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# La Marche Telecom

## *Rack System Components*

### **APPLICATIONS:**

Data Centers & Server Rooms

Network & Routing Equipment

5G g-NodeB, 4G/LTE Radio Networks

Base Transceiver Stations (BTS)

Microwave Transmission

Central Office & IT Infrastructure

La Marche integrated DC Power systems provide power needs for telecom, cable and microwave networks. For over 70 years, La Marche has delivered customized systems to suit any telecom application. La Marche DC power systems offer high reliability, high efficiency, high power density rectifiers, DC to DC converters, distribution centers, and supervisory modules.

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# RR 2-Post Open Frame Relay Rack

Designed for use in communication data centers and telecommunication rooms, 2-Post Open Frame Racks satisfy basic functional requirements for mounting battery chargers, rectifiers, batteries and other related power system equipment. La Marche offers an array of Relay Rack heights in both 19 and 23 inch widths.

## FEATURES

- 19 or 23in Wide Configuration
- Relay Racks Constructed from 11 Gauge Steel
- ANSI-61 Gray Paint Finish
- 3in Vertical Channels Drilled and Tapped in the front and Rear for 12-24 NC Hardware
- Welded Construction
- Holes in sides of rack for joining racks
- 1.75in Mounting Hole Pattern

## OPTIONAL

- Seismic Relay Racks
- Cable Stay and Standoffs



Model Number	Height (in)	Rack Width (in)	Rack Units
P3-RR-P110	6.0	19	36
P3-RR-P040	7.0	19	43
P3-RR-P100	7.5	19	47
P3-RR-P120	8.0	19	50
P3-RR-P080	9.0	19	57
P3-RR-P110	6.0	23	36
P3-RR-P040	7.0	23	43
P3-RR-P100	7.5	23	47
P3-RR-P120	8.0	23	50
P3-RR-P080	9.0	23	57

# Battery Tray

La Marche Relay Rack Mounted Battery Trays are beneficial if floor space is confined and batteries are to be mounted directly in the DC power system equipment racks.

## FEATURES

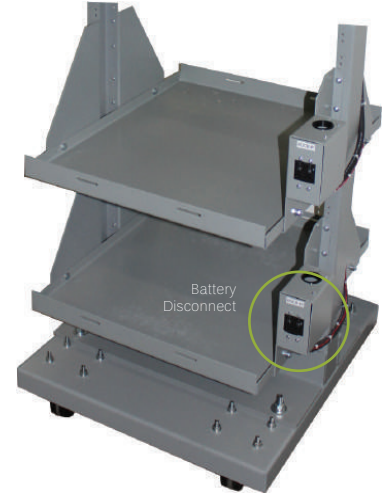
- Accommodates Batteries with DC Power System
- Constructed from 12 Gauge Steel
- ANSI-61 Gray Paint Finish
- Assembly and Mounting Hardware Included
- Welded Corners
- 600lbs Maximum Weight Capacity
- Custom Sizes Available Upon Request

## OPTIONAL




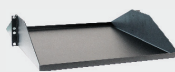
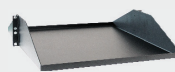

- Battery Tie Down Strap Kit (S4C-TRAY-1)
- Battery Disconnect 150A Rated



Battery Tray shown with Strap Kit



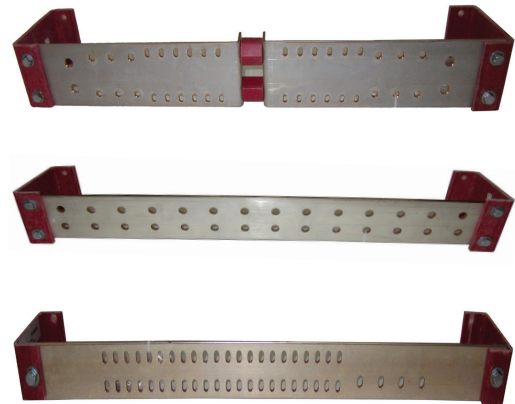
Battery Tray shown with Battery Disconnects

