PME

MOTORISED PROJECTOR CEILING MOUNT

INSTALLATION
INSTRUCTIONS

ISSUE **001**

SAFETY
DISCLAIMER

IMPORTANT SAFETY INSTRUCTIONS BELOW

WARNING: Failure to provide adequate structural strengthening, prior to installation can result in serious personal injury or damage to the equipment. It is the installer's responsibility to ensure the structure to which the component is affixed can support four times the weight of the component and any additional apparatus mounted to the component.

WARNING: Do not exceed the weight capacity for this product as listed below. This can result in serious personal injury or damage to the equipment. It is the installer's responsibility to ensure that the total combined weight of all attached components does not exceed that of the maximum figure stated.

WARNING: Risk of death or serious injury may occur when children climb on audio and/or video equipment or furniture. A remote control or toys placed on the furnishing may encourage a child to climb on the furnishing and as a result the furnishing may tip over on to the child.

WARNING: Risk of death or serious injury may occur. Relocating audio and/or video equipment to furniture not specifically designed to support audio and/or video equipment may result in death or serious injury due to the furnishing collapsing or over turning onto a child or adult.

⚠ **WARNING – RISK OF INJURY!** ⚠

Only for use with equipment weighing **77LBS (35KG) OR LESS**.

Use with heavier projectors/equipment may lead to instability causing tip over or failure resulting in death or serious injury.

Bracket Suitable for Residential and Commercial Use.

ADDITIONAL WARNINGS:
1. Keep all documentation/instructions after fitting.
2. Read all technical instructions fully before installation and use. It is the installer's responsibility to ensure that all documentation is passed on to the end user and read fully before operation.
3. Do not use near water or outdoors unless the product has been specifically designed to do so.
4. Protect any cables or cords being used near this bracket from being walked on or pinched to prevent damage and risk of injury.
5. Use this product only for its intended purpose as described in the product instructions and only use attachments/accessories specified by the manufacturer.
6. Do not operate the product if it is damaged in any way, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped. Contact the original installer/manufacturer to arrange repair or return.

WARNING - To reduce the risk of burns, fire, electric shock, or injury to persons:
1. Clean only with a dry cloth and always unplug any electrical items being used in conjunction with this product before cleaning.

Future Sound & Vision trading as Future Automation intend to make this and all documentation as accurate as possible. However, Future Automation makes no claim that the information contained herein covers all details, conditions or variations, nor does it provide for every possible contingency in connection with the installation or use of this product. The information contained in this document is subject to change without prior notice or obligation of any kind. Future Automation makes no representation of warranty, expressed or implied, regarding the information contained herein. Future Automation assumes no responsibility for accuracy, completeness or sufficiency of the information contained in this document.

PRODUCT WARRANTY
& RISK ASSESSMENT

WARRANTY INFORMATION

WARNING - The warranty offered for this product shall be annulled if the product is used improperly or in a way that is in breach of our Terms of Service.

Future Automation provides warranty for the mechanism you purchased for the period of **24 months** from the date of purchase, provided that it isn't used for unintended purposes.

Under the warranty, Future Automation aims to either solve the issue remotely (via telephone or email support) or if the mechanism requires a part, arrange a visit to your premises by a Future Automation approved engineer or send replacement items where appropriate.

Warranty repairs will be carried out as quickly as possible, but subject to parts availability. This warranty period is respectively extended for the period of a repair.

A malfunctioning product must be cleaned and placed into suitable packaging to protect against transit damage before organising delivery to a repair workshop.

All the complaints about defects must be submitted to the vendor/installer that sold this product, rather than directly to the manufacturer.

Any part of your system that needs to be replaced during a warranty repair becomes the property of Future Automation.

The warranty does not cover the following:
*   Damages resulting from improper product use or maintenance.
*   Repairs carried out by unauthorized persons.
*   Natural wear and tear during operation.
*   Damages caused by the buyer.
*   Accidental damages caused by a customer or damages caused as a result of careless attitude or usage, or damages caused by natural disasters (natural phenomena).
*   Any electrical, or other environmental work external to your Future Automation mechanism including power cuts, surges etc.
*   Additional items not supplied by Future Automation although they may have been supplied together by the retailer
*   Any 3rd party software products controlling your mechanism
*   Any transfer of ownership. Warranty is provided only to the initial purchaser.
*   Compensation for loss of use of the product, and consequential loss of any kind.

