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## MPD-MES-DCB-2P2W-2.11-750VDC-15000ADC-TE-FM-MAR-CU-N1-M3

# Metal Enclosed DC Switchgear with High-Speed Drawout Circuit Breaker, 15000 A DC Bus, 750 V DC, Single-Pole, 2-Wire, 2 IN 11 OUT, Floor Mount, Top Entry, Copper Bus, Indoor

**Product ID: 335685**



Image: MPD-MES-DCB-2P2W-2.11-750VDC-15000ADC-TE-FM-MAR-CU-N1-M3

**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-MES-DCB-2P2W-2.11-750VDC-15000ADC-TE-FM-MAR-CU-N1-M3 Metal Enclosed DC Switchgear**

**Unit Type:** Metal Enclosed DC Switchgear – High-Speed Drawout DC Circuit Breaker

**Line-In Connections:** Bus Bar Terminations, Provisions for (4) x 500 MCM Cables per Phase

**Line-In Orientation:** Top Entry

**Configuration:** Dead Front

**Nominal Voltage:** 750 V DC

**Maximum Voltage Rating:** 1000 V DC

**Voltage BIL:** 5 kV DC (1-Minute Withstand)

**Phase:** DC

**Wire:** 2-Wire

**Protection Method:** High-Speed DC Circuit Breaker Protection, Direct Acting Instantaneous Trip (Device 176)

**Fuse Max. Rating:** N/A

**Fuse Holder Rating:** N/A

**Spare Fuses:** N/A

**Main Bus Continuous Current Rating:** 15,000 A DC

**Main Bus Short Circuit Rating:** 120 kA Peak

**Incomer(s):** (2) Drawout High-Speed DC Cathode Circuit Breakers – 10,000A each

**Outgoing(s):**
- (6) Drawout High-Speed DC Feeder Breakers – 6,000A
- (5) Drawout High-Speed DC Feeder Breakers – 4,000A

**Ratings**

(Designed to IEEE / ANSI / NEMA Standards

IEEE C37.14, IEEE C37.16, IEEE C37.20.1

NEMA 1 Rated for Indoor Use
Designed to meet UL 1558 and UL 1066 Standards
Service Entrance Rated
Equivalent to HSN Breakers
Compliance with SEPTA Specifications 260513-S2
Performed Factory Acceptance Testing (FAT)
5 Years os Experience in DC Traction Substation Switchgear

Made in the USA

**Disconnect Means:** Motor-Operated / Stored Energy Mechanism with Manual Emergency Operation

**Metering:** Included – Voltage & Current via Isolation Transducers (Front Panel Indication)

**Line-Out Connection:** Bus Bar Terminations, Provisions for (4) x 500 MCM Cables

**Line-Out Orientation:** Top Entry

**Surge Protection Device:** Included – DC Surge Arresters (1000 VDC Continuous, 200 kA Peak, Metal Oxide Type)

**Form Factor:** Rectangular, Heavy-Duty Industrial Line-Up Enclosure with Multiple Vertical Sections, Drawout Breaker Compartments, Front Access (Rear Access Available)

**Breaker Type:** Single Pole, High-Speed Air Type DC Circuit Breaker, Drawout Construction with Wheeled Truck

**Breaker Positions:** CONNECTED, TEST, DISCONNECTED

**Trip Device:** Device 176 – 7A Direct Acting Instantaneous Trip

**Protective Relays:**

Device 164A / 164G:
- Enclosure Ground Detection
- Hot/Alive Structure Detection
- Alarm + Trip Functionality

**Control Voltage:** 125 VDC

**Auxiliary Contacts:** Minimum (8) Spare NO/NC, Wired to Terminal Blocks

**Operation Counter:** Minimum 4-Digit, Non-Resettable

**Indications:** OPEN / CLOSED Status (LED Indicators), CONNECTED Position Indicator (Amber LED), Mechanical Position Indicator, Ground / Alarm Indications (Device 164)

**Operating Mechanism:** Stored Energy Mechanism (Motor or Solenoid Operated), Quick-Make / Quick-Break Operation, Electrically and Mechanically Trip-Free, Anti-Pumping Protection, Shunt Trip Device (125 VDC), Manual Closing Capability

**Housing Type:** Compartmentalized Metal-Enclosed Switchgear with Individual Cubicles, Front Hinged Doors, Interlocked Access

