

ELECTRIC PANELS PRODUCT BROCHURE



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ABOUT EEC GROUP:

Engineering & Construction Excellence

Over 50 years of expertise, EEC Group is a leading provider of engineering, construction, and steel fabrication solutions. Operating in 30+ countries, EEC has become a trusted partner for industrial complexes, infrastructure projects, and energy solutions, consistently delivering quality, sustainability, and innovation.



ABOUT EEC ELECTRIC:

Powering the Future of Low Voltage Panels

As part of the EEC Group, EEC Electric manufactures IEC-compliant low-voltage switchgear, electrical panels, and cable tray systems for industrial, commercial, and infrastructure applications.



Our advanced manufacturing facility combines CNC technology with high-level automation to produce premium low-voltage switchgear and electric panels that exceed international standards for safety, performance, and durability. Engineered for precision and reliability, our solutions are trusted across utility, industrial, commercial, and infrastructure projects.



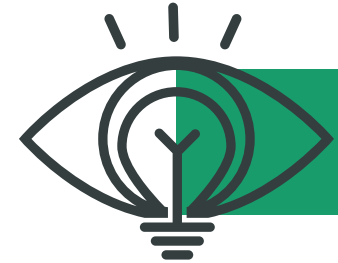
> MISSION & VISION:



MISSION

Engineering Excellence

Delivering IEC-compliant LV panels and cable tray systems engineered for safety, reliability, energy efficiency, and future-ready infrastructure.



VISION

Global Innovation

To set the benchmark in LV manufacturing and cable tray systems through innovation, quality, and engineering excellence.

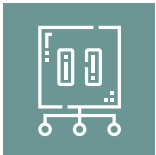




SERVICES & SOLUTIONS:

High-Performance Infrastructure for Every Industry

EEC Electric Panels designs and manufactures high-performance low-voltage power distribution and control solutions for industrial, commercial, utility, and infrastructure sectors. Combining precision engineering with uncompromising quality, our systems deliver reliable, safe, and efficient performance tailored to every project.



Main Distribution Boards (MDBs)

Primary power entry solutions for heavy-duty industrial and utility applications.



Custom Control Panels

Tailor-made solutions integrating PLCs and smart monitoring for automated efficiency.



Sub-Main Distribution Boards (SMDBs)

Reliable zone distribution for commercial and large-scale infrastructure.



Retrofitting & Modernization

Upgrading legacy systems with energy-efficient components to extend facility life.



> **MANUFACTURING:**

EEC Electric: Next-Generation LV Manufacturing



Advanced Technology

We leverage cutting-edge automated production and CNC-machined components to guarantee superior structural integrity. Our smart manufacturing systems ensure consistent, error-free production and rapid turnaround, delivering industrial-grade durability specifically engineered for high-load environments.



High-Capacity Solutions

Engineered to support large-scale infrastructure and energy projects, our facility offers scalable operations designed for high-volume demands. Every solution is backed by rigorous IEC-certified testing to ensure maximum safety and project efficiency without compromising quality.



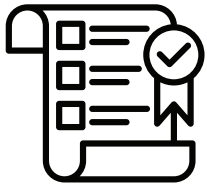
Global Presence & Export

By merging local expertise with international standards, EEC Electric delivers competitively priced, future-ready electrical panels built for international export. We are expanding the footprint of Egyptian electrical technology, bridging the gap between domestic engineering and global distribution needs.

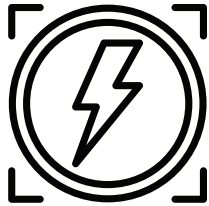
> PRODUCTS:

Electric Panels

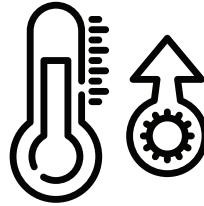
EEC Electric Panels, including MDB, Sub-Main Distribution Boards, LDB, PFC, and ATS units, are engineered and manufactured to international standards, delivering safe, reliable, and cost-effective power distribution, control, and protection for industrial, commercial, and infrastructure applications.



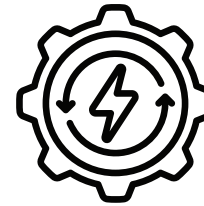
Compliant with IEC 61439-1/2 standards and certified for indoor and outdoor installations.



High-ampacity busbars, rated up to 4000A on MDB and Sub-Main boards, reduce the need for additional distribution units.



Ventilated enclosure designs improve heat dissipation, supporting continuous full-load operation without derating.



