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MPD-MCS-VCB-3P4W-13-27KV-2000A-BE-FM-MET-CU-N4X-SAR-GIS-M1

Metal Clad Switchgear, Gas Insulated (SF6), 2000 Amp, 27 KV AC, 3-Pole 4-Wire, 1 IN 3 OUT, Floor Mount, Bottom Entry, Copper Bus, NEMA 4X

Product ID: 337653

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



Image: MPD-MCS-VCB-3P4W-13-27KV-2000A-BE-FM-MET-CU-N4X-SAR-GIS-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-3P4W-13-27KV-2000A-BE-FM-MET-CU-N4X-SAR-GIS-M1 Metal Clad Switchgear - Vacuum Disconnect Switch

Unit Type: Metal Clad Switchgear - Vacuum Disconnect Switch
Line-In Connections: Terminal Lugs
Line-In Orientation: Bottom Feed
Configuration: Live Front
Frequency: 60 Hz
Rated Voltage: 27 KV AC, 3 Phase
Maximum Operated Voltage: 27 KV AC, 3 Phase
Rated Power Frequency Withstand Voltage: 60 KV, 1 min.
Rated Voltage BIL: 125 KV
Current: Alternate 3 Phase Current
Protection Method: N/A
Fuse Max. Rating: N/A
Fuse Holder Rating: N/A
Spare Fuses: N/A
Main Bus Continuous Current Rating: 2000 A
Rated Short-time Withstand Current, Bus: 40 kA
Rated Short-time Withstand Current, Circuit Breakers: 40 kA
Rated Peak Withstand Current: 104 kA
Cubicle Lighting: Internal LED type.

Ratings

NRTL Listed Service Equipment
Complies with IEEE Std C37.66
Complies with IEEE Std C37.06
Complies with IEEE Std C37.04
Complies with IEEE Std C37.09
Complies with IEEE Std 18
Complies with IEEE Std C37.12
Complies with IEEE Std C37.20.2
Complies with IEEE Std C37.20.3
NEMA 4X Rated for Indoor/Outdoor Use

Made in the USA

Front Compartment Doors: Steel hinged, padlocking and view window provisions, arc fault withstand capability per IEEE Std. C37.20.7, single handle, interlock to prevent racking with door open or unlatched, viewing window on load-breaking device cubicles.
Rear Compartment Doors: Steel hinged, padlocking provisions, arc fault withstand capability per IEEE Std. C37.20.7 Type 2, single handle, interlock to prevent opening unless the removable element is disconnected.
Instrument Compartment Doors: Comply with IEEE Std. C37.20.7 testing.
Ventilation: Louvers with filters (MERV 11, removable), roof ventilation to prevent animal and insect access.
Arc Fault Withstand: Design to IEEE standard to withstand arcing fault, prevent material entrapment in louvers.
Assembly and Interconnection: Coordinated by seller, assembled prior to shipment, complete shipment.
Cable Termination: Depth sufficient for cable entrance, individual units for bottom entrance
Safety Interlocks and Barriers: To prevent personnel exposure to energized bus
Incomers: (1) 2000A Main Incoming Panel
GIS Panel, 27kV, 2000A, 40kA 33.07", single busbar
Vacuum Circuit Breaker, 27kV, 2000A, 40kA
Motor-operated mechanism, 125VDC Charging Motor + Dual Shunt Trips + Close Coil
3-Position disconnector with grounding function
Heat sink for breaker compartment
Set of Surge Arresters Ur=27kV, MCOV=22kV ABB Polim-D
Interface: Inner cone size 3, each phase is equipped with integrated sockets to accommodate four (4) cables per phase, cable size 1000 kcmil.
Set of Current Transformers (CT), ABB block-type CT, Located in SF6 compartment, Ratio: 2000:5 A / 2000:5 A / 2000:5 A, Core 1 (metering): class 0.2S, 30 VA (revenue metering), Core 2 (protection): class 5P20, 30 VA (REF620 main protection), Core 3 (protection): class 5P20, 30 VA (backup/differential), 3 phases × 1 set = 3 CTs
Set of Voltage Transformers, ABB plug-in VT, Located outside SF6 compartment, removable for testing, Ratio: 16800:120 V (single-phase, line-to-ground), Class 0.2 / 3P, 50 VA dual-core, 1 panel × 3 phases = 3 VTs
Protection and control relay ABB Relion REF620 v.2.x, configurable feeder protection.
Functions: 50/51, 50N/51N, 67, 67N, 27/59, 49, 79, 81, breaker control & monitoring
Communication: IEC 61850 ed.2 + IEC 60870-5-103 + Modbus + DNP3.0
Communication: 2× LC fiber optic ports (rear)
Local HMI with LCD display on panel door
Auxiliary supply: 110 VDC
Capacitive voltage indicator
Plenum with absorber for arc fault gas discharge to atmosphere
LV compartment - prewired.
Set of foundation frames
End covers
Outgoings: (3) 1200A Outgoing Feeder Panels
GIS Panel, 27kV, 1200A, 40kA 33.07"', single busbar
Vacuum Circuit Breaker, 27kV, 1200A, 40kA
Motor-operated mechanism, 125VDC Charging Motor + Dual Shunt Trips + Close Coil
3-Position disconnector with grounding function
Set of Surge Arresters Ur=27kV, MCOV=22kV ABB Polim-D
Interface: Inner cone size 3, each phase shall be equipped with integrated sockets to accommodate two (2) aluminum cables per phase, cable size 500 kcmil
Set of Current Transformers (CT), ABB block-type CT, Located in SF6 compartment, Ratio: 800:5 A / 800:5 A, Core 1 (metering): class 0.5, 15 VA, Core 2 (protection): class 5P20, 15 VA (REF620), 3 phases = 3 CTs, 3 phases × 1 set = 3 CTs
Set of Voltage Transformers ABB plug-in VT, Located outside SF6 compartment, removable for testing, Ratio: 16800:120 V (single-phase, line-to-ground) Class 0.2 / 3P, 50 VA dual-core, 1 panel × 3 phases = 3 VTs
Protection and control relay ABB Relion REF620 v.2.x, configurable feeder protection.
Functions: 50/51, 50N/51N, 67, 67N, 27/59, 49, 79, 81, breaker control & monitoring

