# MUPS

## Modular Online UPS


Shown Above: MUPS-LM-LVA-4S
**For customized system, please consult factory**

The La Marche Modular Online UPS (MUPS) system is a highly flexible and cost-effective solution for critical applications. This modular and scalable system can be housed in a pre-configured unit or a customizable rack, accommodating both UPS modules and battery packs. With its modular design, the MUPS offers both redundancy and scalability, ensuring it meets the users specific needs. The MUPS system is available in 3-phase, split-phase, and 1-phase configurations, making it one of the most versatile systems in the market. The system's large and user-friendly 5.7" LCD interface provides real-time power flow information, as well as controls and alarms.

## Standard Features

- True Double-Conversion
- Modular Battery Design
- 50Hz/60Hz Selectable Frequency Mode
- Emergency Power Off Function (EPO)
- Generator Compatible
- DSP Technology Guarantees High Reliability
- Eco Mode Operation for Energy Saving (Improves the Efficiency up to 97%)
- Complies with UL1778
- 2 Year Warranty

## Applications

- Data Centers
- Server Rooms
- Telecommunication
- Labs and Hospitals
- Edge of the Network
- Supply Critical Load
- Networking

## ADVANTAGES OF MUPS:

- **Hot-Swappable**

MUPS power module and battery pack can be safely removed and inserted into the system without having to power down or transfer to mains, which minimizes downtime.

- **Modular**

Modular parallel UPS solutions empower customers to simplify, and increment their UPS power in a cost effective way.

- **Small Footprint**

MUPS has a small foot print and when extra modules are added, no extra floor space is taken up.

- **N+1 Configuration**

One significant benefit of modularity is the simplicity with which redundancy can be achieved. Normally, including redundancy simply includes configuring one UPS module more than is necessary to cover the essential load.

- **Eco-Friendly**

By enabling Eco-mode user can achieve 97% efficiency and a positive effect on the environment.

*Specifications subject to change without notice*

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# MUPS SYSTEM SPECIFICATIONS

| | | Single Phase Configuration | | Split Phase Configuration | | Three Phase Configuration | |
|---|---|---|---|---|---|---|---|
| | | MUPS-10KVA-4S-1/1 | MUPS-20KVA-4S-1/1 | MUPS-6KVA-4S-2/2 | MUPS-12KVA-4S-2/2 | MUPS-10KVA-4S-3/3 | MUPS-20KVA-4S-3/3 |
| **Equipment Included** | | (1) P24-MUPS-PC-20KVA-4S-1/1<br>(1) MUPS-PM-10KVA-1/1<br>(1) MUPS-BATT-240V-1 | (1) P24-MUPS-PC-20KVA-4S-1/1<br>(2) MUPS-PM-10KVA-1/1<br>(2) MUPS-BATT-240V-1 | (1) P24-MUPS-PC-12KVA-4S-2/2<br>(1) MUPS-PM-6KVA-2/2<br>(1) MUPS-BATT-120V-1 | (1) P24-MUPS-PC-12KVA-4S-2/2<br>(2) MUPS-PM-6KVA-2/2<br>(2) MUPS-BATT-120V-1 | (1) P24-MUPS-PC-20KVA-4S-3/3<br>(1) MUPS-PM-10KVA-3/3<br>(1) MUPS-BATT-120V-1 | (1) P24-MUPS-PC-20KVA-4S-3/3<br>(2) MUPS-PM-10KVA-3/3<br>(2) MUPS-BATT-120V-1 |
| **Input Voltage** | | 208/220/230/240 VAC<br>(Single Phase+ Neutral+Ground | | 120/208 or 110/220 or 120/240 VAC<br>(Split Phase+Neutral+Ground) | | 208/220 VAC<br>(Three Phase+Neutral+Ground) | |
| **Output Voltage** | | 208/220/230/240 VAC<br>(Single Phase+Neutral) | | 120/208 or 110/220 or 120/240 VAC<br>(Split Phase+Neutral) | | 208/220 VAC<br>(Three Phase+Neutral) | |
| **DC Bus Voltage** | | 240VDC | | 120VDC | | 120VDC | |
| **Maximum Power** | | 20kVA | | 12kVA | | 20kVA | |
| **Dimensions (W x D x H)** | | 17.4 x 33.7 x 33”<br>442 x 856 x 838mm | | | | | |
| **Total Slots** | | 2 Slots for UPS Power Module<br>2 Slots for Battery Module<br>17RU Cabinet | | | | | |
| **Protection** | | AC Input Breaker<br>AC Output Breaker<br>Emergency Power Off Port | | | | | |
| **System Panel Display** | | Current Operation Mode<br>Realtime Current Flow Chart and Measurements | | | | | |
| **Controller Module** | | Dry Output, Output and Battery Alarm Contacts<br>Communications Port | | | | | |
| **Back up time (in minutes)** | Load/ Battery Packs | 1 | 2 | 1 | 2 | 1 | 2 |
| | 6K | --- | --- | 15 | 31 | --- | --- |
| | 10K | 9 | 19 | --- | --- | 9 | 19 |
| | 12K | --- | --- | --- | 15.5 | --- | --- |
| | 20K | --- | 9.5 | --- | --- | --- | 9.5 |
| **Efficiency** | | AC Mode: 91%<br>ECO Mode: 97%<br>Battery Mode: 91% | | | | | |
| **LCD/LED Display Indicators** | | UPS Status, Load Level, Battery Level, Input/Output Voltage, Discharge Timer, and Fault Conditions | | | | | |
| **Operating Humidity** | | 0-95% RH @ 32 to 104ºF (0 to 40ºC) (non condensing) | | | | | |
| **Noise Level** | | Less than 58dB @ 1 Meter | | | | | |
| **Smart RS-232 / USB** | | Power Management from SNMP manager and web browser | | | | | |
| **SNMP Card** | | Supports Windows® 2002/2003/XP/Vista 2008/7/8/10, Linux and Mac | | | | | |
| **Safety** | | IEC / EN 62040-1 | | | | | |
| **EMI** | | Conducted Emission FCC47 CFR15, Subpart B, Class A<br>Radiated Emission FCC47 CFR15, Subpart B, Class A | | | | | |
| **Approvals** | | Complies with UL1778, RoHS, cUL, FCC | | | | | |

