



La Marche Manufacturing Company  
[www.lamarchemfg.com](http://www.lamarchemfg.com)

# *CUPS*

Online UPS  
1000VA / 2000VA / 3000VA



## Installation and Operation Manual

This manual is subject to change without notice. You may obtain the newest version of the manual at [www.lamarchemfg.com](http://www.lamarchemfg.com)

## Important Safety Instructions

Before using this equipment read all manuals and other documents related to this UPS and other equipment connected to this UPS. SAVE THESE INSTRUCTIONS – This manual contains important safety and operating instructions for the CUPS. If a replacement copy of a manual is needed, it can be found at [www.lamarchemfg.com](http://www.lamarchemfg.com).

### Electrical Safety



**WARNING:** Hazardous Voltages are present at the input of power systems. The output from UPS and from batteries may be low in voltage, but can have a very high current capacity that may cause severe or even fatal injury.

When working with any live battery or power system, follow these precautions:

- Never work alone on any live power system; someone should always be close enough to come to your aid.
- Remove personal metal items such as rings, bracelets, necklaces, and watches.
- Wear complete eye protection (with side shields) and clothing protection.
- Always wear gloves and use insulated hand tools.



**WARNING:** Lethal Voltages are present within the power system. Parts inside the UPS may still be energized even when the UPS has been disconnected from the AC input power. Check with a meter before proceeding. Do not touch any uninsulated parts.

- A licensed electrician should be used in the installation of any UPS.
- Always disconnect the UPS from the supply, batteries, and loads before performing maintenance, replacing parts, or cleaning.
- Always assume that an electrical connection is live and check the connection relative to ground.
- Be sure that neither liquids nor any wet material comes in contact with any internal components.
- Do not operate this UPS outside the input and output ratings listed on the UPS nameplate.
- Do not use this UPS for any purpose not described in the operation manual.

### Mechanical Safety

- This UPS may get very hot during normal operation, use care when working nearby.
- Do not expose equipment to rain or snow. Always install in a clean, dry location.
- Do not operate equipment if it has received a sharp blow, been dropped, or otherwise damaged in any way.
- Do not disassemble this UPS. Incorrect re-assembly may result in a risk of electric shock or fire.

### Battery Safety



**WARNING:** Follow all of the battery manufacturer's safety recommendations when working with or around battery systems. DO NOT smoke or introduce a spark or open flame in the vicinity of a battery. Some batteries generate explosive gases during normal battery operation.

- To reduce risk of arc, connect and disconnect the battery only when the UPS is off.
- If it is necessary to remove battery connections, always remove the grounded terminal from the battery first.
- Remove personal metal items such as rings, bracelets, necklaces, and watches.
- Always wear rubber gloves, safety glasses, and a rubber lined vest/apron when working near a battery.
- Have plenty of fresh water and soap nearby in case the battery electrolyte contacts skin, clothing, or eyes.
- If the battery electrolyte contacts skin or clothing, wash immediately with soap and water.
- If the electrolyte enters the eye, immediately flood the eye with running cold water for at least ten (10) minutes and seek medical attention immediately.
- Do not drop or place any materials on a battery. A spark or short-circuit could cause an explosion.

## UPS Location

- Allow at least 6 inches of free air on all vented surfaces for proper cooling
- Allow sufficient clearance to open the front panel for servicing.
- Do not operate this UPS in a closed-in area or restrict ventilation in any way.
- Do not place UPS below battery.
- Never allow battery electrolyte to drip on this UPS when reading the specific gravity or filling the battery.
- Never place this UPS directly above a standard flooded battery. Gases from the battery will corrode and damage equipment.
- A sealed maintenance free or valve regulated lead acid (VRLA) battery may be placed below this equipment.

## Check for Damages

Prior to unpacking the product, note any damage to the shipping container and take pictures. Unpack the product and inspect the exterior and interior of product for damage. If any damage is observed, take pictures and contact the carrier immediately to file a damage claim. Contact La Marche for a Return Material Authorization number to have the UPS sent back for evaluation and repair.



**CAUTION:** Failure to properly file a claim for shipping damages, or provide a copy of the claim to La Marche, may void warranty service for any physical damages reported for repair.

## Returns for Service

Save the original shipping container. If the product needs to be returned for service, it should be packaged in its original shipping container. If the original container is damaged/unavailable, make sure the product is packed with at least three inches of shock-absorbing material to prevent shipping damage. *La Marche is not responsible for damage caused by improper packaging of returned products.*

## Inspection Checklist

- The enclosure exterior and interior are not marred or dented.
- No visible damage to the components.
- All hardware and connections are tight.
- All wire terminations are secure.
- All items on the packing list have been included

## Handling

Equipment can be very heavy with uneven distribution of weight. Use adequate manpower or equipment for handling. Until the equipment is securely mounted, care must be used to prevent equipment from being accidentally tipped over or dropped.

## Table of Contents

|   |            |
|---|------------|
| <b>Important Safety Instructions</b> .....                | <b>i</b>   |
| Electrical Safety.....                                    | i          |
| Mechanical Safety.....                                    | i          |
| Battery Safety.....                                       | i          |
| UPS Location.....   | ii         |
| Check for Damages.....                                    | ii         |
| Returns for Service.....                                  | ii         |
| Inspection Checklist.....                                 | ii         |
| Handling.....   | ii         |
| <b>Table of Contents</b> .....                            | <b>iii</b> |
| <b>Model Scope/General Description</b> .....              | <b>1</b>   |
| Understanding the Model Number.....                       | 1          |
| <b>1 Equipment Handling</b> .....                         | <b>2</b>   |
| 1.1 Storing the CUPS.....                                 | 2          |
| 1.1.1 Battery Maintenance.....                            | 2          |
| 1.2 Moving the CUPS.....                                  | 2          |
| <b>2 Installation</b> .....                               | <b>3</b>   |
| 2.1 Mounting the CUPS.....                                | 3          |
| 2.1.1 Rack-Mount Installation.....                        | 3          |
| 2.1.2 Tower Installation (Optional).....                  | 3          |
| 2.2 Understanding the Rear Panel View.....                | 4          |
| 2.3 Battery Connections.....                              | 6          |
| 2.3.1 Internal Battery Connections.....                   | 6          |
| 2.3.2 External Battery Connections.....                   | 6          |
| 2.4 AC Input Connections.....                             | 7          |
| 2.5 AC Output Connections.....                            | 7          |
| 2.6 Communication Connections.....                        | 8          |
| 2.7 Emergency Power OFF Function.....                     | 8          |
| <b>3 Operation</b> .....                                  | <b>9</b>   |
| 3.1 Starting/Stopping the CUPS.....                       | 9          |
| 3.1.1 Starting the CUPS.....                              | 9          |
| 3.1.2 Stopping the CUPS.....                              | 9          |
| 3.2 Display.....  | 10         |
| 3.2.1 LCD Panel.....                                      | 11         |
| 3.2.2 Controls.....                                       | 12         |
| 3.2.3 Audible Alarms.....                                 | 12         |
| 3.2.4 LCD Panel Wordings Index.....                       | 13         |
| 3.3 Operating Modes.....                                  | 14         |
| <b>4 Settings Menu</b> .....                              | <b>15</b>  |
| 4.1 Output Voltage (Set 01).....                          | 15         |
| 4.2 Frequency Converter Mode Enable/Disable (Set 02)..... | 15         |
| 4.3 Output Frequency (Set 03).....                        | 15         |
| 4.4 ECO Mode Enable/Disable (Set 04).....                 | 15         |
| 4.5 ECO Voltage Range (Set 05).....                       | 16         |

|          |  |           |
|----------|--|-----------|
| 4.6      | Bypass Enable/Disable (Set 06) .....                           | 16        |
| 4.7      | Bypass Voltage Range (Set 07) .....                            | 16        |
| 4.8      | Bypass Frequency Range (Set 08) .....                          | 16        |
| 4.9      | Programmable Outlets Enable/Disable (Set 09) .....             | 17        |
| 4.10     | Programmable Outlets Backup Time (Set 10) .....                | 17        |
| 4.11     | Battery Mode Backup Timer (Set 11) .....                       | 17        |
| 4.12     | Battery Capacity (Set 12) .....                                | 17        |
| 4.13     | Maximum Charger Current (Set 13) .....                         | 18        |
| 4.14     | Charger Equalize Voltage (Set 14) .....                        | 18        |
| 4.15     | Charger Float Voltage (Set 15) .....                           | 18        |
| 4.16     | EPO Logic (Set 16) .....                                       | 18        |
| 4.17     | Site Fault Detection Enable/Disable (Set 17) .....             | 18        |
| 4.18     | Battery Mode Backup Timer Display Setting (Set 18) .....       | 19        |
| 4.19     | AC Mains Voltage Range (Set 19) .....                          | 19        |
| 4.20     | Escape (Set 00) .....  | 19        |
|          | Faults Reference Code .....                                    | 19        |
|          | Warning Indicator .....  | 20        |
| <b>5</b> | <b>Communication .....</b>                                     | <b>21</b> |
| 5.1      | SNMP Communication .....                                       | 21        |
| 5.1.1    | Configuration .....  | 21        |
| 5.1.2    | Monitoring .....   | 23        |
| <b>6</b> | <b>Service .....</b>   | <b>24</b> |
| 6.1      | Performing Routine Maintenance .....                           | 24        |
| 6.2      | Troubleshooting Procedure .....                                | 24        |
| 6.3      | Battery Replacement .....                                      | 25        |
| 6.4      | Troubleshooting Chart .....                                    | 26        |
|          | <b>Appendix A: CUPS Specifications .....</b>                   | <b>27</b> |
|          | <b>Appendix B: Output Power Rating Table .....</b>             | <b>29</b> |
|          | <b>Appendix C: Battery Pack Specifications .....</b>           | <b>29</b> |
|          | <b>Appendix D: Manufacturer Warranty .....</b>                 | <b>30</b> |
|          | <b>Appendix E: Document Control and Revision History .....</b> | <b>31</b> |

## Model Scope/General Description

La Marche's Compact 2U (CUPS) is an online double-conversion UPS system which provides consistent and clean AC power, in addition to reliable transfer between sources, which makes it suitable to power up critical loads in demanding power applications.

