



## Switching automation light grids ELG, ELG Long Range

ELG3-0450R221



**Model Name** > [ELG3-0450R221](#)

**Part No.** > [1024268](#)



#### At a glance

- Up to 128 beams
- Different beam separations 30 mm and 60 mm
- High functional reserve (gain) for ranges up to 12 m
- Potentiometer for sensitivity setting
- Ambient light up to 150,000 lux
- Tough, aluminum housing
- PNP/NPN/relay output and a test input
- Optical synchronization

#### Your benefits

- Insensitive to ambient light when exposed to direct sunlight, strobe lights, and highly reflective objects, eliminating false trips
- High functional reserve (excess gain) ensures operation even if it gets dirty, dusty, or misaligned, reducing maintenance costs
- 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 sensitivity adjustment can be used to detect or ignore translucent materials to reduce production problems



#### 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:	16
Detection height:	450 mm
Evaluation beams:	Parallel beam

#### Performance

Maximum range:	17 m
Minimum range:	$\geq 0$ mm
Working range:	12 m
Response time <sup>1)</sup> :	Parallel beam 28 ms

1) With resistive load

## Interfaces

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Output type:	Relais (DC 60 V, AC 25 V)
Connection type:	Leitung 15 m
Test input:	PNP

## Mechanics/electronics

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Wave length:	880 nm
Supply voltage $V_s$ <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 $I_{max}$ :	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 526 mm x 29 mm
Housing material:	Aluminum
Indication:	LED
Enclosure rating:	IP 65
Circuit protection:	Output Q short-circuit protected Interference suppression VS connections reverse-polarity protected
Weight:	1,500 g
Front screen:	PMMA
Output mode <sup>4)</sup> :	Light switching
Switching frequency:	250 kHz
Synchronization:	Optical

1) 2) 3) Typical value <sup>4)</sup> NC = closed in case one beam is interrupted, NO = closed in case all beams are free

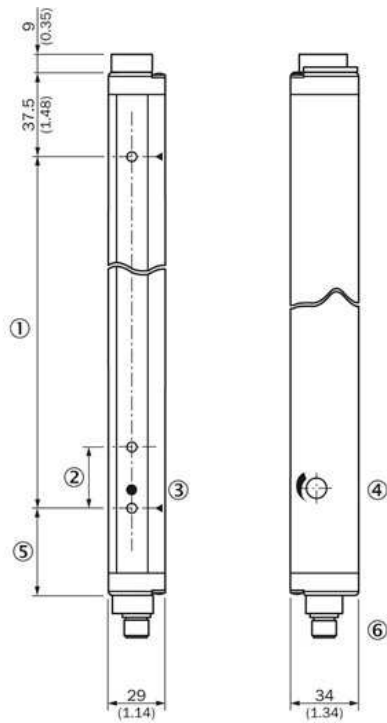
## Ambient data

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Protection class:	III
EMC:	EN 60947-5-2
Ambient temperature:	Operation: -25 ... +55 °C 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>

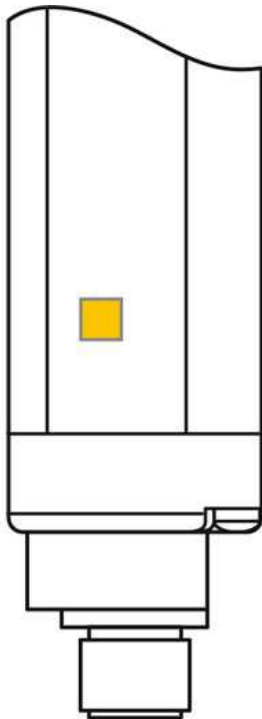
<sup>1)</sup> Sunlight

## Dimensional drawing

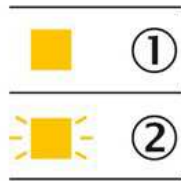


- |1| Detection height
- |2| Beam spacing ELG3: 30 mm / ELG6: 60 mm
- |3| Status indicator (ELGE)/Power on (ELGS)
- |4| Sensitivity adjustment
- |5| Distance to first beam; ELG3: 38.5 mm/ELG6: 68.5 mm
- |6| male connector M12, 5-pin

