



# ELG3-0450P591

ELG

SWITCHING AUTOMATION LIGHT GRIDS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
ELG3-0450P591	1029489

Other models and accessories → [www.sick.com/ELG](http://www.sick.com/ELG)

### Detailed technical data

#### Features

<b>Sensor principle</b>	Sender/receiver
<b>Minimum detectable object (MDO)</b>	35 mm <sup>1)</sup>
<b>Beam separation</b>	30 mm
<b>Number of beams</b>	16
<b>Detection height</b>	450 mm
<b>Evaluation beams</b>	Parallel beam

<sup>1)</sup> Parallel beam.

#### Mechanics/electronics

<b>Wave length</b>	880 nm
<b>Supply voltage <math>V_s</math></b>	DC 15 V ... 30 V <sup>1)</sup>
<b>Power consumption sender</b>	< 100 mA <sup>1)</sup>
<b>Power consumption receiver</b>	< 100 mA <sup>1)</sup>
<b>Ripple</b>	< 5 V <sub>pp</sub>
<b>Output current <math>I_{max}</math></b>	≤ 100 mA
<b>Output load, capacitive</b>	100 nF
<b>Output load, Inductive</b>	1 H
<b>Initialization time</b>	1 s
<b>Switching output</b>	2 x PNP <sup>2)</sup>
<b>Output mode</b>	Q dark switching <sup>3)</sup>
<b>Dimensions (W x H x D)</b>	34 mm x 526 mm x 29 mm
<b>Connection type</b>	Male connector M12, 4-pin

<sup>1)</sup> Typical value.

<sup>2)</sup> Q /  $\bar{Q}$ .

<sup>3)</sup> Q = active, if at least one beam is interrupted, /Q = active, if all of the beams are free.

<sup>4)</sup> Operating in outdoor condition only with a external protection housing.

<b>Housing material</b>	Aluminum
<b>Indication</b>	LED
<b>Synchronization</b>	Optical
<b>Enclosure rating</b>	IP65 4)
<b>Circuit protection</b>	U <sub>V</sub> connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
<b>Protection class</b>	III
<b>Weight</b>	1,500 g
<b>Pulse frequency</b>	500 kHz
<b>Front screen</b>	PMMA

1) Typical value.

2) Q / Q̄.

3) Q = active, if at least one beam is interrupted, /Q = active, if all of the beams are free.

4) Operating in outdoor condition only with a external protection housing.

### Performance

<b>Maximum range</b>	3 m
<b>Minimum range</b>	≥ 0 mm
<b>Operating range</b>	2 m
<b>Response time</b>	14 ms <sup>1)</sup>

1) With resistive load.

### Ambient data

<b>Shock resistance</b>	10 g / DIN EN 60068-2-29 / 16 ms
<b>Vibration resistance</b>	5 g, 10 Hz ... 55 Hz (IEC 68-2-6)
<b>EMC</b>	EN 60947-5-2
<b>Ambient light immunity</b>	Indirect: ≤ 150,000 lx <sup>1)</sup>
<b>Ambient operating temperature</b>	-25 °C ... +55 °C
<b>Ambient temperature, storage</b>	-40 °C ... +70 °C

1) Sunlight.

### Classifications

<b>ECLASS 5.0</b>	27270910
<b>ECLASS 5.1.4</b>	27270910
<b>ECLASS 6.0</b>	27270910
<b>ECLASS 6.2</b>	27270910
<b>ECLASS 7.0</b>	27270910
<b>ECLASS 8.0</b>	27270910
<b>ECLASS 8.1</b>	27270910
<b>ECLASS 9.0</b>	27270910
<b>ECLASS 10.0</b>	27270910
<b>ECLASS 11.0</b>	27270910
<b>ECLASS 12.0</b>	27270910

<b>ETIM 5.0</b>	EC002549
<b>ETIM 6.0</b>	EC002549
<b>ETIM 7.0</b>	EC002549
<b>ETIM 8.0</b>	EC002549
<b>UNSPSC 16.0901</b>	39121528

### Dimensional drawing (Dimensions in mm (inch))

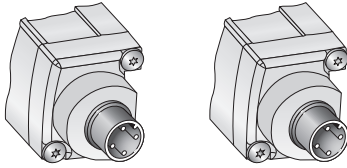
ELG3/ELG6



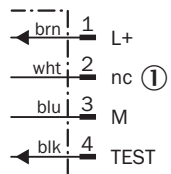
- ① Detection height
- ② Beam separation ELG3: 30 mm/ELG6: 60 mm
- ③ Status indicator (ELGE)/Power on (ELGS)
- ④ Sensitivity control
- ⑤ Distance to first beam; ELG3: 42.5 mm/ELG6: 72.5 mm
- ⑥ Connection

## Connection type and diagram

Connection type and diagram

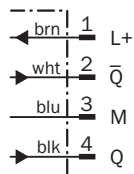


### Sender



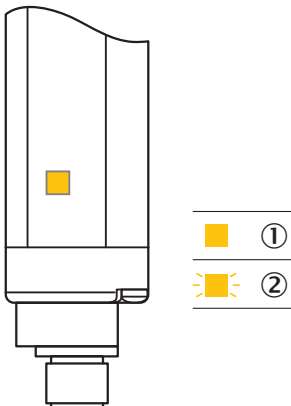
① Not assigned

### Receiver



## Adjustments

LED display receiver



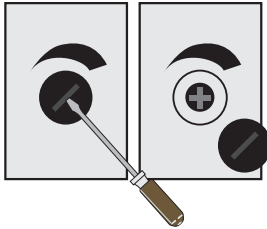
- ① No object in the light path (alignment OK)
- ② Contamination control

## Concept of operation

Specific features

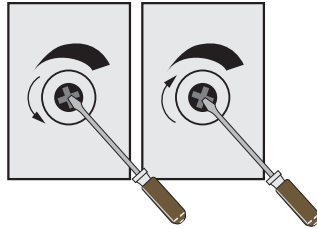
### Sensitivity adjustment

#### 1. Remove cap



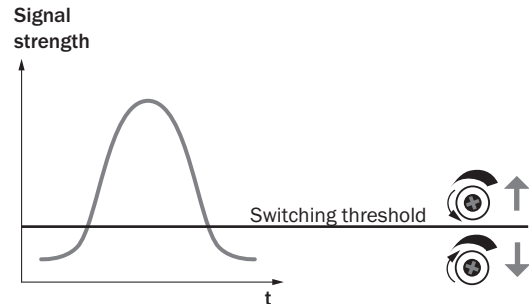
Remove cap with screw driver.

#### 2. Potentiometer adjustment

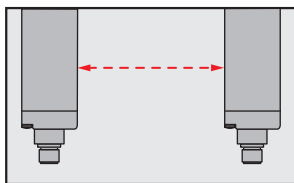


Turn left = for a lower range.  
Turn right = for a higher range.

#### Sensitivity adjustment





### Optical synchronisation



The light grid communicates via the light beams. A cable is not necessary for the optical synchronisation.

## Recommended accessories

Other models and accessories → [www.sick.com/ELG](http://www.sick.com/ELG)

	Brief description	Type	Part no.
<b>Terminal and alignment brackets</b>			
	4 pieces, Mounting kit 1, rotatable, swivel mount, plastic	BEF-2SMKEAKU4	2019649
<b>Others</b>			
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals</li> </ul>	YF2A14-050VB3XLEAX	2096235

## 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](http://www.sick.com)