SWITCHGEAR DIVISION PRODUCT PROFILES

Metal-Enclosed Load-Interrupter Switchgear

Description: Three-Phase, Group-Operated Load-Interrupter Switches with Fuses in Single and Multi-Bay Assemblies
Method of Operation: Manual, Automatic Source Transfer, SCADA Control, Shunt-Trip
Circuit Configurations: Per Specification
Applicable Standards: C37.20.3, C37.20.4, C37.57, C37.58 and C57.12.28
UL® Listing at 5kV and 15kV, 600 to 1200 amperes
Voltage Range: 5kV — 35kV
BIL: 60kV — 200kV
Ratings:
- 600 and 1200 ampere continuous 3-phase load-break switches
- Fusing to 1100 amps with current-limiting fuses
- Fusing to 720 amps with power fuses
- Switch 3-Phase
  - 40ka asymmetrical 3-time fault-closing
  - 61ka asymmetrical 1-time fault-closing
  - 61ka momentary at 38kV
  - 100 load-break operations at 600 amperes
- UL® Recognized — 600A, 1200A at 5kV and 15kV
- 1,000 mechanical operations
Optional Features:
- Key Interlocks
- Stainless Steel Enclosures
- Copper Bus
- Special Colors
- Metering Requirements
- Monitoring Requirements
- Vacuum Circuit Breakers
- Category A, B and C Enclosures
- Close-Coupled to Transformer
- Stainless Steel Switches
Users: Utility, Industrial, Military, Universities, Correctional, Hospitals, WWT Facilities

Unit Substation Primary Switchgear

Description: Three-Phase, Group-Operated Load-Interrupter Switches with Fuses in Single and Multi-Bay Assemblies in Combination with Dry-Type Transformers
Method of Operation: Manual, Automatic Source Transfer, SCADA Control, Shunt-Trip
Circuit Configurations: Per Specification
Applicable Standards: C37.20.3, C37.20.4, C37.57, C37.58 and C57.12.28
UL® Listing at 5kV and 15kV, 600 to 1200 amperes, 1,000 mechanical operations
Voltage Range: 5kV — 35kV
BIL: 60kV — 200kV
Transformers: Through 10MVA at 35kV to C57.12.51
Current Ratings:
- 600 and 1200 ampere continuous 3-phase load-break switches
- Fusing to 1100 amps with current-limiting fuses
- Fusing to 720 amps with power fuses
- Switch 3-Phase
  - 40ka asymmetrical 3-time fault-closing
  - 61ka asymmetrical 1-time fault-closing
  - 61ka momentary at 38kV
  - 100 load-break operations at 600 amperes
- UL® Recognized — 600A, 1200A, 5kV, 15kV
- 1,000 mechanical operations
Optional Features:
- Key Interlocks
- Stainless Steel Enclosures
- Copper Bus
- Special Colors
- Copper Core & Coil
- Stainless Steel Switches
- Metering Requirements
- Monitoring Requirements
- Vacuum Circuit Breakers
- Category A, B and C Enclosures
Users: Utility, Industrial, Military, Universities, Correctional, Hospitals, WWT Facilities
SWITCHGEAR DIVISION PRODUCT PROFILES

Air-Insulated Live-Front Pad-Mounted Switchgear — Type PSI/II

Description: Three-Phase, Group-Operated Load-Interrupter Switches and Single-Pole, Hookstick Operated Fuses with Bushing Wells for 200-Ampere Load-Break Elbows

Method of Operation: Manual, Automatic Source Transfer, SCADA Control, Shunt-Trip

Circuit Configurations: 25 one-line diagrams in 2, 4, 6 and 8 compartment designs

Applicable Standards: C37.74 and C57.12.28

Voltage Range: 15kV - 25kV (for 38kV consult factory)

Current Ratings: 600 and 1200 ampere continuous 3-phase load-break switches

Fusing to 200 amperes with current-limiting or power fuses

Switch 3-Phase

40ka asymmetrical 3-time fault-closing

61ka asymmetrical 1-time fault-closing

100 load-break operations at 600 amperes

UL® Listed — available to 600A at 15kV and 25kV

1000 mechanical operations

Optional Features: Key Interlocks, Surge Arresters, Base Spacers, Ground Studs, Stainless Steel Enclosure, Copper Bus, Stainless Steel Switches, Fuse Storage, Cable Supports, Inner Barrier Doors Special Colors, Moisture Barriers, Provisions for Fault Indicators, Heaters, Metering Transformers, 1200 Amp Switches, Designs Engineered to Customer Requirements

