

Installation Instructions

CHS - Ceiling Hinge & Swivel

Models - CHS3, 4 & 5

Design Highlights

- Near Silent Motor System
- Bi-Directional Swivel Unit
- Modular Format Ensures Simple Installation
- Range Of Standard Sizes
- Sized To Suit Options Available



Thank you for choosing
futureautomation

CHS - Ceiling Hinge & Swivel



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 to 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 from 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.**

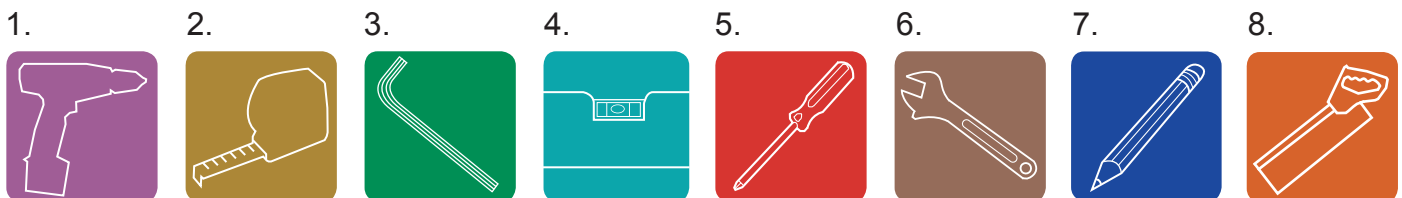
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Tool Indicator Icons



1. - Drill
2. - Tape measure

3. - Allen Keys
4. - Spirit Level

5. - Screwdrivers
6. - Spanners

7. - Pencil
8. - Saw

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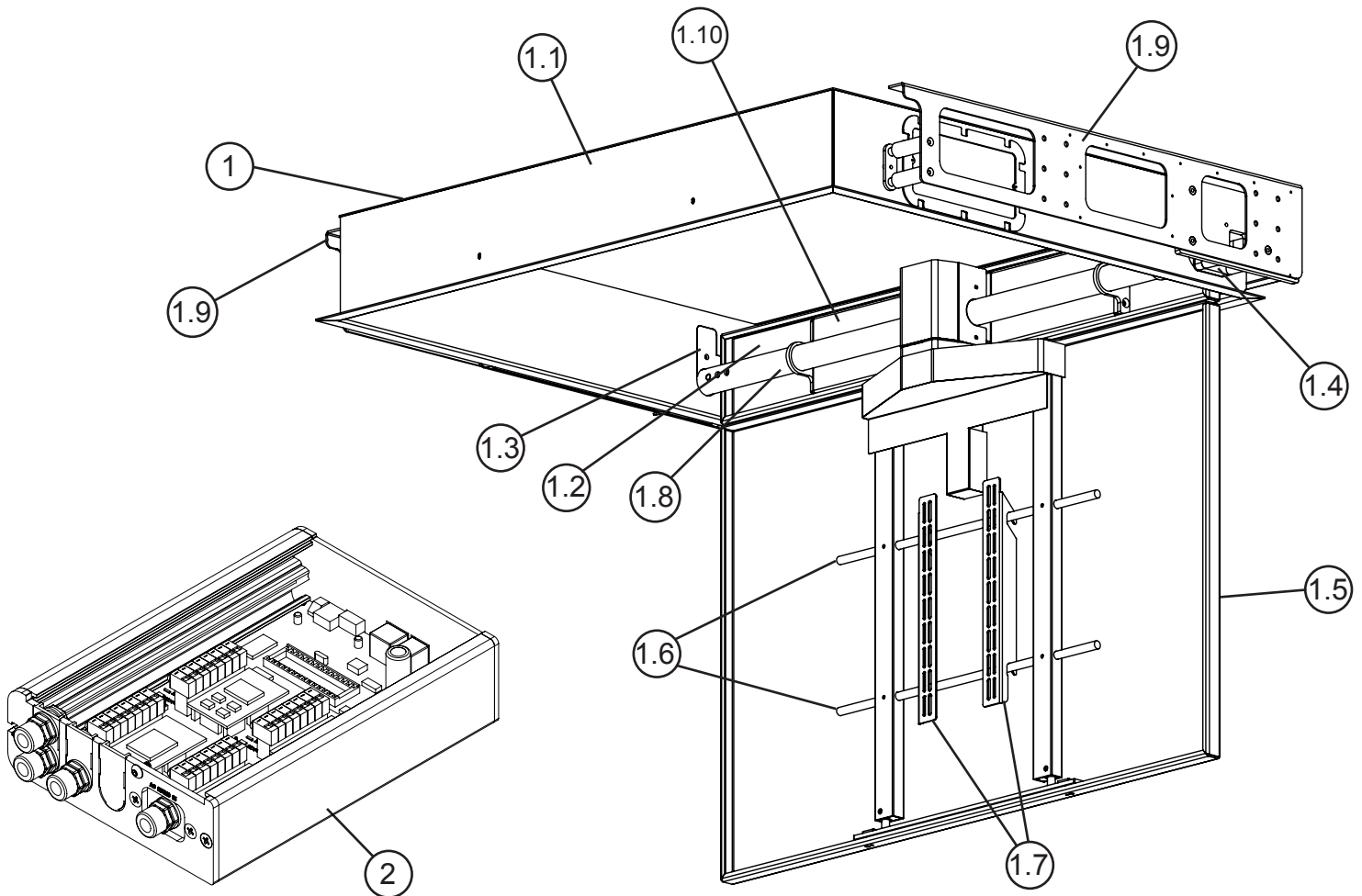
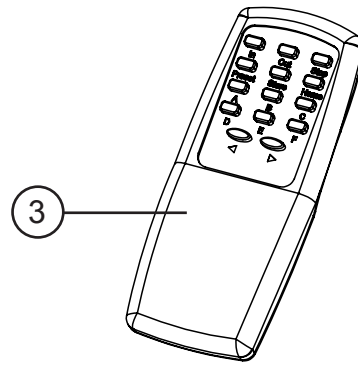
Package Contents

- 1 - Mechanism
- 1.1 - Box
- 1.2 - Top Trim
- 1.3 - Left Trim
- 1.4 - Right Trim
- 1.5 - Main Tray
- 1.6 - Cross Bars
- 1.7 - Screen Uprights
- 1.8 - Pivot Tube
- 1.9 - Mount Plates
- 1.10 - Back Tray
- 2 - Control Box
- 3 - IR Remote Control

Not Shown On Page

- 4 - x2 AAA Batteries
- 5 - Mains Power & Other Leads
- 6 - Transformer for Control box

