Automated Power Struts

Components and Wiring

2022.05 v1.1

alspec®
EVERYTHING ALUMINIUM & HARDWARE

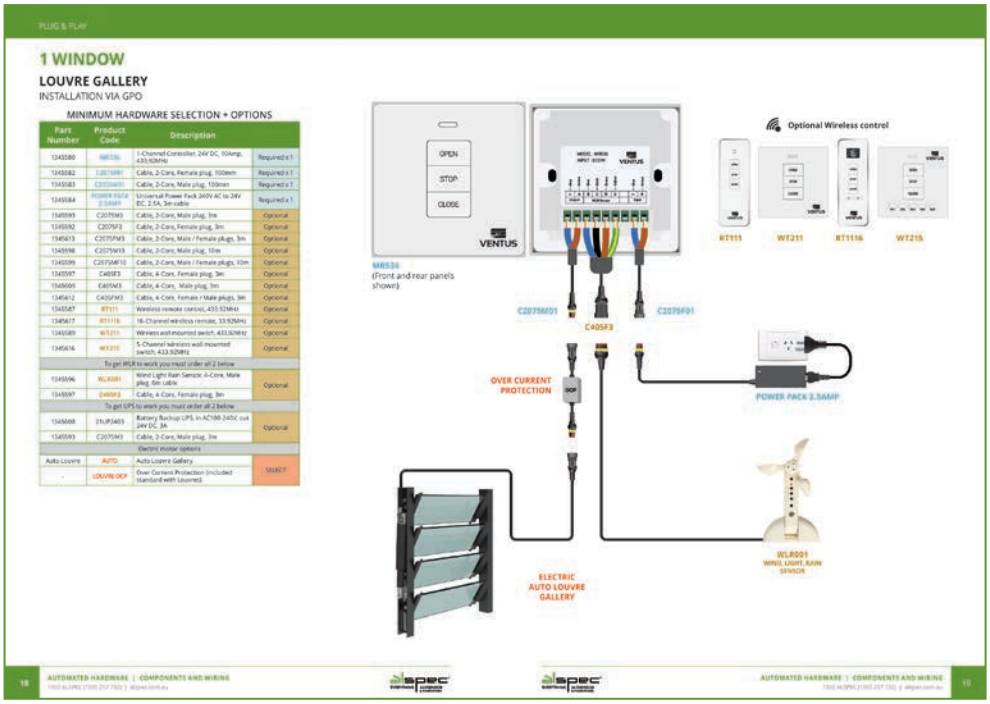
How to use the schematics

The following easy to follow schematics are set up in relation to a minimum equipment list. This minimum equipment list can be found on each page of the wiring drawings to help reference the necessary parts needed and how they relate to one another. The drawings do not show additional extension cables as your requirements vary; include additional cables where required.

To use this document you need to follow a few very simple steps:

1. Read and understand hardware requirements
2. Refer to the header on each chart to first find the number of windows you need to automate and secondly find the matching hardware.
3. Each chart has a table listing all the parts available for that particular setup. Simply follow the list to help identify, select and show the location of the parts you will use.
4. If you find you have too many motors for the available channels, divide the openings/ windows into groups. For example, if there are 7 windows and 5 of them require either Twin or Sync Chainwinders (both use two motors), use two MR551 8-Channel controllers and plan accordingly.

Parts are designed to plug together via the use of the male and female Quick Connect Plugs that helps remove confusion and speeds installation. Wiring hookups not using the plug & play method is possible, electricians can follow the guide on the specifications required.



General Guidelines

Some Basic Ground Rules

1. The plug & play system operates on 24V DC outputted from a power pack plugged into 240V AC mains power outlet via "GPO".
2. All Plug & Play cables are supplied in 100mm, 3m and 10m lengths.
3. All Auto Louvres **include** and ***must use*** the OCP (Over Current Protection switch).
4. Use a Synchroniser Lead (Sync Lead) to operate two Automated Chainwinders on the same window. This allows greater pitch between chains on wider windows.
5. Any electrical cable joins on site must be made with the provided plugs or be a soldered joint.

Step 1. Identify the drawing that you will be wanting to install.

Step 2. Refer to the List of parts

Required	=	Item required. The system cannot function without this item.
Optional	=	This is an optional item. The user can select optional accessories or parts as required for the system to operate.
Select	=	This is a required item with options. The user will need to select at least one of these to operate that setup.

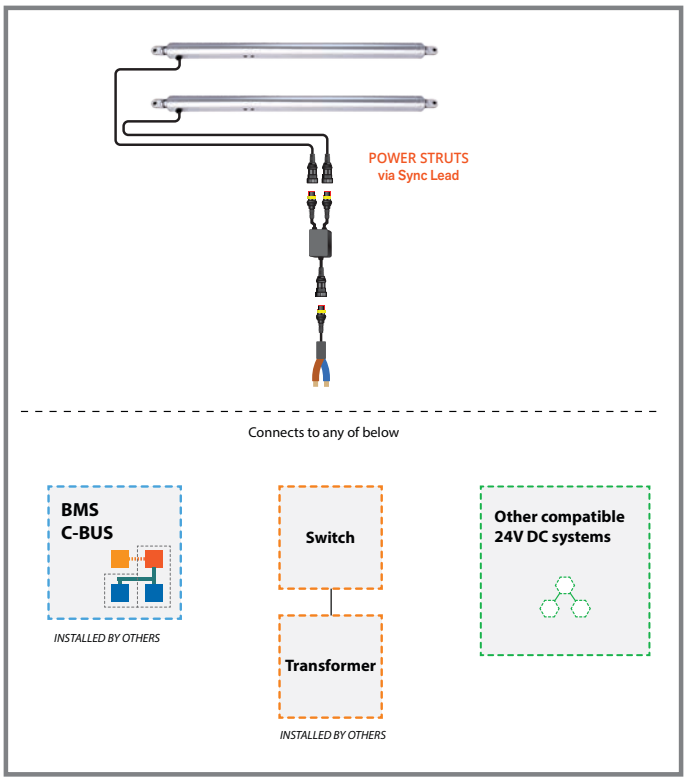
Installation without 'Plug & Play'

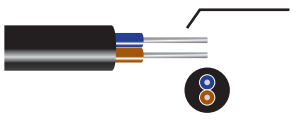
Have your electrician install for you.

When installations do not require the plug & play connectors, the installation can be made using direct connections following the guidelines below.

This must be completed by a Licensed Electrician and support the following minimum requirements:

- Motor hardware operates on 24V DC and requires a minimum cable diameter of 0.75mm to reduce voltage loss over longer distances.
- Auto Louvres come with and **must use** the OCP (Over Current Protection switch) included.
- Use a Synchronizer Lead (Sync Lead) to operate two Automated Chainwinders on the same window.
- Non 'Plug & Play' cable joins **must be** a soldered joint.





Minimum cable diameter of 0.75mm each

Power Strut Selection Table

Strut Codes	Closed Length (mm)	Open Length (mm)	Stroke (mm)	Sash Height (mm)	Latchbox Cutout (mm)	Max Sash Weight (kg)
605-855 Strut 250 24V DC 1000N	605	855	250	950-1049	828	53
700-950 Strut 250 24V DC 1000N	700	950	250	1050-1149	923	49
750-1060 Strut 310 24V DC 1000N	750	1060	310	1150-1249	1023	60
850-1160 Strut 310 24V DC 1000N	850	1160	310	1250-1349	1123	55
850-1260 Strut 410 24V DC 1000N	850	1260	410	1350-1449	1223	77
950-1360 Strut 410 24V DC 1000N	950	1360	410	1450-1549	1323	72
1050-1460 Strut 410 24V DC 1000N	1050	1460	410	1550-1649	1423	68
1150-1560 Strut 410 24V DC 1000N	1150	1560	410	1650-1750	1523	65

Power Supply

The system uses a power pack to supply the required 24V DC to operate. A GPO (general power outlet) should be installed within reach to plug into.

Which power pack to use is dictated by how many motors are connected to the channel controller.

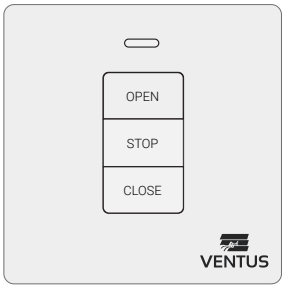
An MR551 8-Channel Controller can power a maximum of eight motors however, as each Power Struts window setup utilises a set of two electric struts linked together with a synchroniser lead, a maximum of four channels can be used.

1 to 2 Sets:
2.5 Amp Power Pack
Max. 4 motors

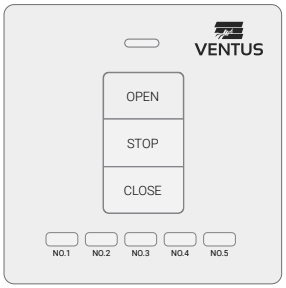
3 to 4 Sets:
10 Amp Power Pack
Max. 8 motors

WIRING
The automation products operate off a 24V DC system and requires a minimum cable diameter of 0.75mm to reduce voltage loss over longer distances.

