

How to order FORM 3 – 4 MODDIS Enclosures

To stock, consume and / or market
& sell to other Panel Builders



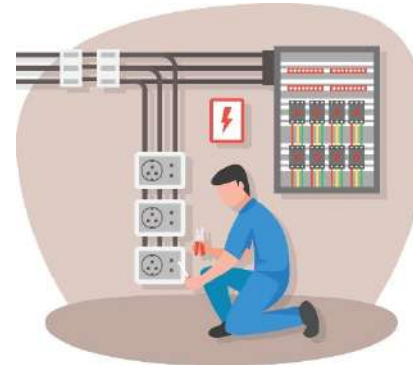
Who are you?

MODUTEC



Distributor

With the sole intent to stock, market & sell Modutec range of products?



Panel Builder

Who intends to upgrade to Modutec modular switchboard enclosure systems for his / her own consumption?



Distributor cum Panel Builder

Who would want to use inhouse as well as distribute Modutec product solutions to other Panel Builders or OEMs & so on.

Why are you Considering MODUTEC?



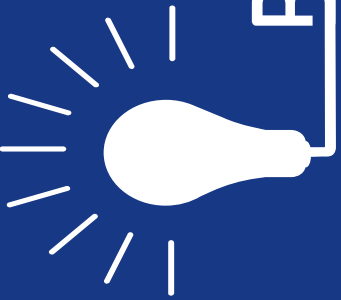
Upgrading from welded to modular design switchboard enclosure systems if this applies to you

Availing of the IEC 61439-1-2 accreditation of Modutec to compete in such tender specified projects in your territory.

Other advantages & benefits include:

- Safe and reliable electric power distribution
- Short delivery time (Faster, Smarter & Greener)
- Ease of making changes and rearrangements to the switchboard
- Freedom to choose electrical components and switchgear from a component manufacturer.
- Easy and timesaving assembly with very few tools
- Easy expansion of the solution
- MODUTEC electrical boards are adaptable to withstand harsh, wet and even hostile environment

BE THE CHANGE

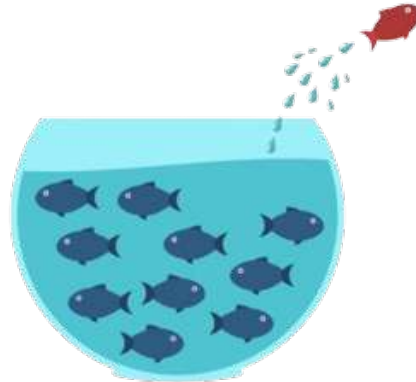


To beat competition and scale your business would require innovation, inventiveness and willing to embrace newer technologies. Are you ready?

01

If you continue to do what you did, you will continue to get what you got.

02



03

Your willingness to change is important for your receptiveness to this transformation!

05

Once you are clear with your WHY, the HOW & WHAT will follow effortlessly.

04

Positioning as an innovative, inventive and intelligent player, brings with it a branding that spells "Visionary Leader"

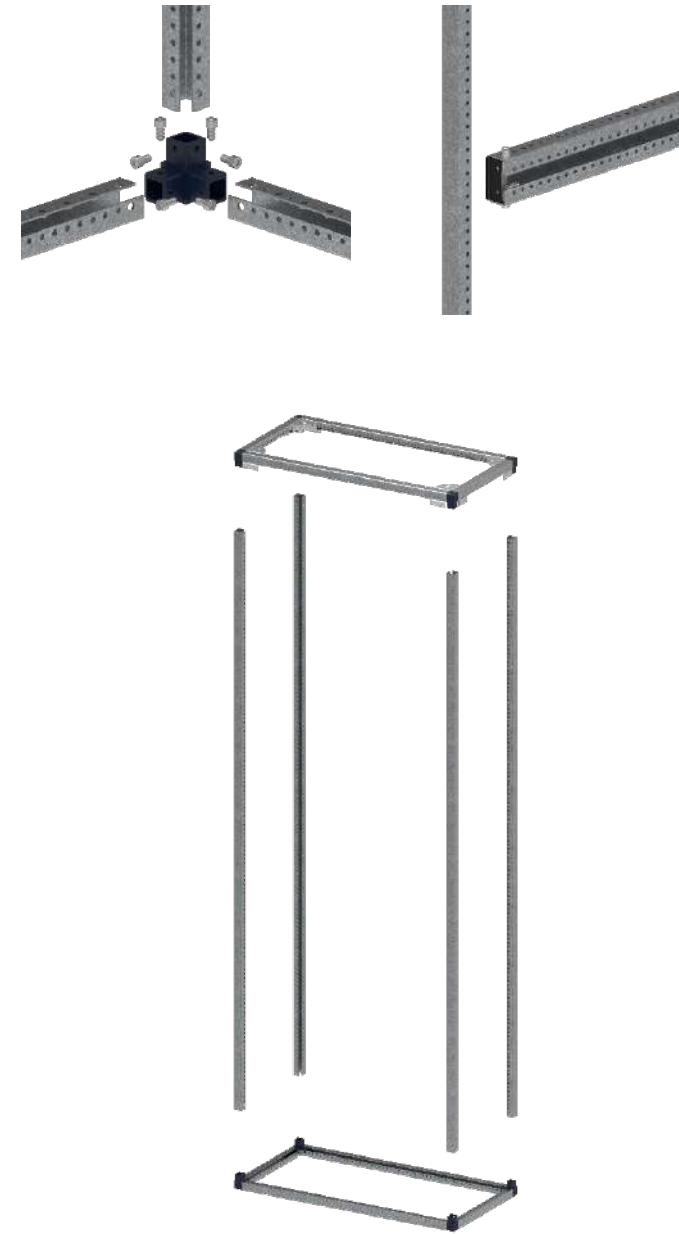
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So, let's get started:



Understanding Modutec and your Market!

- The Modutec System is in multiples of 30mm in X, Y & Z axis. The Frame Bars, Cross Bars & Tripods along with the modular joiner pieces come together to form the skeleton of the required Switchboard.
- Assess your own requirements of the preferred dimensions of Switchboards you would need or to supply to your present & potential Customers.
- Run through your / your Customers usually being adopted GA Drawings and see how you can standardise on these dimensions in Height, Width & Depth. This is important for keeping the right inventory.
- In Panel height, worldwide our experience has been the following dimensions: 1800mm, 1980mm, 2100mm & 2220mm. Choose one or two of these from Modutec to limit your stocks.
- Schneider Blokset standardises on only one height of 2200mm for Cu Bus Bars, 2400mm for Al Bus Bars. For Schneider Prisma its only 2100mm for the Indian market.
- ABB Artuk has as fast moving, 2 functional heights of 1800 & 2000mm. And Siemens Siepan has just one standard height of 2300mm.



Standardization to Simplify and Scale!

- Similarly, when you consider the Depth of the Switchboard, Modutec proposes you consider 360mm depth for single front panels, 420mm where the ratings are higher and 600mm for double front panels.
- Further, to limit inventory, we propose you go for combination of these depths for ACB Switchboards like, 360+600 or 420+600 Or 600+600 as the case may be.
- Just remember that in 360 & 420mm, single run of Main Bus Bar RYBN is only possible, while in 600mm, 2 runs are possible. So, if you need 4 runs of Main Bus Bar, then 600 + 600 is the combination to go for.
- In widths, we have ACB Panel Widths as 660, 720, 840, 960 & 1200mm. The same width can also be bifurcated into Bus Bar Chamber / Cable Alley and MCC Modules as 300 + 360 or 420 + 300 or 300 + 540 or 300 + 660 or 300 + 600 + 300 and so on.

Patented technology to further support!

