Larson Electronics LLC
9419 E US HWY 175, Kemp, TX 75143
Phone: 800.369.6671

www.LarsonElectronics.com
Email: sales@LarsonElectronics.com
Fax: 903.765.7664

MPD-MCS-VCB-3P3W-18-38KV-4000A-BE-FM-MET-CU-N3R-SAR-M1

Metal Clad Switchgear, 4000 Amp, 38 KV AC, 3-Pole 3-Wire, 1 IN 8 OUT, Floor Mount, Bottom Entry, Copper Bus, NEMA 3R, W/ Surge Arresters

Product ID: 325634

Please see last page for supporting documentation for this product (certificates, CAD files & drawings, IES files, wiring diagrams, etc).



Image: MPD-MCS-VCB-3P3W-18-38KV-4000A-BE-FM-MET-CU-N3R-SAR-M1

Larson Electronics LLC manufactures a wide variety of products, including custom built to spec designs. The pictures displayed for this unit are a general representation of form factor for the product line and may not accurately represent this exact configuration in every detail due to custom builds and changes between similar products in our standard catalog. The specifics for this configuration are listed in the specification table and supporting documentation (CAD files, Dimensional Drawing, Name Plate Diagram, Wiring Diagram, etc.). This means that specific details (receptacles, plugs, wires, connections, mounting brackets, external finishes, etc.) may not be accurately represented in images vs specifications. Please review specifications and do not order based solely on images.

MPD-MCS-VCB-3P3W-18-38KV-4000A-BE-FM-MET-CU-N3R-SAR-M1 Metal Clad Switchgear - Vacuum Circuit Breaker

Unit Type: Metal Clad Switchgear - Vacuum Circuit Breaker
Line-In Connections: Terminal Lugs, Accepts 750MCM-1/0
Line-In Orientation: Bottom Feed
Nominal Voltage: 34.5 kV AC, 3 Phase
Maximum Voltage: 38 kV AC, 3 Phase
BIL: 150 KV
Phase/Wire: 3-Phase, 3-Wire
Protection Method: Vacuum Circuit Breaker
Protection Type: Manual Switching
Protection Fuses: N/A
Protection Ampacity: 4000A
Mains Rating (Amps): 4000A
Short-Circuit Rating:: 40 kA
Closing & Latching Current: 104 kA

Ratings

NRTL Listed Service Equipment
NRTL Listed to UL 891 Dead Front Switchboards
NEMA 3R Rated for Indoor/Outdoor Use
Made in the USA

Circuit Breakers Specifications

Type: Vacuum interrupter, three-pole, drawout, electrically operated
Trip Speed: Within 3 cycles of trip initiation

Transient Recovery Voltage: ≤ 2 × rated line-to-ground voltage for X/R ≤ 17
Auxiliary Contacts: (6) Type A + (6) Type B (with MOC assembly)
Interchangeability: Fully interchangeable within same rating class
Control Power: 125 VDC (closing & tripping)
Rated Dielectric Strength: 36 kV rms (low freq), 95 kV crest (impulse)
Rated Permissible Tripping Delay: 2 sec
Endurance: Per IEEE C37.06

Protective Relays & Instrumentation

Bus Differential Protection: SEL 587Z, wired to LOR
Feeder Relays: SEL 751
Main & Tie Relays: SEL 751
Annunciator: SEL-3350 RTAC
Current Transformers: Bushing type, 5 A sec, multi-ratio, with shorting device
Potential Transformers: 120 V sec, disconnecting type with fuse

Battery & Charger

Battery Type: 125 V lead calcium, 20 units, 3 cells/unit
Capacity: 150 Ah (8-hour rate)
Discharge: 220 A for 1 min to 1.75 V/cell at 77°F
Rack: Seismic compliant, acid-resistant paint
Charger: Microprocessor-controlled rectifier, 25 A min, alarms, ground detection, equalize timer, LED local alarms