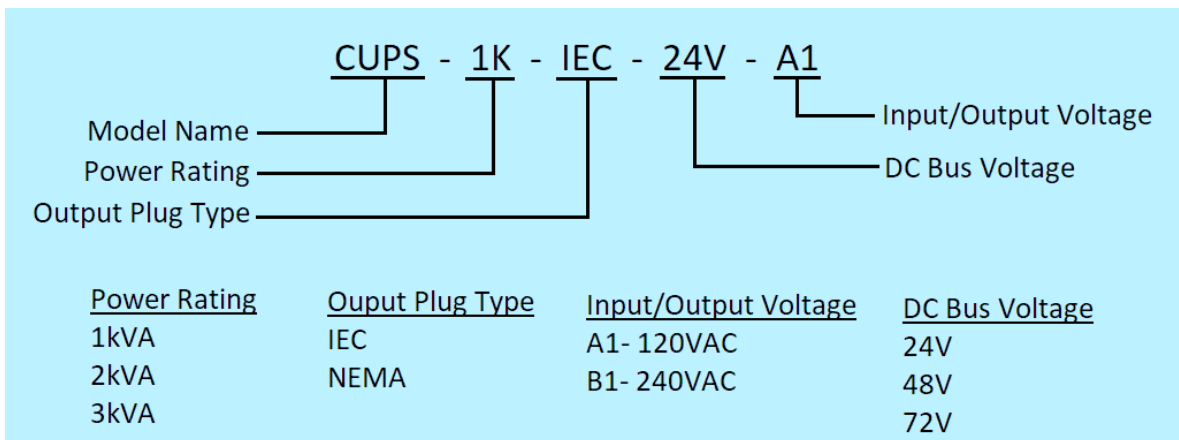
The CUPS output can be configured to operate critical and non-critical loads through different outlets. This feature and the capability to connect multiple battery packs provide the user the flexibility to accommodate different type loads, size and backup requirements.

This UPS system offer an ECO mode operation which improves its efficiency by up to 96% while maintaining safe operation of the loads. The static transfer switch within the CUPS provides uninterruptible transfer to the alternate bypass source.



## Understanding the Model Number

The CUPS model number is coded to describe the options that are included. Find the model number on the nomenclature nameplate of the UPS. Follow the chart to determine the configuration of the UPS.



# 1 Equipment Handling

## 1.1 Storing the CUPS

Before storing the CUPS, charge the internal battery in the UPS for 5 hours. Follow steps to charge the battery in section 3. During storage, charge the battery according to the following table:

| Storage Temperature | Time Cycle     | Charging Duration |
|---------------------|----------------|-------------------|
| -25°C - 40°C        | Every 3 Months | 1-2 hours         |
| -40°C - 45°C        | Every 2 Months | 1-2 hours         |

**Table 1 – Battery Charging Duration**

### 1.1.1 Battery Maintenance

The CUPS system contains no user-serviceable parts. If the battery service life (3~5 years at 25°C ambient temperature) has been exceeded, the batteries must be replaced. In this case, please contact La Marche Mfg.



**NOTE:** Assure to deliver the spent battery to a recycling facility or ship it to La Marche Mfg in the replacement battery packing material.

## 1.2 Moving the CUPS

Follow the steps below:

1. Inspect and verify that the UPS is physically undamaged.
2. Identify the enclosure style and weight of the UPS. Refer to **Table 2**.

|      | Output VA | Output Voltage | Input Voltage | Dimensions (W x D x H)  | Weight    |
|------|-----------|----------------|---------------|-------------------------|-----------|
| CUPS | 1000 VA   | 120-230 VAC    | 120-230 VAC   | 17.24" x 16.14" x 3.46" | 25.57 lbs |
|      | 2000 VA   | 120-230 VAC    | 120-230 VAC   | 17.24" x 20.07" x 3.46" | 43.00 lbs |
|      | 3000 VA   | 120-230 VAC    | 120-230 VAC   | 17.24" x 24.80" x 3.46" | 60.62 lbs |

**Table 2 – Case and Weight**

## 2 Installation

### 2.1 Mounting the CUPS

**NOTE:** Before installation, please inspect the unit. Assure nothing inside the package is damaged. Please keep the original package in a safe place for future use.

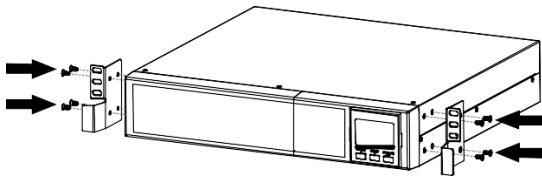
Interchangeable mounting brackets are provided for 19/23" rack mounting (Refer to visual in Section 2.1). Foot stands are provided. Use the foot stand provided for tower mounting (Refer to visual in Section 2.2). When mounting the CUPS in any configuration, consider the size and weight of the UPS. The rack must be able to support the weight of the UPS, as well as an additional safety factor. Refer to Table 2 to verify the weight of the UPS. The following considerations should be taken:

- The location chosen for the UPS should be within an ambient temperature range of 32°F to 104°F (0°C to 40°C) with a non-condensing relative humidity no higher than 20 - 95%.
- The UPS should be mounted in an area free of explosive materials and away from any liquids.
- Avoid using equipment in location with corrosive gases and dust.
- A clearance of at least 6 inches of free air must be maintained in front and on top for proper cooling.
- Maintain 12 inches (300 mm) or more of clearance at the rear of the UPS when rack mounting in order to allow for operation and maintenance.
- All hardware should be corrosion resistant.

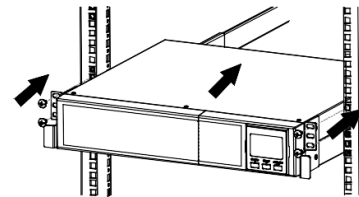
#### 2.1.1 Rack-Mount Installation

**Step 1:** Install the rack-mounting brackets to the CUPS.

**Step 2:** Mount the CUPS to the rack using the necessary hardware.



**Step 1**



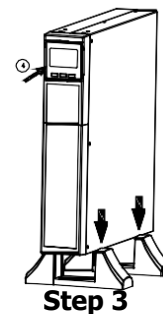
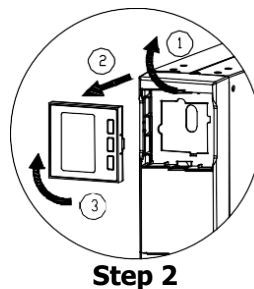
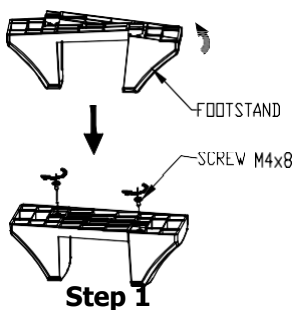
**Step 2**

#### 2.1.2 Tower Installation (Optional)

**Step 1:** Assemble the foot stand as shown below using the necessary hardware.

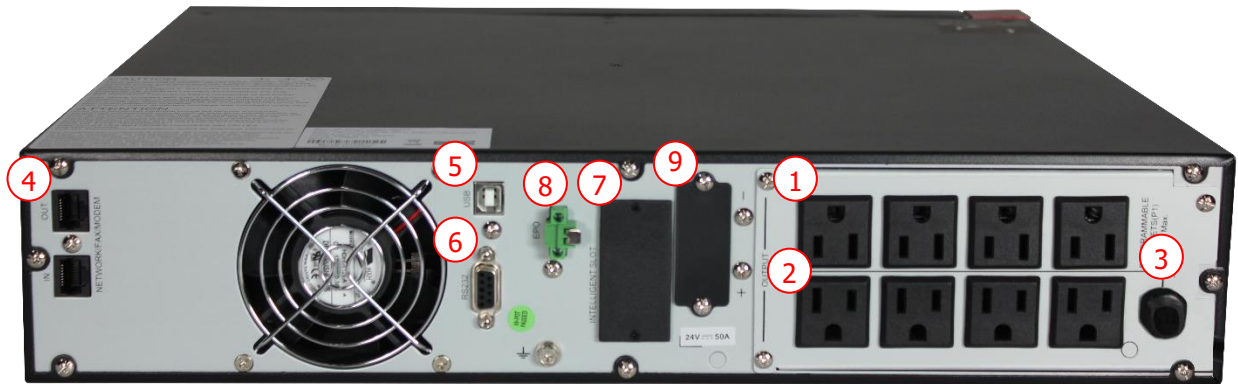
**Step 2:** Remove the front panel of the CUPS, gently pull the display out, rotate it counterclockwise 90°, and align the display to the CUPS display slot to reposition the display vertically.

**Step 3:** Mount the CUPS to the foot stand.



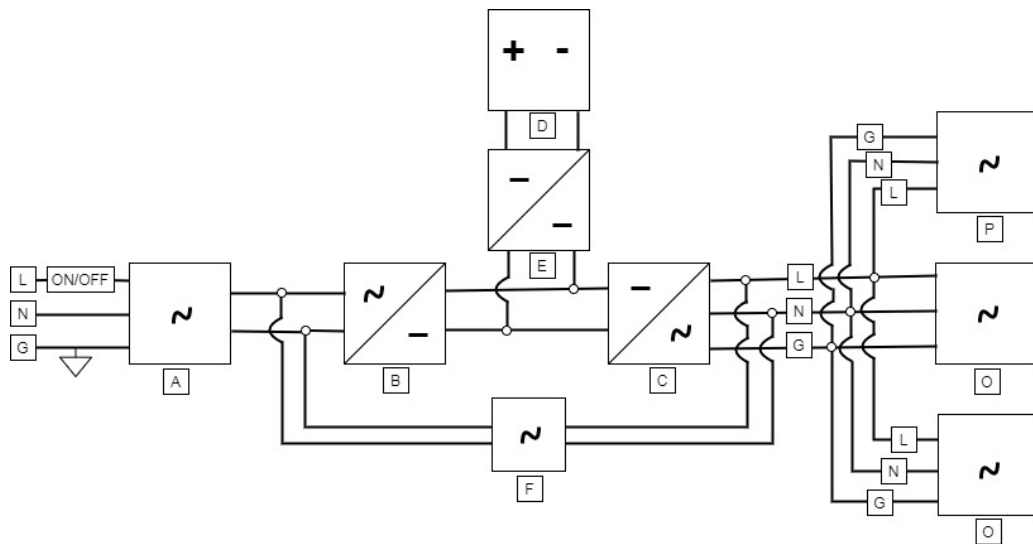


## 2.2 Understanding the Rear Panel View



**Figure 1 – CUPS Rear View**

1. Programmable Outlets: Connect to Non-Critical Loads
2. Output Receptacles: Connect to Critical loads
3. AC Input: 20A for 1-kVA & 30A for 3KVA system
4. Network/Fax/Modem Surge Protection
5. USB Communication Port
6. RS-232 Port
7. SNMP Intelligent Slot
8. Emergency Power Off Function (EPO)
9. External Battery Connection



