



i2R CNC Safety Enclosure Assembly Manual



*SAFETY A24 MODEL SHOWN



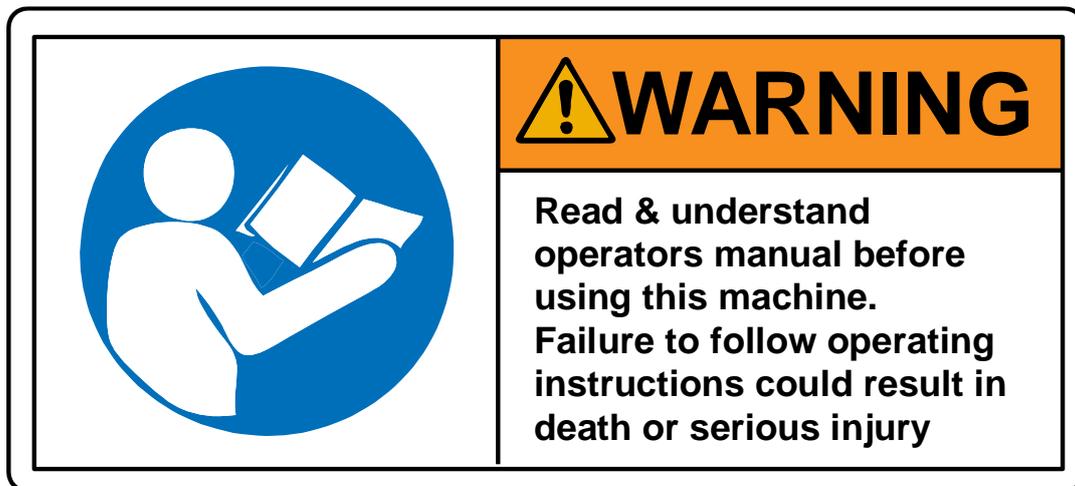
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Before using/turning on the machine, the device should be carefully checked to make sure all connections are secure and the device is technically sound.

1 INTRODUCTION

Thank you for purchasing your i2R CNC Safety Enclosure system. Firstly, please inspect the machine and all components after delivery has been received. Please check and ensure all aspects of the machine and associated extra items are in good condition and there is no evidence of damage or wear to any components due to the shipping process.

Please ensure you read the operational manuals for the i2R CNC router machine prior to attempting to use the system.

Responsibility of use or misuse belongs to the end user. BG Precision PTY LTD and its affiliates accept no responsibility for use or misuse by the user. If you may not be able to use this product properly, we recommend that you do not begin use, or cease use immediately.

If there are any further questions or if anything is not clear, please contact us at info@bgprecision.com.au

1.1 ENCLOSURE DESCRIPTION

The enclosure has been constructed to ensure the safe operation of your CNC System. The machine placed in the interior is accessible from two sides via the dual interlocked doors on the front and left-hand side of the enclosure {Note: i2R 22 (A and B series) only have front doors}. This allows access to all areas of your machine bed for maintenance, material clamping, tool changing and/or material loading. The interlocking doors ensure that while the machine is active you cannot access the interior of the enclosure due to the doors having a electro-mechanical locking feature. To release the electro-mechanical lock, you must engage the reset condition on the CNC controller to allow the doors to open.

Placed on the left-hand side of any door assembly is an E-Stop. Engaging this E-Stop will activate your reset condition and stop the machine from any operation. The main safety control panel is located to the front of the enclosure. It helps you monitor the current state of the safety enclosure. When the green LED is lit, the machine is active, and the enclosure is safety locked. The enclosure's electronics are all integrated with your CNC Controller to monitor these conditions. If a door is open or an E-stop is triggered the UCCNC software will not allow you to activate the machine.



Figure 1 i2R A24 with full Safety Enclosure

1.2 HANDLING YOUR i2R CNC MACHINE

The CNC router table assembly is heavy. Please use a secure means and use caution when lifting onto the stand. At least 3-4 able bodies persons are needed to manually lift the machine onto the stand.



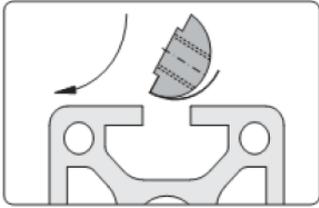
To avoid damage, be careful to never lift the router by the gantry. Always lift the i2R CNC machine under the black steel frame. Before any lifting is carried out, you should sight the following components under your i2R CNC Table (Figure 2): the y-axis profile linear rails and y-axis ballscrew. If these precision components are damaged, you must send the CNC machine back to the workshop for replacement.





Figure 2 Underside of i2R CNC Machine

1.3 ALUMINIUM PROFILE ASSEMBLY HINTS

| | | |
|--|-----------|---|
| ACCESSORY | 1.32.4EM6 | T-Nut for subsequent insertion, w. spring E, M6 |
| | 1.32.4EM8 | T-Nut for subsequent insertion, w. spring E, M8 |
|  <p>Fixing with leaf spring</p> | | <p>Application Fastening element for screw-type connections</p> <p>Technical data Design steel: <ul style="list-style-type: none"> • material: steel • surface: galvanised Design stainless: <ul style="list-style-type: none"> • material: stainless steel 1.4305 • surface: pickled and passivated max. moment of torque: $M_{A, max}$</p> |
|  <p>Insert front-sided and rotate</p> | | |

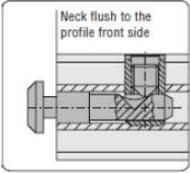
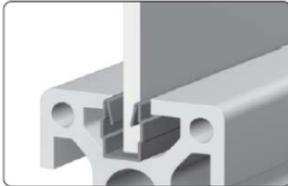
| | | | |
|---|-------------|--|---|
| CONNECTOR | 1.21.4E0 | Connector, universal | <p>Most MayTec connectors follow these assembly steps. Tightening torque is: 5-15 Nm for 20mm profiles, 30 Nm for 30mm group, 35 Nm for 40mm and larger profiles.</p> |
| <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Insert the cross bushing</p> </div> <div style="text-align: center;">  <p>Push in the anchor</p> </div> <div style="text-align: center;">  <p>Pretension the anchor</p> </div> </div> <div style="margin-top: 10px;">  <p>Neck flush to the profile front side</p> <p>Comments For the optimal assembly of the profiles the connector is to be installed in such a way that the neck is flush to the profile front side</p> </div> | | | |
| None | 1.41.E314.1 | Combination profile PP, E, 1 - 4.5, grey (bar 2.5 m) | <p>These profiles fill the space between the panel and the walls of the T-slot.</p> |
| <div style="display: flex;"> <div style="flex: 1;">  <p>Use as reduction profile</p> </div> <div style="flex: 1;"> <p>Application Combination profiles for use as reduction or cover profiles</p> <p>Technical data bar length: 2.5 m material: PP • oil and water resistant</p> </div> </div> <div style="margin-top: 10px;">  <p>Use as slot-cover profile</p> <p>Colours: grey black orange red blue green</p> </div> | | | |



Figure 3 Corner Alignment

When connecting two aluminium extrusion components together you must ensure a square and flush fit. We achieve this by placing a straight edge across the joint while tightening the pre-tensioning anchor grub screw. This is very important to all the enclosure components aligning correctly.

2 SETTING UP THE STAND

Failure to read and understand all the assembly and setup instructions before attempting assembly may result in serious injury.



Once you have verified the machine and their contents are 100% okay and damage free after transport then you can begin the setup process.

The Safety Enclosure is designed to work only with the i2R-A stand ONLY. It is not designed to be fitted to the i2R-B stand.

2.1 STAND CONTENTS



Figure 4 i2R Stand Packaging



Figure 5 i2R Stand contents

Packaging contents for the i2R Precision Stand (ARS400/600/800):

- 2-Stand upright (front & back)
- 2-Cross braces
- 1-Lower shelf plate
- 1-Stand hardware package

Hardware package contains:

- 4-Swivel casters
- 4-Leveling Feet
- 4-hex nuts
- 16-Hex bolts (M8x25)
- 16-Lock washers (M8)
- 16-Flat washer (M8)
- 16-Hex bolts (M6x12)
- 16-Lock washer (M6)
- 16-Flat washer (M6)
- 1-Controller hook
- 2-Machine screws (M4x6)
- 4-Small rubber pads

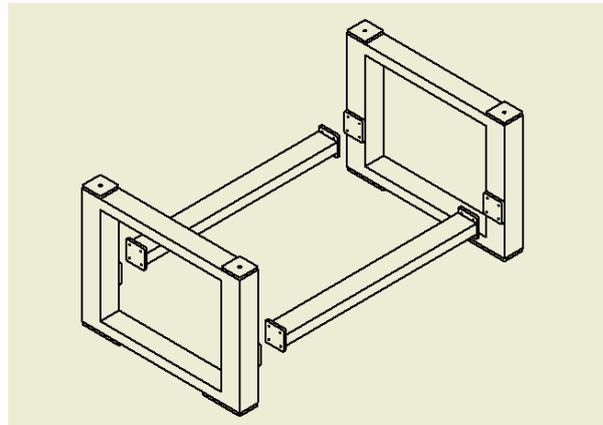


Figure 6: i2R steel stand assembly overview



Figure 7 Hardware package contents

Remove all contents from shipping boxes. Do not discard carton or packing material until assembly is complete. Accessories commonly ship inside machine or stand packaging and can be easily overlooked.

