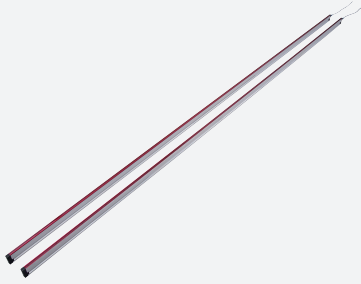


Elevator light grid

AL2109-P-1820-3403/40b/49/143



- Low-profile, high resolution light grid for monitoring locking edges on elevators and accesses
- Thru-beam light grid with integrated controller
- In accord with EN81-70 and EN12015/16
- Dense monitoring field with up to 135 beams ensures that small objects are detected
- Object detection up to distance of zero
- Automatic beam crossing
- Insensitive to reflection and ambient light

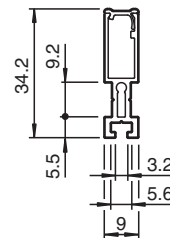
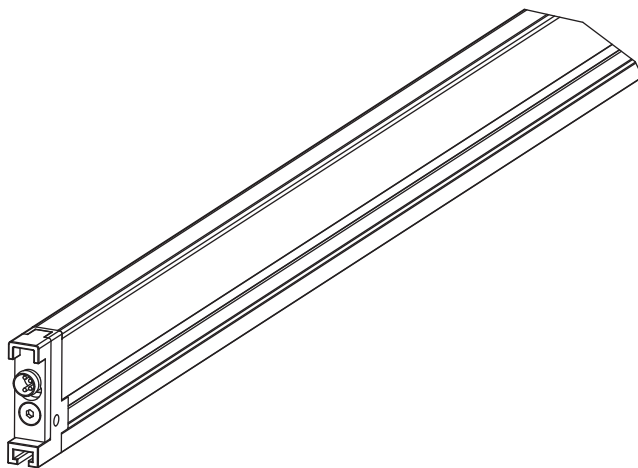
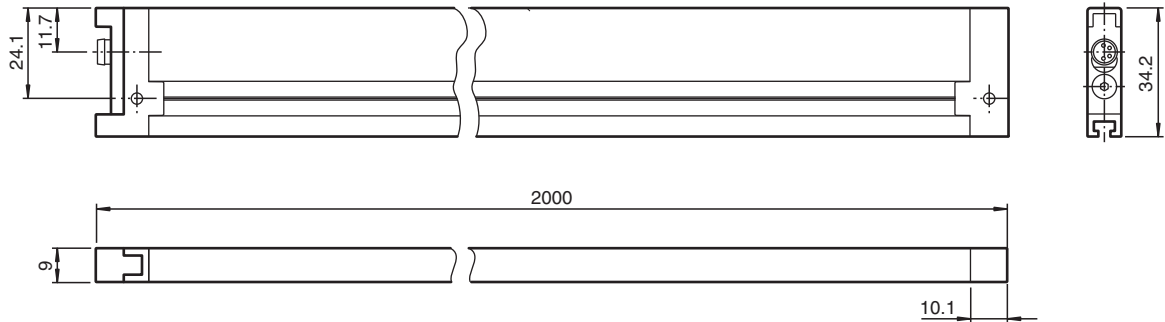
High resolution light grid for detecting people and objects



Function

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 81-70 and EN 12016.

