



DC POWER SYSTEM SERIES



Unit shown: LMP-100A-48V



The LmPower Series is a compact -48V DC power system with high-performance rectifiers. The pre configured LmPower models are: LMP-100A (1RU), LMP-200A (5RU) and LMP-400A (6RU). LmPower series can be mounted on standard 19" and 23" racks.

The LmPower Series utilizes hot swappable high efficiency LmPower R50 1RU 3000W (50A) rectifiers at 96% efficiency.

The LmPower Series offers a robust system controller with an embedded I/O interface equipped with digital inputs, dry contact alarm outputs and temperature sensors input ports. In addition, the system offers intelligent battery management, remote access and a rectifier hibernation/cycling function for increased efficiency.

APPLICATIONS:

- 5G / 4G / Datacom
- Radio Base Stations/ Cell Sites
- Mobile Switching Center (MSC)
- Distributed Antenna Systems (DAS)
- Microwave Transmission / Switches
- Fiber Optics / FTTX
- Individual Base Transceiver (BTS)

Standard Features

50A/48V 1RU Rectifier: Universal AC Input, High Density, High Efficiency, Excellent High Temperature Performance (Full Load @ 50°C)

Wide Operating Temperature Range (-40°C to 65°C)

Hot-Swappable Rectifiers for N+1 Redundancy

Standard Installation Structure Design, Adapt to Various Applications

Rectifier Hibernation Function to Help Increase System Efficiency

Intelligent Battery Management and Protection to Help Prolong Battery Lifespan

Support Environmental Signal Monitoring and Remote Management Through Dry Contact, Serial Interface or Ethernet Interface (TCP/IP, Web Browser, SNMP)

Load Distribution Breakers With BLVD/LLVD (Low Voltage Battery/Load Disconnect)



Specifications

		100A (1RU)	200A (5RU)	400A (6RU)
AC Input	Input Mode	176-300VAC (1Ph) Linearly Derated (85-175VAC)	176-300VAC (1Ph) 208/220/240VAC or 380VAC (3Ph)	176-300VAC (1Ph) 208/220/240VAC or 380VAC (3Ph)
	Max Input Current	36A	72A (1Ph) 36A/Ph (3Ph)	144A (1Ph) 54A/Ph (3Ph)
	Input Frequency	50Hz/60Hz (45 to 66Hz)		
	SPD (Surge Protection)	20kA/40kA, 8/20µs		
DC Distribution*	Output Voltage	-42 to -58VDC, Nominal: -53.5VDC		
	Rated Output	6000W	12000W	24000W
	Battery Breakers	1 × 40A (Fuse)	2 x Plug-in Breaker Positions (Up to 200A per position)	Battery Connection Terminals
	Load Breakers (1P)	1 × 80A (Fuse) 1 × 40A (Fuse)	16 x Plug-in Breaker Positions (Up to 100A per position)	20 x Plug-in Breaker Positions (Up to 100A per position)
	Low Voltage Disconnect (1P)	BLVD	LLVD (8 x critical and 8 x non-critical loads) BLVD (w/ bypass switch)	LLVD (10 x critical and 10 x non-critical loads)
Rectifier	Input Voltage	85 to 300VAC, rated 220VAC		
	Rated Power	3000W (176 to 300VAC) Linearly Derated (85 to 175 VAC) 1000W (85 VAC) 1500W (105 VAC) 1800W (120 VAC) 2600W (175 VAC)		
	Efficiency	>96% Peak		
	Power Factor	≥0.99		
	THD	≤5%		
	Operating Temperature	-40°C to 65°C (full load @ 55°C), Output Derated from 55°C to 65°C		
	Controller	Dimension (W×D×H)	4.17 × 11.73 × 1.67in 106 × 298 × 42.5mm	
Weight		3.53lbs (1.6kg)		
Cooling		Forced Cooling		
Signal Input		1 Battery Temp., 1 Ambient Temp, 2 Common DI	1 Battery Temp., 1 Ambient Temp, 1 Smoke, 1 Gate, 2 Common DI	1 Battery Temp., 1 Ambient Temp, 1 Smoke, 1 Gate, 2 Common DI
System**	Alarm Output	4 Dry Contacts		
	Communication Port	RS232/485, Ethernet		
	Display Mode	LCD		
	Dimension (W×D×H)	17.32 × 14 × 1.73in 440 × 354 × 44mm	17.32 × 14 × 8.75in 440 × 354 × 222.2mm	17.32 × 14 × 10.5in 440 × 354 × 266.7mm
Standards and Compliance	Weight (w/out rect.)	14.33lbs (6.5kg)	29.54lbs (13.4kg)	63.93lbs (29kg)
	Mounting	19/23" Rack Mount		
	Terminals	Front Access	Top Access	Top Access
Environmental		IEC 60950 Standards EN 61000-4-5 UL/IEC 62368-1 FCC Part 15 Subpart B ROHS		
	Operating Temperature	-40°F to 149°F (-40°C to 65°C), Output Derates from 55°C to 65°C		
	Storage Temperature	-40°F to 158°F (-40°C to 70°C)		
	Operating Humidity	5% to 95% (Non-Condensing)		
	Altitude	0 to 6562ft (0 to 2000m)		

