



**ELECTRICAL MASTERS SWITCHGEAR  
PRIVATE LIMITED**



# Agenda

- ❖ **Introduction**
- ❖ **Products**
- ❖ **Services**
- ❖ **Customers**
- ❖ **Contact Details**

# Introduction

**Electrical Masters Switchgears** (Established in 2004) provides switching and protection solutions for electrical distribution systems. Our technology is at the cutting edge of Low Voltage switchgear design and innovation, specializing in both ground and pole mounted switchgear.

Staying ahead of the competition with technical excellence and responsive after sales care, **Electrical Masters Switchgear** has the capability to manufacture units for any location, climate or situation.

**Electrical Masters Switchgears** designs, manufactures and supplies advanced switchgear systems for the utility, industrial, commercial and residential sectors.

Our Technical Team has practical "hands-on" experience and understands what the client and contractor require from a switchboard and switchgear solutions. The focus of our design and manufacturing team is to supply switchboards and special enclosures of a high quality that meets our clients' **expectations, on-budget and on-time.**



# Products

- ❖ Low Voltage Switchgear (LVS)
- ❖ Automatic Power Factor Improvement (PFI) Panels
- ❖ Motor Control Centre (MCC) Panel
- ❖ Programmable Logic Control System Panels (PLC)
- ❖ Auto Main Failure /Auto Transfer Switch (AMF / ATS)
- ❖ Lighting and Power DBs
- ❖ Cable Tray System & Cable Ladders

# Services

- ❖ Cable Tray and Cable Ladder
- ❖ Earthing of all Types
- ❖ Lightning Protection System
- ❖ Cabling and Lighting
- ❖ Power House Installation
- ❖ Lighting Poles
- ❖ Installation, Testing, Commissioning of Low Voltage Switchgear

## Low Voltage Switchgear (LVS)

The Low Voltage Panels are used after the power transformer for distribution of electrical power to the whole electrical installations. These panels are of different capacity and sizes.

**Electrical Masters** manufacture complete range of low voltage switchgear for industrial and commercial use both Indoor and out door type. EPCs manufactured LV Switchgear as per customer requirement.



# Low Voltage Switchgear (LVS)

## Features

- ❖ Built in special protection devices like earth fault, under voltage, over voltage and shunt trip.
- ❖ Suitable arrangement of Copper Bus Bar of appropriate size according to the current rating.
- ❖ Reliable Electrical and Mechanical inter locking.
- ❖ Suitable for electric power system of 3-phase AC rated frequency 50/60Hz.
- ❖ Rated voltage: 400V
- ❖ Rated Current (v) = Up to 6300 Amps
- ❖ Rated short time withstand current: Max 120KA / 1sec
- ❖ Modular design of Panels makes it easy for assembly, erecting and future maintenance.
- ❖ Louvers and Fans for proper ventilation.
- ❖ According to the IEC / Bs Standards

## Automatic Power Factor Improvement (PFI) Panel

Our clients can also benefit from our extensive range of APFC panels that expedite the automatic power factor control panel. These panels are fabricated and designed to ensure the preservation of maximum energy and power.

We design and manufacture PFI panel, fully automatic in operation and can achieve desired power factor under fluctuating load conditions.





# Automatic Power Factor Improvement (PFI) Panel

## Features

- ❖ Modular design, Non-compartmentalized.
- ❖ Minimum joints, hence better reliability and lower losses.
- ❖ Special cables used hence withstands high temperature.
- ❖ Incomer MCCB, 3 pole ,35KA.
- ❖ Step protection MCCB.
- ❖ Step Switching.
- ❖ Capacitor duty contactors with Damping Resistors.
- ❖ Microprocessor controlled relay .
- ❖ Switching option – Auto/Manual.
- ❖ Busbar – Copper.
- ❖ Protection class: as per requirement.
- ❖ Varplus Heavy Duty Capacitors
- ❖ Wide Range

# Automatic Power Factor Improvement (PFI) Panel

## **Benefits**

- ❖ Consistency in Power Factor under fluctuating loads conditions.
- ❖ Maintenance Free.
- ❖ Elimination of Power factor penalty .
- ❖ Prevention of leading power factor.

## **Applications**

- ❖ Fluctuating Loads.
- ❖ Steel Rolling Mills.
- ❖ Chemical Industry .
- ❖ Cement Plant.
- ❖ Sugar Plant.
- ❖ Textile, Hospitals, Hotels, Building Segment.
- ❖ Automobile Industry etc.

# Motor Control Centre (MCC) Panel

Motor Control Centers/Units are designed to fulfill the electrical requirement of different kind of installed machinery like water pumps, blowers, compressors, fan and all other type of motors in industry.



