



ASSA ABLOY

# Elevation Window Actuator

## System Wiring Guide

Q50076-121 Issue2 0522

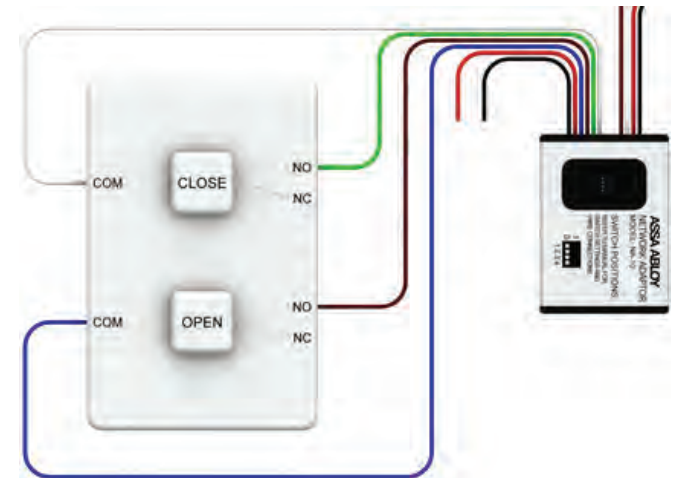


### What Type of System?

- You cannot use a Keypad and Wall Switch on the same system
- Connecting to a 'Smart Home' is the same as using a Wall Switch, except, replace the open and close buttons with Relays which get triggered by the Smart Home system



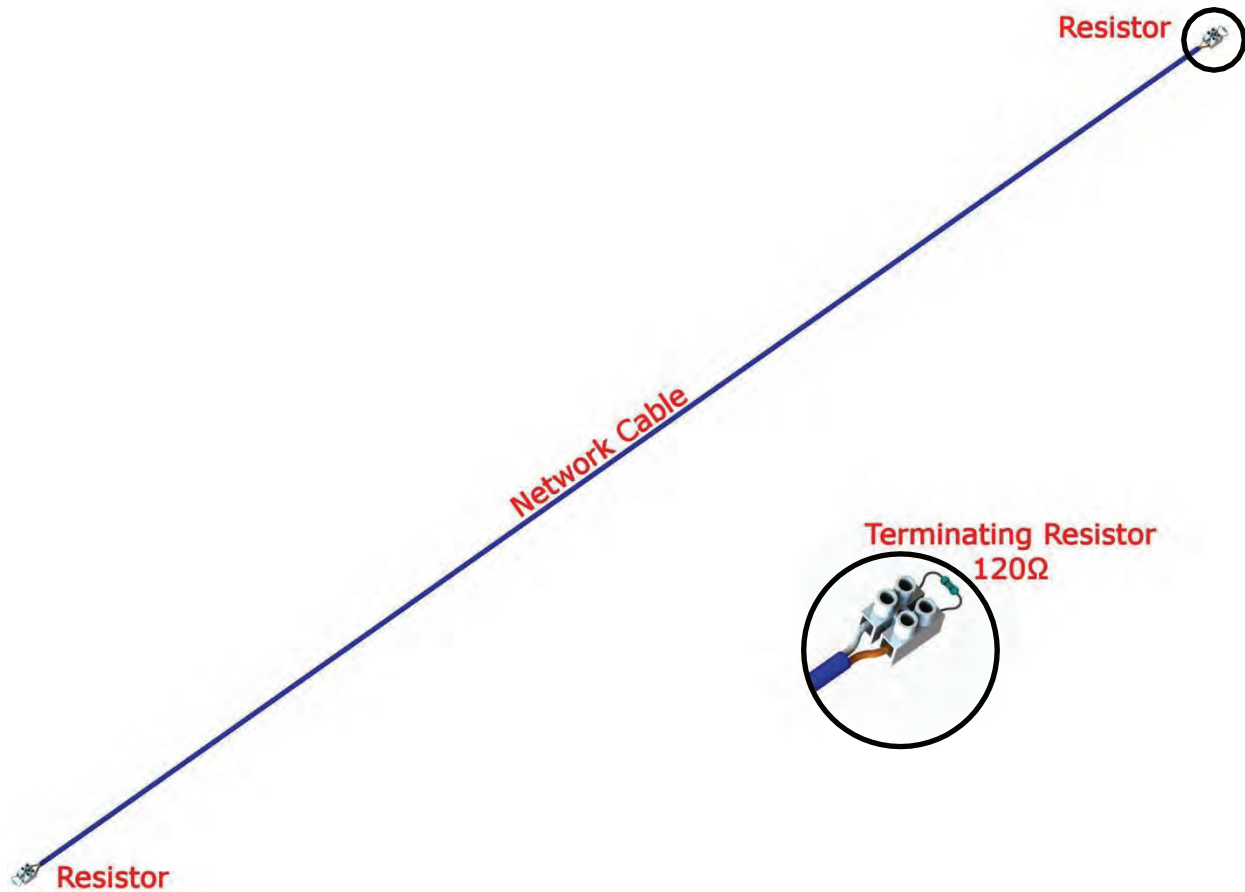
Keypad



Wall Switch or Smart Home

## Network Cable

- Network Cable is not provided
- It must be a twisted pair cable
- Shielded cable is recommended to help reduce noise
- Cat 5 or Cat 6 is a readily available cable which is acceptable
- There must be a terminating resistor at each end of the network
- Resistors come with the Keypad and Network Adaptor
- Maximum cable length = 300m