Battery Room

Ventilation: Forced, with hydrogen monitoring (audible alarms)
Detectors: Smoke and hydrogen (NFPA 70/72 compliant)
Clearances:: ≥ 4 in from walls/equipment
Accessories: Eyewash/face wash station, self-contained 14-gallon

Control Wiring

Size: Factory installed, bundled, Type SIS insulation, #14 AWG CU for control wiring, #10 AWG CU for CT circuits
Terminal Blocks: 30 A, 600 V rated, shorting type for CTs, with 20% spare capacity
Marshalling Cabinet: Bottom conduit entry, 20% spare terminals

Fire Protection

System: NFPA 72 compliant, 2 smoke detectors, 2 pull stations, annunciation to RTAC
Marking: Red conduit/covers per code

Bus System

Main Bus: Copper, silver-plated, insulated full length, epoxy coating
Bus Ampacity: 4000 A continuous
Bus Insulators: Cycloaliphatic epoxy in glass polyester
Ground Bus:: Copper bar (¼" × 2"), silver plated, 4/0–500 kcmil lugs, provisions for operational grounding

Instrument Transformers

Potential Transformers: 120 V sec, class 0.3 accuracy, burdens W, X, Y
Current Transformers: Precision accuracy for revenue metering, relay and meter compatible

Indicating & Control Devices

Breaker Position Lamps: Red (closed), Green (open), White (relay trip), Amber (charged), Blue (source alive), White (bus alive per phase)

Control Switches: Rotary, heavy duty, with spare contacts and LED nameplates

Lockout Relays: Electroswitch LOR, high-speed, multi-contact, 125 VDC

Test Switches: ABB Type FT-1 or FT-19, 10-pole potential, 6 current & 4 potential

Meters & Monitoring

Main/Feeder/Tie Meters: Electro-Industries Shark 250, cyber secure, multifunction, Ethernet & RS485

Satellite Synchronized Clock: Arbiter, rack mount, LED display, multiple outputs

Surge Arresters

Type: MOV, distribution class (NEMA LA 1 compliant)

Rating: 27 kV, 22 kV MCOV

Connections: 2/0 AWG CU, 38 kV insulated cable, to ground bus and breaker terminals

Cable Termination

Main: 10 sets × 1000 kcmil CU

Feeders/Ties: 6 sets × 750 kcmil CU/Al lugs

Supports: Withstand full short-circuit stresses

Space Heaters: Included, 120V

Incomers: (1) Vacuum Circuit Breaker, 4000A, 38 kV

Outgoings: (2) Vacuum Circuit Breaker, 2000A, 38 kV, (6) Vacuum Circuit Breaker, 1200A, 38 kV

Metering Current & Potential Transformer (CT/PT): Included Mount and Termination CT/PT

Line-Out Connection: Terminal Lugs, Accepts 750MCM-1/0

Line-Out Orientation: Bottom Feed

Operating Temperature: –40°C to +50°C

Load Factor: Continuous, high load factor

Altitude: ≤ 3,300 ft

Seismic: BIEEE 693, Annex M (moderate level)

Form Factor: Rectangular, Slim-profile Enclosure w/ Lockable Door

Panel Configuration: 1 x Incoming panel, 8 x Outgoing panels

Housing Type: Compartmental Air-Filled Cabinet, (1) Front Left Hinged Door w/ Pad Lockable Handle and (1) Rear Right Hinged Door w/ Pad Lockable Handle, Fuse Door and Switch handle are Kirk Key Interlocked

Enclosure Material: Coated Steel

Enclosure Finish: Munsell™ 5BG 7.0/0.4 Light Grey (ANSI #70)

Enclosure Type: NEMA 3R, walk-in, self-contained, weatherproof, with integral base frame Aisle: Walk-in with lighting, outlets, smoke detectors, exit lights

Total Dimensions: 340 in W x 96 in D x 90.25 in H (estimated)

Weight: 26,500 lbs (estimated)

Shipping Dimensions: -

Shipping Weight: -

Larson Electronics manufactures a wide variety of custom power distribution systems. The pictures displayed for this unit are a general representation of form factor and may not accurately represent this exact configuration in every detail due to being custom builds. The specifics for this configuration are listed in the specification table and one-line diagram.

