

FROM ONE HAND
TO THE WORLD !

PRODUCT CATALOGUE

Quality Product
Quality Service

EUROPHIA
ELEKTRIK

About us

We, as Europhia Elektrik , are one of the most leading company which focus on supplying all type of Transformers and its accessories, all kind of Enclosures, switchgears, substations, Gensets, Lighting and all LV and MV accessories such as ; ACB- ATS-MCCBs- Cts- Cut out Fuses in Europa and Turkey. Our aim is to supply and deliver all electrical items with high quality and fastest delivery time with best prices from one hand.we believe that delivering all electrical items from one hand to the site/customer will decrease the losing time and surely the costs. We are supplying all the materials under IEC/EN international standards and we are checking and controlling all the type tests carefully for and on behalf of our customers. Currently we are exporting more than 50 different countries.

Our Mission

We view our customers as integral members of our family. With this philosophy, we are dedicated to deliver high-quality products on time, offering tailored solutions, and ensuring consistent and dependable service.

Our Vision

“FROM ONE HAND TO THE WORLD”

To be a trusted and respected company with well-known brands recognized globally.

Quality Certificates



Distribution Transformers with Conservator Tank

Our Conservator Type Transformers are produced in both three-phase and single-phase configurations. They offer a power range from 10 kVA to 100,000 kVA and support high voltage levels up to 170 kV. These transformers are oil-immersed with cooling options including ONAN (Oil Natural Air Natural), ONAF (Oil Natural Air Forced), and OFWF (Oil Forced Water Forced). They come equipped with either an off-load or on-load tap changer and are suitable for both external and internal applications.

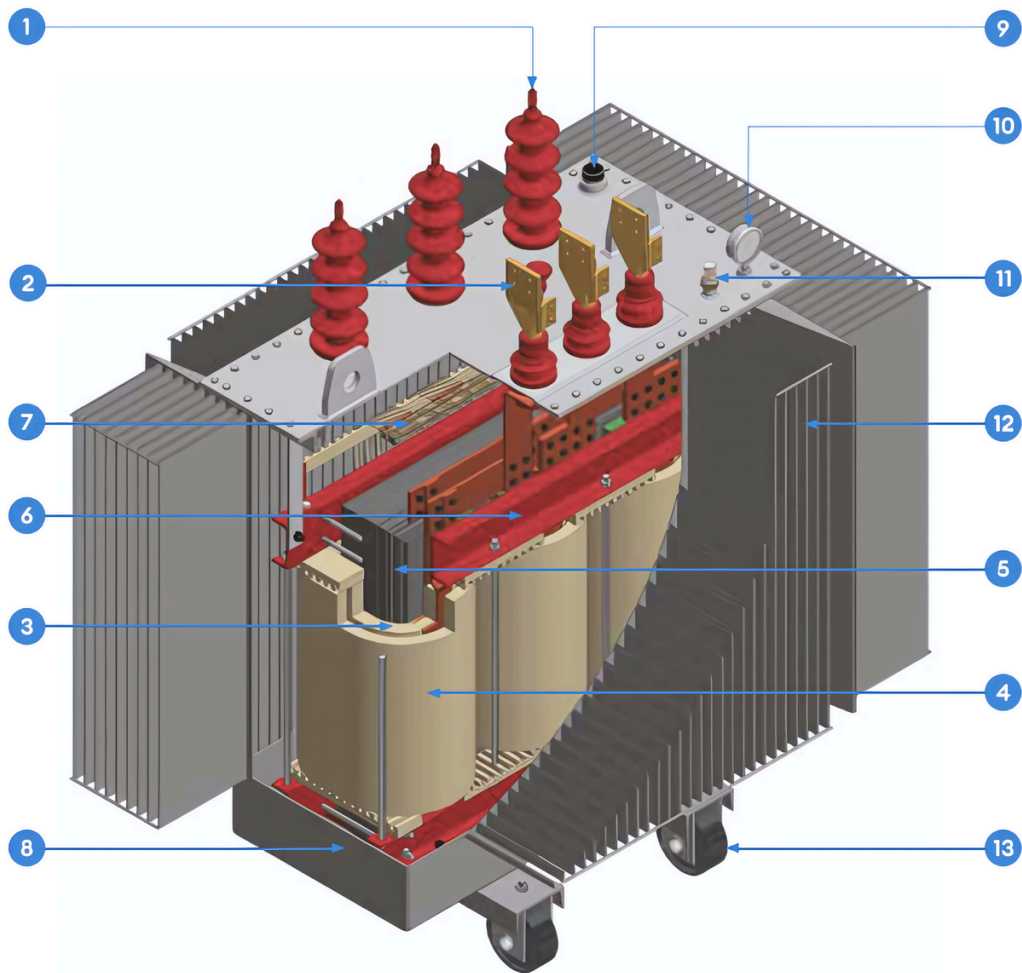
- High Quality Standards: Ensures superior reliability and performance.
- Versatile Configurations: Available in both three-phase and single-phase models.
- Wide Power Range: Power capacities from 10 kVA to 100,000 kVA.
- High Voltage Support: Insulation levels up to 170 kV.
- Cooling Options: ONAN (Oil Natural Air Natural), ONAF (Oil Natural Air Forced), and OFWF (Oil Forced Water Forced).



Transformers

Design

At our company, we employ state-of-the-art computer-aided design (CAD) techniques, integrating the latest technological advancements to optimize the performance of our transformers. Through advanced software, we meticulously examine and refine every transformer component with precision, ensuring superior efficiency, reliability, and durability. This rigorous optimization process results in transformers that consume less energy and minimize operational losses. Consequently, our customers benefit from substantial energy cost savings, while we contribute to a reduced environmental footprint.