Automatic power management through PFC (power factor above 0.95) and ATS (transfer in under 10 seconds) improves system efficiency and continuity.



Durable IP54/IP55-rated enclosures, engineered for long-term performance in demanding industrial, commercial, and infrastructure environments.



➤ MAIN DISTRIBUTION BOARD (MDB):



Main Distribution Board (MDB)

General Description:

Electric Panels manufactures Main Distribution Boards (MDBs) for safe, reliable, and efficient low-voltage power distribution in industrial and commercial facilities. Designed as the central hub of the electrical network, MDBs distribute power from transformers or generators to downstream distribution boards and major loads while providing reliable protection, control, and isolation. Built for high-performance operation and compliance with international standards, they ensure maximum safety, efficiency, and long-term reliability.

Typical Configuration:

- Incomer: MCCB or ACB
- Outgoing Feeders: MCCBs
- Busbar System: Copper, high conductivity
- Standard Compliance: IEC 61439

Standards & Compliance:

- IEC 61439 — Low Voltage Switchgear and Controlgear Assemblies
- IEC 60529 — Degrees of Protection (IP Code)
- IEC 60204-1 — Electrical Safety of Machinery (where applicable)

> MAIN DISTRIBUTION BOARD (MDB):

Technical Data — Electrical Characteristics

<i>Parameter</i>	<i>Specification</i>
Rated Operational Voltage (Ue)	Rated Operational Voltage (Ue)
Rated Insulation Voltage (Ui)	Rated Insulation Voltage (Ui)
Frequency	Frequency
Rated Current (In)	Rated Current (In)
Short Circuit Withstand Current (Icw)	Short Circuit Withstand Current (Icw)
Incomer Type	Incomer Type
Outgoing Feeders	Outgoing Feeders
Busbar Material	Busbar Material
Protection Degree	Protection Degree



> MAIN DISTRIBUTION BOARD (MDB):

Mechanical Data — Construction

<i>Feature</i>	<i>Description</i>
Enclosure Type	Floor-standing
Material	Sheet steel, powder-coated
Form of Internal Separation	Up to Form 4
Installation	Indoor / Outdoor (optional)
Cable Entry	Top / Bottom
Access	Front / Rear (as required)
Cooling	Natural ventilation / Forced (optional)

Key Features:

- Flexible incomer options with MCCB or ACB to suit system requirements.
- High-capacity copper busbar system for efficient and reliable power distribution.
- Multiple MCCB outgoing feeders for effective load management and protection.
- Integrated metering and monitoring with optional multifunction measurement (V, A, Power, PF).
- Modular, high-strength design for easy maintenance, future expansion, and high short-circuit withstand capability.

> SUB MAIN DISTRIBUTION BOARD (SMDB):



Sub Main Distribution Board (SMDB)

General Description:

EEC Panels manufactures IEC-compliant Sub Main Distribution Boards (SMDBs) designed for safe, reliable, and efficient low-voltage power distribution in industrial, commercial, and infrastructure facilities. Acting as the critical link between the Main Distribution Board (MDB) and downstream distribution systems, our SMDBs provide localized control, circuit protection, and balanced power distribution, ensuring maximum operational reliability and long-term system performance.

Typical Configuration:

- Incomer: MCCB
- Outgoing Feeders: MCCBs / MCBs
- Busbar System: Copper, high conductivity, fully insulated
- Standard Compliance: IEC 61439-1 & IEC 61439-2

Standards & Compliance:

- IEC 61439-1 & IEC 61439-2 — Low-voltage switchgear and controlgear assemblies
- IEC 60947 series — Low-voltage switching and control devices
- IEC 60529 — Degree of protection (IP classification)
- IEC 61641 — Internal arc fault testing (if specified by project requirement)

> SUB MAIN DISTRIBUTION BOARD (SMDB):

Technical Data — Electrical Characteristics

<i>Parameter</i>	<i>Specification</i>
Rated Voltage	400 / 415 V, 3 Phase
Rated Current	250 A – 800 A
Short Circuit Capacity	Up to 50 kA
Busbar System	Copper, insulated
Protection Devices	MCCB (Thermal-Magnetic / Electronic)
Protection Degree	IP42 – IP54

> SUB MAIN DISTRIBUTION BOARD (SMDB):

Mechanical Data — Construction

<i>Feature</i>	<i>Description</i>
Enclosure Type	Floor-standing / Wall-mounted
Material	Sheet steel, powder-coated
Form of Internal Separation	Up to Form 4 (as per IEC 61439)
Installation	Indoor (Outdoor optional upon request)
Cable Entry	Top / Bottom
Access	Front access (Rear access optional)
Cooling	Natural ventilation / Forced ventilation (optional)

Key Features:

- MCCB incomer providing reliable isolation and system protection.
- Multiple MCCB / MCB outgoing feeders for flexible circuit distribution.
- Compact design with optimized high-conductivity copper busbar system.
- Ensured balanced load distribution across all phases.
- Enhanced operational safety with improved accessibility for maintenance.