* Contact factory for other distribution configurations.

** Consult Factory for 600A and larger DC systems.

LmPower R50 Rectifier

LMP-R50 is a high power density 1RU switch-mode rectifier operating at a high efficiency of (>96%). Wide operational temperature range with variable fan speed, hot swappable for easy maintenance. The rectifier delivers 100% output current at 176-300VAC and linearly derated for 85-175VAC input.

Standard Features

AC Input (85-300VAC)

Wide Working Temperature Range (-40°C to 65°C)

Input Current <18A

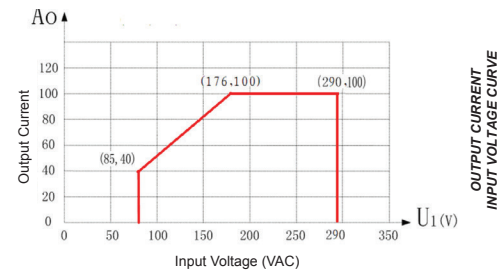
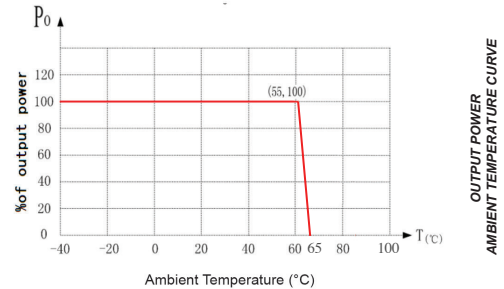
Battery Temperature Compensation

Active Power Factor Correction PF ≥ 0.99

Fan Speed Control

Hot Swappable

R50 Rectifier



Rectifier Specifications

AC Input	Voltage (V)	176-300VAC (1Ph) Linearly Derated (85-175VAC)
	Current (A)	$\leq 18A$
	Frequency	45Hz - 66Hz
	Power Factor	≥ 0.99
	Efficiency	>96% Peak
DC Output	Voltage Range	-42.0V to 58.0VDC Rated Value: -53.5VDC
	Rated Power	3000W (176 to 300VAC) Linearly Derated (85 to 175 VAC); 1000W (85 VAC) 1500W (105 VAC) 1800W (120 VAC) 2600W (175 VAC)
	Load Regulation	$\leq \pm 0.5\%$
	Voltage Regulation	$\leq \pm 0.1\%$
	Noise Level (mV)	≤ 2 (Balance Weight) ≤ 200 Peak-Peak ≤ 50 (3.4~150kHz) ≤ 20 (0.15~30mHz)
	Load Sharing	$\leq \pm 5\%$
Environmental	Operating/Storage Temperature	-40°C to 65°C ; Output Derated from 55°C to 65°C / -40°C to 70°C
	Humidity RH	5% to 95% (Non-Condensing)
Safety	Safety Certifications	UL/IEC 62368-1 FCC Part 15 Subpart B
	Protective Function	Input Overvoltage, Under-Voltage; Output Overvoltage, Overload, Short Circuit; Over-Temperature and Fan Failure
	Cooling	Speed Controlled Forced Cooling
	Dimensions (W×D×H)	4.17" x 11.26" x 1.61" (106×286×41mm)
	Weight	4.19lbs (1.9kg)

LmPower SC Controller

La Marche's Telecom Power System Controller (LMP-SC) is an intelligent module that monitors and manages La Marche DC power systems. LMP-SC provides the system with battery management and a rectifier hibernation/cycling function for increased efficiency.

Configuration settings and real-time parameters can be accessed locally through the LCD or remotely using the WEB UI (Web User Interface). LM-SC is equipped with an RS485/RS232 and an Ethernet port.