1 • HV Bushing
2 • LV Bushing
3 • LV Coil
4 • HV Coil
5 • Core

6 • Core Clamps
7 • No Load Tap Changer
8 • Transformer Tank
9 • Pressure Relief Valve
10 • Top Oil Thermometer

11 • Oil Level Indicator
12 • Carrugated Fins
13 • Roller

Transformers

Dry Type Cast Resin Transformers

Our dry type cast resin transformers are being manufactured as three or single Phase with high quality from 100kVA up to 40mVA and 72.5kV isolation level and AN/AF cooling type.

- High Quality Standards: Ensures superior reliability and performance.
- Versatile Configurations: Available in both three-phase and single-phase models.
- Wide Power Range: Power capacities from 100 kVA to 40 MVA.
- High Insulation Levels: Up to 72.5 kV.
- Cooling Options: Natural air cooling (AN) and forced air cooling (AF).
- Reliable Energy Transfer: Engineered for dependable and efficient operation.



Hermetically Sealed Transformers

Our Hermetically Sealed Transformer are being produced as three or Single Phase ,power range 10-3.150 kva , upto 36Kv High voltage level ,oil immersed ONAN and/or ONAF , with Off-Load or On Load Tap Changer. Our Transformer can be used both External and Internal.

- High Quality Standards: Ensures superior reliability and performance.
- Versatile Configurations: Available in both three-phase and single-phase models.
- Wide Power Range: Power capacities from 10 kVA to 3,150 kVA.
- High Voltage Support: Insulation levels up to 36 kV.
- Cooling Options: ONAN (Oil Natural Air Natural) and ONAF (Oil Natural Air Forced).



Special Type Transformers

Our Special Type Transformers are produced in both three-phase and single-phase configurations. They offer a power range from 10 kVA to 100,000 kVA and support high voltage levels up to 170 kV. These transformers are oil-immersed with cooling options including ONAN (Oil Natural Air Natural), ONAF (Oil Natural Air Forced), and OFWF (Oil Forced Water Forced). They come equipped with either an off-load or on-load tap changer and are suitable for both external and internal applications.



- High Quality Standards: Ensures superior reliability and performance.
- Versatile Configurations: Available in both three-phase and single-phase models.
- Wide Power Range: Power capacities from 10 kVA to 100,000 kVA.
- High Voltage Support: Insulation levels up to 170 kV.
- Cooling Options: ONAN (Oil Natural Air Natural), ONAF (Oil Natural Air Forced), and OFWF (Oil Forced Water Forced).



Transformer Accessories & Spare Parts

Tanks

Transformers' tanks are designed to provide robust protection for the internal components, including the core and windings. Key specifications include:

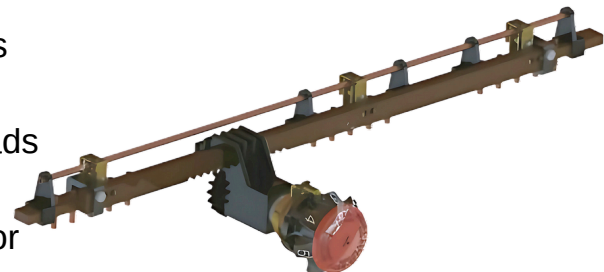
- Material: High-grade steel with corrosion-resistant coating
- Cooling System: Oil-immersed or air-cooled options available
- Pressure Relief: Fitted with pressure relief devices to handle internal pressure build-up
- Sealing: Hermetically sealed to prevent oil leakage and contamination
- Customization: Available in various sizes and configurations to suit different transformer designs



Tap Changers

Tap changers are critical for adjusting the transformer's voltage levels. Specifications include:

- Voltage Regulation: Allows for precise voltage adjustments within a specified range
- Operation Type: Available in both manual and automatic versions
- Steps: Typically designed with multiple tap positions (e.g., +/- 10% in 2.5% increments)
- Current Rating: Designed to handle high current loads as per transformer ratings
- Durability: Constructed with high-quality materials for long-lasting performance



Cable Box

Cable boxes are enclosures designed to house transformer terminals. They offer protection against accidental contact with hazardous terminals and shield the terminals from water, dust, and mechanical impacts to varying degrees. These protection levels are defined by IEC 60529 standards. Depending on customer requirements, cable boxes can be accessed from the top or the side. In this case, the protection degree is IP54, as per the IEC standard.



Oil Level Indicator

Transformers can be fitted with an oil level indicator, which may be located on the conservator, the cover, or the side, depending on the design. Both magnetic and prismatic types of oil level indicators are available.



Thermometer

The dial-type thermometer shows the maximum oil temperature reached over a certain period. Two optional contacts can provide electrical signals: one for triggering an alarm and the other for tripping.



Pressure Relief Valve

Hermetically sealed transformers can be fitted with a pressure relief device set to open at 0.3 bar or 0.43 bar. If the internal pressure exceeds these preset levels, the pressure relief valve activates to release the excess pressure. This mechanism helps maintain safe operating conditions and protects the transformer from potential damage due to overpressure.



Cable Earthing Terminal on Tank

Each tank is equipped with two integrated earthing points. The available types of earthing points include a stainless steel stud, a stainless steel flag with a 12mm hole, and a stainless steel threaded M10 terminal.



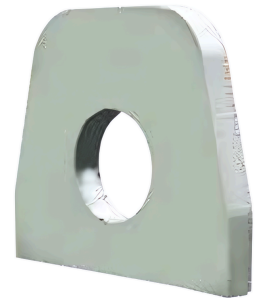
Drain Valve

The drain valve is used for draining or sampling transformer oil from the transformer tank. These valves are attached to the tank by welding the valve's pipe directly to it. Each valve undergoes thorough testing to ensure it is completely leak-proof.