Nuts & Bolts Multipack: Various Fixing's



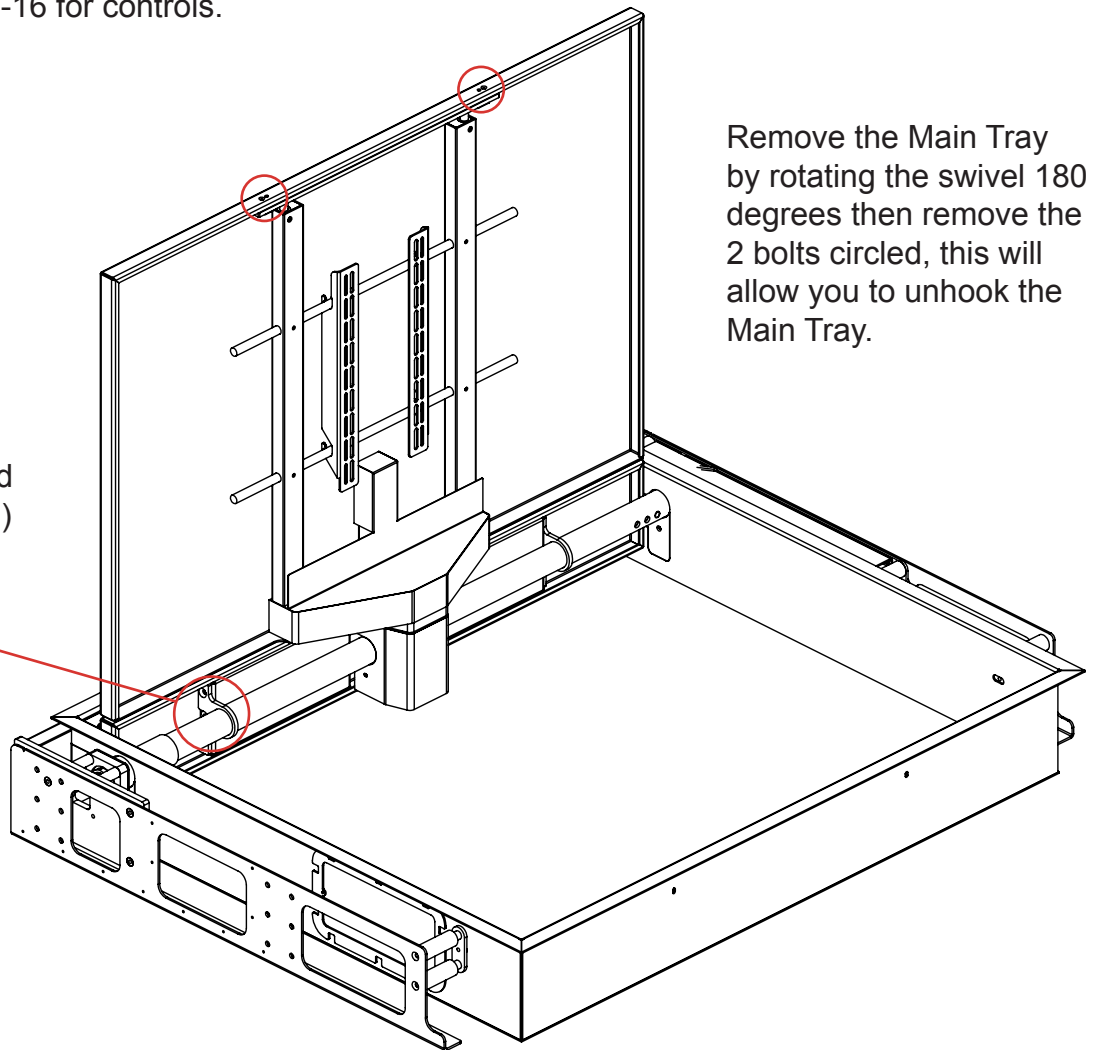
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Before you start, check the following:


- The product is in good condition
- No damage to any parts
- Wiring is all secure
- The unit is in the closed position
- Test the mechanism by running it up and down, best done with it upside down on the floor
- See page 13-16 for controls.

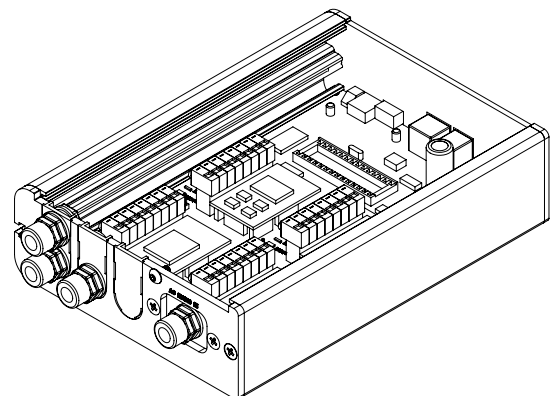
If you need to remove the back tray (Required for option 2 installation) remove the 4 x M8 CSK bolts on either side located here.



Remove the Main Tray by rotating the swivel 180 degrees then remove the 2 bolts circled, this will allow you to unhook the Main Tray.

Control box setup

- THE BOX MUST BE EASY TO ACCESS! 
- Connect the control box to the DC power supply and the PSU to the mains
- Connect the infrared remote sensor even if you are going to use switch control
- See operations page



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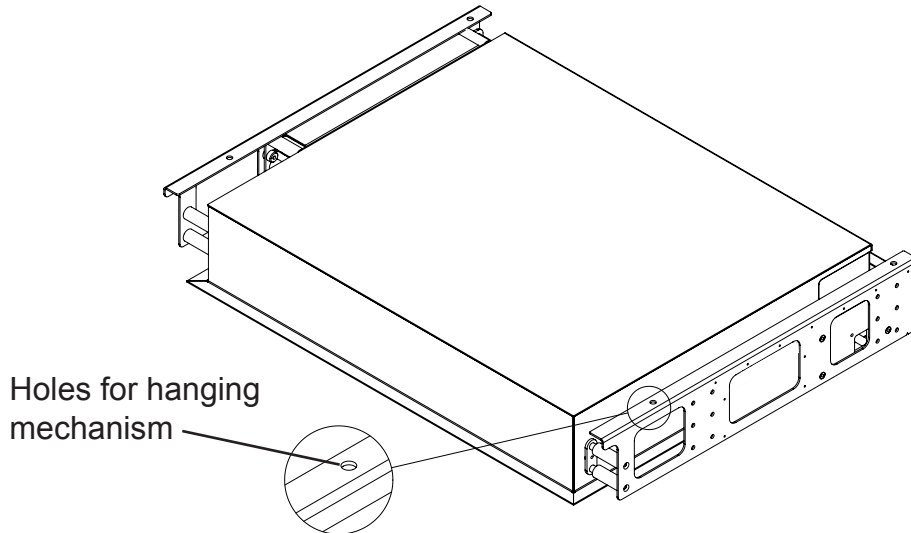


NOTE:

Generic images for all CH installations, may differ from actual model.

Decide which way to fix the mechanism

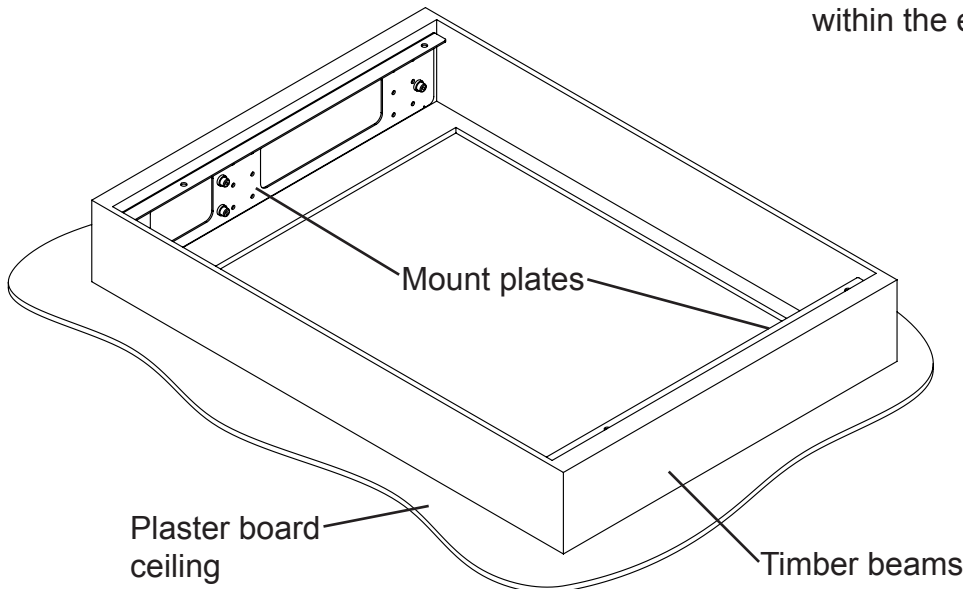
Mechanism installation Option 1



One option is to hang the mechanism from 4 bolts fixed to the top of the mount plates. (See CHS Tech for dimensions)

