



*Intelligent Power Systems*

# Metal-Enclosed MV Switchgear



- **Metal-Enclosed Medium Voltage (MV) Switchgear provides protection, metering, switching, control and automation of MV electrical systems in commercial, industrial and utility installations**
- **Provides connectivity to primary distribution lines, feeders, motors, transformers, generators, filters and capacitor banks through cables and bus duct**
- **Application scope includes sophisticated transfer schemes, generator control, generator/utility paralleling, motor control, drive interface and load management**
- **Cells contain breakers, fuses, switches, and auxiliary equipment configured to meet applications and optimize space**
- **Offer insulated or non-insulated bus; fixed or draw out breakers**
- **Indoor or outdoor (protected aisle, walk in or self contained drop-in substation)**
- **Maximum bus ampacity: 2000A**
- **Manufactured per UL or ETL requirements, and applicable NEMA and ANSI standards**
- **Provide replacement/upgrade of existing equipment and fitting new gear to existing equipment capabilities**
- **Arc flash hazard minimization using maintenance settings, zone sequence interlock, bus differential protection and fiberoptic-based solutions**
- ***Vendor neutral; freedom to use best equipment for the application or to meet customer***
- ***Design/Build and Custom Switchgear Specialists***
- ***Protection, metering, control, automation and integration expertise***

**PowerSecure Metal-Enclosed Medium Voltage Switchgear has the following features:**

- The primary circuit components (breakers, fuses, switches, bus, instrument transformers, and control power transformers) are completely enclosed in grounded metal compartments.
- The breakers may be fixed or removable (draw out). If the breakers are draw out:
  - The mechanism allows movement between connected, test and disconnected positions.
  - The draw out mechanism is self-aligning and self-coupling with respect to the primary and secondary circuits. Automatic grounded metal shutters cover the primary circuit when the removable breaker is in the disconnected, test, or removed position.
  - A metal barrier in front of the breaker ensures when in the connected position no live parts are exposed by opening an enclosure door.
  - Mechanical interlocks are provided to maintain a proper and safe operating sequence and to ensure matching ampacities between the circuit breaker and cell.
- Primary bus and connections are not insulated (insulation optional).
- The enclosure door may be used to mount instruments, meters, protective relays, indicators and other secondary control devices and their associated wiring.

**Applicable Standards**

*ANSI: American National Standards Standard Institute*

- C37.010 Application Guide for AC High Voltage Circuit Breakers Rated on a Symmetrical Current Basis
- C37.04 Rating Structure for AC High Voltage Circuit Breakers
- C37.06 Preferred Ratings for AC High Voltage Circuit Breakers Rated on a Symmetrical Current Basis- Preferred Ratings
- C37.07 Factors for Reclosing Service
- C37.09 Test Procedure for AC High Voltage Circuit Breaker
- C37.11 Power Circuit Breaker Control
- C37.20.2 Metal-Clad and Station-Cubicle Switchgear
- C37.20.3 Metal-Enclosed Interrupter Switchgear
- C37.20.4 Indoor AC switches (1kV-38 kV) for Use in Metal-Enclosed Switchgear
- C37.21 Application Guide for Metal-Enclosed Switchgear
- C37.22 Preferred Ratings and Required Capabilities for Indoor AC Medium-Voltage Switches Used in Metal-Enclosed Switchgear
- C37.55 Conformance Testing of Metal-Clad Switchgear
- C37.57 Conformance Testing of Metal-Enclosed Interrupter Switchgear
- C37.58 Conformance Testing for Indoor AC Medium-Voltage Switches for Use in Metal-Enclosed Switchgear
- C37.100 Definitions for Power Switchgear

*NEMA: National Electrical Manufacturers Association*

- SG-4 Power Circuit Breakers
- SG-5 Power Switchgear Assemblies
- SG 6 Power Switching Equipment

Voltage/Max. Interrupting Amps	*Depth (in.)	*Width (in.)	*Height (in.)	Stacking
4.76kV – 63kA	96	36	95	1 or 2 High
8.25kV – 63kA	96	36	95	1 or 2 High
15kV – 63kA	96	36	95	1 or 2 High
27kV – 25kA	96/128	36/48	110*	1 or 2 High
38kV – 25kA	128	48	110*	1 High

\*Size dependent on CB manufacturer