# Motor Control Centre (MCC) Panel

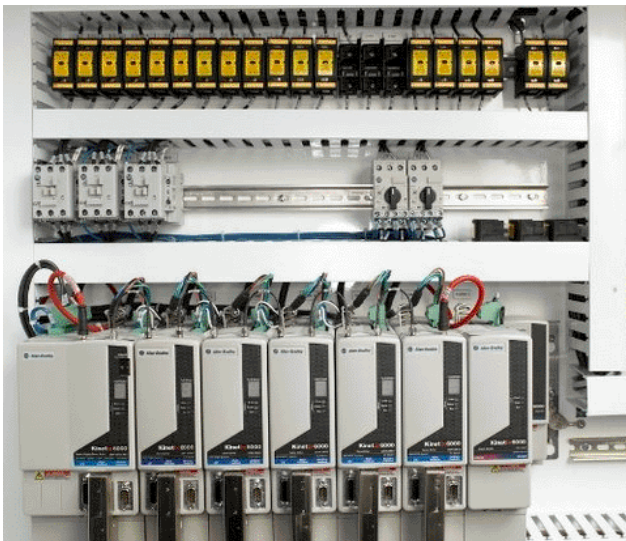
## Features

- ❖ Available for single and multi motors system.
- ❖ Direct Online (DOL) Starter.
- ❖ Auto Star Delta (ASD) Starters.
- ❖ VFD Starters.
- ❖ Soft Starters.
- ❖ Local and Remote Operation.
- ❖ Tripping against Under/Over Voltage, Phase Failure, Phase Sequence, Dry Running and Over Load Protection.
- ❖ Ensured High Personnel Safety.
- ❖ Both Front and Rear Side Accessibility Option.
- ❖ We also design MCU, operated through Programmable Logic Control (PLC) as per required atomization.

# Programmable Logical Control (PLC) Panel

We offer precision made PLC (Programmable Logic Control) panels. These PLC panels are largely used for industrial automation and process automation. They are programmed through SCADA software and logic which is downloaded as per the process requirements. Different variables are controlled according to the logic and different tag numbers are given to different motors, valves, sensors etc.

It is provided with a monitor which displays the process and instrument diagram, and also the live status of process parameters. The PLC systems are of different types of micro logic 1200, 1500 and SLC 500.



# Programmable Logical Control (PLC) Panel

## The PLC consists of 4 Types of Cards.

- ❖ **Digital input** – It is used for receiving F/B from process that is to start /stop, O/L.
- ❖ **Digital Output**- It is used for giving commands to motor Start/stop.
- ❖ **Analog input**- It receives signal of 4-20 mA from sensors of flow, pressure, temp.
- ❖ **Analog output** - It gives signals of 4-20 mA for controlling valves, actuators, VFD speed control

## Features

- ❖ Nano & Micro PLCs 10 IO"s to 140 IO"s.
- ❖ Modular PLCs – Scalable from 8/4 to 4096 IO"s with Remote Drops.
- ❖ Special function modules like - High Accuracy, Temperature Control, Power Transducer, PID.
- ❖ Controlled Output Channel Available.
- ❖ PLC"s with Significantly Higher Configurations Available.
- ❖ Hot Backup Redundant Systems.
- ❖ Distributed Control Systems

## AMF/ATS/Synchronizing Panel

This system consists of an alternator standard control panel with MCM (Micro processor Control unit) and a change over system housed in separate wall mounted or floor standing panel.

Automatic transfer switches are used to automatically change over from the main electrical supply to stand-by generators or generate on failure of the main supply.

When the main supply is restored, the system automatically changes back and stops the generator. The stand-by generator will eventually be shut down after a short cooling down period. These panels are provided with mechanically or electrically interlocked pole contactors or MCCB.



# AMF/ATS/Synchronizing Panel

## Features

- ❖ Operated both automatically and manually.
- ❖ Employ a Breaker closing time delay installed in order to avoid current and voltage surges.
  
- ❑ **Employ Automated Sensing for:**
  - ❖ Under Voltage.
  - ❖ Phase Failure.
  - ❖ Phase Sequence.
  - ❖ Instilled with Generator start/stop commands.
  
- ❑ **And Indicate:**
  - ❖ Incoming voltage.
  - ❖ Engine Running/Faulty Conditions.
  - ❖ MCCB On/Trip conditions.
  - ❖ Engine tests run position for routine test of engines.
  - ❖ Status signals for remote indications.