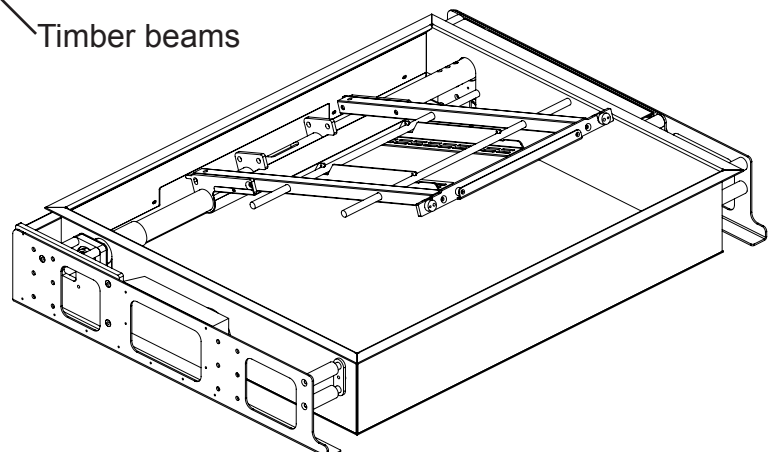
If option 1 is chosen to mount the mechanism you can now turn to installation stage 5 - Running screen cables.

Mechanism installation Option 2



The second option is to remove the left and right mount plates and secure them within the enclosure.

Remove side Mount Plates and mount in the correct place within the enclosure as shown to the left. See next page for location details.



Box removal.

Open mechanism to roughly 20 degrees, undo all the bolts within the box and then slide off.

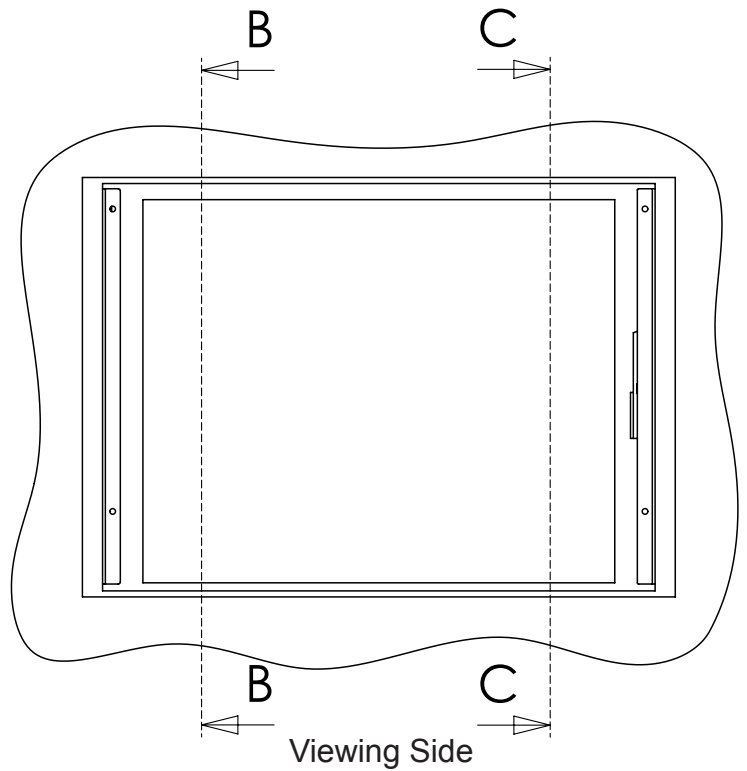
(See CHS Tech for beam and opening details).

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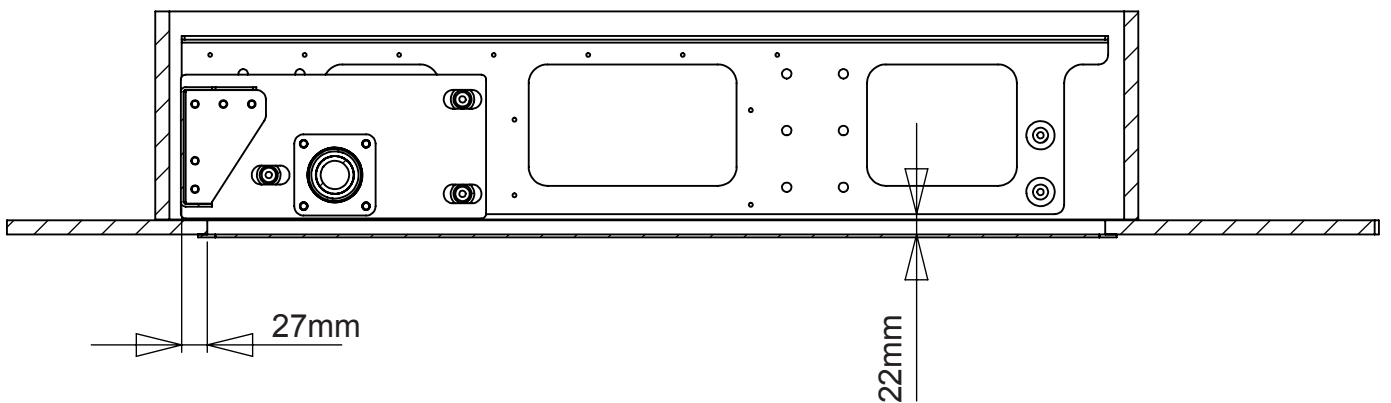


Option 2

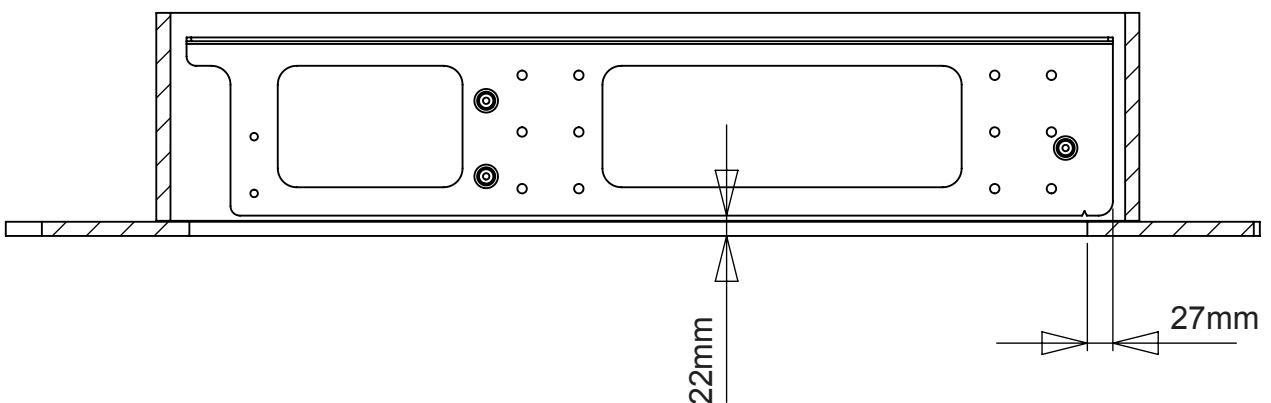
Fix the mount plates in the positions shown. 27mm behind the back of the opening.
22mm above the bottom of the finished ceiling level.