**Figure 2 – CUPS Block Diagram**

| Block Diagram Description |                 |  |
|---------------------------|-----------------|--|
| Label                     | Component       | Function   |
| A                         | Input           | Having surge protection circuit, it protects the CUPS by eliminating possible electromagnetic interference (EMI) and radio frequency interference (RFI) available in power supply.   |
| B                         | Rectifier       | Rectifier converts input AC power to regulated DC power. Available Power Factor Correction (PFC) circuit helps to improve power factor and hence power quality, utilizing capacitors to offset usually inductive loads.  |
| C                         | Inverter        | Inverter converts DC power to regulated sine-wave AC power by using high frequency switches. Transformer connected to inverter helps to get pure sine wave.  |
| D                         | Batteries       | Sealed Lead-Acid Battery   |
| E                         | DC-DC Converter | Lowers the DC voltage of the PFC circuit to battery rated voltage, helps to charge battery during supply available. Bi-directional DC-DC converter, rise the DC voltage from the battery to the operating voltage for invertors during failure of AC power at input. |
| F                         | Bypass          | During failure event of CUPS, it automatically transfers all connected load to bypass.   |
| P                         | Output          | Output receptacles to connect critical loads.  |
| O                         | Output          | Output receptacles to connect non-critical loads.  |

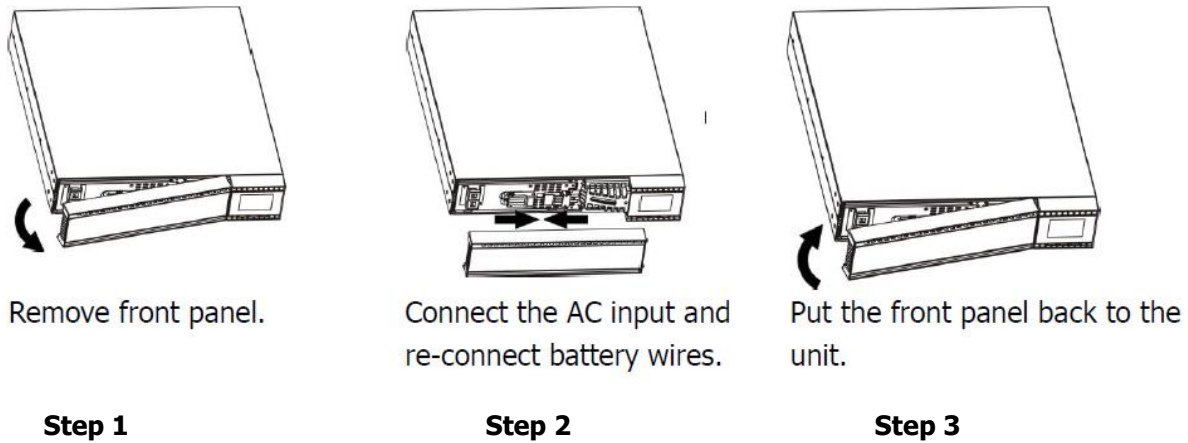
**Table 3 – Block Diagram Description**

## 2.3 Battery Connections

The battery connections to the CUPS will depend on whether it will be powered by an internal battery pack or an external battery pack. Please confirm in order to follow the appropriate steps below.

### 2.3.1 Internal Battery Connections

For safety considerations, the CUPS is shipped from factory with the internal battery wires disconnected (if applicable). Before installing the CUPS, please follow the steps below to connect the internal battery.



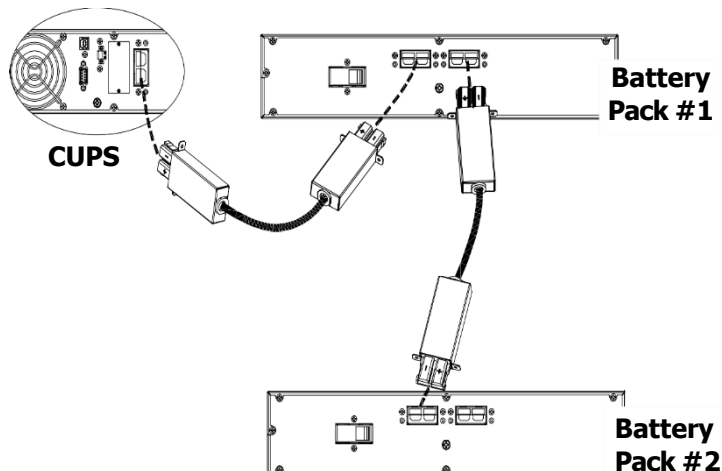
**Figure 3 - Reconnecting Internal Battery**

### 2.3.2 External Battery Connections

**NOTE:** Skip this step if external batteries are not required.

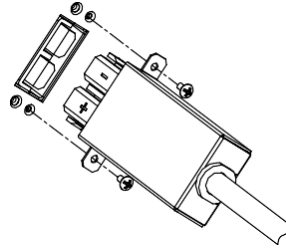
External battery packs can be used with the CUPS to allow for bigger battery capacity and longer backup time. Plug the battery cable into the external battery connector of the CUPS and the battery pack(s). An example is shown in the diagram below (connecting the second battery connector of the first battery pack to the first battery connector of the second battery pack).

**NOTE:** If you have multiple battery packs available, connect them in series and adjust the total amp hours in the Settings Menu.



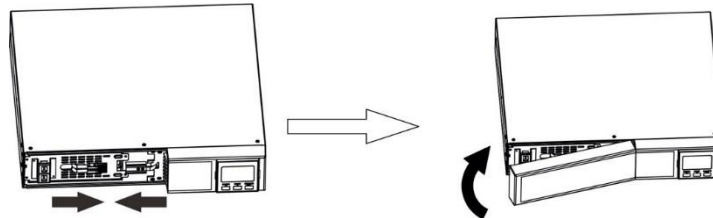
**Figure 4 – Connecting External Battery Packs**

Secure the connector to the CUPS and the battery pack(s) by fixing the screws as shown in figure below.



**Figure 5 – Securing Battery Pack Connection**

Connect the internal battery connector and put the front panel back on the unit (if applicable).



**Figure 6 – Connecting Internal Battery**

## 2.4 AC Input Connections

Plug the CUPS into a two-pole, three-wire, grounded receptacle only. Avoid using extension cords.

- 200-240VAC models: AC power cord is supplied in the UPS package.
- 100-127VAC models: AC power cord is attached to the UPS.

To reduce the risk of fire, connect only to a circuit provided with a maximum branch circuit overcurrent protection in accordance with the National Electrical Code. Input Plugs required per UPS model:

| UPS Model | Input Plug  | Overcurrent Protection |
|-----------|-------------|------------------------|
| CUPS-1kVA | NEMA 5-15P  | 20A                    |
| CUPS-2kVA | NEMA 5-20P  | 20A                    |
| CUPS-3kVA | NEMA L5-30P | 40A                    |

**Table 4 – Input Plug and Overcurrent Protection**

## 2.5 AC Output Connections

For socket-type outputs, there two kinds of outputs: programmable outlets and general outlets. Please connect non-critical devices to the programmable outlets and critical devices to the general outlets. Refer to Figure 1 for socket location. During power failure, you may extend the backup time to critical devices by setting shorter backup time for non-critical devices. Refer to Table 4 and Table 5 to locate the socket outputs.

## 2.6 Communication Connections

To allow for unattended CUPS shutdown/start-up and status monitoring, connect the communication cable one end to the USB/RS-232 port and the other to the communication port of the PC. With the monitoring software installed, you can schedule UPS shutdown/start-up and monitor UPS status through the PC.

The UPS is equipped with intelligent slot for the SNMP card. When installing the SNMP card in the UPS, it will provide advanced communication and monitoring options.



Figure 7 – Communication Ports

## 2.7 Emergency Power OFF Function

The CUPS is equipped with EPO (Emergency Power OFF) function. By default, the CUPS is delivered from factory with Pin 1 and pin 2 closed (a metal plate is connected to Pin 1 and Pin 2) for UPS normal operation. To activate the EPO function, remove the two screws on the EPO port and remove the metal jumper.

**NOTE:** The EPO function logic can be set up via the Settings Menu. Please refer to the 16 Setting in the Settings Menu for details.

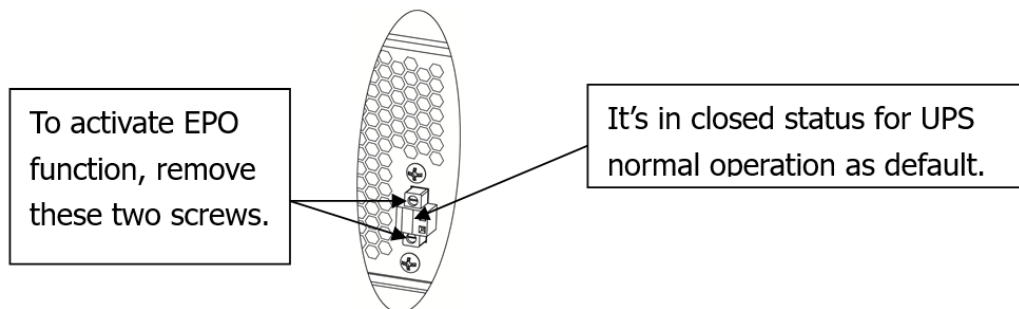


Figure 8 – Emergency Power OFF Port

### 3 Operation

#### 3.1 Starting/Stopping the CUPS

##### 3.1.1 Starting the CUPS

The CUPS may be powered on either using the mains supply or the internal/external battery. Below are the steps to power on the CUPS:

**NOTE:** The internal battery fully charges during the first five hours of normal operation. Do not expect full battery run capability during this initial charge period.

##### Power Up (Mains Supply):

1. Close the AC feeder breaker for the mains input or connect the AC cord to the outlet. The CUPS will go into Standby Mode (batteries will be charging, no AC output). Refer to Figure 9.
2. Press and hold the ON/Mute button on the front panel for two seconds to power on the CUPS. The CUPS will go into Online Mode (batteries will be charging, AC output). Refer to Figure 10.