# POWER MODULE SPECIFICATIONS

## UPS Module

The UPS module is available in multiple input/output configurations in both 6KVA and 10KVA ratings to provide flexibility in design of the system based on specific needs. The pure sine wave MUPS module features low harmonic distortion and high efficiency is ideal for various critical applications. The La Marche UPS module can be mounted on a standard rack with optional kits. The modules offer ECO mode to comply with CEC efficiency requirements.

### UPS Module Specifications

| | MUPS-PM-10KVA-1/1 | MUPS-PM-6KVA-2/2 | MUPS-PM-10KVA-LV-3/3 |
|---|---|---|---|
| **Rating** | 10K<br>1 Phase Input /1 Phase Output | 6K<br>Split Phase Input /Split Phase Output | 10K<br>3 Phase Input /3 Phase Output |
| **Input** | 208/220/230/240 VAC<br>(1P+Neutral+Ground) | 120/208<br>110/220<br>120/240<br>(2P+Neutral+Ground) | 208/220 VAC<br>(3P+Neutral+Ground) |
| **Output** | 208/220/230/240VAC<br>(1P + Neutral) | 120/208 VAC<br>110/220 VAC<br>120/240 VAC<br>(2P+Neutral) | 208/220 VAC<br>(3P + Neutral) |
| **DC Bus/Charging Current** | 240 VDC / 4 Amps | 120 VDC / 4 Amps | 120 VDC / 4 Amps |
| **DC Current Draw (ADC)** | 32.5 A | 39 A | 65 A |
| **Size/Dimensions (D x W x H)** | 3RU<br>26.7 x 16.45 x 5.2” | 3RU<br>26.7 x 16.45 x 5.2” | 3RU<br>26.7 x 16.45 x 5.2” |
| **Weight** | 21 lbs | 18 lbs | 21 lbs |
| **Frequency Range** | 40Hz ~70Hz | | |
| **Power Factor** | > =0.99 @100% load | | |
| **Float Voltage** | 2.275V/cell Constant Current and Constant Voltage Charge Mode | | |
| **Temperature Compensation** | -3.0 (Option) mV/cell | | |
| **Ripple Voltage** | ≤1 % V Float | | |
| **Ripple Current** | ≤5 % C10 | | |
| **Boost Voltage** | 2.4V/cell Constant Current and Constant Voltage Charge Mode | | |
| **EOD Voltage** | 1.6V/cell | | |
| **Battery Charge** | Limit Current and Constant Voltage Charger Mode • Floating Voltage 2.275V/cell • Boost Charging 2.4V/cell | | |
| **Overload** | 30min 1~1.1Pn • 5min 1.1~1.3Pn • 10s 1.3~1.5Pn • 200ms>1.5Pn | | |