A separate Safety and Servicing Information document is provided with these instructions (additional copies can be found at www.futureautomation.co.uk/safety), and this document **MUST** be filled out by the approved Future Automation Dealer who is installing the product. This Warranty Sheet must be held by the end user for the duration of the products life and will be referred to during servicing or warranty queries.

The Safety and Servicing Information document also contains two Service History Forms that must be filled in by the approved Future Automation dealer who is performing the first required yearly service of this product.

One copy of the Service History Form must be held by the customer (along with the Warranty Sheet) and a duplicate copy must be held by the approved Future Automation dealer that performed the service. Missing and/or mismatching documents may delay or invalidate warranty claims.

Additional Service History Forms can be found on the Future Automation website for further yearly services.

RISK ASSESSMENT INFORMATION

It is the installer's responsibility to perform a risk assessment of installed products. Future Automation can provide guidelines to installers/dealer about what should be included in a risk assessment, but due to the individual nuances of each location/site, Future Automation cannot provide a full list of areas to risk assess.

For full risk assessment and safety information please view our Safety and Servicing guide available at www.futureautomation.net/safety

GUIDE
CONTENTS

PACKAGE
CONTENTS

1 - ELECTRIC PROJECTOR MOUNT
      1.1 - PM MAIN BODY
      1.2 - CM POLE
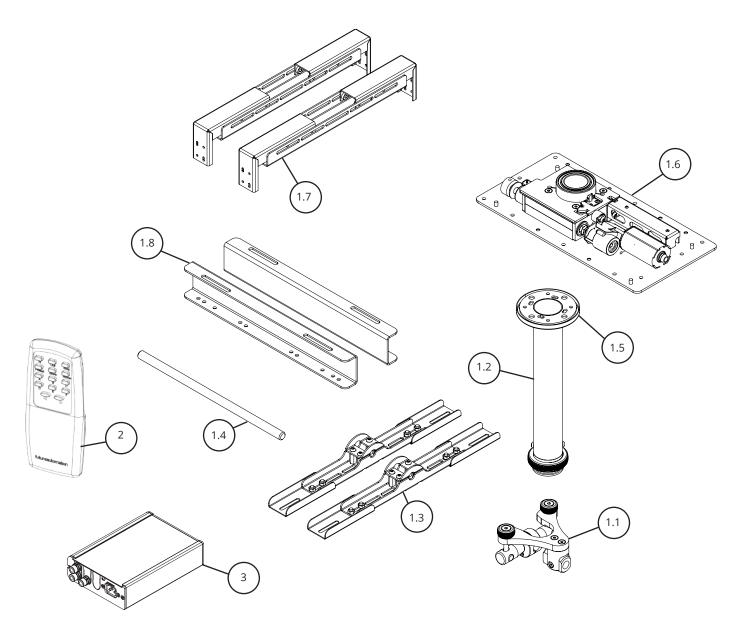   1.3 - PM CROSS PLATES AND CLAMPS
      1.4 - PM CROSS BAR
      1.5 - CM FLANGE COVER
      1.6 - SU4 SWIVEL UNIT
      1.7 - TELESCOPIC JOIST MOUNTING BRACKETS
      1.8 - SIDE MOUNT BRACKETS

2 - IR REMOTE

3 - CONTROL BOX

ITEMS NOT SHOWN ON PAGE (IF APPLICABLE)
      (ELECTRIC PROJECTOR MOUNT) ACCESSORY PACK:
      - PROJECTOR FIXINGS PACK
      (MULTI-PACK OF NUTS, BOLTS, SPACERS AND WASHERS)

MECHANISM
QUICK-START GUIDE

Some Future Automation mechanisms may ship with the control box disconnected to prevent damage during transit. In order to operate the mechanism, the control box will need to reconnected, then have mains power applied along with the desired control method.

RECONNECTING THE CONTROL BOX

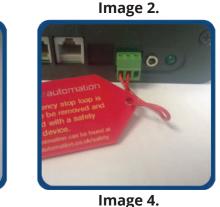To reconnect the mechanism control box, follow the below steps:

1. Make sure the power is disconnected from the control box.

2. Remove the retaining screw and washer from the end of the control box to allow removal of the control box lid. (Image 1 Below).

