CommBox Invisible Motorised Wall Bracket Installation Instructions

Revision: 11

commBOX
Interactive

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1 Overview

The CommBox Invisible Motorised Wall Bracket is designed to provide a 500mm vertical stroke motorised wall bracket, that can support heavy screens whilst having no visible framework outside the wall. This provides an elegant solution that takes up very little space in front of the wall.

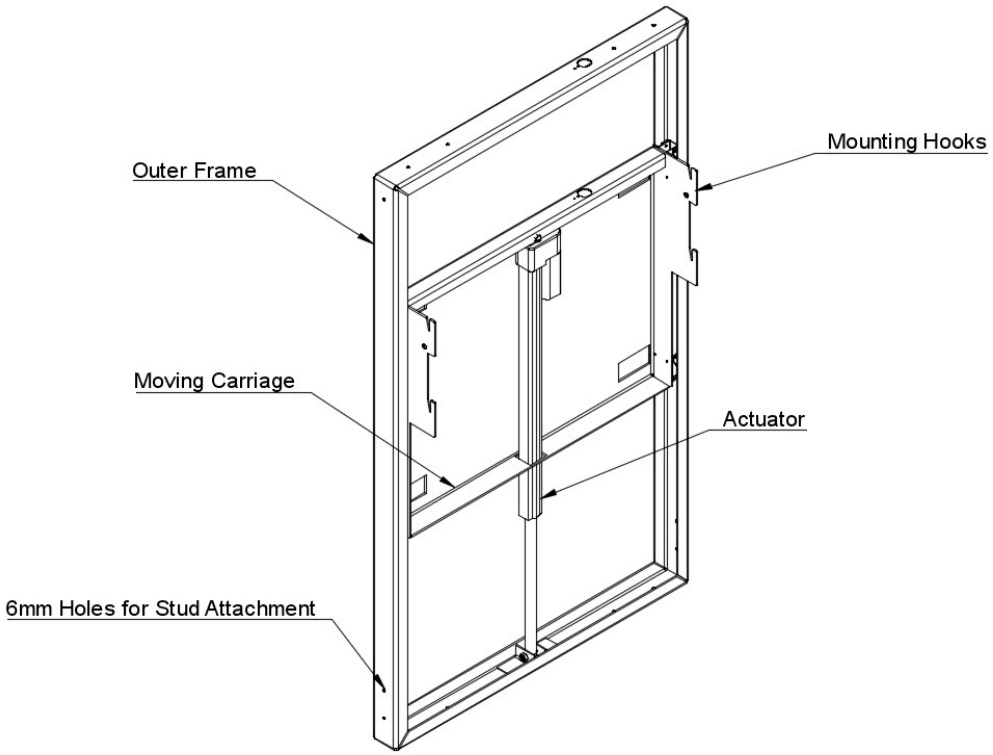
1.1 In The Box

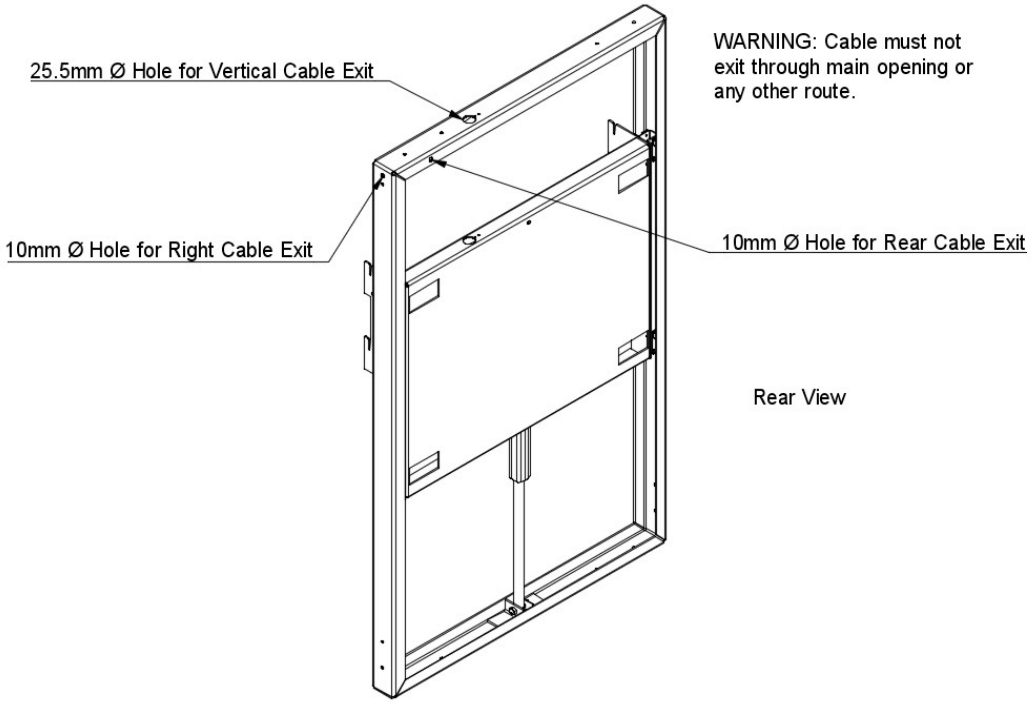
Main Stand	Clipsal Iconic Grid Plate	Screw Terminal Block	Alcohol Swab
Screen Mounting Plate	Clipsal Iconic Cover	User Manual	
Security Rod	2 Clipsal Momentary Switches	Power Supply	
2 Slot Covers	2m 4-Core Wire	1.8m Power Cord	

