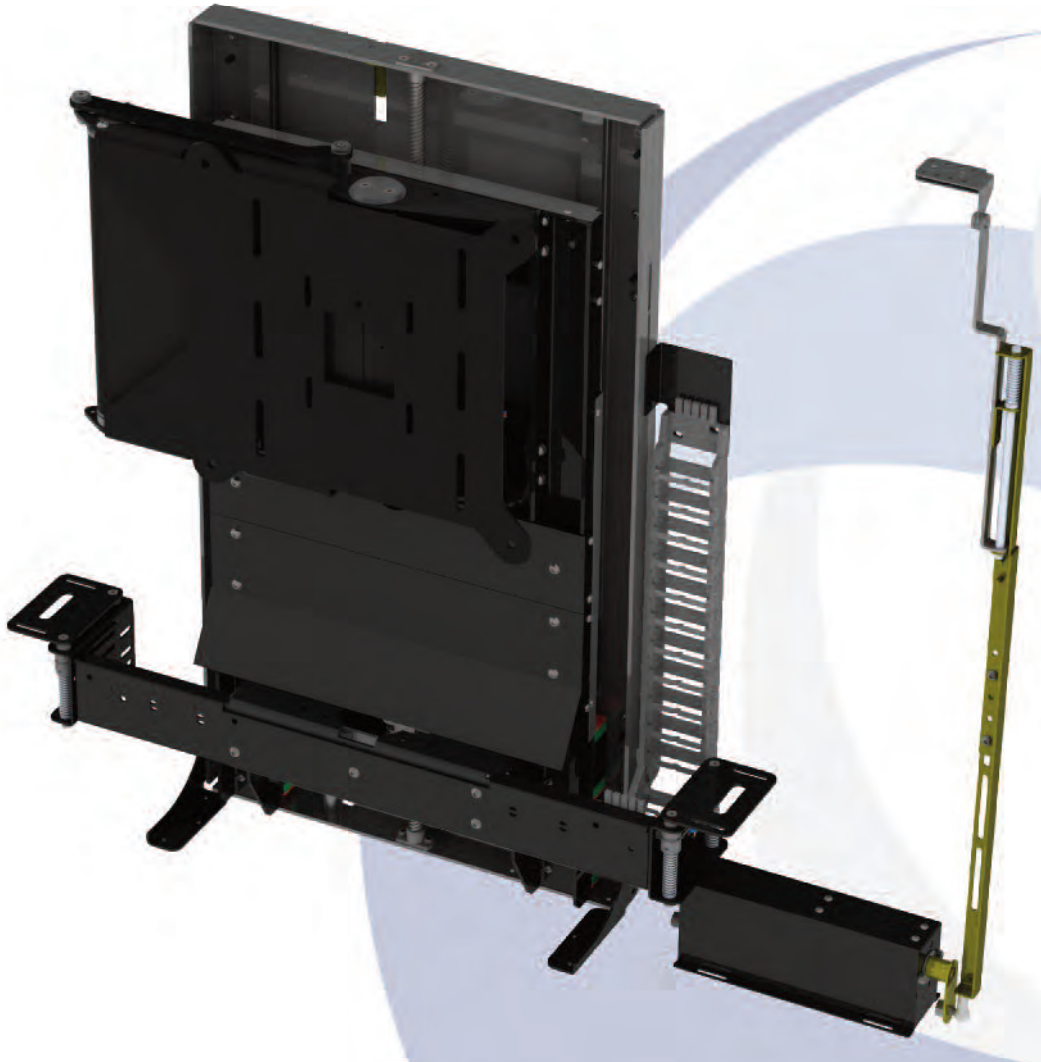
Installation Instructions

Lift Mechanisms

LSM-AR-EFA - Lift System Advacnce & Rotate with Electric Flap Actuator

Design Highlights

-Quiet Smooth Action at Approximately 40mm [1.6”] per Second
-Full Cable Management
-Wide Range of Mounting Options
-24V DC Motor. Suitable for Direct DC Supply



Thank you for choosing
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LSM-AR-EFA - Lift System Advance & Rotate with Electric Flap Actuator


Caution Warning


Beware of Moving Parts


Danger Electricity


Keep Hands Clear

Safety Disclaimer
Important Safety Instructions
Explanation of graphical symbols
-(Electric Shock Symbol) = The lightning flash within an equilateral triangle is intended to alert you to the presence of un-insulated "dangerous voltage" within the products enclosure that may be of sufficient magnitude to constitute an electric shock to persons
-(Caution Symbol) = The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product
-(Tools Symbols) = The tools symbol within a coloured square are intended to highlight the required tools necessary for correct and safe installation of the product. These are intended as a
guide only, and it is at the installer's discretion as to which tools are used.

WARNING: RISK OF ELECTRIC SHOCK, ONLY AUTHORIZED INSTALLERS TO OPEN THE POWER CONTROL BOX.
WARNING: To reduce the risk of fire or electric shock, do not expose electrical parts to rain or moisture, unless the product has been specifically designed to do so.
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 the four times the weight of the component.
WARNING: Do not exceed the weight capacity. 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: Failure to provide adequate structural strength for this component can result in serious personal injury or damage to equipment! It is the installer's responsibility to make sure the structure to which this component is attached can support five times the combined weight of all equipment. Reinforce the structure as required before installing the component.

Warnings:

1. **Read all technical instructions fully before installation and use. It is the installer's responsibility to ensure that all documentation is passed on the end user and read fully before operation.**
2. **Keep all documentation.**
3. **Heed all warnings.**
4. **Follow all technical specifications and instructions during installation.**
5. **Do not use near water unless the product has been specifically designed to do so.**
6. **Clean only with a dry cloth.**
7. **Do not defeat the purpose of the polarized or grounding type plug. A polarized plug has two blades, one wider than the other. A grounding type plug has two blades and a grounding prong. The wide blade or third prong are provided for your safety. If the provided plug does not fit your outlet, consult an electrician or contact the manufacturer.**
8. **Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where the exit from the apparatus.**
9. **Unplug the apparatus during lightning storms or when unused for long periods of time.**
10. **Only use attachments/accessories specified by the manufacturer.**
11. **Refer all servicing to qualified personnel. Servicing is required regularly on an annual basis, when the apparatus 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.**
12. **To completely disconnect the apparatus form the AC mains, disconnect the power cord plug from the AC receptacle on the power control box.**
13. **To prevent overheating, do not cover the apparatus. Install in accordance with the instructions.**
14. **UK, Ireland and Hong Kong only – The power cord is supplied with a 13A plug having an earthing pin. The apparatus is earthed and this pin is not required for safety, merely to operate the safety shutter of mains outlet.**
15. **No naked flames such as lit candles should be placed on the unit.**
16. **Observe and follow the local regulations when disposing of batteries.**
17. **Do not expose the unit to dripping or splashing fluids.**
18. **Do not place objects filled with liquid, such as vases, on the unit.**
19. **Do not expose the batteries to excessive heat such as sunshine, fire or the like.**
20. **For all mounted apparatus, the apparatus should be installed on solid wood, bricks, concrete or solid wood columns and battens.**
21. **Always turn off power at source before putting on or taking off parts and cleaning.**
22. **Do not use outdoors unless marked for outdoor use.**
23. **Exceeding the weight capacity can result in serious personal injury or damage to equipment.**

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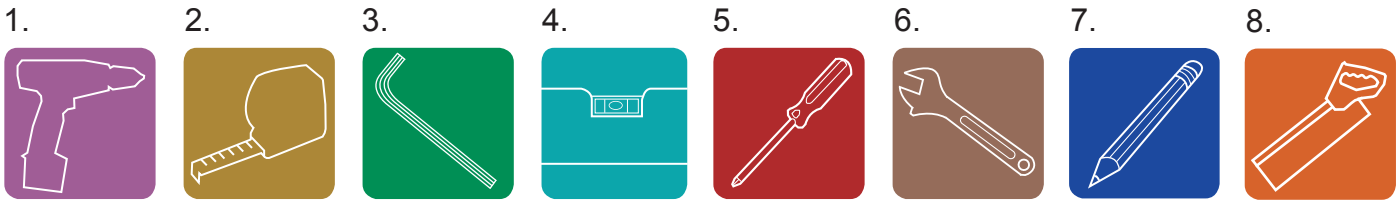
Tool Indicator Icons



1. - Drill
2. - Tape measure
3. - Allen Keys
4. - Spirit Level
5. - Screwdrivers
6. - Spanners
7. - Pencil
8. - Saw

Product Warranty

This product carries a warranty that covers the cost of labour and spare parts incurred by any defects in materials and workmanship under normal use during a two year period from date of purchase. Support for any problems that are not hardware faults are excluded from the warranty entitlement. This warranty does not affect your statutory consumer rights.

The following is excluded from warranty service:

- Malfunctioning caused by misuse or damage, accidental or otherwise, or service modification by persons not authorised by Future Automation, or the use of any non Future Automation supplied parts;
- Any electrical, or other environmental work external to your Future Automation mechanism including power cuts, surges or lightning strikes;
- 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;
- Use of the product over the specified weight capacity;
- Any damage to products during transit that is not checked and notified as “unchecked” or “damaged” upon receipt of delivery.