Special Orders - Special Requirements

Contact us for special requirements

Toll Free: 1-800-369-6671
Intl: 1-903-270-1187
Fax: 1-903-765-7664
E-mail: sales@larsonelectronics.com

All grounding shall comply with state and local codes and meet the minimum requirements of the National Electronic Code section 250

Made in the USA

The Larson Electronics MPD-MCS-VCB-3P3W-18-38KV-4000A-BE-FM-MET-CU-N3R-SAR-M1 Metal Clad Switchgear is designed for reliable, safe and convenient power distribution at industrial work sites. This switchgear includes one vacuum circuit breaker with a 4000-amp rating. Designed for floor mounting installations. This bottom feed switchgear is protected by a NEMA 3R rated, steel enclosure with a ventilated design.

PLEASE NOTE: ANY FREE SHIPPING OFFERS DO NOT APPLY TO POWER DISTRIBUTION PANELS, TRANSFORMERS, OR SUBSTATIONS

The **MPD-MCS-VCB-3P3W-18-38KV-4000A-BE-FM-MET-CU-N3R-SAR-M1** service entrance switchgear provides a safe and reliable way for operators in industrial settings to tap into and utilize power sources independently of the work area. Compatible with 38 KV AC, the switchgear features a manual operating handle. This bottom feed disconnect carries a 40 kA at 38 KV AC interrupt rating. The switchgear comes with and accepts a 4000-amp vacuum circuit breaker.

Operation: The switchgear features a front control panel and rear termination equipped with a locking door. The door provides access to a permanently attached operating handle, which is used for manually disconnecting or connecting power and busbars (at rear). A dead front cover protects operators from the vacuum breakers for safety.

Time Delay vs. Fast Acting Fuses Two of the most common types of fuses found in power distribution equipment are time delay and fast acting fuses.

> **Time Delay:** Time delay fuses are tripped once overcurrent heat builds up enough to melt the fuse element over a period of time. That period of time varies between different time delay fuses depending on the application. Time delay fuses decrease the chances of false tripping. During startup, many components require a large current for a very short amount of time. In other words, a time delay fuse disconnects the circuit only when the overcurrent persists in the line.
>
> **Fast Acting:** Fast acting fuses are tripped immediately upon sensing an overcurrent or short circuit in the line. They are ideal for electronics, components, or systems that cannot withstand sudden changes in current. A fast acting fuse will not withstand a temporary overload such as one that occurs during the startup process.

Enclosure Design: The switchgear is protected by a steel enclosure with ANSI grey finish. A ventilated design promotes natural cooling and improves performance. The enclosure is NEMA 3R rated for protection against water, moisture and debris. This rating allows the fused disconnect to be used in indoor areas.

Certification: This switchgear is NRTL listed to UL 891 dead front switchboards and NRTL listed for service equipment.

Mount: Operators can mount the service entrance disconnect on floors and flat surfaces.

Customization: The **MPD-MCS-VCB-3P3W-18-38KV-4000A-BE-FM-MET-CU-N3R-SAR-M1** can be customized to meet specific operating and power requirements. Example of customizations include:

• Making the fused disconnect portable and certified to NRTL UL 1640 for portable equipment

- Adding single pole camlock connectors for quick connections
- Adding heaters for cold environments
- Aiding alarm relays for trip notification downstream
- Adding power meters

Applications: This switchgear is suitable for indoor and outdoor use and applications including, but not limited to, solar equipment, construction sites, plant maintenance, plant turnarounds, hazardous location operations, shows, exhibits, and shipyard operations.