3. Slide off the control box lid to reveal the control board inside.

4. Locate the green connector on the end of the loom leading from the lift mechanism. This plug will have a small tag attached stating the correct connecting socket on the control board (e.g. "AC1", "DC2"...) (Image 2 Below).

5. Plug the green connector into the corresponding socket on the control board. This plug is handed and will only connect correctly one way. Do NOT force the connector into the socket, this can cause serious damage to the control board and mechanism.

6. Route the wiring loom out of the end of the control box by inserting the black plastic inserts into the slots provided. (Image 3 Below).

7. Slide the control box cover back over the control board and replace the fixing screw and washer.
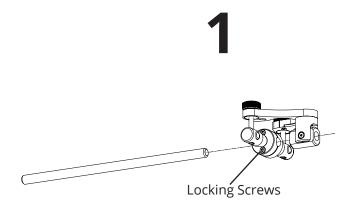

Image 1.

Image 2.
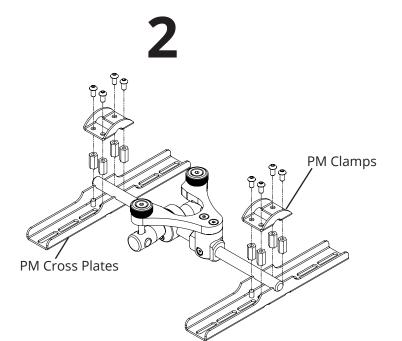

Image 3.

Image 4.

IMPORTANT
For the mechanism to operate, the green three way safety connector with the loop of wire attached, must also be plugged into the end of the control box. (Image 4 above).
If this connector is not plugged in, a bright red LED will be visible inside control board and the Input Confirmation Input LED will be permanently illuminated.

ASSEMBLING THE
PROJECTOR MOUNT

1

- Locate the PM Cross Bar through the PM Main Body and secure in place by tightening the two Locking Screws
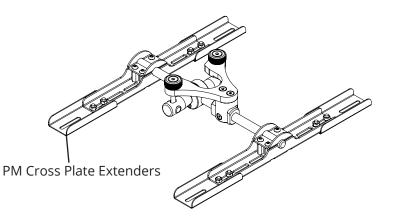
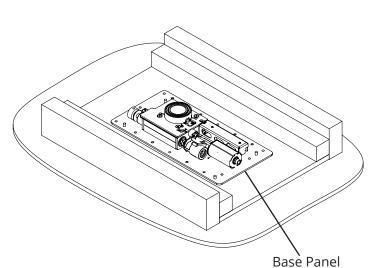   **NOTE: THIS WILL NEED TO BE ADJUSTED LATER TO SUIT SPECIFIC PROJECTOR**

Locking Screws

2

PM Clamps

PM Cross Plates

- The PM Cross Plates and PM Clamps can be fitted using the provided fixings and spacers

3

- PM Cross Plate Extenders are provided and can be added as an adapter for larger projectors.
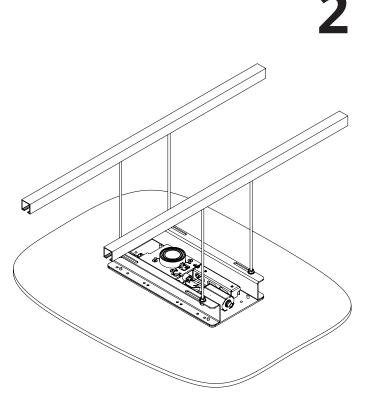
PM Cross Plate Extenders

MOUNTING
OPTIONS

1

Base Panel

SURFACE MOUNTING

Ensure the mounting surface is structurally suitable and appropriate fixings are used before continuing installation.

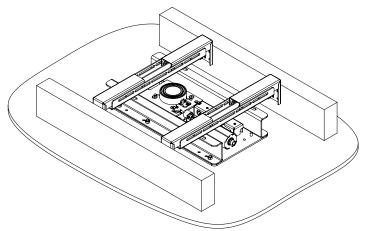- Fix to the surface directly through the M6 holes of Base Panel.

