Westinghouse Electrification

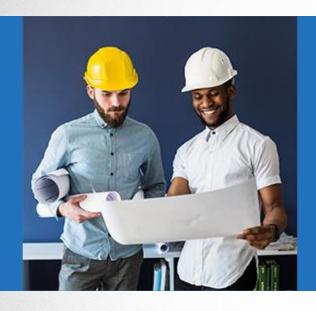


Portfolio Overview





Mission



Westinghouse LVMV Products mission is to lead the future of electrification by recognizing today's challenges and helping to solve them with customer in focus.

Business Units











Power Components

Innovative technologies for a safe and reliable electrical infrastructure:

- Air, molded case and miniature circuit breakers
- General purpose controls
- Load centers
- · Dry-type transformers
- Safety switches and disconnects

Power Equipment

Wing to wing electrical solutions to meet our customers' needs:

- Engineered or configured assemblies
- Low-Voltage Equipment: switchgear, panelboards, motor control centers and enclosures
- Medium-Voltage Equipment: switchgear, motor control centers and VCBs
- Power Delivery Equipment: power transformers, cast coil transformers, low- and medium-voltage busway

UPS/Rectifiers/ Gensets

End-to end portfolio of products and services to ensure reliable, efficient power:

- Large, medium and small power plants
- Uninterruptible Power Supplies (UPS)
- Automatic transfer switches (ATS), parallel switchgear, surge protection devices
- Rectifiers and front ends
- AC/DC power and DC/DC power

Industrial Services

Creating life cycle opportunities with services:

- · Power delivery services
- Parts repair and services
- Turnkey project management
- · Consultation services

Segments





Oil and Gas

Efficient, reliable system design to reduce unplanned downtime, advanced technology for employee protection, and dedicated ongoing resources.

Data Centers

Balancing safe power and reliability with the environmental impact for today's data-driven world. The right products and services for your 7 x 24 operations.

Mining

- Reliability. Safety. Performance excellence.
- System development, installation and maintenance for the mining industry for more than eight decades.

Industrial/ Commercial

Design and build safe, reliable and efficient electrical systems that distribute power for buildings and factories around the globe.

Health Care

Working with customers around the globe to implement emergency critical power systems to keep hospitals safely and reliably energized 7 x 24.

Power Components

Innovative technologies for a safe and reliable electrical infrastructure to protect where you live, work and play.







Power Components



















- Industrial Circuit Breakers
- □ ACB
- MCCB
- Modular
- MCB
- □ RCBO
- □ RCCB
- Isolator
- Controls
- Contactor
- Relay
- Indication Light
- Power Switching
- □ ATS
- Changeover
- Isolation switch



Industrial Circuit Breakers







- (CSG+CHG) series offering six frames covering from 600A to 6300A
- WHG series offering three frames covering from 600 to 6300A



Molded Case Circuit Breakers (MCCB)

- 16 to 1,600 amps
- · Short circuit ranges up to 100 kA
- Electronic and thermal magnetic trips

Modular









Mini Circuit Breakers (MCB)

- · Minature circuit breakers
- Ratings 0.5 to 125 amps
- · Short circuit rating 25 kA
- 18 mm modular width per pole
- Residential, commercial and industrial applications

Residual Current Devices (RCBO)

- · Residual control devices
- Ratings 16 to 100 amps
- People protection against electrocution 10 mA, 30 mA and 100 mA and above
- Mainly protection against the risk of an electrical fire

Energy Management

- Timers
- Switches
- Surge arrestors
- Measurement devices
- Re-connectivity devices

Utility Devices

Utility breakers for residential applications (ICP, ELCB)



Controls

Power switching











Power Devices – IEC

- Contactors
- Starters
- Relays
- · Manual motor starter
- · Overload relay

- Contactors
- Starters
- · Combination starters
- Pump panels
- Reduced voltage starter panels
- Bi-metallic and electronic overloads

Pilot Devices – IEC

- · Push buttons
- Pilot lights
- · Selector switches
- 30 mm and in 22 mm sizes

Power switching

- · Paralleling and Synchronized Switchgear
- Automatic Transfer Switches
- Changeover
- Isolation switch



Power Components Focus









- MEA Turkey Key Geographies
- · Middle East, Africa, Turkey and Pakistan

Growth

 UAE, Qatar, Egypt, NWA, Pakistan, KSA, Kuwait

- Core Product Lines
- ACB
- MCCB
- Modular MCB
- Control contactors
- Transformers
- Load centers

- Key Investment Platforms
- ACBs
- MCCBs
- Modular (MCB)
- Medium Voltage Systems
- Low Voltage Systems



•Providing advanced technologies that increase safety, reliability and protection for both people and equipment.