## AMF/ATS/Synchronizing Panel

**Synchronization Panels** are mainly designed and used to meet power system requirements. These panels function both manually and with an automatic synchronizing function for one or more generators or breakers.

They are widely used in synchronizing generators and offering multiplex solutions.

Our high quality range of DG synchronizing panels is available with capacities that reaches 6000 A, and are fabricated by our engineers using premium quality electrical components including copper bus bar, insulations, wires/cable, PVC channels, meters and switches.

These panels can also be incorporated in the main LT Panels or in Sub Main Panels.

# Lighting and Power Distribution Boards

Our range of lighting panels and power distribution panels successfully serve the purpose of distributing power for the lighting system of panels.

These power distribution panels are manufactured by our team of diligent professionals who have years of experience, furthermore, these panels are quality tested in accordance to precisely defined parameters before being delivered to our clients.

**Electrical Master's** Custom- built distribution boards are available in range from 100A to 400A, 415/240/120VAC

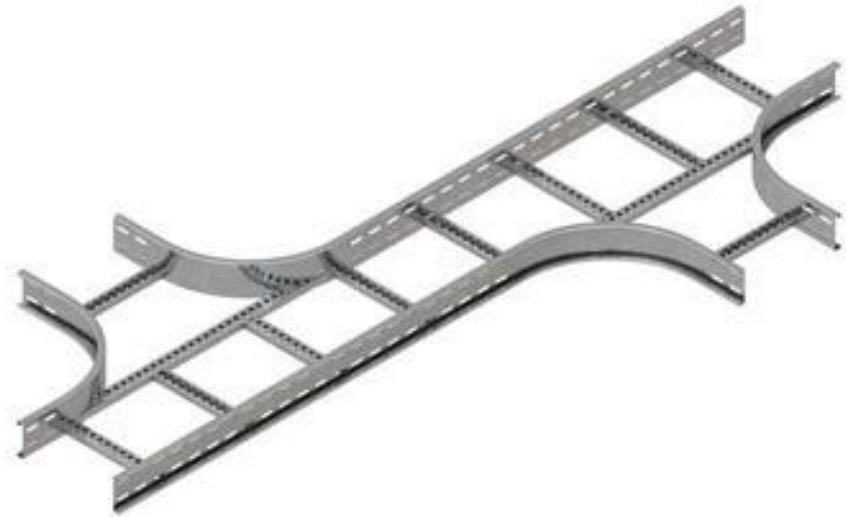
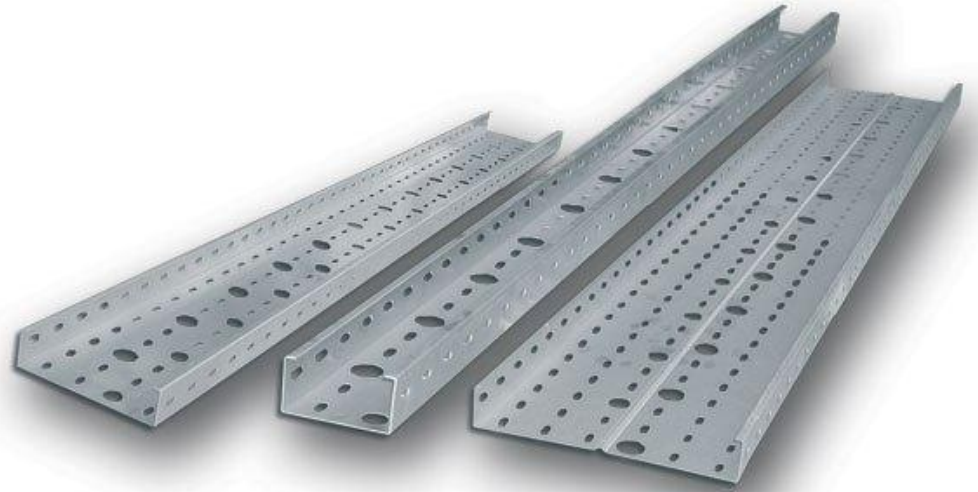
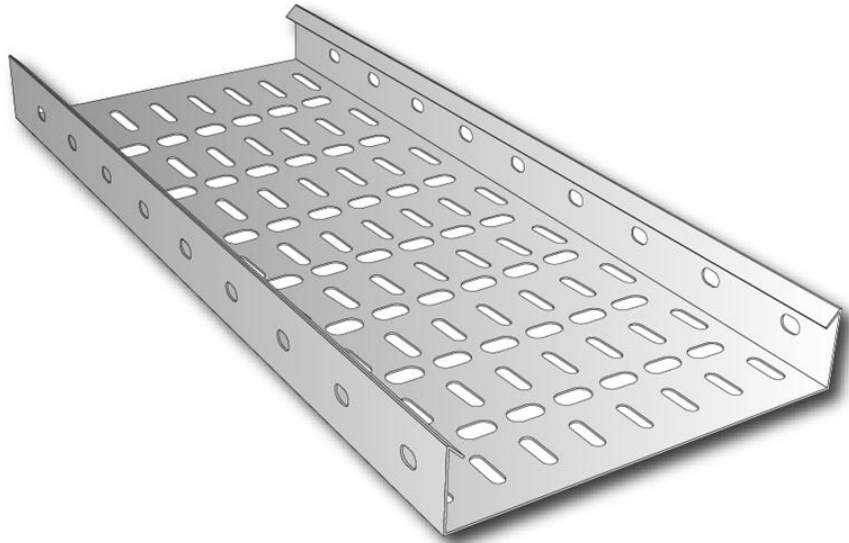