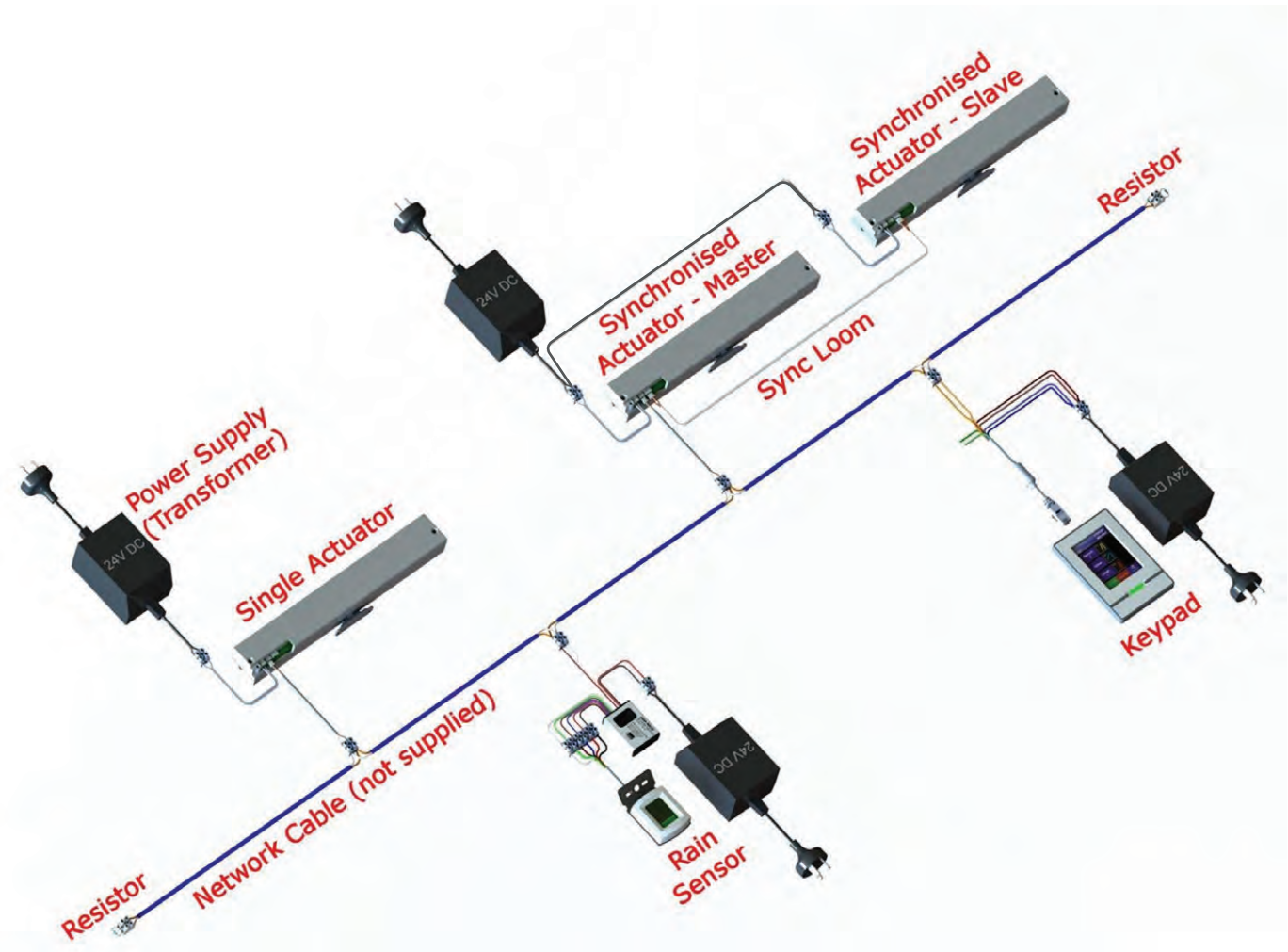


### Basic Keypad System

- Every device on the system must be connected to the network cable between the two resistors
- Devices can be connected to the network cable in any order

**Note:** The number of transformers shown is indicative only. Actual quantity required is dictated by the full system current draw

Elevation wiring must be connected in daisy chain (parallel) not as a star connection. If a star layout is used there will be performance issues.”

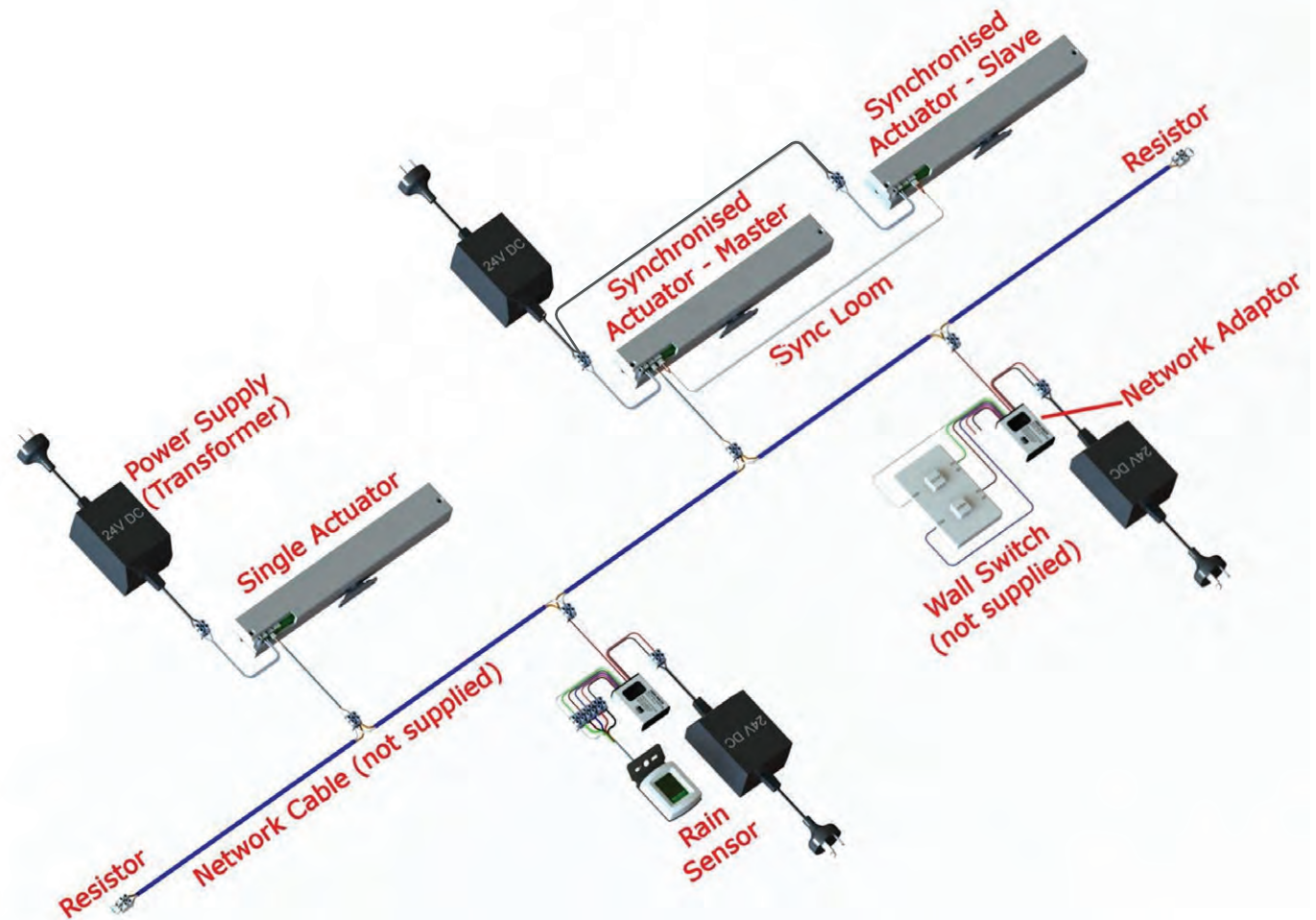


## Basic Wall Switch System

- Every device on the system must be connected to the network cable between the two resistors
- Devices can be connected to the network cable in any order

**Note:** The number of transformers shown is indicative only. Actual quantity required is dictated by the full system current draw.

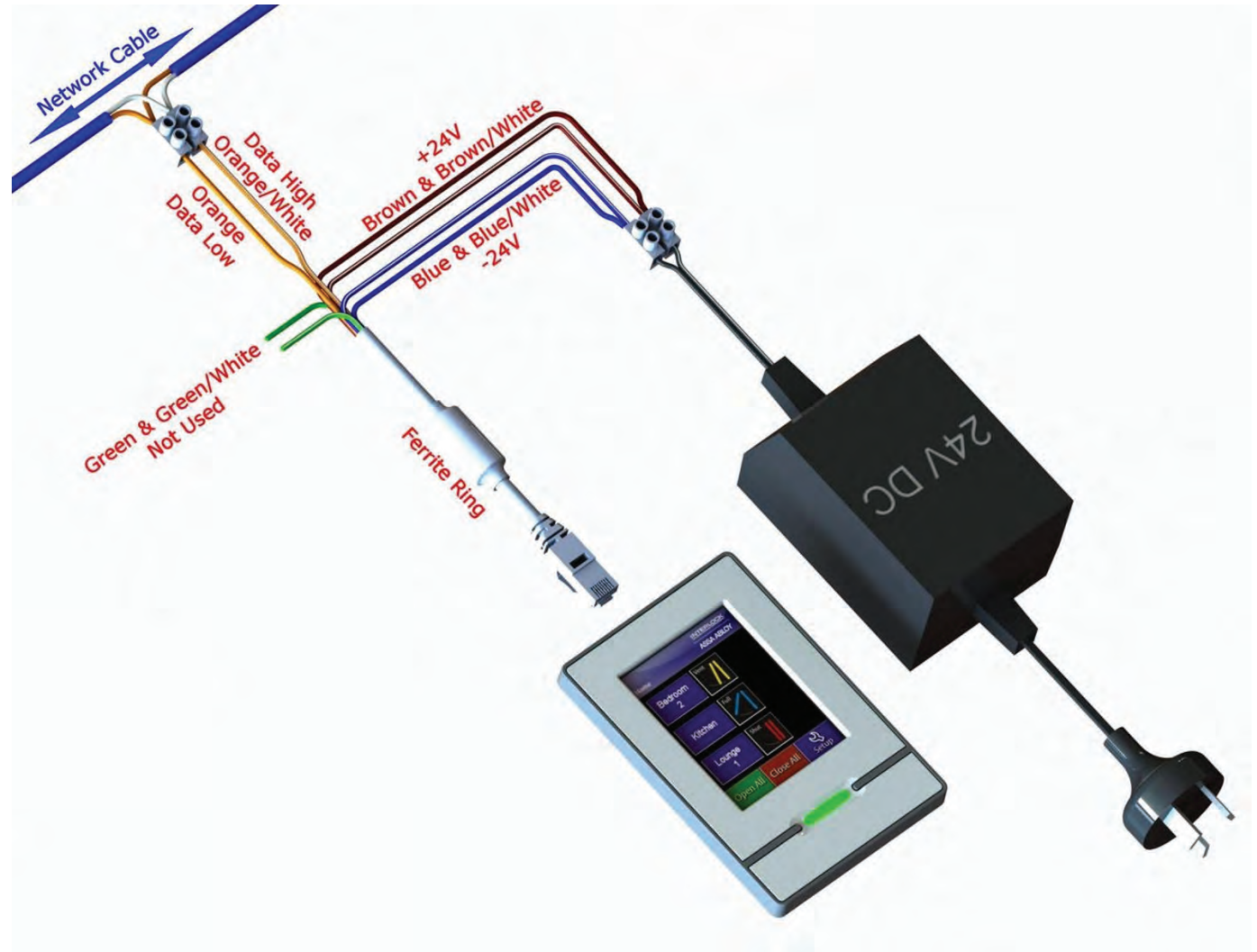
Elevation wiring must be connected in daisy chain (parallel) not as a star connection. If a star layout is used there will be performance issues.”



