



NEUTRON
ENERGIES & SERVICES



PRODUCT CATALOG

www.neutronenergies.com

We Are Neutron Energies and Services

NEUTRON ENERGIES AND SERVICES is a Tanzanian company registered with BRELA, licensed by CRB, and prequalified by TANESCO & EWURA. We provide integrated solutions in electrical power, ICT, and security systems, with a strong focus on solar and renewable energy. Our services cover design, installation, and commissioning ensuring reliable performance along with the supply of high-quality electrical products for diverse client needs.

Our Products

- LV PANEL
- HV PANEL
- TRANSFORMERS
- DG SET
- VOLTAGE STABILIZER
- UPS WITH BATTERY BANK
- SOLAR SYSTEMS
- COMPACT SUBSTATION

LV PANEL

LV PANELS

A low-voltage panel is an electrical distribution system through which electrical power flows. It divides into a branch circuit and provides a protective fuse.

Electrical appliances that use 600 volts of electricity and a current of low wattage need safe voltages from the electricity distribution system; hence it provides a circuit breaker for overload.

Enclosure/Panel Boards suitable for IP-42, IP-52, IP-54, IP-55 & IP-65.



LV SWITCHBOARDS



- MCC (Motor Control Center)
- PMCC (Power Motor Control Center)
- EMCC (Emergency Motor Control Center)
- HVAC Panel
- Soft Starter Panel
- VFD Panel (Variable Frequency Drive)
- Feeder Pillar
- AMF Panel (Auto Main Failure) / ATS Panel (Auto Transfer Switch)
- DBs (Distribution Boards)
- ACDB / DCDB
- Capacitor Bank (APFC Panel)
- Control Panel
- PLC Panel
- Mimic Panels
- Metering Panel
- BUS Duct (Including Rising Main)

LV PANEL



SILENT FEATURES

- Copper/Aluminium Bus bar of short-circuit & temperature rise as per IEC
- High quality GI and CRCA steel
- Fully automatic CNC cut & GI designs for up to 1600 KVA with anti-rust treatment
- Doors fabricated by laser cutting for IP-54, IP-55, IP-65
- Powder-coated for sturdy performance
- RDSO/CPRI as per standards
- Modular panel & switchboards (Form 1,2,3 & 4)
- Copper/Aluminium bus bar with heat shrink sleeves
- Switchgear components available: L&T, ABB, Schneider, Siemens, Hager etc.
- Internal wiring: PVC insulated 650V Uni-class wire with ferrules
- Earthing terminals provided with systems
- Distribution board with a small power board & a bus bar
- Each product is tested in our quality test bench
- Panel board treated with 7-tank process
- Bus bars and interlinks are secure

MV PANEL

WE ARE LEADING SUPPLIERS OF

MV & HV SWITCHGEAR

Voltage panels have come under different categories.

MV that is medium voltage panels fall under 2,400 to 69,000 volts. MV section is high voltage operator control, circuit switching, fault protection, and performing normal ON/OFF switching duties, while going for HV it falls under 115,000 to 1,200,000 volts. It is generally used in power distribution to safely operate the relays, to protect electrical assets, to prevent dangers from arcs and X-rays, and in many required scientific applications.



TECHNICAL SPECIFICATIONS

- Applications: Power Distribution
- Rated Current Capacity: Indoor panels rated at
- 415 V / 690 V – 800 AMP to 4000 AMP
- 11 KV – 630 AMP to 3150 AMP
- 33 KV – 630 AMP to 2000 AMP
- Short Circuit Strength: 25 KA to 50 KA
- Rated Voltage: Indoor / Outdoor panels
- Breaker Output Coupling: 2500 AMP

MV PANEL



QUALITY & TESTING

- Switchgear has to perform the function of carrying, making, and breaking normal load current safely, as well as carrying and clearing the maximum short-circuit current for a specified time without damage.
- Parameters affecting design are:
- conductivity, dielectric strength, temperature rise, and heat dissipation.
- Then the switchgear includes:
- efficient breakers, current transformers, relays, meterings, wires and bus bars, earthing switch, interlocking system, closing coil and shunt trip coil, space heaters, indicating lamps, control switches, selector switches, mimics, measuring devices, signalling and remote energy meters, electrical protection devices, and other associated equipment.



POWER TRANSFORMER

WE ARE LEADING SUPPLIERS, OF TRANSFORMER

We are an Approved Suppliers of ISI – approved on load Distribution Transformer starting from 200 KVA to 5000 kVA Power Transformer ranges from 11kV to 50 MVA up to 33KV voltage class

TECHNICAL SPECIFICATIONS

- Power Rating up to 5000 kVA
- Material (CRGO Silicon Steel)
- Winding Material (100 % Copper)
- Cooling Type : ONAN / ONAF
- Standard : IS/IEC Approved
- Brand : Company (N-) Product
- Energy Efficiency (BEE) Level



DIESEL GENERATOR

WE ARE LEADING SUPPLIERS OF DIESEL GENERATOR

The combination of Diesel engine with electric set is named a diesel generator set. A diesel engine is designed to work on diesel fuel and some unique engines are designed to run on other liquid fuels or on some natural gas.

TECHNICAL SPECIFICATIONS

- Cooling System : Air Cooling
- Design : Standard
- Frequency : 50 Hz
- Voltage : 415V (Three Phase)
- Fuel Type : Diesel
- Rated Output Capacity : 5 kVA TO 1500 kVA
- Speed : 1500 rpm



QUALITY & TESTING

- We have been instrumental in developing the latest technology-driven products to serve the power requirements of every individual customer from different market segments. We provide reliable & high-quality products at a competitive cost.