Pairing Wireless Transmitters

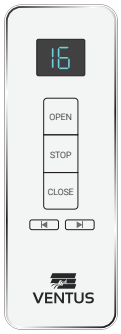


WT211



WT215

RT111



RT1116

SPECIFICATIONS

Model	Channel	Working Frequency	Transmission Distance	Button Battery	Operating Current	Receiving Sensitivity
WT211	1	433.92MHz	< 50m	3V CR2O32	≤ 10mA	-100dBm
WT215	5	433.92MHz	< 50m	3V CR243O	≤ 10mA	-100dBm
RT111	1	433.92MHz	< 50m	3V CR243O	≤ 10mA	-100dBm
RT1116	16	433.92MHz	< 50m	3V CR243O	≤ 10mA	-100dBm

Pairing Wireless Transmitters Guide

OPERATION DESCRIPTION

- Before setting multi channel transmitter, please choose a channel you want to program and control.
- Setting method of single channel remote is as same as multi channel remote.

MATCHING CODE

- Power the controller on
- Press [STOP] on the MR536 or the red button on the MR551 for 5 seconds
- Press [OPEN] on the remote
- LED flashes 3 times to confirm pairing has been made

CLEARING SINGLE CODE

- Power the controller on
- Press [STOP] on the MR536 or the red button on the MR551 for 5 seconds
- Press [CLOSE] on the remote *within* 15 seconds
- LED flashes 3 times to confirm pairing has been removed

LOCKING CHANNEL *(For RT1116 only)*

- Select the required channel
- On the back of the remote, press the small gold button three times quickly to lock and unlock
- It will default back to unlock after power off or reset

REPLACING BATTERY

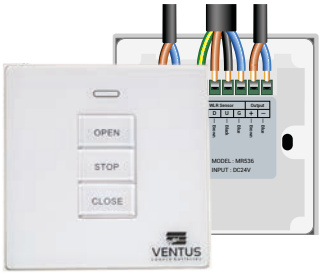
- Open the back board of the transmitter
- Take out the used battery and place the new one
- Close the back board
- Please dispose of the used battery appropriately

TROUBLESHOOTING

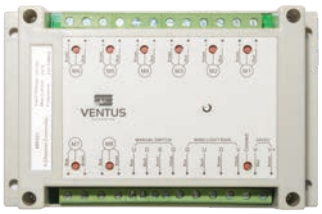
No.	Symptom	Solution
1	LED on the transmitter is off or weak.	1. Make sure the cover is installed ready. 2. Change the battery.
2	The transmitter and the receiver work well, the motor does not work.	1. Check the wiring of motor. 2. Check all control connections.

COMPONENTS AND DESCRIPTIONS

Part Number	Product Code	Description
1345580	MR536	1-Channel Controller, 24V DC, 10Amp, 433.92MHz
1345581	MR551	8-Channel Controller, 24V DC, 2.8Amp, 433.92MHz
1345582	C2075F01	Cable, 2-Core, Female plug, 100mm
1345583	C2075M01	Cable, 2-Core, Male plug, 100mm
1345584	POWER PACK 2.5AMP	Universal Power Pack 240V AC to 24V DC, 2.5A, 3m cable
1345585	POWER PACK 10AMP	Power Pack 240V AC to 24V DC, 10 Amp - ELG-240-24A-3Y
1345587	RT111	Wireless remote control, 433.92MHz
1345617	RT1116	16-Channel wireless remote, 433.92MHz
1345589	WT211	Wireless wall mounted switch, 433.92MHz
1345616	WT215	5-Channel wireless wall mounted switch, 433.92MHz
1345593	C2075M3	Cable, 2-Core, Male plug, 3m
1345592	C2075F3	Cable, 2-Core, Female plug, 3m
1345613	C2075FM3	Cable, 2-Core, Male / Female plugs, 3m
1345598	C2075M10	Cable, 2-Core, Male plug, 10m
1345599	C2075MF10	Cable, 2-Core, Male / Female plugs, 10m
1345597	C405F3	Cable, 4-Core, Female plug, 3m
1345609	C405M3	Cable, 4-Core, Male plug, 3m
1345612	C405FM3	Cable, 4-Core, Female / Male plugs, 3m
To get MS541 to work you must order all 3 below		
1345605	MS541	Wired wall mounted switch
1345597	C405F3	Cable, 4-Core, Female plug, 3m
1345609	C405M3	Cable, 4-Core, Male plug, 3m
To get WLR to work you must order all 2 below		
1345596	WLR001	Wind Light Rain Sensor, 4-Core, Male plug, 6m cable
1345597	C405F3	Cable, 4-Core, Female plug, 3m
To get UPS to work you must order all 2 below		
1345608	21UP2403	Battery Backup UPS, in AC100-240V, out 24V DC, 3A
1345593	C2075M3	Cable, 2-Core, Male plug, 3m
Automated Power Strut Hardware		
1345611	S102HL	Sync control lead for Power Struts
1345621	605-855 Strut 250 24V DC 1000N	605-855mm Strut, 250mm stroke, 24V DC, 1000N
1345620	700-950 Strut 250 24V DC 1000N	700-950mm Strut, 250mm stroke, 24V DC, 1000N
1345627	750-1060 Strut 310 24V DC 1000N	750-1060mm Strut, 310mm stroke, 24V DC, 1000N
1345626	850-1160 Strut 310 24V DC 1000N	850-1160mm Strut, 310mm stroke, 24V DC, 1000N
1345625	850-1260 Strut 410 24V DC 1000N	850-1260mm Strut, 410mm stroke, 24V DC, 1000N
1345624	950-1360 Strut 410 24V DC 1000N	950-1360mm Strut, 410mm stroke, 24V DC, 1000N
1345623	1050-1460 Strut 410 24V DC 1000N	1050-1460mm Strut, 410mm stroke, 24V DC, 1000N
1345622	1150-1560 Strut 410 24V DC 1000N	1150-1560mm Strut, 410mm stroke, 24V DC, 1000N



MR536
1-Channel control unit



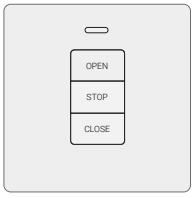
MR551
8-Channel control unit

21UP2403
UPS battery backup power

POWER PACK 2.5AMP
Mains power 240V AC to 24V DC

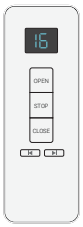
POWER PACK 10AMP
Mains power 240V AC to 24V DC

