



# INSTALLATION GUIDE

Ref No. E40 850 GB Version 5

## System Description

The E40 safety system consists of a transmitter detector (TX) and a receiver detector (RX) for installation to elevator car doors or an elevator car door and strikepost. The detectors generate a light curtain of infra-red beams across the elevator entrance. If a beam is broken, an output is switched on the RX relay wires (blue, green & yellow) to re-open the elevator doors.

### Center opening Installation

1. Position each detector on the car door checking that they are:
  - + mounted approximately 12mm above the sill
  - + aligned with the leading door edge and plumb with each other.

2. Use five self-drilling Pan head screws to secure the detector:
  - + locate screws approximately 75mm from top and bottom and equally space remaining screws between the two points
3. Attach cables securely with the "P" clips and screws provided:
  - + avoid tight bends while providing enough slack so the cables are not stressed or stretched as the doors move
4. Attach the green & yellow ground wire located at the top of the antenna to the car door using a self-drilling screw and lock washer. The ground wire must be fitted to ensure the door(s) are properly grounded. As a check, there should be continuity between the door and elevator car metalwork.

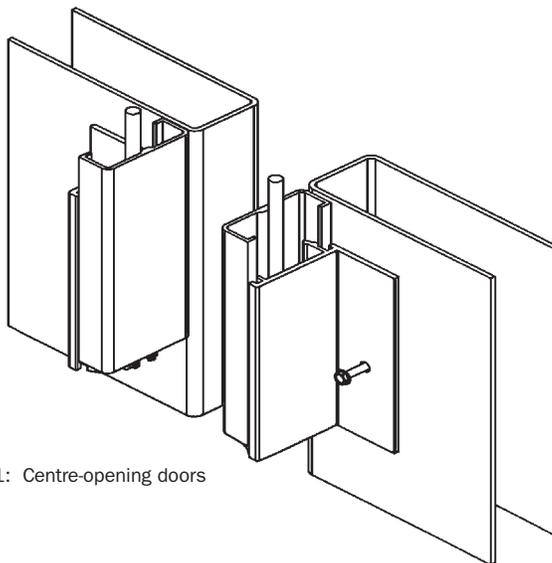


Fig 1: Centre-opening doors

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### Side-Opening Installation

1. Use the CENTRE-OPENING INSTALLATION directions to mount the antenna on the door.
2. Remove the uPVC cover from the remaining antenna.
3. Using a screwdriver, pry the aluminium section from the plastic L channel (see Fig 3).
4. Position the strikepost bracket (plastic U-shaped channel) approximately 1/2"-3/4" above the car sill consistent with door edge.
5. Use 5 No.8 pan-head self-tapping screws to secure the plastic U-shaped channel to the strikepost; ensure the screws are centred in the channel and evenly spaced along the length of the bracket.
6. Align the aluminium channel with the bottom of the bracket and snap into position.
7. Attach the green & yellow ground wire located at the top of the antenna to the strikepost using a self-tapping screw and lock washer. The ground wire must be fitted to ensure a proper ground
8. Snap on the uPVC lens.
9. Attach cable securely with the "P" clips and screws provided.

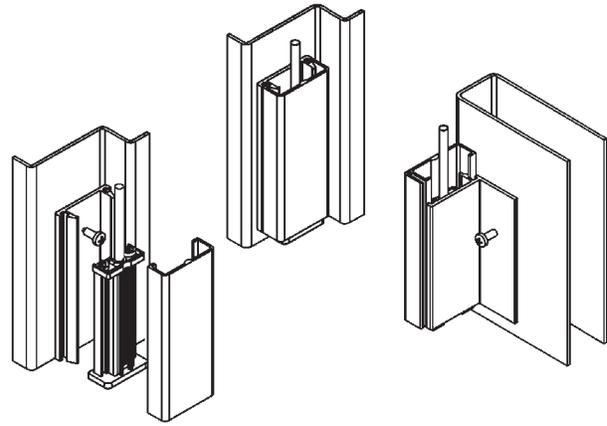


Fig 2: Strikepost Installation

### System Connection with Model 280, see Fig 4

The Model 280 power supply provides a regulated DC supply for the detectors and a voltage-free relay contact to re-open the elevator doors.