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

LSM-AR-EFA - Lift System Advance & Rotate with Electric Flap Actuator

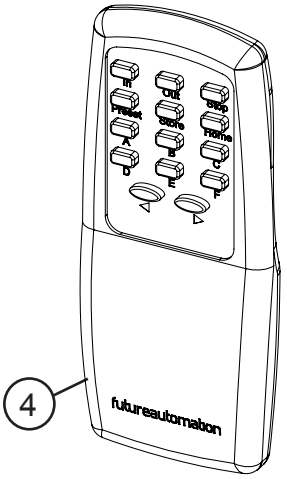
Package Contents

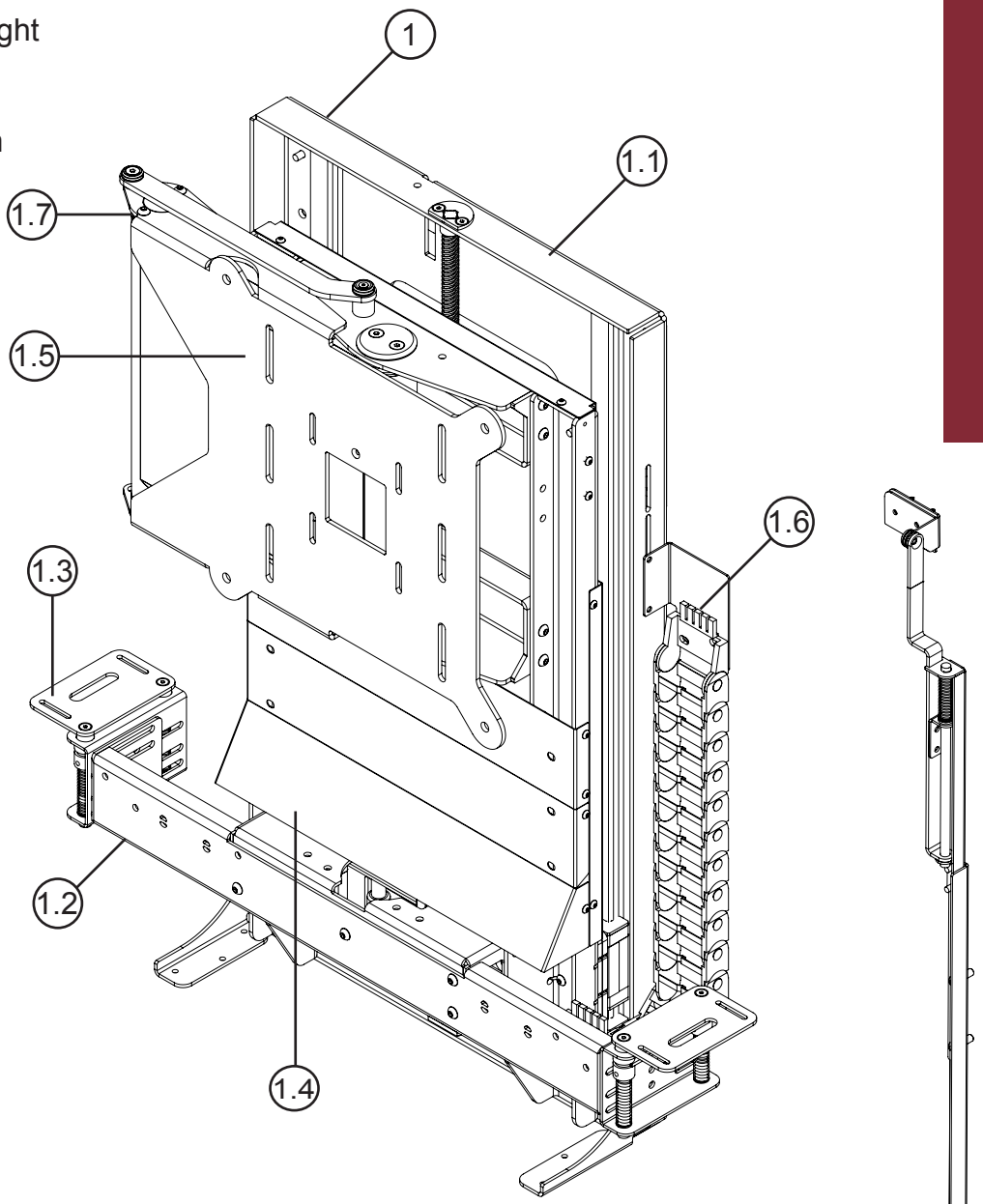
1 - Mechanism
1.1 - Back Plate
1.2 - Lifting Beam
1.3 - Base Panel Brackets
1.4 - FSE/PSE Mount Upright
1.5 - Screen Mount Arm
1.6 - Cable Management
1.7 - FSE/PSE Mechanism
2 - EFA Mechanism
3 - Control Box
4 - Remote Control

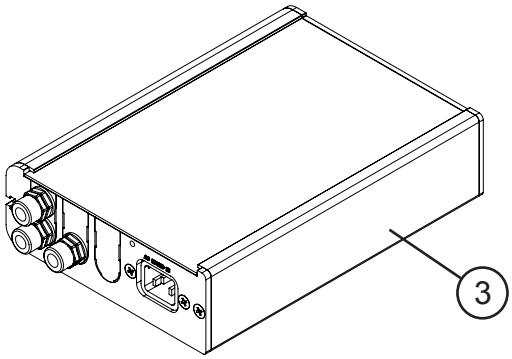
Not Shown On Page

5 - x2 AAA Batteries
6 - Multi Pack Of Nuts, Bolts & Washers
7 - Mains Power & Other Leads

Nuts & Bolts Multipack:
A range of nuts, bolts, washers and spacers to help add in the mounting for your screen







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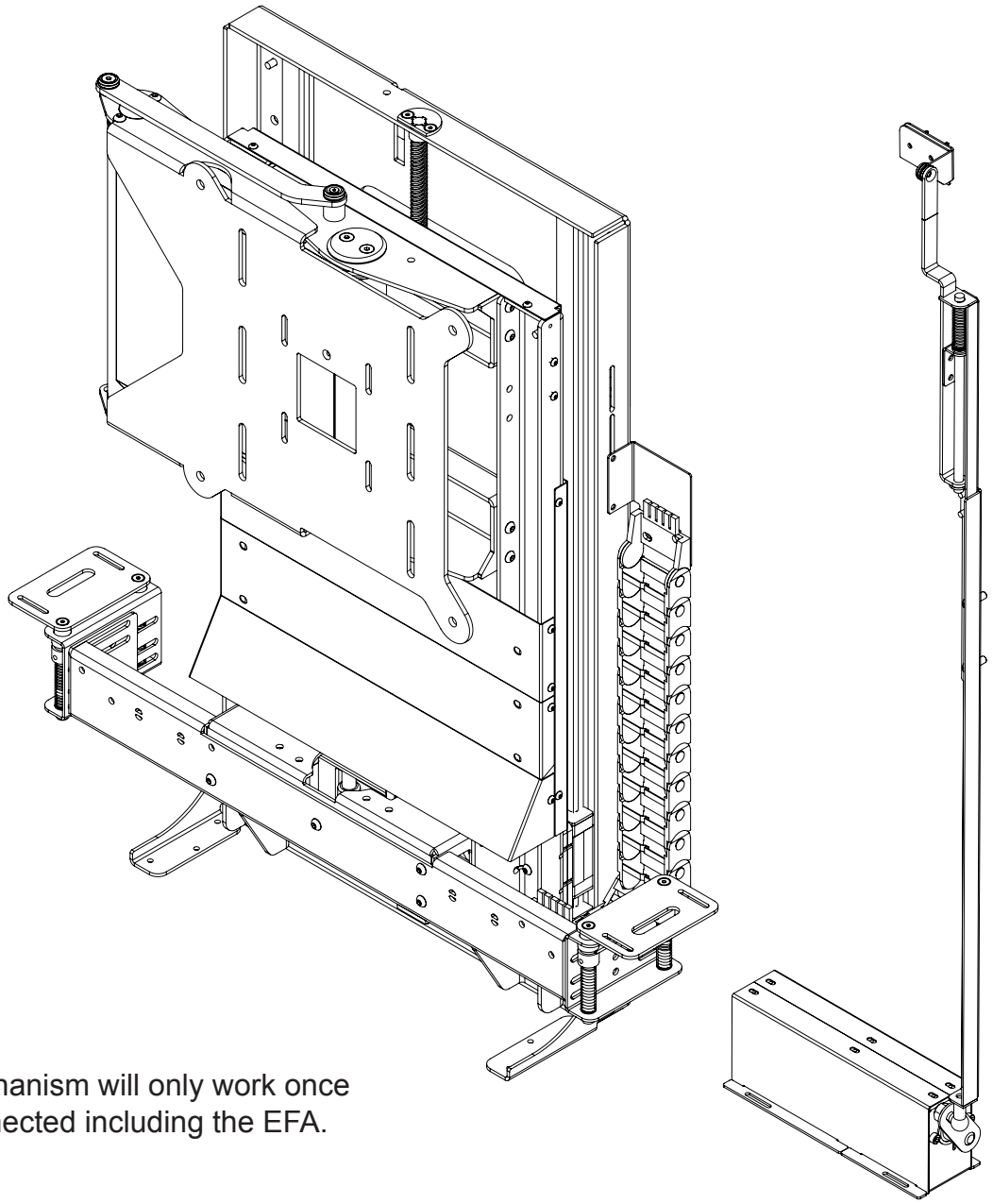
Before You Start