## Battery Pack

The La Marche battery packs provide modularity to scale based on the backup time requirement. This flexibility is ideal for future growth and maintenance. The modules are configured with maintenance free VRLA batteries. The MUPS battery packs can be paralleled up to 32 modules to provide long duration backup time for critical applications.


### Battery Pack Specifications

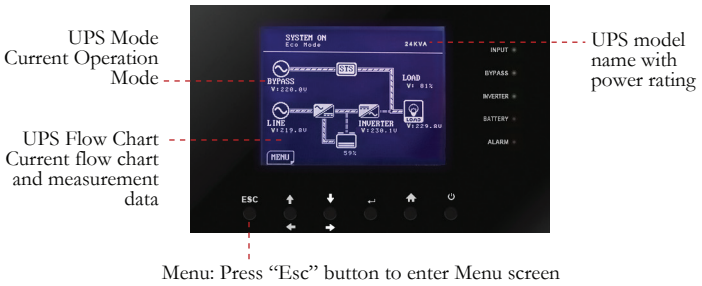
| Model Number | Rating | Total Batteries | Capacity | Dimension (D x W x H) | Weight |
|---|---|---|---|---|---|
| MUPS-BATT-120V-1 | ± 120 VDC<br>Qty. 10-10 (12V) | 20 | 10Ah | 24 x 16.3 x 5.2” | 115lbs |
| MUPS-BATT-240V-1 | ± 240 VDC<br>Qty. 20-20 (12V) | 40 | 5Ah | 24 x 16.3 x 5.2” | 115lbs |

# POWER CAGE SPECIFICATIONS

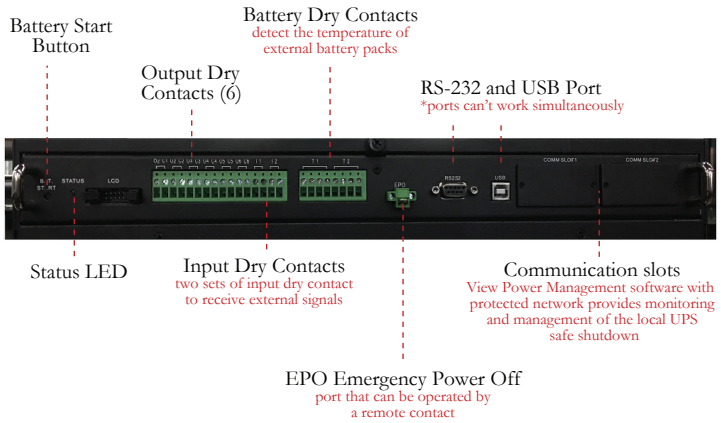
## Operation Modes

| | |
|---|---|
| **Standby Mode** | Upon starting the system, the charging function is Active but the load is not powered yet |
| **Line Mode** | Charging function is active and the load is powered from power module |
| **Battery Mode** | Charging function is disabled and the load is powered from the Battery through the Power module |
| **Bypass Mode** | Charging function is active and the load is powered by utility power |
| **ECO Mode** | Charging function is active and the load is powered from the Bypass. The Rectifier and Inverter remain ON in this mode for faster transfer response |
| **Shutdown Mode** | UPS is in power off state and AC power is absent |

## System Panel Display




## Controller Module




## Complete MUPS System


1. Control Panel
2. UPS Module
3. LCD Display on UPS Module
4. Battery Pack
5. Leveling Foot
6. Controller Module
7. AC input Breaker
8. AC Output Breaker
9. AC Terminal
10. Battery Terminal