2.2 STAND ASSEMBLY

Tools required for assembly:

- #2 Philips-Screwdriver
- 10mm, 13mm and 17mm sockets and socket wrench
- 24mm open-end wrench
- 2mm and 3mm Allen key
- Spirit Level

Assembling Stand (all models): (2-person recommended)

Assembly for stand fitting all i2R-A model machines is the same. The only difference is the length of the cross braces.

- 1- Thread a loose hex-nut onto each of the levelling feet.
- 2- Turn the square stand uprights upside down. Do this on top of the cardboard packaging to prevent scratching.
 - a. Install the swivel casters using M6 hex bolt, M6 lock washer, and M6 flat washer for each caster.



Figure 8: Castors and feet

Tighten all the caster hardware securely. Install the levelling feet and drive in until approximately level with the castors. Leave the locknuts finger tight for now as the feet will need adjusting later.

- b. Orientate uprights so the cross-brace mounting plates are facing each other.
- c. Align the cross-braces between the uprights and bolt the mounting flanges to the plates using (4) M8 hex bolt, (4) lock washers and (4) flat washers for each side. We recommend that you do not fully tighten these bolts until the machine is securely fixed on top of the stand as this makes the machine and stand alignment easier.

IMPORTANT NOTE: As seen in the Figure 9 and Figure 10, Braces should be mounted so that the top and bottom are the larger flat surfaces* to enable the shelf and/or Toolbox to sit on it.



Figure 9: Bolted connections for stand

- 3- With assistance, the stand can now be flipped over onto the castors and levelling feet.
- 4- Flip the shelf upside down and stick of the rubber pads on each corner of the shelf flange.



Figure 10: Bolted connections for stand

- a. Install shelf between the braces on the stand, all the way forward.
- b. The small rubber pads should now be between the flange and the top surface of the brace. This will help prevent unwanted movement and scratching.

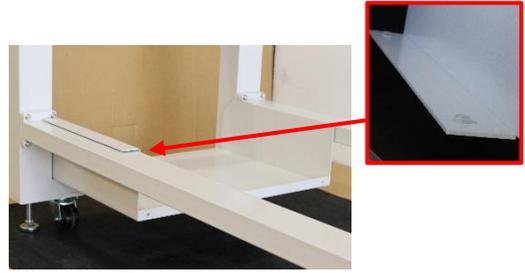


Figure 11: Stand Tray

2.3 i2R TOOLBOX (OPTIONAL ACCESSORY)

- 1- This is best done before the machine is placed on top of the stand.
- 2- Turn the tool-box upside down. Install (1) of each hanger on either side of the toolbox using the installed riv-nuts and screws supplied (2 per hanger).
- 3- Insert the toolbox into the stand, from the top. The hangers will fit snugly between the braces on either side of the toolbox.
- 4- The front can be slid forward to rest within the opening on the stand upright.



Figure 12: Toolbox



Figure 13: Hangers for toolbox



Figure 14: Toolbox in Final Location in stand

2.4 ENCLOSURE BASE ASSEMBLY

The final step of the setting up the stand assembly is fixing the machine enclosure base to the stand. To assist with locating the assemblies correctly we have provided 4 x M4x10mm screws that should be used to help align the enclosure base assembly to the stand assembly (See **Figure 20**). This also secures the base extrusions to the stand ensuring they do not move while you are placing the machine on top. Identify the 80x40 extrusions that have the locating holes machined as per **Figure 15**



Figure 15 Enclosure Crossbeam and fixing bolts

Please note: the stand will be drilled and tapped for the M4 screws by BG Precision only if the i2R CNC Stand and enclosure are ordered as a complete package. If the enclosure is ordered as an add-on accessory at a later date your stand will not have the M4 locating screw-holes tapped into the i2R Heavy duty stand as seen in **Figure 20**. Please take note of **Figure 20** for orientation of crossbeam. The lower side should face the ground and the upper side the ceiling.



Figure 20 Crossbeam orientation



Figure 16 M4 Locator Screw

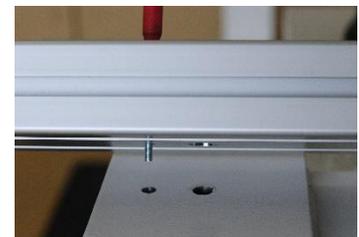


Figure 19 Base Assembly and stand Alignment



Figure 17: Final Stand and enclosure base assembly

Step 2 is complete when your assembly looks like Figure 17

Please proceed to **Section 3** for installing an **i2R-A** CNC onto the stand assembly

Or

to **Section 4** for installing an **i2R-B** CNC onto the stand assembly.

3 i2R-A SERIES INSTALLING THE CNC ROUTER ON THE STAND

The CNC router table assembly is heavy. Please use a secure means and use caution when lifting onto the stand. At least 3-4 able bodied persons are needed to lift the machine onto the stand.

Identify the following components seen in the picture below. These are supplied with the CNC machine. The M10 x 50mm bolts are used only when mounting the machine in an 'Open configuration', that is, without an enclosure. Substitute these with the M10 x 90mm bolts supplied with the enclosure. Place a rubber bushing centred over each of the 12mm holes in the extrusion.

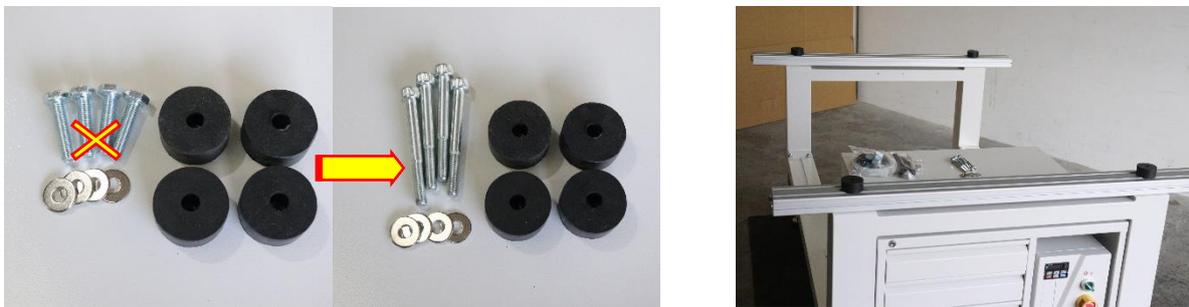


Figure 21 Machine Mounting Pads

Before any lifting is attempted, please look under your i2R-A CNC Table and sight the following components: the Y-axis profile linear rails and y-axis ballscrew. If these precision components are damaged, you may have to return the CNC machine back to the workshop for replacement.

Damage to the precise alignment of the axes, and possibly other components of the machine is almost guaranteed if any lifting is carried out using the gantry.

Always lift the i2R-A CNC machine under the **WHITE STEEL FRAME** (BLACK in older models). Best avoided, but if it is necessary to lift using the Aluminium T-Slot Table, you must

only lift from close to the white steel frame at the two ends and never any further from it than a hand's-width away. See Figure 22 Lifting the i2R-A CNC.

