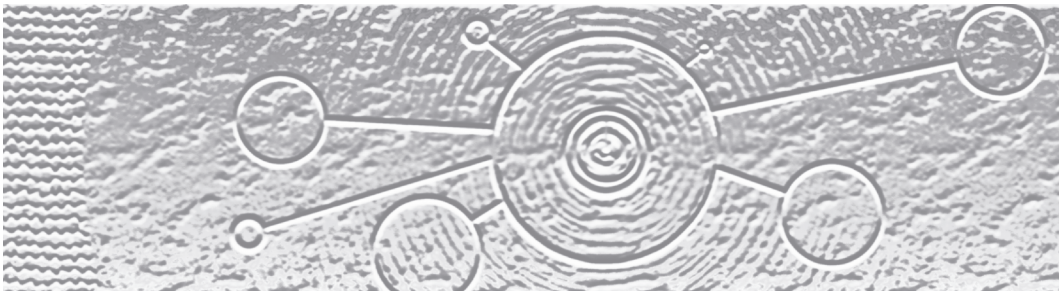
SIMPLICITY. ENGINEERING. DESIGN.
AROUND THE WORLD

MODULAR POWER SYSTEMS INC.

www.modular-power-systems.com



MODULAR POWER SYSTEMS INC. (MPSI),

Founded in 1996, has extensive experience in infrastructure projects. We are knowledgeable in the business climate of North America. Our global network gives us broad insights into our industry. We offer an alternative way to go to markets for the Canadian marine, power, and export industry, and for companies focused on regional markets. Our business and manufacturing process allows our clients a lean way to serve and expand their client base.

We offer adaptive technology, with training based on best practices, and work in collaboration with our associates to increase their business opportunities.

Daniel M. Konefat, P.Eng

President

OUR MISSION

The leading Canadian company delivering parts, partial assemblies and technology for low voltage electrical equipment to domestic, marine and export markets; promoting product safety and enhanced productivity.

MPSI BUSINESS ETHICS

At all business levels, our interactions foster respect and dignity with those we have associations with.

Professional integrity and conduct ensures that our business associates are provided with solid engineering judgement and complete technical advice.

We use our technology and flexibility to openly respond to client requests in the quickest possible time frames.

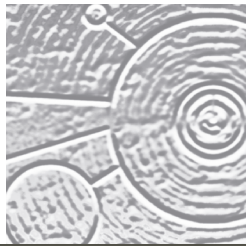
CONTACT INFORMATION

E-mail:
web@modular-power-systems.com

Please state the nature of your request.

If you require pricing for parts or partial assemblies please provide a specification and drawing in Adode PDF or Autocad (version 2010 or earlier) and your required response date.

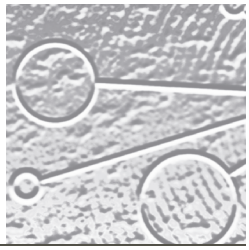
Please provide your company name, position, address and phone number.



MODULAR POWER SYSTEMS INC. (MPSI)

- Canadian Corporation established in 1996
- Small core staff. Principal is a Professional Electrical Engineer
- Partner to Logstrup-Steel, Denmark
- A Model Business to show how the system works with small investment with ability to supply large projects
- Work on the basis of collaborative and distributed relationships to establish lateral power in the industry
- You do what you do best and we do what we do best
- Working with Canadian Standards Association to ensure a quality product
- Add knowledge about electrical system application and regional market
- Able to organize LogCad drawings for order and construction from electrical single lines
- A North American stocking facility for Logstrup

MODULAR POWER SYSTEMS INC.



THE BUSINESS OFFER

Mission: To give panelbuilders the tools and ability to build electrical equipment using the Logstrup System in their own region.

step 1 — Accept the Logstrup System. The owners of facilities must understand what they are buying for their facility and ask panelbuilders to build it for them. Panel builders must be able to work with the system and therefore require training.

step 2 — Purchase complete or partial assemblies from MPSI. Invite us to supply some projects in the beginning to see how it works.

step 3 — Take training in Logstrup selection and assembly under ISO9001.

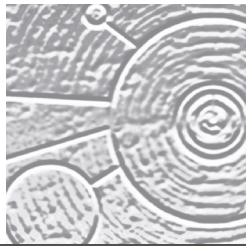
step 4 — Import and use parts only, from MPSI or Logstrup. Become a partner to Logstrup.