### Keypad Connection

- 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

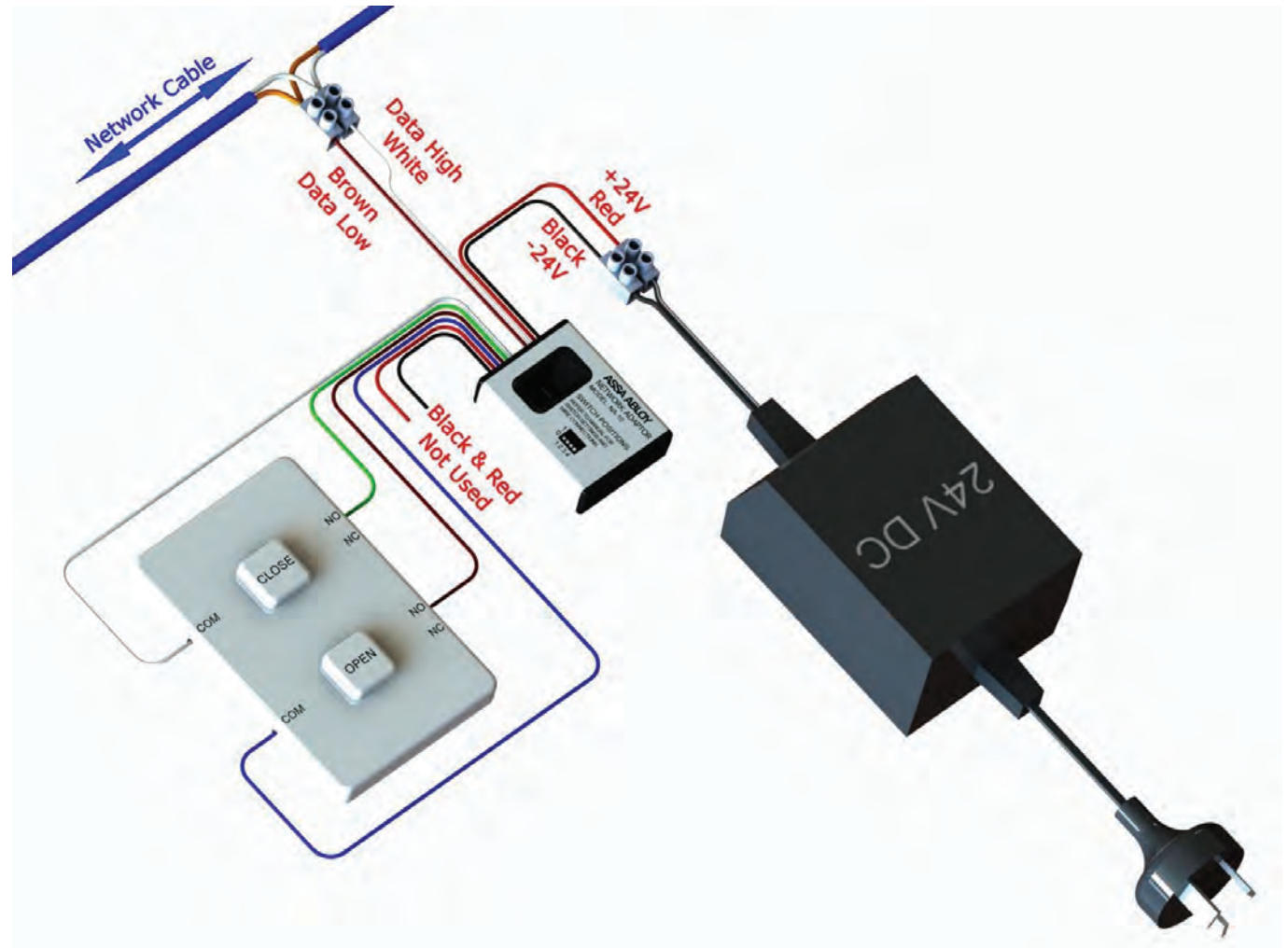
Note: The data/communication terminals use 5 volts and will be damaged if connected to the power supply