Lifting Lugs

Lifting lugs are used for removing and lifting the transformer. For units weighing up to 3.5 tons, two lugs are provided; for heavier units, four lugs are supplied.



DMCR Relay

The DMCR relay is a multifunctional device that monitors temperature and oil level in transformers. It features electrical contacts for several functions, including:

- Gas formation detection
- Pressure excess detection
- Two temperature levels: one for alarm and one for trip



Transformer Accessories & Spare Parts

Oil Conservator

A cylindrical tank is mounted on the supporting structure on the roof of the transformer, known as the main tank. The primary function of the oil conservator is to provide sufficient space for the expansion of oil within the transformer, particularly in breathing-type tank transformers.



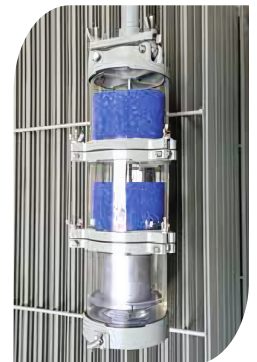
Buchholz Relay

The Buchholz Relay is used with the conservator to detect internal faults such as oil leakages, gas formations, and rapid oil flow to the conservator. It features dry contacts that provide signals for these alarms.



Air Breather

The air breather, installed on the oil conservator, manages bi-directional airflow due to oil volume changes from temperature fluctuations. It contains silica gel that absorbs moisture from the air, turning from pink to colorless when saturated. The silica gel can be recycled by heating it to 120°C, returning it to its pink color.



Roller

Bi-directional rollers are used for ground-mounted units. For ratings up to 630 kVA, rollers with a diameter of 125 mm are used, while rollers with diameters of 150 mm or 200 mm are used for higher ratings.



Winding Temperature Indicator

This device measures the temperature of both the LV and HV windings. The winding temperature indicator (WTI) also serves as a protective measure for the transformer.



Cutout Fuses (Drop-Out Fuses)

Cutout fuses (Drop-out fuses) protect transformers from overcurrents and faults. Specifications include:

- Rated Voltage: Suitable for systems up to 36 kV
- Interrupting Capacity: High interrupting capacity to isolate faulty sections effectively
- Insulation: Porcelain or polymer insulators for high dielectric strength
- Mounting: Easy installation and replacement with standard mounting configurations
- Standards: Compliant with IEC and ANSI standards for reliability and safety



Surge Arrester

Surge arresters safeguard transformers from over-voltage transients. Specifications include:

- Rated Voltage: Designed for systems up to 500 kV
- Energy Handling: High energy absorption capacity to dissipate surges effectively
- Response Time: Rapid response time to transient over-voltages
- Material: Zinc oxide varistors with robust housing for outdoor use
- Testing: Thoroughly tested for thermal stability and mechanical strength
- Standards: Complies with IEEE and IEC standards for performance and safety



Enclosures

Enclosures are vital for protecting electrical equipment from environmental conditions and ensuring safe operation. Key specifications include:

- **Material:** Available in stainless steel, aluminum, or galvanized steel with corrosion-resistant finishes
- **Protection Level:** IP65 to IP68 rated for dust and water ingress protection
- **Thermal Management:** Options for passive and active cooling systems, including ventilation fans and heat exchangers
- **Mounting Options:** Floor-standing, wall-mounted, and pole-mounted configurations
- **Standards Compliance:** Meets IEC 62208, NEMA, and UL standards for electrical enclosures
- **Customization:** Various sizes, shapes, and internal configurations to accommodate specific equipment requirements



Outdoor Enclosures

- Welded main body Structure
- Monoblock, sheet plate Galvanised and stainless Steel
- Grounding continuity, Corrosion Resistance
- Optimum Safety and Environmental Protection
- Functional Equipments and Assembling Units
- Different Dimension Alternatives
- Comply with IEC/EN Standards



Compact Substation (Kiosk)

- Frame produce with 3 mm , cover and Doors produced with 2mm galvanised metal sheet
- Isolated for hot and cold weather
- Easy to move and change its place when requested.
- Different sizes and different shapes for special projects can be designed and produced
- Platform are produced with NPU Material against Corrosion
- Easy to ship/move because of low weight
- Comply with IEC/EN 62271-202 standards



Wall Mounted Enclosures

- Welded main body Structure
- Monoblock, sheet plate Galvanised and stainless Steel
- Grounding continuity, Corrosion Resistance
- Optimum Safety and Environmental Protection
- Functional Equipments and Assembling Units
- Different Dimension Alternatives
- Comply with IEC/EN Standards



Free Standing Enclosures

- Modular main Structure, without welding
- Demontable
- Sheet plate, Galvanised and stainless steel
- Grounding Continuity, Corrosion Resistance
- Optimum Safety and Environmental Protection
- Functional Equipments and Assembling Units
- Different Dimension Alternatives
- Comply with IEC/EN Standards



Customized Enclosures

- Different sizes and different shapes for special projects can be designed and produced
- Welded/Monoblock or Modular
- Optimum Safety and Environmental Protection
- Painted with Electrostatic dust paint and as per RAL colors
- Comply with IEC/EN Standards



Medium Voltage Switchgears

- Produced from 1KVA upto 40.5 KVA
- As per IEC/EN 62271-200 standards
- Produced with 2mm stainless Steel
- Painted with Electrostatic dust paint and as per RAL colors



Isolation & Surgical Enclosures

Isolated power systems are used in group 2 rooms in medical locations, and they consist of test combinations and auxiliary devices such as insulation transformer, isolation monitoring device, isolated power enclosures remote alarm panels. When isolation fault occurs with isolated power systems, it is ensured not to cause the system to energy interruption by opening protection equipments, to continue medical electrical equipments to their functions, not to decrease fault currents to non-critical values and not to live problem during operating by preventing energy interruption. Isolation level is monitored continuously in isolated power systems and converts the fault to alarm signal by detecting at adjustable level provided that it is not less than 50 k Ω . The alarm in question takes part on control panels in operating theatres and on a section where nurse or technical personnel can easily hear and then control and intervene it in other rooms by monitoring over two remote alarm panels. Alarm panels used for the purpose of remote monitoring take part in room of personnel in duty or in technical service room.