WLR001
Wind Light Rain Sensor

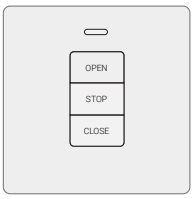


MS541
Wired wall mounted switch

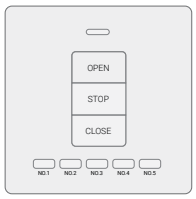
RT111
1-Channel wireless remote control



RT1116
16-Channel wireless remote control



WT211
1-Channel wireless wall mounted switch



WT215
5-Channel wireless wall mounted switch

C2075F01
2-Core female plug
100mm

C2075M01
2-Core male plug
100mm

C2075F3
2-Core female plug
3m

C2075M3
2-Core male plug
3m

C2075FM3
2-Core female-male plug
3m

C2075FM10
2-Core female-male plug
10m

C2075M10
2-Core male plug
10m

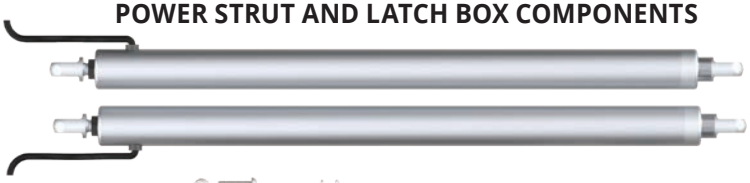
C405F3
4-Core female plug
3m

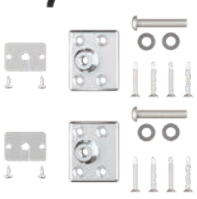
C405M3
4-Core male plug
3m

C405FM3
4-Core female-male plug
3m

S102HL
Power Strut SYNC Lead

POWER STRUT AND LATCH BOX COMPONENTS

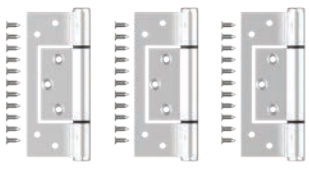




TOP MOUNT POST

LATCH BOX

BOTTOM LATCH POST



OPTIONAL HINGES

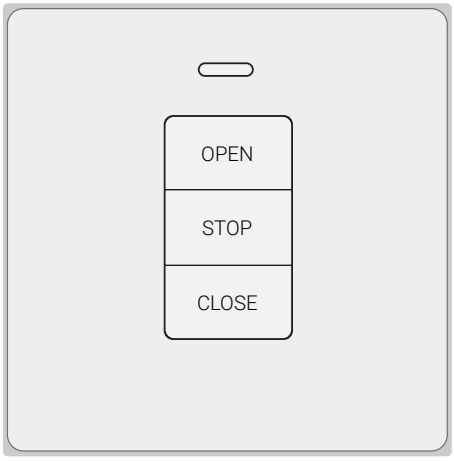
1 WINDOW

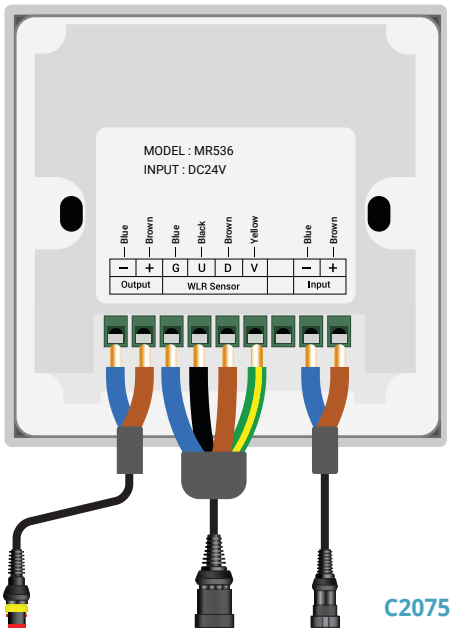
1x2 POWER STRUTS

INSTALLATION VIA GPO

MINIMUM HARDWARE SELECTION + OPTIONS

Part Number	Product Code	Description	
1345580	MR536	1-Channel Controller, 24V DC, 10Amp, 433.92MHz	Required x 1
1345582	C2075F01	Cable, 2-Core, Female plug, 100mm	Required x 1
1345583	C2075M01	Cable, 2-Core, Male plug, 100mm	Required x 1
1345584	POWER PACK 2.5AMP	Universal Power Pack 240V AC to 24V DC, 2.5A, 3m cable	Required x 1
1345611	S102HL	Sync control lead for Power Struts	Required x 1
1345619	Latch Box Set	Latch Box Set, 316SS hardware pack	Required x 1
1345593	C2075M3	Cable, 2-Core, Male plug, 3m	Optional
1345592	C2075F3	Cable, 2-Core, Female plug, 3m	Optional
1345613	C2075FM3	Cable, 2-Core, Male / Female plugs, 3m	Optional
1345598	C2075M10	Cable, 2-Core, Male plug, 10m	Optional
1345599	C2075MF10	Cable, 2-Core, Male / Female plugs, 10m	Optional
1345597	C405F3	Cable, 4-Core, Female plug, 3m	Optional
1345609	C405M3	Cable, 4-Core, Male plug, 3m	Optional
1345612	C405FM3	Cable, 4-Core, Female / Male plugs, 3m	Optional
1345587	RT111	Wireless remote control, 433.92MHz	Optional
1345617	RT1116	16-Channel wireless remote, 33.92MHz	Optional
1345589	WT211	Wireless wall mounted switch, 433.92MHz	Optional
1345616	WT215	5-Channel wireless wall mounted switch, 433.92MHz	Optional
To get WLR to work you must order all 2 below			
1345596	WLR001	Wind Light Rain Sensor, 4-Core, Male plug, 6m cable	Optional
1345597	C405F3	Cable, 4-Core, Female plug, 3m	
To get UPS to work you must order all 2 below			
1345608	21UP2403	Battery Backup UPS, in AC100-240V, out 24V DC, 3A	Optional
1345593	C2075M3	Cable, 2-Core, Male plug, 3m	
Electric motor options			
See Power Strut Selection Table for available options			SELECT



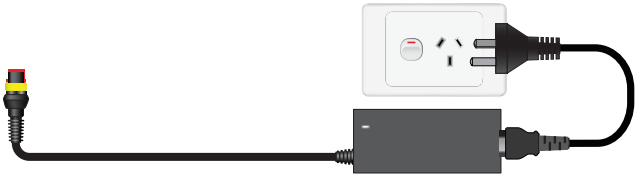


MR536
(Front and rear panels shown)

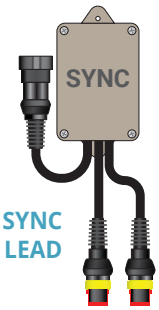
C2075M01

C405F3

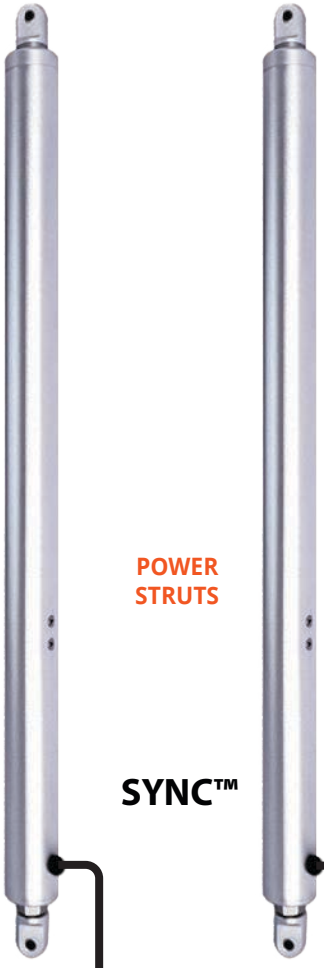
C2075F01



POWER PACK 2.5AMP



SYNC LEAD

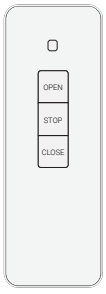


POWER STRUTS

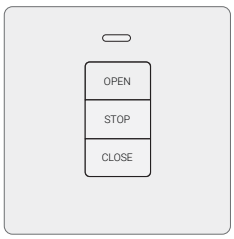
SYNC™

WLR001
WIND, LIGHT, RAIN SENSOR

Optional Wireless control

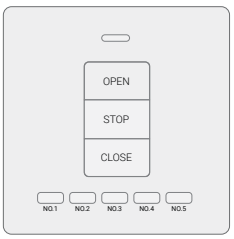


RT111



WT211

RT1116



WT215

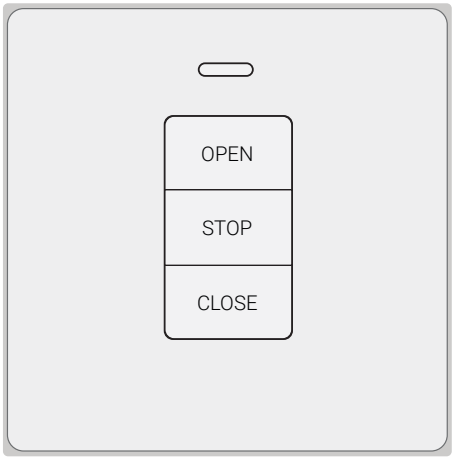
1 WINDOW

1x2 POWER STRUTS

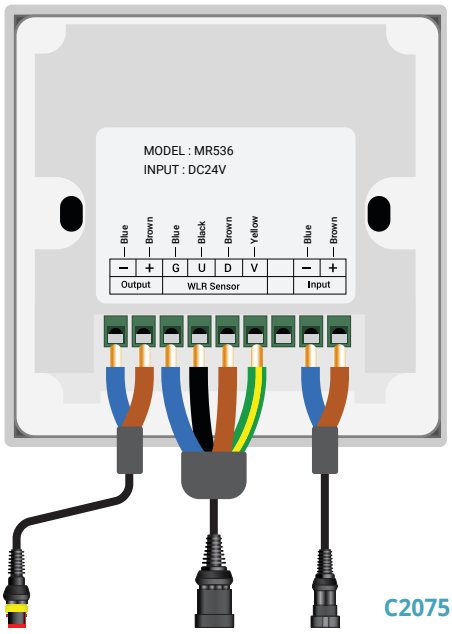
WITH BMS INTEGRATION

MINIMUM HARDWARE SELECTION + OPTIONS

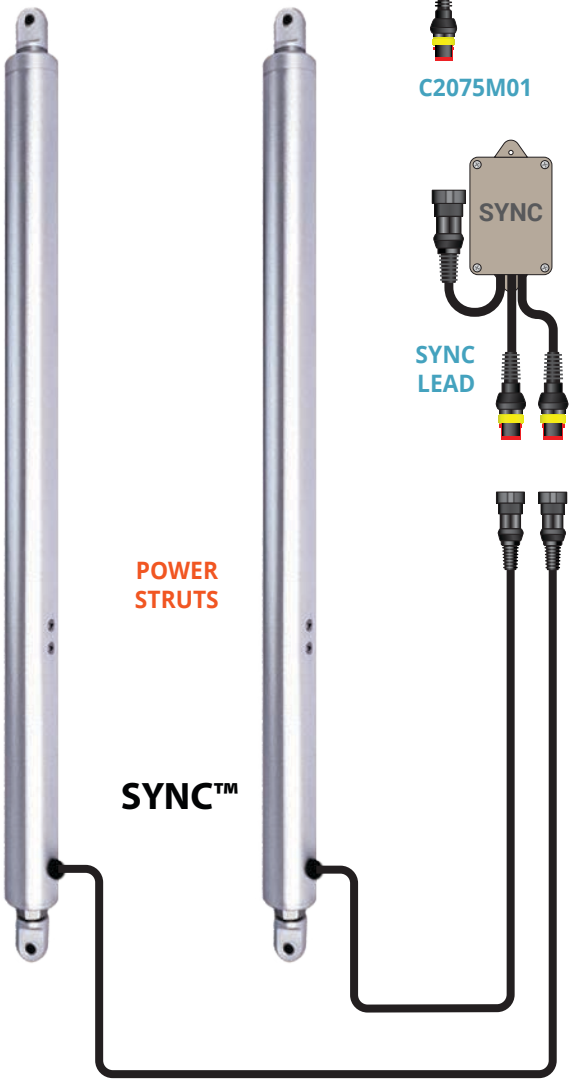
Part Number	Product Code	Description	
1345580	MR536	1-Channel Controller, 24V DC, 10Amp, 433.92MHz	Required x 1
1345582	C2075F01	Cable, 2-Core, Female plug, 100mm	Required x 1
1345583	C2075M01	Cable, 2-Core, Male plug, 100mm	Required x 1
1345584	POWER PACK 2.5AMP	Universal Power Pack 240V AC to 24V DC, 2.5A, 3m cable	Required x 1
1345611	S102HL	Sync control lead for Power Struts	Required x 1
1345619	Latch Box Set	Latch Box Set, 316SS hardware pack	Required x 1
1345593	C2075M3	Cable, 2-Core, Male plug, 3m	Optional
1345592	C2075F3	Cable, 2-Core, Female plug, 3m	Optional
1345613	C2075FM3	Cable, 2-Core, Male / Female plugs, 3m	Optional
1345598	C2075M10	Cable, 2-Core, Male plug, 10m	Optional
1345599	C2075MF10	Cable, 2-Core, Male / Female plugs, 10m	Optional
1345597	C405F3	Cable, 4-Core, Female plug, 3m	Optional
1345609	C405M3	Cable, 4-Core, Male plug, 3m	Optional
1345612	C405FM3	Cable, 4-Core, Female / Male plugs, 3m	Optional
1345587	RT111	Wireless remote control, 433.92MHz	Optional
1345617	RT1116	16-Channel wireless remote, 33.92MHz	Optional
1345589	WT211	Wireless wall mounted switch, 433.92MHz	Optional
1345616	WT215	5-Channel wireless wall mounted switch, 433.92MHz	Optional
BMS Connection requires			
1345597	C405F3	Cable, 4-Core, Female plug, 3m	Optional
1345609	C405M3	Cable, 4-Core, Male plug, 3m	
To get UPS to work you must order all 2 below			
1345608	21UP2403	Battery Backup UPS, in AC100-240V, out 24V DC, 3A	Optional
1345593	C2075M3	Cable, 2-Core, Male plug, 3m	
Electric motor options			
See Power Strut Selection Table for available options			SELECT