WHO IS LOGSTRUP?

- A Danish corporation in business since 1958
- 260 people with access to the most up to date technology
- Supply only the parts and technology to build Low Voltage Electrical Equipment. Typically 690VAc or less but also DC
- Quality is exceptionally high. "A highly engineered standardized set of parts"
- Product focus on safety and ease of installation
- Work through independent partners throughout the world, (see Appendix)
- ISO9001, 14001 Registration. Each partner falls under this umbrella

Product is used across many sectors:

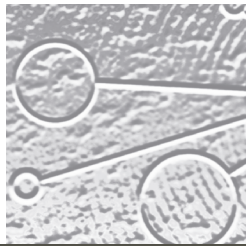
- Oil and Gas Industry
- Communications
- Power Generation
- Shipbuilding Lloyds, DNV, The Russian Maritime Register of Shipping, Germanischer, Bureau Veritas
- Windpower
- Mining and Cement
- Water and Sewage Treatment (Stainless Steel product)



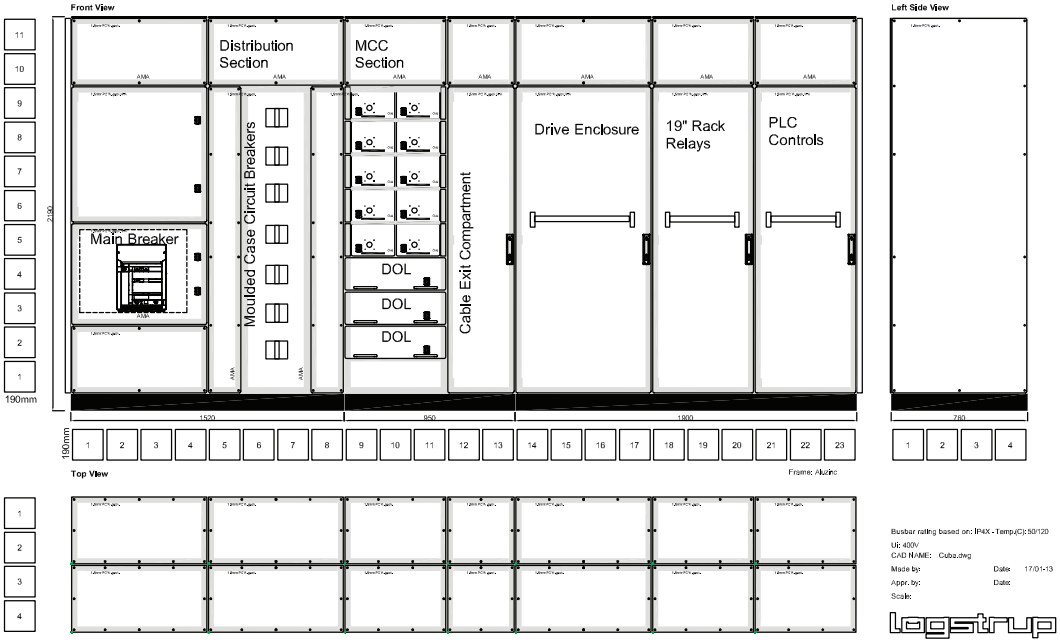
MODULAR SYSTEM

- Catalogued system of 5000 parts used to build electrical equipment
- Very well illustrated assembly manuals
- Based on 190mm increments
- Frame system rather than welded enclosures
- With Inventory you are able to start building immediately
- The parts are fastened with bolts and screws
- It is entirely metric
- It is possible to change the design while building it
- Build to any size in height, width and depth
- Build an order in multiple locations and it will match at site
- Motor control center can be fixed mounted, removable or fully withdrawable depending on cost and safety requirements
- Internal Arc Tested designs
- Easy to ship a set of parts a long distance without damage then assemble in local markets rather than a fixed end product
- You can build front accessible and rear accessible equipment
- Build up to IP54
- Build up to 8500A, 690VAc with 150kA for one full second
- Tested to IEC 61439-1, CSA
- Facilitated by LogCad a drawing program to give all the parts
- Based on AutoCad
- All equipment can be the same platform

A feature to the system is the freedom to choose any electrical components supplier.