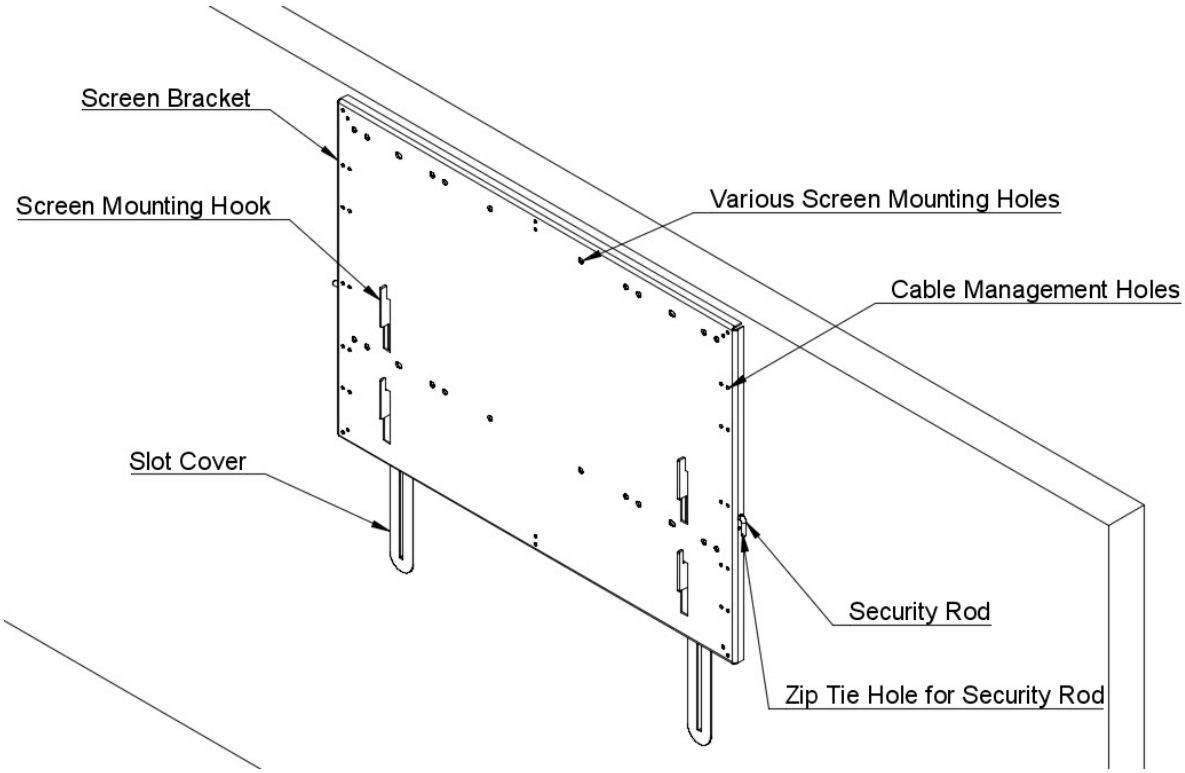
1.2 Key Points

- Overall dimensions inside wall 1225mm (height) x 737mm (width) x 60mm (depth)
- Requires a cavity depth of 60mm inside the wall
- Wall cladding must be less than 17mm deep
- 500mm vertical motion
- Supports screens up to 100Kg (up to 150Kg on request)
- Mounting holes for 200x400, 400x400, 456x400, 600x400, 606x400, 744x400 and 800x400
- The stand and screen bracket are 40Kg, with 30Kg of that moving

1.3 Getting to Know Your Invisible Wall Bracket