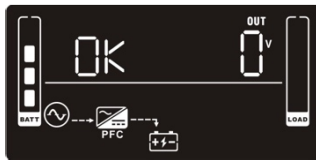


Figure 9 – Standby Mode



Figure 10 – Online Mode (230VAC Example)

##### Power Up (Batteries):

1. Press the ON/Mute button on the front panel for two seconds to power on the CUPS display. Refer to Figure 11.
2. Within 5 seconds, press and hold the ON/Mute button on the front panel for two seconds to power on the CUPS. The CUPS will go into Battery Mode (batteries supply AC output). Refer to Figure 12.



Figure 11 – Standby Mode



Figure 12 – Battery Mode (230VAC Example)

**NOTE:** The CUPS will shut down after 10 seconds of inactivity during Standby Mode with only batteries connected.

##### 3.1.2 Stopping the CUPS

Below are the steps to power off the CUPS:

1. Press and hold the OFF/Enter button on the front panel for three seconds. This will isolate the loads from the CUPS.
2. Open the AC feeder breaker for the mains input or disconnect the AC cord from the outlet (if applicable).
3. Wait for approximately 10 seconds to allow the CUPS to completely shut down. The display will flash "Sd" before shutting down.

### 3.2 Display

The CUPS is equipped with a display and three buttons, allowing the user to view the status of the UPS and make any necessary changes.



**Figure 13 – Standby Mode**

Once the CUPS has been energized and is supplying power to the loads, the user can press the Select/Down button to view/scroll through the following parameters:

|                             |                      |                            |                    |                            |                        |
|-----------------------------|----------------------|----------------------------|--------------------|----------------------------|------------------------|
| <b>OUT</b><br><b>120V</b>   | AC Output Voltage    | <b>IN</b><br><b>123V</b>   | AC Input Voltage   | <b>BAT</b><br><b>54.6V</b> | Battery Voltage        |
| <b>OUT</b><br><b>60.0Hz</b> | AC Output Frequency  | <b>IN</b><br><b>60.0Hz</b> | AC Input Frequency | <b>BAT</b><br><b>0.0A</b>  | Battery Current        |
| <b>OUT</b><br><b>0.1A</b>   | AC Output Current    | <b>IN</b><br><b>0.2A</b>   | AC Input Current   | <b>BAT</b><br><b>83%</b>   | Battery Capacity       |
| <b>OUT</b><br><b>0%</b>     | Output Load Capacity |                            |                    | <b>31.5 °C</b>             | UPS System Temperature |

The diagram on the bottom section of the display informs the user on the mode in which the CUPS is operating in. Refer to Section 3.3 for the multiple operating modes available on the UPS system.

To enter the Settings Menu, the CUPS will need to be in Standby Mode. Press and hold the select button for 3 seconds. Refer to section 7.0. The Menu contains 19 parameters to set the UPS as needed.

To navigate through the menu, press the ON/MUTE button to navigate Up or the Select button to navigate Down in the Menu.

### 3.2.1 LCD Panel

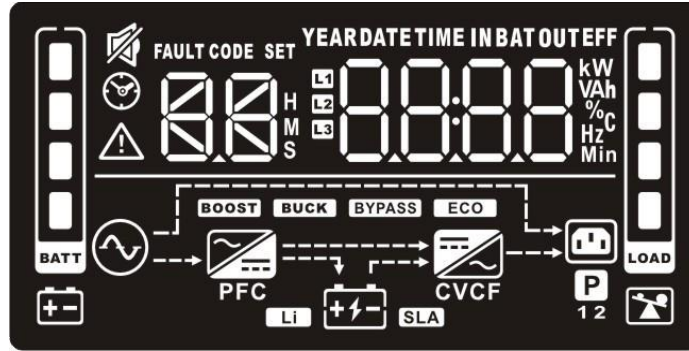


Figure 14 – LCD Panel

| Icon | Function   |
|------|--|
|      | Indicates the estimated backup time. H: hours, M: minute, S: second. |
|      | Indicates the configuration items.                                   |
|      | Indicates the warning and fault codes.                               |
|      | Indicates UPS status (Input, Output, Battery).                       |
|      | Indicates that the UPS alarm is disabled.                            |





| Load Information |   |
|------------------|---|
| Icon             | Function  |
|                  | Indicates the load usage percentage by 0-24%, 25-49%, 50-74% and 75-100%. |
|                  | Indicates UPS overload.   |
|                  | Indicates that programmable management outlets are enabled.               |

| Mode Operation Information |  |
|----------------------------|--|
| Icon                       | Function   |
|                            | Indicates the mains supply is connected to the CUPS. |
|                            | Indicates the battery is working.                    |
|                            | Indicates battery is charging.                       |
|                            | Indicates the bypass circuit is active.              |
|                            | Indicates ECO Mode is active.                        |
|                            | Indicates the AC to DC circuit is working.           |
|                            | Indicates the PFC circuit is working.                |
|                            | Indicates the inverter circuit is working.           |
|                            | Indicates Converter Mode is active.                  |
|                            | Indicates the output is working.                     |

| Battery Information |  |
|---------------------|--|
| Icon                | Function   |
|                     | Indicates the battery level by 0-24%, 25-49%, 50-74%, and 75-100%. |
|                     | Indicates low battery.   |



### 3.2.2 Controls

| Button   | Function   |
|--|--|
| ON/Mute/Up Button<br>               | <b>1-Second Press:</b> Change Selection (while in Setting Menu)<br>Mute Alarm (while in Battery Mode or Bypass Mode)<br><br><b>3-Second Press:</b> Power ON UPS (Online Mode)<br>Self-Test (while in AC Mode, ECO Mode, or Converter Mode) |
| Select/Down Button<br>              | <b>1-Second Press:</b> View Parameters (Refer to Section 3.2)<br>Change Selection (while in Setting Menu)<br><br><b>3-Second Press:</b> Enter Settings Menu (while in Standby Mode or Bypass Mode)   |
| OFF/Enter Button<br>                | <b>1-Second Press:</b> Confirm Selection (while in Setting Menu)<br><b>3-Second Press:</b> Power OFF UPS (while in Battery Mode)<br>Transfer to Bypass Mode (if Bypass Mode is enabled in Settings Menu)                                   |
| ON/Mute/Up + Select/Down Button<br> | <b>1-Second Press:</b> Exit Settings Menu / Return to Upper Settings Menu (while in Setting Menu)<br><br><b>3-Second Press:</b> Transfer to Bypass Mode (if Bypass Mode is enabled in Settings Menu)                                       |

**Table 6 – Button Operation**

### 3.2.3 Audible Alarms

|                     |                        |
|---------------------|------------------------|
| <b>Battery Mode</b> | Beeps every 5 seconds  |
| <b>Low Battery</b>  | Beeps every 2 seconds  |
| <b>UPS Overload</b> | Beeps every second     |
| <b>Fault</b>        | Continuous Beep        |
| <b>Bypass Mode</b>  | Beeps every 10 seconds |

**Table 7 – Audible Alarms**

### 3.2.4 LCD Panel Wordings Index

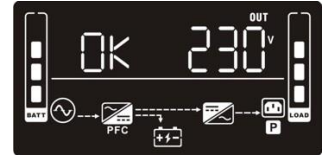
| Abbreviation | Display Content | Meaning                            |
|--------------|-----------------|------------------------------------|
| ENA          | ENR             | Enable                             |
| DIS          | dl S            | Disable                            |
| ESC          | ESC             | Escape                             |
| HLS          | HLS             | High Loss                          |
| LLS          | LLS             | Low Loss                           |
| AO           | AO              | Active Open                        |
| AC           | AC              | Active Close                       |
| EAT          | EAt             | Estimated Battery Mode Backup Time |
| RAT          | rAt             | Running Battery Mode Backup Time   |
| SD           | Sd              | Shutdown                           |
| OK           | OK              | OK                                 |
| ON           | ON              | ON                                 |
| BL           | bL              | Battery Low                        |
| OL           | OL              | Overload                           |
| OI           | OI              | Over Input Current                 |
| NC           | NC              | Battery Not Connected              |
| OC           | OC              | Over Charge                        |
| SF           | SF              | Site Wiring Fault                  |
| EP           | EP              | Emergency Power Off                |
| TP           | tP              | Temperature                        |
| CH           | CH              | Charger                            |
| BF           | bF              | Battery Fault                      |
| BV           | bV              | Bypass Out Range                   |
| FU           | FU              | Bypass Frequency Unstable          |
| BR           | bR              | Battery Replace                    |
| EE           | EE              | EEPROM Error                       |

**Table 8 – Display Wording Index**

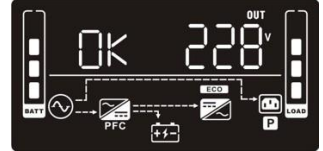
### 3.3 Operating Modes

The CUPS system has various operating modes. Below are the available modes and a brief description:

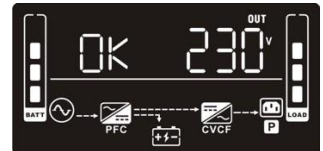
**Online Mode:** The CUPS will supply power to the load using the mains supply via the internal charger/inverter. The mode is engaged when the mains supply voltage is within range, the CUPS will provide pure and stable AC power to output using the internal inverter output. The CUPS will also charge the battery during Online Mode. Online Mode can be engaged manually (if in Bypass Mode) via front panel by pressing the ON/MUTE button for 3 seconds. If the mains supply is lost, the CUPS will enter Battery Mode.



**ECO Mode (Energy Saving Mode):** The UPS will supply power to the load using the mains supply directly. When the mains supply voltage is within range, the CUPS will supply output power using the bypass input to save energy. The CUPS will also charge the battery at ECO Mode.



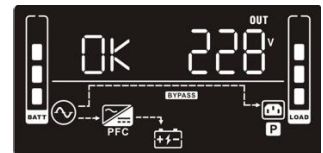
**Frequency Converter Mode:** When mains supply frequency is within 40 Hz to 70 Hz, the UPS can be set at a constant output frequency, 50 Hz or 60 Hz. The CUPS will still charge the battery at Frequency Converter Mode.



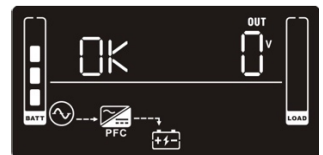
**Battery Mode:** The CUPS will supply power to the load using the batteries via the internal inverter. The mode is engaged when the input voltage is out of range. The Battery Mode Backup Timer will engage, displaying either the amount of time which the battery can supply power to the load or the accumulated time. Refer to Section 4.18 for selections.