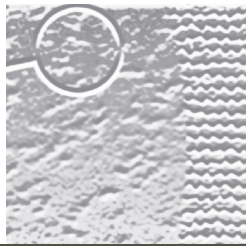
ONE SET OF PARTS ALLOWS ALL POSSIBLE CONFIGURATIONS (SAME PLATFORM)



BENEFIT:

- Project Coordination = Cost Savings
- Switchboard, Motor Control, Distribution, 19" Rack System, Control, Drive Enclosures all use the same steel and bus and the same paint finish
- Can be built in one facility
- Reduce Cost of Testing, Travel Expense
- Maintain Quality

A feature to the system is the freedom to choose any electrical components supplier.



THE COMPETITVE FORMULA

FORMULA 1:

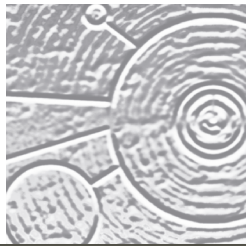
MPSI Partial Assembly + Client Components + Your Labour = Competitve selling price.

FORMULA 2:

Logstrup parts + Client Components + Your Labour = Competive Selling price.

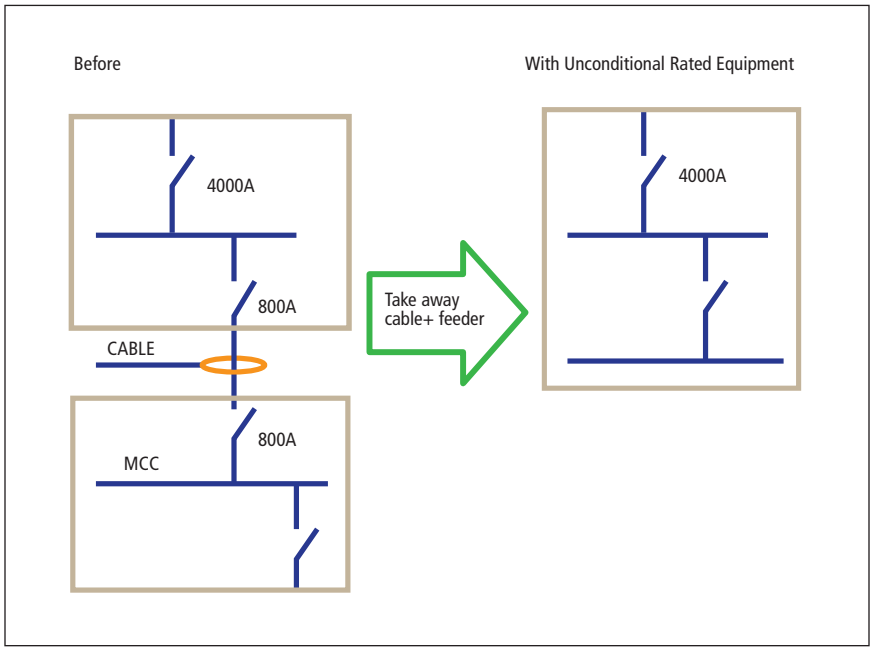
MPSI Partial Assembly = Logstrup parts plus MPSI labour.

Client Components is your best solution by technology and/or price. No margins added to components by MPSI.



UNCONDITIONAL RATINGS

- Bus Bar tested to Withstand Current up to 150kA for one second independent of component selection
- Gives system security
- Allows future changes without violating integrity of equipment
- Allows economization in design by allowing elimination of extra equipment and labour to install



BONAIRE POWER PLANT – ECOPOWER

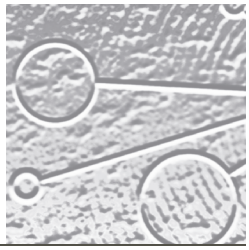
- Contracted by MAN Diesel-Canada to build all the low voltage power equipment complete with drawings and manuals
- Wind Power on one side of island, biodiesel on the other side biodiesel from Algae

PANAMA CANAL

- Supplied 16 partial assemblies for Tugboats to the new canal
- Partner was a panelbuilder in Quebec City, Canada
- They fitted with their selection of components, PLC's and put their name on the equipment

ATACAMA PROJECT – CHILE

- Partner ABB-Canada, to water desalination project in Chile
- MPSI built partial assemblies including mounting of ACB's
- ABB did all other component selection, wiring and customer care