## Wall Switch or Smart Home Connection

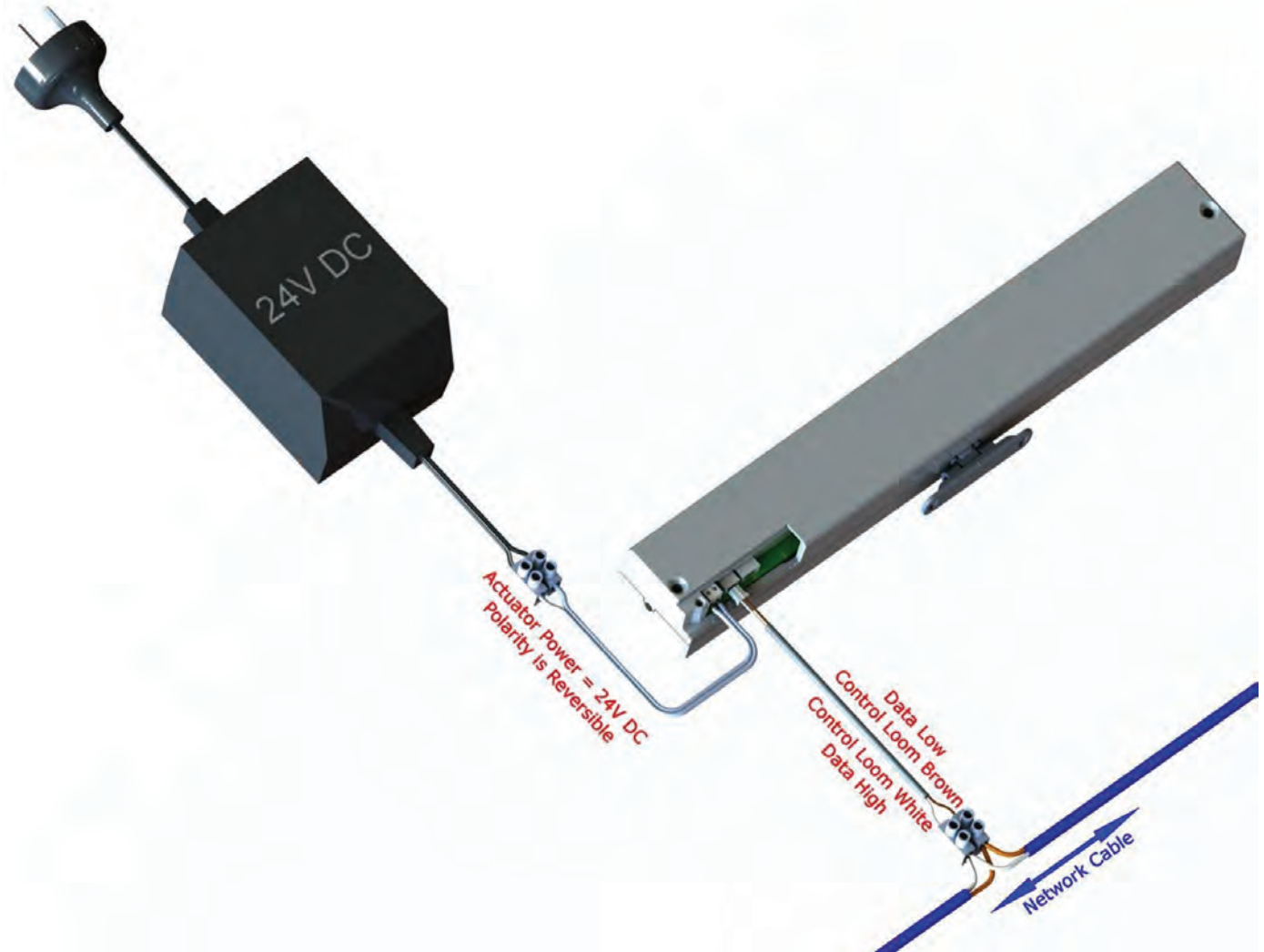
- Smart home system needs two relay outputs (open and close)
- The relay must be triggered for a 2 second pulse to ensure all windows open or close