Section CC - 1:8 View on right beam



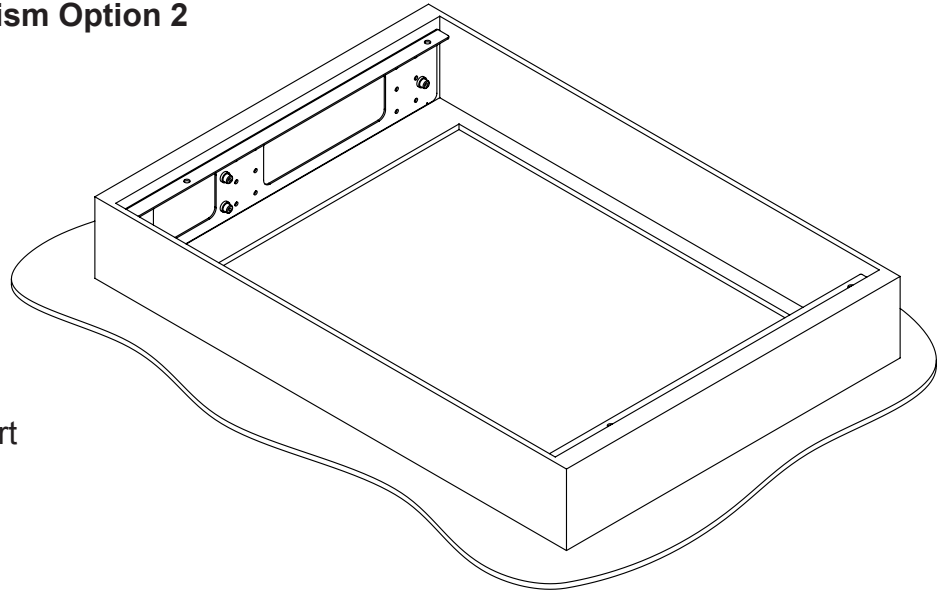
Section BB - 1:8 View on left beam



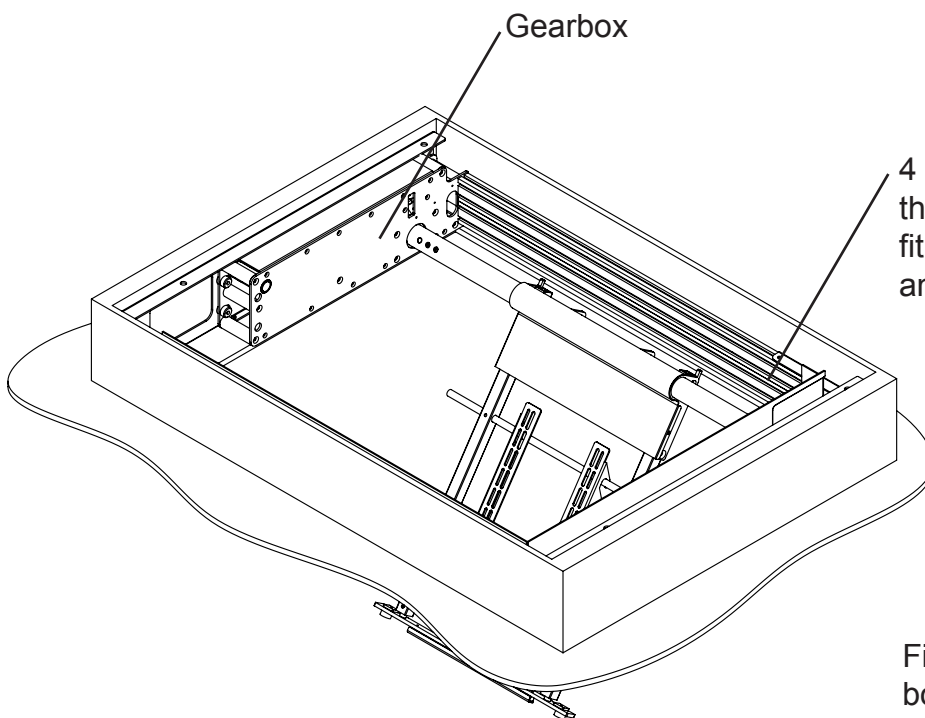
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Securing the mechanism Option 2



Then lift the mechanism into place and slide apart to lock in place.



4 no. M8 bolts need loosening so that the mechanism can telescope in and fit into the recess. Then telescope out and tighten the bolts to secure

Fix the mechanism in place with 6 bolts that held it to the mount plates when sent.



NOTE:
Generic images for all CH installations, may differ from actual model.

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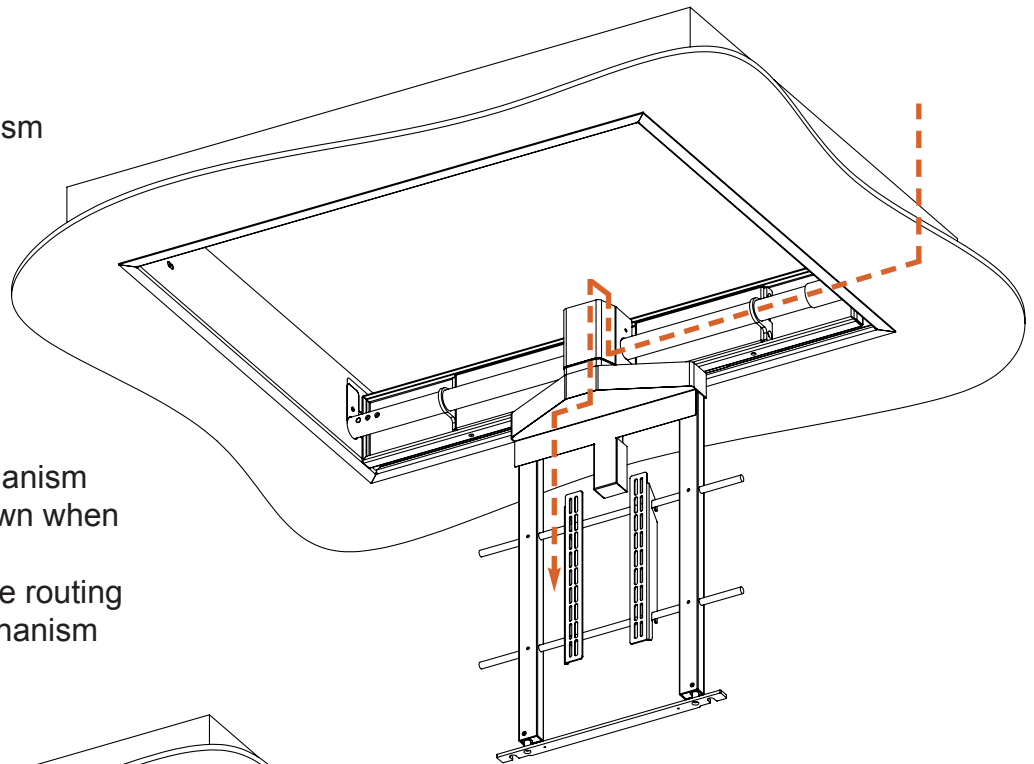