MR536
(Front and rear panels shown)



C2075M01 C405F3 C2075F01

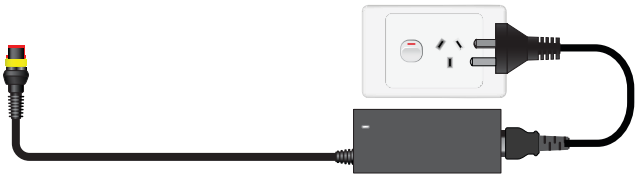


POWER STRUTS

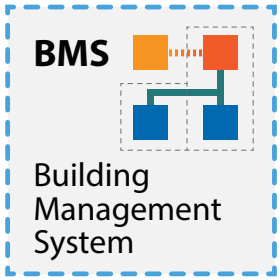
SYNC™

SYNC LEAD

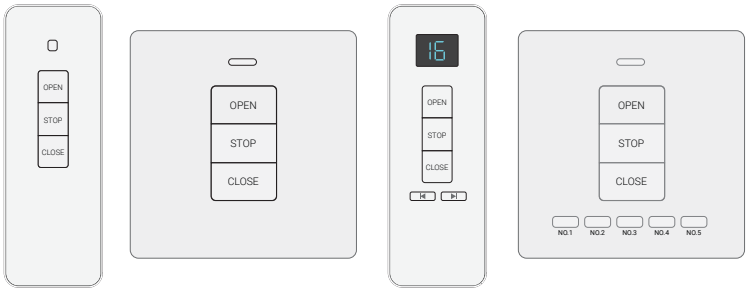
C405M3



POWER PACK 2.5AMP



Optional Wireless control



RT111 WT211 RT1116 WT215

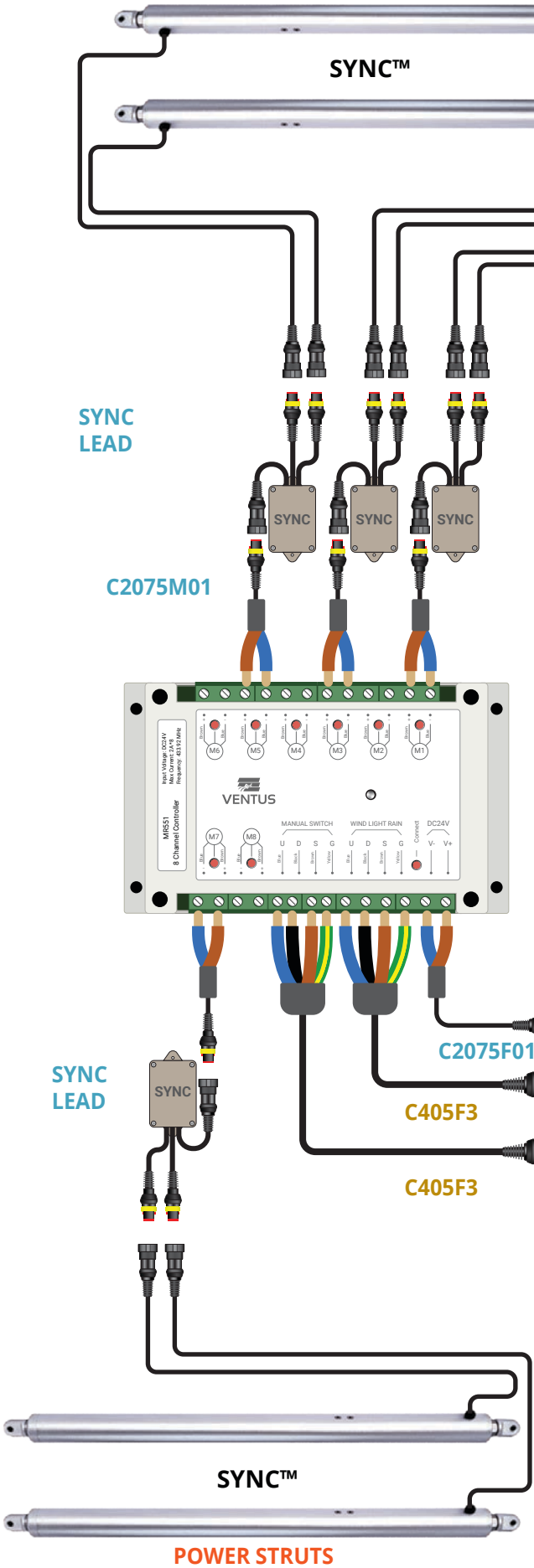
4 WINDOWS *(MAXIMUM)*

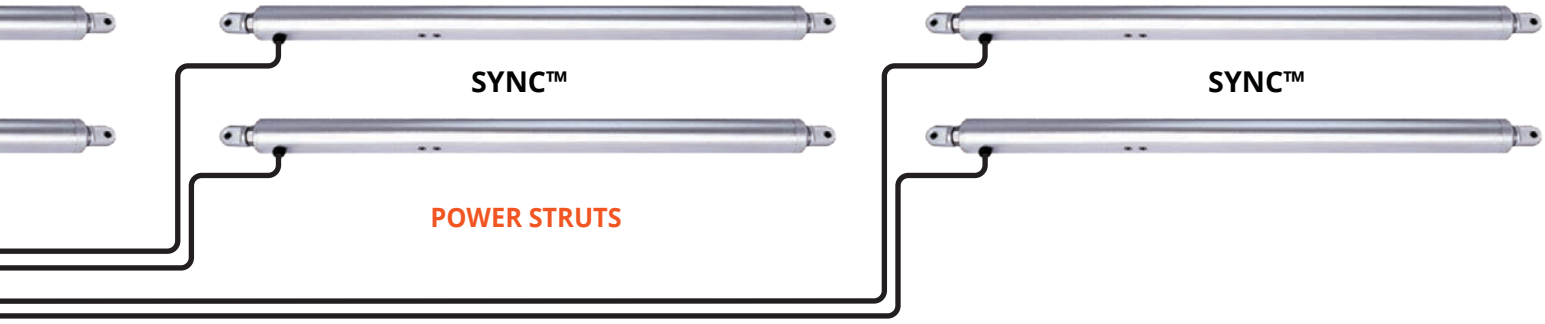
4x2 POWER STRUTS

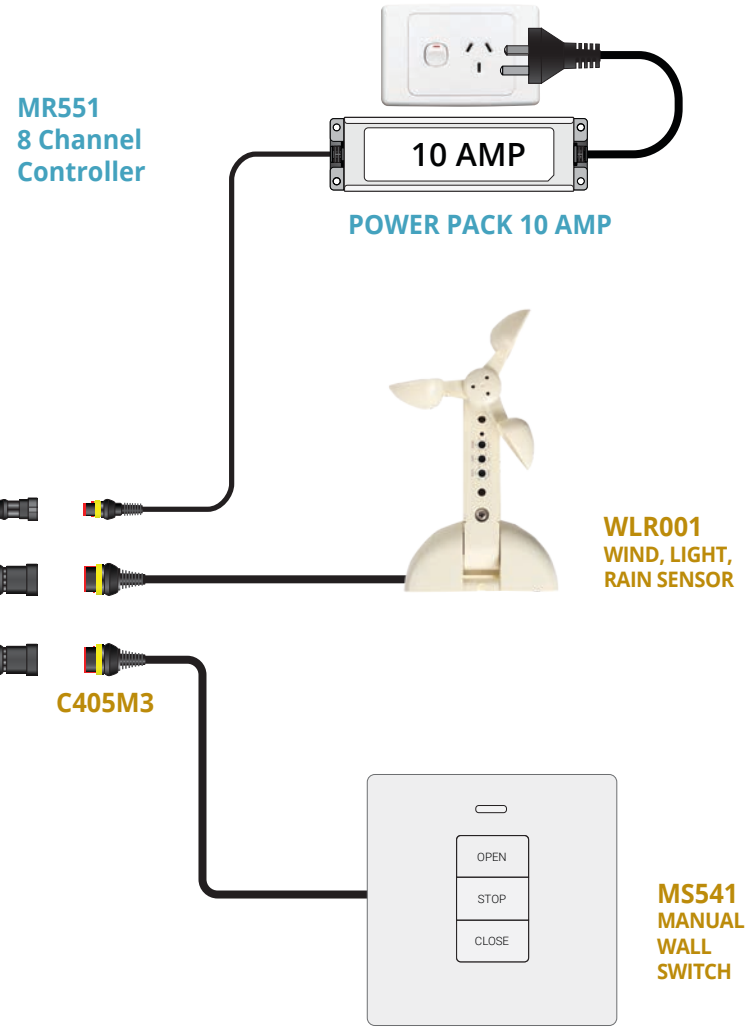
INSTALLATION VIA GPO

MINIMUM HARDWARE SELECTION + OPTIONS

Part Number	Product Code	Description	
1345581	MR551	8-Channel Controller, 24V DC, 2.8Amp, 433.92MHz	Required x 1
1345582	C2075F01	Cable, 2-Core, Female plug, 100mm	Required x 1
1345583	C2075M01	Cable, 2-Core, Male plug, 100mm	Required x 4
1345585	POWER PACK 10AMP	Power Pack 240V AC to 24V DC, 10 Amp - ELG-240-24A-3Y	Required x 1
1345611	S102HL	Sync control lead for Power Struts	Required x 1
1345619	Latch Box Set	Latch Box Set, 316SS hardware pack	Required x 1
1345593	C2075M3	Cable, 2-Core, Male plug, 3m	Optional
1345592	C2075F3	Cable, 2-Core, Female plug, 3m	Optional
1345613	C2075FM3	Cable, 2-Core, Male / Female plugs, 3m	Optional
1345598	C2075M10	Cable, 2-Core, Male plug, 10m	Optional
1345599	C2075MF10	Cable, 2-Core, Male / Female plugs, 10m	Optional
1345597	C405F3	Cable, 4-Core, Female plug, 3m	Optional
1345609	C405M3	Cable, 4-Core, Male plug, 3m	Optional
1345612	C405FM3	Cable, 4-Core, Female / Male plugs, 3m	Optional
You must select at least one remote below or MS541			Required
1345587	RT111	Wireless remote control, 433.92MHz	SELECT
1345617	RT1116	16-Channel wireless remote, 33.92MHz	SELECT
1345589	WT211	Wireless wall mounted switch, 433.92MHz	SELECT
1345616	WT215	5-Channel wireless wall mounted switch, 433.92MHz	SELECT
To get MS541 to work you must order all 3 below			
1345605	MS541	Wired wall mounted switch	Optional
1345597	C405F3	Cable, 4-Core, Female plug, 3m	
1345609	C405M3	Cable, 4-Core, Male plug, 3m	
To get WLR to work you must order all 2 below			
1345596	WLR001	Wind Light Rain Sensor, 4-Core, Male plug, 6m cable	Optional
1345597	C405F3	Cable, 4-Core, Female plug, 3m	
To get UPS to work you must order all 2 below			
1345608	21UP2403	Battery Backup UPS, in AC100-240V, out 24V DC, 3A	Optional
1345593	C2075M3	Cable, 2-Core, Male plug, 3m	