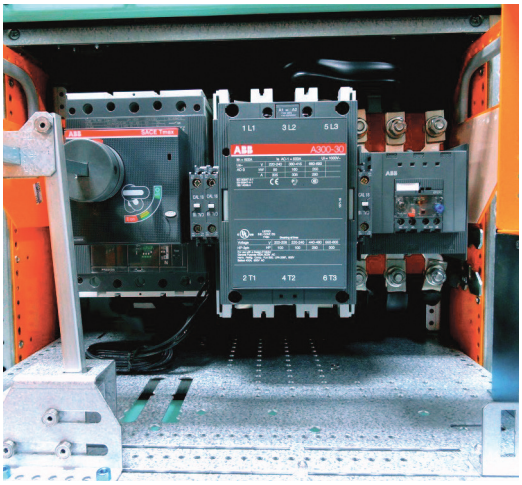
PETROBRAS BRAZIL

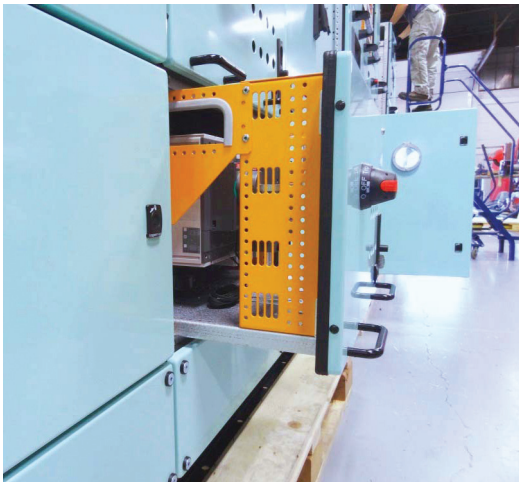
Canadian panel-builders required I.E.C. Motor Control Centers (8) to meet the tough industry standards for drilling platforms for a Petrobras project.

MPSI designed and supplied the partial assemblies (8) with:

- 1600 A, horizontal bus, 65kA one second withstand, insulated bus.
- Stainless Steel Bus Hardware
- 3 – 200 HP and 3 – 50 HP, Fully Withdrawable, 4 Position
- Form 4B Termination Boxes
- Interior Parts; RAL 2000 Safety Orange

A feature to the system is the freedom to choose any electrical components supplier.



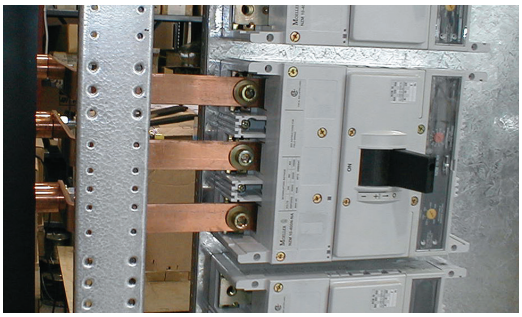


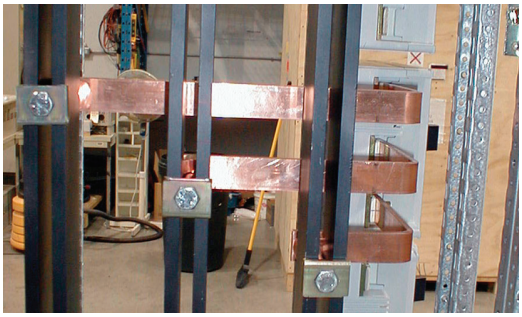
JORDAN WATER PROJECT

- Electric Drive Supplier from Canada (Yaskawa) needed an MCC to carry their drives to a water project in Jordan
- 3000 amperes
- MPSI supplied the parts and they built the entire assembly, put their name on the equipment

AN APPLE FARM

MPSI supplied the parts to panel shop 4000km away and the knowledge and instruction.





MANY FERRY PROJECTS IN THE WORLD FROM CANADA

RIO–TINTO MONGOLIA

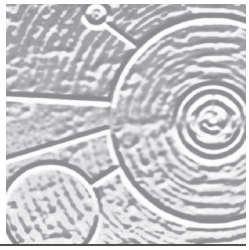
Complete Switchboard required in 6 weeks to meet laboratory delivery deadlines from Canada.