Running screen cables

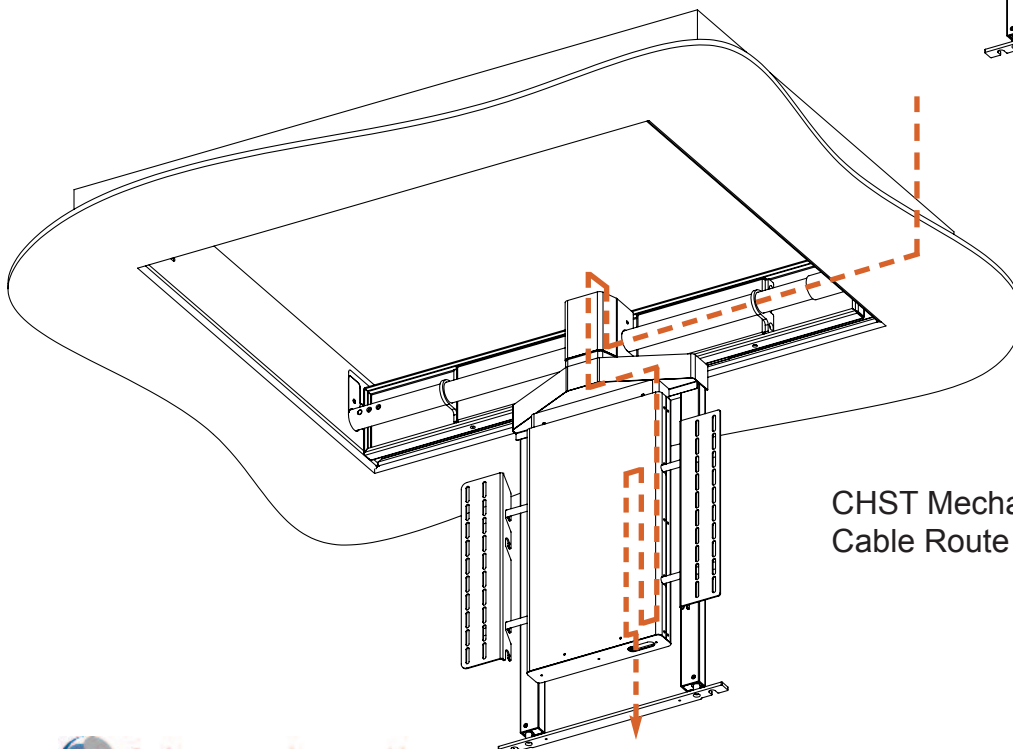
The mechanism has cable management through the pivot tube. Screen cables can be run in at one end of the pivot tube and exit through a slot in its middle to go straight to the back of the screen being mounted

The control box needs to be stored in an easily accessible location

CHS Mechanism
Cable Route



Option 1 installation - Mechanism will be in the ceiling as shown when routing the cables.
Option 2 installation - Cable routing can be done while the mechanism is out on the floor.



CHST Mechanism
Cable Route

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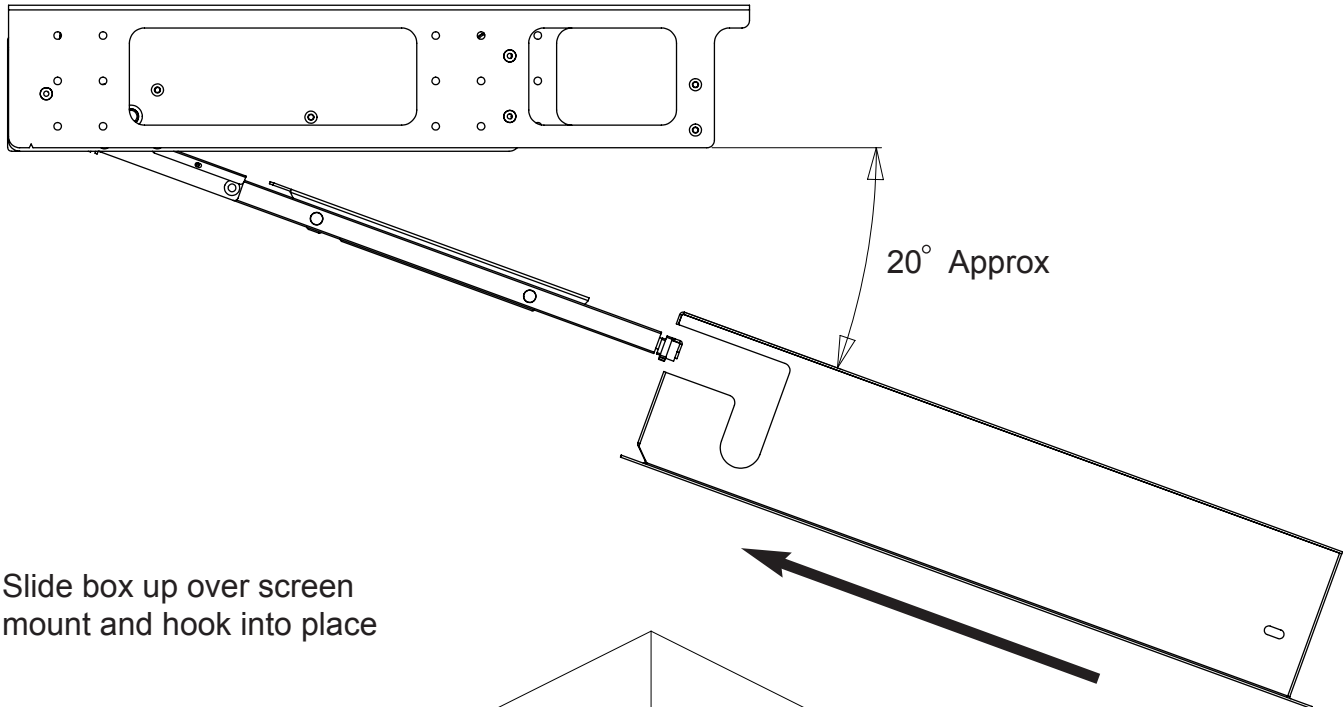


Fixing the box (Not needed for option 1)

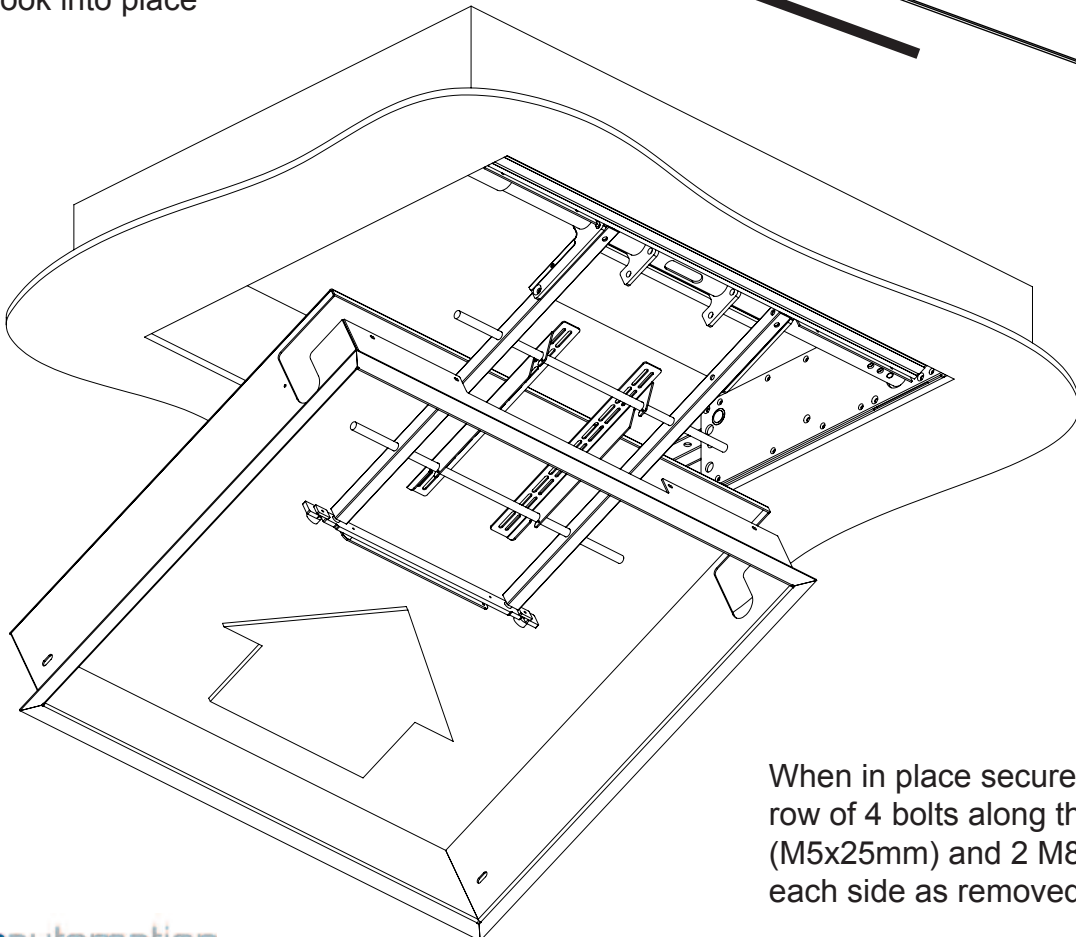
Set the screen frame at about 20 degrees from the up position. The box can then be lifted into place.