# Lighting and Power Distribution Boards

## Features

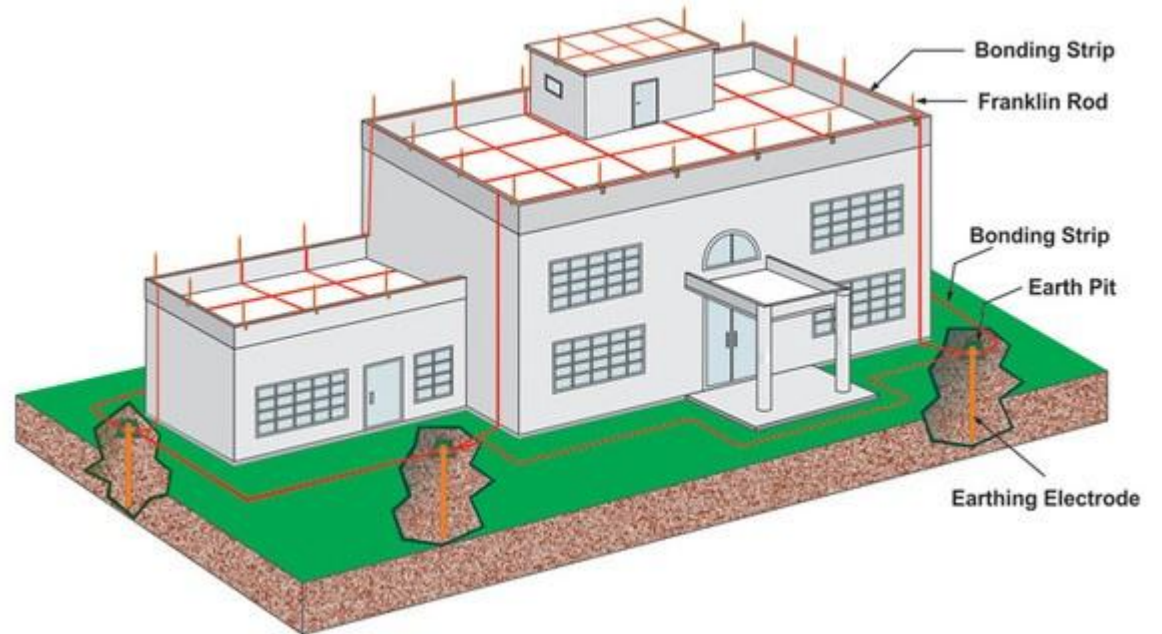
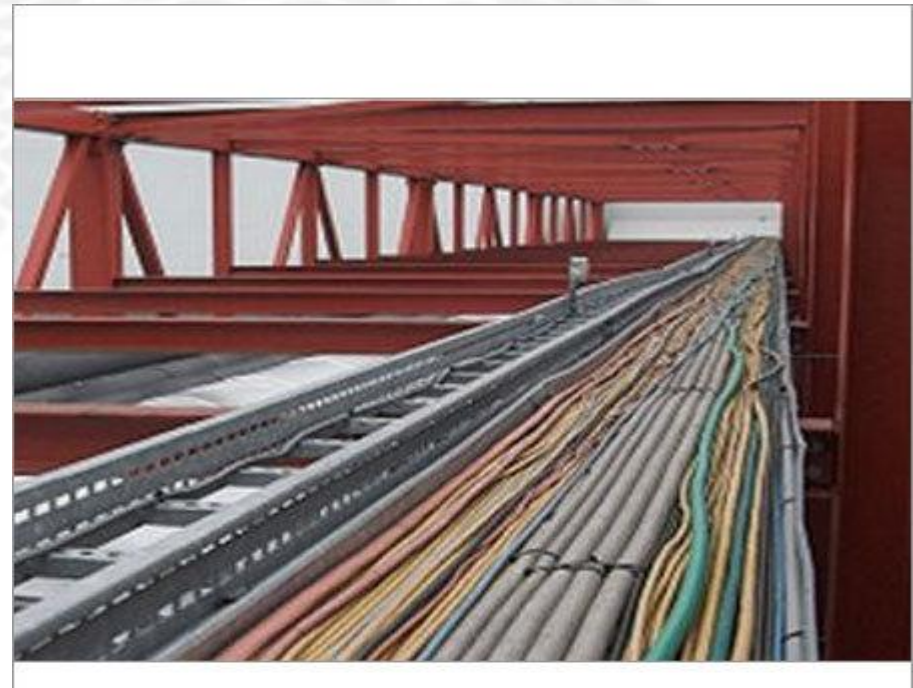
- ❖ Available from 6 ways to 72 ways.
- ❖ RCD (Residual-Current Devices) or RCBO (Residual Current Breakers with over current protection) can also be instilled.
- ❖ Protection Degree: IP 42, IP 55, IP 65.
- ❖ Manufactured with flush and surface mounting.
- ❖ Finished with polyester epoxy powder paint RAL 7032 (Other colors available on request)