➤ FINAL DISTRIBUTION BOARD (LDB):



Final Distribution Board (LDB)

General Description:

Electric Panels manufactures Lighting Distribution Boards (LDBs) for safe, reliable, and efficient final-stage power distribution in residential, commercial, and industrial applications. Receiving power from the Sub Main Distribution Board (SMDB), LDBs distribute electricity to lighting circuits and small power loads while ensuring reliable operation, organized circuit distribution, easy maintenance, and compliance with international standards.

Typical Configuration:

- Incomer: Isolator / MCCB (as per rating)
- Outgoing Feeders: MCBs for lighting and socket circuits
- Protection Devices: MCB / RCCB / RCBO
- Busbar System: Copper, insulated
- Standard Compliance: IEC 61439-3

Standards & Compliance:

- IEC 61439-1 & IEC 61439-3 — Distribution boards for ordinary persons
- IEC 60947 series — Low-voltage switching and control devices
- IEC 60898 — Miniature circuit breakers (MCBs)
- IEC 60529 — Degree of protection (IP classification)

> FINAL DISTRIBUTION BOARD (LDB):

Technical Data — Electrical Characteristics

<i>Parameter</i>	<i>Specification</i>
Rated Voltage	230 / 400 V
Rated Current	100 A – 250 A
Frequency	50 Hz
Outgoing Feeders	MCB (SP / TP / TPN)
Protection Degree	IP31 – IP42
Mounting	Wall-mounted / Floor-standing



➤ FINAL DISTRIBUTION BOARD (LDB):

Mechanical Data — Construction

<i>Feature</i>	<i>Description</i>
Enclosure Type	Wall-mounted / Floor-standing (as per rating)
Material	Sheet steel, powder-coated
Form of Internal Separation	Form 1 (standard)
Installation	Indoor
Cable Entry	Top / Bottom
Access	Front access
Cooling	Natural ventilation

Key Features:

- MCCB or isolator incomer for safe isolation and reliable circuit control.
- Multiple MCB outgoing feeders for efficient final circuit distribution.
- Dedicated neutral and earth bars with phase load balancing for safe, organized, and efficient power distribution.
- Optional RCCB/RCBO protection for enhanced earth leakage safety.
- Compact, ergonomic design for easy installation, maintenance, and long-term reliability.

> AUTOMATIC TRANSFER SWITCH PANEL (ATS):



Automatic Transfer Switch Panel (ATS)

General Description:

Electric Panels manufactures Automatic Transfer Switch (ATS) Panels to provide uninterrupted and reliable power supply for critical industrial, commercial, and infrastructure applications. Designed for automatic transfer between main and standby power sources, the panels feature dual incomers, a common busbar system, and electrical/mechanical interlocking to ensure safe operation, secure isolation, and continuous power availability in compliance with international standards.

Typical Configuration:

- Incomers: Dual MCCB / ACB (Main & Standby)
- Outgoing Feeder: MCCB
- Controller: AMF / ATS Controller
- Busbar System: Copper, high conductivity
- Interlocking: Electrical and mechanical
- Changeover Type: Open / Closed transition

Standards & Compliance:

- IEC 61439-1 & IEC 61439-2 — Low-voltage switchgear and controlgear assemblies
- IEC 60947 series — Low-voltage switching and control devices (MCCB, ACB, contactors)
- IEC 60947-6-1 — Automatic transfer switching equipment (ATS)
- IEC 60529 — Degree of protection (IP classification)

➤ AUTOMATIC TRANSFER SWITCH PANEL (ATS):

Technical Data — Electrical Characteristics

<i>Parameter</i>	<i>Specification</i>
Rated Voltage	400 / 415 V, 3 Phase
Rated Current	Up to 1600 A
Short Circuit Capacity	Up to 50 kA / 65 kA
Busbar Material	Copper
Operation Mode	Automatic / Manual
Protection Degree	IP42 – IP54

> AUTOMATIC TRANSFER SWITCH PANEL (ATS):