Stainless Steel Enclosures

- Main Frame; 1,50mm Stainless Steel, W-Profile System
- Covers; 1,20mm Stainless Steel
- Front Door; 1,50mm Stainless Steel
- Grounding Continuity
- Poliurethane Gasket Foamed, Protection Class IP55
- 4 Point Locking System at the Doors
- Covers are Removable and Fixed by screws
- 135° opening Hinge System at Doors
- Functional Accessories and Fixing Equipments
- Locking System and screws can be stainless
- Wide Dimension Alternatives
- Compatibility to IEC, EN, TS standards



Battery Chargers - Rectifier & Voltage Stabilizer

Battery Chargers

Rectifier products are essential components used in utility High Voltage (HV), Medium Voltage (MV), and Low Voltage (LV) energy control and automation systems. They address critical needs such as relay control, breaker operation, communication, automatic control, and emergency lighting during power outages or recovery. Designed to be battery-supported, these products ensure continuous functionality in essential systems.

Industrial Rectifiers operate by converting 1-Phase or 3-Phase AC mains power into the desired voltage level through a Stepdown transformer, which also provides galvanic isolation. This energy is then delivered to thyristor circuits within the rectifier, ensuring a stable power supply. The rectified DC output is filtered, producing a cleaner and more stable DC energy, ideal for various industrial applications.

Voltage Stabilizer

Voltage stabilizers and dynamic voltage restorers are designed to address common issues frequently encountered in urban power grids, such as:

- Continuous Voltage Drops
- Continuous Voltage Rises
- Instant Voltage Sags (Overvoltage Drops)
- Instant Voltage Swells (Overvoltage Rises)
- Short-term Power Interruptions
- Phase imbalances
- Power Loss and Efficiency Concerns
- Electrical Noise
- Harmonic Distortion

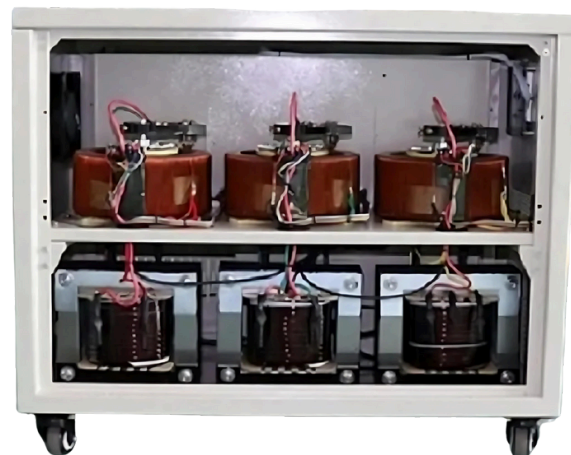


Voltage Stabilizer & Uninterruptible Power Supply (UPS)

Voltage Stabilizer

We offer tailored solutions for various electrical issues. By referring to the brief information, you can find the most suitable product for your needs.

- Multi-Master Parallel Voltage Stabilizer
- Static Voltage Stabilizer
- Dynamic Voltage Restorer
- Voltage Optimization and Energy Saving Unit
- Servo Voltage Stabilizer



Uninterruptible Power Supply (UPS)

An Uninterruptible Power Supply (UPS) is an electrical device that provides backup power to a load when the primary power source fails. Unlike auxiliary or standby power systems, a UPS offers near-instantaneous protection against power interruptions by utilizing energy stored in batteries, supercapacitors, or flywheels.

UPS systems are commonly used to safeguard IT infrastructure, including computers, data centers, telecommunications equipment, and other critical devices, where power failures could lead to significant service disruptions or data loss.

- Single-Phase UPS 1/1 - Rack
- Mono-Phase UPS 1/1 - Tower
- Three-Phase UPS 3/1
- Three-Phase UPS 3/3
- Modular UPS
- Dynamic UPS
- Industrial UPS
- Hybrid UPS
- Shutter UPS



Circuit Breakers

Circuit breakers are essential for interrupting fault currents and protecting electrical circuits. Specifications include:

- Voltage Rating: Available for low, medium, and high voltage applications (up to 38 kV)
- Current Rating: Wide range of current ratings from 10A to 6300A
- Interrupting Capacity: High interrupting capacity up to 63 kA
- Operation Mechanism: Manual, motorized, and automatic options
- Standards Compliance: Conforms to IEC 60947-2 and ANSI/IEEE C37 standards



Fuses

Fuses provide overcurrent protection by melting the fusible element. Specifications include:

- Voltage Rating: Suitable for applications up to 36 kV
- Current Rating: Range from 1A to 1250A
- Type: HRC (High Rupturing Capacity), expulsion, and current-limiting fuses
- Mounting: Clip-in or bolt-on mounting configurations
- Standards Compliance: Meets IEC 60269 and ANSI/IEEE standards



Horizontal Type Fuse Switch Disconnectors

Our Horizontal Type Fuse Switch Disconnectors, when paired with NH fuses, provide both electrical circuit protection and control. They allow for manual operation to open and close the circuit and safely interrupt it in the event of a short circuit or overload.