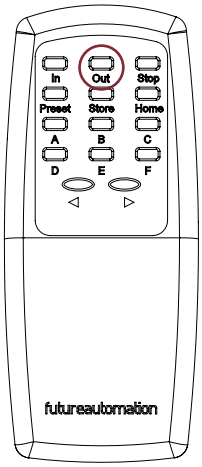
Check the Operation of the Mechanism.
Firstly, remove all the red cable ties which keep the mechanism safe and secure during transit.
Once they have all been removed, the mechanism can be powered up and tested.
Connect the supplied IR remote and check that the mechanism operates correctly before continuing with the installation.

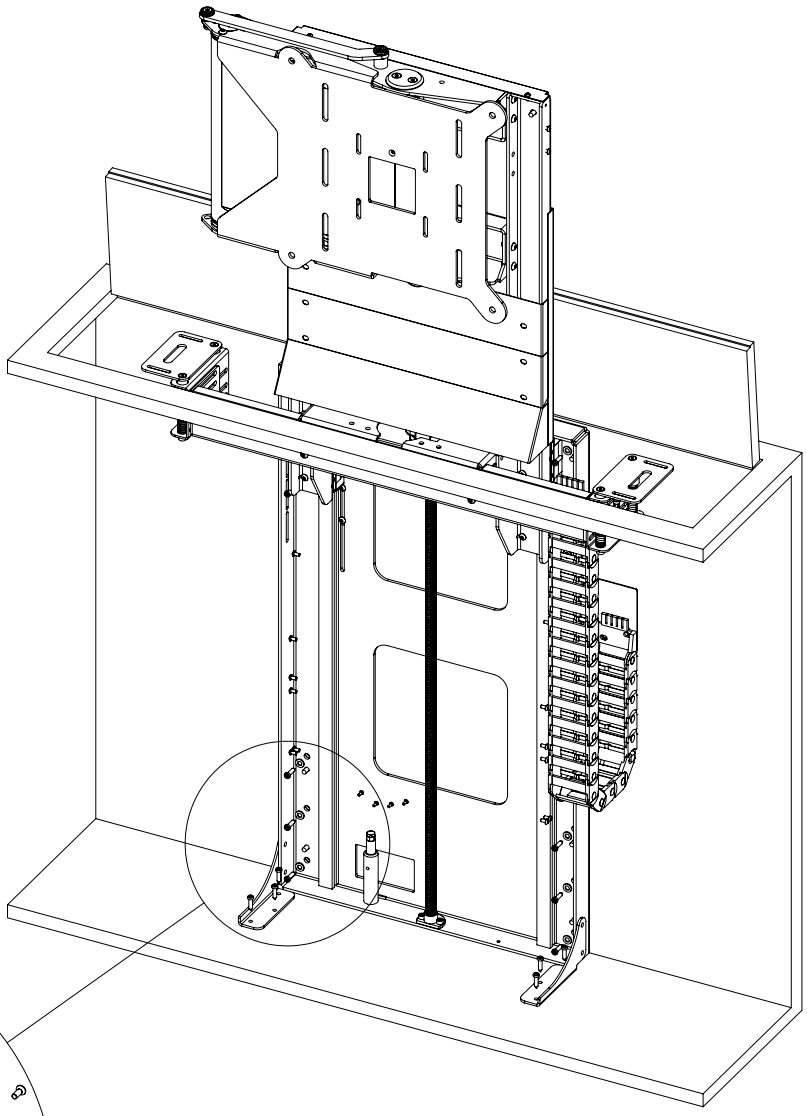


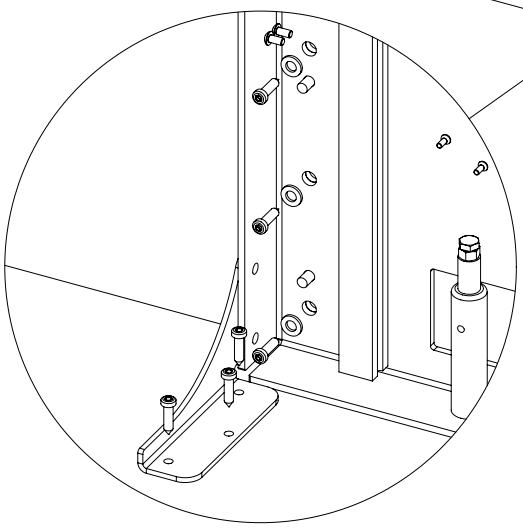
The mechanism will only work once fully connected including the EFA.

Fixing the Lift in the Cabinet

Place the mechanism centrally within the cabinet.
Raise the beam to the top and carefully guide the base through the opening in the top to align position.
Fix the lift where shown in all corners.