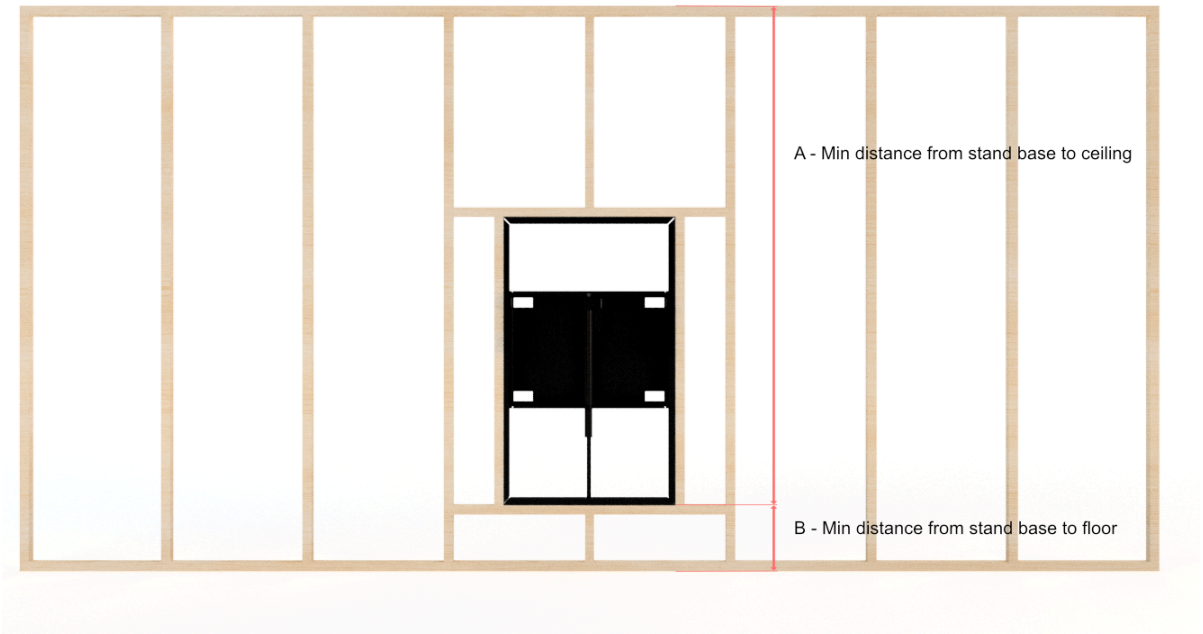

25.5mm Ø Hole for Vertical Cable Exit
10mm Ø Hole for Right Cable Exit
WARNING: Cable must not exit through main opening or any other route.
10mm Ø Hole for Rear Cable Exit
Rear View


Screen Bracket
Screen Mounting Hook
Various Screen Mounting Holes
Cable Management Holes
Slot Cover
Security Rod
Zip Tie Hole for Security Rod

2 Vertical Installation Position

The stand is mounted between studs in the wall. This means that you can choose how high or low to mount the stand inside the wall to suit your users.