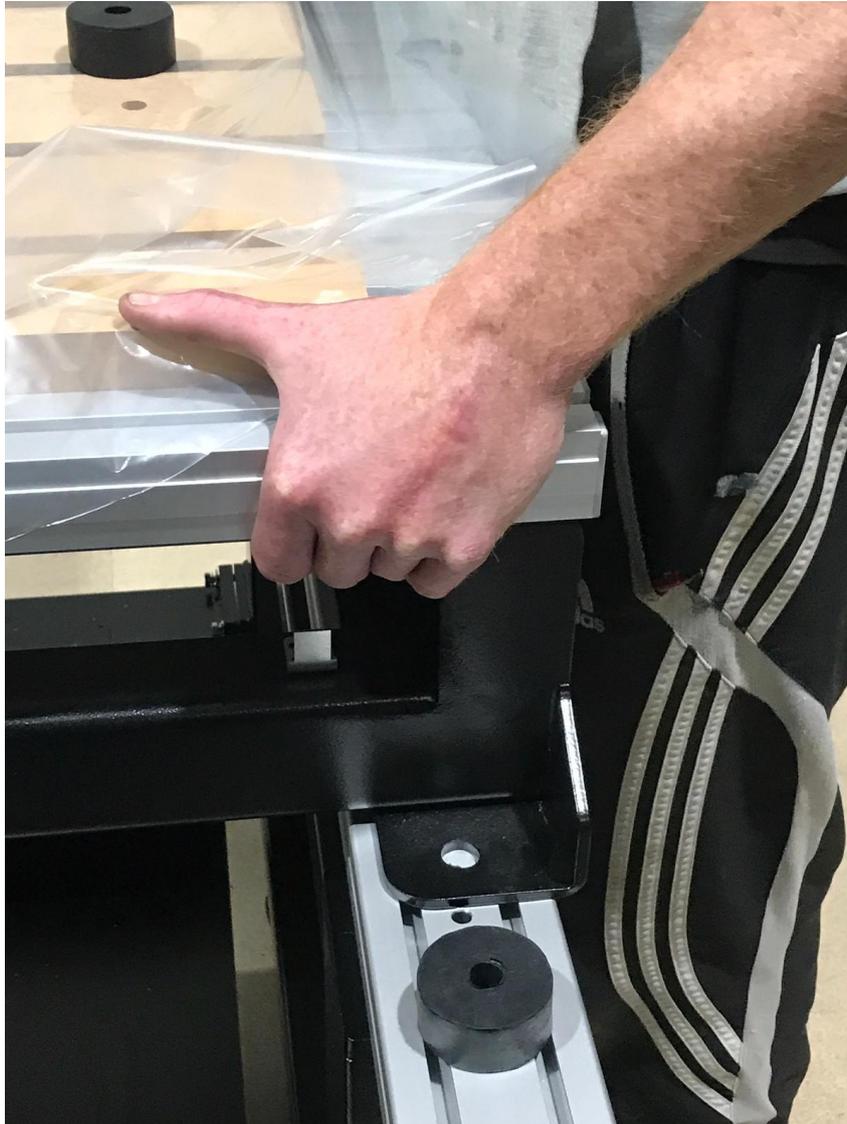


Figure 22 Lifting the i2R-A CNC

If the machine is being lifted by manual handling, you need to assess the number of persons required, and their abilities to carry out this task safely. A minimum of two persons will be required, possibly four.

Shown here are two options for lifting the machine safely on to the prepared stand using a forklift. The first method is to lift using the tines directly under the steel frame. The second is using straps. The strap method may also be used as a guide if using a hoist or an 'engine-lifter'.

LIFTING USING FORKLIFT DIRECTLY:

This is the preferred option as it's the most stable and safe one. The tines should never be used in between the T-slot table and the painted steel frame below it. It is almost guaranteed to damage the cable-chain, cables and/or the ball screw.

CAUTION: Examine under the machine table and take extreme care and be aware of the positioning of tines, especially during the initial slide-under phase.

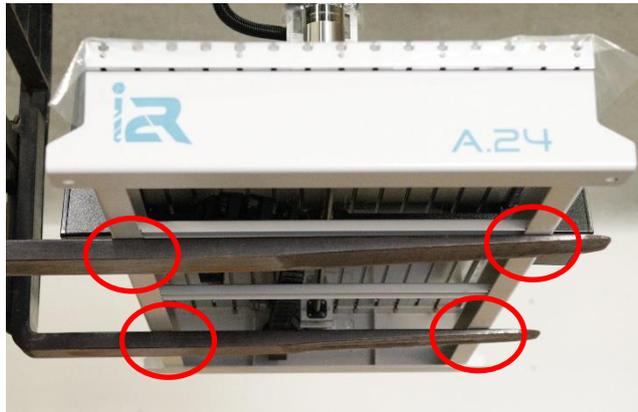


Figure 23 Position of Forklift tines for safe lifting

It is strongly recommended to first manually lift, and place wooden blocks thick enough to permit the tines to pass with clearance under the frame, at each corner of the machine.

LIFTING USING STRAPS:

CAUTION: You must assess the straps and buckles for the loading capacity, and ensure they are fit for purpose and in good condition to lift safely. Strap lifting carries the risk of the machine swinging, sliding and/or shifting unexpectedly. This method should only be carried out only if you are competent in doing so. The points below are not to be considered instructions on doing so. The responsibility for safe lifting practices remains with you. If you need to move the machine, as opposed to just lifting and placing the stand under it, the previous method should be used.

Straps can be easily passed under the frame a short distance away from the frame ends where there is usually a small gap.

Before the straps take load, double-check the routing of the straps to ensure no machine component other than the steel frame is going to engage with the straps.

Carefully lift a short distance, assess that all four corners are lifting evenly. Correct as necessary.



Figure 24 Lifting the i2R with Straps

LOWERING MACHINE ONTO STAND (COMMON FOR BOTH METHODS ABOVE):

Lift slowly until the base of the machine is high enough to just clear the height of the prepared stand. Roll the stand under the machine and gently lower, leaving a small clearance, but allow the M10 bolt to drop through and a hand tighten a few threads into the stand. Fit all four bolts. Now gently lower the machine until it is seated on the stand. If the alignment of the machine to the stand is correct, you should be able to hand-tighten the bolts until it makes contact with the frame.

Do not tighten until all bolts have been threaded. This ensures correct alignment. Observe the rubber bushing, stop tightening just as they start to bulge.

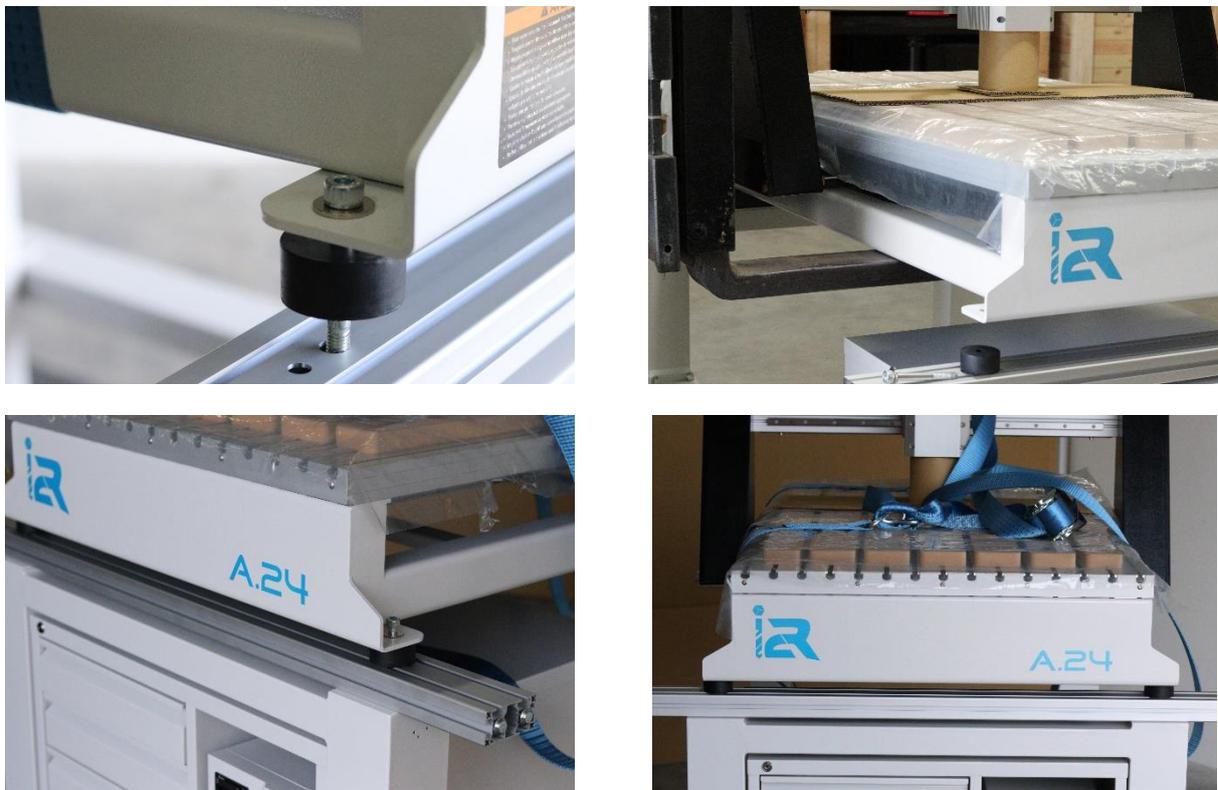


Figure 25 Machine position on Enclosure base

When the Router Table is securely fixed to the enclosure base and stand assembly you can then proceed to tighten the 4 bolts at each end of the stand cross members.