2

UNISTRUT MOUNTING

- Side mount brackets can be fixed to the base panel as an adapter for Unistrut mounting

- Slots in the top faces of the Side Mount Brackets allow for M8 studding (NOT provided) to be fixed between unistrut (NOT provided) and the mechanism.
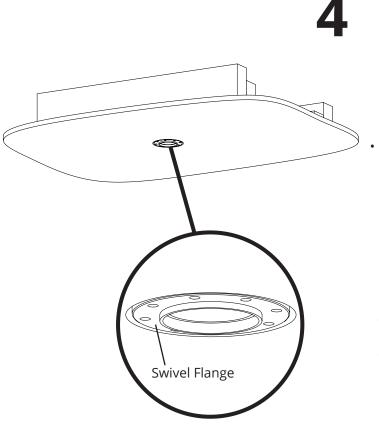
MOUNTING
OPTIONS CONT.

3

MOUNTING BETWEEN JOISTS

- Telescopic Joist Mounting Brackets can be secured to the slots in the top faces of the Side Mount brackets.

- The Telescopic Joist Mounting Brackets can then be extended to be secured to the joists.

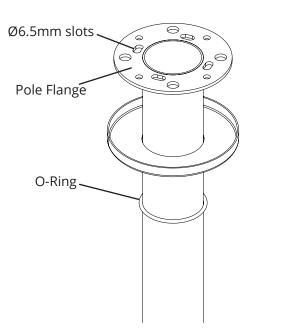**4**

- With all mounting options the Swivel Flange should sit flush with the ceieling
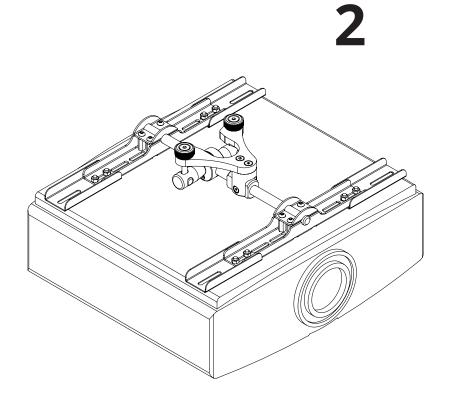
Swivel Flange

⚠️

IT IS THE INSTALLERS RESPONSIBILITY TO OBTAIN THE APPROPRIATE FIXINGS WHEN INSTALLING AND TO MAKE SURE THE MECHANISM IS SECURE AND SAFE.

INSTALLING THE
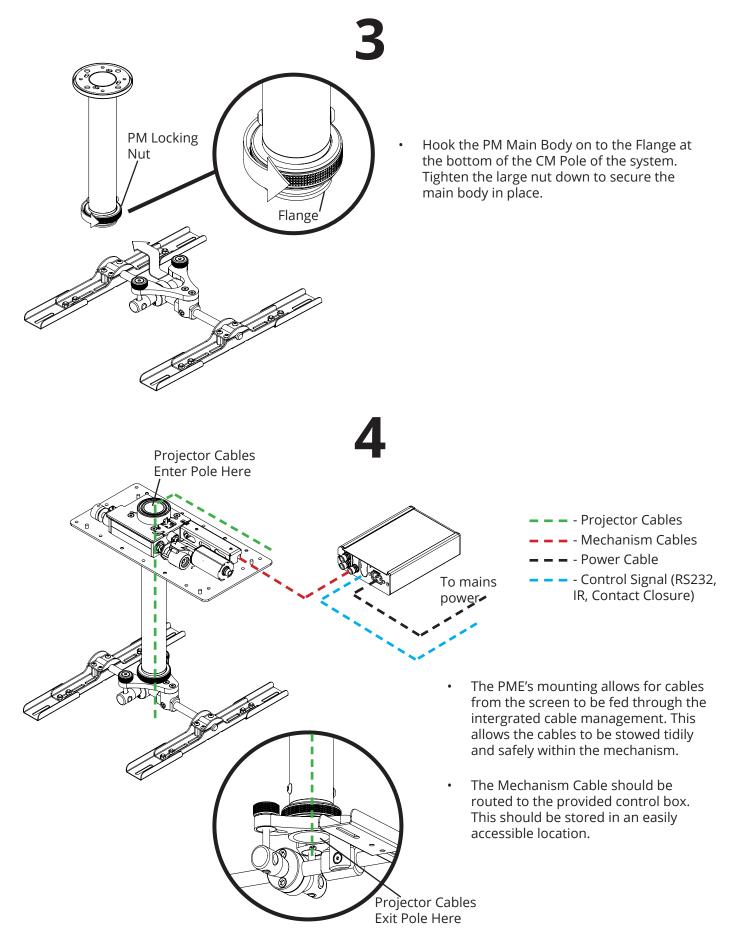## PROJECTOR MOUNT

1

Ø6.5mm slots

Pole Flange

O-Ring

- Slide the O-Ring down the CM pole to allow the CM Flange Cover to slide down the pole. Hold the CM Pole to the ceiling and connect the Pole Flange to the Swivel Flange through the four Ø6.5mm slots.