The tables below show the lowest and highest position that the stand can be mounted for each CommBox screen to prevent the screen from hitting the floor or ceiling at full extent.



Classic	60	70	80	90
A	1649mm	1710mm	1773mm	1847mm
B	0mm	0mm	0mm	0mm

Pulse	49	55	65	75
A	1573mm	1606mm	1671mm	1724mm
B	0mm	0mm	0mm	0mm

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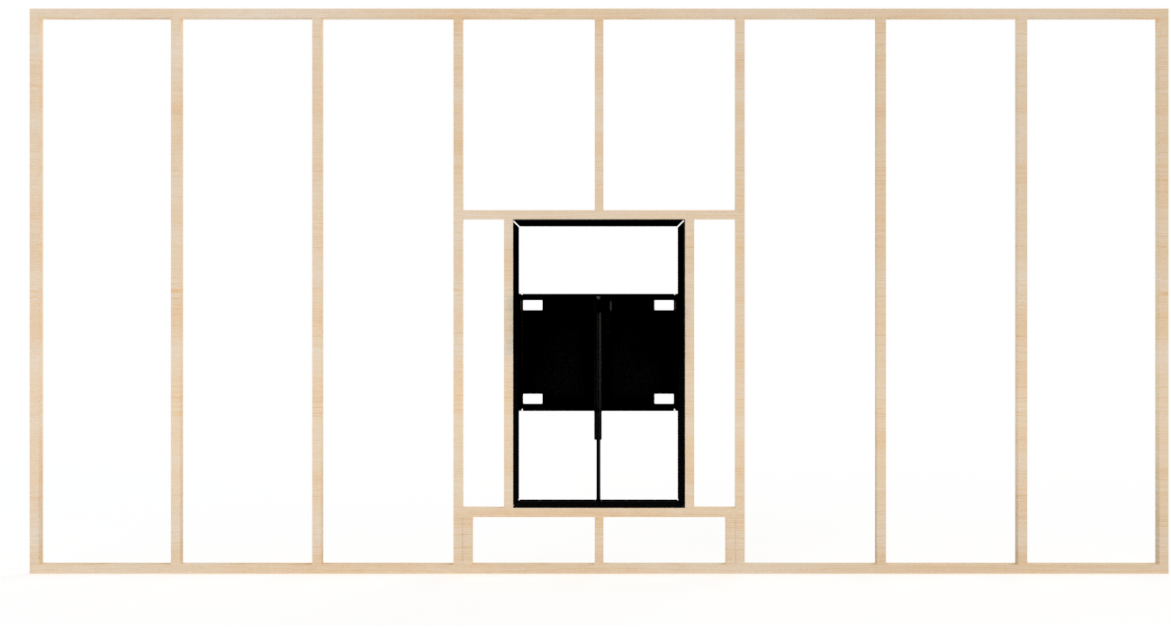
- The distance from the lower screen mount hole centre to the base of the stand ranges from 520mm to 1020mm.

3 Installation Steps



The image above is an example of a bare stud wall with the stand in place. It is vital that you position studs on all four sides of the stand. The stand will screw into each surrounding stud.

1. Remove a section wall cladding wide enough to cover the stand width of 737mm and as far as the next two wall studs in either direction
2. Modify the stud layout as required to create a rectangular space that measures 1225mm (height) x 737mm (width). You must surround that rectangular hole with securely attached studs to closely surround the Invisible Wall bracket as shown. Make sure that the sides of the hole are perfectly vertical and the top and bottom are exactly horizontal.
3. It is a good idea to add extra supporting studs under the lower cross beam to help support the load
4. Push the stand into the space you have built. The mounting hooks should be positioned towards you, out of the wall
5. Align the front face of the outer frame of the Invisible Wall bracket with the front face of the studs. It is important that the wall cladding is pressed up against the outer frame of the Invisible Wall bracket. Clearance is deliberately tight to keep the screen as close to the wall as possible