VOLTAGE STABILIZER

WE ARE LEADING SUPPLIERS OF VOLTAGE STABILIZER

A complete range of products which includes Servo Stabilizer, Three Phase Servo Voltage Stabilizer, Oil Cooled Servo Voltage Stabilizer, Automatic Voltage Stabilizer, Industrial Servo Voltage Stabilizer and Air Cooled Servo voltage Stabilizer.

TECHNICAL SPECIFICATIONS

- Input Voltage Range : 95V-270V (05KVA-10KVA)
- Capacity : Upto 2000 KVA
- Cooling Type : Air Cooled / Oil Cooled
- Efficiency : Better than 99 %
- Response Time : 10 ms
- Intelligence : Micro Processor / Rolling Contact
- Circuit Breaker / MCB : By Pass – Manual Facility Servo
- Industrial Phase



DESIGN CAPABILITIES

- The stabilizer output will always be constant when the reference voltage at the input is varied. Its components like Servo Motor providing regulated constant output voltage suffers a life span of approximately twenty operational years in varied conditions. All the products are tested under confined QAP norms. Servo Stabilizer has been a household preferred device in fluctuating voltage.
- Efficiency : Better than 98 %

Over load capacity : 10% of rated capacity for short duration
Cooling : Natural air cooled Rating : RDSO / IRS

UPS & BATTERY BANK

WE ARE LEADING SUPPLIERS OF UPS & BATTERY BANK

An uninterruptible power supply (UPS) is a device that allows a computer to keep running for at least a short time when incoming power is interrupted. As long as utility power is flowing, it also replenishes and maintains energy storage.

Brands: Eaton, APC, ABB Range: 1kVA – 1000kVA
BatteryBank : Customised

Quality & Testing

Neutron energies is a leading provider of backup power UPS, or uninterruptible power supply. Sempra UPS deliver high quality, reliable backup power for everything from network closets and server rooms to enterprise and collocation data centers.



TECHNICAL SPECIFICATIONS

- UPS Brand : EATON, APC / ABB, Riello
- Battery Bank Brand : Quanta (Amara Raja) / Exide |
- Capacity : 600VA – 4000kVA
- Usage/Application: Industrial
- Phase : 1 Phase & 3 Phase
- Protection :Over Voltage
- Warranty : 1 year

SOLAR SYSTEMS PANEL

You Solar PV system is consisting of Solar Modules, Solar Inverter with a comprehensive Management Facility & Complete Mounting Structure (On-roof).

The Process

- Photovoltaic (PV) cells convert sunlight to direct current (DC) electricity.
- The inverter converts DC into alternating current (AC) electricity.
- The electrical panel sends power to your lights and appliances.
- The utility meter measures the energy imported and exported.

we have been developing pioneering and highly functional mounting system solutions for photovoltaic installations around the globe. We design our systems in our own product development department, where we continually optimize and adapt mounting systems to the ever-changing market. Our customers benefit from our long-standing international experience and expertise, as well as our personal approach to customer relations.



TYPES OF PROJECTS

At Neutron Energies we have a range of products, services and providing funding facilities to all kinds of projects including:

- Household Projects
- Commercial Projects
- Utility Projects
- Agro-Solar Projects
- Waste to Energy Projects
- Battery with Storage Projects



BUILDING SERVICES PROJECT

Dstructure design, Building Service Project of HTpanel/line main unit, Cable Schedule, Project BOQ, drawing schedule, drawings like single line diagram, Three line diagram, General/Arrangement drawing, General Notes, Termination Diagram, Bill of Material, calculation of Distribution transformer, calculation of DG, Sizing calculation of APFC, Cable Sizing with voltage drop calculation, UPS sizing calculation, VFD /PLC/ Switch gear selection, Layout of cable, layout of lighting, layout of earthing, cable route, Indoor and outdoor lighting design, Lighting DB, process and instrumentation diagram, safety precuation, E- CCTV, Fire Safety Devices etc.

- **DP STRUCTURE**
- **LT PANELS (IN HOUSE)**
- **TRANSFORMERS**
- **EARTHING**
- **INDOOR & LIGHTING**
- **FIRE FIGHTING, ELECTRICAL SYSTEM**
- **HVAC ELECTRICAL SYSTEM**
- **BUS DUCTS SANDWICH TYPE**
- **HTPANELS**
- **DG CABLING**
- **FIRE FIGHTING**
- **ELECTRICAL SYSTEM**

Installation And Commissioning

ON-SITE INSTALLATION AND COMMISSIONING BY CERTIFIED

The correct installation and commissioning will ensure a high degree of operational reliability. To achieve a problem-free start-up, it is required that commissioning procedures are thoroughly observed. For energisation of our products a commissioning witness service can be provided, whereby our engineers will be present and put into operation in a safe and correct way. Our certified service engineers can provide on-site installation and cold and hot commissioning for low voltage switchgear and products.

Erection Supervisory Services Including:

Foundation alignment check
Supervision of switchgear erection
Mechanical functional checks
Power/control cable termination
(inc. main bus bars and cubicles connection)

Installation Supervisory Services including:

Supervision of incoming / outgoing
Cable connections
Installation of internal power and control wiring
Internal wiring check



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