Our Horizontal Type Load Breakers are manufactured according to TS EN 60947-3 standards and CE regulations. The body is constructed from heat-resistant thermoplastic material capable of withstanding temperatures up to 960 degrees Celsius, while the current-carrying components are made of 99.9% pure electrolytic copper.



Vertical Type Fuse Switch Disconnectors

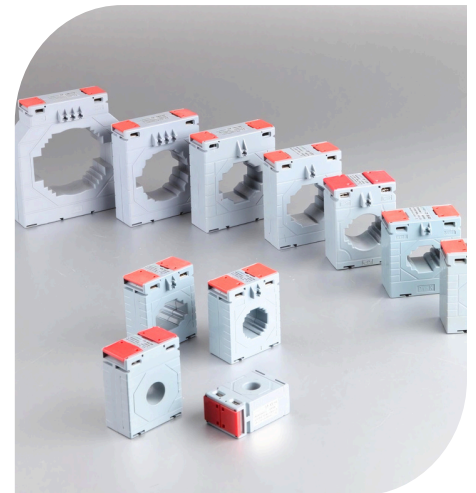
Our Vertical Type Fuse Switch Disconnectors are designed to meet TS EN 60947-3 standards and CE norms. They are compatible with NH blade fuses in sizes NHC00, NH00, NH1, NH2, and NH3, supporting currents up to 630A. When used with NH blade fuses, these disconnectors ensure safe disconnection of nominal currents under load and offer protection against overcurrents.

- Designed for use with NHC00, NH00, NH1, NH2, and NH3 fuses
- Allows for simultaneous or individual phase disconnection
- High breaking capacity when used with our NH fuses
- Includes arc separators to protect the switch from damage caused by arcing
- Constructed from 960-degree heat-resistant BMC material
- Features silver-plated contacts
- Equipped with a park position feature for safe maintenance and repair
- Optional current transformers can be installed on rear busbars for measuring currents in each phase



LV-MV Instrument Transformers

- Indoor Current Transformer from 3,6Kv upto 24 Kv,
- Outdoor Current Transformer from 3,6Kv upto 24Kv,
- Busbar Current Transformer from 3,6Kv upto 24Kv,
- Lv Current Transformer 0.72Kv from 20A upto 5000/5,
- Voltage Transformer (Indoor- Outdoor -Metal Housing and Metalised Voltage),
- Epoxy Insulator (12-17.5Kv Fuse Campulse, Indoor Post Insulator, Indoor Capacitive post Insulator, 1250A Indoor - Indoor Bolts Bushing , 1250A Outdoor- Indoor Bolt Bushing),



Disconnect Switches

Disconnect switches ensure safe isolation of electrical equipment for maintenance. Specifications include:

- Voltage Rating: Up to 38 kV
- Current Rating: Up to 4000A
- Operation: Load break and no-load break options
- Actuation: Manual, motorized, and remote operation capabilities
- Standards Compliance: Complies with IEC 62271-102 and IEEE C37.20.2 standards



Busbars

Busbars are conductive strips used for power distribution within switchgear. Specifications include:

- Material: Copper or aluminum with tin or silver plating for enhanced conductivity
- Current Rating: Designed to handle high current loads up to 6000A
- Insulation: Options for insulated and non-insulated busbars
- Mounting: Rigid mounting systems for stable and secure installation
- Customization: Custom shapes and sizes to fit specific switchgear designs



Generators (Genset)

Diesel Generators

- Welded steel base frame with A/ V mounting
- Fuel tank built in the base frame between AC 550 and AC 825
- Lube - oil drain hand pump fitted
- 24 V D.C. battery set with cables and rack
- Industrial type silencer and steel bellows delivered loose
- Engine jacket water heater
- Manual for use and installation
- Optional silent enclosure
- Different Motors 4 cycle, water cooled, 1500 rpm diesel engine
- Compact power units
- Engine mounted cooling radiator and fan
- Electronic governor control
- Electric Starter & charge alternator (24 V D.C.)
- Normal duty, dry type air filter
- Single bearing alternator, IP23 enclosure
- class H insulation
- Standard voltage 400/230 V A.C., 50 Hz
- Perkins 10KVA-2500KVA
- Ricardo 20KVA-400KVA
- Xenic 250 KVA- 2350 KVA
- Portable Gasoline

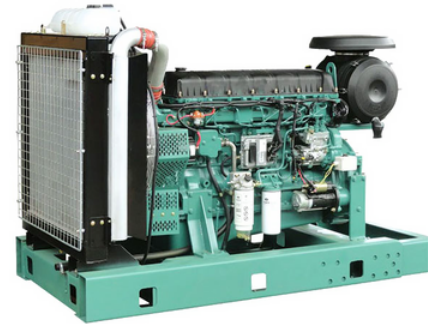


Generators (Genset)

Engine

The engine is the heart of the genset, converting fuel into mechanical energy. Specifications include:

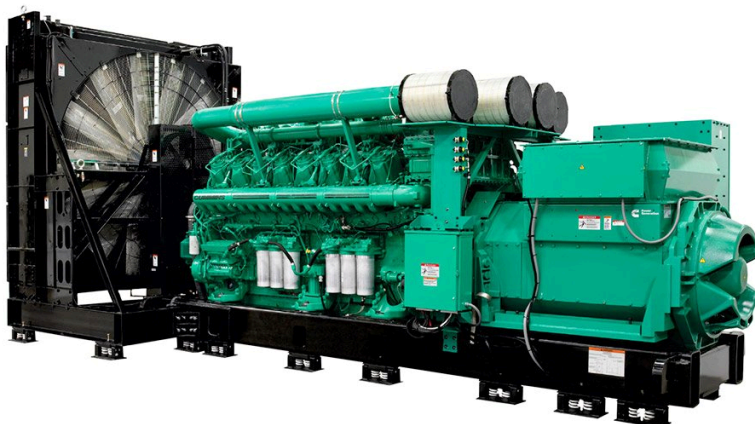
- Type: Diesel, natural gas, or bi-fuel engines
- Displacement: Ranges from 1.5 liters to over 50 liters depending on the power output
- Power Output: From 10 kW to 3000 kW or more
- Cooling System: Water-cooled or air-cooled systems
- Emissions Compliance: Meets Tier 2, Tier 3, or Tier 4 emission standards
- Fuel Consumption: Measured in liters per hour (L/h) at 75% load



Alternator

The alternator converts mechanical energy from the engine into electrical energy. Specifications include:

- Type: Brushless synchronous alternators
- Voltage Output: Typically 120/240V for single-phase and 208/480V for three-phase systems
- Frequency: 50 Hz or 60 Hz depending on the region
- Efficiency: Typically around 95% or higher
- Insulation Class: Class H or F for high thermal endurance
- Regulation: Automatic voltage regulation (AVR) for stable output



Generators (Genset)

Control Panel

The control panel manages and monitors the genset's operation. Specifications include:

- Display: LCD or LED display for real-time monitoring
- Functions: Start/stop control, engine monitoring, fault diagnostics
- Communication: Options for RS232, RS485, or Ethernet for remote monitoring
- Protection: Overload, short circuit, and under/over voltage protections
- Standards Compliance: Complies with ISO 8528 and IEC 60204 standards



Fuel System

The fuel system supplies the engine with the necessary fuel for operation. Specifications include:

- Fuel Tank Capacity: Ranges from 50 liters to 1000 liters or more
- Fuel Type: Diesel, natural gas, or bi-fuel options
- Filters: Multi-stage filtration system to ensure clean fuel supply
- Fuel Lines: Durable and resistant to corrosion and leakage



Enclosure

The enclosure protects the genset from environmental conditions and reduces noise levels. Specifications include:

- Material: Steel or aluminum with powder-coated finish for corrosion resistance
- Noise Reduction: Sound-attenuated enclosures reducing noise to 65-75 dB(A) at 7 meters
- Weatherproofing: IP23 to IP56 ratings for protection against dust and water ingress
- Access: Lockable doors and removable panels for easy maintenance
- Ventilation: Adequate airflow design to ensure optimal cooling



Aluminium Alloy Conductor

Aluminum alloy conductors are widely used in electrical power distribution due to their excellent balance of conductivity, weight, and cost. Key specifications include:

- Material: AAAC (All Aluminum Alloy Conductor) made from high-strength aluminum alloy
- Stranding: Stranded construction for flexibility and ease of installation
- Conductivity: Approximately 52.5% of IACS (International Annealed Copper Standard)
- Strength: Higher tensile strength compared to pure aluminum conductors
- Temperature Rating: Typically up to 90°C continuous operation, with higher ratings for short-circuit conditions
- Standards Compliance: Meets or exceeds IEC 61089, ASTM B399, and BS 3242 standards
- Applications: Suitable for overhead power transmission and distribution lines



MV-LV Cables

Medium Voltage (MV) and Low Voltage (LV) cables are essential for the safe and efficient transmission of electrical power in various applications.

Medium Voltage (MV) Cables

- Voltage Rating: Typically ranges from 1 kV to 35 kV
- Conductor Material: Copper or aluminum
- Insulation: XLPE (Cross-Linked Polyethylene) or EPR (Ethylene Propylene Rubber) for high thermal and electrical performance
- Sheathing: PVC, PE, or LSZH (Low Smoke Zero Halogen) for environmental protection and safety
- Armoring: Optional steel wire or tape armor for mechanical protection
- Temperature Rating: -40°C to +90°C continuous operation
- Standards Compliance: Meets or exceeds IEC 60502-2, IEEE, and various national standards
- Applications: Suitable for industrial installations, substations, and power distribution networks

Low Voltage (LV) Cables

- Voltage Rating: Typically up to 1 kV
- Conductor Material: Copper or aluminum
- Insulation: PVC, XLPE, or rubber for flexibility and durability
- Sheathing: PVC, PE, or LSZH for additional protection
- Armoring: Optional steel wire or tape armor for enhanced mechanical strength
- Temperature Rating: -15°C to +70°C continuous operation
- Standards Compliance: Meets or exceeds IEC 60502-1, BS 5467, and other relevant standards
- Applications: Suitable for residential, commercial, and industrial electrical installations



Heat shrink cable joints & Termination kit

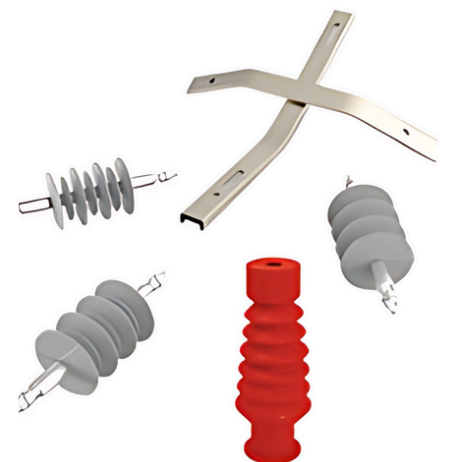
Heat shrink accessories are essential for providing robust insulation, sealing, and mechanical protection for cables and their terminations. Key specifications include:

- Material: Cross-linked polyolefin or elastomeric materials
- Shrink Ratio: Typically 2:1, 3:1, or 4:1, indicating the reduction in size when heated
- Operating Temperature: -55°C to $+135^{\circ}\text{C}$
- Dielectric Strength: High dielectric strength, typically $>20\text{ kV/mm}$
- Flame Retardant: Options available with flame-retardant properties
- Adhesive Lined: Some variants come with an adhesive lining for improved sealing against moisture and contaminants
- Standards Compliance: Meets or exceeds IEC, UL, and MIL standards
- Applications: Suitable for cable terminations, splices, and repairs in various environments



Common Types of Heat Shrink Accessories

- Heat Shrink Tubing: Used for insulating, protecting, and bundling cables and wires
- Heat Shrink Sleeves: Used for cable joints and terminations, providing environmental sealing and mechanical protection
- Heat Shrink End Caps: Used for sealing the ends of cables to prevent moisture ingress
- Heat Shrink Boots: Used for sealing and protecting cable connectors and terminations



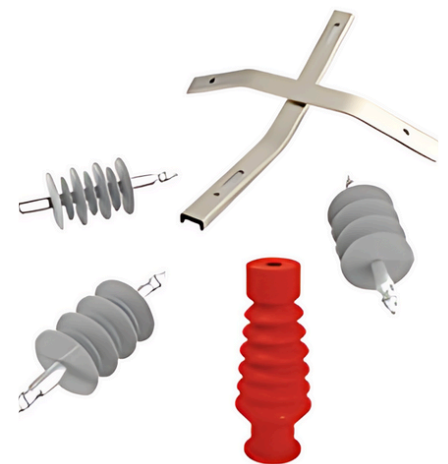
Cold shrink cable joints & Termination kit

- Cold shrink accessories are designed for easy installation without the need for heat, providing excellent insulation and protection for cables. Key specifications include:
- Material: Silicone rubber or EPDM (Ethylene Propylene Diene Monomer) rubber
- Shrink Ratio: Shrinks upon removal of an internal support core
- Operating Temperature: -40°C to $+100^{\circ}\text{C}$
- Dielectric Strength: High dielectric strength, typically $>15\text{ kV/mm}$
- Weather Resistance: Excellent resistance to UV, ozone, and weathering
- Ease of Installation: No heat required, reducing installation time and risk
- Standards Compliance: Meets or exceeds IEC, IEEE, and ASTM standards
- Applications: Ideal for environments where open flames or heat guns are impractical or hazardous



Common Types of Cold Shrink Accessories

- Cold Shrink Tubing: Used for insulating and protecting cables and wire connections
- Cold Shrink Terminations: Used for terminating high-voltage cables, providing excellent electrical performance and environmental protection
- Cold Shrink Joints: Used for splicing cables, offering reliable insulation and moisture sealing



Indoor Luminaires

LED Panels

- Luminous Efficacy: 80-120 lumens per watt
- Color Temperature: 3000K (warm white) to 6500K (cool white)
- CRI (Color Rendering Index): >80 for accurate color representation
- Lifespan: Up to 50,000 hours
- Dimming: Compatible with various dimming systems
- Mounting: Recessed, surface-mounted, and suspended options
- Standards Compliance: IEC, ANSI, and Energy Star



Downlights

- Luminous Efficacy: 70-110 lumens per watt
- Color Temperature: 2700K to 5000K
- CRI: >80
- Lifespan: Up to 30,000 hours
- Dimming: Available in dimmable models
- Mounting: Recessed and surface-mounted options
- Standards Compliance: IEC and UL



Track Lighting

- Luminous Efficacy: 70-100 lumens per watt
- Color Temperature: 2700K to 5000K
- CRI: >80
- Lifespan: Up to 40,000 hours
- Adjustability: Adjustable heads for directional lighting
- Standards Compliance: IEC and UL



Outdoor Luminaires

Road and Street Lights

- Luminous Efficacy: 100-150 lumens per watt
- Color Temperature: 4000K to 6000K
- CRI: >70
- Lifespan: Up to 50,000 hours
- Ingress Protection: IP65 or higher
- Materials: Corrosion-resistant aluminum housing
- Standards Compliance: IEC, ENEC, and RoHS



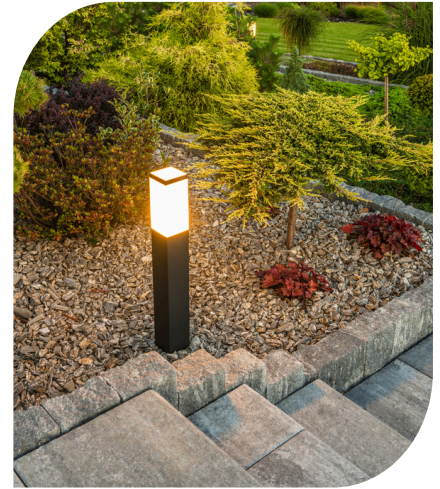
Floodlights

- Luminous Efficacy: 90-140 lumens per watt
- Color Temperature: 3000K to 6000K
- CRI: >70
- Lifespan: Up to 40,000 hours
- Ingress Protection: IP65 or higher
- Materials: Die-cast aluminum housing with tempered glass lens
- Standards Compliance: IEC, UL, and CE



Park and Garden Lights

- Luminous Efficacy: 60-100 lumens per watt
- Color Temperature: 2700K to 5000K
- CRI: >80
- Lifespan: Up to 30,000 hours
- Ingress Protection: IP44 or higher
- Materials: Weather-resistant materials for durability
- Standards Compliance: IEC and RoHS