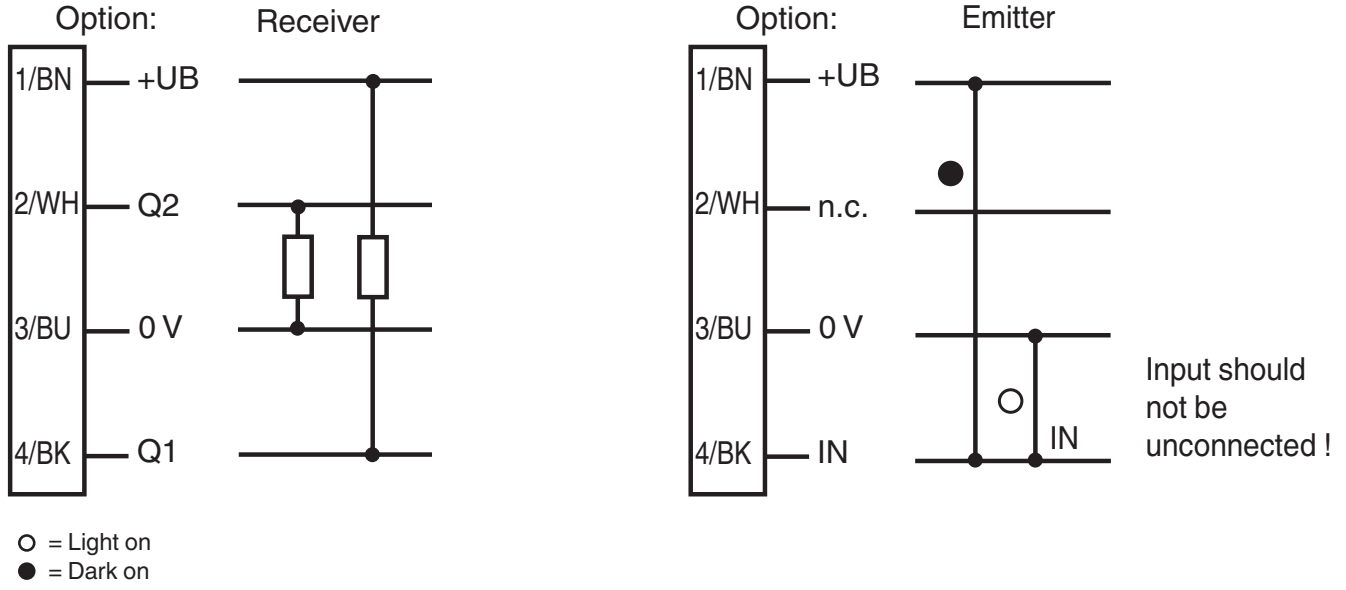
Dimensions



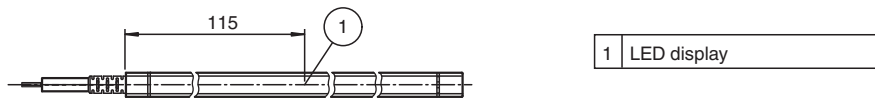
Technical Data

General specifications		
Effective detection range		0 ... 3500 mm
Threshold detection range		3500 mm
Light source		IRED
Light type		modulated infrared light , 950 nm
Field height		1800 mm
Beam crossover		automatic, 3x/5x/7x (depending on distance between transmitter/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 with M12 connector, approx. 300 mm
Functional safety related parameters		
MTTF _d		180 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
Function indicator		LED red (in receiver): Illuminates after connecting operating power, out when object is detected,
Electrical specifications		
Operating voltage	U _B	11 ... 30 V DC
Ripple		10 %
No-load supply current	I ₀	< 180 mA
Output		
Switching type		light/dark on selectable programmable
Signal output		1 PNP and 1 NPN, short-circuit protected
Switching voltage		max. 30 V DC
Switching current		100 mA
Switching frequency	f	< 3 Hz
Response time		< 100 ms
Compliance with standards and directives		
Directive conformity		
EMC Directive 2004/108/EC		EN 12015:2014 EN 12016:2013
Standard conformity		
Product standard		EN 60947-5-2:2007+A1:2012 IEC 60947-5-2:2007 + A1:2012
Standards		EN 81-70:2003/A1:2004; Section 5.2.4 EN 81-20:2014; Section 5.3.6.2.2.1 Taking into account object detection in accordance with the data sheet specification for the monitoring field.
Approvals and certificates		
CCC approval		CCC approval / marking not required for products rated ≤36 V
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Storage temperature		-20 ... 65 °C (-4 ... 149 °F)
Mechanical specifications		
Degree of protection		IP54
Connection		M8 x 1 connector, 4-pin
Material		
Housing		aluminum
Optical face		plastic
Mass		2000 g (device)

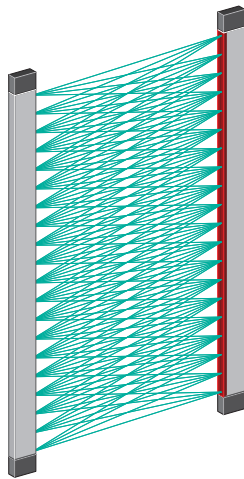
Connection Assignment



Assembly



Application



Accessories

	Mounting Set AL2109 back board	Mounting aid
	Mounting Set AL2109 extension	Mounting aid
	Mounting Set AL2109 lateral	Mounting aid

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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.

Application

- Secure and complete monitoring of elevator doors
- Monitoring of access systems and entrances
- Access control