Communication: IEC 61850 ed.2 + IEC 60870-5-103 + Modbus + DNP3.0 C
Communication: 2× LC fiber optic ports (rear)
Local HMI with LCD display on panel door
Auxiliary supply: 110 VDC
Capacitive voltage indicator
LV compartment - prewired
Set of foundation frames
End covers
Bus Incomer Bays: 2 bus sections, each with integrated control, protection, and communication interface
Auxiliary Transformers: Included, For substation power supply, with integrated control, protection, and communication interface
Auxiliary Power Supply: Included, 120V DC
Distribution Panel: Included, 125VDC, Includes:
Enclosure
Main MCB 50A
(21) Output MCBs 15A
Busbar
Internal wiring
Industrial Rectifier/Charger: Included, 125 VDC, 50 A, Input 240 VAC, output 125 VDC regulated, Float/equalize automatic, alarm contacts, LCD HMI
Battery Bank: Included, 120VDC: Cabinet, 10x12V battery maintenance free VRLA, capacity 100Ah
Industrial Ethernet Switch: Included, ABB AFS675, Min 8× 100Base-FX (LC fiber) + 2× RJ45 uplink, redundant 24/48 VDC power, DIN rail mounting in e-house control cabinet
SCADA Gateway: Included, ABB COM600, Protocol conversion: IEC 61850 ↔ DNP3.0/Modbus TCP/IEC 60870-5-104, Web HMI, alarm/event log, trends, redundant
Cable Connectors: Included, (12) Set of cable connectors for inner cone size 3, cable 1000 kcmil, (36) Set of cable connectors for inner cone size 3, cable aluminim 500 kcmil
Bus Section Bays: Equipped with integrated control, protection, and communication interface
Earthing System: Complete earthing with protection system included
Metering: Smart meters provided on all feeders with IED (Intelligent Electronic Device) interface
UPS System: Uninterruptible Power Supply provided for control and protection systems
Primary Voltage Bus: Copper bar, silver-plated connections, insulated, flame retardant, track resistant, supported by insulators, bolted joints, A-B-C orientation
Grounding: Ground bus, facilities, and connections per ANSI C37.20
Control and Secondary Wiring: AWG No. 14, 12, 10 CU stranded, 600 V
Cubicle Heaters: Electric, thermally insulated, guarded, 240 Vac/120 Vac, as required watts, control switch, ammeter.
Disconnect Means: Manual via Handle
Metering Current & Potential Transformer (CT/PT): Included Mount and Termination CT/PT
Line-Out Connection: Terminal Lugs
Line-Out Orientation: Bottom Feed
Insulation Medium: Gas Insulated (GIS) [SF6]
Ambient Air Temperature Range: 23-104°F
Ambient Air Temperature, Max. 24 hr Average: 95°F
Form Factor: Rectangular, Slim-profile Enclosure w/ Lockable Door
Panel Configuration: 1 Incoming panel, 6 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: ASTM A36 structural steel (I-beams/C-channels) protected with C5-M marine grade corrosion-resistant epoxy coating
Enclosure Finish: Buckey Tan
Enclosure Type: NEMA 4X Ventilated

Special Orders - Special Requirements

Mounting: Pad Mounted
Dimensions: 73.03" x 73.03" x 96.46"
Weight: 1800 lbs
Shipping Dimensions: TBD
Shipping Weight: TBD
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.

Contact us for special requirements
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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-3P4W-13-27KV-2000A-BE-FM-MET-CU-N4X-SAR-GIS-M1 Metal Clad Switchgear is designed for reliable, safe and convenient power distribution at industrial work sites. This switchgear includes one disconnect switch rated at 2000-amp rated. Designed for floor mounting installations. This bottom feed switchgear is protected by a NEMA 4X 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-3P4W-13-27KV-2000A-BE-FM-MET-CU-N4X-SAR-GIS-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 27 KV AC, the switchgear features a manual operating handle. This bottom feed disconnect carries a 40 kA at 27 KV AC interrupt rating. The switchgear comes with and accepts 2000-amp rating.

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 bus bars (at rear). A dead front cover protects operators from the fuses for safety. Operators can inspect the switches through the dead front via a vented cover. Removing the dead front allows access to the switches.

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 an 11GA sheet steel enclosure with ANSI Buckey Tan finish. A ventilated design promotes natural cooling and improves performance. The enclosure is NEMA 4X rated for protection against water, moisture and debris. This rating allows the fused disconnect to be used in indoor and outdoor 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 switchgear on floors and flat surfaces.

Customization: The MPD-MCS-VCB-3P4W-13-27KV-2000A-BE-FM-MET-CU-N4X-SAR-GIS-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/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.

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Frequently Asked Questions (FAQ)

There are no Faqs

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Export Control Classification Number (ECCN): EAR99

Links (Click on the below items to view):

- **Dimensional Drawing 2D**(https://www.larsonelectronics.com/images/product/DimensionalDrawing/337653.PDF)
- **Wiring Diagram**(https://www.larsonelectronics.com/images/product/WiringDiagram/337653.PDF)
- **HigResPic1**(https://www.larsonelectronics.com/images/product/HigResPic1/337653.JPG)
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