This controller is equipped with an embedded I/O interface equipped with digital inputs, dry contact alarm outputs and temperature sensor ports.

LMP-SC Controller



Standard Features

Monitors the Power System Status in Real Time

I/O Interface Ports

- 4 Dry Alarm Contacts
- 2 Digital Input Contacts
- Temperature Sensor
- Battery Temperature Sensor

Detects and Reports Alarms in Real Time

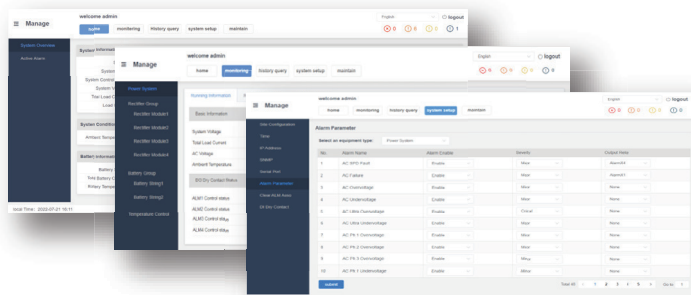
Multiple Remote Management Modes

Rectifier Management

Energy Conservation Management

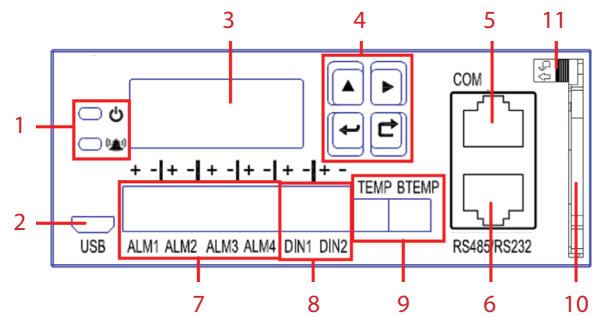
Battery Temperature Compensation

Web Interface



The Web User Interface allows for a secure password protected remote access to the DC system for monitoring and control purposes. The WebUI provides system's running parameters, active alarms and configurations. Various settings can be configured using the WebUI. Settings include: alarm parameters and configurations, rectifier management, battery management and communications settings.

Controller Front Display



- | | |
|---------------------------------|--|
| 1. Operation Indicator | 7. Dry Contact Output Ports |
| 2. USB | 8. Digital Input Ports |
| 3. Liquid Crystal Display (LCD) | 9. Ambient Temperature/
Battery Temperature Sensor Port |
| 4. Buttons | 10. Handle |
| 5. COM Port (SNMP) | 11. Locking Latch |
| 6. RS485/RS232 Port | |

Communication Ports

Comm. Port	Comm. Parameter	Protocol
COM Port	10/100M Auto Adaption	HTTP, SNMP
RS485/RS232	Baude rate: 9600 bit/s	Master/Slave Modbus, BMS

Digital Input/Output Connections

Four alarm dry contact output ports and two digital input ports are included as a standard feature of the LMP system controller, LMP-SC. The included alarms are AC Mains Fail, Major Alarm and Minor Alarm by default factory designation.

Alarm Contact No.	Factory Default Designation	Relay Logic
ALM1	AC Failure	De-energize on Fail
ALM2	Critical + Major	De-energize on Fail
ALM3	Minor	De-energize on Fail
ALM4	Warning	De-energize on Fail

The LMP-SC controller can accommodate up to 2 digital inputs, DIN1 & DIN2, and can monitor digital alarm/-control signals from different types of equipment. All digital signals are connected via the LMP-SC front panel.

DC Distribution Panel (DCD)

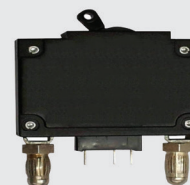


Available Breaker Current Ratings:

1A, 2A, 3A, 5A, 10A, 15A, 20A, 25A, 30A, 35A, 40A
50A, 60A, 70A, 80A, 100A, 125A, 150A, 200A

Breaker Positions Required:

1A - 100A = 1 Position
125A - 200A = 2 Positions



*For LMP-200 and LMP-400

Ordering Information

Model Number	Description	RUs	Number of Rectifiers Slots
LMP-100A	100A DC System	1 RU	2
LMP-200A	200A DC System	5 RU	4
LMP-400A	400A DC System	6 RU	8
LMP-R50	50A Rectifier (96% Eff.)	1 RU	---
LMP-SC	System Controller	1 RU	---
LMP-ECOVER	Rectifier Empty Slot Cover	---	---