Industrial Luminaires

High Bay Lights

- Luminous Efficacy: 120-180 lumens per watt
- Color Temperature: 4000K to 6000K
- CRI: >80
- Lifespan: Up to 50,000 hours
- Mounting: Suspended or surface-mounted
- Ingress Protection: IP65 or higher
- Materials: Industrial-grade aluminum housing
- Standards Compliance: IEC, UL, and DLC



Ex-Proof Lights

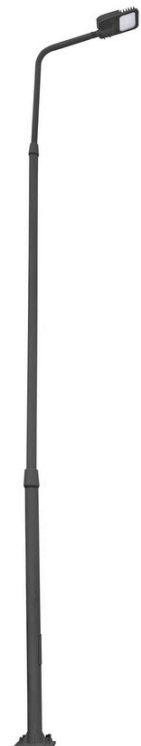
- Luminous Efficacy: 80-130 lumens per watt
- Color Temperature: 3000K to 6000K
- CRI: >70
- Lifespan: Up to 40,000 hours
- Ingress Protection: IP66 or higher
- Certification: ATEX, IECEx for hazardous locations
- Materials: Robust materials designed to withstand explosive environments
- Standards Compliance: IEC and UL



Lighting Poles

Lighting poles provide essential support for street lights, garden lights, and other outdoor lighting solutions, ensuring proper illumination in various environments. Key specifications include:

- Material: Galvanized steel or aluminum for corrosion resistance
- Height: Ranges from 3 meters to 12 meters depending on the application
- Pole Shape: Round, octagonal, or conical
- Finish: Hot-dip galvanized, powder-coated, or painted for additional protection
- Wind Resistance: Designed to withstand wind speeds up to 160 km/h or more
- Base Plate: Customizable base plate for different mounting requirements
- Standards Compliance: Meets or exceeds EN 40, ASTM A123, and other relevant standards
- Applications: Suitable for highways, streets, parks, and residential areas



Energy Transmission Towers

Energy transmission towers are critical for supporting high-voltage power lines, ensuring reliable transmission of electricity over long distances. Key specifications include:

- **Material:** High-strength galvanized steel
- **Types:** Lattice towers, monopole towers, and guyed towers
- **Height:** Typically ranges from 20 meters to 100 meters
- **Voltage Levels:** Suitable for transmission lines ranging from 69 kV to 765 kV
- **Load Capacity:** Designed to support heavy electrical conductors and withstand environmental loads such as wind and ice
- **Corrosion Protection:** Hot-dip galvanization for long-term durability
- **Standards Compliance:** Meets or exceeds IEC 60826, ASCE 10-15, and national standards
- **Applications:** Used in electrical grids for urban, rural, and cross-country transmission



Traffic Light and Sign Poles

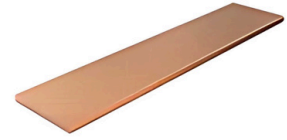
Traffic light and sign poles are designed to support traffic management systems and road signage, ensuring safety and efficient traffic flow. Key specifications include:

- Material: Galvanized steel or aluminum
- Height: Ranges from 3 meters to 12 meters
- Pole Shape: Round, octagonal, or conical
- Arm Type: Single-arm, double-arm, or customized configurations
- Finish: Hot-dip galvanized, powder-coated, or painted for corrosion protection
- Wind Resistance: Designed to withstand wind speeds up to 160 km/h or more
- Base Plate: Customizable base plate for different mounting requirements
- Standards Compliance: Meets or exceeds EN 40, ASTM A123, and relevant traffic safety standards
- Applications: Suitable for intersections, pedestrian crossings, highways, and urban roads



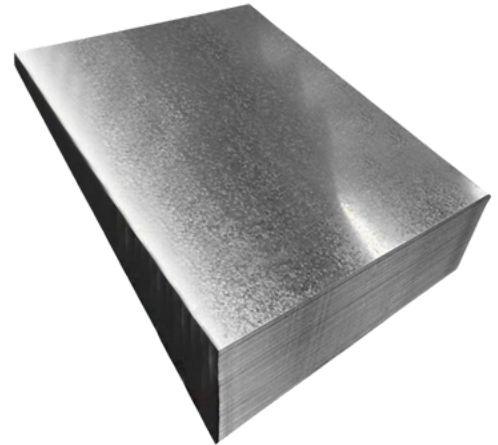
Copper

- Copper Tube (Thin Edge)
- Copper Tube (Thick Edge)
- Copper Tube Profile (Rectangle)
- Copper Tube Profile (Square)
- Copper Tube Profile (Trapezoid)
- Copper Tube (Ellipse)
- Copper Tube (Winged)
- Copper Tube (LWC)
- Copper Tube (Pancake)
- Copper Ground Rod
- Copper Rod (Round)
- Copper Rod (Hexagon)
- Copper Flat Wire
- Braided Copper Wire
- Copper Terminal (C)
- Copper Terminal (H)
- Copper Busbar
- Copper Busbar (Strip)
- Contact Wire
- Copper Plate
- Copper Ground Plate
- Zinc Plate
- Lead Plate
- Lead Plate Roll
- Copper Wire Rod



Steel Metal Sheet

- Hot Rolled Pickled and Oiled Steel
- Cold Rolled Steel
- Galvanized Steel
- Prepainted Steel



Polymer Plastic

- Polyamide 6 (PA 6)
- Copolymer (1)
- PBT/PET Compound (7)
- Polyamide 66 (PA 6.6)
- Polybutylene Terephthalate (PBT)
- Polyamide 610 (PA 6.10)
- Polyethylene Terephthalate (PET)
- Polyamide 612 (PA 6.12)
- Polyphthalamide (PPA)



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