At Larson Electronics, we do more than meet your lighting needs. We also provide replacement, retrofit, and upgrade parts as well as industrial grade power accessories. Our craftsmen can custom build any lighting system and/or accessories to fit the unique demands of your operation. A commitment to honesty, quality, and dependability has made Larson Electronics a leader in the lighting and electronics business since 1973. Contact us today at 800-369-6671 or message sales@larsonelectronics.com for more information about our custom options tailored to meet your specific industry needs.

Larson Electronics LLC
9419 E US HWY 175, Kemp, TX 75143
Phone: 800.369.6671

www.LarsonElectronics.com
Email: sales@LarsonElectronics.com
Fax: 903.765.7664

Frequently Asked Questions (FAQ)

There are no Faqs

Larson Electronics LLC
9419 E US HWY 175, Kemp, TX 75143
Phone: 800.369.6671

www.LarsonElectronics.com
Email: sales@LarsonElectronics.com
Fax: 903.765.7664



Image: MPD-MCS-VCB-3P3W-18-38KV-4000A-BE-FM-MET-CU-N3R-SAR-M1

Larson Electronics LLC
9419 E US HWY 175, Kemp, TX 75143
Phone: 800.369.6671

www.LarsonElectronics.com
Email: sales@LarsonElectronics.com
Fax: 903.765.7664

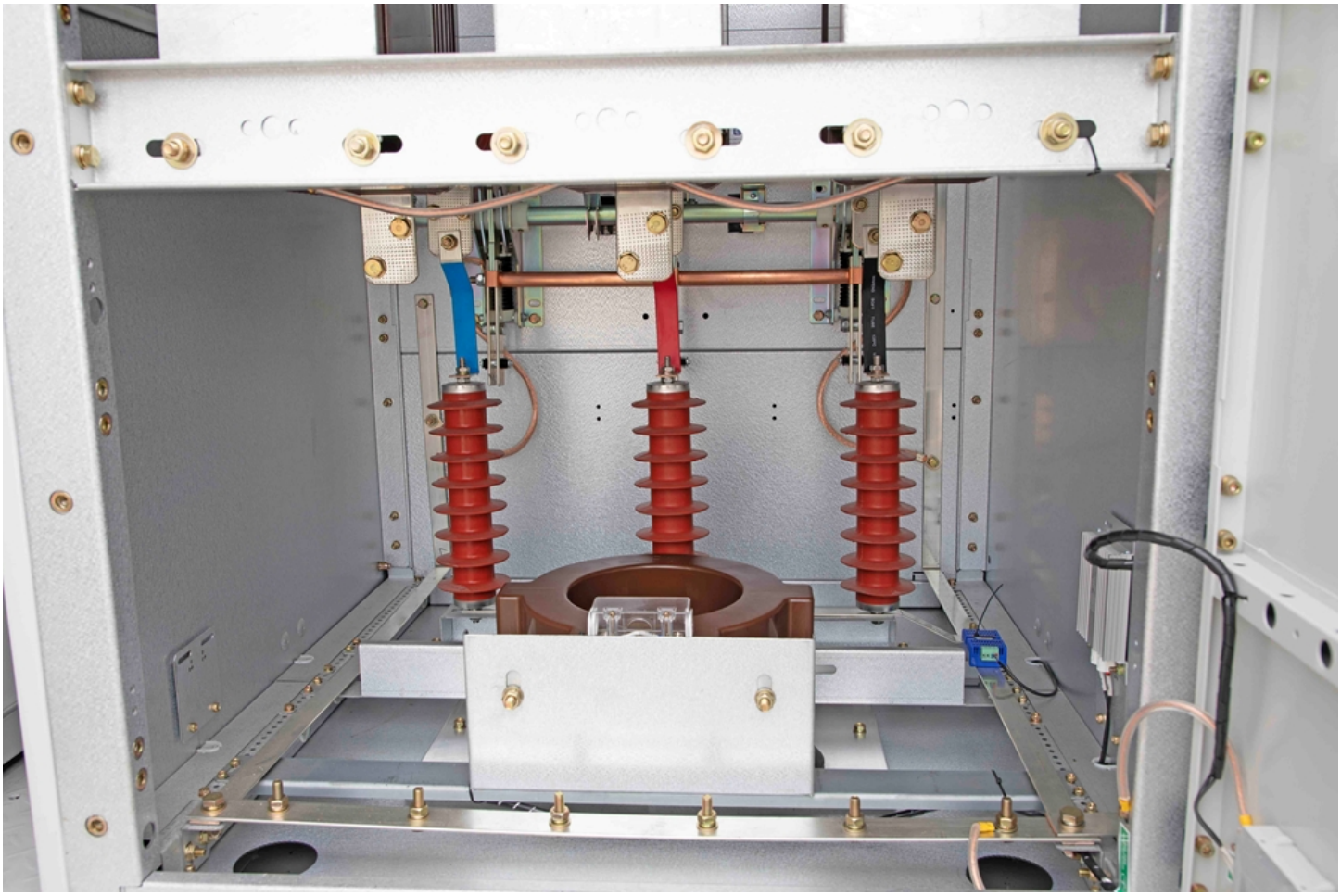


Image: MPD-MCS-VCB-3P3W-18-38KV-4000A-BE-FM-MET-CU-N3R-SAR-M1

Larson Electronics LLC
9419 E US HWY 175, Kemp, TX 75143
Phone: 800.369.6671

www.LarsonElectronics.com
Email: sales@LarsonElectronics.com
Fax: 903.765.7664



Image: MPD-MCS-VCB-3P3W-18-38KV-4000A-BE-FM-MET-CU-N3R-SAR-M1

Larson Electronics LLC
9419 E US HWY 175, Kemp, TX 75143