6. The power cable for the actuator can exit through the top, the right hand side or the rear. There are 3 holes provided in the outer frame to safely guide the cable out. Do not exit the cable through any other route. This is vital to prevent the wire from being trapped or severed by the moving carriage
7. If you chose to exit the cable through the top 25.5mm hole, or the 10mm hole at the very top on the right hand face, you will need to drill an access hole in the relevant stud. In either case, mark up the hole, remove the stand and drill the hole. A 10mm hole will be sufficient in either case.
8. Place the stand back in the wall as described previously and pass the actuator cable through the hole in the outer frame, and if applicable, through the hole in the stud.
9. Screw the stand into the studs on all four sides. There are four 6mm holes on both the base and top, and three 6mm holes on either side.
10. It is recommended that you complete the wiring at this point so that the stand can be moved up and down. See the wiring section further in this document. Route the actuator power cable as required
11. Before going any further, we recommend that you test the vertical motion to make sure that the wall is not pulling the stand out of true and preventing movement
12. Do not place the power supply for the Invisible Wall Bracket in with the Invisible Wall Bracket. We recommend placing this in behind the wall switch plate, or somewhere else entirely
13. If you wish to add any wall plates for power and data behind the screen, you may need to add wiring now if the wall plates are locate in the area that is currently open. See the Positioning Wall Plates section for guidance on hiding wall plates
14. If you have now routed the actuator power cable to its destination, you are ready to close up the wall
15. Before you can push the wall cladding in place, you will need to cut two slots in the cladding to allow the wall hooks to poke through and move through the full range of motion. See the Cutting The Slots section below for the slot dimensions and help identifying where the slots need to be placed
16. Now the slots are cut, place the cladding on the wall and fix in place
17. The slot covers have adhesive foam attached to stick them to the wall. Use the supplied alcohol swab to clean the surface of the wall where the slots will sit. This is very important.

18. Each slot cover will have 5mm clearance at the top and bottom in the extreme positions, and 2.5mm on either side of the mounting hooks. Ensure that the mounting hooks do not interfere with the slot covers when moving up and down. A suggested method is to move the stand to the top, position the slot cover 5mm above the mounting hook, centred left to right, and gently stick down the very top of the slot cover. Move the stand to the bottom, checking for 5mm clearance from the mounting hook, centre the lower section left to right and press down. Apply a reasonable about of force along the length of the slot cover to form a good bond.
19. Paint or finish the wall as required. You can leave the slot covers as brushed stainless steel, or paint over them.