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



## Single Actuator Connection

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

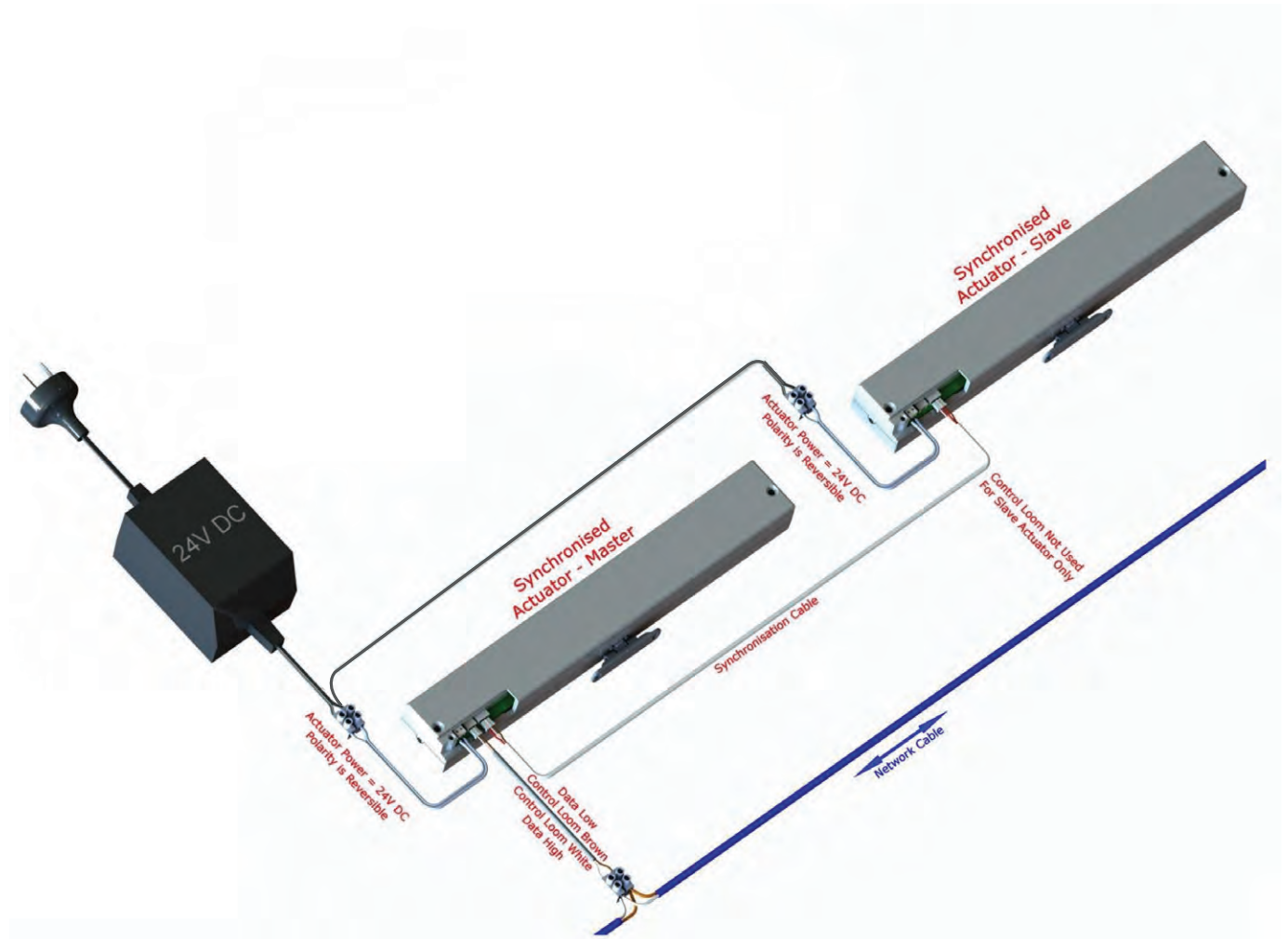




### Synchronised Actuator Connection

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

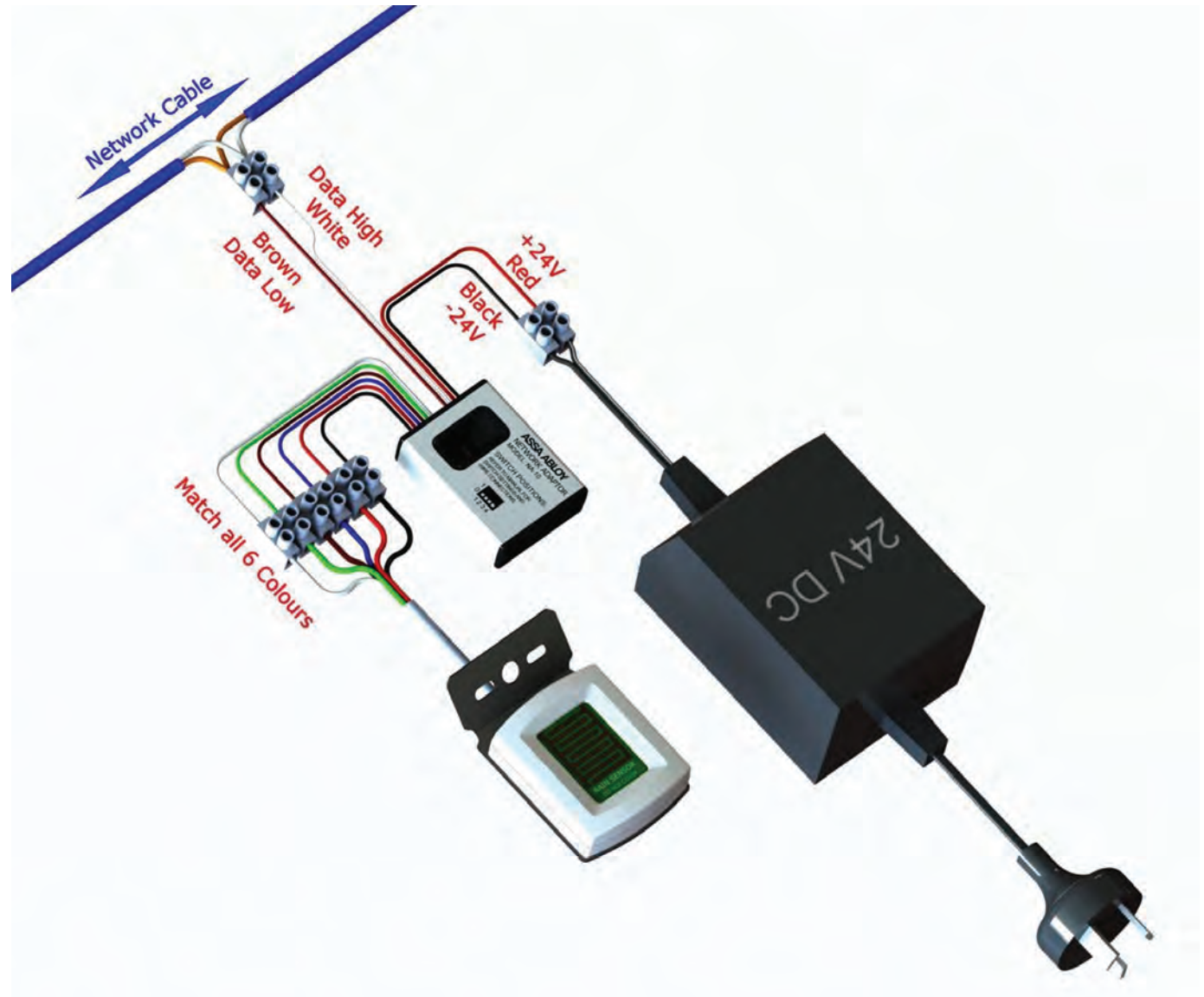
Note: The number of transformers shown is indicative only. Actual quantity required is dictated by the full system current draw



## Rain Sensor Connection

- 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

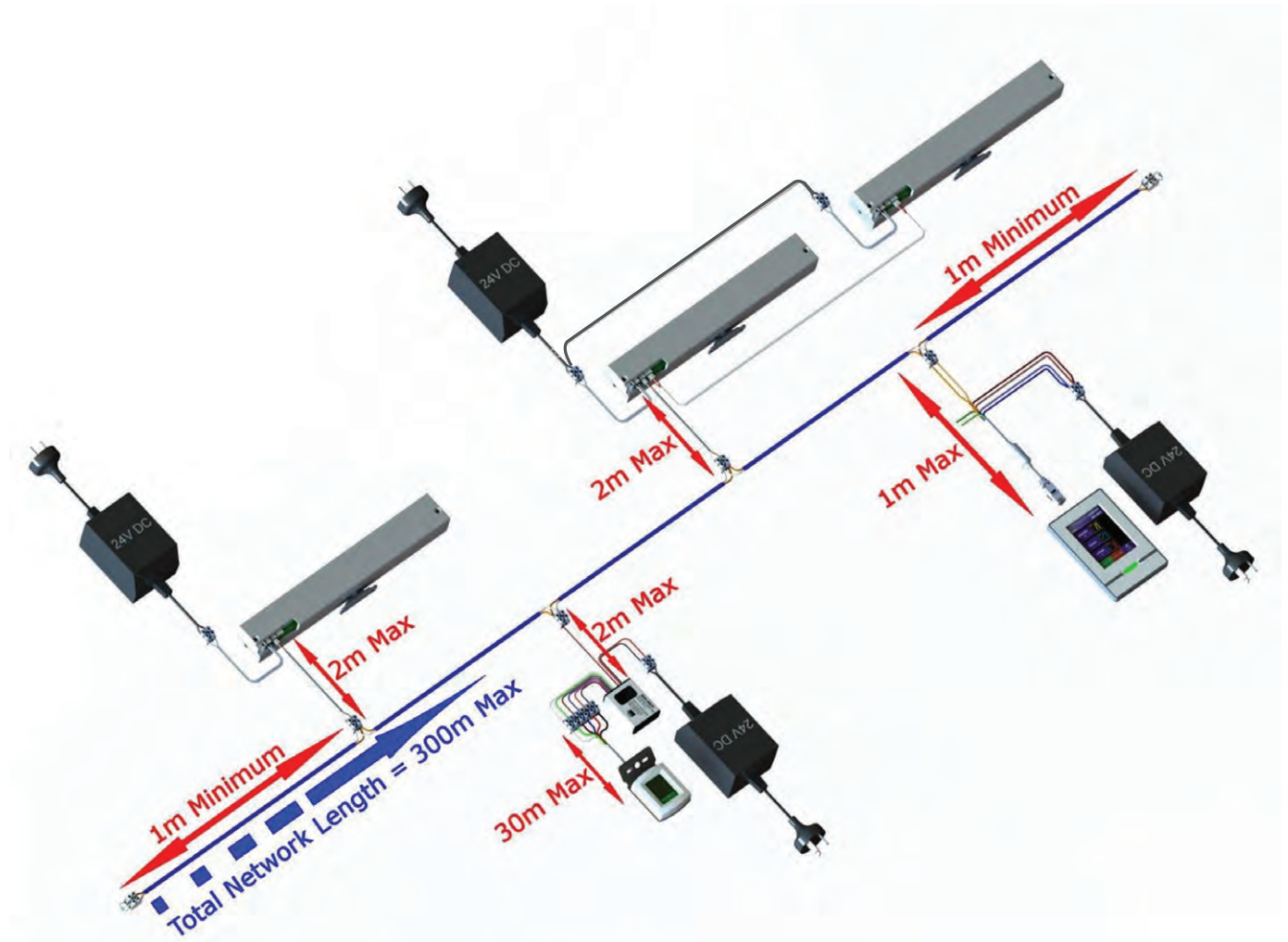
Note: The data/communication terminals use 5 volts and will be damaged if connected to the power supply