- Slide the CM Flange Cover to the ceiling to hide the CM Pole fixings and use the O-Ring to secure in place.
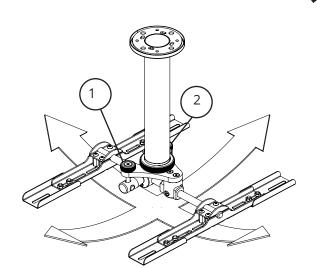
2

- Arrange the PM Cross Plates so they line up with the fixing holes on the projector. Use the fixings provided to secure into place.

- If you can't get the mounting plate to fit the projector, a custom adapter plate can be designed and manufactured.

  IT IS THE INSTALLERS RESPONSIBILITY TO MAKE SURE THAT THE PROJECTOR IS FIXED SECURELY AND SAFE

INSTALLING THE
PROJECTOR MOUNT CONT.

3

PM Locking Nut

Flange

- Hook the PM Main Body on to the Flange at the bottom of the CM Pole of the system. Tighten the large nut down to secure the main body in place.

4

Projector Cables Enter Pole Here

- - - - Projector Cables
- - - - Mechanism Cables
- - - - Power Cable
- - - - Control Signal (RS232, IR, Contact Closure)

To mains power

- The PME's mounting allows for cables from the screen to be fed through the intergrated cable management. This allows the cables to be stowed tidily and safely within the mechanism.

- The Mechanism Cable should be routed to the provided control box. This should be stored in an easily accessible location.
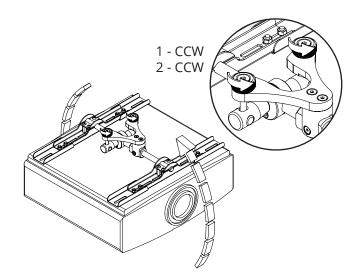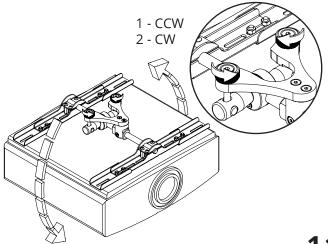
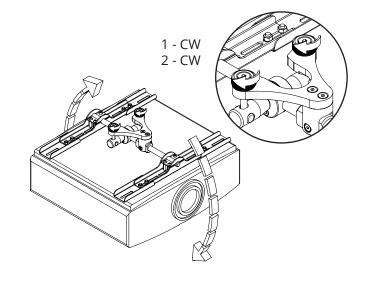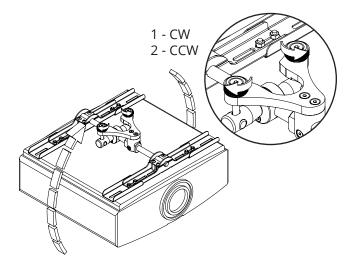Projector Cables Exit Pole Here

PRECISION
ADJUSTMENT

1

- The position of the projector can be Tilted and/or Pitched by adjusting 2 knurled knobs on top of the main body.

2

- Rotate both knobs in SAME DIRECTION to adjust TILT
- Rotate both knobs in OPPOSITE DIRECTION to adjust PITCH

1 - CW
2 - CW

1 - CCW
2 - CCW

1 - CW
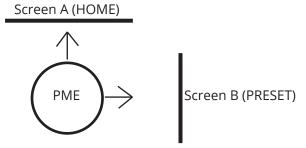2 - CCW

1 - CCW
2 - CW

11

CONFIGURING
THE PME

In order to successfully configure the PME to accurately alternate between two screens follow the steps below. Do not skip a step and follow the exact procedure in sequence as failure to do so may result in inaccurate projection.