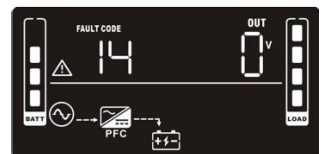
**Bypass Mode:** The CUPS will supply power to the load using the mains supply directly. The Bypass Mode will engage when mains supply voltage is within the acceptable range and the CUPS is overloaded. The CUPS will also charge the battery at Bypass Mode. Bypass Mode can be engaged manually (if in Online Mode) via front panel by pressing the OFF/ENTER button for 3 seconds.



**Standby Mode:** The CUPS is powered off and no power will be present at the output. The batteries will be charged during Standby Mode. Standby Mode can be manually engaged (if in Online Mode) by pressing the OFF/ENTER button for 3 seconds.



**Fault Mode:** When a fault has occurred, the ERROR icon and the fault code will be displayed.



## 4 Settings Menu

The CUPS is equipped with multiple adjustable settings via the Settings Menu. The Settings Menu can be accessed by pressing the SELECT/DOWN button on the front panel for 3 seconds. Take into consideration the Settings Menu can ONLY be entered when the CUPS is in either Standby Mode or Bypass Mode. Navigate using the UP and DOWN buttons. To enter a submenu or confirm the setting change, use the OFF/ENTER button. To exit the Settings Menu, press and hold both the ON/MUTE and SELECT buttons for 2 seconds. Alternatively, scroll to "00 ESC" and press the OFF/ENTER button to exit.

The Settings Menu will display the setting number on the left and the setting value/option on the right. Refer to the figure below as follows:



Figure 15 – Settings Menu Overview

The Settings Menu is as follows:

### 4.1 Output Voltage (Set 01)

The 01 Setting allows the user to configure the CUPS output voltage. Below are the available output voltage selections per CUPS model:

- 100-127VAC Models: 100, 110, 115, 120, 125VAC (Default)
- 200-240VAC Models: 200, 208, 220, 230, 240VAC (Default)



### 4.2 Frequency Converter Mode Enable/Disable (Set 02)

The 02 Setting allows the user to enable/disable the Converter Mode. Converter Mode will convert the input frequency of the incoming mains supply to the set frequency at the AC output. If the UPS is running on batteries, it will convert the output frequency to the set frequency. By default, Converter Mode is disabled.



### 4.3 Output Frequency (Set 03)

The 03 Setting allows the user to set the output frequency desired, regardless of input frequency. The CUPS can be set to have an output frequency of 50Hz or 60Hz. By default, the output frequency is set to 60Hz.



### 4.4 ECO Mode Enable/Disable (Set 04)

The 04 Setting allows the user to enable/disable the ECO (Energy Saving) Mode. Refer to Section 3.4 for details. By default, ECO Mode is disabled.



#### 4.5 ECO Voltage Range (Set 05)

The 05 Setting allows the user to adjust the HLS (High Loss Setting) and the LLS (Low Loss Setting) for ECO Mode. The HLS is the maximum allowable mains supply voltage threshold. The LLS is the minimum allowable mains supply voltage threshold. If any of the thresholds are surpassed, the UPS will come out of ECO Mode.



Use the Up/Down buttons to select HLS or LLS and confirm selection using the OFF/ENTER button. Below are the adjustment ranges for the Loss Settings:

- 100-127VAC Models:
  - LLS: -3VAC to -12VAC of nominal voltage (Default: -6V)
  - HLS: +3VAC to +12VAC of nominal voltage (Default: +6V)
- 200-240VAC Models:
  - LLS: -7VAC to -24VAC of nominal voltage (Default: -12V)
  - HLS: +7VAC to +24VAC of nominal voltage (Default: +12V)



#### 4.6 Bypass Enable/Disable (Set 06)

The 06 Setting allows the user to enable/disable Bypass Mode. Bypass Mode allows the loads to be directly powered by the incoming mains supply to the CUPS. By default, Bypass Mode is disabled.



#### 4.7 Bypass Voltage Range (Set 07)

The 07 Setting allows the user to adjust the HLS (High Loss Setting) and the LLS (Low Loss Setting) for Bypass Mode. The HLS is the maximum allowable bypass voltage threshold. The LLS is the minimum allowable bypass voltage threshold. If any of the thresholds are surpassed, the UPS will come out of Bypass Mode.



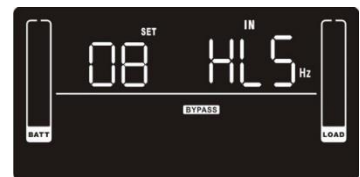
Use the Up/Down buttons to select HLS or LLS and confirm selection using the OFF/ENTER button. Below are the adjustment ranges for the Loss Settings:

- 100-127VAC Models:
  - LLS: 85VAC to 115VAC (Default: 85V)
  - HLS: 120VAC to 140VAC (Default: 132V)
- 200-240VAC Models:
  - LLS: 170VAC to 220VAC (Default: 170V)
  - HLS: 230VAC to 264VAC (Default: 264V)



#### 4.8 Bypass Frequency Range (Set 08)

The 08 Setting allows the user to adjust the HLS (High Loss Setting) and the LLS (Low Loss Setting) for Bypass Mode. The HLS is the maximum allowable mains supply frequency threshold. The LLS is the minimum allowable mains supply frequency threshold. If any of the thresholds are surpassed, the UPS will come out of Bypass Mode.



Use the Up/Down buttons to select HLS or LLS and confirm selection using the OFF/ENTER button. Below are the adjustment ranges for the Loss Settings:

- 50Hz Models:
  - LLS: 45Hz to 49Hz (Default: 47Hz)
  - HLS: 51Hz to 55Hz (Default: 53Hz)
- 60Hz Models:
  - LLS: 55Hz to 59Hz (Default: 57Hz)
  - HLS: 61Hz to 65Hz (Default: 63Hz)



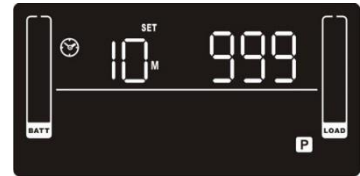
#### 4.9 Programmable Outlets Enable/Disable (Set 09)

The 09 Setting allows the user to enable/disable the programmable outlets, located on the top half of the outlets as shown on Section 2.2. Enabling the programmable outlets setting allows for the outlets to be configured so it limits the amount of time the loads connected will be powered during Battery Mode. This is known as backup time. By default, the programmable outlets are disabled.



#### 4.10 Programmable Outlets Backup Time (Set 10)

The 10 Setting allows the user to set the backup time for programmable outlets (if enabled). After the set time has been surpassed, the loads connected to the programmable outlets will be shut down. This allows for the loads on the programmable outlets (non-critical loads) to be disconnected from the battery source to conserve the power for the critical loads during Battery Mode.



The backup time can be set at the range of 0-999 minutes. By default, the backup time is set to 999 minutes.

#### 4.11 Battery Mode Backup Timer (Set 11)

The 11 Setting allows the user to set the Battery Mode Backup Timer for all the outlets, general and programmable. After the set Backup Timer time has been surpassed, the all loads connected to the outlets will be shut down. Below are the available settings:

- 0-999: Amount of backup time from 0-999 in minutes for general outlets when CUPS is on Battery Mode.
- DIS: Disable the Backup Timer and the backup time will depend on battery capacity. (Default)



**NOTE:** When setting as "0", the backup time will be only 10 seconds.

#### 4.12 Battery Capacity (Set 12)

The 12 Setting allows the user to set the battery amp-hour capacity the CUPS should expect. The battery capacity can be set from 7-999 amp-hours. If an external battery is connected, adjust the amp-hour capacity setting as needed.



#### 4.13 Maximum Charger Current (Set 13)

The 13 Setting allows the user to adjust the maximum allowable CUPS charger output current. The available maximum charger current selections are 1, 2, 4, 6, and 8 (Default: 2A).

**NOTE:** Please set the appropriate charger current based on battery capacity used. For the recommended maximum charging current, follow the table on next page.



| Battery Capacity (AH) | Total Charging Current (ADC) |
|-----------------------|------------------------------|
| 7 to 20               | 2                            |
| 20 to 40              | 4                            |
| 40 to 60              | 6                            |
| 60 and Above          | 8                            |

#### 4.14 Charger Equalize Voltage (Set 14)

The 14 Setting allows the user to adjust the CUPS charger output voltage when in equalize. Equalize charging is used when it is necessary to equalize (or balance) the level of charge across all cells present in the battery. Refer to battery manufacturer for recommended equalize scheduling and parameters.

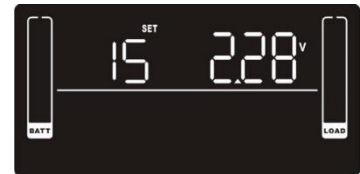


The charger equalize voltage can be set at the range of 2.25-2.40 volts per cell. By default, the charger equalize voltage is set to 2.36 volts per cell.

#### 4.15 Charger Float Voltage (Set 15)

The 15 Setting allows the user to adjust the CUPS charger output voltage when in float. Float charging is used for all normal battery charging needs.

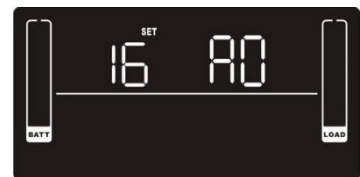
The charger float voltage can be set at the range of 2.20-2.33 volts per cell. By default, the charger float voltage is set to 2.28 volts per cell.



#### 4.16 EPO Logic (Set 16)

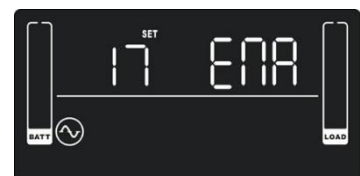
The 16 Setting allows the user to customize the logic for the Emergency Power Off feature (EPO). Below are the available options:

- **Active Open (AO):** The EPO feature will be enabled when Pin 1 and Pin 2 are open.
- **Active Close (AC):** The EPO feature will be enabled when Pin 1 and Pin 2 are closed/shorted.



#### 4.17 Site Fault Detection Enable/Disable (Set 17)

The 17 Setting allows the user to enable/disable the site fault detection feature. Enabling site fault detection allows for the CUPS to detect whether there is an error on the AC input wiring. In this case, it would be a possible reverse neutral or line wiring error. By default, the site fault detection feature is enabled for 120VAC models and disabled for 230VAC models.