Part Number	P3-RRB-A03A	P3-RRB-A04A	P3-RRB-A07A	P3-RRB-A08A	P3-RRB-A14A	P3-RRB-A15A
<i>Rack Mounting</i>	19"	19"	23"	23"	23"	19"
<i>Tray Dimenisons (W x D)</i>	17" x 19"	17" x 28"	21" x 28"	21" x 25"	21" x 25"	17" x 25"
<i>Tray Weight</i>	25lbs	30lbs	35lbs	34lbs	34lbs	34lbs
<i>Tray Weight Capacity</i>	500lbs	500lbs	600lbs	600lbs	600lbs	500lbs
<i>Battery Units</i>	4 max.	4 max.	4 max.	4 max.	4 max.	4 max.
<i>Battery Type</i>	Li-Ion Ni-Cad VRLA	Li-Ion Ni-Cad VRLA	Li-Ion Ni-Cad VRLA	Li-Ion Ni-Cad VRLA	Li-Ion Ni-Cad VRLA	Li-Ion Ni-Cad VRLA
<i>Battery Disconnect</i>	No	No	No	No	Yes 150 Amp	Yes 150 Amp
<i>Drawings</i>						

# GCB Termination Bus Bars

La Marche Termination Bus Bars provide a convenient means of system ground or lead connections. These bus bars have insulated standoffs to electrically isolate them from the rack. Each bar is made of solid copper sized to handle its rated current and is available in either 19 or 23 inch relay rack mount. The copper bars are silver flash plated to prevent corrosion. Termination bus bars can be provided with various quantities and sizes of solderless lugs.

All termination bars greater than 200 amps are available for NEMA 2-hole lugs-. Please consult our factory for details. Model GCB Series Split Bus Termination is standard for all rack systems unless otherwise specified.

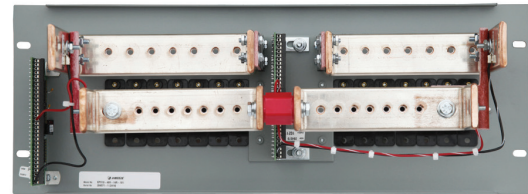


	Part Number	Rack Units	Current Rating	Rack Mounting	Weight (lbs)
Split Bus Bar	GCB19-200	3	200	19"	4
	GCB19-450-61	3	450	19"	8
	GCB19-600	3	600	19"	12
	GCB23-200-4	3	200	23"	4
	GCB23-450-58	3	450	23"	8
	GCB23-600-3	3	600	23"	12
	GCB23-900-60	3	900	23"	16
Ground Bar	GB19-200	3	200	19"	4
	GB19-450-62	3	450	19"	8
	GB19-600	3	600	19"	12
	GB19-900-63	3	900	19"	16
	GB23-200	3	200	23"	4
	GB23-450-64	3	450	23"	8
	GB23-600	3	600	23"	12
	GB23-900-57	3	900	23"	16
Charge Bar	CB19-200	3	200	19"	4
	CB19-450-29	3	450	19"	8
	CB19-600	3	600	19"	12
	CB19-900-30	3	900	19"	16
	CB23-200	3	200	23"	4
	CB23-450-28	3	450	23"	8
	CB23-600	3	600	23"	12
CB23-900-27	3	900	23"	16	

# BPV “A” and “B” Feed Circuit Breaker Panel

Circuit Breaker Distribution Panels are designed to provide protection for multiple load/distribution circuits. The circuit breakers' fast trip response assures the panel breaker will trip before the main circuit breaker/fuse, so that power will not be interrupted from other critical DC loads if an overload occurs. Return Bus is conveniently located on the same panel to facilitate installation.

