



Model Number

AL2109-P-1820/25/49/76a/143

Elevator light grid with 4-pin, M8 x 1 connector

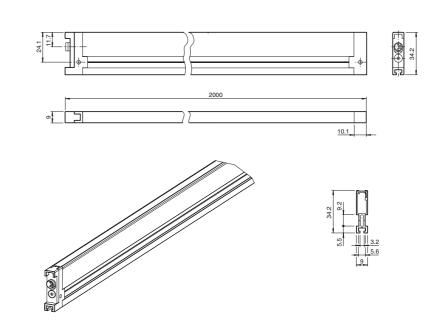
Features

- Low-profile, high resolution light grid ٠ for monitoring locking edges on elevators and accesses
- In accord with EN81-20 and EN81-70
- Dense monitoring field with up to 135 beams ensures that small objects are detected
- Object detection up to distance of ٠ zero
- Automatic beam crossing
- Test input
- Insensitive to reflection and ambient light

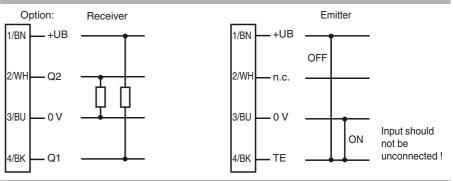
Product information

The AL2109 elevator light grid is used to protect elevator doors or for passenger monitoring and access control. Its special features include its dynamic beam crossover with up to 135 active sensors, object detection down to nearly zero millimeters and an ambient light limit greater than 100,000 Lux. The evaluation electronics and the power supply are completely integrated into the emitter and receiver element, so that no external equipment is necessary for operation. The system offers flexible mounting options and meets the newest standards in accordance with EN 81-20 and EN 81-70.

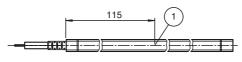
Dimensions



Electrical connection



Indicators/operating means



LED display

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Technical data

beam spaing 90 mm Beam spaing 90 mm Angle of divergence Emitter: < 20 °, Receiver: < 6 ° Ambient light limit > 100000 Lux Accessories provided 2 connecting cable, length 5 m (15 ft) Functional safety related parameters MTTF _d MTTF _d 180 a Mission Time (T _M) 20 a Diagnostic Coverage (DC) 0 % Indicators/operating means Function indicator Function indicator LED red (in receiver): Illuminates after connecting operating power, goes out when an object is detected Electrical specifications Operating voltage Ug Operating voltage Ug 1130 V DC Ripple 10 % No-load supply current Input Test: Operating voltage, Operating mode 0 V Output Switching voltage max. 30 V DC Switching voltage Switching voltage max. 30 V DC Switching voltage Switching requency f<<3 Hz Response time Ambient conditions -20 60 °C (-4 140 °F) Storage temperature -20 65 °C (-4 140 °F)	Technical data		
Threshold detection ange 3500 mm Light source IRED Light source IRED Beam crossover automatic, 3x/5x/7x (depending on distance between traiter/receiver) Beam spacing 90 mm Number of beams 61 135 (dynamic) Angle of divergence Emitter: 20 °, Receiver: < 6 ° Ambient light limit > 100000 Lux Accessories provided 2 connecting cable, length 5 m (15 ft) Functional safety related parameters Ifficiant (directive): lluminates after connecting operating proses out when an object is detected Portating voltage Ug Indicator Soperating means 11 30 V DC Ripple 10 % No-load supply current 10 % No-load supply current 10 % No-load supply current 10 % Signal output 1 PNP and 1 NPN, short-circuit protected Switching requery field to m Signal output 1 PNP and 1 NPN, short-circuit protected Switching requery field to m Signal output 1 PNP and 1 NPN, short-circuit protected Switching requery field to m Signal output 1PNP and	General specifications		
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Light type modulated infrared light , 950 nm Field height 1800 nm Beam crossover automatic, 3X/5X/X (depending on distance between traiter/receiver) Beam spacing 90 mm Number of beams 61 135 (dynamic) Angle of divergence Emitter: < 20 °, Receiver: < 8 °	Threshold detection range		3500 mm
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Beam spacing 90 mm Number of beams 61135 (dynamic) Angle of divergence Emitter: < 20 °, Receiver: < 6 °	Field height		-
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Number of beams 61 135 (dynamic) Angle of divergence Emitter: < 20 °, Receiver: < 6 °	Beam spacing		90 mm
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	Functional principle		

The AL2109 light grid is used for access monitoring on elevators. The device consists of an emitter and receiver unit. The evaluation electronics and power supply are integrated into the devices. No additional external components are required for operation.

By default, the light grid automatically switches between 7-way, 5-way and 3-way crossovers. If the distance is more than 0.8 m between the emitter and receiver, the light grid selects the "7-way crossover" operating mode. Every receiver evaluates the beams of 7 emitters in this mode. 7-way crossover thus increases the resolution to 135 beams.

Monitoring field

Refer to "General Notes Relating to Pepperl+Fuchs Product Information"

Pepperl+Fuchs Group www.pepperl-fuchs.com

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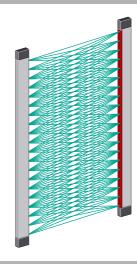
fa-info@de.pepperl-fuchs.com

Germany: +49 621 776 4411

Typical applications

- Secure and complete monitoring of eleva-٠ tor doors
- Monitoring of access systems and entran-• ces
- Access control

Detection area



Accessories

Mounting Set AL2109 back board Mounting aid

Mounting Set AL2109 extension Mounting aid

Mounting Set AL2109 lateral Mounting aid

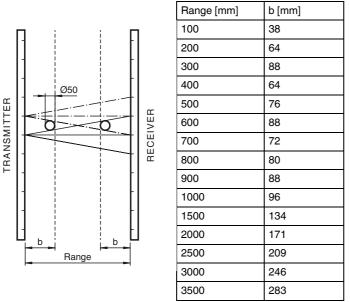
PS1/31

Power supply/Power supply module

Other suitable accessories can be found at www.pepperl-fuchs.com

PEPPERL+FUCHS

Object detection



LED Indicators

The red LED in the upper end of the receiver lights up continuously when the operating voltage is applied. The light grid is then ready for operation.

When an object is detected, the red LED goes out until the light beams are unobstructed again.

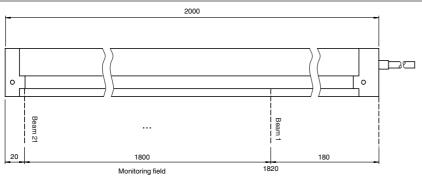
Test input

When +UB is applied to the test input, the light beams used for detection are switched off; in other words, the outputs on the light grid behave as if detecting an object.



To eliminate faults reliably (EMC-related faults, interference), the test input must never be left in an unconnected state! If the test input is not required, it should be connected to 0 V.

Monitoring field



Release date: 2015-11-30 10:28 Date of issue: 2015-12-14 284796_eng.xml