MODULAR POWER SYSTEMS INC.

TRENCH ELECTRIC (SIEMENS)

- Designed and built in three weeks. A collaboration between client, engineer, Control Panel Shop and MPSI
- Four system frequencies,1000A each, in one enclosure controlled by Programmable Logic Controller to select power for 7 laboratories

APPENDIX
LOGSTRUP PARTNER COUNTRIES (PARTIAL LIST)



Austria
Belgium
Canada
Croatia
Cyprus
Denmark
England
Egypt
France
Germany
Greece
Iceland
Ireland
Israel
Italy
Jordan
Kuwait
Lithuania
Netherlands
New Zealand
Norway
Phillipines
Poland
Romania
Russia
Saudi Arabia
Slovakia
Slovenia
Spain
Sweden
Thailand
Tunis
Turkey
UAE
Vietnam

Omega System

Omega Switchgear & Controlgear System

Logstrup has been involved in the design and manufacture of Low Voltage Systems for 50 years. The Omega Switchgear and Controlgear System is a comprehensive modular system allowing the user to create a wide range of Switchboards and Motor Control Centres. Key benefits include:

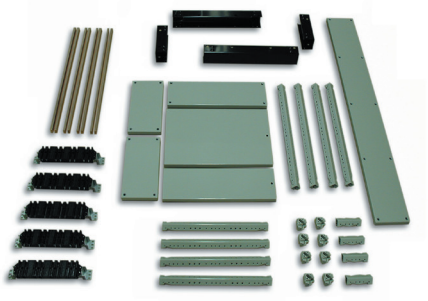
- Minimal downtime
- Easy re-configuration of units while live
- Interchangeability of different unit types
- Easy upgrade or repair
- Possibility to fit components from many manufacturers
- ProfiBus and DeviceNet capable
- Up to 40 units per section

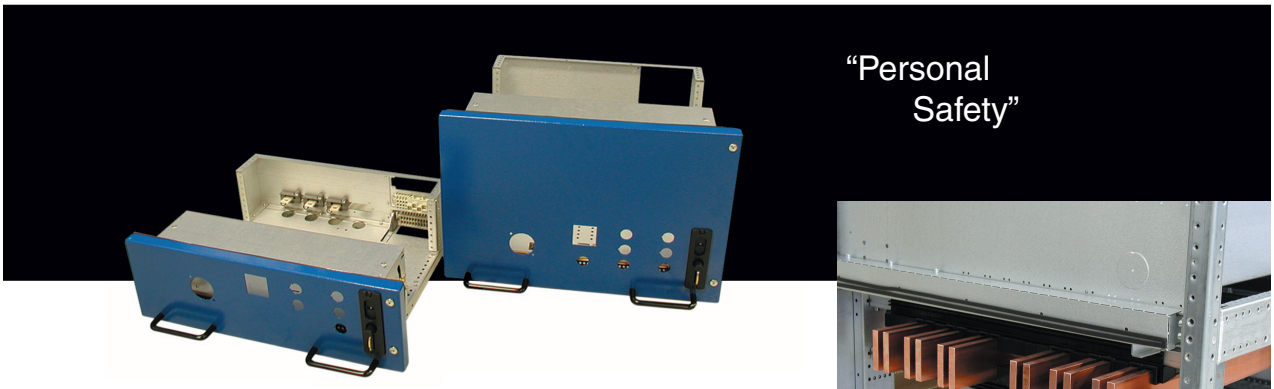
The Omega System can be supplied as loose part kits or mechanically assembled, and is suitable for a broad spectrum of industries including:

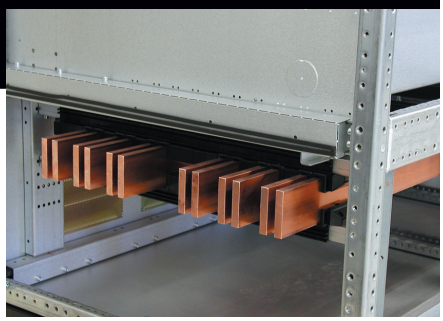
- Chemical
- Pharmaceutical
- Marine/Offshore
- Petrochemical
- Building Services
- Power Stations
- Paper Mills
- Water Treatment Plants
- Car Industry
- Mining Industry