Figure 26: Bolted connections for stand

CONTROL BOX:



Figure 27 Control box cables

Before placing the control box inside the toolbox, route the two cables with the barrel plugs and the power cable in through the toolbox from front to back.

Now unwrap the enclosure electronics kit component wiring, place all the components on the tray and route its connector-cable through the back opening to the front of the tool-box.



Figure 28 Electronics Kit



Figure 29 Enclosure Connector

Plug the connector and tighten its locking nut.

Place the control box in the toolbox taking care to feed all four cable out towards the back.



Figure 30 Control Box Location



Figure 31 Control box in toolbox

Position the control box flush to the front of the tool box ensuring even gaps on its left and right for air-flow.

Plug-in and tighten the barrel connectors to the back of the machine.

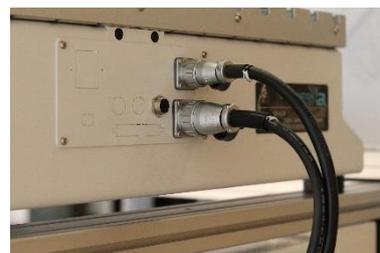


Figure 32 Barrel Connectors

4 i2R-B SERIES - INSTALLING THE CNC ROUTER ON THE STAND

The CNC router table assembly is heavy. Please use a secure means and use caution when lifting onto the stand. At least 3-4 able bodies persons are needed to lift the machine onto the stand.

Before any lifting is attempted, please look under your i2R-A CNC Table and sight the following components: the Y-axis profile linear rails and y-axis ballscrew. If these precision components are damaged, you may have to return the CNC machine back to the workshop for replacement.

Damage to the precise alignment of the axes, and possibly other components of the machine is almost guaranteed if any lifting is carried out using the gantry.

- 1- Position router over the stand and align in a centred position to the enclosure base assembly being careful to make sure the stand is properly oriented with the machine front.
- 2- You will have to place M8 insert nuts (without the Bolt) into the extrusion frame in a location such that you can then screw the M8 bolt in and secure the machine in 4 corners as seen by Figure 33. The shoulder of the bolt should clamp down the inside of the alloy extrusion that runs either side of the i2R machine frame.



Figure 33 i2R machine to Enclosure Bolt

- 3- When the Router Table is securely fixed to the enclosure base and stand assembly you can then proceed to tighten the 4 bolts at each end of the stand cross members.



Figure 34 Stand cross member bolts

- 4- Now is a good time to place your control box into its correct location in the toolbox and feed all the connection cables through the hole at the back



Figure 35 i2R Controller in toolbox



Figure 36 Connection Cables

- 5- Connect the two barrel connections to the back of the Router Table as per Figure 37. Leave the mains plug disconnected until the full enclosure assembly is complete.

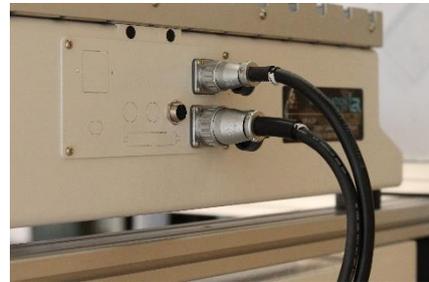


Figure 37 Machine Connections

5 ENCLOSURE ASSEMBLY

This step assumes that you have complete steps 1-4 above and now have a stand assembly complete with the enclosure cross members mounted and the machine secured in location as per Figure 38.



Figure 38 CNC on Stand

Please note that the A23 and A24 machine enclosures have front and side doors. The A22 only has front door access therefore ignore reference to side doors for the A22 models.

- 1- The first step of the enclosure assembly is to identify all 4 pre-assembled sides panels.



Figure 39 Pre-assembled panels

- 2- The front and side door are secured in place from opening during transport by an aluminium bracket on the front (Figure 40) and a plastic bracket on the rear (Figure 41).



Figure 40 Front Door Catch (KEEP)

Figure 41 Door lock for transport

The door bracket in Figure 40 is vital to the operation of the enclosure and should not be removed or adjusted. It ensures you close the doors in the correct order and that both doors are locked via the mechanical lock in the interlock. The plastic bracket can be disposed keeping the m4x10 screws.

- 3- Next step is to swing the doors open and lift them up from their hinges. This makes the assembly of the frame to the machine much easier.



Figure 42 Remove Doors from frames

- 4- Once the doors are removed choose the longer side of the machine that will be enclosed without doors and prepare the closed side of enclosure for mounting. With help you should be able to slide the bottom rail of the entire assembly through the cross members. Exact position will need to be adjusted when assembly is complete.



Figure 43 Assembly of closed side

- 5- Next step is to position the white PVC base taking care that the rectangle cut out faces the side that the side doors will be positioned. At this point you should note the cut-out is not centred and the longer portion should be towards the back of the machine. This cut out is later used to mount the magnetic door catches.



Figure 44 PVC Base sheet

- 6- Now the large door frame can be positioned ensuring that the PVC base slots into the aluminium extrusion on all sides.



Figure 45 Large Door Frame

- 7- Identify the last remaining 80x40 extrusion which forms the top centre cross beam. This can be placed along the top extrusions of the enclosure frame. This should be centred to the side doors and will be later used to mount the interlocks.



Figure 46 Centre Cross beam

- 8- The last of the white PVC base (2 pieces) can be positioned on the front and back of the frame before we mount the front and back assemblies. Take note that the rectangular cut-out is to face the front and will be later used to mount the magnetic door catches. The round cut out is for the power and control cables to come from the control box to the rear of the CNC machine.



Figure 47 Front and Rear PVC base

- 9- Next step is to slide on the rear panel. This will help position the entire enclosures front and back distance to the stand. When tightening all the connectors, ensure that all mating surfaces in all directions are flush. This will ensure the frame is square which is important for the doors to swing correctly.



Figure 48 Rear Panel

10- For the front door frame, we need to mount the last remaining 80x40 extrusion to the top inside of door frame. This is the opposite side to which the hinges stick out. As this 80x40 interferes with sliding the door frame into position, it is best to slide the left side on first from the inside overshooting the frame and then slide back the opposite direction to secure in final position. Once all flush and square, tighten up all connectors centre the short 80x40 as this will be later used to mount the interlocks for the front doors.

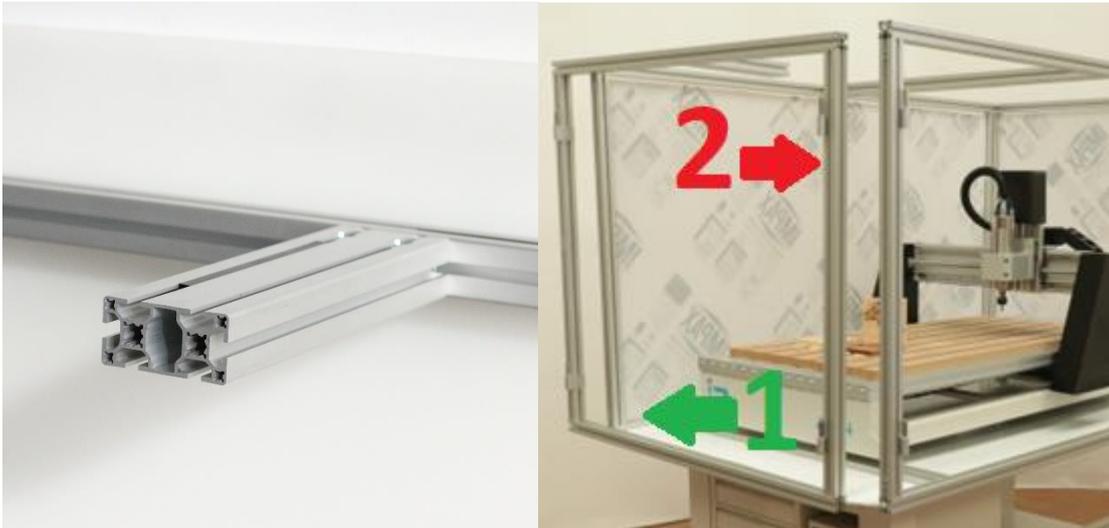


Figure 49 Front Door Frame and interlock bracket

11- Now we can prepare the doors for mounting. The door bracket identified in Figure 40 above is always the left hand door.