INSTRUCTIONS ON THE IR REMOTE CONTROL CAN BE FOUND ON PAGE 14

Throughout these two button instructions beginning with [STORE] must be entered sequentially with no more than 2 seconds between each (e.g. [STORE] { < 2 seconds} [PRESET])
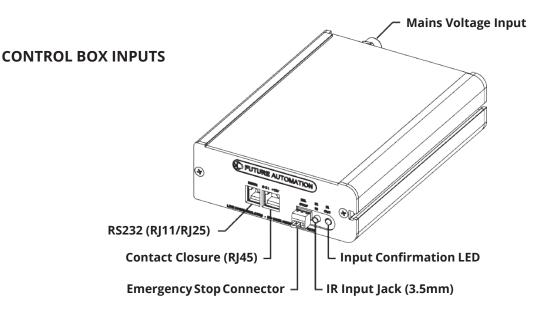
1. Once physically installed, Press [HOME] on the Future Automation remote control.
   a. If the swivel moves, wait for it to stop before proceeding to step 2

2. Loosen the large fixing nut and adjust the mount so that the projector is targeting Screen A (the example below shows SCREEN B at 90 degrees clockwise to SCREEN A, but it can be at any angle clockwise or anticlockwise from HOME)

Screen A (HOME)

PME → Screen B (PRESET)

3. Tighten the fixing nut.

4. Press [<] or [>] on the Future Automation remote control to drive the mount at least 10 degrees towards the location of SCREEN B

5. Press [HOME] to return the mount to the SCREEN A position.

6. If any final adjustments to the SCREEN A position are required, loosen the large fixing nut and make them now.

7. Now use [<] and [>] to position the unit so the projector is targeting SCREEN B as closely as possible. This does not need to be 100% accurate at this stage as the rest of this procedure will allow for fine adjustments of approximately 2mm per metre of projection distance.

8. Press [STORE] [PRESET] to record this angle.

9. Press [HOME] and wait for the mechanism to stop at the SCREEN A positon.

10. Press [PRESET] and wait for the mechanism to test the SCREEN B position.

11. If a fine adjustment is required,
    a. Press [STORE] [D] to make a clockwise adjustment and [STORE] [F] for anticlockwise
    b. The swivel will not move but the adjustment shall be saved
    c. Successive adjustments can be made, each equating to approximately 2mm per metre of projection distance

12. Once you have finished making fine adjustments, press [HOME] and allow the mechanism to stop at the SCREEN A position

13. Test the new SCREEN B position by pressing [PRESET]. If any further fine adjustments are required, repeat from step 12

GENERAL
CONTROL

This mechanism has multiple standard control methods, each of which requires a different input method to the control box. For ease, the input sockets on the control board are labelled below. **(Control box size and style may vary to image shown)**
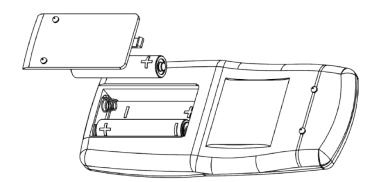
CONTROL BOX INPUTS

Mains Voltage Input

RS232 (RJ11/RJ25)

Contact Closure (RJ45)

Emergency Stop Connector

Input Confirmation LED

IR Input Jack (3.5mm)

MECHANISM EMERGENCY STOP CONNECTOR

This mechanism features an Emergency Stop Connector, which MUST be plugged into the control box in the connector labelled above for the mechanism to operate. If this connector is not plugged in, the Input Confirmation LED will be permanently lit. As per the red plastic tag attached to the Emergency Stop Connector (and shown below), the small loop of wire in this connector is designed to be replaced by a third party safety mechanism.

Refer to Mechanism Instructions.

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This emergency stop loop is designed to be removed and replaced with a safety device.

Full safety information can be found at www.futureautomation.co.uk/safety

REPLACING MECHANISM BATTERIES

The standard Future Automation Infrared (IR) remote control required x2 AAA batteries to operate. These are provided with the mechanism in the Accessories Pack. These batteries can be replaced as the per the image below.

INFRARED
(IR)

This Mechanism can be controlled via the supplied 14 button Infrared (IR) Remote Control, pair with the supplied Infrared (IR) lead and sensor.

The mechanism's functions can be controlled by plugging the Infrared (IR) lead and sensor into the 3.5mm IR Input Jack shown on the General Mechanism Control page.

Confirmation of Infrared (IR) input will be shown by a single flash of the large green LED located on the end of the control box.