Users: Utility, Industrial, Military, Universities, Correctional, Hospitals, WWT Facilities

Air-Insulated Dead-Front Pad-Mounted Switchgear — Type PSE

Description: Three-Phase, Group-Operated Load-Interrupter Switches with Single-Pole, Hookstick Operated Fuses with Bushing Wells for 200-Ampere Load-Break Elbows

Method of Operation: Manual, Automatic Source Transfer, SCADA Control, Shunt-Trip

Circuit Configurations: 20 one-line diagrams in 2, 4 and 6 compartment designs

Applicable Standards: C37.74, C57.12.28 and ANSI 386

Voltage Range: 15kV — 25kV (for 38kV, contact factory)

Current Ratings: 600 ampere continuous 3-phase load-break switches

Fusing to 200 amperes with current-limiting or power fuses

Switch 3-Phase

40ka asymmetrical 3-time fault-closing

100 load-break operations at 600 amperes

UL® Listed — available to 600A at 15kV and 25kV

1000 mechanical operations

Optional Features: Key Interlocks, Base Spacers, Stainless Steel Enclosure, Copper Bus, Stainless Steel Switches, Fuse Storage, Cable Supports, Special Colors, Provisions for Fault Indicators, Heaters, Metering Transformers, 1200 Amp Switches, Designs Engineered to customer requirements

Users: Utility, Industrial, Military, Universities, Correctional, Hospitals, WWT Facilities
Air-Insulated Dead-Front Vacuum Interrupter Pad-Mounted Switchgear – Type PVE

Description: Three-Phase, Group-Operated Vacuum Interrupter and Three-Phase Group-Operated Vacuum Fault Interrupters.


Circuit Configurations: Multiple switching and protection arrangements in 2, 4 and 5 compartment designs.

Applicable Standards: C37.74, C57.12.28, C37.60, ANSI/IEEE-386

Voltage Range: 15kV and 25kV

Current Ratings:
- 600 amp continuous 3-phase load-break vacuum interrupters, with 1200 amp available at 15kV
- Three-time fault closing rating of 12,500 amps symmetrical / 20,000 amps asymmetrical.
- Rated for up to 10,000 load break operations at rated current.

- 600 amp continuous 3-phase vacuum fault interrupters, with 1200 amps available at 15kV
- Interrupting and fault close rating of up to 18,000 amps symmetrical / 28,800 amps asymmetrical at 15kV
- Interrupting and fault close rating of 12,500 amps symmetrical / 20,000 amps asymmetrical at 25kV.
- Compliant with fault interrupting duty specified in C37.60.

Standard Features:
- Visible Disconnect on each Vacuum Interrupter
- Vacuum Interrupters – 200 amp and 600 amp
- Resettable Vacuum Fault Interrupters – 200 amp and 600 amp
- Overcurrent Protection with Self-Powered Relay or SEL 501-2 Relay, on Vacuum Fault Interrupters
- Three-Phase Switching and Fault Protection Two-Way and Multi-Way Configurations
- External Manual or Motor Operators
- 200 Amp Bushing Wells
- 600 Amp Bushings
- Insulated Main Bus
- 11 Gauge Welded Steel Enclosure

Optional Features:
- 1200 amp rating available at 15kV.
- Motor operators for SCADA or automatic transfer.
- Provisions for Fault Indicators
- Stainless Steel Key Interlocks
- Base Spacers Copper Bus
- Special Colors 200 Amp Bushing Wells

Typical Users:
- Utilities, Industrial, Military, Universities, Correctional Hospitals, Water Plants
**SWITCHGEAR DIVISION PRODUCT PROFILES**

**Air-Insulated Live-Front / Dead-Front Pad-Mounted Switchgear — Type PLD**

**Description:** Three-Phase, Group-Operated Load-Interrupter Switches and Single-Pole, Hookstick Operated Fuses with Bushing Wells for 200-Ampere Load-Break Elbows