Figure 50 Door mounting

12- The remaining accessories such as the safety interlock circuit, door handles and magnetic catches can now be mounted to the respective positions as identified in the coming steps.



Figure 51 Position of all accessories

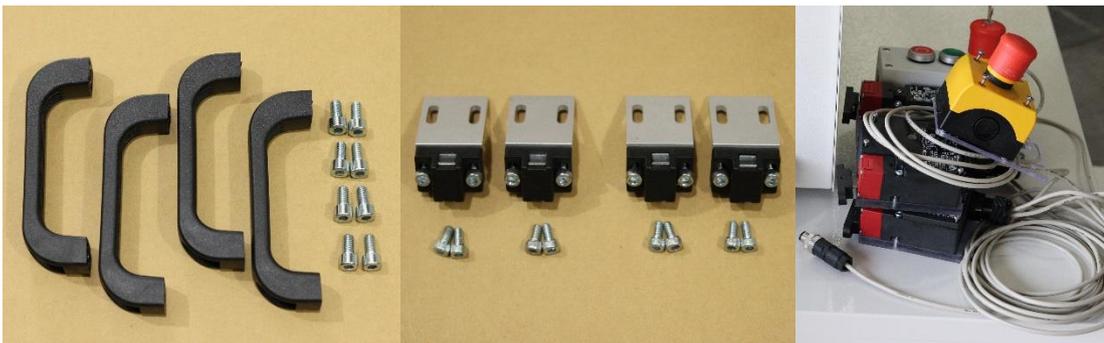


Figure 52 Door Handles, Magnetic catches, and Safety Circuit

We have done our best to help you locate the correct position for all accessories by placing the metal T nuts (Figure 53) in their respective locations. If needed these can be moved to suit your preferred location.



Figure 53 Metal T nut inserts

13- The magnetic catches are position inside the enclosure doors and should be positioned such that the align with the round steel button on the inside of the door itself (Figure 54). There is one for each door on the enclosure. The rectangle cut out on the white PVC base (Figure 55) if installed correctly should be centered to this location allowing easy installation of the magnetic brackets.



Figure 54 Position of Magnetic Catches

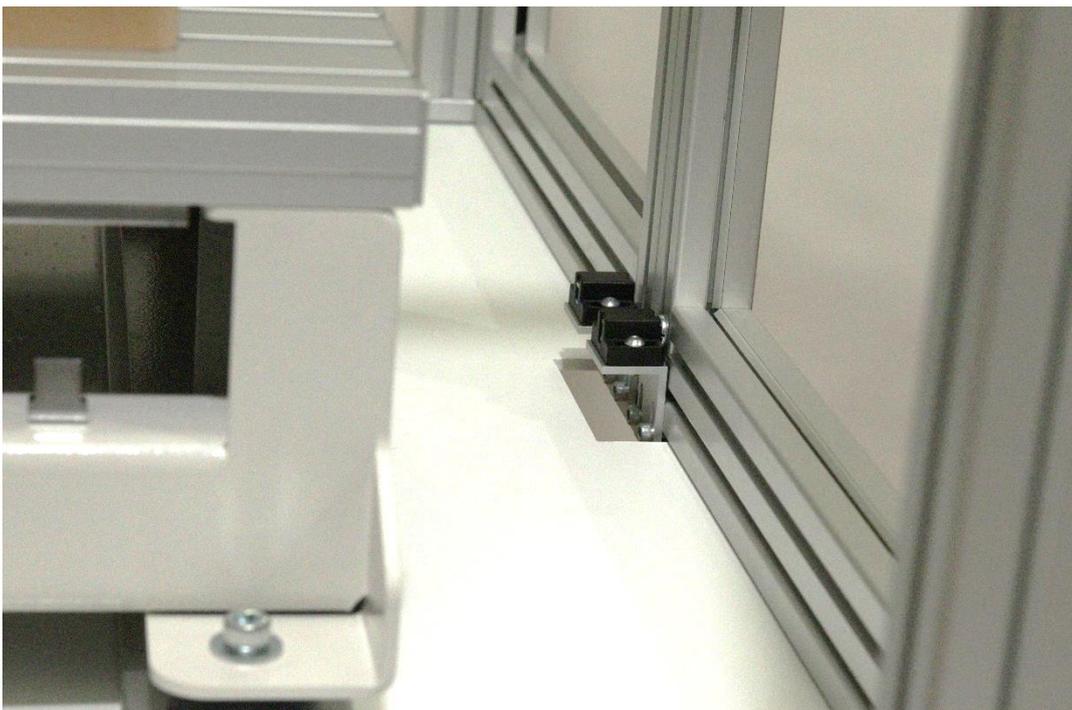


Figure 55 Note PVC Cut out

14- The single yellow estop is intended to be mounted at the back of the enclosure beside the side doors. The single cable runs through the extrusion channel and can be covered by the plastic strip provided in position.



Figure 56 Yellow E-Stop

15- Following the wiring on from the single yellow E-stop will bring you to the side door interlocks. The cable can run on top of the frame (Figure 58) and be secured in position by the plastic strip in the extrusion channel. Mount the interlocks on the underside of the top cross beam as per Figure 57.



Figure 57 Door Interlocks



Figure 58 Cable in extrusion slot

16- Following on from the side door interlock brings us to the front door interlocks which get mounted on the underside of the 80x40 short extrusion on the inside of front doors.



Figure 59 Front Door interlocks

17- The last component on the circuit is the 3-button controller which get mounted to the front of the door frame.



Figure 60 3-Button Controller

18- The door interlock keys can be removed from the safety interlocks and mounted on the inside of the door frames.

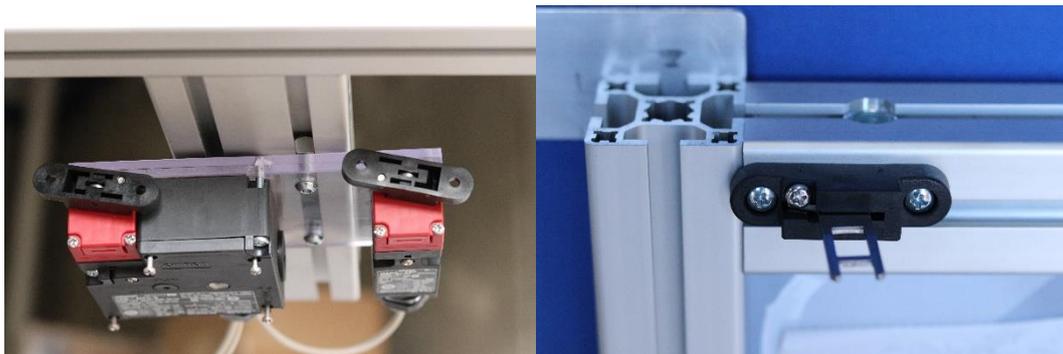


Figure 61 Door interlock keys

Please note these can be adjusted on first assembly and should be angled towards their respective interlock as shown in Figure 62.



Figure 62 Interlock key must angle towards interlock

19- The final step in this section is to connect the safety controller to the i2R control box.



Figure 63 Connection to control box

Step 3 is now complete.

6 SAFETY ENCLOSURE OPERATION

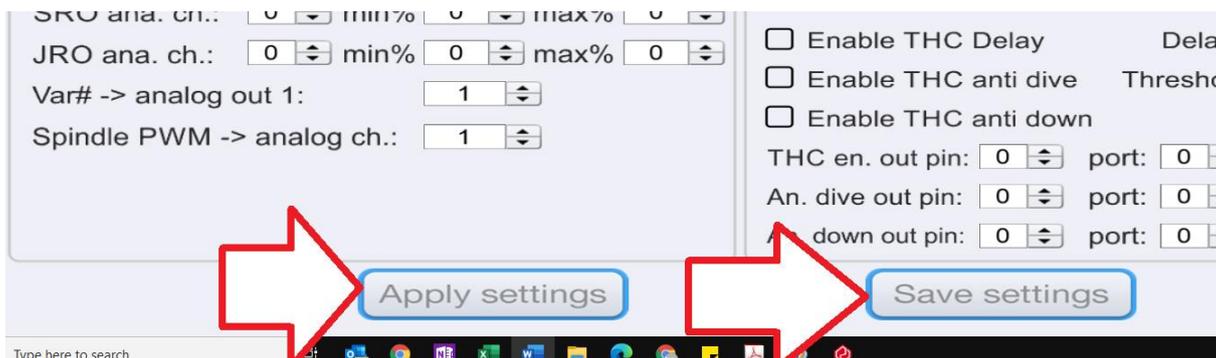
If you purchased your machine and enclosure package together, you will have the correct UCCNC machine profile for operation of your enclosure include on the USB key.

