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MPD-MCS-VCB-3P3W-1-4.76KV-1200A-31.5K-DO-FM-BEBE-S.R.M.-LR-N12-DF-M1

Metal-Clad, Draw-Out, 3-Pole, 4.76kV Class Vacuum Circuit Breaker, 1200A, 31.5kA — Main Breaker No. 1 Cell with Surge Arrester, Relay & Metering Protection, plus Separate VT/CT/Meter/Test Point Cabinet, Indoor NEMA 12 Enclosure

Product ID: 340081

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



Image: MPD-MCS-VCB-3P3W-1-4.76KV-1200A-31.5K-DO-FM-BEBE-S.R.M.-LR-N12-DF-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-1-4.76KV-1200A-31.5K-DO-FM-BEBE-S.R.M.-LR-N12-DF-M1
Metal-Clad Vacuum Circuit Breaker, Draw-Out Element, with Separate VT/CT/Meter/Test Point Cabinet

Unit Type: New Main Breaker No. 1 Cell, Metal-Clad Switchgear
Configuration: 3-Phase, 3-Wire
Assembly Type: Two-Cabinet Lineup — (1) Main Breaker No. 1 Draw-Out Vacuum Breaker Cell, (2) VT/CT/Meter/Test Point Cabinet
Voltage Class: 4.76kV (ANSI), Rated Maximum Design Voltage: 4.76kV, System Nominal Voltage: 4.16kV

BIL: 60kV

Rated Power Frequency Withstand: 19kV

Rated Continuous Current: 1200A

Rated Short-Circuit / Interrupting Current: 31.5kA Symmetrical
Rated Momentary / Closing-Latching Current: 82kA Peak

Rated Interrupting Time: 5 Cycles

Mounting Style: Draw-Out, Floor-Mounted, Indoor Service

Made in the USA

Features of Every Assembly

Metal-Clad, Draw-Out Construction

NEMA 12 Enclosure

ANSI Gray Enclosure Finish, Matched to Existing Switchgear — Two-Coat Quick-Dry Lacquer/Enamel per IEEE C37.20.2
Remote Racking Provision for Breaker Element
Mechanical/Keyed Interlock with Existing Main Breaker No. 2 (One Normally Open, One Normally Closed)

Ratings & Approvals

Designed in accordance with IEEE C37.04, C37.06, C37.09, C37.010, C37.20.2; ANSI C37.55; IEEE C37.100
Circuit Breaker ANSI-Certified Design and Assembly

Cable Entry: Bottom Entry / Bottom Exit

Bus Material: Copper; 1000kcmil MV-105 Cu Field Tie to Adjoining Bus

Circuit Breaker
Three-Pole, Electrically-Operated Vacuum Circuit Breaker, Draw-Out Removable Element
Independently Sealed Vacuum Interrupter, Each Pole
Rated on Symmetrical Current Basis per IEEE C37.06 Table 1 / C37.04 Part 5

Protection & Relay Configuration
Digital Protective Relay (Basis of Design: SEL-787-2E, Transformer Protection, Device 11T1), Dedicated to Transformer T1 Circuit
Transformer Lockout Relay (Device 86T1)
Programmable Automation Controller (PAC) Integration

VT/CT/Meter/Test Point Cabinet (separate cabinet, same lineup)
Cabinet Type: Metal-Clad Compartment, Separate from Breaker Cell, Same Enclosure Finish and NEMA 12 Rating
Voltage Transformers: Indoor Dry or Compound-Filled Type per IEEE C57.13; 4.76kV Class, Minimum 45kV BIL; 750VA Minimum Thermal Rating at 55°C Ambient; Accuracy Class 0.3W/0.3X/0.3Y/0.6Z; Mounted in Fused Rollout Tray with Disconnect Stabs — Ratio/Quantity TBD
Voltage Transformer Fusing: Current-Limiting Primary Fuses, Each Phase; Secondary Fused in Low-Voltage Compartment, Accessibly Located, Sized to Withstand Energizing Current While Interrupting Secondary Short-Circuit
Voltage Transformer Termination: Low-Voltage Leads Landed on Terminal Blocks in Low-Voltage Compartment
Current Transformers: Revenue-Grade, Dry or Compound-Insulated Type per IEEE C37.20.2/C57.13/C57.13.3; Minimum 1.33 Thermal Rating Factor at 30°C Ambient; Continuous-Duty Rated at Full System Voltage/Current, 60Hz; Designed to Withstand Thermal/Mechanical Short-Circuit Stress at Full Breaker Rating — Ratio/Quantity TBD
Current Transformer Termination: Secondary Leads Minimum No. 10 AWG, Landed on Shorting-Type Terminal Blocks in Low-Voltage Compartment, Accessible Without Entering Primary Bus Compartment; Factory-Shorted at CT Terminals for Shipment
Panel Meter: Metering & Monitoring per Section 26 05 00.00 26 — Model TBD
Breaker Test Station: One Cabinet per Breaker Type, Complete with Secondary Contacts, Control Relays, and Control Switches for Simulating Breaker Operation; Jumper Cable Furnished with Connector Matching Breaker's Secondary Disconnect
Grounding: Frame and Non-Current-Carrying Metal Parts Bonded to Continuous Interior Copper Ground Bus