Mechanical Data — Construction

<i>Feature</i>	<i>Description</i>
Enclosure Type	Floor-standing, modular cubicle
Material	CRCA steel, powder-coated
Form of Internal Separation	Form 2b / 3b (IEC 61439)
Installation	Indoor
Cable Entry	Bottom (top optional)
Access	Front
Cooling	Natural ventilation (fans if required)

Key Features:

- Dual power source configuration (Utility–Generator or Utility–Utility).
- Automatic transfer operation with electrical and mechanical interlocking.
- Integrated busbar coupling system for flexible and reliable power transfer.
- MCCB and/or ACB switching devices to suit application requirements.
- Advanced control, monitoring, and manual override for safe and efficient operation.



> POWER FACTOR CORRECTION PANEL (PFC):



Power Factor Correction Panel (PFC)

General Description:

Electric Panels manufactures automatic Power Factor Correction (PFC) Panels to optimize reactive power and improve the efficiency of low-voltage electrical systems. By continuously monitoring load conditions and automatically switching capacitor banks, the panels maintain a high-power factor, enhancing voltage stability, reducing energy losses and current demand, minimizing utility penalties, and ensuring reliable, efficient system performance.

Typical Configuration:

- Incomer: MCCB / Isolator
- Controller: Automatic Power Factor Controller (APFC Relay)
- Capacitor Banks: Heavy-duty, stepwise capacitor banks
- Switching Devices: Capacitor duty contactors / Thyristor modules (as per application)
- Protection Devices: MCCB / MCB / HRC fuses for individual capacitor steps
- Discharge Resistors: For safe capacitor discharge

Standards & Compliance:

- IEC 61439-1 & IEC 61439-2 — Low-voltage switchgear and controlgear assemblies
- IEC 60831 — Shunt power capacitors for power factor correction
- IEC 60947 series — Low-voltage switching and control devices
- IEC 60529 — Degree of protection (IP classification)

> POWER FACTOR CORRECTION PANEL (PFC):

Technical Data – Electrical Characteristics

<i>Parameter</i>	<i>Specification</i>
Rated Voltage	400 / 415 V, 3 Phase, 50 Hz
Rated Capacity	25 kVAr – 400 kVAr (customizable)
Step Configuration	Automatic (6 / 8 / 12 steps or as required)
Control Type	Automatic Power Factor Controller (APFC)
Detuned Reactor	Optional (typically 5.67% / 7% for harmonic filtering)
Protection	MCCB incomer with HRC fuses per step
Protection Degree	IP42 – IP54



> POWER FACTOR CORRECTION PANEL (PFC):

Mechanical Data — Construction

<i>Feature</i>	<i>Description</i>
Enclosure Type	Floor-standing
Material	Sheet steel, powder-coated
Form of Internal Separation	Up to Form 3 (as per design)
Installation	Indoor (Outdoor optional upon request)
Cable Entry	Top / Bottom
Access	Front access (Rear access optional)
Cooling	Natural ventilation / Forced ventilation (as required)

Key Features:

- Automatic power factor control using an intelligent APFC relay.
- Multi-step capacitor bank system for accurate reactive power compensation.
- Real-time monitoring of power factor and system performance.
- Modular, scalable design with high-quality copper busbars for reliable operation and future expansion.

➤ LOW VOLTAGE DISTRIBUTION COFFRET:



Low Voltage Distribution Coffret

General Description:

Electric Panels manufactures Low Voltage Distribution Coffrets for safe, reliable, and efficient low-voltage power distribution in industrial, commercial, and infrastructure applications. Featuring a compact wall-mounted design with a high-conductivity copper busbar system, these coffrets provide secure and organized power distribution while ensuring easy installation, simplified maintenance, enhanced operator safety, and long-lasting performance in space-limited environments.

Typical Configuration:

- Incoming: Three-phase busbar
- Outgoing: Fuse bases
- Busbars: Copper
- Neutral / Earth: Copper bars
- Protection: Insulated shroud
- Access: Front access, indoor installation

Standards & Compliance:

- IEC 61439 — Low-voltage switchgear and controlgear assemblies

> LOW VOLTAGE DISTRIBUTION COFFRET:

Technical Data — Electrical Characteristics

<i>Parameter</i>	<i>Specification</i>
System Voltage	400 / 415 V AC, 3 Phase, 4 Wire, 50 Hz (typical)
Busbar Material	High conductivity electrolytic copper
Phase Arrangement	R-Y-B
Neutral Bar	Copper
Earth Bar	Copper
Outgoing Type	Fuse base outgoing feeders
Busbar Support	Insulated high-strength supports