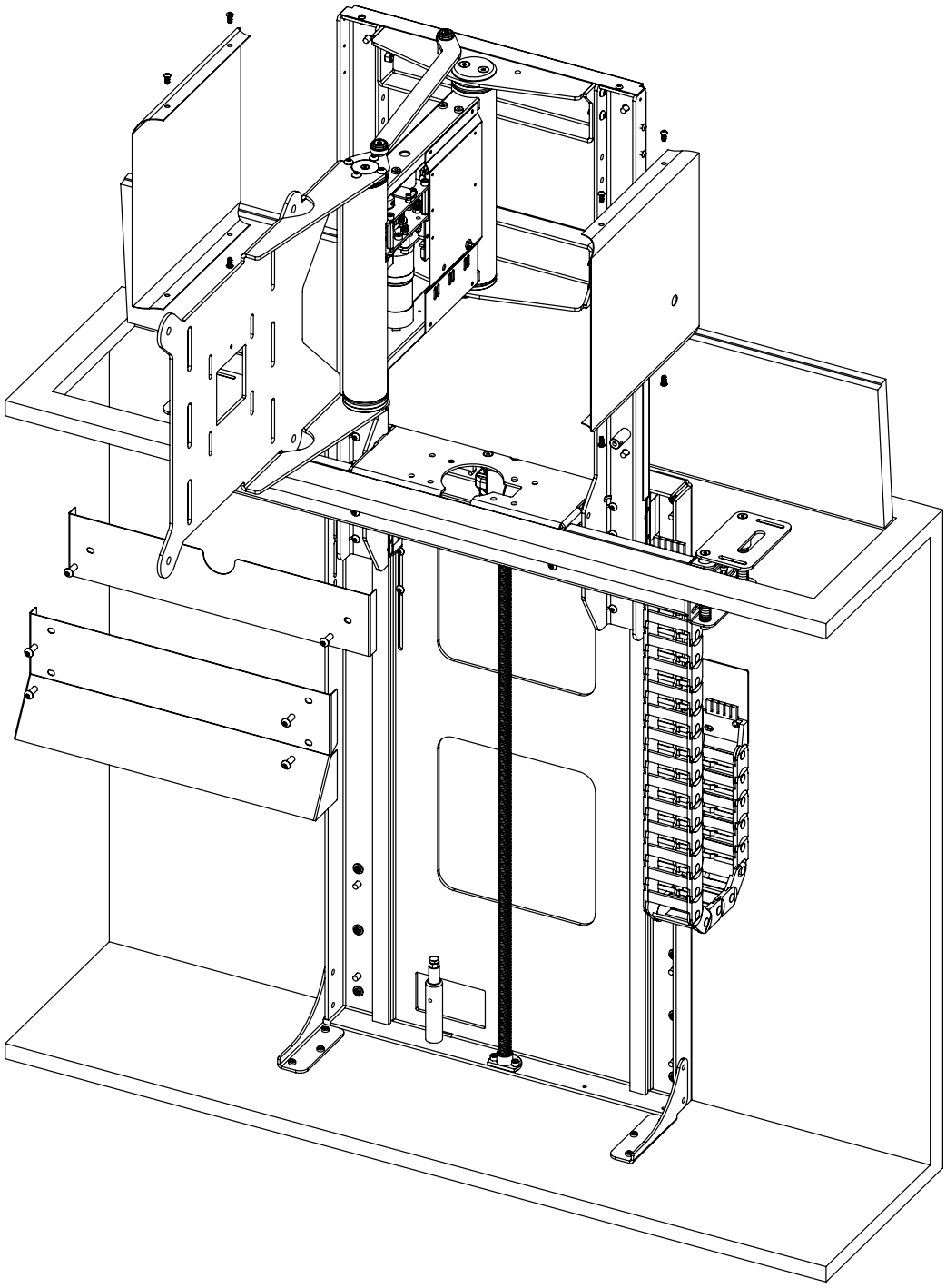






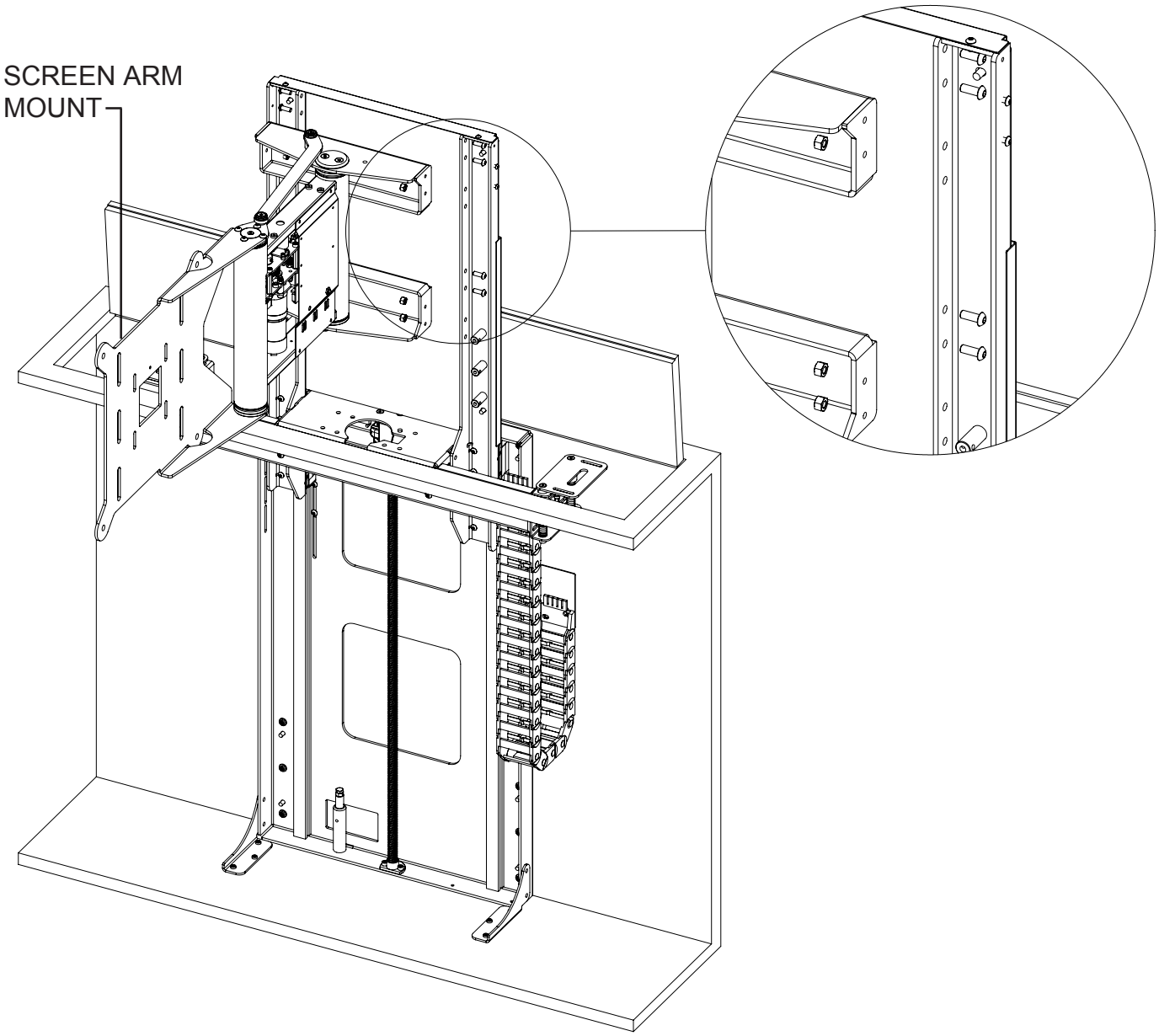
Removing the Covers

After the mechanism is secured within the cabinet you can then move the mechanism to the fully OUT position. Remove the covers below the FSE/PSE mechanism and also the covers on the FSE/PSE arm as shown.



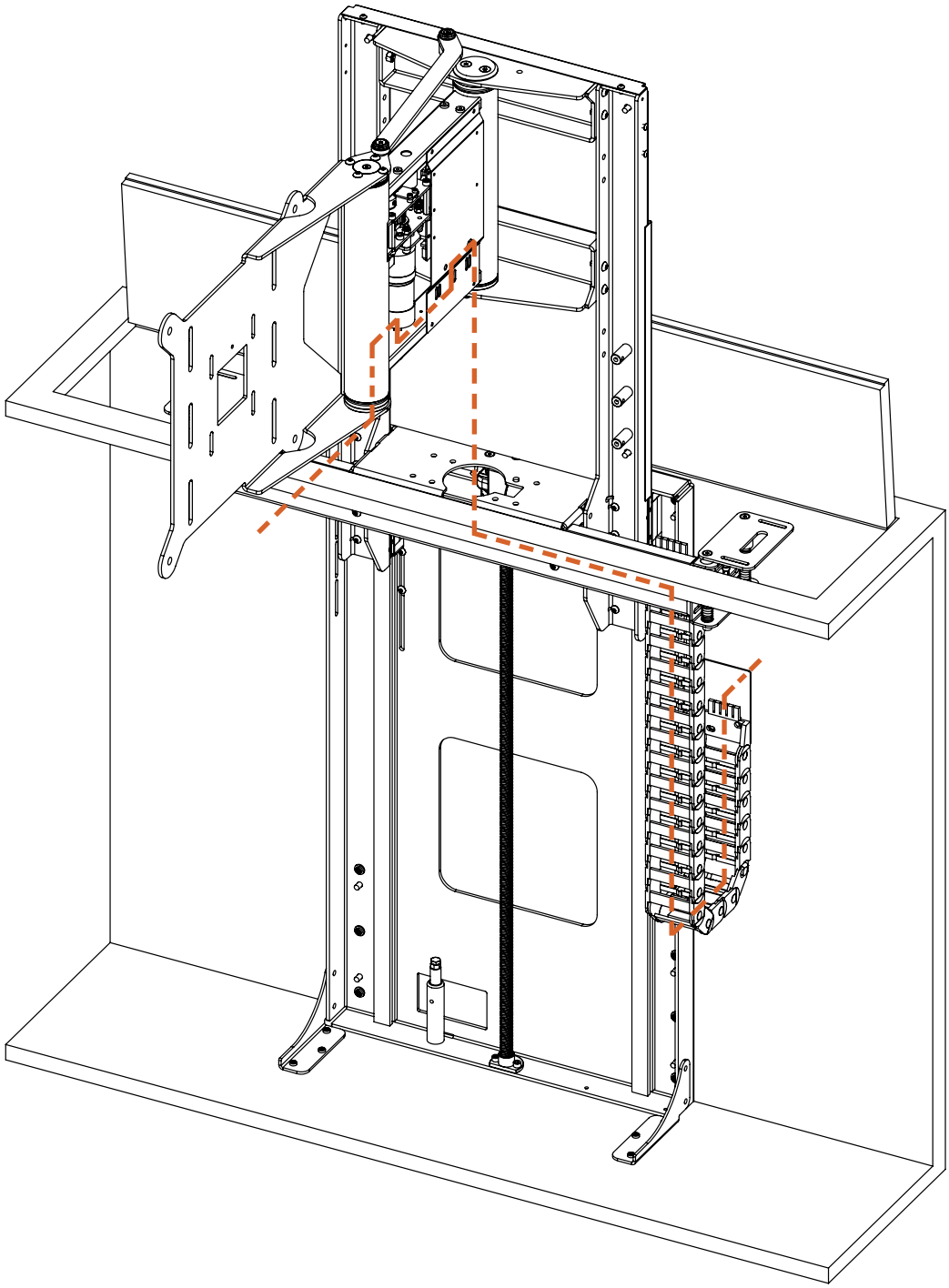
FSE/PSE Height Adjustment

At this step it is advised to offer the screen into position to see how the mount holes line up with the screen arm mount and the distance under the screen to the cabinet top. By removing the bolts shown in the detail view either side allows you to move the FSE/PSE mechanism to a lower position (85mm [3.3”]) if better suited.



Cable Routing

With the covers removed and in the fully OUT position now is the best time to route the cables through the cabinet and mechanism as shown with the dotted line.