Electric motor options			
See Power Strut Selection Table for available options			SELECT

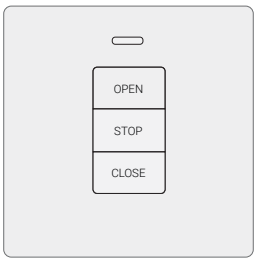




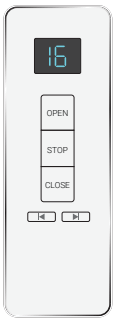


Optional Wireless control

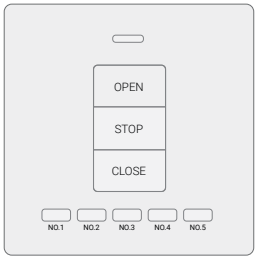
RT111



WT211



RT1116



WT215

4 WINDOWS *(MAXIMUM)*

4x2 POWER STRUTS

WITH BMS INTEGRATION

MINIMUM HARDWARE SELECTION + OPTIONS

Part Number	Product Code	Description	
1345581	MR551	8-Channel Controller, 24V DC, 2.8Amp, 433.92MHz	Required x 1
1345582	C2075F01	Cable, 2-Core, Female plug, 100mm	Required x 1
1345583	C2075M01	Cable, 2-Core, Male plug, 100mm	Required x 4
1345585	POWER PACK 10AMP	Power Pack 240V AC to 24V DC, 10 Amp - ELG-240-24A-3Y	Required x 1
1345611	S102HL	Sync control lead for Power Struts	Required x 1
1345619	Latch Box Set	Latch Box Set, 316SS hardware pack	Required x 1
1345593	C2075M3	Cable, 2-Core, Male plug, 3m	Optional
1345592	C2075F3	Cable, 2-Core, Female plug, 3m	Optional
1345613	C2075FM3	Cable, 2-Core, Male / Female plugs, 3m	Optional
1345598	C2075M10	Cable, 2-Core, Male plug, 10m	Optional
1345599	C2075MF10	Cable, 2-Core, Male / Female plugs, 10m	Optional
1345597	C405F3	Cable, 4-Core, Female plug, 3m	Optional
1345609	C405M3	Cable, 4-Core, Male plug, 3m	Optional
1345612	C405FM3	Cable, 4-Core, Female / Male plugs, 3m	Optional
You must select at least one remote below or MS541			Required
1345587	RT111	Wireless remote control, 433.92MHz	SELECT
1345617	RT1116	16-Channel wireless remote, 33.92MHz	SELECT
1345589	WT211	Wireless wall mounted switch, 433.92MHz	SELECT
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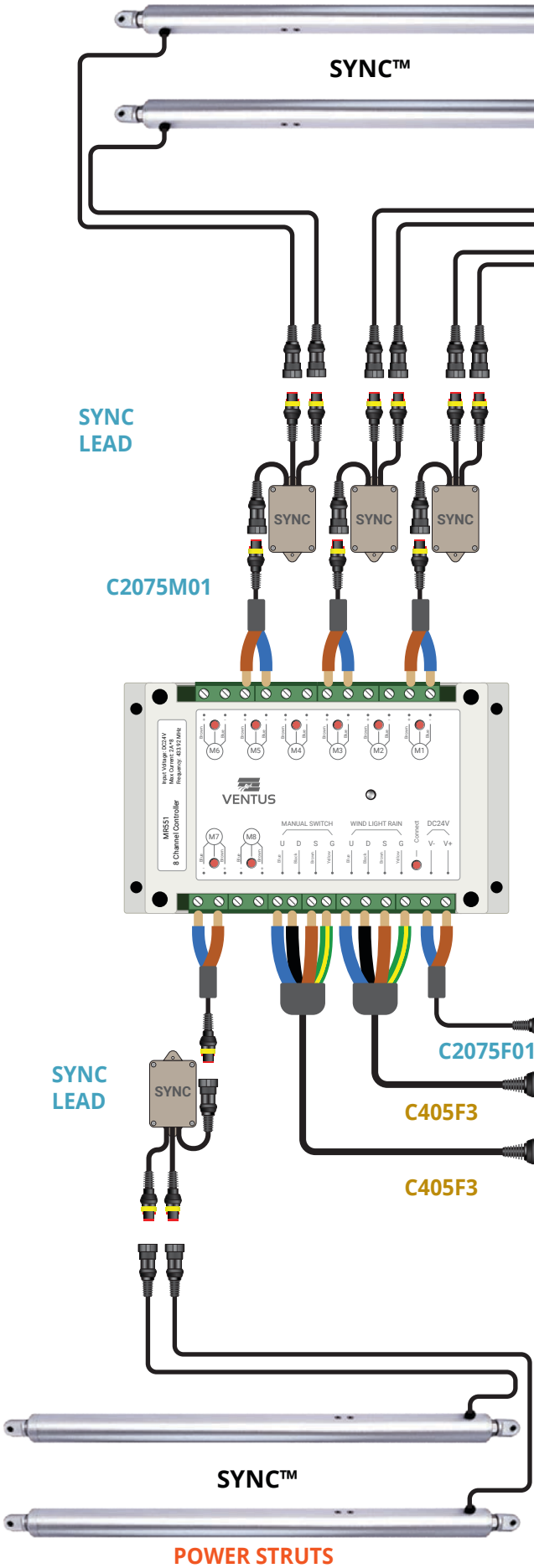
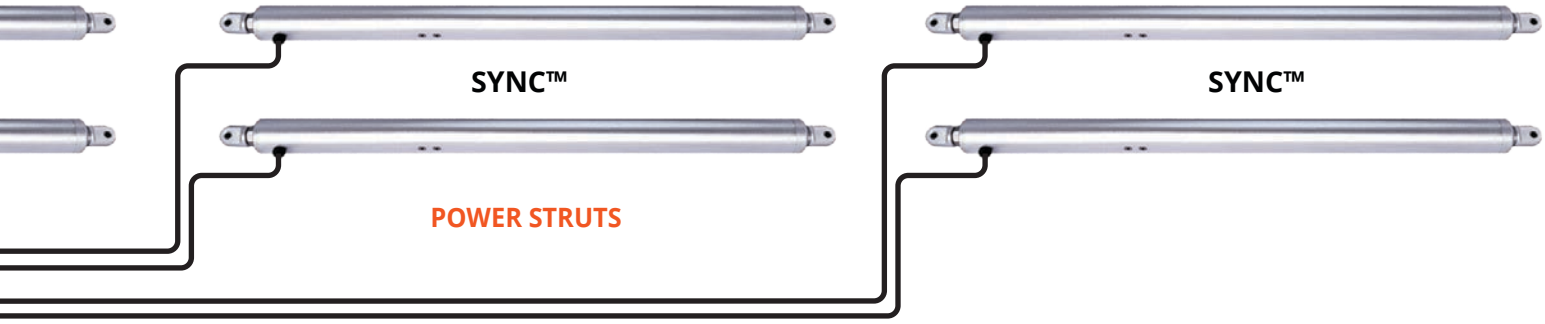
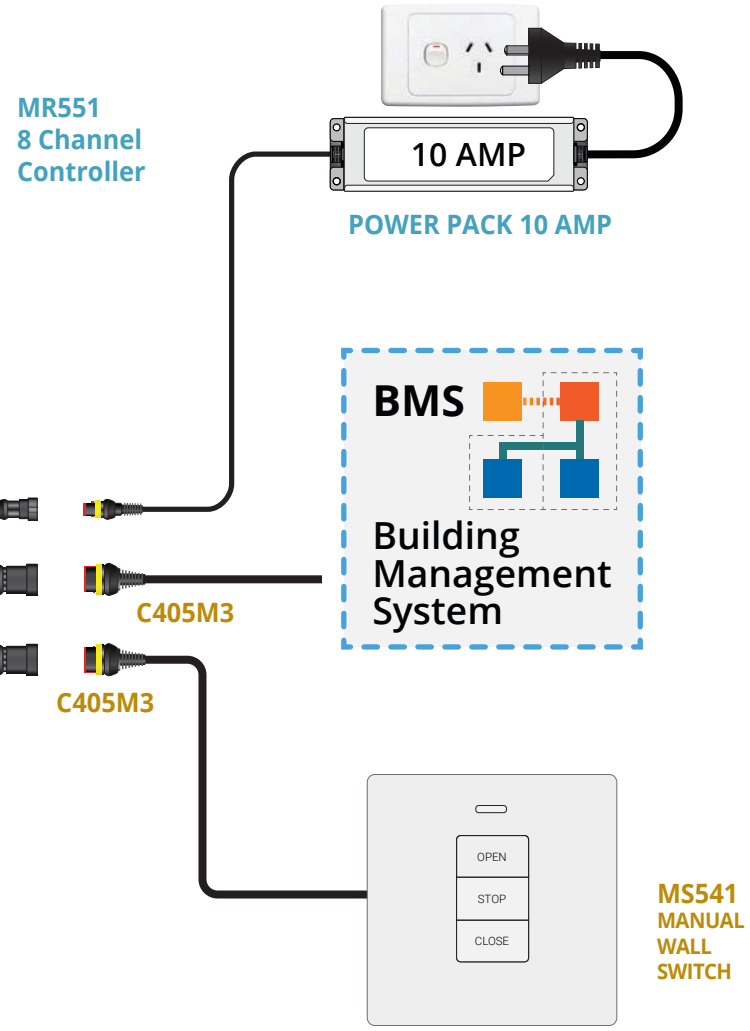
To get MS541 to work you must order all 3 below			
1345605	MS541	Wired wall mounted switch	Optional
1345597	C405F3	Cable, 4-Core, Female plug, 3m	
1345609	C405M3	Cable, 4-Core, Male plug, 3m	
BMS Connection requires			
1345597	C405F3	Cable, 4-Core, Female plug, 3m	Optional
1345609	C405M3	Cable, 4-Core, Male plug, 3m	
To get UPS to work you must order all 2 below			
1345608	21UP2403	Battery Backup UPS, in AC100-240V, out 24V DC, 3A	Optional
1345593	C2075M3	Cable, 2-Core, Male plug, 3m	
Electric motor options			
See Power Strut Selection Table for available options			SELECT