**Method of Operation:** Manual, Automatic Source Transfer, SCADA Control, Shunt-Trip

**Circuit Configurations:** A variety of one-line diagrams

**Applicable Standards:** C37.74, C57.12.28 and ANSI 386

**Voltage Range:** 15kV

**Current Ratings:**
- 600A and 1200A continuous 3-phase load-break switches
- 200 ampere continuous 1-phase load-break elbows

Switch 3-Phase
- 40ka asymmetrical 3-time fault closing
- 61ka asymmetrical 1-time fault closing
- 100 load-break operations at 600 amperes

UL® Recognized — 600A and 1200A 15kV switches
- 1000 mechanical operations

**Optional Features:** Key Interlocks
- Stainless Steel Enclosure
- Stainless Steel Switches
- Special Colors
- Copper Bus
- Fuse Storage
- Base Spacers
- Cable Supports
- Provisions for Fault Indicators
- Designs engineered to customer requirements

**Users:** Utility, Industrial, Military,
- Universities, Correctional

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**Pad-Mounted Capacitor Banks**

**Description:** Three-phase capacitor bank with or without controller
- Single-Pole vacuum interrupters for switching
- Current limiting fuses for fault protection

**Method of Operation:** Manual or with Controller for Automatic Operation

**Applicable Standards:** C57.12.28, ANSI 386, Capacitors Switches to C37.66

**Circuit Configurations:** Per customer specification

**Voltage Range:** 15kV and 25kV

**Current Ratings:**
- 200 ampere continuous; 12,000 amperes rms symmetrical fault interrupting

**BIL:** 95kV and 125kV

**Capacitors:**
- Size to 3600 kvar as specified by customer
- Voltage as specified by customer

**Switching Components:** Vacuum Capacitor Switch

**Protection Components:**
- Current-Limiting Fuses selected by customer
- Reactors for in-rush restraint

**Control Power:** Voltage transformer

**Optional Features:**
- Remote Control Kit
- Stainless Steel Enclosure
- Substation Mounting
- Surge Arresters
- Custom Relaying
- Integral Load Interupters with Emergency Switching to 800 kvar
- Designs engineered to customer requirements

**Users:** Industrial, Government, Utility
Fused Tap Dead-Front Pad-Mounted Switchgear — Type FTDF

Description: Single-Phase and Three-Phase Fused Taps with and without Integral Single-Pole Load-Interrupters Combined with 200-Ampere Bushing Wells

Method of Operation: Manual, Single-Pole

Circuit Configurations: 8 Standard one-line diagrams and 8 designs

Applicable Standards: C37.74, C57.12.28 and ANSI 386

Voltage Range: 15kV — 25kV

Current Ratings: 200 and 600 ampere continuous with 200-ampere, Single-phase integral load-break interrupters for switching with fuses 200 ampere continuous 1-phase load-break elbows Fusing to 200 amperes with current-limiting or power fuses

Optional Features: Key Interlocks Stainless Steel Enclosure Special Colors Copper Bus Mimic Bus Dead-front access to fuses

Users: Utility, Military, Universities, Correctional
SWITCHGEAR DIVISION PRODUCT PROFILES

Primary Metering — Type PMDF Dead-Front and Type PMLF Live-Front

Description: Three-Phase Primary Metering Compartments
Method of Operation: Type PMDF Accommodates Single-Pole Switching with Elbows
Type PMLF Accommodates Conventional, Stress-Cone Terminators
Circuit Configurations: Per Specifications
Applicable Standards: C37.74, C57.12.28 and ANSI 386
Voltage Range: 15kV — 25kV
Current Ratings: 200 ampere continuous 1-phase load-break elbows
Optional Features: Stainless Steel Enclosure
Copper Bus
Special Colors
200 Ampere Bushing Wells
600 Ampere Bushings
Mimic Bus
Indoor and Outdoor
Metering Transformers
Designs engineered to customer requirements
Users: Utility, Military, Universities, Correctional

Wall-Mounted Fuses

Description: Single-Phase and Three-Phase Fused Taps with and without Integral Single-Pole Load-Interrupters in a Wall-Mounted Enclosure
Method of Operation: Manual, Single-Pole
Circuit Configurations: Two Standard One-Line Diagrams and Custom Designs
Applicable Standards: C37.74, C57.12.28 and ANSI 386
Voltage Range: 15kV — 25kV
Current Ratings: 200 ampere continuous 1-phase load-break elbows
Fusing to 200 amperes with current-limiting or power fuses
Optional Features: Stainless Steel Enclosure Special Colors
200 Ampere Bushing Wells Knockouts for conduit
Users: Utility, Military, Universities, Correctional