## Keypad System Cable Lengths

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

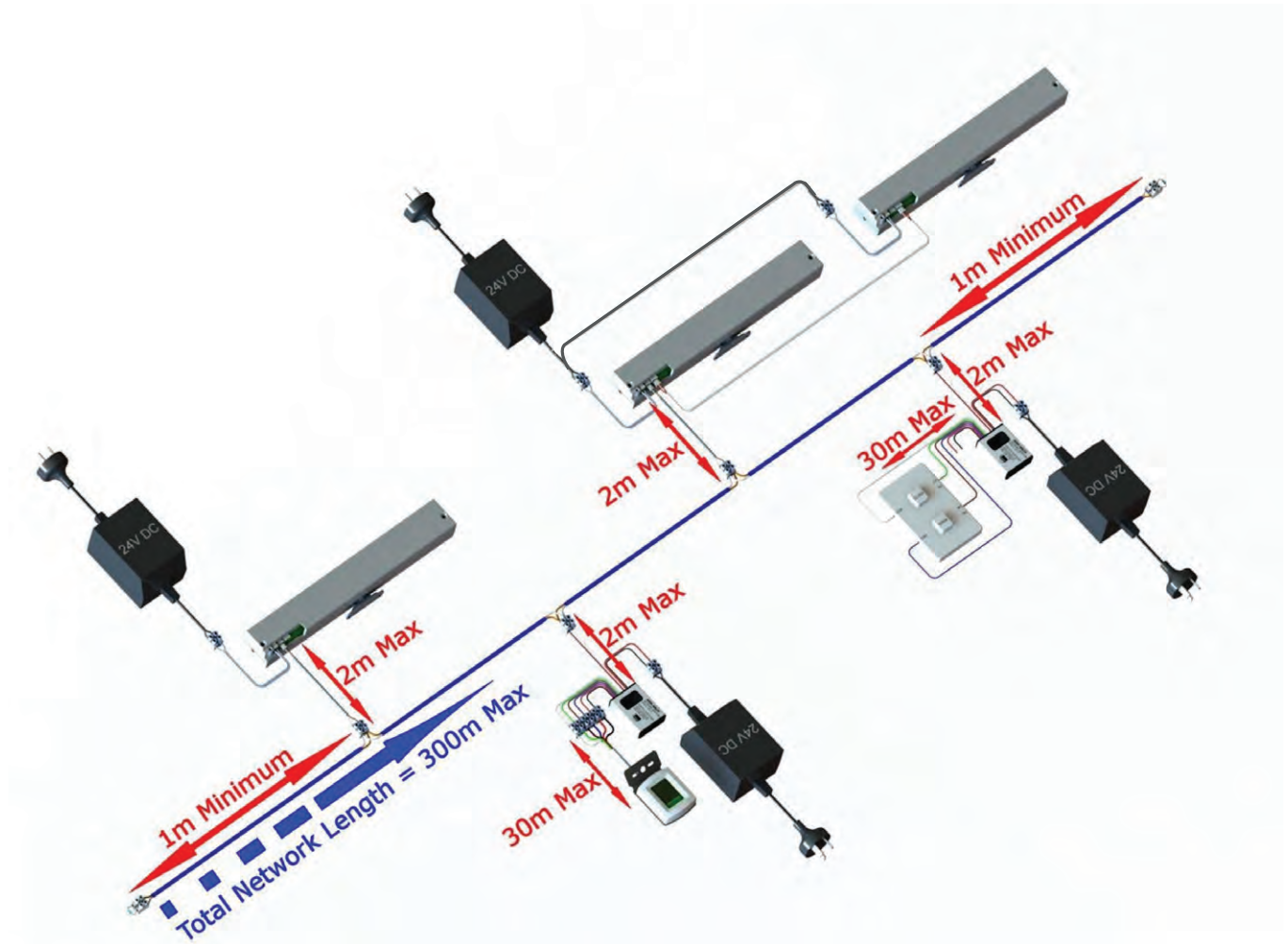
Note: The number of transformers shown is indicative only. Actual quantity required is dictated by the full system current draw



## Wall Switch System Cable Lengths

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

Note: The number of transformers shown is indicative only. Actual quantity required is dictated by the full system current draw

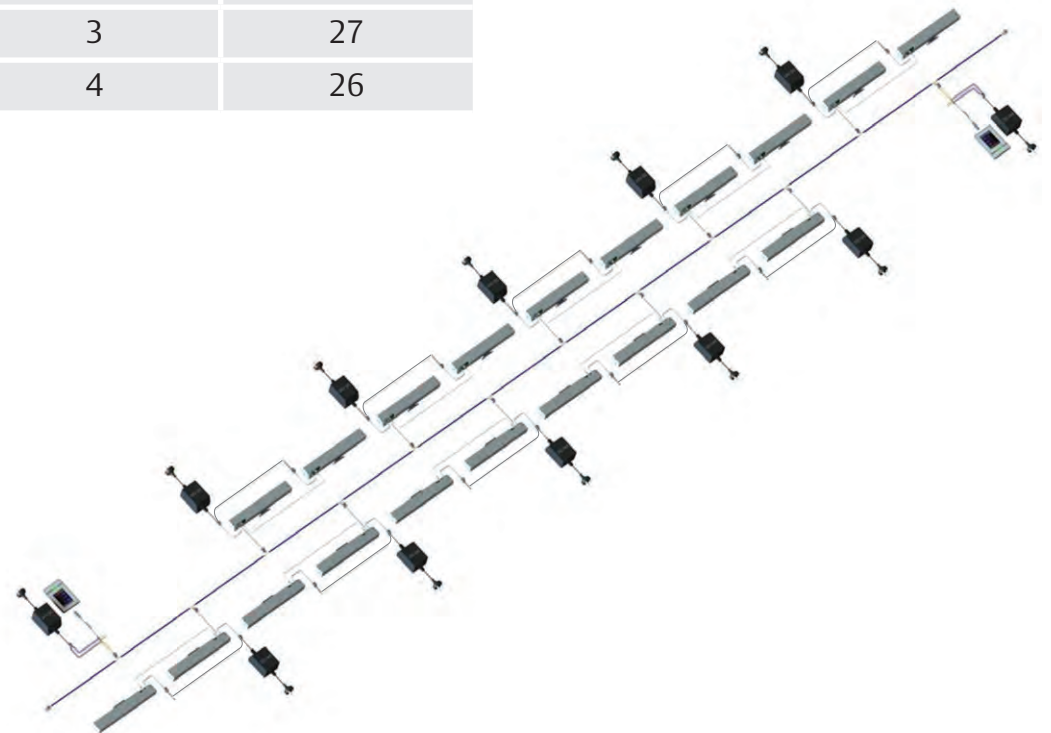


### Keypad System Limits

- Keypads must not exceed two per network
- Rain Sensors must not exceed 4 per network
- Windows + Rain Sensors must not exceed 30

Note: The number of transformers shown is indicative only. Actual quantity required is dictated by the full system current draw

Keypads	Rain Sensors	Windows
1	0	30
1	1	29
1	2	28
1	3	27
1	4	26
2	0	30
2	1	29
2	2	28
2	3	27
2	4	26

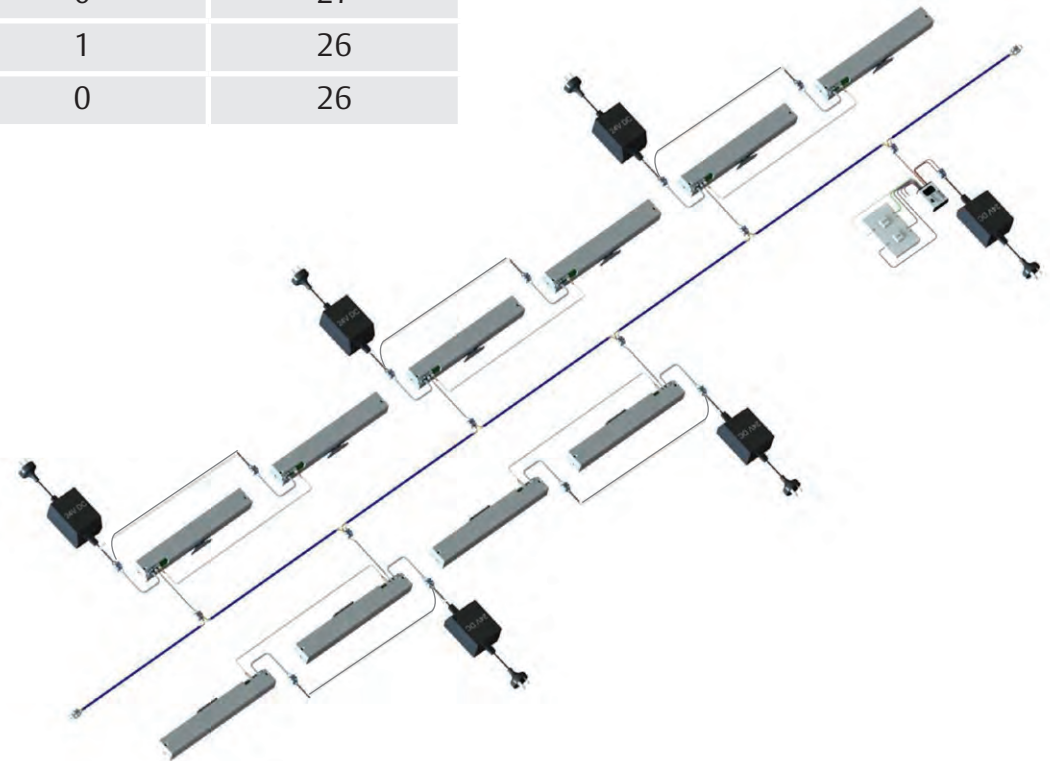


### Wall Switch System Limits

- Switches + Rain Sensors must not exceed 4
- Switches + Rain Sensors + Windows must not exceed 30