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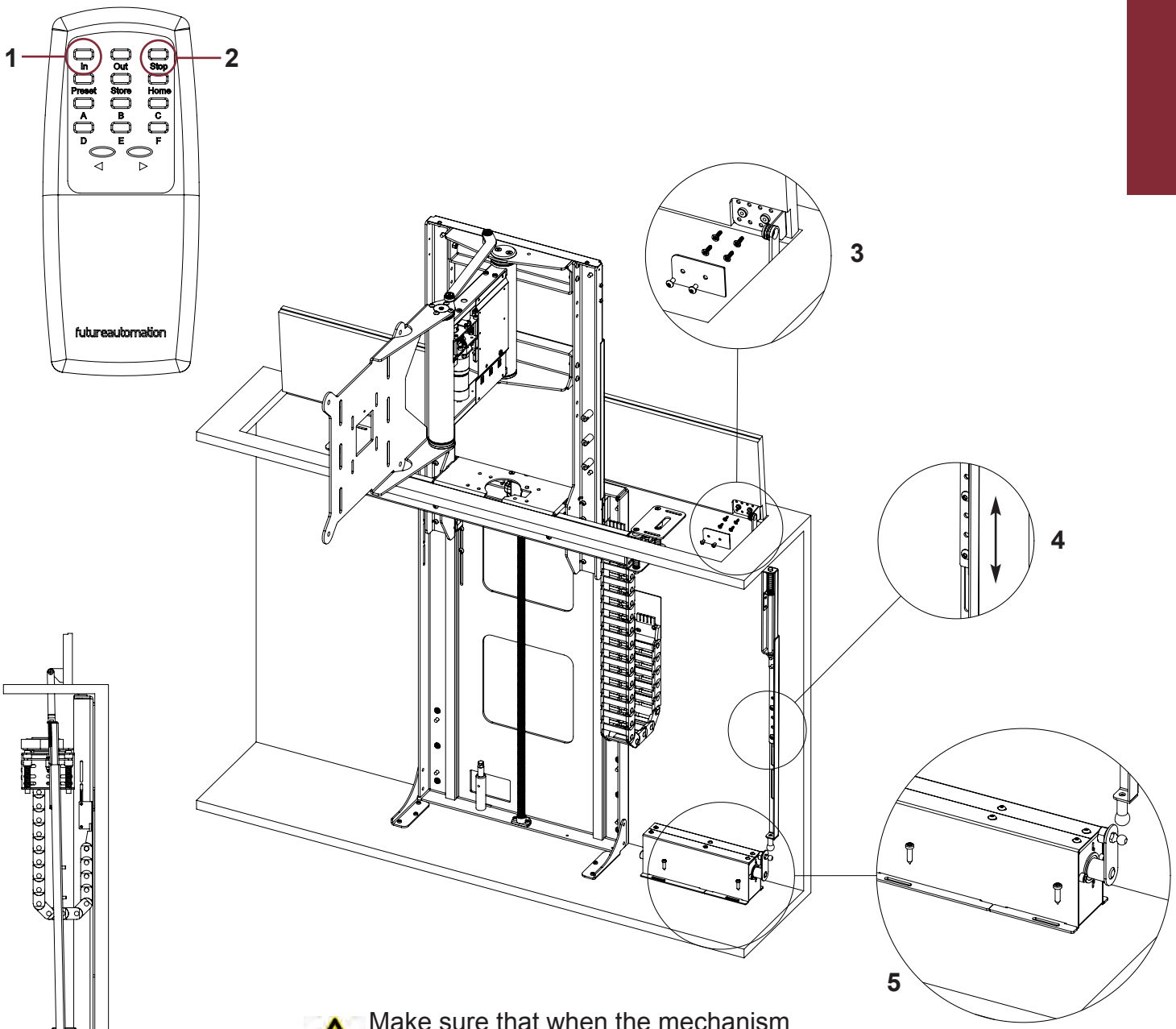
Attaching EFA (Electric Flap Actuator)

Lower the mechanism by pressing IN (**1**) then STOP (**2**) after 100mm [4”] approximately, then attach the EFA push rod to the flap as shown in detail **3**. Loosen the bolts on the push rod and slide the length to suit the cabinet height, make sure the flap and push rod stands up vertically as shown in detail **4**. Finally (**5**) fix the EFA drive unit to the base of the cabinet and tighten the push rod bolts back up.



Make sure that when the mechanism runs down to the IN position the beam or cable management chain doesnt collide with the EFA drive box

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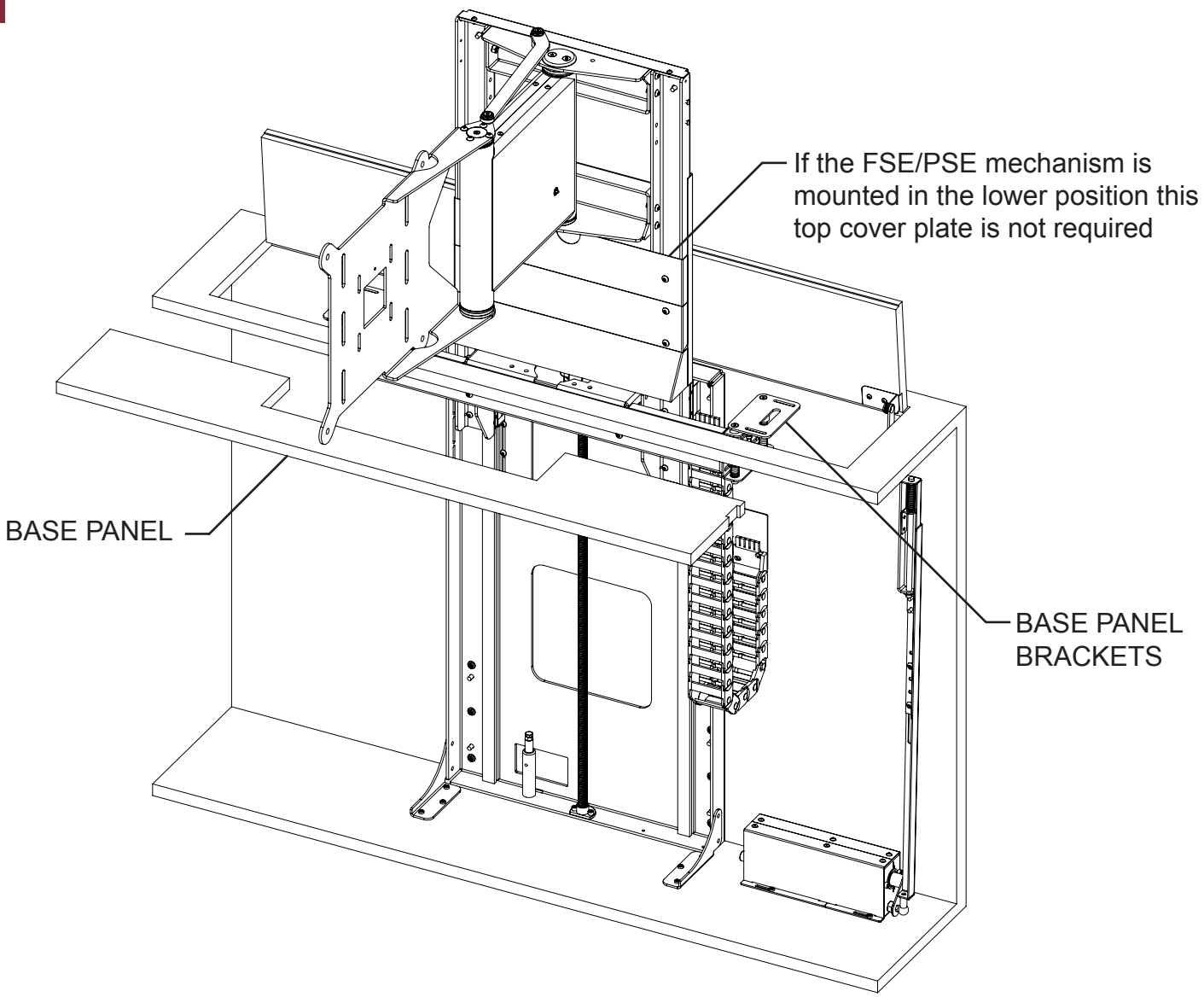
Replacing the Covers & Mounting the Base Panel

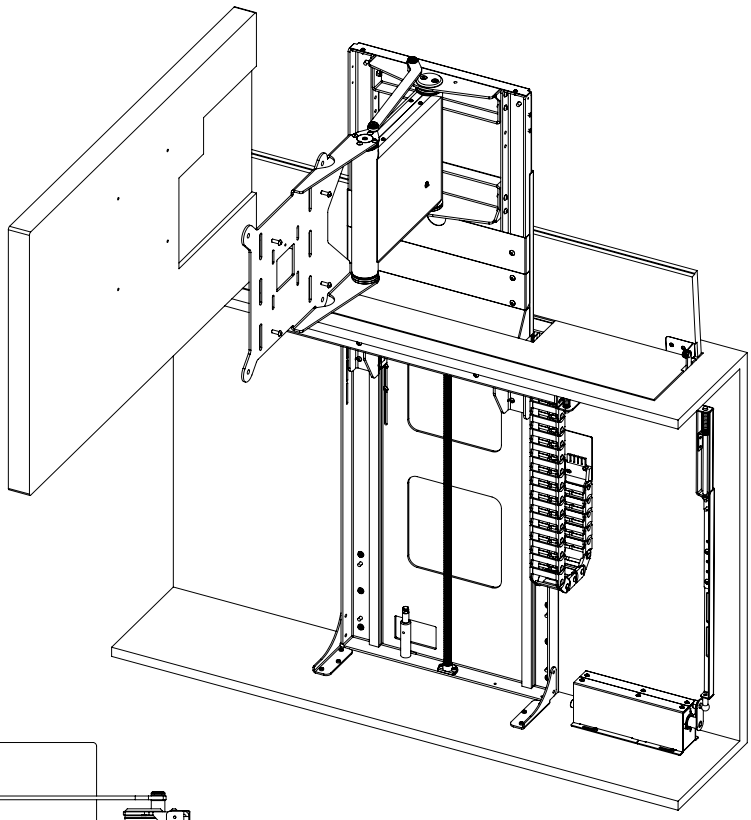
After the cables are routed through the the mechanism replace the covers. If the FSE/PSE mechanism was lowered to the lower mounting position the top front cover is nor required any more.