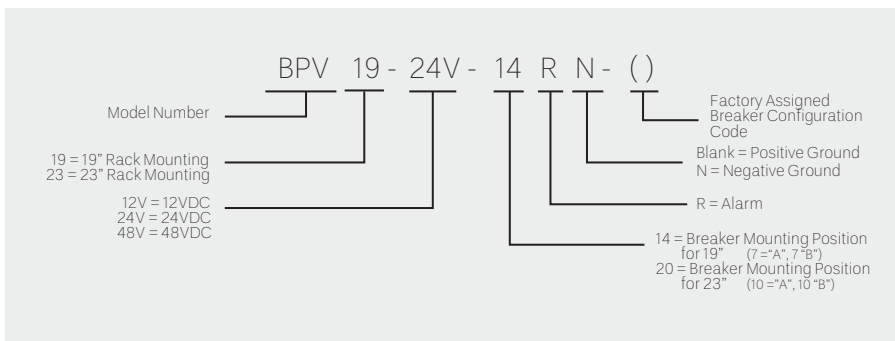
BPV panels utilize UL recognized breakers with an interrupting capacity of 5,000 amps DC at 65 volts.



## FEATURES

- 12, 24, or 48 volts DC Ratings available
- “A” and “B” Feed
- Positive or Negative ground
- Guard Kit to prevent accidental tripping of breakers
- Blank fillers furnished for all unused breaker positions
- Breaker designation label track
- Alarm LED light and form “C” relay alarm contacts. The relay will be activated if any breaker in the panel trips or is shut off
- Available breaker sizes are 1 - 150 amps single pole
- Finish - ANSI - 61 gray paint

## MODEL NUMBER NOMENCLATURE



Breaker Size (Amps)	Breaker Terminals	Position Occupied
1		
2		
3		
5		
10		
15	10 - 32 Stud	One Position
20		
25		
30		
35		
40		
50		
60		
70	1/4 - 20 Stud	Two Position
80		
90		
100		
125	1/4 - 20 Stud	Four Position
150		

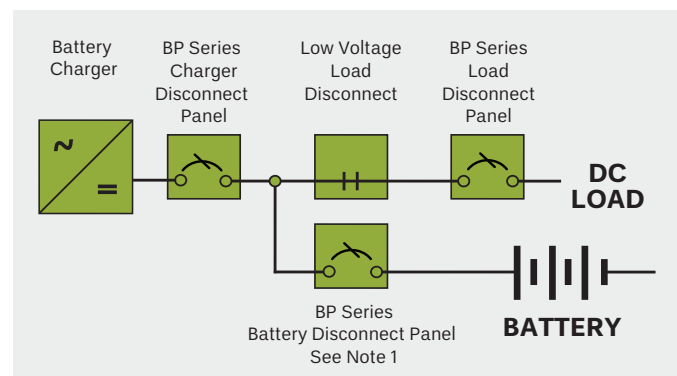
# Battery/Load/Charger Disconnect Panel

The La Marche Disconnect Circuit Breaker Panel is designed to provide a quick and convenient method to disconnect either a battery, a load or a charger from the DC power system.

The Model BP Series Disconnect Panels utilize UL Listed single pole magnetic / hydraulic circuit breakers\*, and have termination points for input / output connections to accommodate the cable size required for that particular Model BP Disconnect Circuit Breaker Panel. For long DC cable runs, consult the factory.



**Line diagram of BP Series disconnect circuit Breaker Panels in a typical DC Power System**



**NOTE:**

1. Disconnect Circuit Breaker Panels used with multiple Battery Chargers/Power Supplies must be rated a minimum of 125% over the total number of Battery Chargers/Power Supplies being used. For example, if two 50 Amp Chargers are part of a single system, the Battery Disconnect must be rated at 125 Amps minimum (i.e.,  $2 \times 50 \times 125\% = 125 \text{ Amps}$ .)