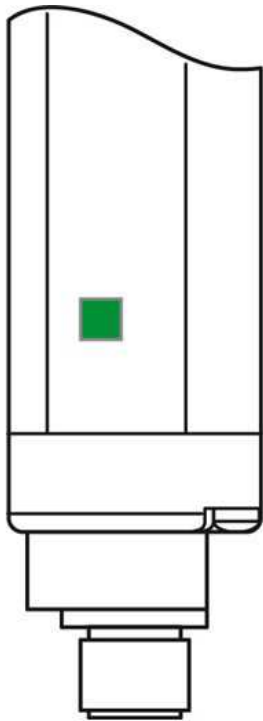
## LED display receiver



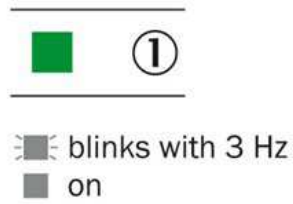
- |1| No object in the light path
- |2| Pollution indication



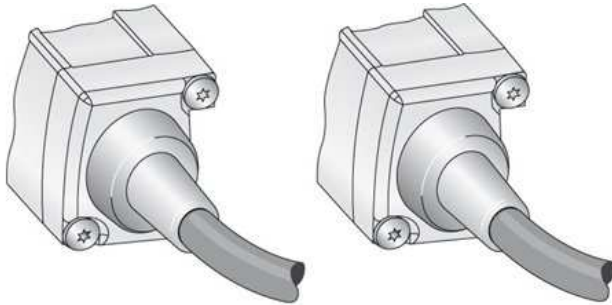
LED display sender



|1| Supply voltage

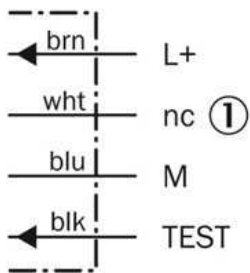


Connection type and diagram

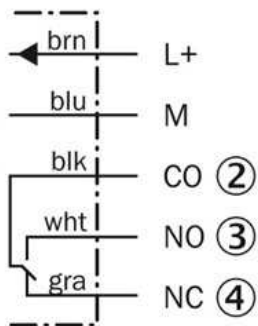


|1| not connected  
|2| change over  
|3| normally open  
|4| normally open

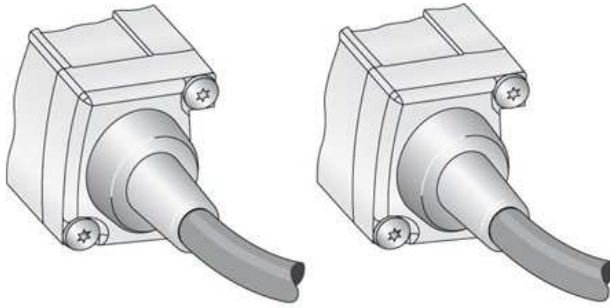
Sender



Receiver

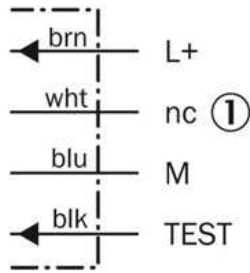


## Connection type and diagram

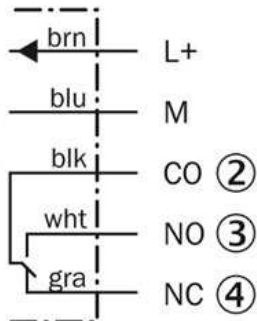


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### Sender



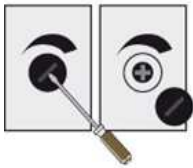
### Receiver



## Special functions

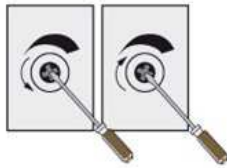
### Sensitivity adjustment

#### 1. Remove cap



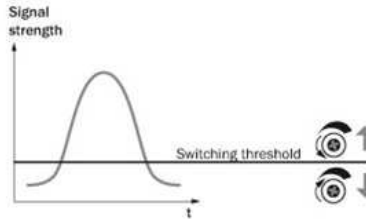
Remove cap with screw driver.

#### 2. Potentiometer adjustment

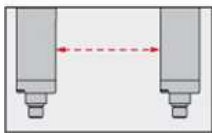


Turn left = for a lower range.  
Turn right = for a higher range.

### 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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