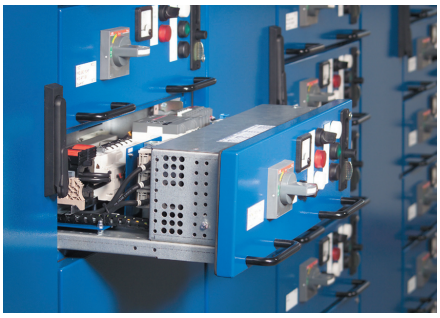
The Omega System is available in a wide variety of configurations to cover all applications

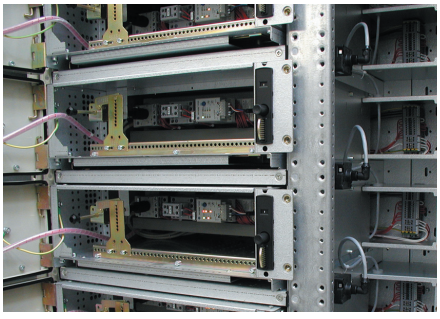
- Fixed
- Removable
- Withdrawable
- Inline
- Front Access
- Rear Access











The primary demand in today’s society is personal safety. The Omega System achieves the highest safety standards:

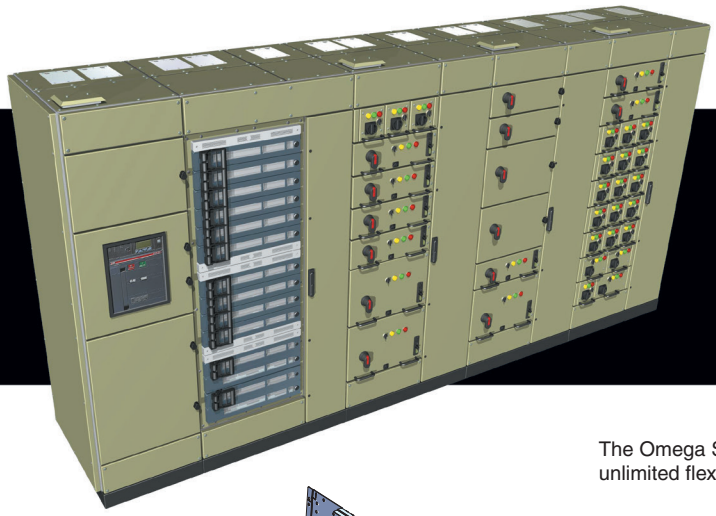
- Type Test acc. IEC 60439-1 / 61439-1,2
- Internal Arc Test acc. IEC 61641
- Section Arc Protection Barriers
- Unit Arc Protection
- Thermographic inspection areas
- Mechanical safety interlocks
- IP20 internal protection

The Omega framework and cladding system provides the most robust flexible system available:

- High strength 5 bend profile
- 2mm Aluzinc material
- Modular in 3 axes
- Doors in 1.5mm or 2.0mm
- IP44 standard (IP54 optional)
- Special colours available
- Customised cut-out’s

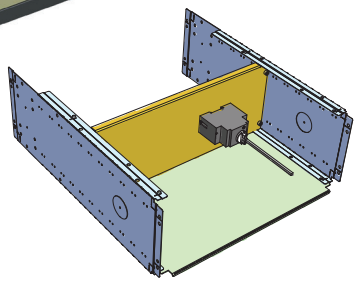
The busbar system forms the main power distribution within an assembly and is one of the critical elements determining the assembly’s operational reliability and safety. Features of the Omega System include:

- Fitted to top or bottom of panel
- 2, 3 or 4 bar systems up to 8,500 A
- IP20 protection
- Distribution bars up to 1600A
- Internal arc barriers (optional)



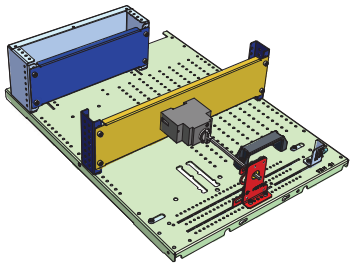
"Reliability"

The Omega Switchgear and Controlgear System offers unlimited flexibility with a large range of unit types:



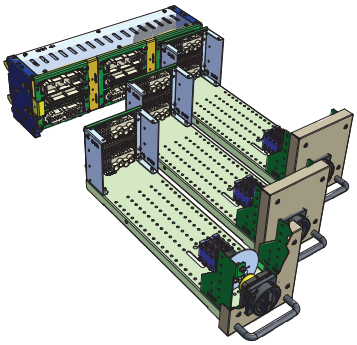
Fixed

- Steel compartmentation up to Form 4 Type 7
- Adjustable depth mounting plates
- Non ferrous gland plates
- Metal or plastic cable box
- Sizes: 4 widths, 16 heights, 6 depths



Removable Units Type

- High protection against contact
- Rating up to 630 A, 500 kW, 690 V
- Fixed or hinged front panel
- Coding system
- Unique safety interlocking mechanism
- Fully re-configurable while live
- Accommodates components from many manufacturers
- Sizes: X = 3, 4 Y = ½, 1, 1½, 2, 2½, 3, 3½, 4.
- Up to 20 units per section



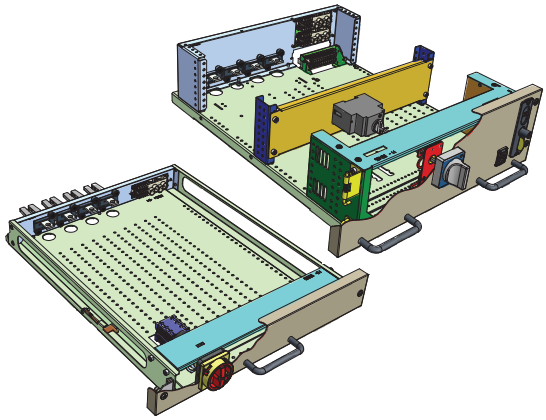
Mini-withdrawable

- High personal protection
- Rating up to 80 A, 55 kW, 690 V
- Auxiliary controls up to 46 control pins
- Front or rear access
- Removable interface box
- Interface box can be pre-wired
- Fully re-configurable while live
- Coding system
- DeviceNet & ProfiBus compatible
- Sizes: X = 1, 1½, 2, 3. Y = 1
- Up to 40 units per section

"Flexibility"

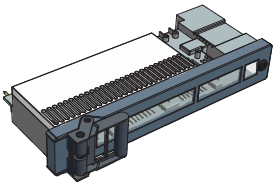
Withdrawable Units

- High operational safety
- Rating up to 630 A, 500 kW, 690 V
- Auxiliary controls up to 46 control pins
- Fully re-configurable while live
- Coding system
- Safe operation...IP20 protection in all positions
- Fixed or hinged front panel
- DeviceNet & ProfiBus compatible
- Accommodates components from many manufacturers
- Sizes: X = 3, 4 Y = ½, 1, 1½, 2, 2½, 3, 3½, 4.
- Up to 20 units per section



Inline Units

- Accepts ABB Slimline Products
- Accepts Jean Muller Sasil Products
- Rating 160-630 A
- Fully re-configurable while live
- Modular design
- Easy installation
- High operational safety
- High protection against contact
- High breaking capacity
- High short-circuit strength
- Up to 36 units per stack



"Technical Information"

Reference Standards		Type-tested Switchgear and Controlgear Assembly	IEC-60439-1 / 61439-1,2, BS EN 60439-1 / 61439-1,2, EN 60439-1 / 61439-1,2, IEC 60529, IEC 62208, IEC 61641, CSA-C22.2 No. 31 & 14, DIN VDE 0660 part 500, DIN 43671/12.75, Ships Classifications Societies
Electrical Data	Rated Voltages	Rated impulse withstand voltage (U_{imp})	9.8 kV / 8 kV
		Rated insulation voltage (U_i)	1000 V
		Rated operational voltage (U_e)	690 V
		Main Horizontal Busbars	
	Rated Currents	Rated current (I_n)	up to 8500 A
		Rated Peak withstand current (I_{pk})	up to 300 kA
		Rated Short-time withstand current (I_{cw})	up to 135 kA 1 sec
		Vertical Busbars Fixed System	
		Rated current (I_n)	up to 6300 A
		Rated Peak withstand current (I_{pk})	up to 300 kA
		Rated Short-time withstand current (I_{cw})	up to 135 kA 1 sec
		Vertical Busbars Removable & Withdrawable System	
		Rated current (I_n)	up to 1600 A
		Rated Peak withstand current (I_{pk})	up to 154 kA
		Rated Short-time withstand current (I_{cw})	up to 70 kA 1 sec