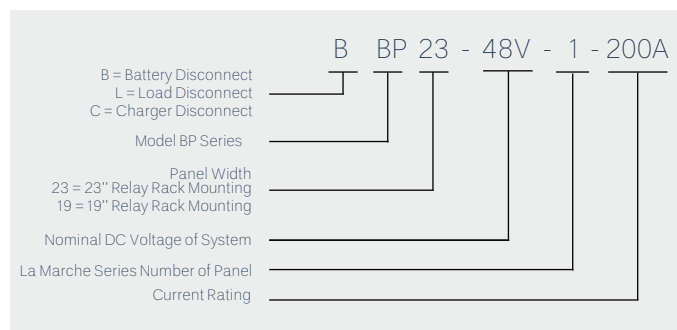
## FEATURES

- 12, 24, or 48 Volts DC Ratings Available
- DC Current Ratings Available: 50, 100, 125, 200, 250, 300, 400, 500, 600 and 800.
- UL Listed Circuit Breakers
- Finish - ANSI-61 Gray Paint
- 100 Amp and Below Circuit Breakers Rated 5,000 Amp DC Interrupting
- 125 Amp and Above Circuit Breakers Rated 10,000 Amp DC Interrupting
- Alarm Contacts Provided for Remote Indication of Circuit Breaker Open or Tripped Conditions
- Rack Mount 19 or 23 Inch Panels

## OPTIONAL

- Two Pole Circuit Breaker Disconnect Panels

## MODEL NUMBER NOMENCLATURE



## DIMENSIONS (Height)

- 50-250 Amps 3.50 Inches (2 RU's)
- 300-400 Amps 5.25 Inches (3 RU's)
- 500-600 Amps 7.00 Inches (4 RU's)
- 800 Amps 8.75 Inches (5 RU's)



# BPKR Circuit Breaker Distribution Panel

Circuit Breaker Distribution Panels are designed to provide protection for multiple load/distribution circuits. The circuit breakers' fast trip response assures the panel breaker will trip before the main circuit breaker/-fuse, so that power will not be interrupted from other critical DC loads if an overload occurs. Return Bus is conveniently located on the same panel to facilitate installation. BPKR panels utilize UL recognized breakers with an interrupting capacity of 5,000 amps DC at 65 volts.

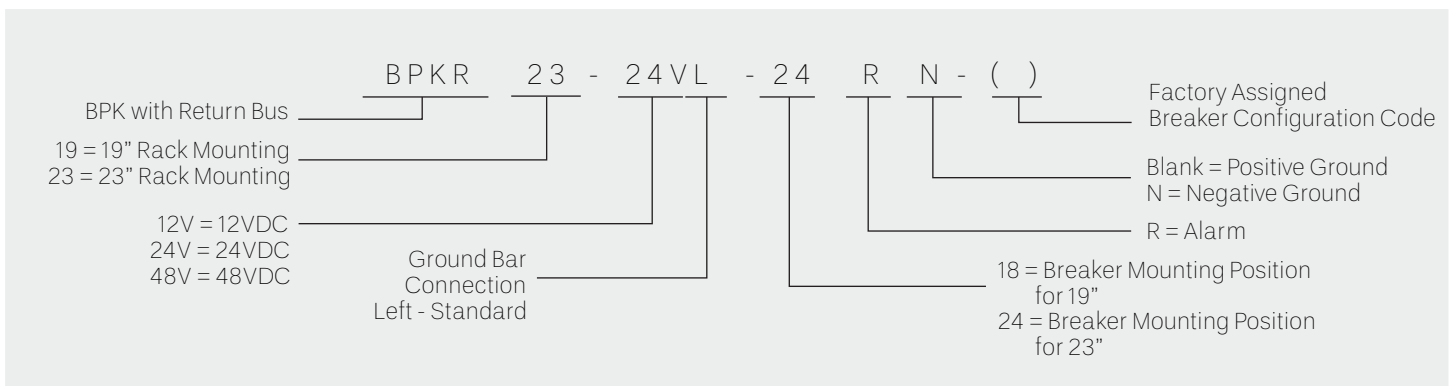


## FEATURES

- 12, 24, or 48 Volts DC Ratings Available
- Positive or Negative Ground
- Guard Kit to Prevent Accidental Tripping of Breakers
- Blank Fillers Furnished for all Unused Breaker Positions
- Breaker Designation Label Track
- Alarm LED Light and Form "C" Relay Alarm Contacts. The Relay will be Activated if any Breaker in the Panel Trips or is Shut Off
- Available Breaker Sizes are 1 - 150 Amps Single Pole
- Finish - ANSI - 61 Gray Paint