Wall-Mounted Switches

Description: Three-Phase, Group-Operated Load-Interrupter Switches in a Wall-Mounted Enclosure
Method of Operation: Manual, Automatic Source Transfer, SCADA Control, Shunt-Trip
Circuit Configurations: One Standard One-Line Diagram and Custom Designs
Applicable Standards: C37.74, C57.12.28 and ANSI 386
Voltage Range: 5kV — 25kV
Current Ratings: 600 Amperes Accommodates 600 Ampere Elbows
200 Amperes Accommodates 200 Ampere Load-break Elbows
Switch 3-Phase
40ka asymmetrical 3-time fault-closing
61ka asymmetrical 1-time fault closing
100 load-break operations at 600 amperes
UL Recognized — 600A, 1200A, 5kV, 15kV
1000 mechanical operations
Optional Features: Key Interlocks 600 Ampere Bushings
Special Colors 200 Ampere Bushing Wells
Stainless Steel Enclosure Copper Bus
Stainless Steel Switches Motor Operators
Remote Control
Users: Utility, Military, Universities, Correctional
SWITCHGEAR DIVISION PRODUCT PROFILES

Substations

Description: Three-phase portable substations for temporary, permanent or emergency power distribution application requirements integrating high-voltage, transformer and low-voltage sections

Method of Operation: Manual, Automatic Source Transfer, SCADA Control, Shunt-Trip

Circuit Configurations: Engineered to customer requirements as a turn-key design

Applicable Standards: C37.74, C37.20.3, C37.20.4, C37.57 and C37.58

Voltage Range: 4.16kV through 138kV high-voltage sections
120v, 240, 480, 600v secondary sections

Current Ratings: 600 amperes and 1200 amperes

BIL: Based on system voltage requirements

Transformers: Dry-type through 10MVA at 38kV,

Liquid-filled as customer specified

Switching Components: Load-break Switches, Vacuum Circuit Breakers

Protection Components: Fuses, Vacuum Circuit Breakers

Optional Features: Skid Mounted Metering Requirements
Trailer Mounted Monitoring Requirements
Caterpillar Treads Relaying Requirements
Rail Wheels Customer Specific Requirements

Users: Utility, Industrial, Military,
Correctional Facilities, WWT Facilities, Universities

Distribution Vacuum Fault Interrupter

Description: Three-phase vacuum fault interrupters for automatic reclosing on circuits to establish that fault is not permanent

Method of Operation: Automatic tripping of vacuum circuit breakers

Circuit Configurations: Per customer specification

Applicable Standards: C37.60

Voltage Range: 15kV — 25kV

Current Ratings: 600 and 1200 amperes continuous; 12,000 amperes rms symmetrical fault interrupting.

Also available: 15kV 1000A Continuous
20kA Interrupting
27kV 800A Continuous
16kA Interrupting

BIL: 95kV to 125kV

Transformers: Voltage Transformer for Control Power

Switching Components: Vacuum Circuit Breakers

Protection Components: Vacuum Circuit Breakers

Optional Features: Various Trip Settings Remote Control Kit
Pad-Mounted Stainless Steel Enclosure
Substation Mounting Surge Arresters
Visible Disconnect

Users: Industrial, Government, Utility
Switchgear Components

Description: Load-break interrupter switches; Fuse mountings; Insulators; Bushings and bushing wells; Micro-processor controls; Motor operators, Vacuum circuit breakers, etc.

Method of Operation: Manual, Automatic Source Transfer, SCADA Control
Circuit Configurations: Customer Specified
Applicable Standards: C37.57, C37.58, C37.20.3; ANSI 386
Voltage Range: 4.16kV — 38kV
Current Ratings: 200, 600 and 1200 amperes
BIL: 60kV through 200kV
Switching Components: Auto-jet® II Load-Interrupter Switches, Vacuum Load-Break Switches, Vacuum Circuit Breakers
Protection Components: Vacuum Circuit Breakers, Current-Limiting Fuses, Power Fuses
Optional Features: Per specification requirements
Users: Original Equipment Manufacturers