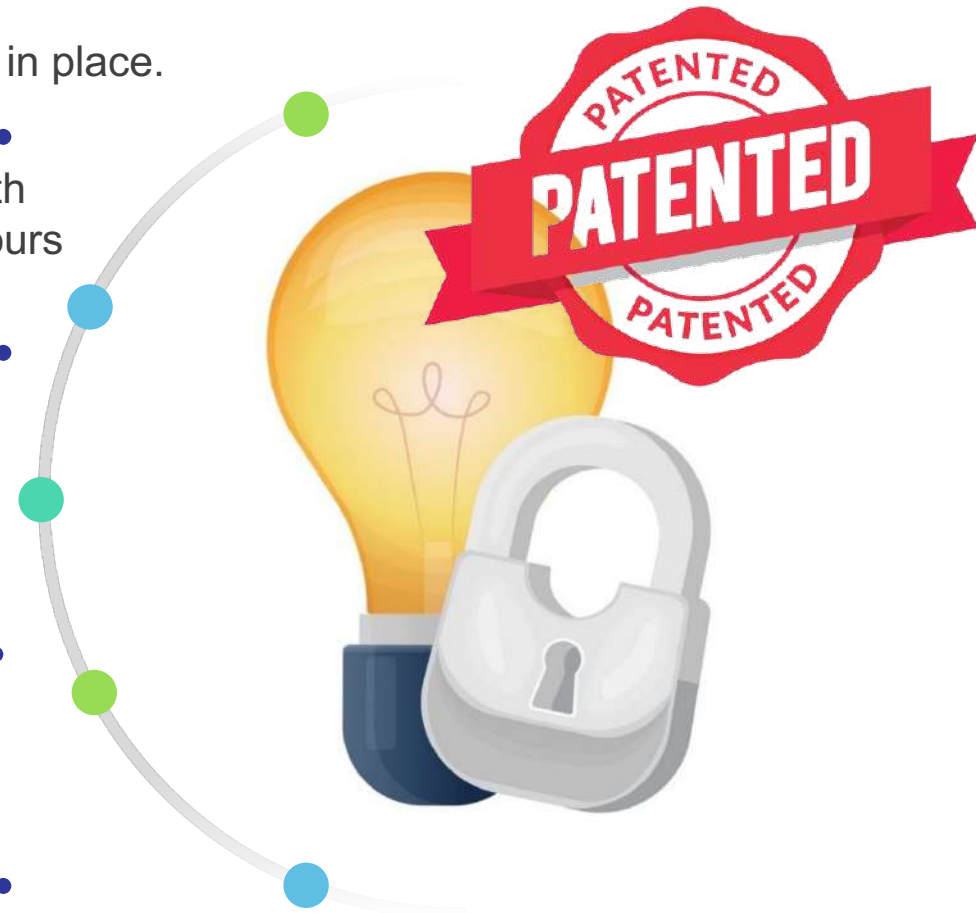
The major criteria for speed in Panel manufacturing is getting the Skeleton of the enclosure, the partitions and the Bus Bar Systems in place.

For this, the standard inventory of Frame Bars and Cross Bars with the modular joiners, help put the skeleton together within a few hours with appropriate hand tools and screwdriver bits.

Now imagine you have the Frame Bars for a Panel height of 2100mm but due to site conditions, you need 1800mm height of the Switchboard only. The beauty of the Modutec System is that the 2100mm Frame Bars can be sheared to 1800mm by passing them through a die in a 15ton hydraulic Power Press.

This is unparalleled in the modular switchboard enclosure industry and helps the Panel Builder get Faster, Smarter and actually Greener too, as welding is totally avoided.

And the best part is that since the FBs and CBs are made of AluZn material, which is self healing in property, shearing it does not lead to rusting at the edges!

