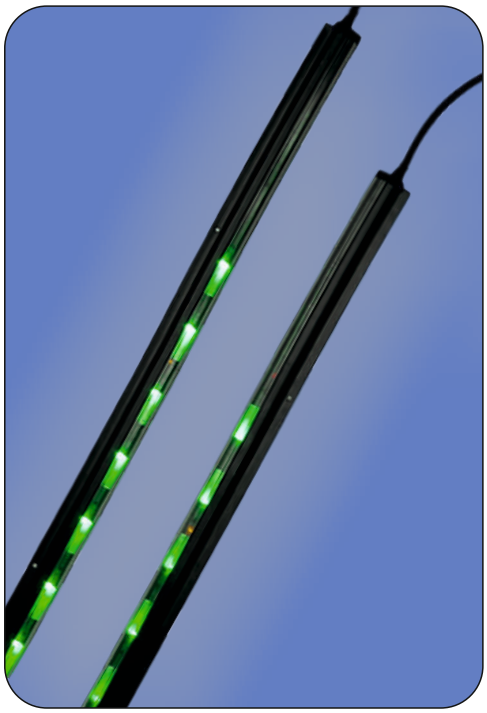
New Concept in Elevator Entrance Protection

EXCELLA ELECTRONICS
Since 1966



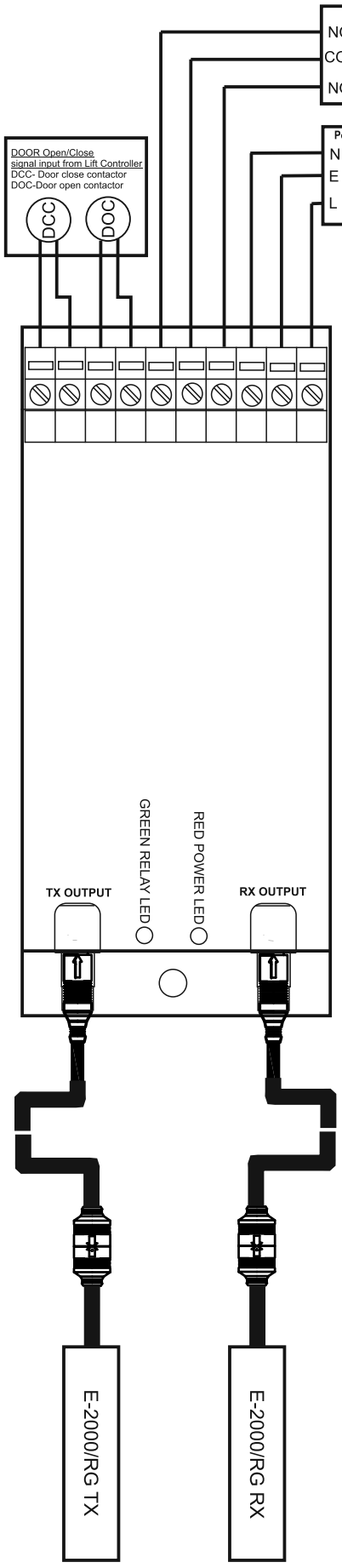
E-2000/RG is a newly designed system for elevator doors offering maximum passenger protection. It has been added in feature of red/green LED Indication when door moving, based on ordinary 2D door detectors. While elevator door is opening, E-2000/RG illuminates green. After the door opening in to position, the LED stays green and turns off after several seconds. Alternatively, while elevator door is closing, E-2000/RG illuminates red. After the door moving together, the LED stays red and turns off after several seconds. This is a very useful application for some special occasions such as hotels, hospitals and business buildings.