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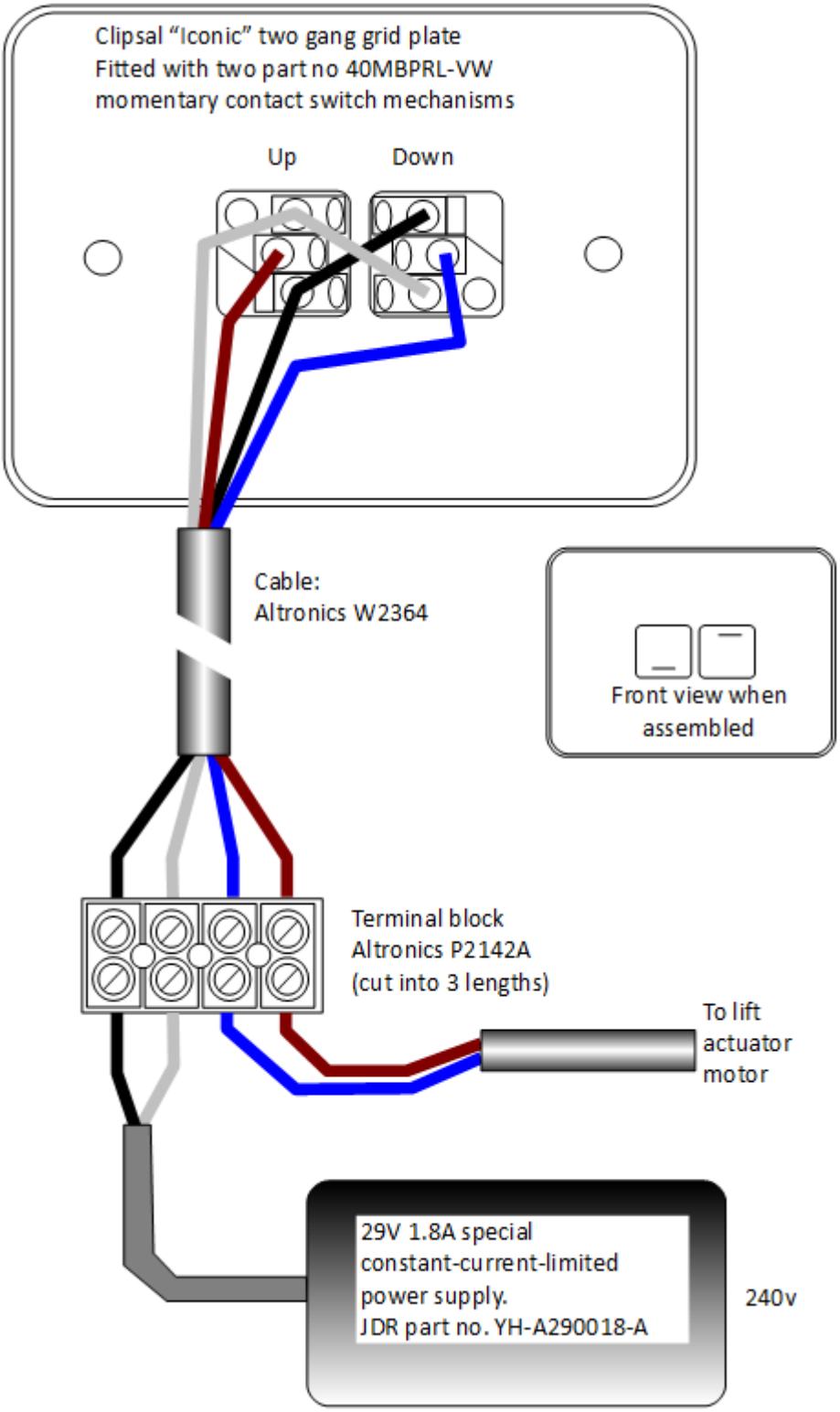
4 Wiring

A two button wall plate is supplied with builtin relays to control the Stand. These are from the Clipsal Iconic range. CommBox also recommends using the stand in conjunction with a CommBox Control system. This will allow you to do one-touch control of the stand to take it all the way up or down.

The wall plate can be mounted to your preference. Below is a wiring diagram showing how to wire it up with the plate horizontally, and with up on the right and down on the left.