#### 4.18 Battery Mode Backup Timer Display Setting (Set 18)

The 18 Setting allows the user to select the value to display when the Battery Mode Backup Timer is engaged. Below are the available selections to display:

- **EAT:** When the Battery Mode Backup Timer is engaged, the display will show the remaining backup time (Default)
- **RAT:** When the Battery Mode Backup Timer is engaged, the display will show the accumulated backup time so far.

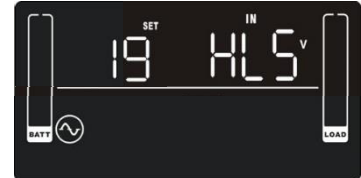


#### 4.19 AC Mains Voltage Range (Set 19)

The 07 Setting allows the user to adjust the HLS (High Loss Setting) and the LLS (Low Loss Setting) for the incoming AC mains supply. The HLS is the maximum allowable mains supply voltage threshold. The LLS is the minimum allowable mains supply voltage threshold. If any of the thresholds are surpassed, the UPS will not utilize the AC mains supply (Online Mode/Bypass Mode) and will enter Battery Mode (if applicable).

Use the Up/Down buttons to select HLS or LLS and confirm selection using the OFF/ENTER button. Below are the adjustment ranges for the Loss Settings:

- 100-127VAC Models:
  - LLS: 50VAC to 85VAC (Default: 85V)
  - HLS: 140VAC to 150VAC (Default: 132V)
- 200-240VAC Models:
  - LLS: 170VAC to 220VAC (Default: 170V)
  - HLS: 230VAC to 264VAC (Default: 264V)



#### 4.20 Escape (Set 00)

The 00 Setting allows the user to exit the Settings Menu and return to the main screen. Press the OFF/ENTER to exit the menu.



#### Faults Reference Code

| Fault Event              | Fault Code | Icon | Fault Event            | Fault Code | Icon |
|--------------------------|------------|------|------------------------|------------|------|
| Bus Start Fail           | 01         | x    | High Battery Voltage   | 27         | x    |
| Bus Over                 | 02         | x    | Low Battery Voltage    | 28         | x    |
| Bus Under                | 03         | x    | Charger Output Shorted | 2A         | x    |
| Inverter Soft Start Fail | 11         | x    | Over Temperature       | 41         | x    |
| Inverter Voltage High    | 12         | x    | Overload               | 43         |      |
| Inverter Voltage Low     | 13         | x    | Charger Failure        | 45         | x    |
| Inverter Output Shorted  | 14         | x    | Over Input Current     | 49         | x    |



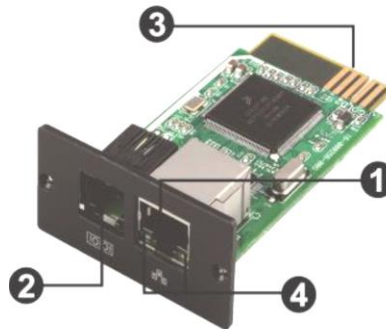
**Warning Indicator**

| Warning                     | Icon (Flashing) | Code | Alarm   |
|-----------------------------|-----------------|------|---|
| Low Battery                 |                 | bL   | Sounding every 2 seconds  |
| Overload                    |                 | OL   | Sounding every second   |
| Over Input Current          |                 | OI   | 2 beeps every 10 seconds  |
| Battery Not Connected       |                 | NC   | Sounding every 2 seconds  |
| Over Charge                 |                 | OC   | Sounding every 2 seconds  |
| Site Wiring Fault           |                 | SF   | Sounding every 2 seconds  |
| EPO Enable                  |                 | EP   | Sounding every 2 seconds  |
| Over Temperature            |                 | EP   | Sounding every 2 seconds  |
| Charger Failure             |                 | CH   | Sounding every 2 seconds  |
| Battery Fault               |                 | bF   | Sounding every 2 seconds<br>(At this time, UPS is off to remind users something wrong with battery) |
| Out of Bypass Voltage Range |                 | bV   | Sounding every 2 seconds  |
| Bypass Frequency Unstable   |                 | FU   | Sounding every 2 seconds  |
| Battery Replacement         |                 | bT   | Sounding every 2 seconds  |
| EEPROM Error                |                 | EE   | Sounding every 2 seconds  |

## 5 Communication

### 5.1 SNMP Communication

The SNMP web card mounted in SNMP Intelligent Slot which provides web server to monitor and manage Compact UPS in a networked environment including LAN and INTERNET. It can retrieve the device working status, working data and setting.



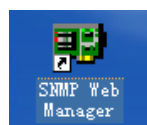
**Figure 16 – SNMP Card**

1. Ethernet port
2. Sensor port
3. Golden finger: connects to device slot
4. Ethernet port status LEDs

Plug Ethernet cable to the Ethernet port (RJ-45) on the SNMP card and the other end to the optional environmental monitoring device.

#### 5.1.1 Configuration

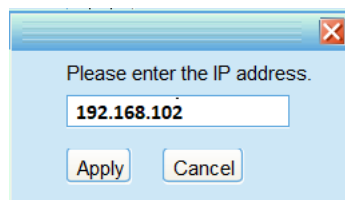
1. Please install SNMP web manager software in your PC. After software is installed successfully, the Installer will leave a short cut icon on your desktop.



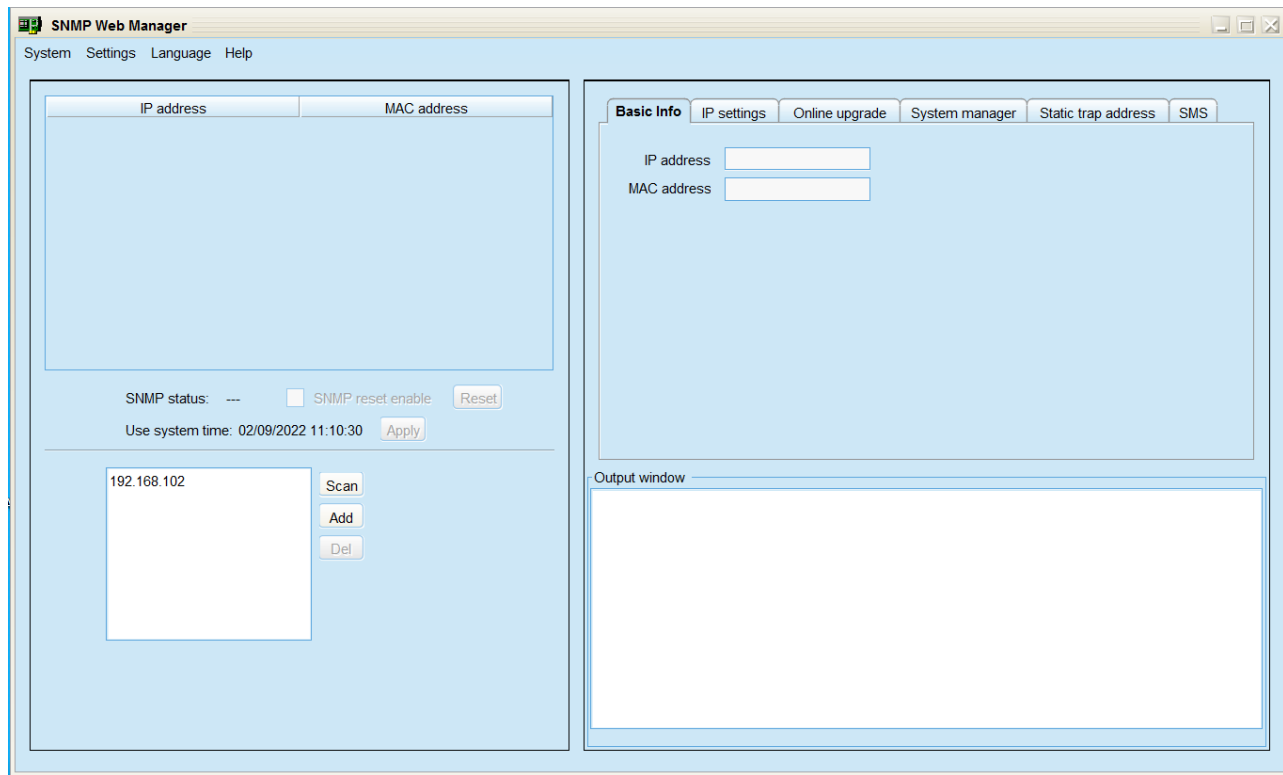
**Figure 17 – Icon**

2. Set computer IP address to 192.168.102.231 and subnet 255.255.255.0

3. Press Add button and enter "192.168.102" IP address to scan all SNMP devices in LAN. The SNMP web manager will automatically collect the IP address from sever by default via a DHCP server. It will pop up default IP address of 192.168.102.230, default subnet mask as 255.255.255.0, and default gateway as 0.0.0.0 without a DHCP server. Refer figure 19- SNMP Web Manager