Breaker Size (Amps)	1, 2, 3, 5, 10, 15, 20, 25, 30, 35, 40, 50, 60	70 80 90 100	125 - 150
Breaker Terminals	10 - 32 Stud	1/4 - 20 Stud	
Position Occupied	One Position	Two Position	Four Position

## MODEL NUMBER NOMENCLATURE





# LVLD Low Voltage Disconnect Panel

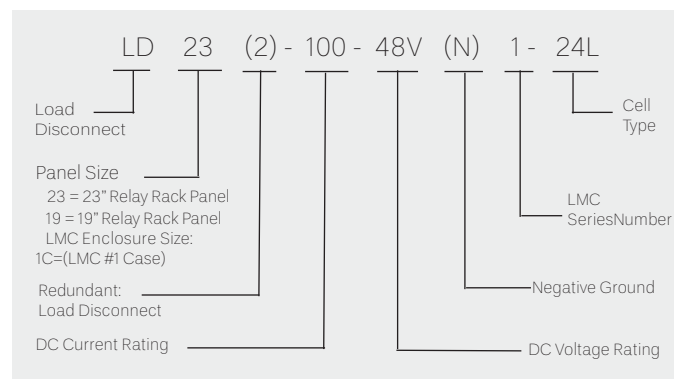
The La Marche Low Voltage Load Disconnect (LVLD) panels automatically disconnect the DC load from the battery by means of a heavy-duty contactor. If the battery voltage drops below the preset level, a drop-out LED indicator on the front panel will illuminate and an alarm relay will de-energize, thus causing the contacts to change state. The load is reconnected automatically when the battery voltage returns to the desired voltage. The calibration mode allows adjustments to the drop-out and pull-in set points on a live system without disturbing the system voltage or the load.



## FEATURES

- 12, 24, or 48 volts DC ratings available  
Must indicate negative common (return) as part of model number format when applicable
- DC current ratings available: 50-1200 amps
- Front access mounted test points, controls, fuse and LED's
- Field adjustable drop out and pick up voltages
- Manual disconnect switch with locking toggle lever
- Calibration Mode
- LED indicators for:  
Load Connected  
Calibration Voltage Adjust  
Pick Up Voltage Adjust
- Two sets of form "C" low voltage alarm contacts
- Finish – ANSI-61 grey paint
- Coil of DC contactor fuse protected

## MODEL NUMBER NOMENCLATURE



## OPTIONAL

- Enclosed wall mounted panel

# LAC AC Distribution Panel

The La Marche AC Distribution Panel provides overcurrent protection for your AC loads. Each panel can be equipped with up to 12 branch breakers. Expand your system's capabilities using our field installable breaker kits. Installing the panel on a 19/23" rack is easy, using our versatile relay rack mounting brackets. Conduits landing can be made on the top or bottom. The panel has been made front-hinged and removable for safe and quick operation.