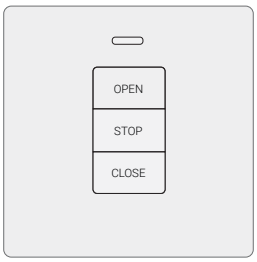




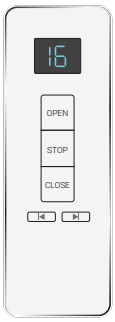


Optional Wireless control

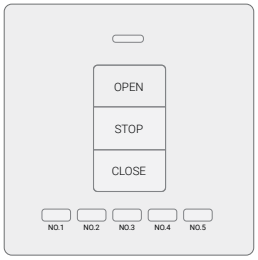
RT111



WT211



RT1116



WT215

DIRECT CONNECTION

AUTO HARDWARE DIRECT CONNECTION

SUPPLY ONLY

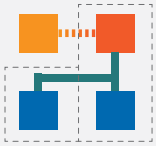
MINIMUM HARDWARE SELECTION + OPTIONS

Part Number	Product Code	Description	
POWER STRUTS			
1345611	S102HL SYNC	Power Synchronizer control unit	Required
1345619	LATCH BOX SET	Latch Box Set, 316SS hardware pack	Required
1345621	605-855 Actuator250	605-855 Strut 250 24V DC 1000N	SELECT
1345620	700-950 Actuator250	700-950 Strut 250 24V DC 1000N	SELECT
1345627	750-1060 Actuator310	750-1060 Strut 310 24V DC 1000N	SELECT
1345626	850-1160 Actuator310	850-1160 Strut 310 24V DC 1000N	SELECT
1345625	850-1260 Actuator410	850-1260 Strut 410 24V DC 1000N	SELECT
1345624	950-1360 Actuator410	950-1360 Strut 410 24V DC 1000N	SELECT
1345623	1050-1460 Actuator410	1050-1460 Strut 410 24V DC 1000N	SELECT
1345622	1150-1560 Actuator410	1150-1560 Strut 410 24V DC 1000N	SELECT
CABLE AND EXTENSION OPTIONS			
1345593	C2075M3	Cable, 2-Core, Male plug, 3m	SELECT
1345592	C2075M10	Cable, 2-Core, Male plug, 10m	SELECT
1345613	C2075FM3	Cable, 2-Core, Male / Female plugs, 3m extension	Optional
1345599	C2075MF10	Cable, 2-Core, Male / Female plugs, 10m extension	Optional

POWER STRUTS via Sync Lead

Connects to any of below

BMS
C-BUS



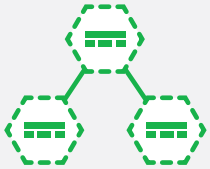
INSTALLED BY OTHERS

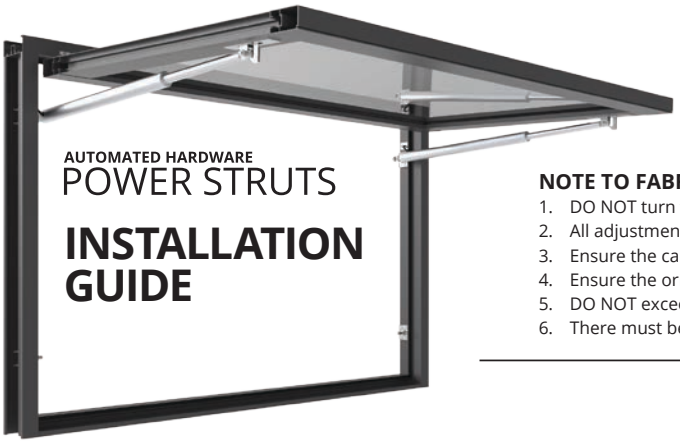
Switch

Transformer

INSTALLED BY OTHERS

Other compatible 24V DC systems





AUTOMATED HARDWARE

POWER STRUTS

INSTALLATION GUIDE

IMPORTANT:

Please carefully read through the installation instructions provided.

Failure to do this could lead to potential product failure of injury.

NOTE TO FABRICATION TEAM:

1. DO NOT turn the lower leg of the strut in the Closed or Open position.
2. All adjustments to the strut are done on the top adjustable eye end.
3. Ensure the cable enters the frame above the top mount
4. Ensure the orientation of the Top mount and Latch post are correct
5. DO NOT exceed 2 full turns of the top eye during adjustment.
6. There must be a 10mm gap at the base of the Sash to allow for the Sash to freely open and close.

1.

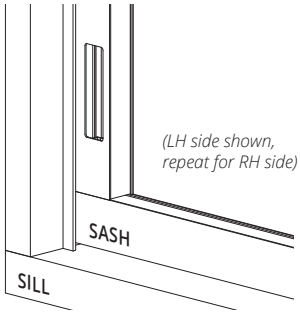
WINDOW SASH CUTOUT DETAIL

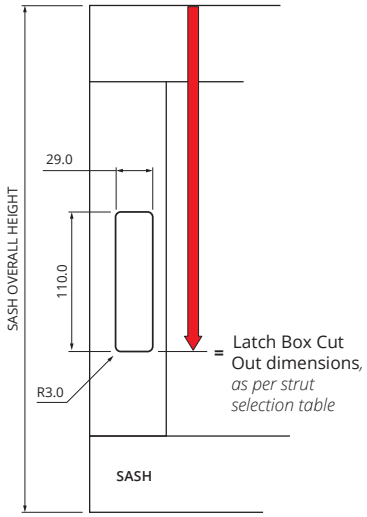
Machine the Latch Box Cut-Outs on the inside face of the LH and RH Sash Stiles to the dimensions shown.

Ensure the machine Cut-Out is 110mm x 29mm at least 33mm deep.