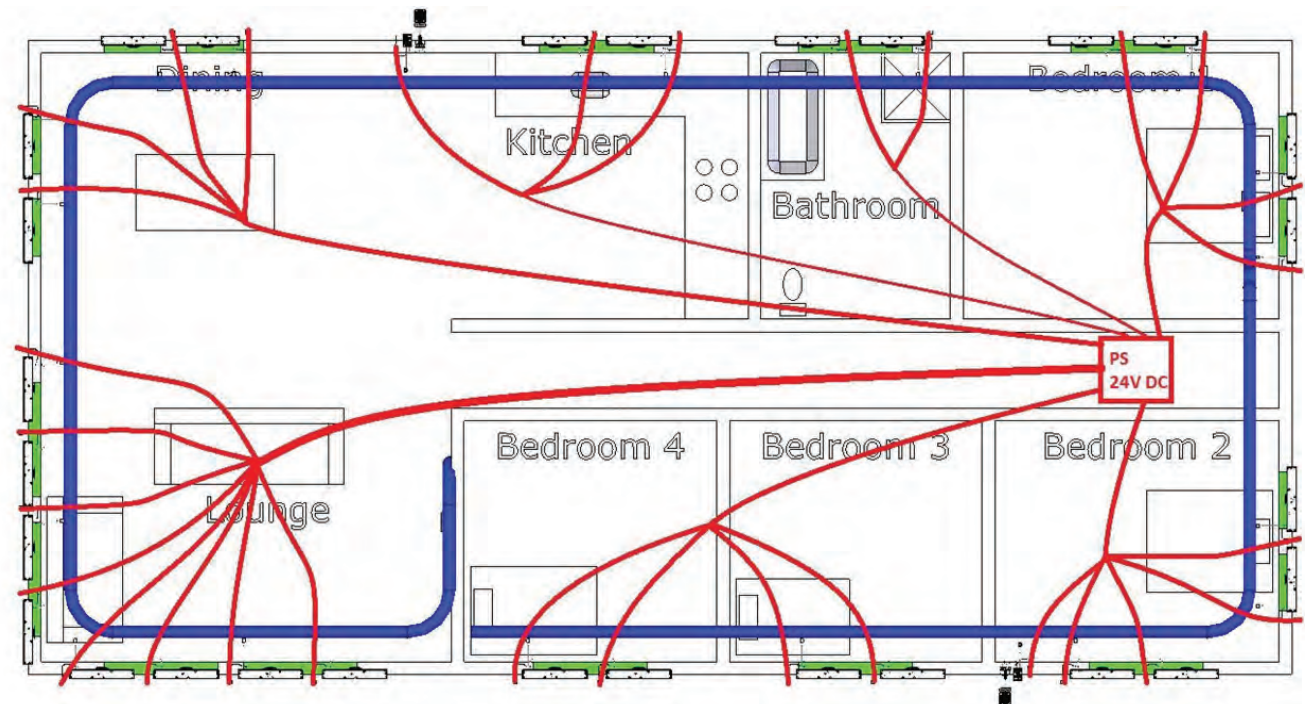
Note: The number of transformers shown is indicative only. Actual quantity required is dictated by the full system current draw

Keypads	Rain Sensors	Windows
1	0	29
1	1	28
1	2	27
1	3	26
2	0	28
2	1	27
2	2	26
3	0	27
3	1	26
4	0	26



## Elevation System Single Power Supply

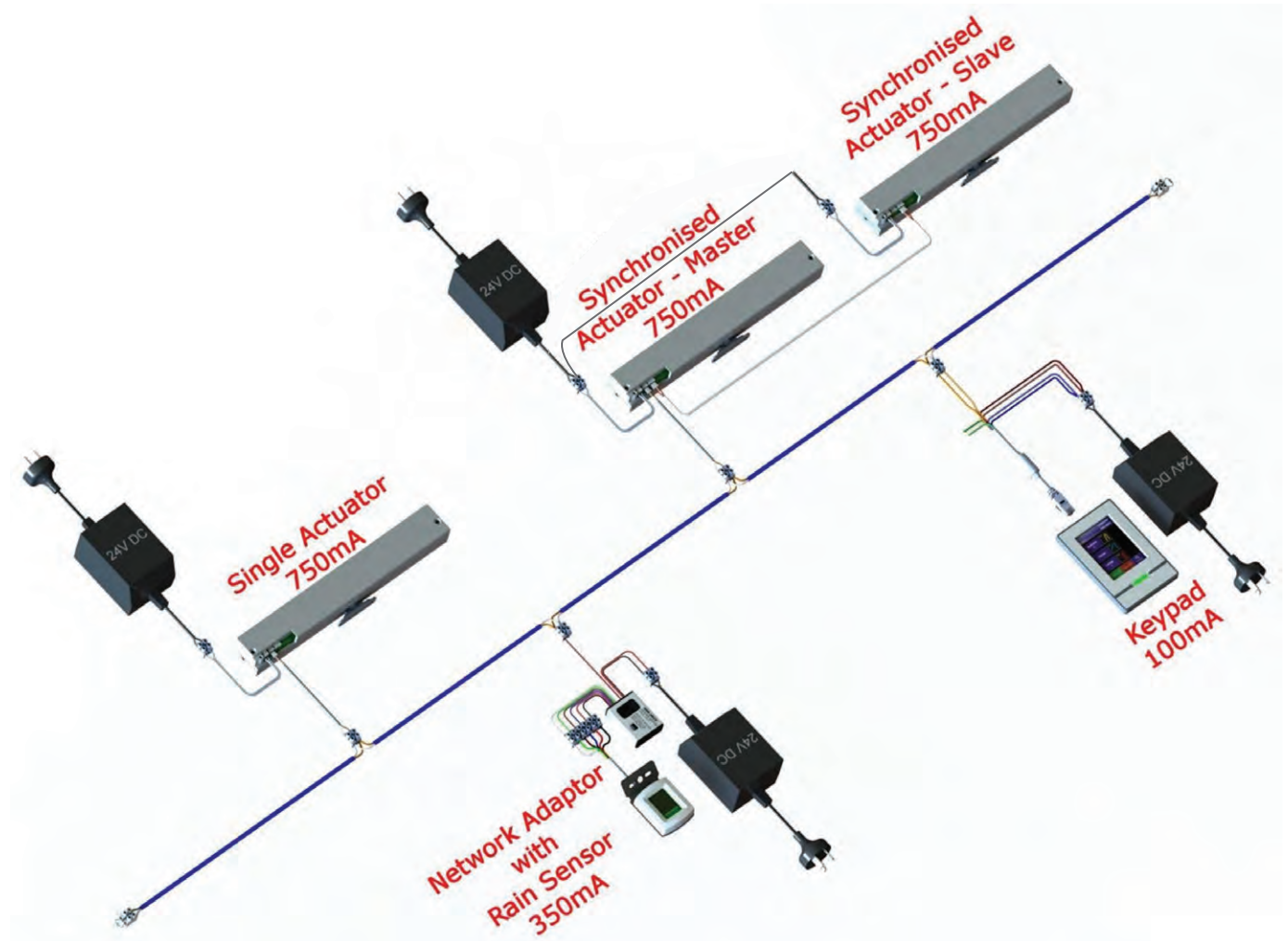
- It is possible to use one large power supply to power multiple devices



### Keypad System Power Requirements

- Synchronised Actuators both need 750mA

Note: The number of transformers shown is indicative only. Actual quantity required is dictated by the full system current draw