## SPECIFICATIONS

120 VAC - Max 12 Breakers - 1 Pole

### Model Number

LAC19-12 (19" Rack Mount)

LAC23-12 (23" Rack Mount)

LACW-12 (Wall Mount)

### Single Pole Breaker Kits

15 Amp = P4-SHOM-15A1

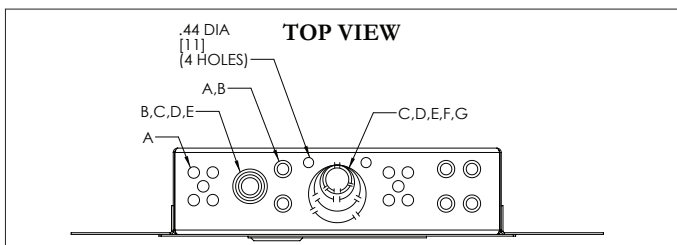
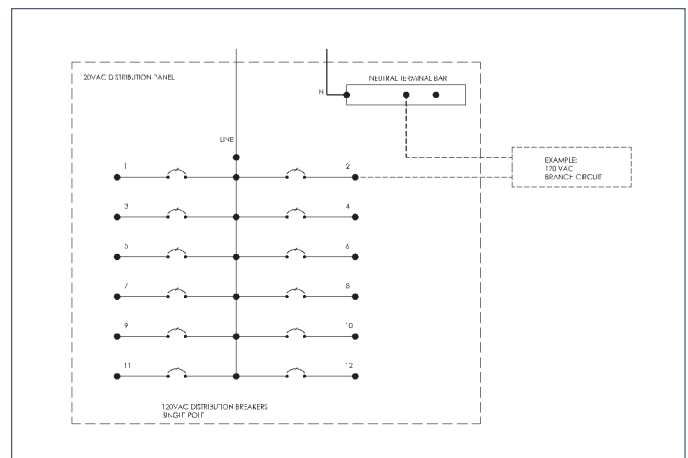
20 Amp = P4-SHOM-20A1

30 Amp = P4-SHOM-30A1

## KNOCKOUTS

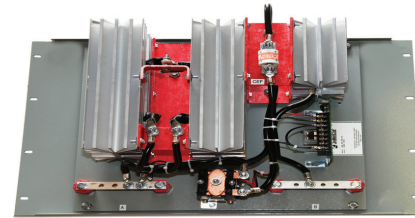
SYMBOL	A	B	C	D	E	F	G
IN	.50	.75	1.00	1.25	1.50	2.00	2.50
MM	13	19	25	32	38	51	64

## ONE LINE DIAGRAM



# CE Series Counter EMF Panel

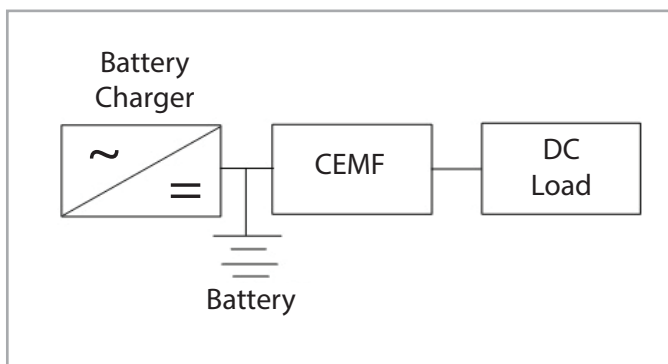
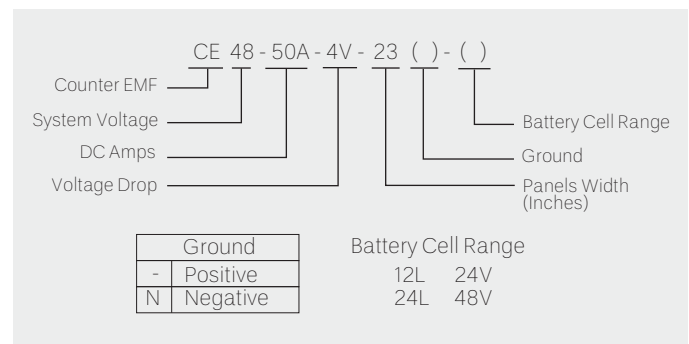
La Marche Counter EMF panels provide a means of reducing the system DC voltage at the load when the charger(s) are set for battery equalize operation. Using voltage sensing relays, contactors and forward biased series silicon diodes the Counter EMF panel maintains the load voltage for a particular system requirement. A voltage sensing circuit monitors the battery voltage and controls a contactor rated for the total system load current. When the battery voltage is above a preset voltage, the Counter EMF diodes are engaged reducing the DC load voltage values to the required voltage range of the load. When the battery voltage drops below the preset level due to discharge, the contactor is energized, removing diodes, thereby maintaining the load voltage at the required values.