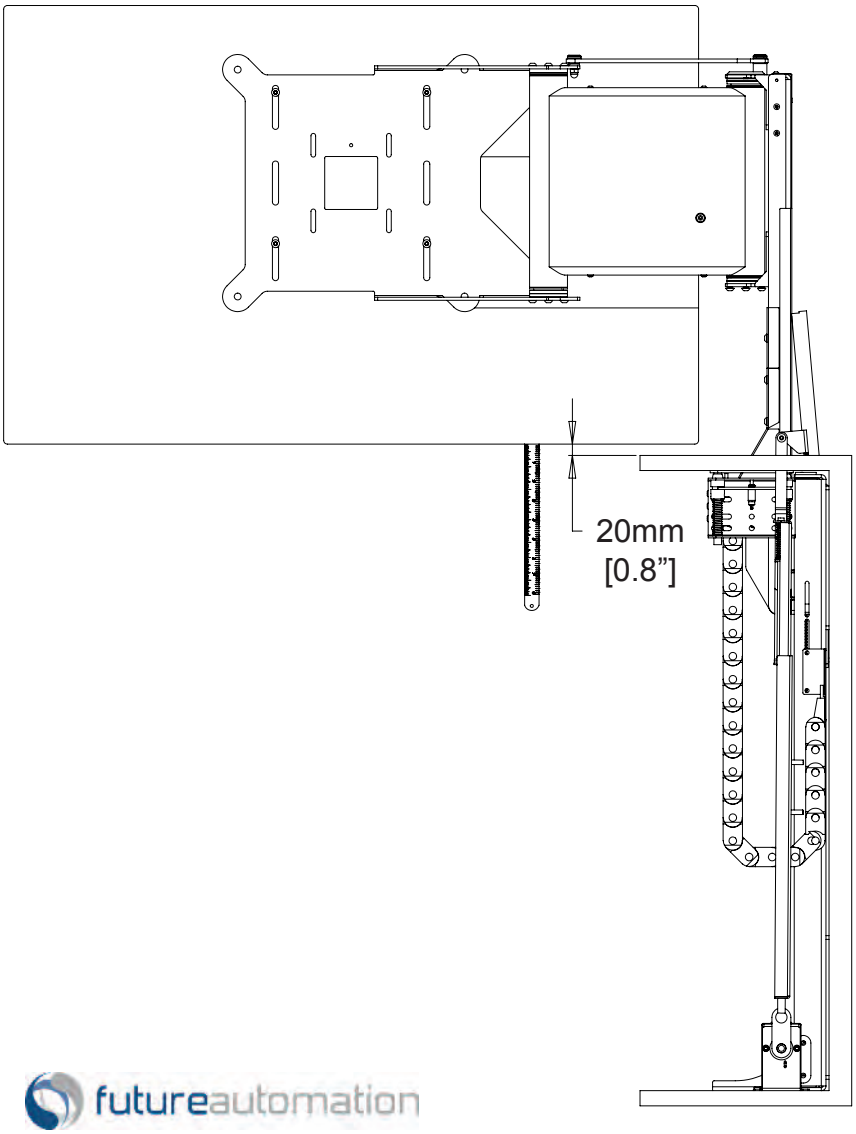
After the mechanism is in the correct position the next step is to lower the BASE PANEL into place and fix from the underside through the BASE PANEL BRACKETS. A good tip is to place the BASE PANEL in place and draw marks from the underside through the BASE PANEL BRACKETS, then fix using a wood screw and a large penny washer, this will allow you to adjust the position.



Screen Mounting & Positioning

Offer the screen into position, ideally there should be 20mm [0.8”] under the screen to the BASE PANEL.





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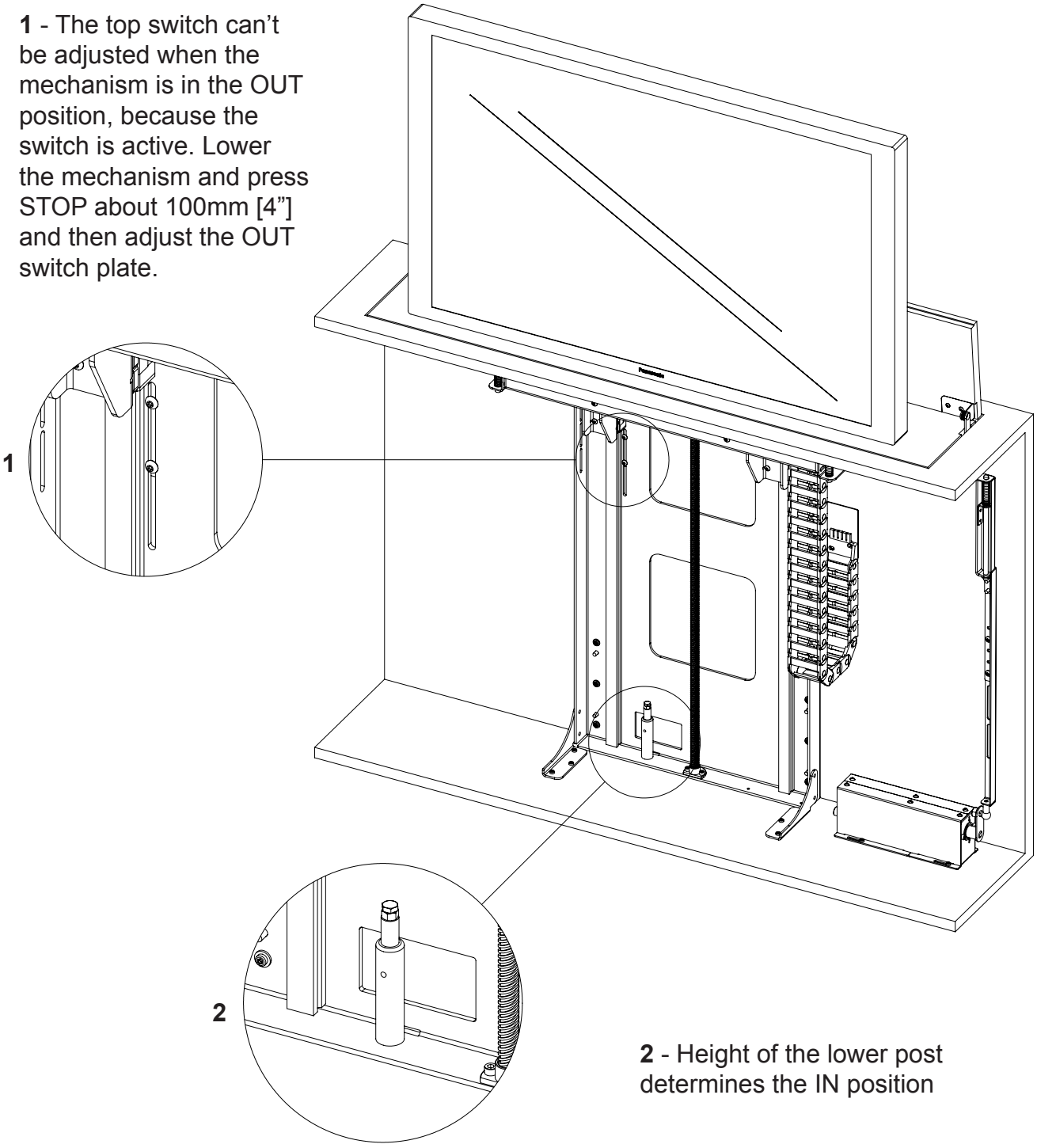
Lift Switch Adjustments

You can adjust the IN and OUT position of the lifting beam. Detail **1** shows how to adjust the OUT position and detail **2** shows how to adjust the IN position. The IR sensor can be located anywhere outside of the cabinet.

1 - The top switch can't be adjusted when the mechanism is in the OUT position, because the switch is active. Lower the mechanism and press STOP about 100mm [4"] and then adjust the OUT switch plate.



