



## Switching automation light grids ELG, ELG Short Range

ELG3-0390P591



**Model Name** > [ELG3-0390P591](#)  
**Part No.** > [1042615](#)



*Illustration may differ*

**At a glance**

- Up to 16 beams with 10 mm and 112 with 30 mm beam separation
- Range up to 5 m
- Potentiometer for sensitivity setting
- Ambient light up to 150,000 lux
- Tough, aluminum housing
- PNP/NPN output and a test input
- Optical synchronization

**Your benefits**

- Efficient and effective way to combine multiple sensors in one housing with one connector
- Simple commissioning thanks to a larger optical aperture angle and manual fine adjustment option
- Optical synchronization enables quick installation and cost-effective connection
- The ELG Short Range reliably detects objects, even under challenging ambient conditions



**Features**

|                                  |                                       |
|----------------------------------|---------------------------------------|
| Technology:                      | Sender/receiver                       |
| Task:                            | Switching light grid                  |
| Minimum detectable object (MDO): | Parallel beam: $\geq 35$ mm ... 65 mm |
| Beam separation:                 | 30 mm                                 |
| Number of beams:                 | 14                                    |
| Detection height:                | 390 mm                                |
| Evaluation beams:                | Parallel beam                         |

**Performance**

|                               |                     |
|-------------------------------|---------------------|
| Maximum range:                | 3 m                 |
| Minimum range:                | $\geq 0$ mm         |
| Working range:                | 2 m                 |
| Response time <sup>1)</sup> : | Parallel beam 14 ms |

<sup>1)</sup> With resistive load

**Interfaces**

|                  |                      |
|------------------|----------------------|
| Output type:     | 2 x PNP (Q and /Q)   |
| Connection type: | Connector M12, 4-pin |

Test input: PNP

### Mechanics/electronics

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|  |   |
|--|---|
| Wave length:                               | 880 nm  |
| Supply voltage Vs <sup>1)</sup> :          | DC 15 V ... 30 V  |
| Power consumption sender <sup>2)</sup> :   | < 100 mA  |
| Power consumption receiver <sup>3)</sup> : | < 100 mA  |
| Ripple:                                    | < 5 Vpp   |
| Output current I <sub>max.</sub> :         | 100 mA  |
| Output load capacitive:                    | 100 nF  |
| Output load inductive:                     | 1 H   |
| Initialization time:                       | 1 s   |
| Dimensions (W x H x D):                    | 34 mm x 466 mm x 29 mm  |
| Housing material:                          | Aluminum  |
| Indication:                                | LED   |
| Enclosure rating:                          | IP 65   |
| Circuit protection:                        | Output Q short-circuit protected<br>Interference suppression<br>VS connections reverse-polarity protected |
| Weight:                                    | 1,400 g   |
| Front screen:                              | PMMA  |
| Output mode <sup>4)</sup> :                | Q dark switching  |
| Switching frequency:                       | 500 kHz   |
| Synchronization:                           | Optical   |

1) 2) 3) Typical value <sup>4)</sup> Q = active in case one beam is interrupted, /Q = active in case all beam are free