Phone: 800.369.6671

www.LarsonElectronics.com
Email: sales@LarsonElectronics.com
Fax: 903.765.7664



Image: MPD-MCS-VCB-3P3W-18-38KV-4000A-BE-FM-MET-CU-N3R-SAR-M1

Export Control Classification Number (ECCN): EAR99

Larson Electronics LLC
9419 E US HWY 175, Kemp, TX 75143
Phone: 800.369.6671

www.LarsonElectronics.com
Email: sales@LarsonElectronics.com
Fax: 903.765.7664

Links (Click on the below items to view):

- **HigResPic1**(https://www.larsonelectronics.com/images/product/HigResPic1/325634.JPG)
- **HigResPic2**(https://www.larsonelectronics.com/images/product/HigResPic2/325634.JPG)
- **HigResPic3**(https://www.larsonelectronics.com/images/product/HigResPic3/325634.JPG)
- **HigResPic4**(https://www.larsonelectronics.com/images/product/HigResPic4/325634.JPG)
- **HigResPic5**(https://www.larsonelectronics.com/images/product/HigResPic5/325634.JPG)
- **HigResPic6**(https://www.larsonelectronics.com/images/product/HigResPic6/325634.JPG)
- **HigResPic7**(https://www.larsonelectronics.com/images/product/HigResPic7/325634.JPG)
- **HigResPic8**(https://www.larsonelectronics.com/images/product/HigResPic8/325634.JPG)
- **HigResPic9**(https://www.larsonelectronics.com/images/product/HigResPic9/325634.JPG)
- **HigResPic10**(https://www.larsonelectronics.com/images/product/HigResPic10/325634.JPG)
- **ISO 9001 Certification**(http://larsonelectronics.com/images/pdfdocs/ISO9001.PDF)
- **Business Certificate**(https://www.larsonelectronics.com/images/pdfdocs/w9.PDF)
- **Shipping Time Map**(https://www.larsonelectronics.com/images/product/ShippingTimeMap/ShippingTimeMap.pdf)