As Infrared (IR) control works over line of site, the Infrared (IR) sensor must be directly viewable from what ever location the remote control is being used from.

Infrared (IR) Remote Control Button Layout

IN - Takes mechanism to forward facing centre position (Screen A).
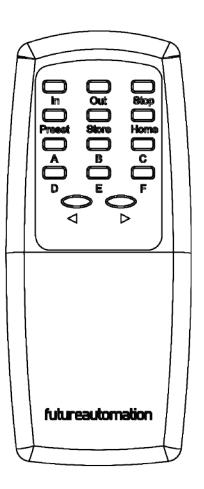
PRESET - Brings the mechanism to mechanism to learnt position of Screen B.

OUT - Swivels the mechanism to learnt OUT position (Screen B).

HOME - Takes mechanism to forward facing, Screen A when swivelled.

STOP - Will stop the operation of the mechanism at ANY position.

< - Rotates mechanism left.

> - Rotates mechanism right.

STORE - Programs current mechanism position to learn position.

STORE + PRESET - Pressed with 2 seconds of each other stores Screen B as **PRESET** position.

STORE + D - Pressed with 2 seconds of each other, clockwise fine adjustment to Screen B position.

STORE + F - Pressed with 2 seconds of each other, clockwise fine adjustment to Screen B position.

IMPORTANT
Only buttons indicated above are functional with the product. Any other button press will STOP the mechanism.
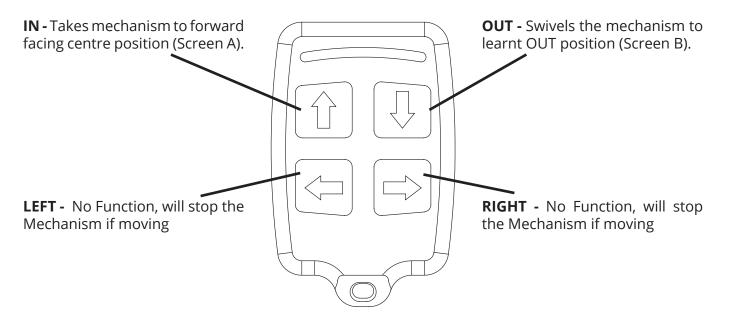
RADIO FREQUENCY
(RF)

If purchased with the Radio Frequency (RF) control option, this mechanism can be controlled via the supplied 4 button Radio Frequency (RF) Remote Control, paired with the in-built Radio Frequency (RF) sensor.

Confirmation of Radio Frequency (RF) input will be shown by a single flash of the large green LED located on the end of the control box.

Radio Frequency (RF) control does not require line of site, but signal can affected cabinet thickness, cabinet material or other electronic signals (i.e. strong WIFI signals).

Radio Frequency (RF) Remote Control Button Layout

IN - Takes mechanism to forward facing centre position (Screen A).

OUT - Swivels the mechanism to learnt OUT position (Screen B).

LEFT - No Function, will stop the Mechanism if moving

RIGHT - No Function, will stop the Mechanism if moving

The Radio Frequency (RF) Remote Control can only be used to recall the above functions.

The mechanism limits and preset positions must be programmed using the supplied Infrared (IR) Remote Control.

IMPORTANT
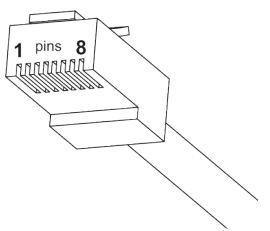Pressing any button while the mechanism is moving will STOP the mechanism.
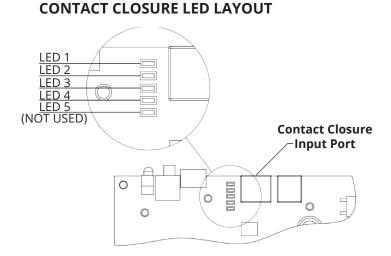
CONTACT
CLOSURE

This Mechanism can be controlled via Contact Closure, utilising an 8 Pin RJ45 Connector attached to a length of CAT5 (Type 568A or 568B) cable.

The mechanism's functions can be controlled by plugging this into the RJ45 port on the mechanism control board, then shorting pins 1-8 on this connector as shown in the Contact Closure Input Table below.