If you are adding the enclosure set-up you will have to make some profile changes in UCCNC as per steps below:

- 1) Run UCCNC by clicking on the UCCNC profile shortcut located on your desktop after successful installation and completion of Step 1, 2 and 3 on the USB key originally provided with your machine.
- 2) When UCCNC is running locate on the tabs on top of the screen: CONFIGURATION – I/O SETUP – PAGE 1
- 3) We need to set the “E-stop pin:” to Pin 6 and Port 2 and tick active low as per the picture below. If typing in the number 6 and number 2 you must press enter in UCCNC or the numbers to register.



- 4) When entered in the correct settings for E-stop pin. You can Apply Settings and Save Settings



6.1 SAFETY ENCLOSURE OPERATION CONDITIONS

When using the Safety Enclosure, the following conditions must be met for operation of the i2R CNC machine:

1. All doors must be closed
2. All E-stops keyed or none keyed must be reset (Pulled out)
3. i2R Controller powered on
4. STEP 1 SET UP THE NETWORK complete as per i2R Machine user manual
5. STEP 2 INSTALL THE UCCNC SOFTWARE as per i2R Machine user manual
6. STEP 3 UCCNC LICENSE AND PROFILE INSTALLER complete as per the i2R Machine user manual with correct machine profile (Example Profile: i2R_A24Enclosure)
7. Click on the UCCNC Machine Profile shortcut on your desktop (Example Profile: i2R_A24Enclosure)
8. Hit the reset button (it should be flashing yellow and red). Once clicked it should remain solid red in colour. You should now be able to control the machine with your UCCNC software.

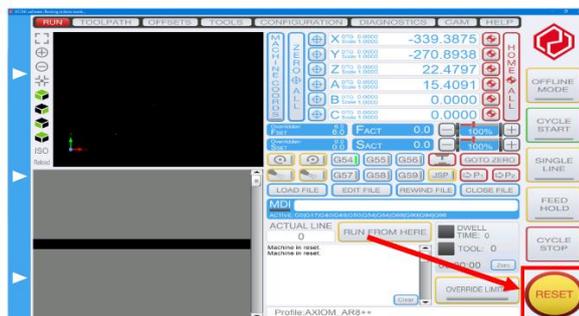


Figure 64: Reset button on UCCNC front panel

9. If all conditions are met it will be indicated by the green LED on from of the main enclosure controller as per Figure 65



Figure 65 Machine Active Green LED

6.2 “THE RESET LOGIC IS ACTIVE”

If the following message comes up “The Reset Logic Is Active” (Figure 66) the best way to diagnose is the Diagnostic Tab as per Figure 67. If the E-stop function is highlighted green, it means one of the conditions of section 5.1 SAFETY ENCLOSURE OPERATION CONDITIONS are not met.

If confirmed all conditions are met, please review the next section (6 STEP 5 – DOOR INTERLOCK ALIGNMENT)

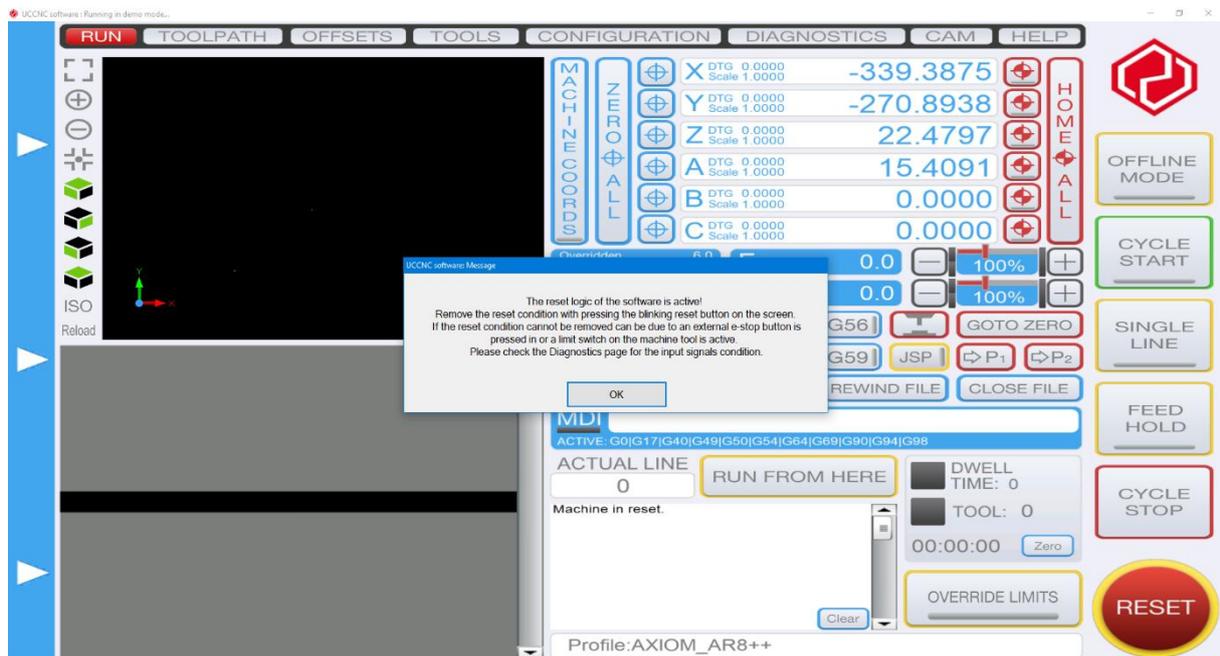


Figure 66 The Reset Logic is Active



Figure 67 Diagnostics Screen UCCNC

7 DOOR INTERLOCK ALIGNMENT

While we do are best to align all doors and interlocks at initial assembly, they may need adjustment from the final assembly on site or simply need adjustment overtime. There are several adjustment points which will be highlighted in this section. Please note that if the interlocks are not alignment correctly the machine cannot be activated which is the safest situation.

The main adjustment point is the “Door Interlock Plate” as identified in Figure 68 Door Interlock Plate There are two 5mm Allen key screws that can be loosened to adjust the plate and slide it forward or back.

The aim is to have the door interlock plate as far back from doors as possible. This is to ensure that when you close the doors and activate the machine the door interlock stays engaged if you were to try and open the doors. If the door interlock is too loose and you try to open the doors you may disengage the interlock and put the machine into a reset state.



Figure 68 Door Interlock Plate

It can be seen from our alignment picture in Figure 69 there is a gap present between the interlock key and the actual interlock itself. This is ok.

You should test your door alignment with the UCCNC diagnostic screen as per Figure 67. Testing should consist of opening and closing doors and checking the “E-Stop” LED is highlighted green when doors are open. Close the doors and undo the reset condition which

should lock the doors and try to manually open them. If you can open the doors, the interlock plate is too loose and needs to be moved back further away from the doors.