NOTE:
Generic images for all CH installations, may differ from actual model.



Slide box up over screen mount and hook into place



When in place secure with the row of 4 bolts along the back (M5x25mm) and 2 M8 bolts on each side as removed previously

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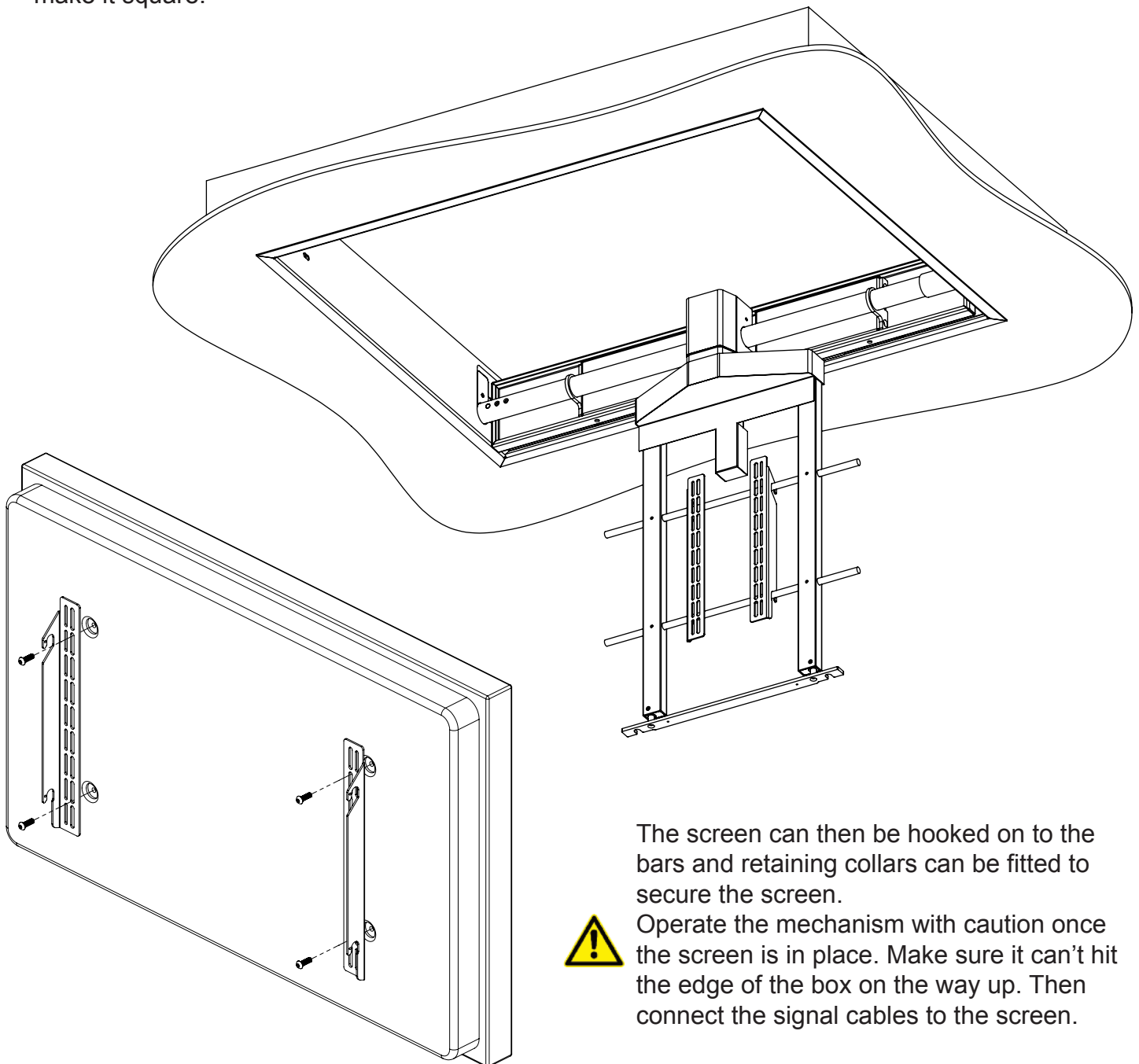


Fixing the screen

Slide the box to the left, hard against the gearbox.

In order to mount the screen, Make sure mechanism is in the OUT position then remove the slotted hook-on uprights and bolt them both to the back of the screen.

Make sure at this point the back tray is attached at the top of the swivel unit. By loosening the M8 CSK bolts that attach it, will allow you to adjust the panel and make it square.



The screen can then be hooked on to the bars and retaining collars can be fitted to secure the screen.



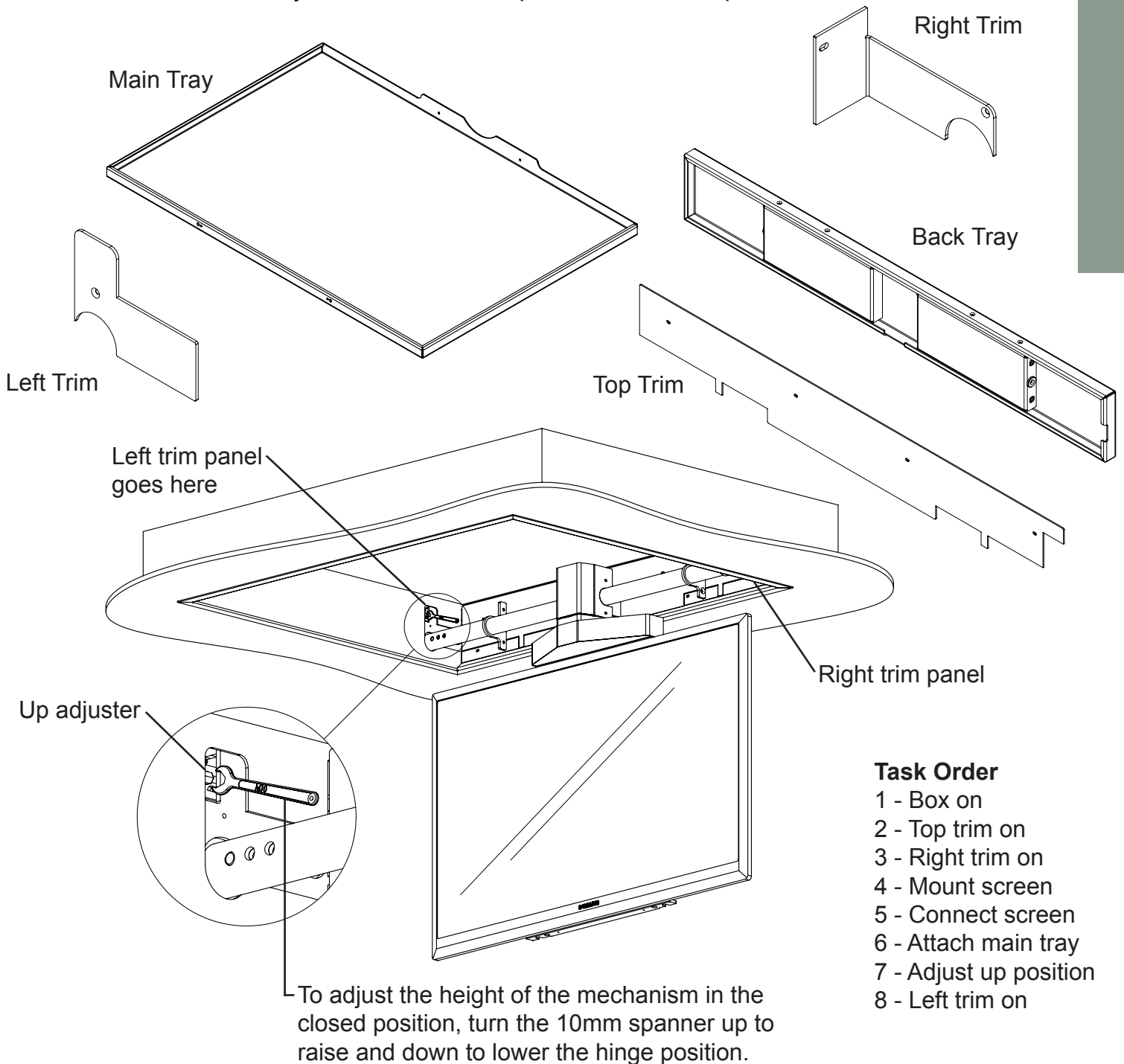
Operate the mechanism with caution once the screen is in place. Make sure it can't hit the edge of the box on the way up. Then connect the signal cables to the screen.