2 - Height of the lower post determines the IN position

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Controlling the Mechanism

IN - Takes the screen inside the cabinet

OUT - Takes the screen out of the cabinet and rotates through 90 degrees

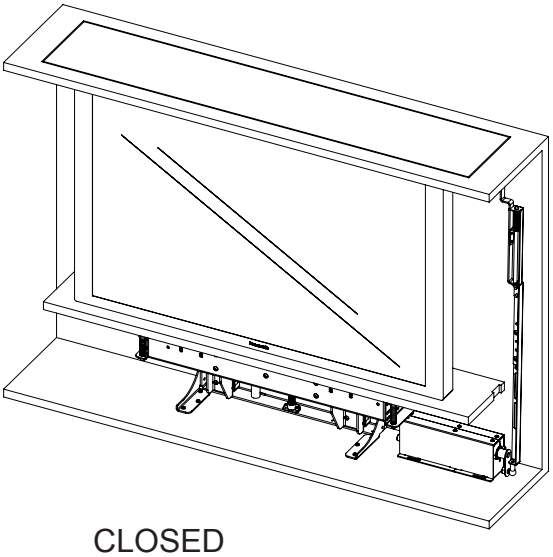
STOP - Stops the mechanism at any time

PRESET or **A-F** - Screen goes to incremental positions or learnt positions

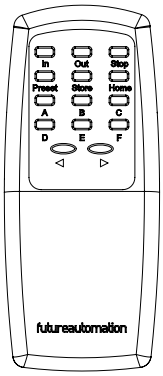
STORE - Programs current screen position to learnt position

HOME - Takes the screen up out of the cabinet and facing forward from any position

STORE + PRESET or **A-F** - Within 1 sec stores preset & A-F positions



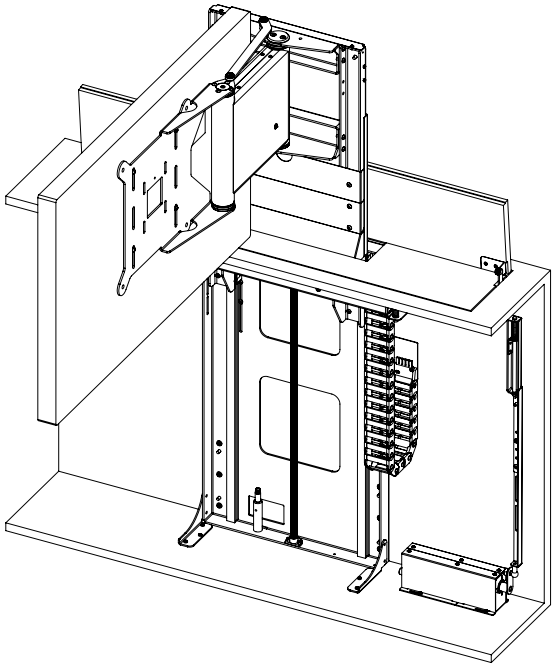
CLOSED POSITION



PRESS **OUT**

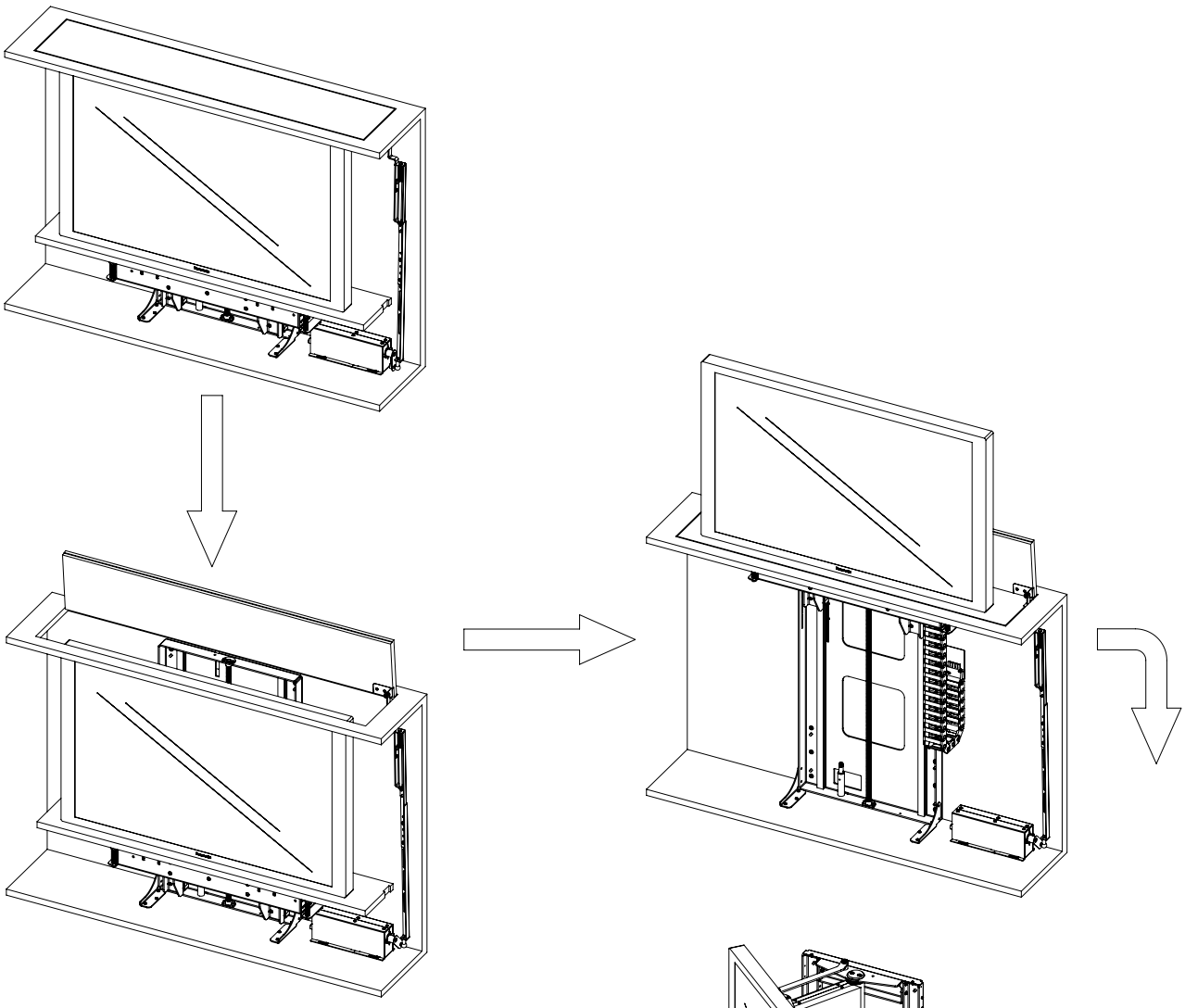
OPEN POSITION

PRESS **IN**

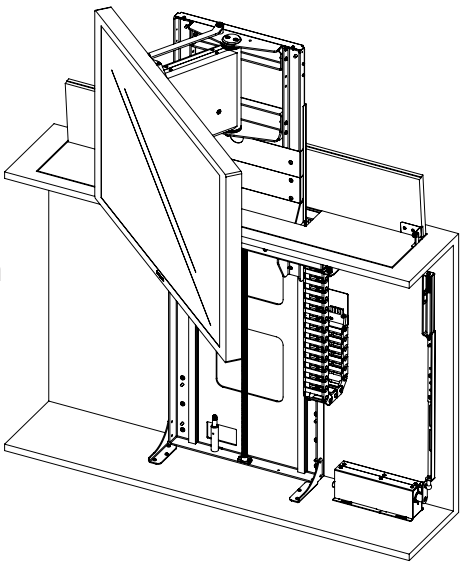


Controlling the Mechanism

Programming **Preset** and **A-F** positions.
The example shows the programming of a position that is CW (Counter Clockwise).
Press **STORE + PRESET** or **A-F** to store the position in the memory.