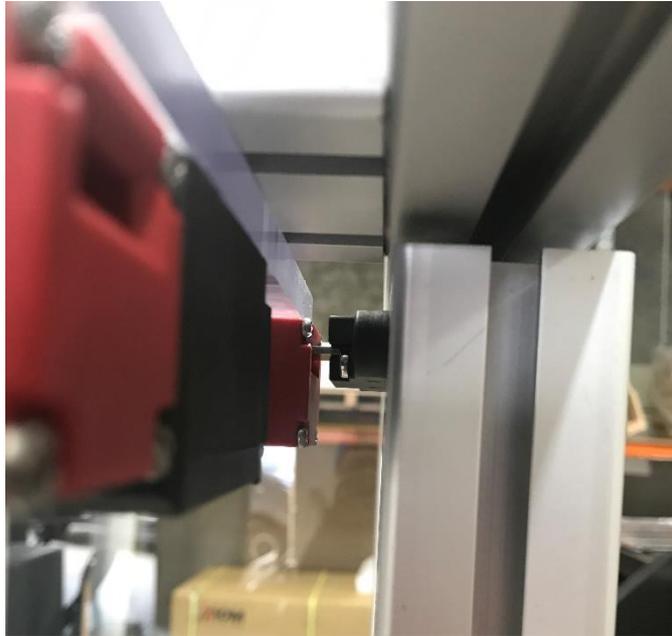


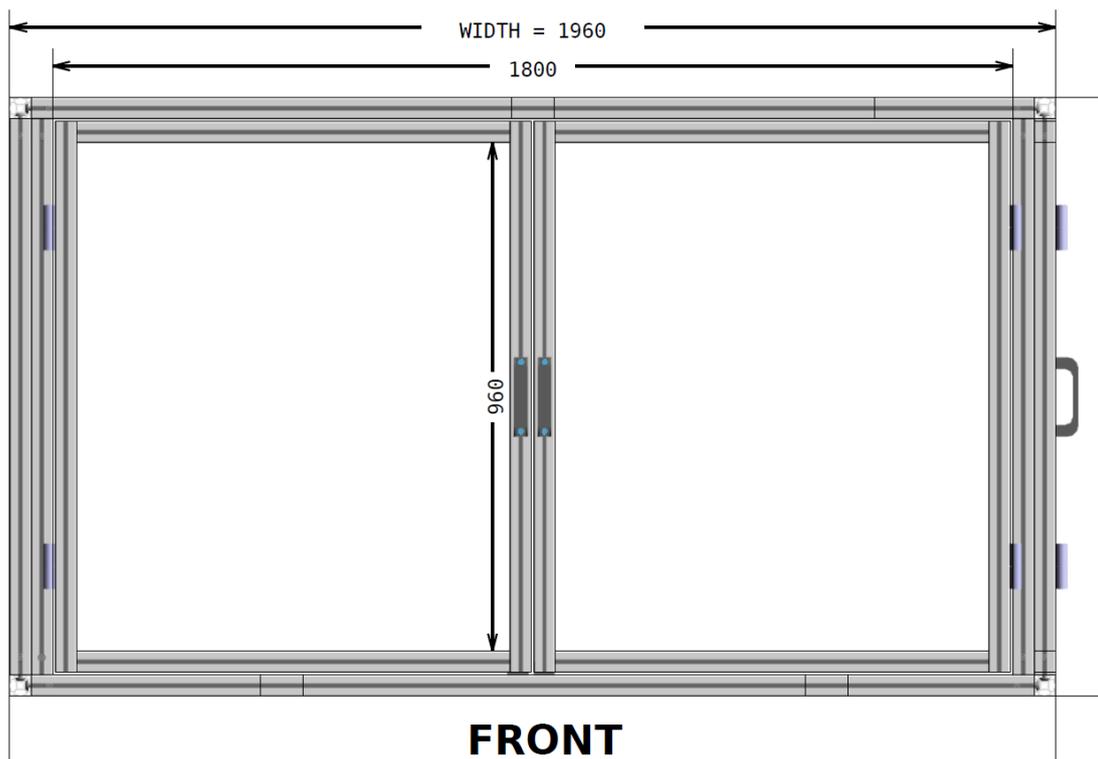
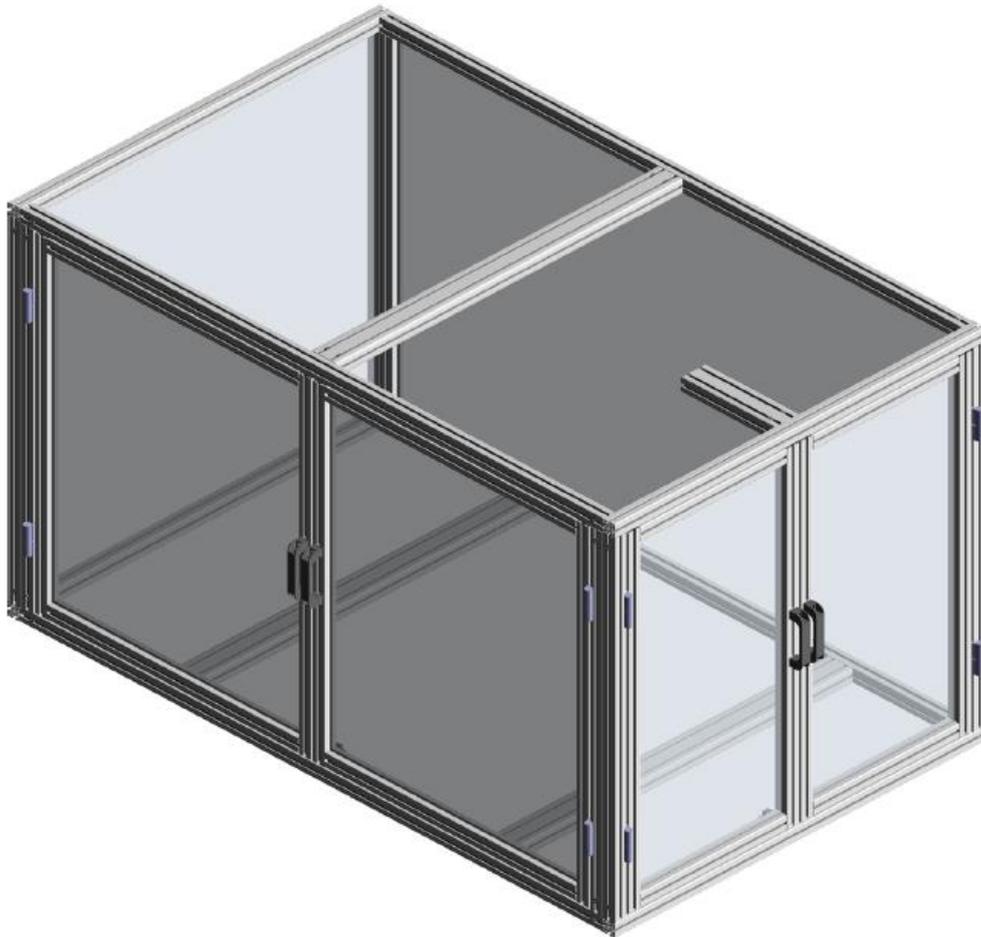
Figure 69 Door Interlock Key Alignment

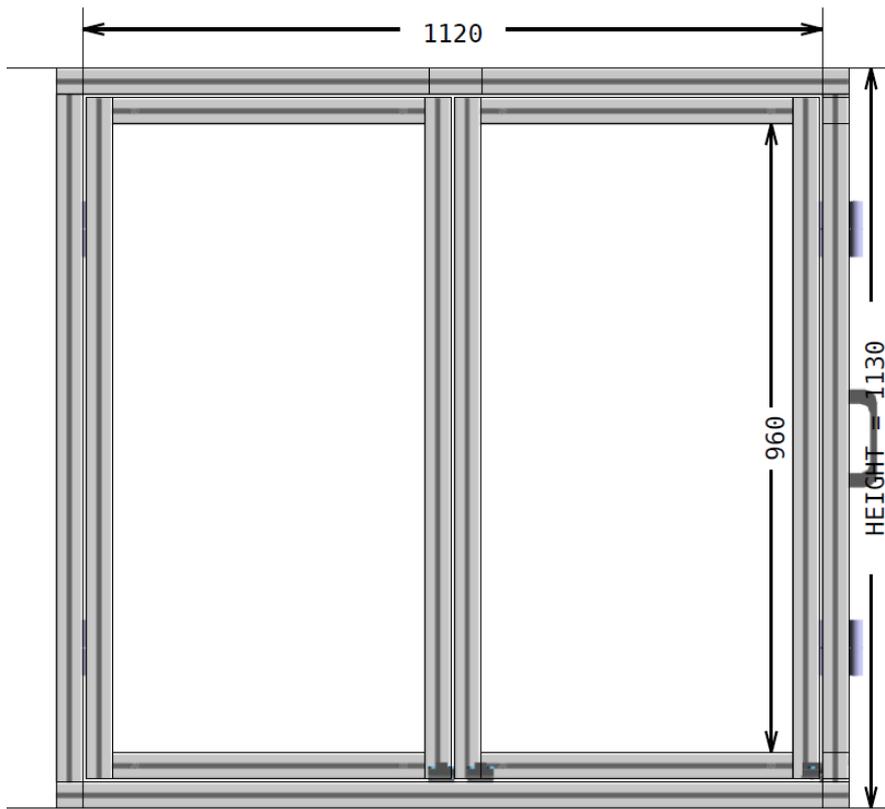
As a final note the Door Bracket in Figure 70 is vital to the operation of the enclosure and should not be removed or adjusted. It ensures you close the doors in the correct order and that both doors are locked via the mechanical lock in the interlock.