**Bus Material:** High Conductivity Copper (≥98% Conductivity)

**Connections:** Tin/Silver Plated, NEMA 2-Hole Terminations, Designed to Withstand Full Fault Duty

**Interlocks & Safety:** Prevent racking while breaker is closed, Prevent closing unless mechanism is charged, Door interlocked with breaker position, Automatic trip on unsafe conditions, Safety shutters on live parts

**Enclosure Material:** #12GA Sheet Steel

**Enclosure Finish:** Munsell™ 7GY 3.29/1.5 Bell Green

**Enclosure Type:** Non-WalkIn NEMA 1 Indoor, Metal-Enclosed, Ventilated

**Mounting:** Floor Mounted, Multi-Section Line-Up

**Dimensions:** 36" (3 ft) W per section × 66" (5.5 ft) D × 92" (7 ft 8 in) H

**Weight:** 3,000lbs (per section), 39,000lbs (total)

**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.

**Special Orders - Special Requirements**

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-MES-DCB-2P2W-2.11-750VDC-15000ADC-TE-FM-MAR-CU-N1-M3 Metal Enclosed DC Switchgear is designed for reliable, safe and convenient power distribution and protection in demanding industrial and traction substation applications. Designed for floor-mounted installations, this unit features high-speed drawout DC circuit breakers for rapid fault interruption. The switchgear is housed in a heavy-duty, metal-enclosed indoor cabinet with a ventilated design for efficient heat dissipation.**

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

The MPD-MES-DCB-2P2W-2.11-750VDC-15000ADC-TE-FM-MAR-CU-N1-M3 DC switchgear provides a safe and reliable solution for controlling and protecting DC power systems. Rated for 750V DC nominal (1000V DC maximum), this system features a 15,000-amp main bus and a lineup consisting of (2) 10,000A cathode breakers, (6) 6,000A feeder breakers, and (5) 4,000A feeder breakers, all utilizing high-speed DC circuit breaker technology. The system operates on a 125 VDC control circuit and includes advanced protection features such as Device 176 instantaneous overcurrent trip and Device 164 enclosure ground/alive detection relays.

**Operation:** The switchgear features front-access compartments with optional rear access for cable terminations, secured by lockable doors. Each drawout circuit breaker is mounted on a wheeled mechanism and can be positioned in CONNECTED, TEST, or DISCONNECTED states using an interlocked racking system. The breakers are operated via a stored energy mechanism with manual emergency operation capability. LED indicators provide OPEN/CLOSED and CONNECTED status, while integrated metering via isolation transducers allows operators to monitor voltage and current conditions. Safety interlocks prevent unsafe operation, including racking under load and access to energized components.

**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.

**Protection System:** The high-speed DC breakers are designed to interrupt fault currents rapidly in DC systems where current does not naturally cross zero. The arc chute and blowout system efficiently extinguish arcs during interruption. The Device 176 trip unit provides adjustable instantaneous overcurrent protection, while Device 164 relays monitor enclosure grounding and energized conditions to enhance system safety and reliability.

**Enclosure Design:** The switchgear is constructed from minimum 11-gauge sheet steel and arranged in a multi-section lineup of freestanding cubicles. The indoor metal-enclosed design includes compartmentalized sections for breakers, busbars, and control components, with ventilation provisions for proper heat dissipation. Infrared viewing windows and removable access panels facilitate inspection and maintenance.

**Certification:** This unit is engineered to meet applicable IEEE, ANSI, and NEMA standards for DC switchgear, including IEEE C37.14, IEEE C37.16, and IEEE C37.20.1.

**Mount:** Operators can mount this switchgear on floors or concrete pads for permanent installations.

**Customization:** The MPD-MES-DCB-2P2W-2.11-750VDC-15000ADC-TE-FM-MAR-CU-N1-M3 can be customized to meet specific operational requirements. Examples of customization include:

• Additional feeder breaker cubicles for multi-line systems

• Enhanced monitoring and communication interfaces

• Remote operation and SCADA integration

• Specialized coatings for corrosive environments

• Modified cable entry configurations (top or bottom entry)

**Applications:** This switchgear is suitable for indoor and outdoor use in applications including, but not limited to, DC traction systems, substations, renewable energy systems, battery energy storage systems (BESS), heavy industrial facilities, and critical infrastructure requiring high-speed DC fault protection.

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