Controls
Local/Remote Control Switch (Device 43)
Breaker Control Switch (CS), Green/Red Indicating Lights
Annunciation Points: Trip, Trouble
125VDC Control Power

Surge Protection
Station-Class Metal-Oxide Surge Arrester, Rated for Continuous Operation at Nominal Voltage, Connected Phase-to-Ground, per IEEE C62.11 / C62.22 / NEMA LA1
Surge Capacitor, 0.5 Microfarad, Connected Phase-to-Ground

Construction
Metal-Clad Switchgear Construction
Seismic Equipment Anchorage
Nameplates: Engraved Melamine Plastic per ASTM D709, 0.125in Black/White Core, Minimum 1in × 2.5in, 0.25in Lettering

Accessories

Switchgear and Breaker Furnished by the Same Manufacturer, Minimum Five Years Production Experience

Test Cabinet for Removable Element Testing Outside the Enclosure, Complete with Secondary Contacts, Power/Control Cables, Control Relays and Switches
Set of Secondary Couplers
Closing Lever for Manual Breaker Closing
Removable Hand Crank for Levering-In Device
Transport Truck for Moving the Breaker Element
Complete Set of Special Wrenches and Tools for Installation, Maintenance, and Repair
Remote Operating Controller and Cable
Portable Remote Racking Device — Wheeled Assembly with Brakes, 10 lb / 100 ft-lb Power Module, 15in Horizontal Traverse, Status Indicator Lights, Control Pendant with Minimum 25ft Cord, 120VAC/15A Supply

Dimensions & Shipping

Breaker Cell Dimensions: 36 in W × 90 in D × 92 in H (estimated)
VT/CT/Meter/Test Point Cabinet Dimensions: 36 in W × 90 in D × 92 in H (estimated)
Overall Lineup Dimensions: 72 in W × 90 in D × 92 in H (estimated, two-cabinet lineup)
Approximate Weight: 3,600 lbs (estimated, two-cabinet lineup)
Shipping Dimensions: TBD
Shipping Weight: TBD

Shipping

Shipped on Pallet or Skid
Crated Shipment Available Upon Request
Final Shipping Configuration Subject to Approved Design

Special Features

Draw-Out Metal-Clad Construction, Remote Racking, Seismic-Certified Anchorage, Integral Transformer Protection, Station-Class Surge Protection, Dedicated VT/CT/Metering/Test Cabinet, Interlocked Operation with Existing Main Breaker No. 2

Special Orders – Special Requirements

Contact us for special requirements

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Customer Compliance

This equipment is offered per the specifications and ratings detailed herein. Minor refinements to arrangement, dimensions, and installation details may be made during detailed engineering review to ensure proper fit, code compliance, and manufacturability, with any such refinements confirmed prior to manufacture. Foundation design and anchorage are outside the scope of this equipment offer and shall be provided in accordance with the project's civil/structural design.

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 applicable drawings.

Made in the USA

The MPD-MCS-VCB-3P3W-1-4.76KV-1200A-31.5K-DO-FM-BEBE-S.R.M.-LR-N12-DF-M1 is a metal-clad, draw-out, 3-pole, 4.76kV class vacuum circuit breaker lineup rated 1200A continuous and 31.5kA symmetrical interrupting, furnished as a two-cabinet assembly: a new Main Breaker No. 1 draw-out vacuum breaker cell and a companion VT/CT/Meter/Test Point cabinet. The lineup is engineered for indoor, floor-mounted installation in a NEMA 12 enclosure, with seismic-certified equipment anchorage.