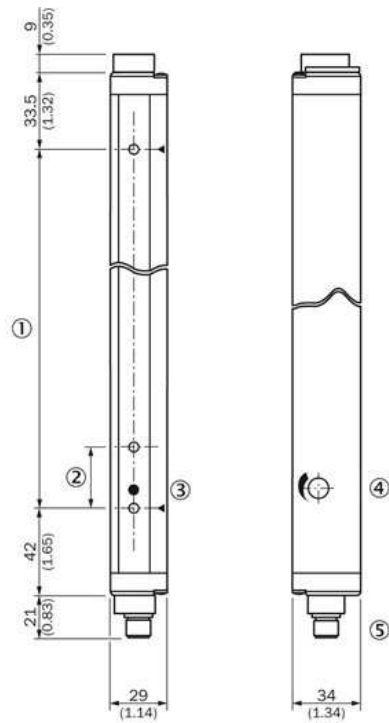
### Ambient data

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

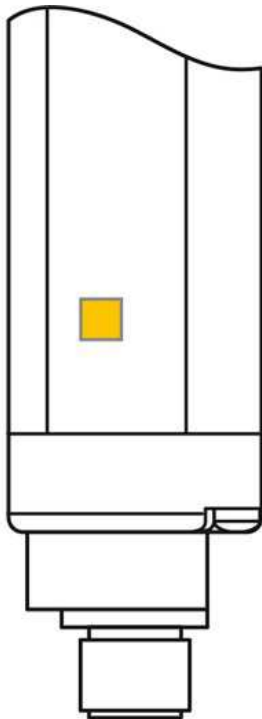
<sup>1)</sup> Sunlight

## Dimensional drawing

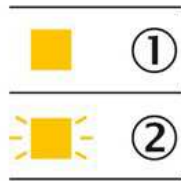


- |1| Detection height
- |2| Beam spacing ELG3: 30 mm
- |3| Status indicator (ELGE)/Power on (ELGS)
- |4| Sensitivity adjustment
- |5| Connector M12, 4-pin

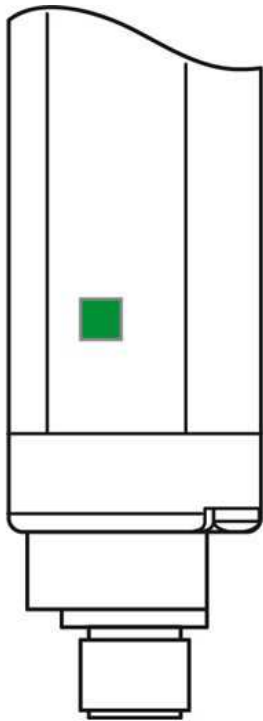
## LED display receiver



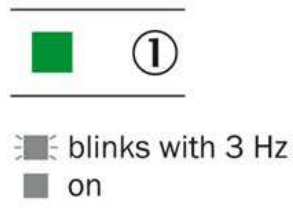
- |1| No object in the light path
- |2| Pollution indication



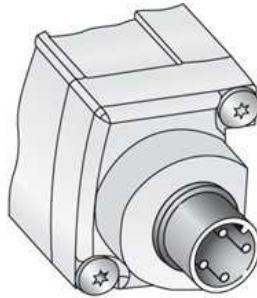
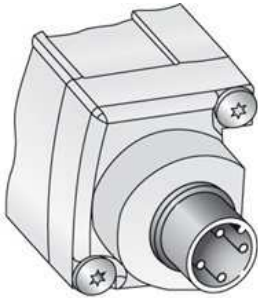
LED display sender



|1| Supply voltage

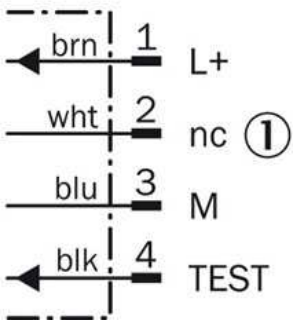


Connection type and diagram

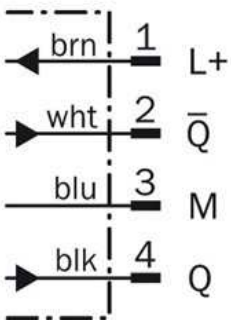


|1| not connected

Sender



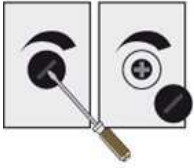
Receiver



## Special functions

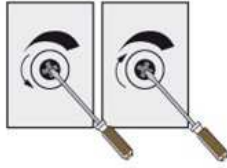
### Sensitivity adjustment

#### 1. Remove cap



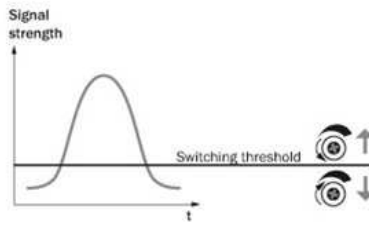
Remove cap with screw driver.

#### 2. Potentiometer adjustment

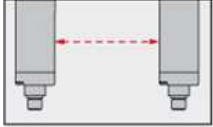


Turn left = for a lower range.  
Turn right = for a higher range.

### Sensitivity adjustment



### Optical synchronisation



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

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