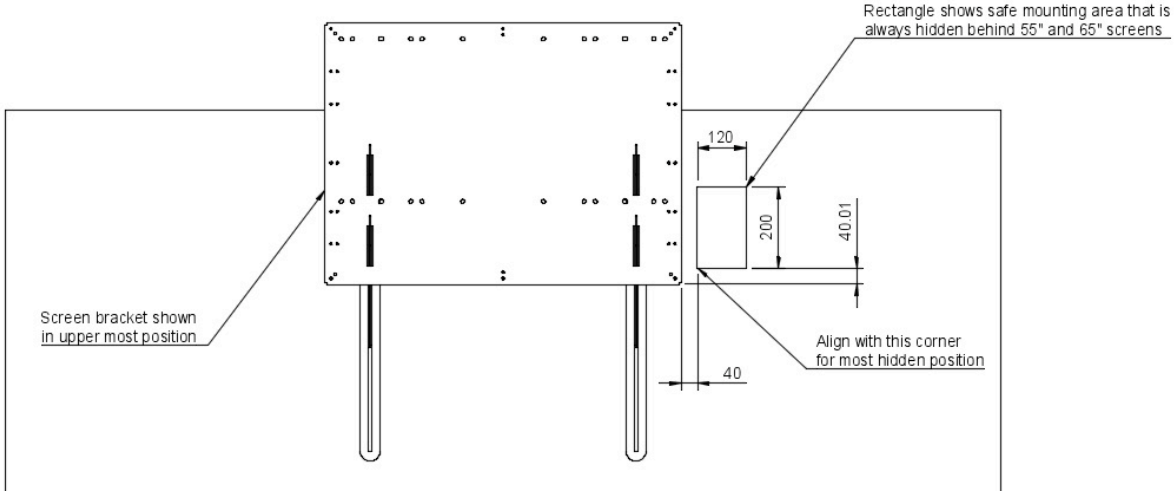

Clipsal "Iconic" two gang grid plate
Fitted with two part no 40MBPRL-VW
momentary contact switch mechanisms
Up
Down
Cable:
Altronics W2364
Front view when
assembled
Terminal block
Altronics P2142A
(cut into 3 lengths)
To lift
actuator
motor
29V 1.8A special
constant-current-limited
power supply.
JDR part no. YH-A290018-A
240v

5 Positioning Wall Plates

The image below shows an area of wall that will always be hidden by the 55" and 65" Pulses. With larger screens, that area will be larger. It is suggested to align to the lower corner nearest the screen bracket. If the input box on the back of the screen is on the opposite side, you can mount the wall plates similarly on the opposite side.

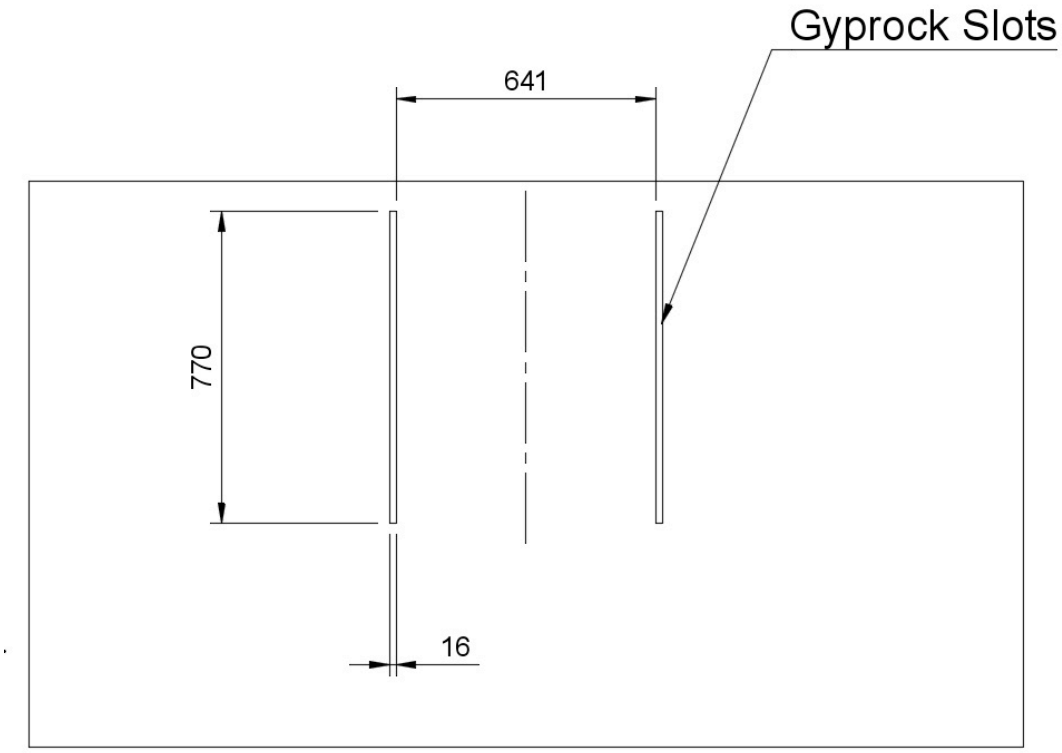
Note that there is limited clearance between the wall and the back of the screen. On a Pulse 65, it would be 109mm, so use thin wall plates.