1. Position the Model 280 close the centre of the car top within reach of both RX and TX cables.
2. Plug in RX and TX cables as shown in Fig 4.
3. Connect the relay output to the "Door Re-Open" or "Safety Edge" input of the door operator elevator controller. The Model 280 provides voltage-free contacts as follows:
  - + 'COM' = common
  - + 'N/C' = normally closed
  - + 'N/O' = normally open
4. Connect the Model 280 to a 240V or 110V AC mains supply.
5. Set SW2 NPN and SW3 to N/C.
6. When power is applied, a tone should be heard when a person or object is detected. This tone can be switched on or off by using SW1.

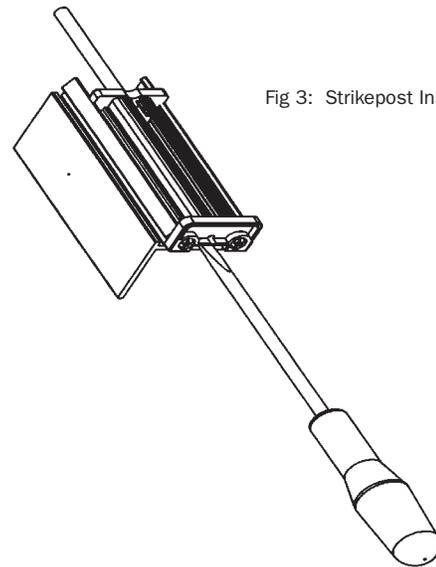
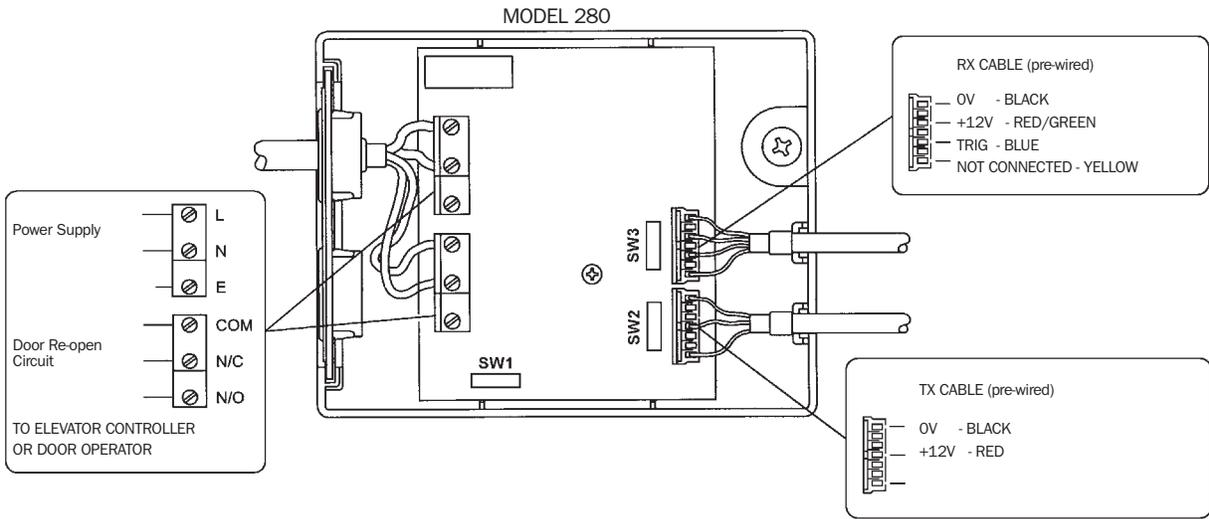


Fig 3: Strikepost Installation

Fig 4: Electrical Connection to 280 Power Supply



## Direct Connection to Elevator Controller

The E40 can be directly connected to the lift controller or door operator (Fig 5). In such cases the opto-relay output inside the E40 RX detector directly drives the “door re-open” circuit of the lift.

**Warning - direct connection requires good understanding of both lift and detector electronics. Any incompatibility between the two systems may cause permanent damage to either. Do not apply supply voltage directly across the opto-relay as this will result in damage. If you have any doubts then you should use a Memco 280 Power Supply instead (see Fig 6 for 280 connection details).**

### Check:-

- + DC - do not use an AC supply
- + Regulated - do not use an unsmoothed supply
- + Negative Ground - do not use a ‘positive ground’ supply (since the black 0V wire is connected to the earthed metalwork)
- + Correct Voltage - the voltage must be at least 11V and **never exceed 42V DC under any circumstances**
- + Ripple voltage should not cause the DC supply to exceed the maximum 42V supply voltage.
- + Sufficient Power - the supply must be capable of supplying at least 100mA plus whatever current is needed to drive the ‘Door re-open’ circuit on the lift.