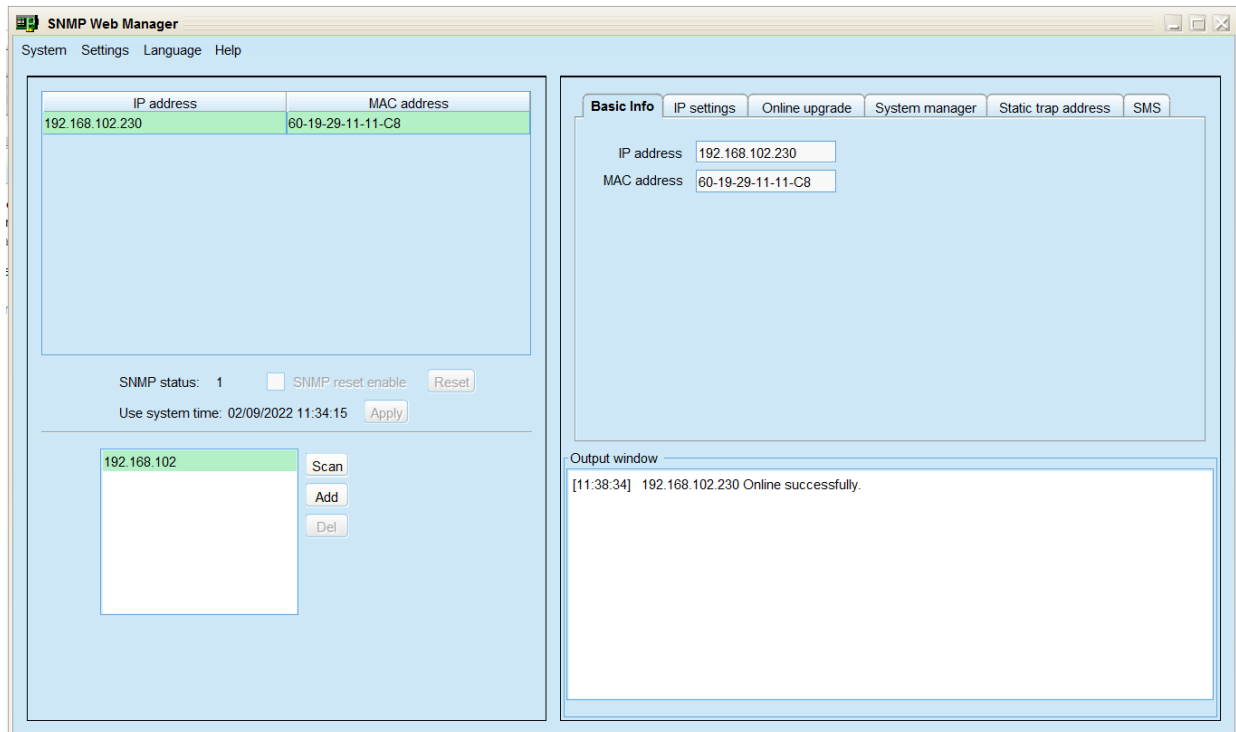


**Figure 18 – Add IP address**



**Figure 19 – SNMP Web Manager**

4. User can modify IP setting, online upgrade, password management, and static trap address setting in SNMP Web Manager screen. It is necessary to enter password for any modifications. The default password is 12345678.



**Figure 20 – Web Manager with IP address**

## 5.1.2 Monitoring

For monitoring all parameter and working status of UPS, enter 192.168.102.230 IP address to web browser, it will open SNMP web GUI which includes function menu, login section and main screen.

The screenshot shows the SNMP Web Pro 1.1 GUI. At the top, the version 'SNMP Web Pro 1.1' is displayed on the left, and the login section 'Logout Administrator' is on the right. A sidebar on the left contains a navigation menu with categories like Information, Control, System configuration, Log, and Help. The main content area displays various UPS parameters in a structured layout with blue headers for each section.

| UPS Information     |              |                         |          |
|---------------------|--------------|-------------------------|----------|
| UPS mode:           | Battery Mode | UPS temp.:              | 27.0 °C  |
| ECO Mode:           | disabled     | Converter mode:         | disabled |
| Bypass not allowed: | disabled     | Bypass when UPS is off: | enabled  |
| UPS warning:        |              | Fault type:             |          |

| Input information   |       |                  |        |
|---------------------|-------|------------------|--------|
| Input voltage L1-N: | 0.0 V | Input frequency: | 0.0 Hz |
| Input voltage L2-N: | 0.0 V |                  |        |

| Output information   |         |                   |         |
|----------------------|---------|-------------------|---------|
| Output voltage L1-N: | 120.3 V | Output frequency: | 59.9 Hz |
| Output voltage L2-N: | 117.7 V | Load level L1:    | 0 %     |
| Output current L1-N: | 0.0 A   | Load level L2:    | 0 %     |
| Output current L2-N: | 0.0 A   |                   |         |

| Bypass information   |       |                   |        |
|----------------------|-------|-------------------|--------|
| Bypass voltage L1-N: | 0.0 V | Bypass frequency: | 0.0 Hz |
| Bypass voltage L2-N: | 0.0 V |                   |        |

| Battery information    |         |                    |         |
|------------------------|---------|--------------------|---------|
| P battery voltage:     | 126.1 V | N battery voltage: | 128.3 V |
| P battery current:     | 0.0 A   | N battery current: | 0.0 A   |
| Remaining backup time: | 999 Min | Battery capacity:  | 100 %   |

| EMD information |       |           |      |
|-----------------|-------|-----------|------|
| EMD temp.:      | -- °C | Humidity: | -- % |
| Alarm1:         | -     | Alarm2:   | -    |

**Figure 21 – SNMP web GUI**

A. SNMP web GUI version

B. Function Menu

- It offers complete tool-set for navigation and setting the GUI.

C. Main Screen

- It will display information and/or control alternatives according to function menu selected.

D. Login section

- It shows user type for current login user. The default password for administrator is "12345678".

## 6 Service

All work inside the CUPS should be performed by qualified personnel. La Marche is not responsible for any damages caused by an unqualified technician.



Before working inside the CUPS, ensure the AC power is off at the main breaker box and the battery has been disconnected from the CUPS. Verify that no voltage is present by using a voltmeter at all input and output terminals.

### 6.1 Performing Routine Maintenance

Although minimal maintenance is required with La Marche UPS systems, routine checks and adjustments are recommended to ensure optimum system performance.

#### Yearly

1. Confirm air vents are open. Remove dust and debris from interior of unit.
2. Verify all connections are tight.
3. Perform a visual inspection on all internal components.
4. Check front panel meters for accuracy and LED operation.

### 6.2 Troubleshooting Procedure

Troubleshooting should be performed only by trained service personnel or experienced electricians. Before setting up any complicated testing or making any conclusions, inspect the inverter using the guide below.



Check the following:

1. Check AC output cables, connections, battery type, and number of cells against the inverter's rating.
2. Check input connections, input voltage and feeder breaker size.
3. Check for shipping damage, loose connections, broken wires, etc.
4. Check the AC mains supply connections to make sure they are proper and secure. Total load must not exceed the nameplate rating.
5. Certain failures can be caused by defective batteries and user loads; make sure batteries and loads are free from defects.

La Marche Phone Number: (847) 299-1188

24/7 **Emergency** Number: (847) 296-8939

### 6.3 Battery Replacement

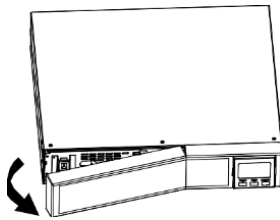
Replace the batteries when the  and  icons are flashing on the LCD display and alarm beeps every 2 seconds. Contact the service representative to replace the batteries.

Do not disconnect battery connectors under load or disconnect the input power to replace the batteries. Press the OFF button on the front panel for two seconds to power off the UPS and switch off utility power where the UPS is connected.

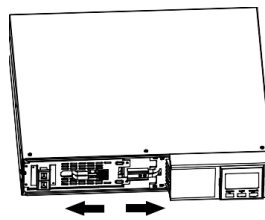
#### NOTES:

1. *DO NOT DISCONNECT the batteries while the UPS is in Battery Mode.*
2. *A small amount of arcing may occur when connecting the internal batteries. This is normal and should cause no harm to personnel. Connect the cables quickly and firmly.*
3. *The CUPS is equipped with internal batteries and only a qualified service person can replace the batteries.*
4. *Upon battery disconnection, the equipment is not protected from power outages.*

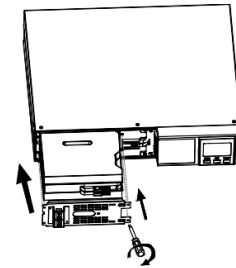
**CAUTION!!** Consider all warnings, cautions, and notes before replacing batteries.



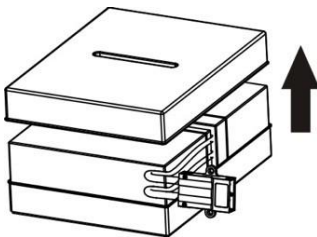
**Step 1:**  
Remove front panel.



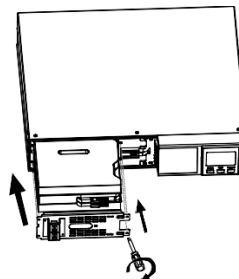
**Step 2:**  
Disconnect battery wires.



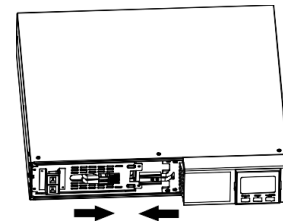
**Step 3:**  
Pull out the battery box by removing four screws on the front panel



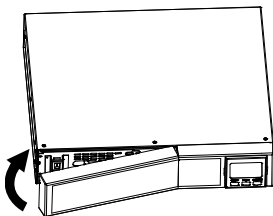
**Step 4:**  
Remove the top cover of battery box and replace the internal batteries.



**Step 5:**  
After replacing the batteries, put the battery box back to original location and screw it tightly.













**Step 6:**  
Re-connect the battery wires



**Step 7:**  
Put the front panel back to the unit

## 6.4 Troubleshooting Chart

If the UPS system does not operate correctly, please solve the problem by using the table below.

| Symptom   | Possible Cause   | Possible Solution  |
|---|--|--|
| No indication and alarm, even though the mains supply is normal.  | The AC input power is not firmly connected.  | Check if input power cord is firmly connected to the mains.  |
|   | The AC input is connected to the UPS output.   | Plug AC input power cord to AC input correctly.  |
| The icon  and the warning code EP flash on-screen and alarm is sounding every 2 seconds.   | EPO function is activated.   | Set the circuit in closed position to disable EPO function.  |
| The icons of  ,  , and the warning code SF flash on-screen. Alarm is sounding every 2 seconds.  | Reversed line and neutral conductors of UPS input.   | Rotate mains power socket by 180° and then connect to UPS system.  |
| The icons of  ,  , and the warning code  flash on-screen. Alarm is sounding every 2 seconds. | The external or internal battery is incorrectly connected.   | Check if all batteries are connected well.   |
| Fault code is shown as 27 on on-screen and alarm is continuously sounding.  | High battery voltage or faulty charger   | Contact La Marche Mfg.   |
| Fault code is shown as 28 on-screen and alarm is continuously sounding.   | Low Battery voltage or faulty charger.   | Contact La Marche Mfg.   |
| The icons  ,  , and the warning code  flash on-screen. Alarm is sounding every second.       | UPS is overloaded.   | Remove excess loads from UPS output.   |
|   | UPS is overloaded. Devices connected to the UPS are fed directly by the electrical network via the Bypass.   | Remove excess loads from UPS output.   |
|   | After repetitive overloads, the UPS is locked in Bypass Mode. Connected devices are fed directly by the mains.   | Remove excess loads from UPS output first, then shut down the UPS and restart it.  |
| Fault code is shown as 49 on-screen and alarm is continuously sounding.   | UPS is over input current.   | Remove excess loads from UPS output.   |
| Fault code is shown as 43 and the icon  is lighting on-screen. Alarm is continuously sounding.   | The UPS shut down automatically because of overload at the UPS output.   | Remove excess loads from UPS output and restart it.  |
| Fault code is shown as 14 on-screen and alarm is continuously sounding.   | The UPS shut down automatically because short circuit occurs on the UPS output.  | Check output wiring and if connected devices are in short circuit status.  |
| Fault code is shown as 01, 02, 03, 11, 12, 13 and 41 on-screen and alarm is continuously sounding.  | A UPS internal fault has occurred. Two possible results:<br>1. The load is still supplied, but directly from AC power via bypass.<br>2. The load is no longer supplied by power. | Contact La Marche Mfg.   |
| Battery backup time is shorter than nominal value.  | Batteries are not fully charged  | Charge the batteries for at least 5 hours and then check capacity. If the problem still persists, consult La Marche Mfg. |
|   | Defective Batteries  | Contact La Marche Mfg to replace the battery.  |
| Fault code is shown as 2A on-screen and alarm is continuously sounding.   | The short circuit occurs on the charger output.  | Check if battery wiring of connected external pack is in short circuit status.   |
| Fault code is shown as 45 on-screen. At the same time, alarm is continuously sounding.  | The charger does not have output and battery voltage is less than 10V/PC.  | Contact La Marche Mfg.   |

