram GSE10, red light



### Dimensional drawing GSE10, 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	Туре	part no.	
Mounting syst	Mounting systems			
	<ul> <li>Description: Q-Lock, bar clamp system for G10 and reflector P250</li> <li>Material: Zinc diecast, steel</li> <li>Details: Die-cast zinc, steel, zinc coated</li> <li>Suitable for: G10 and reflector P250</li> </ul>	BEF-KHSQ12R01	2071260	
	<ul> <li>Description: Mounting bracket with articulated arm</li> <li>Material: Steel</li> <li>Details: Steel, zinc coated</li> <li>Items supplied: Mounting hardware included</li> <li>Suitable for: W16, W26, W11, W12, W23, W27, Dx50, W280, G10</li> </ul>	BEF-WN-MULTI2	2093945	

	Brief description	Туре	part no.	
connectors ar	connectors and cables			
	<ul> <li>Connection type head A: Female connector, M12, 4-pin, straight, A-coded</li> <li>Connection type head B: Flying leads</li> <li>Signal type: Sensor/actuator cable</li> <li>Cable: 5 m, 4-wire, PVC</li> <li>Description: Sensor/actuator cable, unshielded</li> <li>Application: Zones with chemicals, Uncontaminated zones</li> </ul>	YF2A14-050VB3XLEAX	2096235	
1	<ul> <li>Connection type head A: Male connector, M12, 4-pin, straight, A-coded</li> <li>Description: Unshielded</li> <li>Connection systems: Screw-type terminals</li> <li>Permitted cross-section: ≤ 0.75 mm²</li> </ul>	STE-1204-G	6009932	
No.	<ul> <li>Connection type head A: Female connector, M12, 4-pin, straight, A-coded</li> <li>Connection type head B: Flying leads</li> <li>Signal type: Sensor/actuator cable</li> <li>Cable: 5 m, 4-wire, PUR, halogen-free</li> <li>Description: Sensor/actuator cable, unshielded</li> <li>Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	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."

# **WORLDWIDE PRESENCE:**

Contacts and other locations -www.sick.com