W Westinghouse

Power Equipment







Low-Voltage (LV) Equipment

- A complete line of IEC standard low-voltage equipment, including:
- Switchgear
- Switchboard
- Motor control center (MCC)
- Power panels
- Lighting panels
- Engineered equipment
- · Distribution equipment
- Enclosures

Medium-Voltage (MV) Equipment

- Solutions in primary and secondary distribution for users who require high reliability, ease of operation and safety as critical design elements for their systems.
- Switchgear
- Vacuum circuit breakers (VCBS)
- Ring main units (RMUS)
- Cubicle gas insulated switchgear
- · Motor control

Power Delivery Equipment

- Equipment to meet customers' power delivery needs:
- Power transformers
- · Pad-mounted transformers
- · Cast coils transformers
- · Busway medium voltage non-segerated
- · Busway low voltage and fire rated
- Equipment power centers (eHouse)
- · Strategic equipment products



Low-Voltage (LV) Equipment







Engineered Equipment

Alpha Plus IEC Switchgear

Up to 6,400 A for main distribution and MCC applications:

- Fully IEC 61439 compliant
- Arc-resistant design and advanced technical design to provide operational safety
- Documented licensed panel builder package

Distribution Equipment

Alpha Plus Distribution Panel IEC Panels

LV Distribution panels up to 1200 A, for commercial and industrial market segments.

- Easy to configure, assemble, wire and install
- Deliver equipped or in flat kits, to be assembled and wired by panel builder



Medium-Voltage (MV) Equipment







Air Insulated

Alpha Prime

- Designed with safety in mind, Alpha Prime meets IEC and GB standards and has metal clad primary compartments equipped with pressure relief flaps to guide gasses to the topside if an internal arc occurs.
- Busbar is fully insulated, and features inter unit bushing to prevent travel of an internal arch between sections
- Embedded poles in the VCB require no maintenance.
- 3.3 to 40.5 KV
- · 630A to 4000A
- 25kA to 50kA
- IAC AFLR 40kA/1Sec

Alpha Series RMU

- · Gas Insulated
- Ring power supplies improve system reliability. The ring main unit (RMU) serves the secondary distribution level up to 36 kV and is maintenance free.
- Rated for indoor or outdoor; modular and extendable.
- 1. Smaller Function unit 325mm
- Up to 24kV 1250Amps
- · Withstand up to 25kA
- SF6 Annual Leak less than 0.05%

Air Insulated RMU

- up to 24kV
- 800Amps
- Withstand up to 31.5kA
- Mechanism life 2000 Times



Power Delivery Equipment









Busway

Serves commercial, industrial and utility segments and complies with, IEC and GB standards.

 Alpha Series, new-generation fireresistant busway, features extensive fireresistant performance of up to 950°C for 180 minutes and IP68. Suitable for emergency generator circuit of high-rise commercial building and shipyard.

Transformers

Full range of power transformers designed for utility grid, industrial and commercial applications such as O&G, chemical, cement, mining, manufacturing plants, paper or steel mills, schools, hospitals and office buildings:

- Liquid-filled
- Ventilated dry-type
- Cast coil
- Padmounted

Equipment Packaging

When your equipment needs protection from the elements or an environmentally controlled atmosphere, we can help you find a solution.

 Westinghouse Power Equipment Centers feature a self-supporting base, floors designed for 250 psf loading, roof and walls designed to meet snow/ice loading and wind velocities specific to your region.

Uninterruptible Power Supplies (UPS)





UPS

Single Phase

Delivering reliable power in a compact package for smaller power applications such as IT networks and critical processes.

Three Phase

Providing clean, reliable and efficient power with battery backup for large power applications such as data centers, hospitals and critical operations.