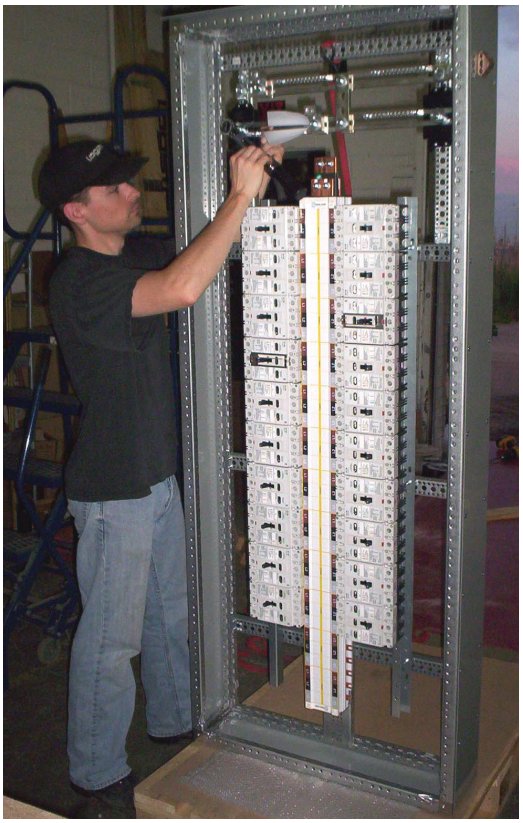
"Technical Information"

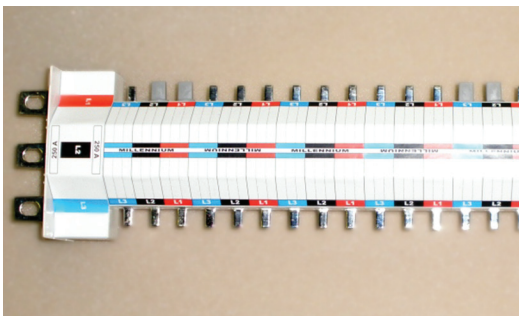
Mechanical Data	Internal Separation	IEC 60439-1/61439-1… BS EN 60439-1…	Section 7.7 Form 1 to 4, A and B NC1 Type 1 to 7
	Degree of Protection	IEC 60529	IP2X up to IP44 (IP54 optional)
	Materials	Doors & Plates Framework Plinth Mounting Plates Internal Plates Stainless Steel (optional) Rear Plates Top Plates	Painted Steel 1.5mm or 2.0mm Painted Steel or Aluzinc 2.0mm Painted Docal 350YP 2.5mm Aluzinc 2.0mm Aluzinc 1.0mm - 2.0mm ANSI 304 160/80 Aluzinc 1.5mm Painted Steel 1.5mm or 2.0mm Aluzinc 1.5mm
	Colour	Doors & Plates Plinth	RAL 7032 RAL 9035
	Dimensions (mm)	With flat plates (AGP)	Height: 1995, 2185, 2375 Width: 440, 630, 820, 1010, 1200 Depth: 600, 790
	Service Conditions	Installation Ambient Temperature Relative Humidity Altitude	Indoor 0°C to +40°C Max 50% at 40°C ≤2000m

LV POWER SOLUTIONS UK

- The worlds first totally encapsulated distribution bus bar system
- Unconditionally rated, 50kA for one second
- 660VAc, 800A maximum. DC available
- 3 pole and 4 pole designs
- Resistant to moisture, dust and vermin
- No internal connections therefore vibration resistant
- Touchproof to workers
- Fits all world breakers with same center to center spacing

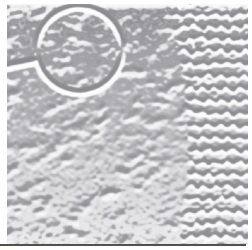
A feature to the system is the freedom to choose any electrical components supplier.





TOP 35 mm version
BOTTOM 19 mm 250A Máx.

MODULAR POWER SYSTEMS INC.



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