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

This lineup is designed to interface with an existing 4.16kV switchgear installation, with the new breaker cell tied into the adjoining bus via a copper field connection and mechanically interlocked with the existing main breaker so that only one main can be closed at a time. The

assembly is built to IEEE C37.04, C37.06, C37.09, C37.010, and C37.20.2, ANSI C37.55, and IEEE C37.100, with the switchgear and circuit breaker furnished by a single manufacturer carrying a minimum of five years of production experience in equipment of this type and rating.

Circuit Breaker
The removable element is a three-pole, electrically-operated vacuum circuit breaker of draw-out construction, with each pole an independently sealed vacuum interrupter. The breaker is rated on a symmetrical current basis in accordance with IEEE C37.06 Table 1 and IEEE C37.04 Part 5, carrying a 60kV BIL, 19kV rated power-frequency withstand, 1200A continuous rating, 31.5kA symmetrical interrupting rating, 82kA momentary/closing-and-latching rating, and a 5-cycle interrupting time.

Protection & Relay Configuration
Transformer circuit protection is provided by a digital protective relay (basis of design: SEL-787-2E) dedicated to the Transformer T1 circuit, working in conjunction with a transformer lockout relay. Relay logic is integrated with a programmable automation controller for supervisory control and monitoring.

VT/CT/Meter/Test Point Cabinet
A separate metal-clad compartment, matching the breaker cell's enclosure rating and finish, houses the lineup's instrument transformers, metering, and test provisions. Voltage transformers are indoor dry or compound-filled type per IEEE C57.13, 4.76kV class with a minimum 45kV BIL and 750VA thermal rating at 55°C ambient, 0.3W/0.3X/0.3Y/0.6Z accuracy, mounted in a fused rollout tray with disconnecting stabs and current-limiting primary fusing on each phase. Current transformers are revenue-grade, dry or compound-insulated type per IEEE C37.20.2, C57.13, and C57.13.3, with a minimum 1.33 thermal rating factor and secondary leads landed on shorting-type terminal blocks, factory-shorted for shipment. The cabinet also houses the lineup's panel meter and a dedicated breaker test station, complete with secondary contacts, control relays, and switches for simulating breaker operation outside the enclosure.

Controls
Each breaker position includes a local/remote control switch, a breaker control switch with green and red indicating lights, trip and trouble annunciation points, and 125VDC control power.

Surge Protection
Station-class metal-oxide surge arresters and 0.5 microfarad surge capacitors are provided phase-to-ground, rated for continuous operation at the equipment's nominal voltage in accordance with IEEE C62.11, IEEE C62.22, and NEMA LA1.

Construction
The lineup is of metal-clad switchgear construction, finished in ANSI Gray to match the existing switchgear with a two-coat quick-drying lacquer or synthetic enamel system per IEEE C37.20.2. Equipment anchorage is seismic-certified. Device nameplates are engraved melamine plastic per ASTM D709, black with a white center core, minimum 1 by 2.5 inches with 0.25-inch lettering.

Accessories

The lineup includes a full accessory complement: a breaker test cabinet with secondary contacts and control cabling, a set of secondary couplers, a closing lever, a removable hand crank for the levering-in device, a transport truck for moving the removable element, a complete set of special installation and maintenance tools, a remote operating controller and cable, and a portable remote racking device with a wheeled, braked assembly, 120VAC power module, and a minimum 25-foot control pendant cord.

Dimensions & Shipping
Overall lineup dimensions are approximately 72 inches W by 90 inches D by 92 inches H (estimated), with an approximate combined weight of 3,600 pounds (estimated). Shipping dimensions and shipping weight are to be determined.

Special Features
Draw-out metal-clad construction, remote racking capability, seismic-certified anchorage, integral transformer protection, station-class surge protection, a dedicated VT/CT/metering/test cabinet, and interlocked operation with the existing adjacent main breaker.

Customer Compliance
This equipment is offered per the specifications and ratings detailed herein. Minor refinements to arrangement, dimensions, and installation details may be made during detailed engineering review to ensure proper fit, code compliance, and manufacturability, with any such refinements confirmed prior to manufacture. Foundation design and anchorage are outside the scope of this equipment offer and shall be provided in accordance with the project's civil/structural design.