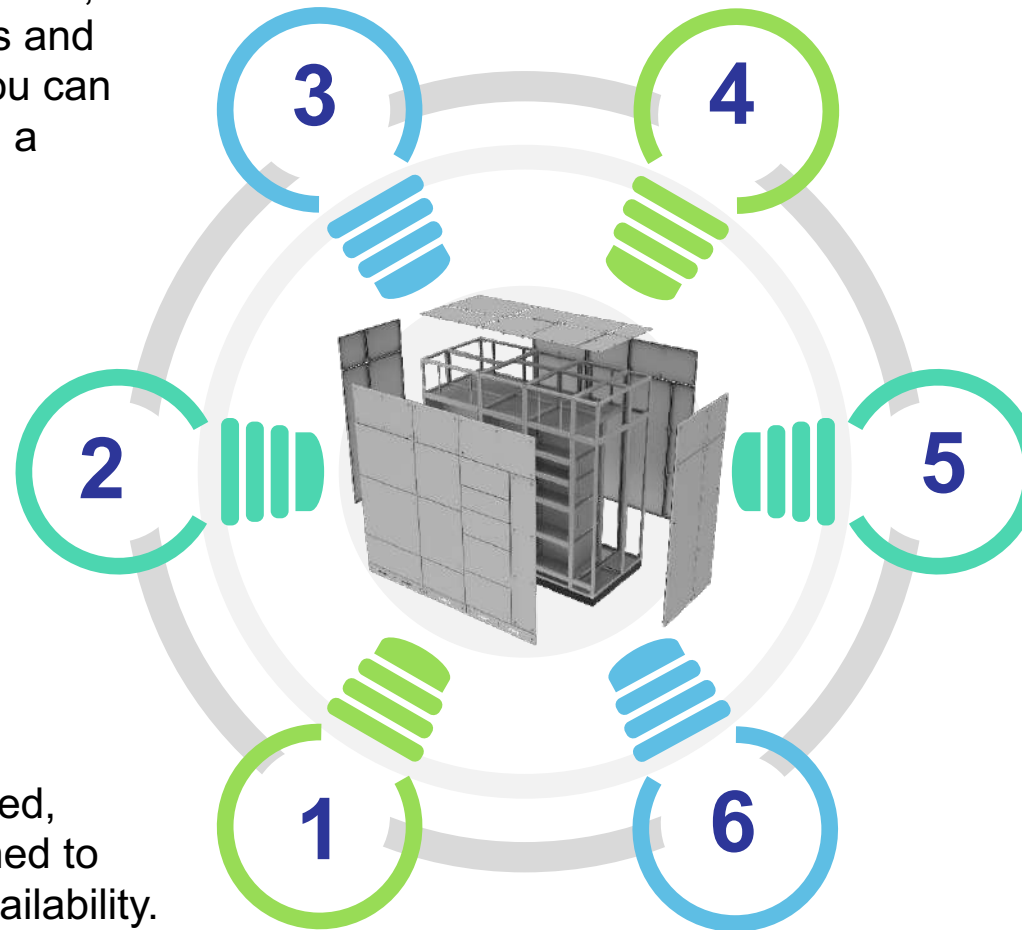


The process of putting it all together, to form a versatile Enclosure System!

Hence, when you stock the Profiles, modular components, partitions and busbar support accessories, you can assemble the framework within a day or two!

Unlike welded enclosures, in modular the manufacturing activity is in parallel, ie, the skeleton frame, partitions, doors, etc are all independent in manufacturing process.

Based on where you are located, inventory will have to be planned to debottleneck the enclosure availability.



You can then mount the Switchgear, the Bus Bars and start the interconnections, while the Doors get ready.

Even an inhouse welded manufacturing arrangement cannot match this speed in execution!

And in this safety-oriented industry, meeting urgent deadlines is not uncommon and the benefits associated in enhancing ones' capability here, is a strategic differentiator!

With Stocks, we recommend Generous Minimalism!

Inventory turns and On time delivery, both are critical for Profitable Growth!

01

02

So, when we choose to stock say ACB verticals of 2100mm height, 840mm depth and a combination of 420 or 420+ 600 mm depth Enclosures, we can also venture to use this for outgoing MCCB Modules by introducing a vertical Cross Bar to divide the 840mm into 540 + 300mm (300mm being for the Cable Alley or Bus Bar Chamber)

If we want more options, then our inventory will have to go up, like wanting 720mm width too with a multi use for 420+300mm outgoing modules and so on.

03

04

Similarly, for depth too, can we restrict to 420 & 600 only or should we add a 360mm too, will depend on your Client's requirements.

The only matter to be borne in mind is that the more variants you have here, the more inventory you will have to carry for Doors and Covers.

05

For Form 3 / 4 Enclosures, Module heights will have to be decided

Then the module heights can increase in multiples of 60mm as recommended. However, lesser the variants the minimal will be your inventory carrying. So, a judicious decision will need to be arrived at in this regard as well.

After 300mm, we could have 360mm, 420mm and then maybe 540mm and 600mm. Put all this on an Excel Sheet, so that the more frequently used ones can be stocked more and so on.

Once, this decision is taken, then the partitions go with the module heights with a standard depth. So, these can proportionately be stocked.

Switchboards are with Copper Bus Bars or Aluminum Bus Bars. For Copper, generally the minimal height of module permissible is 210mm and for Aluminum, that required would be 240 or 300mm.

Thereafter, it's the accessories like Bus Bar supports, Drawing Pockets, Louvres and so on as per the list in our catalogue. Quantities here can be decided as per your appropriate requirements.