## Appendix A: CUPS Specifications

| MODEL                                       | CUPS-1kVA   | CUPS-2kVA            | CUPS-3kVA             |
|---|---|----------------------|-----------------------|
| <b>CAPACITY*</b>                            | <b>1000VA/1000W</b>   | <b>2000VA/2000W</b>  | <b>3000VA / 3000W</b> |
| <b>INPUT</b>                                |   |                      |                       |
| <b>Voltage Range</b>                        | 55-150 VAC (For 120V Model) or 110-300VAC (For 230V Model)                |                      |                       |
| <b>Frequency Range</b>                      | 40Hz ~ 70 Hz  |                      |                       |
| <b>Phase</b>                                | Single phase with ground  |                      |                       |
| <b>Power Factor</b>                         | $\geq 0.99$ @ full load   |                      |                       |
| <b>OUTPUT</b>                               |   |                      |                       |
| <b>Output voltage</b>                       | 100/110/115/120/125 VAC or 200/208/220/230/240VAC                         |                      |                       |
| <b>AC Voltage Regulation</b>                | $\pm 1\%$ (Batt. Mode)  |                      |                       |
| <b>Frequency Range (Synchronized Range)</b> | 47 ~ 53 Hz or 57 ~ 63 Hz  |                      |                       |
| <b>Frequency Range</b>                      | 50 Hz $\pm 0.1$ Hz or 60Hz $\pm 0.1$ Hz (Battery Mode)                    |                      |                       |
| <b>Current Crest Ratio</b>                  | 3:1   |                      |                       |
| <b>Harmonic Distortion</b>                  | $\leq 2\%$ THD (Linear Load); 4 % THD (Non-linear Load)                   |                      |                       |
| <b>Transfer Time</b>                        | <b>AC Mode to Batt. Mode</b>  | Zero                 |                       |
|   | <b>Inverter to Bypass</b>   | < 4 mS               |                       |
| <b>Waveform (Batt. Mode)</b>                | Pure Sinewave   |                      |                       |
| <b>EFFICIENCY</b>                           |   |                      |                       |
| <b>AC Mode</b>                              | $\geq 89\%$   |                      | $\geq 91\%$           |
| <b>ECO Mode</b>                             |   | $\geq 96\%$          |                       |
| <b>Battery Mode</b>                         | $\geq 88\%$   |                      | $\geq 90\%$           |
| <b>BATTERY</b>                              |   |                      |                       |
| <b>Battery Type</b>                         | 12V/9AH   | 12V/9AH              | 12V/9AH               |
| <b>Numbers</b>                              | 2   | 4                    | 6                     |
| <b>Recharge Time</b>                        | 3 hours recover to 95% capacity for internal battery@ 2A charging current |                      |                       |
| <b>Charging Current</b>                     | Default: 2A, Max: 8A adjustable   |                      |                       |
| <b>Charging Voltage</b>                     | 27.4 VDC $\pm 1\%$  | 54.7 VDC $\pm 1\%$   | 82.1 VDC $\pm 1\%$    |
| <b>PHYSICAL</b>                             |   |                      |                       |
| <b>Dimension D x W x H (in)</b>             | 17.24 x 16.14 x 3.46  | 17.24 x 20.07 x 3.46 | 17.24 x 24.80 x 3.46  |
| <b>Net Weight (lbs)</b>                     | 25.57   | 43                   | 60.62                 |
| <b>ENVIRONMENT</b>                          |   |                      |                       |
| <b>Operation Humidity</b>                   | 20-95 % Relative Humidity @ 0- 40°C (non-condensing)                      |                      |                       |
| <b>Noise Level</b>                          | Less than 50dBA @ 1 Meter (With fan speed control)                        |                      |                       |
| <b>MANAGEMENT</b>                           |   |                      |                       |
| <b>Smart RS-232 or USB</b>                  | Supports Windows® 2000/2003/XP/Vista/2008/7/8/10, Linux, Unix and MAC     |                      |                       |
| <b>SNMP</b>                                 | Power management from SNMP manager and web browser                        |                      |                       |
| <b>Standard</b>                             | cTUVus (comply with UL1778), FCC (1-1.5K Class B, 2-3K Class A)           |                      |                       |

\* Derate capacity to 90% of capacity when the output voltage is adjusted to 100VAC (For 120V Model) and 200VAC or 208VAC (For 230V Model).

Product specifications are subject to change without further notice.



## Appendix B: Output Power Rating Table

**NOTE:** The table below is only for 100-125 VAC systems.

| Model Name | Input Rating                    | Output Rating   |
|------------|---------------------------------|---|
| CUPS-1kVA  | 100-125Vac, 50/60Hz,<br>12A, 1Ø | 1000VA/1000W, 8A (@125Vac input)<br>1000VA/1000W, 8.3A (@120Vac input)<br>1000VA/1000W, 8.7A (@115Vac input)<br>1000VA/1000W, 9.1A (@110Vac input)<br>900VA/900W, 9A (@100Vac input)        |
| CUPS-2kVA  | 100-125Vac, 50/60Hz,<br>16A, 1Ø | 2000VA/1930W, 16A (@125Vac input)<br>2000VA/1850W, 16.7A (@120Vac input)<br>2000VA/1740W, 17.4A (@115Vac input)<br>2000VA/1640W, 18.2A (@110Vac input)<br>1800VA/1500W, 18A (@100Vac input) |
| CUPS-3kVA  | 100-125Vac, 50/60Hz,<br>24A, 1Ø | 3000VA/3000W, 24A (@125Vac input)<br>3000VA/3000W, 25A (@120Vac input)<br>3000VA/3000W, 26.1A (@115Vac input)<br>3000VA/3000W, 27.3A (@110Vac input)<br>2700VA/2400W, 27A (@100Vac input)   |

## Appendix C: Battery Pack Specifications

| Model                        | CUSP-BATT-24V-1      | CUPS-BATT-48V-1      | CUPS-BATT-72V-1      |
|------------------------------|----------------------|----------------------|----------------------|
| Used with UPS Models         | CUPS-1kVA            | CUPS-2kVA            | CUPS-3kVA            |
| Battery Type                 | 12V/18Ah             | 12V/18Ah             | 12V/18Ah             |
| Battery Numbers              | 4                    | 8                    | 12                   |
| Dimensions (D x W x H) (in.) | 17.24 x 11.02 x 3.46 | 17.24 x 18.89 x 3.46 | 17.24 x 23.62 x 3.46 |
| Net Weight (lbs.)            | 32.84                | 63.93                | 90.83                |

**NOTE:** The battery pack should be used with the corresponding CUPS only.

## **Appendix D: Manufacturer Warranty**

All La Marche Manufacturing Co. equipment has been thoroughly tested and found to be in proper operating condition upon shipment from the factory and is warranted to be free from any defect in workmanship and material that may develop within two (2) years from date of purchase. Battery pack is warranted for one (1) year.

Any part or parts of the equipment (except fuses, DC connectors, battery and other wear-related items) that prove defective within a two (2) years period (for battery pack it is one (1) year) shall be replaced without charge providing such defect, in our opinion, is due to faulty material or workmanship and not caused by tampering, abuse, misapplication or improper installation.

Should a piece of equipment require repair during the warranty period, the equipment can be returned to the La Marche factory to have the inspection, parts replacements and testing performed by factory personnel. Should it be necessary to return a piece of equipment or parts to the factory, the customer or sales representative must obtain authorization from the factory. If upon inspection at the factory, the defect was due to faulty material or workmanship, all repairs will be made at no cost to the customer during the first three years. Transportation charges or duties shall be borne by purchaser.

In accepting delivery of the equipment, the purchaser assumes full responsibility for proper installation, installation adjustments and service arrangements. Should minor adjustments be required, the local La Marche sales representative should be contacted to provide this service only.

All sales are final. Only standard La Marche chargers will be considered for return. A 25% restocking fee is charged when return is factory authorized. Special chargers are not returnable.

In no event shall La Marche Manufacturing Co. have any liability for consequential damages, or loss, damage or expense directly or indirectly arising from the use of the products, or any inability to use them either separately or in combination with other equipment or materials, or from any other cause. In addition, any alterations of equipment made by anyone other than La Marche Manufacturing Co. renders this warranty null and void.

La Marche Manufacturing Co. reserves the right to make revisions in current production of equipment, and assumes no obligation to incorporate these revisions in earlier models.

The failure of La Marche Manufacturing Co. to object to provisions contained in customers' purchase orders or other communications shall not be deemed a waiver of the terms or conditions hereof, nor acceptance of such provisions.

The above warranty is exclusive, supersedes and is in lieu of all other warranties, expressed or implied, including any implied warranty of merchantability or fitness. No person, agent or La Marche Mfg is authorized to give any warranties on behalf of the Manufacturer, nor to assume for the Manufacturer any other liability in connection with any of its products unless made in writing and signed by an official of the manufacturer.

## Appendix E: Document Control and Revision History

Part Number: 144266  
Instruction Number: P25-LACUPS-2  
Issue ECN: 22796 – 01/21

|                      |               |               |  |
|----------------------|---------------|---------------|--|
| <b>23112 – 02/22</b> | 23019 – 09/21 | 22796 – 01/21 |  |
|                      |               |               |  |