- High luminous red/green LED while door opening/closing.
- Achieving better EMC/EMI performance
- Applying reliable MCU microchip, reasonable design and stable performance
- Hermetical design enable itself waterproof and dustproof
- Wide range of detecting height from lowest 20mm to highest 1765mm
- Beautiful external appearance, easy installation, suitable for most brand elevators
- 154 light beams create an Intensive and sensitive protection area
- Applying appropriate cables and connection-pegs enable them have long working life
- Advanced technology and equipment's, reliable SMT surface padding techniques

TECHNICAL SPECIFICATION	
Model	E-2000/RG
Number of diodes	32
Distance between diodes	59 mm
Maximum beams (distance ≥400mm)	154 beams
Minimum beams (distance <400mm)	94 beams
Highest beam	1765 mm
Lowest beam	20mm
Size	12mm (Thickness) X33 mm (Width) X2000mm (height)
Detecting distance	0-4000mm
Vertical displacement at 0mm	±20mm
Horizontal displacement at 0mm	± 3 mm
Angular displacement at 0mm	± 10 Degree
Cable reliability	20 million door movements
Light immunity	≥ 100000LUX
EMC compliance	Emissions to EN12015, Immunity to EN12016
Operating Temperature range	-20° C to +65° C
IP Rating	IP 54
Vibration test	Random vibration 20 to 500Hz 0.002g2/Hz 4hrs per axis. Sinusoidal vibration 30Hz 3.6g rms 30mins per axis
Response Time(Relay)	<80ms
Time out Function	15 Sec, 5 non -adjacent diodes
POWER SUPPLY	
Model	RG/PS-220
Input Voltage	85-265VAC, 50Hz
Relay o/p type & Contact Rating	COM, 1NO, 1NC &250 VAC, 7A & 30VDC, 7A
Power Consumption	4VA
Indicator Light Function	Red LED-Power Indication & Green LED -Status Indication
Life time of Relay	≥ 1000000 times
Enclosure	Steel & Aluminium

New Concept in Elevator Entrance Protection

EXCELLA ELECTRONICS Since 1966



E-2000/RG Installation instructions for controller

- Position the controller in a suitable place on the roof of the lift door. (A place where is no water and avoid being bounced.)
- Connect AC supply voltage available according to the left sketch and make sure it matches the controller voltage. (Check the label on transformer, for example, AC 220V or AC110V).
- Connect relay output to elevator door operator / lift controller.
- Signals are required from lift controller to switch the LEDs to red and green. 12 to 24V AC/DC voltages from the door open and door close contractors are connected to the input of the sensor controller.
- There is a build-in buzzer in E-2000/RG controller. When the light beams are continuously interrupted for 15 seconds, the buzzer will give alarm sound. The time feature can only be modified by our factory software.
- Colourful LED display: While elevator door is opening. E-2000/RG illuminates green. After the door opening into position, the LED stays 15 sec. green and turns off after several seconds. Alternatively, while elevator door is closing, E-2000/RG illuminates red. After the door moving together, the LED stays 2 sec. red and turns off after several seconds.
- Settings for SW3 and SW4 on controller: SW3 and SW4 must be set according to the signal of voltage "rise"/"fall" provided by lift controller when the door open or close. (Different elevators have different features on this point).

Sw3 (Door opening) - While-door is opening and voltage signal from lift controller is rising, please put SW3 at "RISE" position. If the voltage signal is falling, put SW3 at "FALL" position.
Sw4 (Door closing) - While door is closing and voltage signal from lift controller is rising, please put SW4 at "RISE" position. If the voltage signal is falling, put SW4 at "FALL" position.