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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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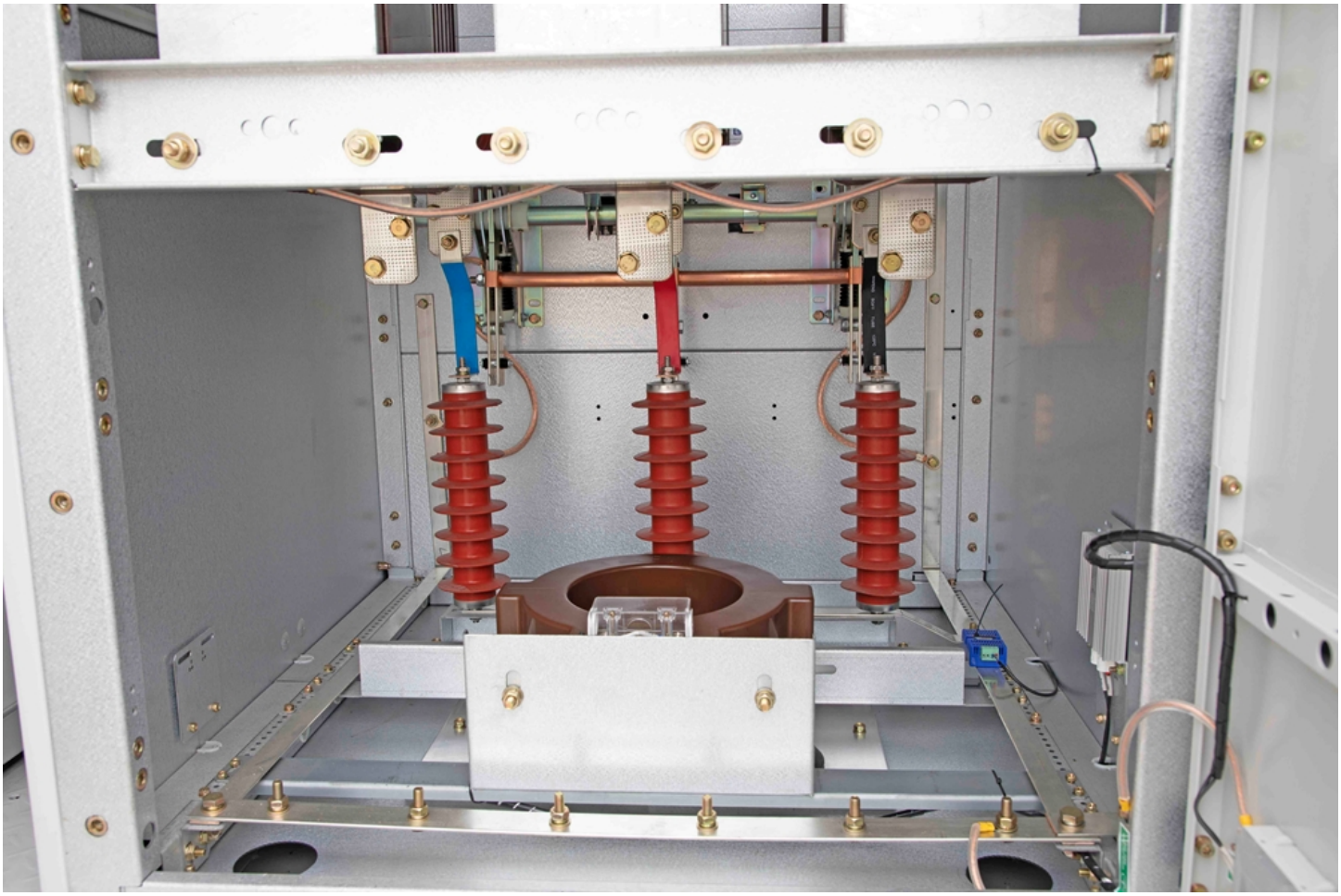


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Export Control Classification Number (ECCN): EAR99

Links (Click on the below items to view):

- **Single Line Diagram (One-Line Diagram)**(https://www.larsonelectronics.com/images/product/Oneline/340081.PDF)
- **HigResPic1**(https://www.larsonelectronics.com/images/product/HigResPic1/340081.JPG)
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