To recreate the drawing below, move the stand to the upper most position and place the screen bracket on the hooks.

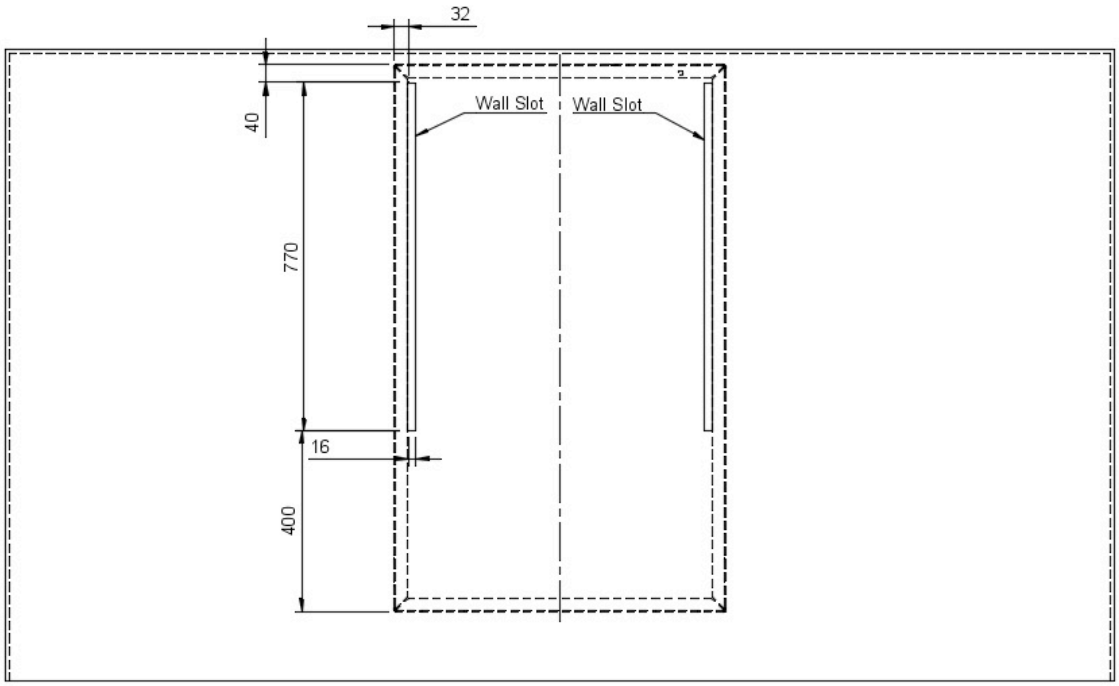


6 Cutting the Slots

The drawing below shows the size and separation of the slots. The slots are horizontally centred around the mounting hooks, and there should be a 10mm gap at the top and Bottom at the two ends of motion. The slots are intentionally larger than the slot in the slot covers to hide the edges of the slot.



To position the slots, the drawing below shows exactly where the slots should be relative to the corners of the outer frame on the stand. This should help you take accurate measurements.


32
40
770
16
400
Wall Slot
Wall Slot

7 Mounting the Screen

1. Attach the wall bracket to the back of the screen using the appropriate holes. The screen should be horizontally centred on the bracket
2. You may wish to attach a NUC to the back of the screen and manage the cabling, connecting the HDMI and USB (touch) between the NUC and screen. There are small hole pars around the edges of the screen bracket for cable ties
3. Lift the screen and bracket to the wall using a CommBox Install Mate if you have one, or manually otherwise
4. Once all fours cutouts in the screen bracket have mated, push the screen downwards to the bottom of the hooks
5. Push the provided security rod through the hole in either side of the screen bracket, through the holes in the mounting hooks and finally the hole on the opposite side of the screen bracket. This prevents the screen from lifting off the bracket
6. You may wish to use the zip tie holes to zip tie the handle of the security rod in place. This will prevent anyone from removing it without side cutters
7. Plug in your power and data for the screen and PC

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