Setting for switches on controller

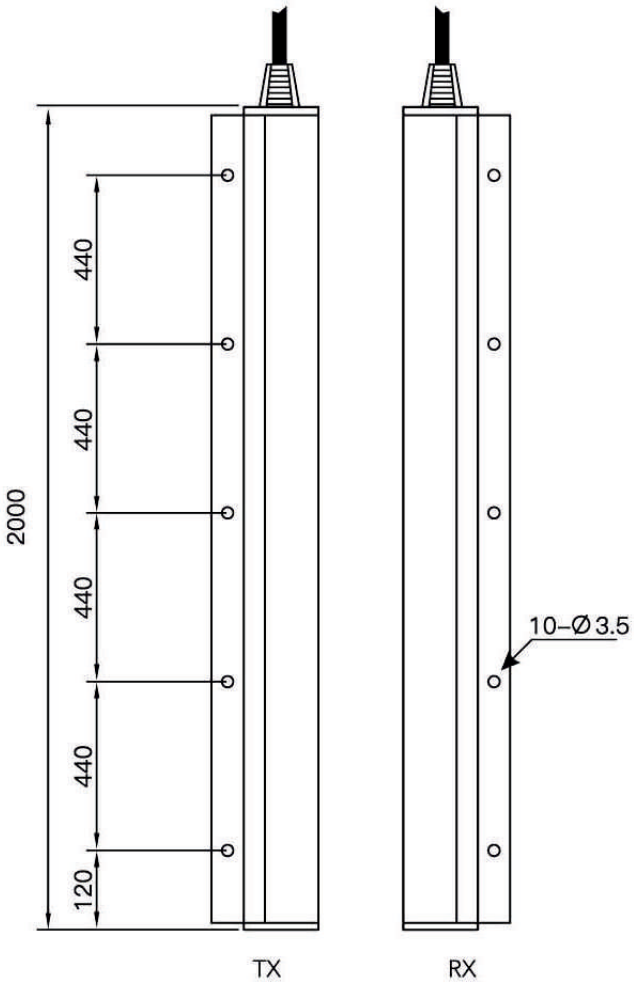
Toggle Switch	Function Description	Switch position and status
Sw1	Turn On/Off Visual LED Indication In receiver (RX)	ON: Enable the function of visual LED indication in receiver (RX) OFF: Disable the function of visual LED Indication in receiver (RX)
Sw2	Turn On/Off Visual LED Indication In receiver (TX)	ON: Enable the function of visual LED indication in receiver (RX)
Sw3	To set the red/green function according to voltage signal from lift controller, when door is opening	When door is opening: If the voltage signal is rising, put SW3 at "RISE" position. If the voltage signal is falling, put SW3 at "FALL" position.
Sw4	To set the red/green function according to voltage signal from lift controller, when door is closing	When door is closing: If the voltage signal is rising, put SW4 at "RISE" position. If the voltage signal is falling, put SW4 at "FALL" position

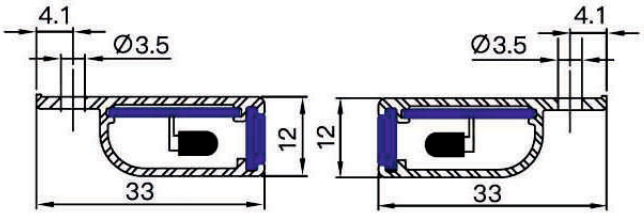
Indicator lights on controller

Staus of Indicator lights		Working Staus or Posible Cause
Red / on	Green / on	Normal scanning
Red / on	Green / off	Obstructed or bad connection or fault
Red / off	Green / off	No power, please check power supply and connection

New Concept in Elevator Entrance Protection

EXCELLA ELECTRONICS Since 1966





Installation steps:

A. First, the Transmitter (TX) and Receiver (RX) should be fixed on the two sides of the elevator door according to the standard fixing kit we provide. The RX had better been fixed on the side that is less affected by sunshine.

B. The control box should be fixed on the top of the elevator cabin. The TX and RX be joined with the control box by two signal cables, and the cables should be fixed firmly and properly with Cable clips. When wiring the cables, redundant cables could be packaged into loops with the Nylon ties, please keep them away from other cables to avoid possible electromagnetic interference.

C. After correct installation, the system can be turned on the power to run. When the light curtain is not obstructed, only the green LED light in the RX is on; when the light curtain is obstructed by some object, both the green and red LED light in RX are on or flashing, meanwhile, the relay loop will be no power.

D. Daily Maintenance:

1) Please keep the external surface of the light curtain clean, especially keep the light filter plate clean and avoid attaching eye winker on it, which will influence the receiving of the infrared lights.

2) Frequently inspect the connection status of cables, Cable clips, power wires and signal wires.

3) Please avoid putting water into the light curtains.

LED STATES			Possible Cause
RX	Yellow LED	RED LED	
	ON	OFF	Normal Scanning
	ON	ON	Beams obstructed or faults check whether the filter plate accumulates much dust or dirty marks or not
	OFF	OFF	No power, Check power supply and
TX	ON	-----	TX power supply normal
	OFF	-----	No power, Check power supply and
Power Supply	RED LED ON	GREEN LED ON	Normal scanning
	RED LED ON	GREEN LED OFF	Beams obstructed or faults check cables
	Red LED OFF	GREEN LED OFF	No power check power supply