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Adjustments and trim panels

Fix the top trim in position before fixing the left & right trim panels to the mechanism.
Take the mechanism up with the controller. Be very careful when it shuts for the first time.
Cover the STOP button just in case the cover panel doesn't line up.



Task Order

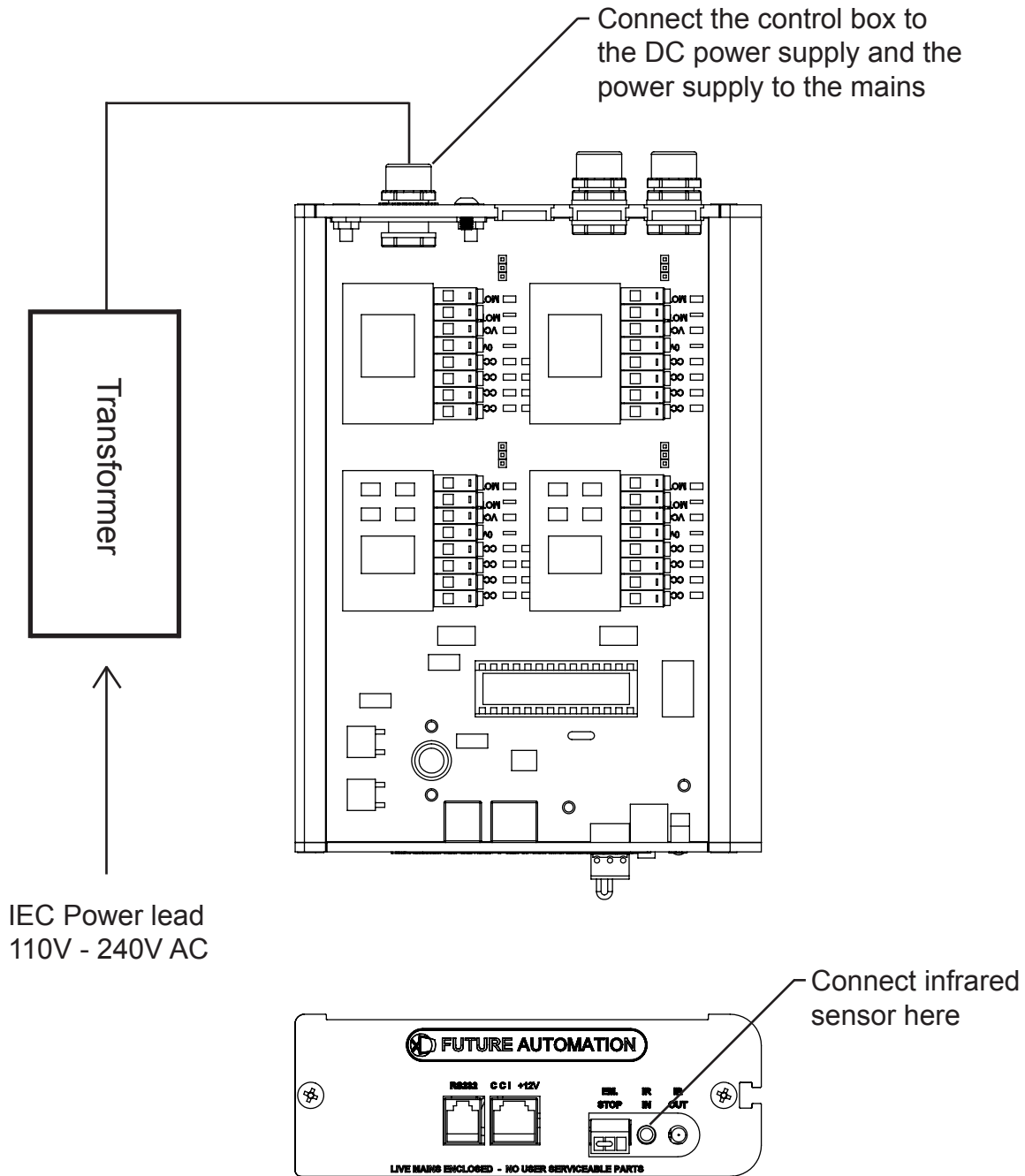
- 1 - Box on
- 2 - Top trim on
- 3 - Right trim on
- 4 - Mount screen
- 5 - Connect screen
- 6 - Attach main tray
- 7 - Adjust up position
- 8 - Left trim on

The closing position can be adjusted with the adjusting nut behind the left trim panel. Take the mechanism up and down and adjust until flush when up. Finally fix the left trim panel.

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Connections & Control Box

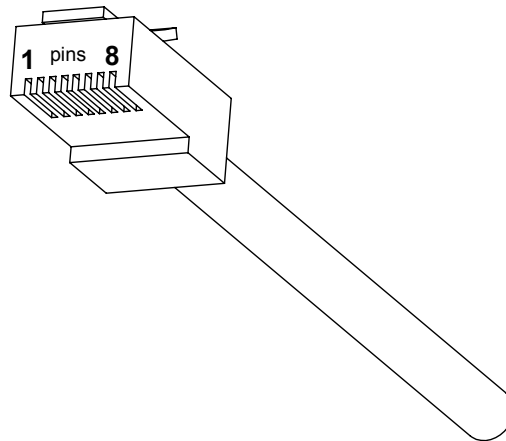


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Contact Closure

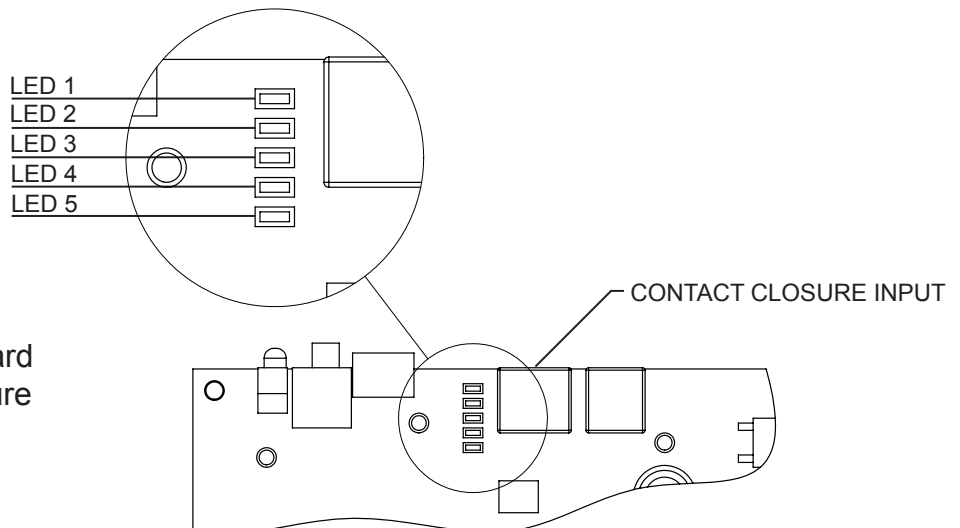
- Use an RJ45 connector in the CCI socket on the control box to operate via contact closure