**** CRITICAL STEP ****

Measure the Latch Box Cut-Out using the strut selection table. The measurement of the Latch Box Cut-Out is from the top of the sash to the bottom of the Cut-Out. The Cut-Out will dictate that the sash opens to 90 Degrees.



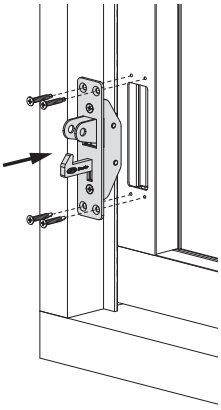


2.

Install the Latch Boxes into the Left-Hand Sash and Right-Hand Sash Cut-Outs using four 10Gx25mm screws.

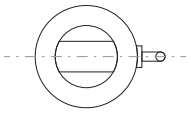
(Left-Hand side shown, repeat for Right-Hand side).

Push the Latch box all the way down to the bottom of the Cut-Out.

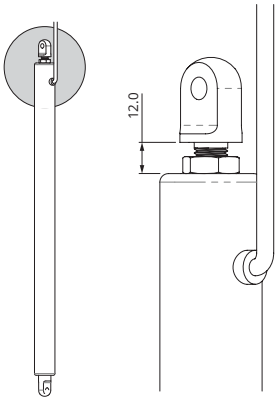


3.

On each Power Strut Actuator: Adjust the gap between the Eyelet and the Main Body to 12mm, then lock off with Locking Nut.



Try and line up the Eyelet end with the Actuator cable exit as shown.



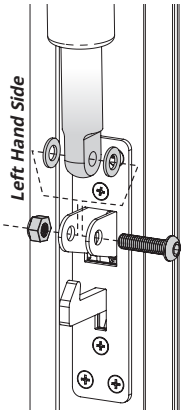
4.

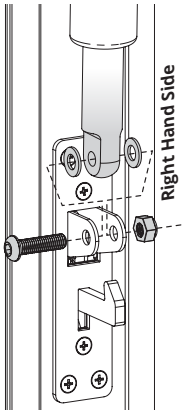
Mount the bottom of the Actuator onto the Latch Box using the M8x30mm Bolt, Nyloc Nut and Washers.

Ensure the Washers are placed on either side of the Actuator Eyelet.

**** CRITICAL STEP ****
When you have the bolt fitted into the latch box, only hand tighten the nut, further adjustment may be needed.

DO NOT TURN THE LOWER LEG OF THE STRUT AT ANY TIME DURING THIS STEP. ADJUSTMENT TO BE MADE AT THE TOP EYE ONLY.



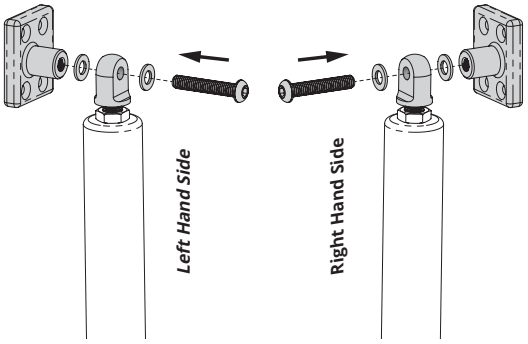


5.

Mount the top of the Actuator to the Top Bracket with the supplied M8x45mm Bolt and Washers.

Ensure the Washers are placed on either side of the Actuator Eyelet.

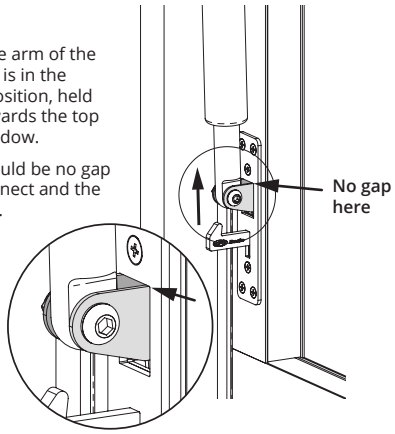
Wind in all the way but don't tighten yet, more adjustments are required.



6.

Ensure the arm of the Latch Box is in the upright position, held firmly towards the top of the window.

There should be no gap in the connect and the face plate.



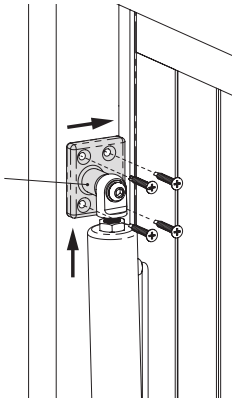
7.

At the top of the sash, hold the Top Bracket firmly against the frame while applying pressure towards the top of the window and the glass.

Ensure the Bracket is rotated so the threaded post sits **furthest away** from the glass.

Install the LH and RH side Top Brackets using four 10Gx25mm screws each.

If required, remove the Actuator to install any remaining inaccessible screw mounts.



8.

Position the Latch Post so that the flat side is firmly seated against the Latch Tongue.

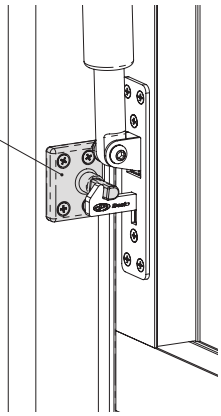
Ensure that the Latch Post is rotated so it is in the position closest to the glass.

Install the LH and RH Latch Posts in position with four 10Gx25mm screws each.

**** CRITICAL STEP ****
When the latch post is installed the Shape of the hook should nest neatly onto the post.

It is important that you do not push the hook down while positioning the latch post. There should be very little pressure on the latch post and hook.

**** Too Much Pressure on the hook is caused by the incorrect seal being fitted to the sash. ****



9.

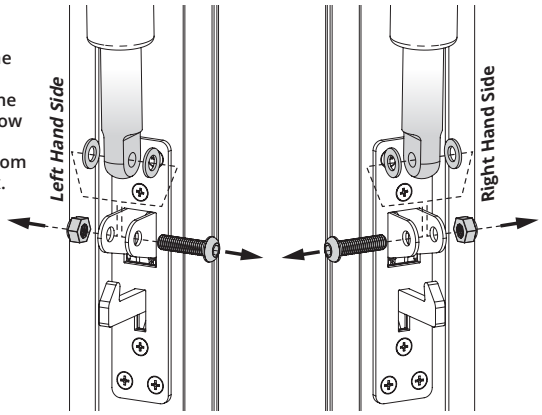
**** CRITICAL STEP ****
Stand the Frame up right.

All further tests are conducted with the frame in the upright position from here on in.

Ensure that the frame is vertically level and the base is secured in place ready to operate the sash.

10.

Disconnect the bolts in the lower leg of the Struts and allow the struts to move away from the Latch Box.

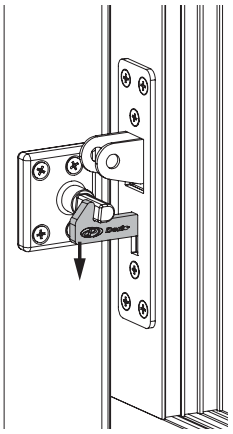


11.

With the help of an additional person, unlatch the hook frame the latch post.

This will allow the Sash to swing open about 100mm.

This is the natural resting spot of the sash due to the hinge connection.



12.

**** CRITICAL STEP ****

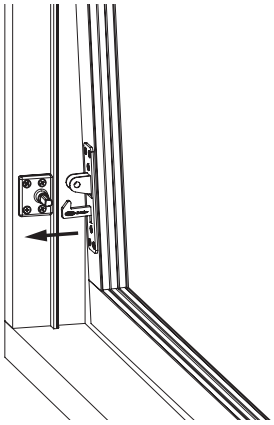
This step now checks the correct latching function.

Carefully pull the window into the closed position. Minimal force is required to correctly latch the sash.

The Latch Hooks should easily hook over the latch post.

**** Too Much Pressure on the hook is caused by the incorrect seal being fitted to the sash. ****

**** if you are experiencing latching issues at this stage, Stop, assess, rectify. ****



13.

At this point its time to connect the electricals. Please refer to the wiring schematics for correct connection.

Check List

1. Connect the 2 by Female leads from the Motors to the S102HL sync.
2. Connect the S102HL sync to the Controller.
3. Connect the Power to the controller.
4. Pair the remote if required.

Before operating the struts. Ensure there is no obstruction and the end is clear of the latch box.

Open the Actuators about 50mm by pressing **Open** of the Remote or Controller.

Once the Actuators reach 50mm press **STOP** on the Remote or Controller.

14.

Mount the bottom of the Actuator onto the Latch Box using the M8x30mm Bolt, Nylock Nut and Washers.

Ensure the Washers are placed on either side of the Actuator Eyelet.

**** CRITICAL STEP ****

When you have the bolt fitted into the latch box, only hand tighten the nut, further adjustment may be needed.

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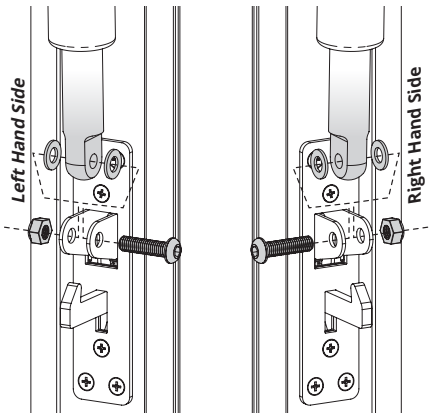


15.

Now that both actuators are re fitted, Press Close on the Remote / Controller. The Sash will now close.