Confirmation of Contact Closure input will be shown by a single flash of the large green LED located on the end of the control box, as well as illumination of the corresponding Contact Closure LED on the printed circuit board as shown below.
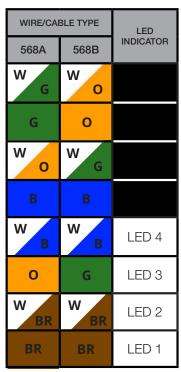
RJ45 PIN LAYOUT

CONTACT CLOSURE LED LAYOUT

CONTACT CLOSURE INPUT TABLE

PIN	DESCRIPTION	ACTION	WIRE/CABLE TYPE 568A	WIRE/CABLE TYPE 568B	LED INDICATOR
1	12V SUPPLY	12V SUPPLY - CURRENT LIMITED	W/G	W/O	
2	12V LATCH	WHEN 12V ATTACHED, DEVICE WILL MOVE TO PRESET POSITION. WHEN 12V REMOVED, DEVICE WILL GO IN.	G	O	
3	GROUND	GROUND	W/O	W/G	
4			B	B	
5	EMERGENCY STOP	MOMENTARY SHORT TO GROUND (PIN 3) WILL STOP THE DEVICE	W/B	W/B	LED 4
6	EMERGENCY STOP	MOMENTARY SHORT TO GROUND (PIN 3) WILL STOP THE DEVICE	O	G	LED 3
7	DEVICE PRESET	MOMENTARY SHORT TO GROUND (PIN 3), DEVICE WILL MOVE TO PRESET POSITION AND TARGET SCREEN B.	W/BR	W/BR	LED 2
8	DEVICE HOME	MOMENTARY SHORT TO GROUND (PIN 3), DEVICE WILL MOVE TO OUT POSITION AND TARGET SCREEN A.	BR	BR	LED 1

IMPORTANT
THE DEVICE CAN BE STOPPED BY SHORTING PINS 5,6,7 OR 8 TO GROUND (PIN 3) WHILST THE DEVICE IS MOVING
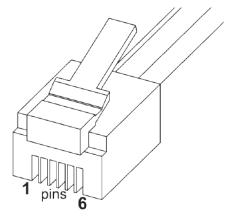
RS232
CONTROL

This Mechanism can be controlled via RS232, utilising a 6 Pin RJ11/RJ25 connector OR 9 Pin Serial connector attached to a length of 6 core cable.

The mechanism's functions can be controlled by plugging this into the RJ11/RJ25 port on the mechanism control box, then inputting the RS232 commands shown in the RS232 Input Table below.
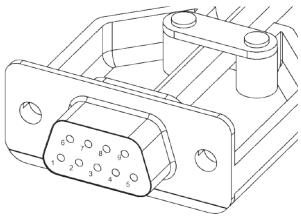
Confirmation of Contact Closure input will be shown by a single flash of the large green LED located on the end of the control box.

RJ11/RJ25 PIN LAYOUT
PIN 1: RX
PIN 6: TX
PIN 3 & 4: GROUND

SERIAL PIN LAYOUT
PIN 2: RX
PIN 3: TX
PIN 5: GROUND

RS232 PROGRAMMING DETAILS
Baud Rate: 9600

Stop Bit: 1

Parity: None

Databits: 8

RJ11/RJ25	Func.	9 PIN Serial	Colour
PIN 1	TX-RX	PIN 2	Blue
PIN 3	GROUND	PIN 5	Green
PIN 4	GROUND	PIN 5	Red
PIN 6	RX-TX	PIN 3	White

RS232 INPUT TABLE
IMPORTANT - Ensure all protocols are entered exactly as written below, including Carriage Return (ENTER / ASCII 13)

Protocol	Action
fa_in Carriage Return (Enter / ASCII 13)	Device Swivel Centre (Screen A)
fa_out Carriage Return (Enter / ASCII 13)	Swivel to preset OUT position (Screen B)
fa_right Carriage Return (Enter / ASCII 13)	Device Swivel RIGHT
fa_left Carriage Return (Enter / ASCII 13)	Device Swivel LEFT
fa_preset Carriage Return (Enter / ASCII 13)	Device Swivel to PRESET memory position (Screen B)
fa_stop Carriage Return (Enter / ASCII 13)	Device STOP (At any position)
fa_home Carriage Return (Enter / ASCII 13)	Device Swivel Centre (Screen A)

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