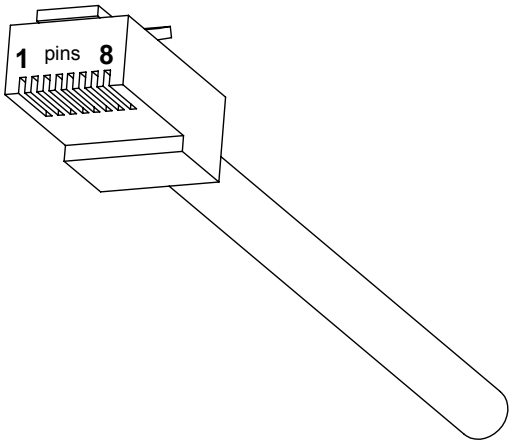


Press **STOP** in desired position then press **STORE + PRESET** or **A-F** to store the position in the memory

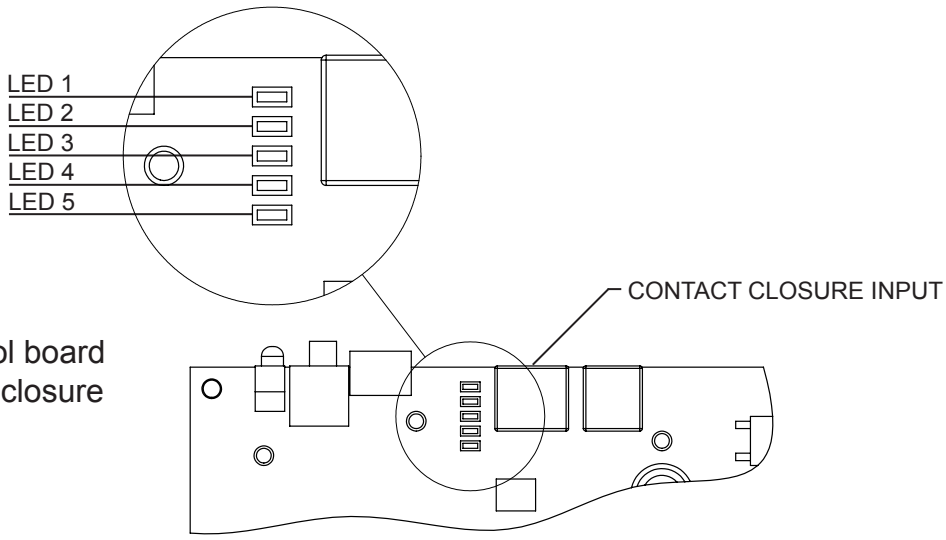


Contact Closure

- Use an RJ45 connector in the CCI socket on the control box to operate via contact closure



PIN	DESCRIPTION	ACTION	WIRE / CABLE		CONTACT CLOSURE LED INDICATOR
			568A	568B	
1	12V SUPPLY	12V SUPPLY - CURRENT LIMITED	W/G	W/O	
2	12V LATCH	When 12V attached, device will go to Preset. When 12V removed, device will go IN.	G	O	
3	GROUND	GROUND	W/O	W/G	
4		PIN 4 NOT USED	BL	BL	
5	DEVICE LATCH	Short to GROUND (pin 3), device will go to Preset, remove short device will go IN.	W/BL	W/BL	LED 4
6	DEVICE STOP	Momentary short to GROUND (pin 3), stops device in current position.	O	G	LED 3
7	DEVICE OUT	Momentary short to GROUND (pin 3), makes device go OUT.	W/BR	W/BR	LED 2
8	DEVICE IN	Momentary short to GROUND (pin 3), makes device go IN.	BR	BR	LED 1



NOTE:
Earlier versions of the control board may not have these contact closure LED indicators.

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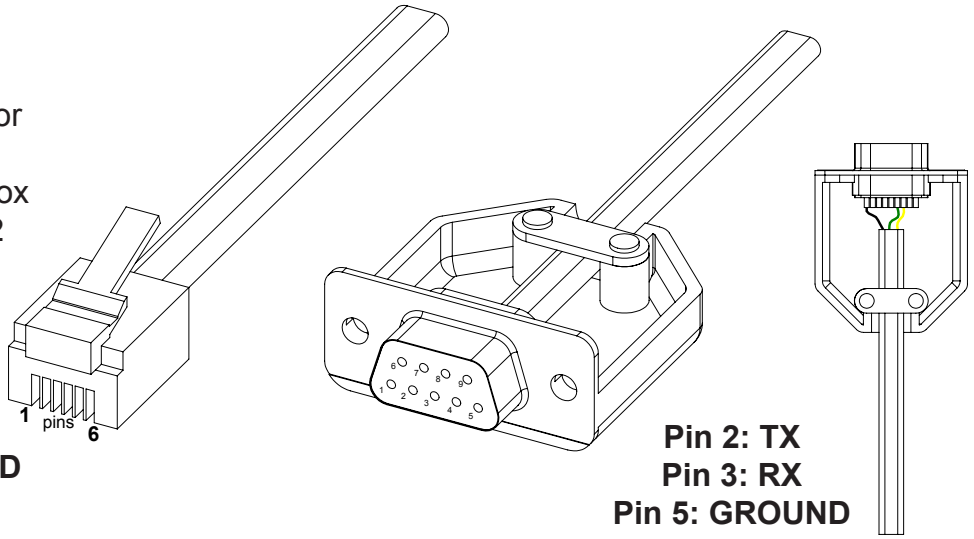
RS232
- Use an RJ25 connector in the socket marked RS232 on the control box to operate using RS232



Pin 1: RX
Pin 6 : TX
Pin 3 & 4: GROUND

Pin 2: TX
Pin 3: RX
Pin 5: GROUND

Details

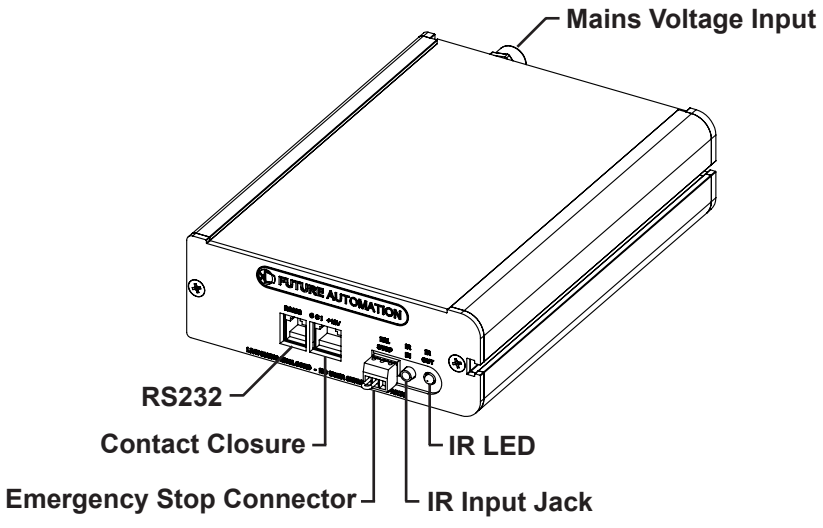
Baud rate:	9600
Stop bit:	1
Parity:	None
Databits:	8

RJ25		9 PIN D
PIN 1: RX	TO	PIN 2: TX
PIN 6: TX	TO	PIN 3: RX
PIN 3: GROUND	TO	PIN 5: GROUND
PIN 4: GROUND	TO	PIN 5: GROUND

IMPORTANT
Ensure protocol is entered exactly as written, including Carriage Return (Enter / ASCII 13).

PROTOCOL	ACTION
fa_in Carriage Return (Enter ↵)	Device IN
fa_out Carriage Return (Enter ↵)	Device OUT (90 Degrees)
fa_preset A-F Carriage Return (Enter ↵)	Device to PRESET or A-F memory positions
fa_stop Carriage Return (Enter ↵)	STOPS the device at any position
fa_home Carriage Return (Enter ↵)	Lift UP facing forward (Default Position)

Connection Locations



Operation buttons for the IR remote

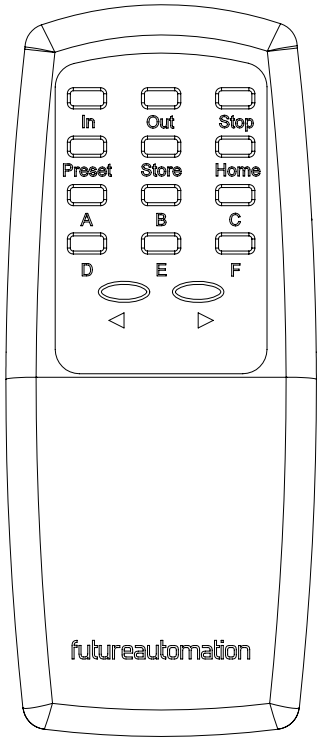
In - Brings the mechanism into the cabinet

Preset or **A-F** - Screen goes to learnt position

Store - Programs current screen position to learnt position

Out - Brings the mechanism out 90 degrees

Stop - Will stop the operation at any position



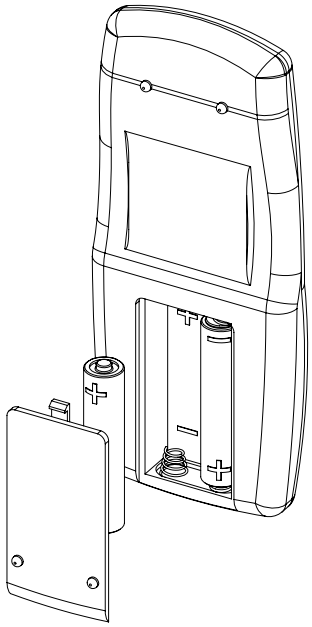
Home - Takes screen out forward facing from any position

Store + Preset or **A-F** - Within 1 sec stores current position

Note
Only buttons indicated are functional with the product. Any button pressed when in motion mechanism will stop.

Replacing batteries

Future Automation IR Remote Controller needs x2 AAA batteries which are provided within the packaging



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