> LOW VOLTAGE DISTRIBUTION COFFRET:

Mechanical Data — Construction

<i>Feature</i>	<i>Description</i>
Enclosure Material	Cold rolled steel sheet
Surface Finish	Electrostatic powder coating (RAL 7035 or equivalent)
Door Type	Single hinged, lockable door
Mounting	Wall mounted
Cable Entry	Bottom entry
Maintenance Access	Full front access
Dimensions (H × W × D)	90 × 60 × 20 cm

Key Features:

- Compact wall-mounted design for space-saving installation.
- Three-phase copper busbar system with multiple outgoing fused connections.
- Copper neutral and earth bars with insulated protective shroud for enhanced safety.
- Heavy-duty, powder-coated steel enclosure with a front-access lockable door for durability and easy maintenance.



> PILLAR DISTRIBUTION BOX:



Pillar Distribution Box

General Description:

Electric Panels manufactures Pillar Distribution Boxes for safe and reliable low-voltage power distribution in industrial, commercial, and infrastructure applications. Designed for high-current systems, these heavy-duty panels feature insulated three-phase copper busbars with multiple outgoing fused or switch-fuse connections, providing efficient power distribution, enhanced operator safety, and easy installation and maintenance through separated busbar and cable termination compartments.

Typical Configuration:

- Incomer: MCCB or Switch Disconnect
- Busbar System: High-conductivity copper busbars
- Outgoing Feeders: MCCBs and/or MCBs
- Metering: Provision for energy metering (as required)
- Future Expansion: Spare outgoing ways for additional feeders

Standards & Compliance:

- IEC 61439 — Low-voltage switchgear and control gear assemblies

> PILLAR DISTRIBUTION BOX:

Technical Data — Electrical Characteristics

<i>Parameter</i>	<i>Specification</i>
System Voltage	400 / 415 V AC, 3 Phase, 4 Wire, 50 Hz (typical)
Busbar Material	High conductivity electrolytic copper
Busbar Phases	R-Y-B
Neutral Bar	Copper
Earth Bar	Copper
Busbar Support	High-strength insulated supports
Outgoing Type	Fuse / switch-fuse mounting positions



> PILLAR DISTRIBUTION BOX:

Mechanical Data — Construction

<i>Feature</i>	<i>Description</i>
Enclosure Material	Cold rolled steel sheet
Surface Finish	Electrostatic powder coating
Door Type	Double front door
Mounting	Floor standing
Cable Entry	Bottom entry, separate lower cable chamber
Maintenance Access	Full front access
Dimensions (H × W × D)	200 × 132 × 40 cm

Key Features:

- High-conductivity insulated copper busbar system for efficient and reliable power distribution.
- Flexible incoming and outgoing feeder configurations with dedicated neutral and earth bars.
- Independent busbar and cable compartments for improved safety and simplified maintenance.
- Heavy-duty powder-coated steel enclosure with bottom cable entry and removable gland plate for easy installation.

> PERFORMANCE, PROTECTION & ADVANTAGES :

Performance & Reliability:

Designed for superior performance and long-term reliability, our low-voltage electrical panels are manufactured using high-quality components and advanced engineering practices to ensure safe, efficient, and dependable power distribution for industrial, commercial, and infrastructure applications.

Protection & Safety:

- Overload and short-circuit protection
- Safe isolation for maintenance and servicing
- Insulated copper busbar system with reliable protective earthing
- IP-rated enclosure for personnel and equipment protection
- Compliance with applicable IEC safety standards



Reliable Efficiency



Robust Durability



Flexible Design



Easy Maintenance



Lower Lifecycle Costs



Continuous Safety

> QUALITY:

IEC Standards / Technical Excellence & Global Compliance

At EEC Electric, quality is built into every stage of manufacturing. Our low-voltage panels are engineered to IEC standards and produced using advanced CNC technology, rigorous quality control, and comprehensive testing to ensure safety, reliability, and long-term performance.

> QUALITY & COMPLIANCE:

- **IEC Standards:** Manufactured in compliance with international IEC standards for safety, performance, and reliability.
- **Quality Control:** Comprehensive inspection and testing ensure consistent quality and long-term durability.
- **Precision Engineering:** Advanced CNC manufacturing delivers exceptional accuracy, strength, and reliable performance.



EEC ELECTRIC

*YOUR TRUSTED PARTNER
IN ELECTRICAL SOLUTIONS*

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