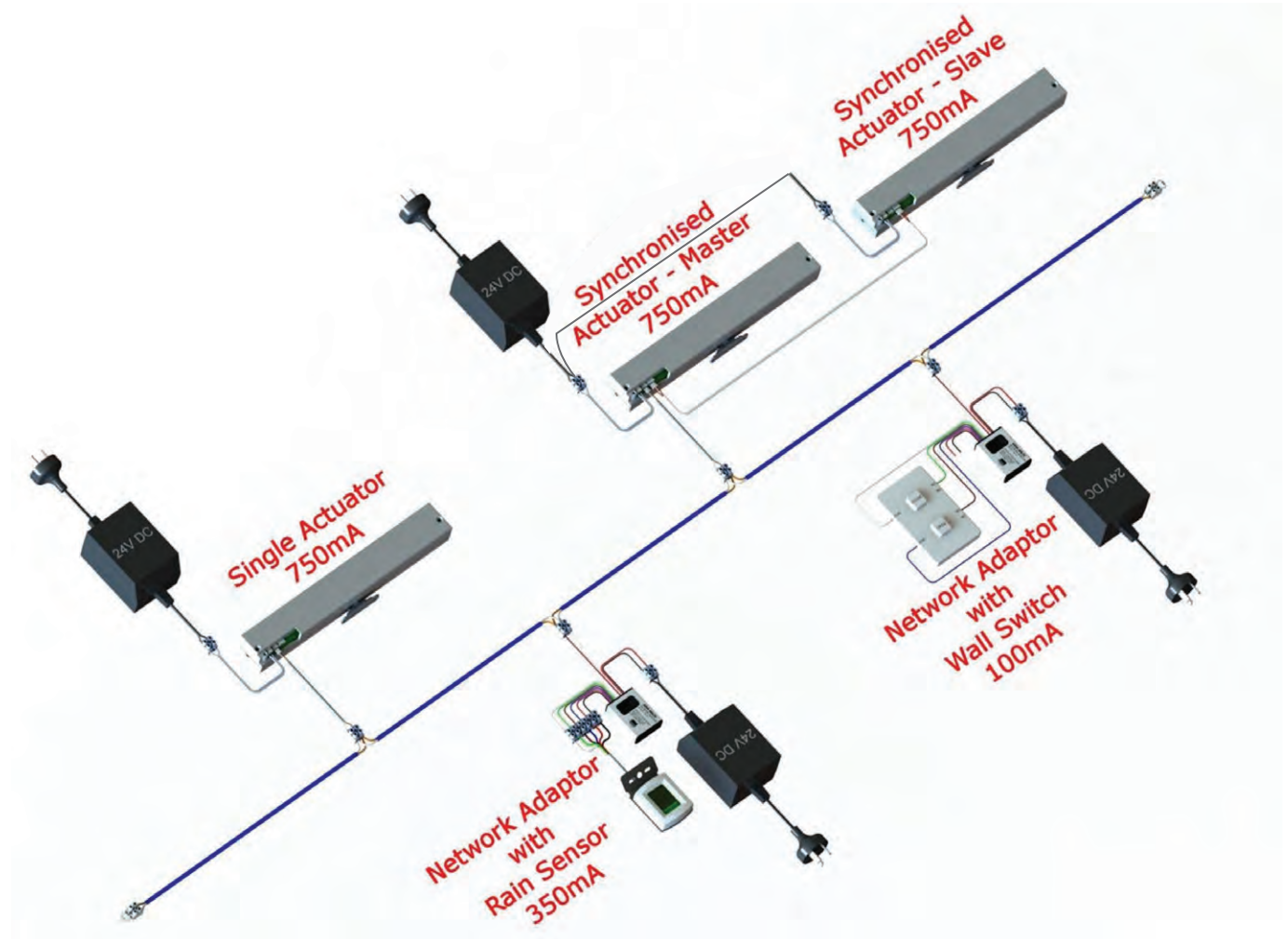




### Wall Switch System Power Requirements

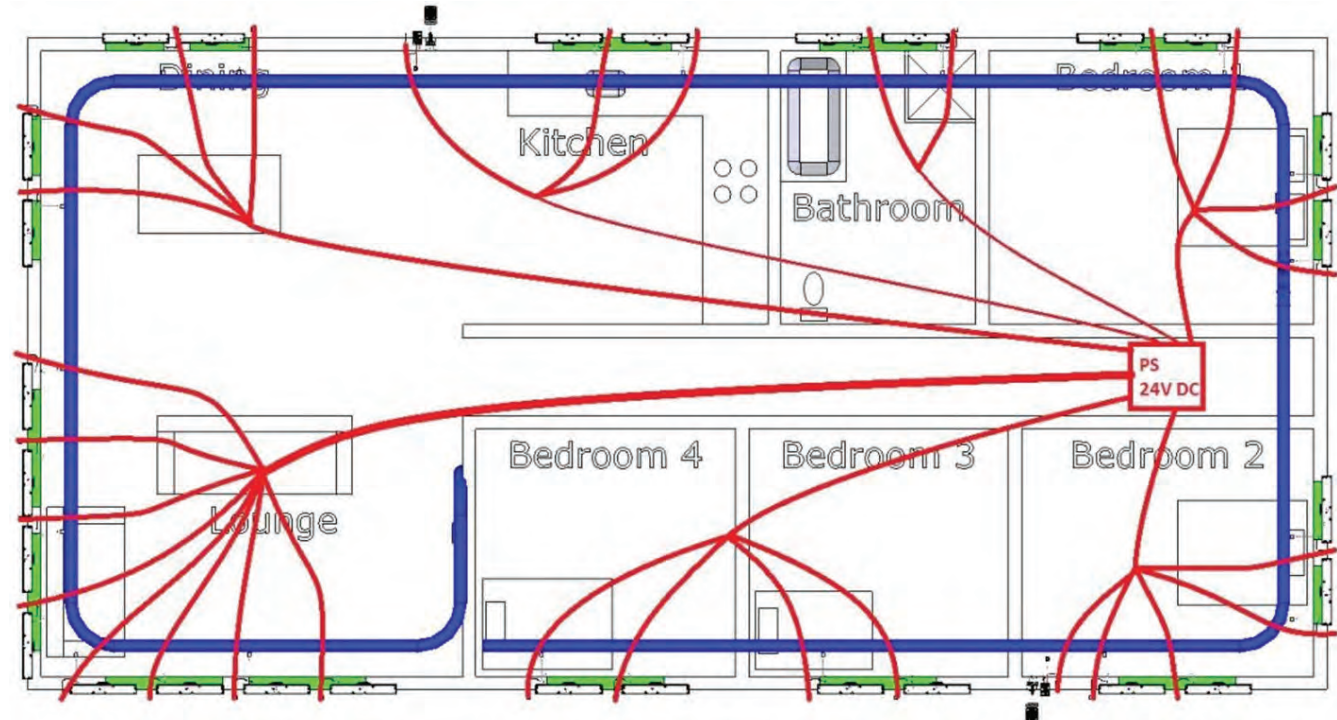
- Synchronised Actuators both need 750mA
- A Network Adaptor connected to a Rain Sensor draws more current than a Network Adaptor connected to a Wall Switch or Smart Home
- A Network Adaptor connected to a Smart Home (relays) will also draw 100mA

Note: The number of transformers shown is indicative only. Actual quantity required is dictated by the full system current draw



### Elevation System Single Power Supply

- Power supply must always be 24V DC
- Power supply must have a current rating high enough for all devices it is powering
- Electrician must ensure voltage drop does not exceed 1V (must have 23V minimum at all devices)



Device	Max Current Draw	Quantity	Total (max current x Quantity)
Actuator	750mA	28	21000
Keypad	100mA	2	200
Rain Sensor	350mA	2	700
		Total	21900mA = 21.9Amps