Bolted Doors for the sides and back

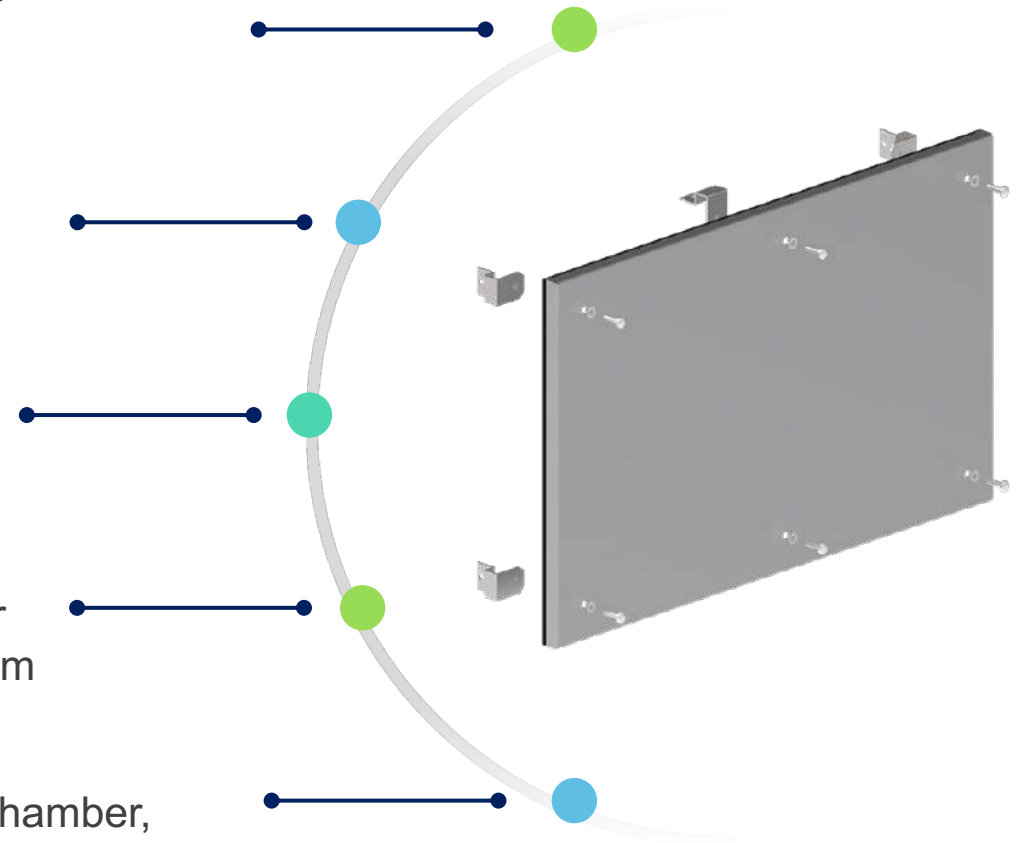
For the Panel sides, we must keep stock of single height doors to the chosen Height /s and Depths. These could be stocked in a differentiated powder coated color of your choice for specific branding or could be the normally running RAL 7035.

Again, limit the colors of Doors you would use / offer to your Clients, as the variety here, would increase your inventory.

For the back doors, generally the Main Horizontal Bus Chamber would have a separate door for operational safety and the rest of the height a different door. So, the Bus Bar Chamber height will have to be restricted to probably 2 or max 3 options.

Based on Cu or Al Bus Bars, this could be 210 or 240 or 300mm and for 2 tier Bus Bars could go to 420 or 540mm too. So, study your market and limit your options.

In the front, the location opposite to the Main Bus Bar Chamber, height wise would need a 120mm dummy bolted door, behind which the Earth Bar would run.



Tools for Assembly and a Door Modification Center

- Before affix the EPDM Gasket we have to remove the surration provided to the good adhesive. Follow the Modutec Instructions
- Spacer assembly to be corrected as instructed by Modutec.
- Hexagonal Bits having lengths 50 MM, 75MM, 100 MM and 150 MM to be used according to assembly area as instructed by Modutec to get the proper tightness of the fastners.
- After cutting the cross bar Cutting Bur to be removed properly as instructed by Modutec.
- Coupling clamps to be assembled as instructed by the Modutec
(Top coupling clamp to be assembled at 90 MM from Top)
- Welding spatters to be removed in the hinge bush before going to powder coat.
(As instructed by the customer)
- Always hinge bushes position to be maintained at top side while powder coating to avoid the hinge bush hole blockage due to fallen powder.
- Hinge bush welding to be corrected (Improper butting noticed) as instructed by Modutec.
- Bottom cover thickness to be maintained 1.6 MM Thick else the mounting of busbar support fixing will be problem need additional clamps to compensate the issue.
- Cross bar cutting to be exactly straight as instructed by Modutec taper cutting noticed.

MODSIM software for Estimation, Engineering & Manufacturing

MODSIM software from Modutec, will guide you into specifying your GA drawing with accessories as required and within the framework of Modutec standards. On arriving at this, a 3D image will pop out for your verification. On your approval 2D images can be printed for reference and a BOM will also be empowered with Cat. No., Item description, Qty, Rate/Each and Amount.

MODSIM PLUS software is for Licensed Users who would want the development drawings of the Non-Signature BOM parts for their local manufacturing. The output will be AutoCAD format, which can be directly fed to a CNC Punching / Lazer Machine.

MODSIM

MODSIM PRO software is under preparation, in collaboration with a third-party Electrical CAD Software, to integrate the Mechanical and the Electrical for different Switchgear & Component makes which will be another major step in the direction of Simplifying Panel Building.



Thank You