## MODEL NUMBER CHART

Model Number	System Voltage	Current Rating	Voltage Drop	No. of Racks Unit Spaces
CE48-50A-3V23	48 VDC	50	3.2	9
CE48-50A-4V23	48 VDC	50	4.0	9
CE48-100A-3V23	48 VDC	100	3.2	11
CE48-100A-4V23	48 VDC	100	4.0	11
CE48-200A-3V23	48 VDC	200	3.2	19
CE48-200A-4V23	48 VDC	200	4.0	19
CE48-400A-3V23A	48 VDC	400	3.2	20
CE48-400A-4V23A	48 VDC	400	4.0	20

## MODEL NUMBER NOMENCLATURE



### Notes:

1. CEMF Panels listed in the accompanying table are 23" rack mounted. All are available in 19" rack mount. To order 19" rack mount, just change the numeral "23" in the model number to 19" (i.e CE48-400A-4V23 to CE48-400A-4V19)
2. CEMF Panels are for 48 volt systems. All are also available for 24 volt systems. To order a 24 volt panel, just change the numeral "48" to "24" in the model number (ie CE48-400A-4V23A to CE24-400A-4V23A).
3. Heat Baffle included on all CEMF Panels.

# LMDC Distribution Center

The LMDC (La Marche Distribution Center) is designed for use with all La Marche Telecom systems built on a standard 23" rack frame. It combines the load distribution breakers, current shunts, LVLD (Low Voltage Load Disconnect) ground and charge bus bars into one compact unit.

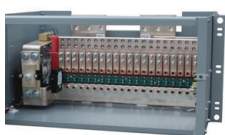
The LMDC is offered in two configurations; a single breaker tier (row) configuration or two breaker tier configuration. The distribution breaker bus is rated at 600A per tier. Each tier is equipped with 20 plug-in distribution breaker positions and contactor (LVLD) that is controlled by the rectifier system. One tier of breakers may be setup with most the critical loads and the other with the less critical loads. This allows you to shed the load by eliminating the less critical and keeping the most critical loads running, thus conserving and extending your battery energy usage. To simplify the installation, this distribution center utilizes plug in type breakers. Another advantage of this product is the accessibility from the front, allowing the wiring of Load Breakers without requiring rear access. Plug-in Style breakers provide quick and simple mounting in the field.



## FEATURES

- Front Customer Access
- Plug-In Breakers
- 23" Rack Mounting (Center)
- Top Cable Access
- LVLD Bypass Switch
- 6 RU for One Tier, 9 RU for Two Tier LVLD Contactor (One Per Tier)
- Available in 24V or 48V

Model Number	Tiers	Breaker Positions	Overall Dimensions W x D x H	Mounting	RU's	Unpackaged
LMDC-600-48V-1T-2- 2	One	20	20.81" x 17.5" x 10.5" 219 x 689 x 413 mm	23"	6	63 lbs
LMDC-1200-48V-2T-2- 4	Two	40	20.81" x 17.5" x 15.75" 219 x 689 x 597 mm	23"	9	102 lbs
LMDC-600-24VN-1T-2- 6	One	20	20.81" x 17.5" x 10.5" 219 x 689 x 413 mm	23"	6	63 lbs
LMDC-1200-24VN-2T-2- 8	Two	40	20.81" x 17.5" x 15.75" 219 x 689 x 597 mm	23"	9	102 lbs



One Tier LMDC



Two Tier LMDC

# MB Manual Bypass Switch

The Manual Bypass Switch (MBS) provides a mechanical means to transfer between power sources to your critical loads. Whether you are performing regular schedule maintenance on the system or in the event of an unexpected system malfunction, the power to the load can be safely transferred without being interrupted.