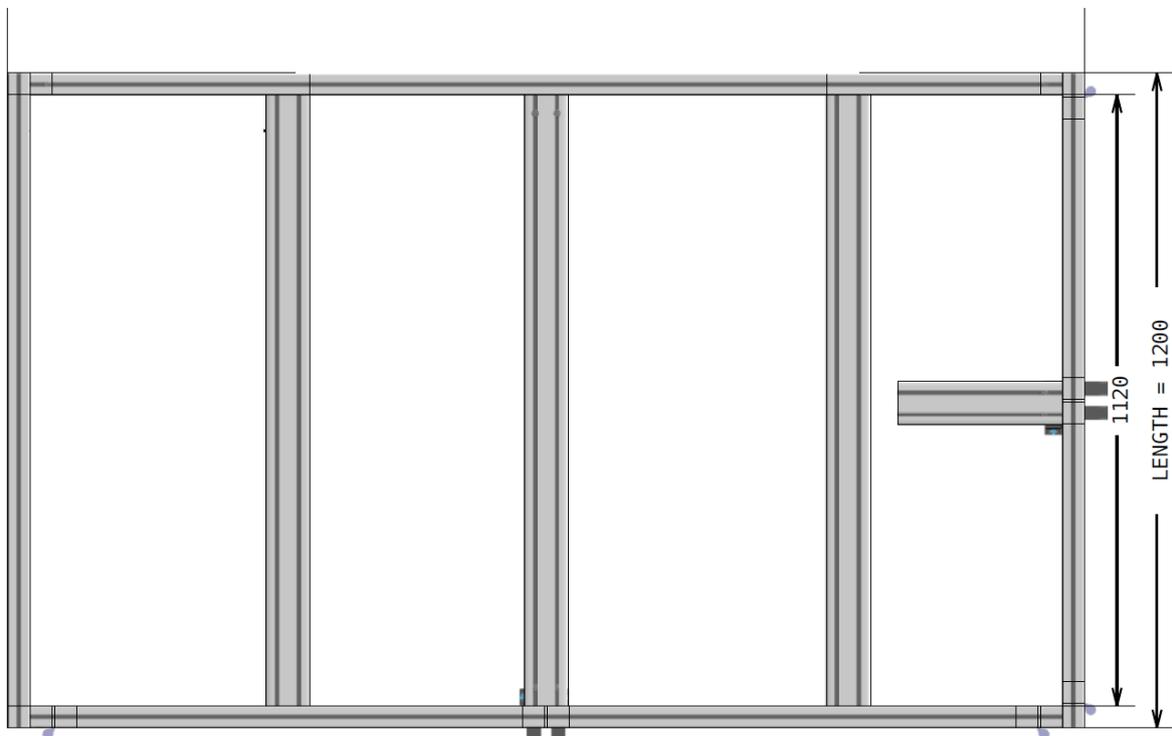
Figure 70 Door Bracket

8 APPENDIX 1 – ENCLOSURE DIMENSIONS



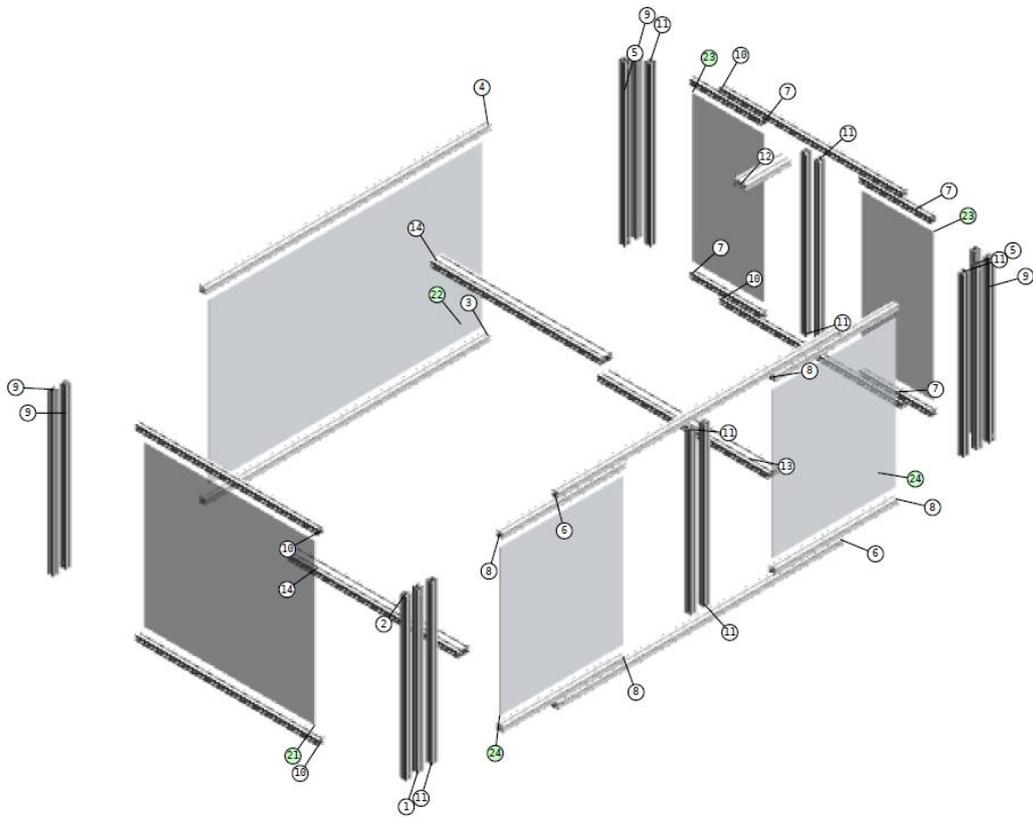


LEFT



TOP

9 APPENDIX 2 - ENCLOSURE COMPONENTS



Assembly List

| Pos | Article-No | Description | Related parts | Qty |
|-----|-------------------------------|--------------------------------------|---|----------|
| 1 | 1.11.040040.43LP-AA3AA3/1050 | Profile 40x40, 4E, light, plain | 1.21.4E1, Connector, standard 1.21.4E0, Connector, universal | 1 1 |
| 2 | 1.11.040040.43LP-AA2AA2/1050 | Profile 40x40, 4E, light, plain | 1.21.4E0, Connector, universal | 2 |
| 3 | 1.11.040040.43LP-AA4AA4/1880 | Profile 40x40, 4E, light, plain | 1.21.4E0, Connector, universal | 2 |
| 4 | 1.11.040040.43LP-AA2AA2/1880 | Profile 40x40, 4E, light, plain | 1.21.4E0, Connector, universal | 2 |
| 5 | 1.11.040040.43LP-AA3AA3/1050 | Profile 40x40, 4E, light, plain | 1.21.4E0, Connector, universal | 4 |
| 6 | 1.11.040040.43LP-AA3AA3/1880 | Profile 40x40, 4E, light, plain | 1.21.4E0, Connector, universal | 4 |
| 7 | 1.11.040040.43LP-AA4AA4/472.5 | Profile 40x40, 4E, light, plain | 1.21.4E0, Connector, universal | 8 |
| 8 | 1.11.040040.43LP-AA4AA4/812.5 | Profile 40x40, 4E, light, plain | 1.21.4E0, Connector, universal | 8 |
| 9 | 1.11.040040.43LP-AA4AA4/1050 | Profile 40x40, 4E, light, plain | 1.21.4E0, Connector, universal | 8 |
| 12 | 1.11.040080.64LP-FB2F00/300 | Profile 40x80, 6E, light, plain | 1.21.4E0, Connector, universal | 2 |
| 13 | 1.11.040080.64LP-FB2F02/1120 | Profile 40x80, 6E, light, plain | 1.21.4E0, Connector, universal | 4 |
| 14 | 1.11.040080.64LP-FB4FB4/1120 | Profile 40x80, 6E, light, plain | 1.21.4E0, Connector, universal | 8 |
| 25 | 1.61.24151 | Handle PA, with bore dia: 8.5 L151 | 1.32.4EM8, T-Nut for subsequent insertion, w. spring E, M8 0.63.D06912.00016, Cylindric head screw, DIN 6912 - M8x16 | 8 8 |
| 26 | 1.65.2101 | Magnetic lock PA | 0.63.D06912.06016, Cylindric head screw, DIN 6912 - M6x16 | 8 |
| 27 | 1.65.2301 | Angle bracket for magnetic lock PA | 1.32.4EM6, T-Nut for subsequent insertion, w. spring E, M6 0.63.D06912.06014, Cylindric head screw, DIN 6912 - M6x14 | 8 8 |
| 36 | 1.62.842032085 | Aluminium hinge heavy Type 20, PG 40 | 0.63.D07991.00012, Flat head screw, DIN 7991 - M8x12 1.32.4EM8, T-Nut for subsequent insertion, w. spring E, M8 | 32 32 |