PIN	DESCRIPTION	ACTION	WIRE / CABLE		CONTACT CLOSURE LED INDICATOR
			568A	568B	
1	12V SUPPLY	12V SUPPLY - CURRENT LIMITED	W/G	W/O	
2		PIN 2 NOT USED	G	O	
3	GROUND	GROUND	W/O	W/G	
4		PIN 4 NOT USED	BL	BL	
5	DEVICE LEFT	Momentary short to GROUND (pin 3), will make device go OUT LEFT limit.	W/BL	W/BL	LED 4
6	DEVICE RIGHT	Momentary short to GROUND (pin 3), will make device go OUT RIGHT limit.	O	G	LED 3
7	DEVICE HOME	Momentary short to GROUND (pin 3), makes device go OUT CENTERED.	W/BR	W/BR	LED 2
8	DEVICE IN	Momentary short to GROUND (pin 3), makes device go IN.	BR	BR	LED 1

 Any contact closure input whilst the mechanism is in motion will stop the movement and all other contact closure commands will be disabled for 1 second.

 **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

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

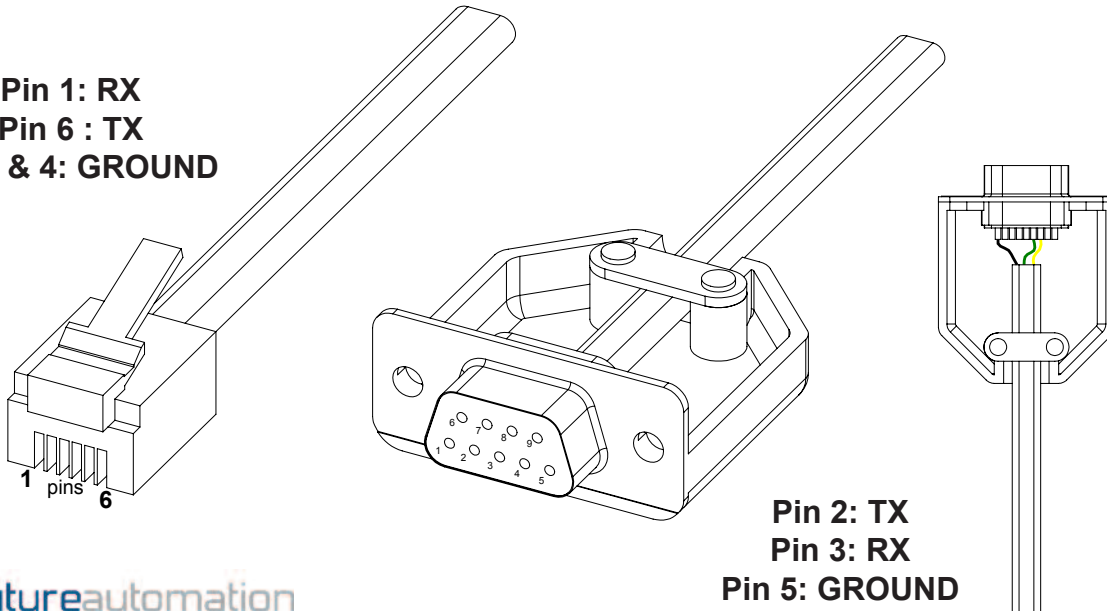


IMPORTANT

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
fa_right Carriage Return (Enter ↵)	Device OUT RIGHT limit
fa_left Carriage Return (Enter ↵)	Device OUT LEFT limit
fa_home Carriage Return (Enter ↵)	Device OUT CENTERED
fa_preset Carriage Return (Enter ↵)	Device OUT to PRESET memory position
fa_a Carriage Return (Enter ↵)	Device OUT to memory position a
fa_b Carriage Return (Enter ↵)	Device OUT to memory position b
fa_c Carriage Return (Enter ↵)	Device OUT to memory position c

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

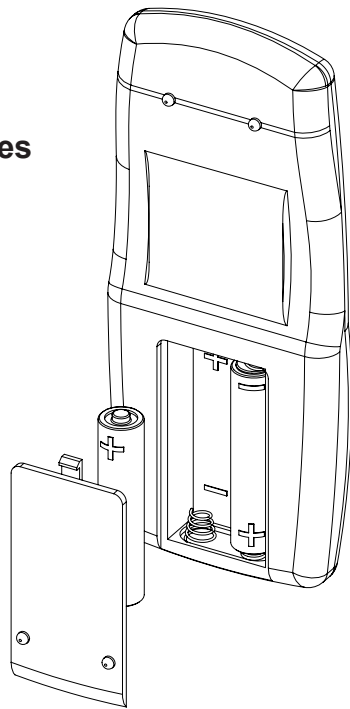


Pin 2: TX
 Pin 3: RX
 Pin 5: GROUND

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Replacing batteries



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

Operation Buttons

In - Takes the screen into the closed/in position

Preset - Screen goes into learnt position

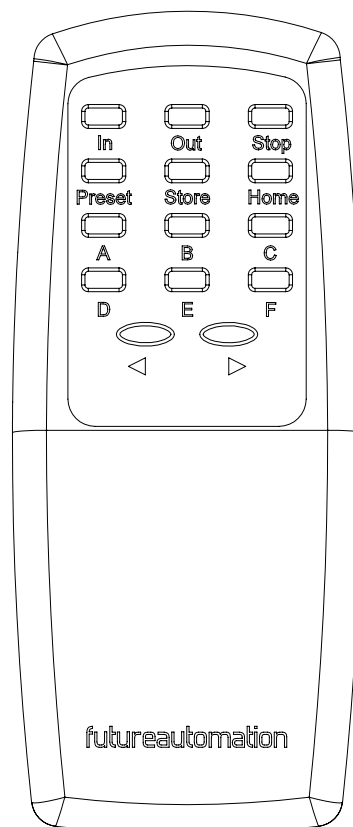
Store - Programs current screen location to learnt positions - see below

< - Rotates screen left



Note

Press STOP between button presses



Stop - Will stop the operation at any point

Out - Lowers the screen into open/out position

Home - Takes screen to forward facing position from an angled position

> - Rotates screen right



Note

Only buttons indicated are functional with the mechanism

Extra Combination:

Move to desired swivel position press STOP and then:
Learn Preset Position = Store - Within 1 sec - Preset
Learn Maximum Right Position = Store - Within 1 sec - F
Learn Maximum Left Position = Store - Within 1 sec - D
Learn Left & right to 180 degrees = Store - Within 1 sec - E

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Trouble Shooting

For information on our products please refer to our web site -
www.futureautomation.co.uk
or for questions on installations and our product range please
phone us on - **+44(0) 1438 833577** and ask for our technical
support department

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Notes...



Future Automation

Unit 2 Kimpton Enterprise Park
Claggy Road
Kimpton
Hertfordshire
SG4 8HP
United Kingdom

Tel: +44 (0) 1438 833 577

Fax: +44 (0) 1438 833 565

Email: info@futureautomation.co.uk

www.futureautomation.co.uk