1. Select the type of system you will use.
   You cannot use the keypad and wall switch on the same system.
   If connecting to a smart home system, replace the open and close buttons with relays which will be triggered by the smart home system.

2. We recommend Cat5 twisted pair cable.
   Network cable is not included.
   There must be a terminating resistor at each end of the network.
   Resistors come with the Keypad and Network Adaptor.
   Maximum cable length = 300m.

3. *Power supply must always be 24V DC.
   
<table>
<thead>
<tr>
<th>Device</th>
<th>Max Current Drain</th>
<th>Quantity</th>
<th>Total (max current x Quantity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuator</td>
<td>250mA</td>
<td>18</td>
<td>4500</td>
</tr>
<tr>
<td>Keypad</td>
<td>100mA</td>
<td>2</td>
<td>200</td>
</tr>
<tr>
<td>Rain Sensor</td>
<td>150mA</td>
<td>2</td>
<td>300</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>4000</td>
</tr>
</tbody>
</table>

4. Note: The data/communications terminals use 5 volts, and will be damaged if connected to the power supply.

5. The slave Actuator receives communication through the synchronisation cable and does not connect to the network cable.
   Note: the data/communication terminals use 5 volts and will be damaged if connected to the power supply.

6. The Network Adaptor must not be installed outside where it can get wet.
   The rain sensor is designed to be mounted outside where rain will fall on the Green/Gold surface.
   Note: the data/communication terminals use 5 volts and will be damaged if connected to the power supply.

7. The Keypad comes with a 1m cable. Cut and strip the end to expose the coloured wires as shown.
   Keep the ferrite ring end to attach to the Keypad.
   Note: The data/communication terminals use 5 volts and will be damaged if connected to the power supply.

8. There must be a minimum of 1m cable between the last device on the Network and the terminating resistors.
### Basic Keypad System

- Power Supply (Transformer)
- Screw & Washer
- Spacer & Spacer Washer
- Spindle & Spindle Washer
- Terminal Block
- Terminal Actuator
- Cables (not supplied)

### Keypad System Limits

<table>
<thead>
<tr>
<th>Key Pads</th>
<th>Rain Sensors</th>
<th>Windows</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>28</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td>27</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>26</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>29</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>27</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>26</td>
</tr>
</tbody>
</table>

**Total network length = 300m Max**

### Wall Switch or Smart Home Connection

- Smart home system needs two relay outputs (open close).
- The relay must be triggered for more than 2 seconds pulse to ensure all windows open or close.

**Note:** The data/communication terminals use 5 volts and will be damaged if connected to the power supply.

### Wall Switch System Lengths

**11.** There must be 1m of cable from the last device at each end of the Network to the terminating resistors.

**12.** Switches + Rain Sensors must not exceed 4.

### General Notes

1. Cat 5 Twisted-Pair Network Cable recommended to be used.
2. A maximum of 30 devices per network.
3. Maximum network cable length 300m.
4. A maximum of 30 devices can be assigned to one network, each Actuator, and Network Adapter counts as a device, eg. 28 Actuators and 2 Network Adapters can be placed on one network.
5. A maximum of 4 Network Adapters per network.
6. Place Switches as close as possible to the Network Adapter.

### Frequently Asked Questions

- **How many devices can I run on a network?**
  - The network will handle 30 devices. Each Actuator acts as one device, each Network Adapter also acts as one device. The use of an installation of new Actuators will increase the number of devices.

- **Can two components run on the same network?**
  - Yes. The system will route the power supply to the component that has the lowest priority.

- **What is the maximum number of Key Pads for one Actuator?**
  - We recommend that the maximum number of Key Pads for one Actuator be limited to 4.

- **Can the system control more than one Actuator?**
  - Yes. However, it is recommended that the system control each Actuator individually for optimal performance.

- **Will the windows open or close automatically?**
  - Yes, the system can control the operation of the windows automatically.

- **Can you operate a Rain Sensor that has been disabled?**
  - No. Each Rain Sensor is individually controlled and cannot be operated when disabled.

- **If the Power Supply fails, will the windows still open?**
  - Yes, the system will continue to operate without the Power Supply, ensuring the windows remain open.

### Technical Specifications

- **Input Voltage:** 24V DC
- **Max Current:** 3A
- **Operating Temp:** -40°C to 70°C
- **Relative Humidity:** 5% to 95%
- **Network Cable Length:** 1000m

**Key:**

- **NC** = Normally Closed contact
- **NO** = Normally Open contact
- **DC** = Common contact

**Elevation Window Actuators Wiring Trouble Shooting Guide**

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