**Note - if you have any doubts then you should use a Model 280 Power Supply**

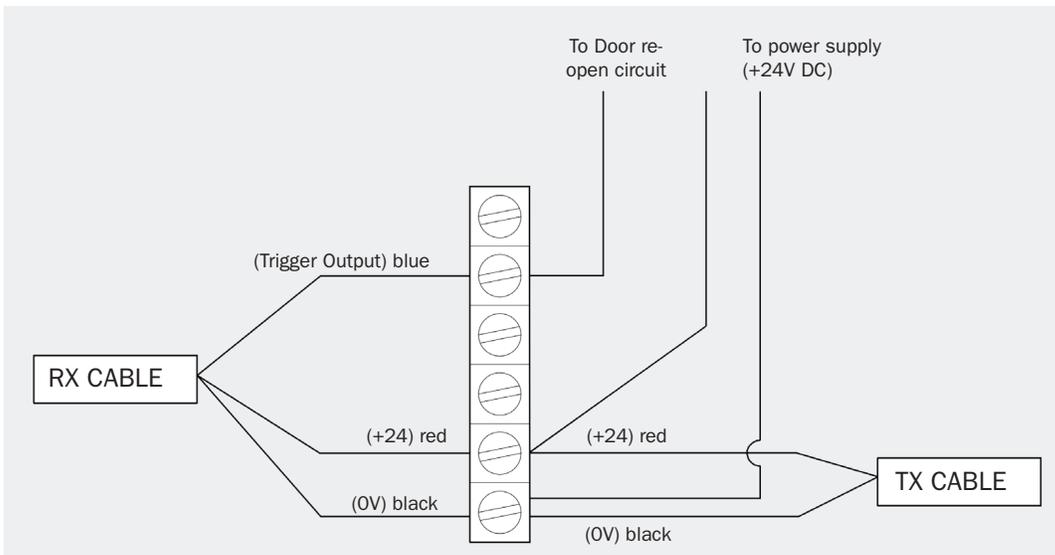


Fig 5: Electrical Connection to Life

## LED Operation

The RX detector has one LED for troubleshooting that is positioned at the top end of the detector

STATUS	LED ON	LED OFF	POSSIBLE CAUSE
<b>Normal, Untriggered</b>	0.5 sec	2 secs	Normal Operation
<b>Triggered</b>	Always	-	Obstruction between detectors
<b>Timed-Out Beams</b>	1 sec	1 sec	One or more diodes timed out
<b>No Signal</b>	0.5 sec	0.5 sec	Detectors not synchronised TX not powered. All beams blocked

## Troubleshooting Guide

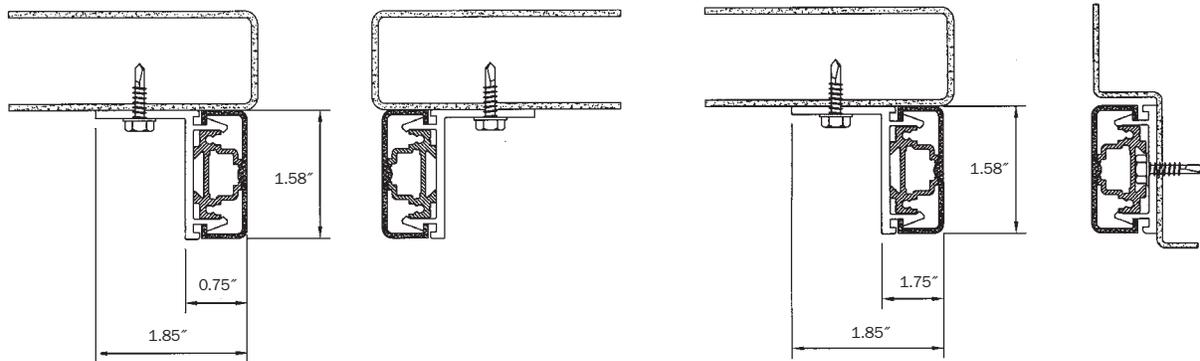
FAULT - Red LED on continuously (triggered) with no obstruction.

Check both covers are clean, remove any floor wax, dirt or scratches.

FAULT - Red LED flashes fast.

TX is not connected - verify TX detector is correctly wired.

Check both covers are clean, especially between diodes 7 and 8.



Center-opening Doors

Side-opening Doors

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