# Cable Tray & Ladder



# Our Services

- Cabling & Cable Trays
- Lighting
- Lightning Protection
- Others



## Clients

- ❖ Gouremt Foods.
- ❖ Wateen Telecom.
- ❖ Jubilee Corporation.
- ❖ Brighto Paints.
- ❖ ATS Synthetic.
- ❖ PC Hotel.
- ❖ Express News.
- ❖ Dunya News.
- ❖ Pepsi – Sukkur Beverages.
- ❖ Walls Ice Cream.
- ❖ Master Textiles.
- ❖ KSB Pumps.
- ❖ Sundar Industrial Estates (SIE)
- ❖ Buhler Pakistan (Pvt) Ltd.
- ❖ TN Pharma.
- ❖ Khan Brothers.
- ❖ Kohat Cement.
- ❖ Bestway Cement.
- ❖ Shahtaj Sugar Mills.
- ❖ Bunny's Bread.
- ❖ Shahkam Industries.
- ❖ Intelligent Metering (Pvt) Ltd.
- ❖ Innovative Biscuits.
- ❖ Faraz Juice
- ❖ Aziz Engineering.
- ❖ Transfo Power Industries.
- ❖ Asian Consultants.
- ❖ Wire Manufacturing.
- ❖ Al-Mateen Associates.
- ❖ HiTek Engineering.
- ❖ WIB Engineering.
- ❖ Water Remedy (Pvt) Ltd.
- ❖ 3B Water Engineering.
- ❖ Techno Energy ONE.
- ❖ Water Engineering Management Services (WEMS)
- ❖ Chemtronics Water Engineering
- ❖ Ittehad Chemicals
- ❖ Fletti's Express Hotel

## Clients

- ❖ Elemech Pakistan (Pvt) Ltd. (EPL)
- ❖ Guard Filter & Guard Rice Mills
- ❖ Techno Solutions.
- ❖ R & K Engineering.
- ❖ Crescent Bahuman (CBL).
- ❖ Streamline Engg. & Services.
- ❖ Emam Engineering.
- ❖ Multilinks.
- ❖ PCAL Systems.
- ❖ S.A Hamid & Co.
- ❖ R.S Traders.
- ❖ Master Tiles.
- ❖ Fazal Elahi & Sons
- ❖ ORA-HRL.
- ❖ Unifoam.
- ❖ Hew Automation.
- ❖ Nimir Chemicals.
- ❖ Al-Shaheer Foods.
- ❖ Babar Medicine Company (BMC).
- ❖ Al-Fouz Technologies.
- ❖ H.A Fiber.
- ❖ Ayesha Spinning Mills.
- ❖ Norson Chemicals.
- ❖ Reliance Mill Multan.
- ❖ Mubarik Traders.
- ❖ Traffic Network Management (TNM).
- ❖ Sarina Thermoplastics.
- ❖ US Denim (Pvt) Ltd.
- ❖ RA Associates.
- ❖ MIA Energy.
- ❖ Faire Tech Engineering.
- ❖ Dar-e-Arqam School (Johar Abad).
- ❖ ECS.
- ❖ Samad Apparel.
- ❖ Mohsin Associates.
- ❖ ICT Integrators.
- ❖ HBL
- ❖ Fletti's Express Hotel
- ❖ Fatima Fertilizer
- ❖ Fatima Group

## **Contact Details**

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