**** Latched Correctly **** - No need for further adjustment, continue to Step 18

**** Left Hand did not latch fully **** - Further adjustment is required to LH only. Please follow from steps 16.

**** Right Hand did not latch fully **** - Further adjustment is required to RH only. Please follow from steps 16.

**** Both did not latch fully **** - Further adjustment is required to LH and RH. Please follow from steps 16.

16.

Open the window again to roughly 50mm of strut extension by selecting OPEN on the remote. Stop at 50mm extension.

The following adjustments are only carried out at the top of the Struts:

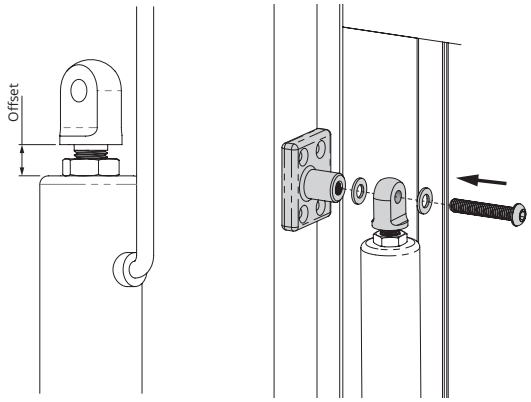
- Loosen the Lock nut a few turns
- Rotate the eye end clockwise to shorten ½ a turn only (Max 2 turns)
- Re-insert the bolt and nip up the lock nut

**** CRITICAL STEP ****

When adjusting the eye end of the strut, do not adjust more than 2 full turns of the eye end.

This will create additional force on the latch and hinges beyond the system design.

Continued adjust will cause damage to you frame, sash and VOID the warranty of the product.



17.

Now that both actuators are re connected, Press Close on the Remote / Controller. The Sash will now close.

**** Latched Correctly **** - No need for further adjustment, continue to Step 18

**** Left Hand did not latch fully **** - Further adjustment is required to LH only. Please follow from steps 16.

**** Right Hand did not latch fully **** - Further adjustment is required to RH only. Please follow from steps 16.

**** Both did not latch fully **** - Further adjustment is required to LH and RH. Please follow from steps 16.

18.

With the sash latching correctly, Open the frame 1 more time to around 50mm of strut extension.

Loosen the Lock nut at the eye end. Carefully turn the Main body of the Strut to position the Cable facing the Sash.

LH Strut Rotate Anti Clock Wise - RH Strut Rotate Clock Wise.

Grasp the Main body of the Strut and use a 19mm spanner to now tighten the Lock Nut.

Back out the M8x45mm Bolt and apply a few drops of thread lock and re-insert.

Do not over tighten.

Close the Sash and disconnect the electricals.

19. OPTIONAL CABLE COVER:

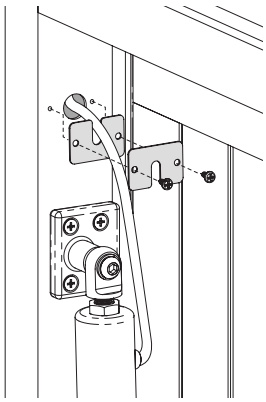
Drill a 22mm hole into each side of the frame above the Actuator and plug the Power Strut in.

Mount the two Stainless steel Faceplates with two 6G Pan Head screws to cover the 22mm hole.

**** CRITICAL STEP ****

Ensure sure cable exiting actuator is positioned closet to the glass

The Cable will need to have a bit of slack left in the cable to allow for movement when the sash opens and closes.

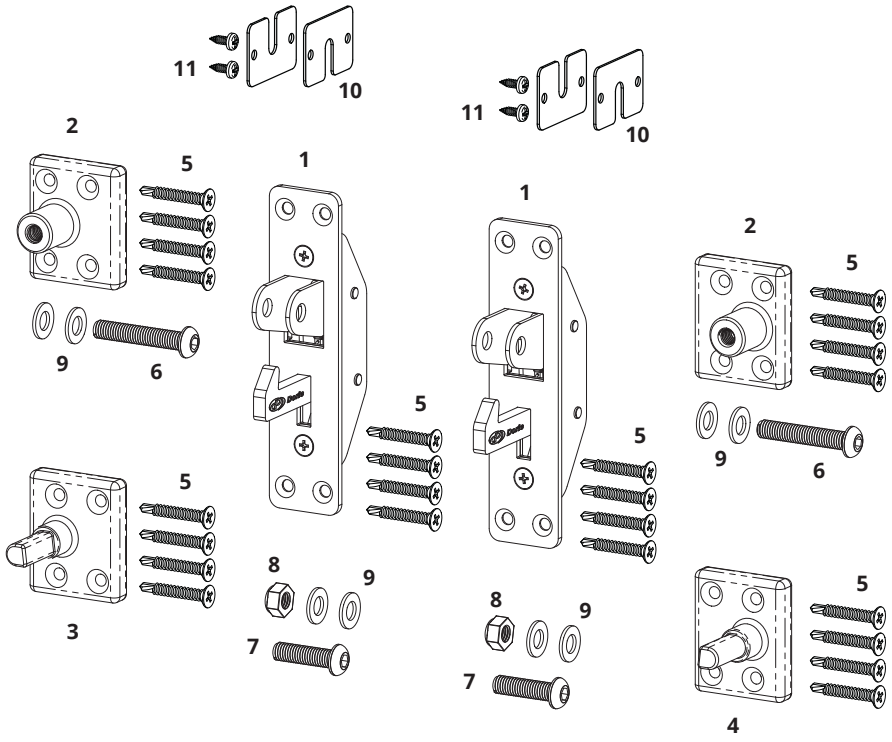


AUTOMATED HARDWARE

POWER STRUTS

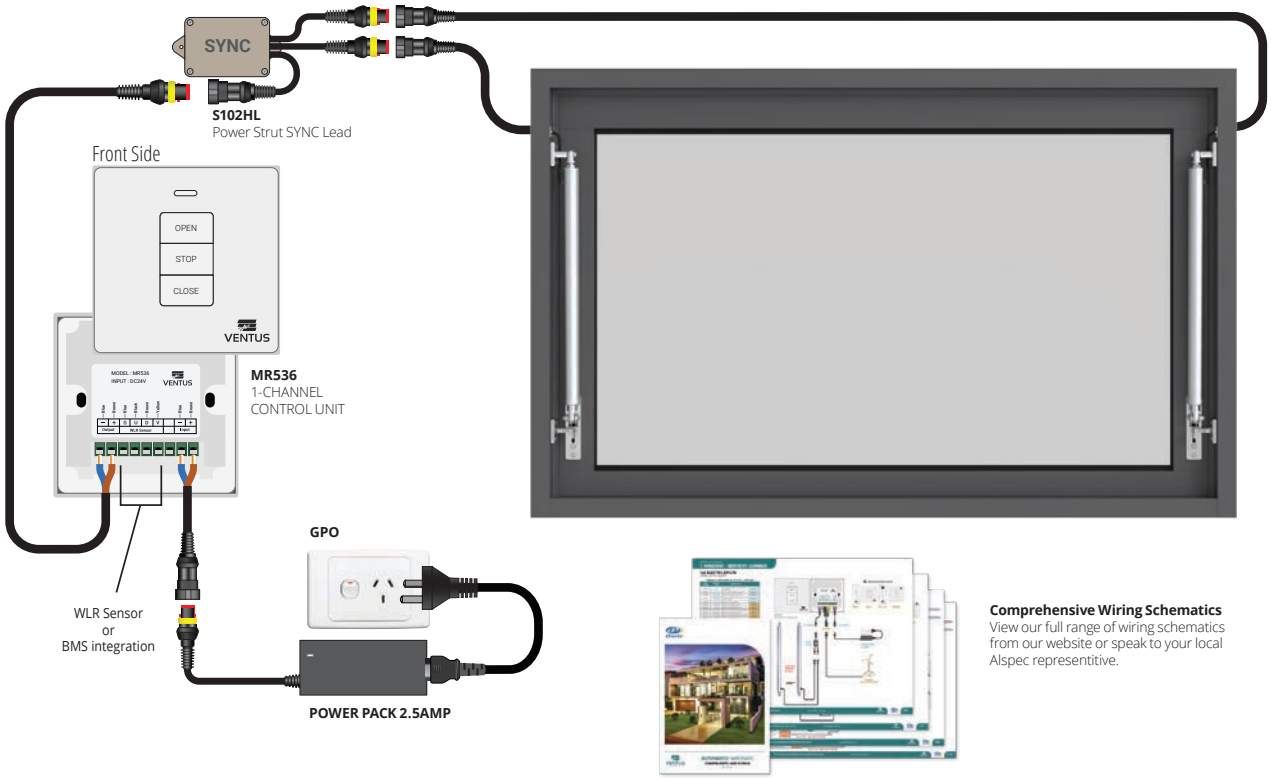
BILL OF MATERIALS

Item No.	Name	Qty
1	Latch Box	2
2	Top Bracket	2
3	LH Latch Post	1
4	RH Latch Post	1
5	10G x 25mm Screw	24
6	M8 x 45mm Bolt	2
7	M8 x 30mm Bolt	2
8	M8 Nyloc Nut	2
9	M8 Washer	8
10	Cable Cover Plate	4
11	6G x 10mm Screw	4



WIRING EXAMPLE

Illustrative Purposes Only. Not to scale



Comprehensive Wiring Schematics
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1 March 2024

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Automated Power Struts
Components & Wiring