La Marche offers two types of MBS configurations, a Make-Before-Break (MB4B) and a Break-Before-Make (BB4M). The MB4B switch links both primary and secondary sources momentarily before completing the transfer. The MB4B is the preferred configuration for use with critical loads.



## FEATURES

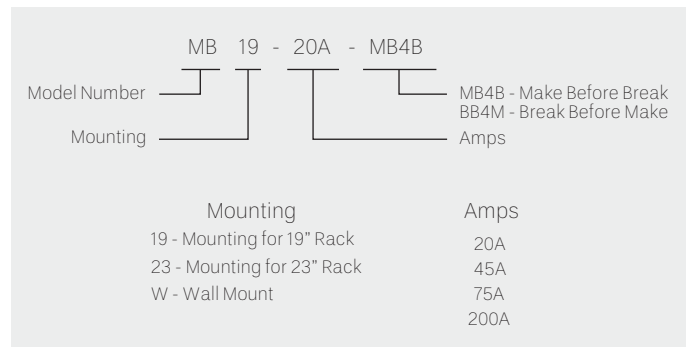
- Input & Output Terminal Block
- Rotary CAM Type Switch
- 2 - Position for Complete Isolation
- Rack or Wall Mount available
- UL Listed Bypass Switches
- 20 to 200 AMP Rating Switches

## OPTIONAL

- Frequency Meter(available for MB23 & MBW)

Rack Panel	Inverter Rating	Rack Units
20A	1k TO 1.5kVA	2
45A	2k to 4kVA	3
75A	5kVA	4
200A	7.5 to 15kVA	8

## MODEL NUMBER NOMENCLATURE



## DIMENSIONS CHART

Wall Mount	Inverter Ratings	Case No.	Width		Depth		Height	
			in	mm	in	mm	in	mm
20A	1k to 1.5kVA	1	10.375	264	7.875	200	16.250	413
45A	2k to 4kVA	1	10.375	264	7.875	200	16.250	413
75A	5kVA	2	12.812	326	10.000	254	17.125	435
200A	7.5 to 15kVA	3	15.375	391	11.000	279	23.750	603

# Additional Accessories

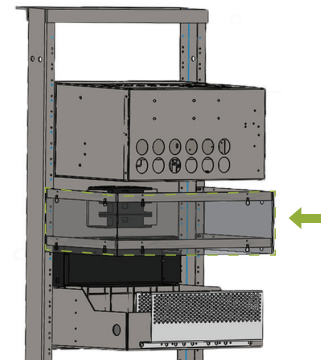
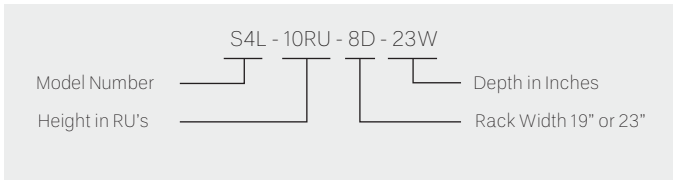
## MWT Mount Wire Test

When compiling a complete Telecom Rack System, La Marche's Mount Wire and Test option can be added to the configuration so it can be built, designed and tested as a system. This will include a system wiring diagram and mechanical layout drawing. Recommended for systems containing seismic/non-seismic relay racks and box frames. If option is not selected, the components will be built and shipped individually.



## PBS Protective Back and Sides

Rear mounted protective back and side panels can be used to shield exposed bus work and live components when rear access is required. Panels are available from 2 to 30 Rus in 19" or 23" configurations. 8", 12", or 18" depths are available for your varying system needs.



## Blank Panels

The front mounted blank panels can be used to shield exposed bus work from the front of the rack assembly to allow for easy expansion of an existing power rack system. Panels are available from 1 to 10 Rus in 19" or 23" configurations.

