

## Line Interactive UPS

PowerMust 636 (650VA), Line Int., IEC  
PowerMust 848 (850VA), Line Int., IEC  
PowerMust 424EG (450VA), Line Int., Schuko  
PowerMust 636EG (650VA), Line Int., Schuko  
PowerMust 848EG (850VA), Line Int., Schuko  
PowerMust 1260(1200VA), Line Int., IEC/Schuko  
PowerMust 1590(1500VA), Line Int., IEC/Schuko  
PowerMust 2212(2200VA), Line Int., IEC/Schuko



## Quick Start Guide

EN

## **Warranty & Service Information**

Thanks for buying this Mustek UPS product.

Please follow the instructions in the product manual and if applicable the software installation manual, to have the maximum use of your product.

### **Installing the software:**

If your product comes with software you will find a CD Rom in the box containing the software.

Please follow the instructions when installing the software.

You can download the software, manual and short reference manual at the following site: [www.ups-software-download.com](http://www.ups-software-download.com)

### **Warranty:**

As a manufacturer we provide a minimum of 1 year warranty on our product.

However for the exact warranty period and the warranty terms you should contact your reseller as both the warranty period and the terms may vary per Country / Region.

### **Problem solving:**

Please check the chapter in your manual (hardware and software) on problem solving.

Additionally:

Please check our website ([www.Mustek.eu](http://www.Mustek.eu)) regularly for updates of the software as well as Frequent Asked Questions (FAQ) .

If this not solve your problem please contact your reseller for advice.

### **Service and Maintenance:**

If the product requires service or maintenance in the warranty period always contact your reseller for the procedures. If outside the warranty period we advise you to contact your reseller as well. In any case always make sure that service or maintenance on the product are performed by a qualified technician.

## IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS – This manual contains important instructions for models PowerMust 636/848/424EG/636EG/848EG/1260/1590/2212 that should be followed during installation and maintenance of the UPS and batteries.

- This product is specially designed for PCs and it is not recommended for use in any medical equipment, life-supporting system and other specific important equipment.
- Do not plug household appliances such as hair dryers, microwave ovens or vacuum cleaners to UPS.
- Do not attach a power strip or surge suppressor to the UPS.
- Do not plug the UPS into its own output.
- Connection to any other type of receptacle other than two-pole, three-wire grounded receptacle may result in shock hazard as well as violate local electrical codes.
- To reduce risk of overheating the UPS, do not cover the UPS' cooling vents.
- This unit intended for installation in a controlled environment (temperature controlled, indoor area free of conductive contaminants). Avoid installing the UPS in locations where there is standing or running water or excessive humidity and do not use it in any of the following environments:
  - Any area with combustible gas, corrosive substance or heavy dust.
  - Any area with extraordinarily high or low temperature (above 40°C or below 0°C) and humidity of more than 90%.
  - Any area exposed to direct sunshine or near any heating apparatus.
  - Any area with serious vibrations.
  - Outdoor.
- The utility power outlet shall be near the equipment and easily accessible. In the event of an emergency, press OFF button and disconnect the power cord from the AC power supply to properly disable the UPS.
- The internal short circuiting of the UPS will lead to dangers such as electric shock or fire; therefore do not allow liquids or any foreign object to enter the UPS. No water containers (such as a water glass) or any other liquid-containing vessels shall be placed on the top of the UPS so as to avoid such dangers as electric shock.
- Please do not use the UPS in excess of the rated load capacity.
- Unplug the UPS prior to cleaning and do not use liquid or spray detergent.
- Risk of electric shock, do not attempt to disassemble the unit. No user serviceable parts inside. Refer servicing to qualified service personnel.
- If UPS is to be stored for a long time, it is recommended to recharge the batteries (by connecting the utility power to UPS, switch "ON"), once a month for 24 hours to avoid a full battery discharge.
- In case smoke is found coming out from the device, please cut off the power supply quickly and contact the distributor.
- The UPS contains one/two large-capacity batteries. So the shell shall not be opened, otherwise such dangers as electric shock will be caused. If any internal overhaul or replacement of the battery is required, please contact the distributor.
- Servicing of batteries should be performed or supervised by personnel knowledgeable of batteries and the required precautions. Keep unauthorized personnel away from batteries.
- A battery can present a risk of electrical shock and high short circuit current. The following precautions should be observed when working on batteries:
  - Remove watches, rings, or other metal objects from the hand.

- Use tools with insulated handles and wear rubber gloves and boots.
- Do not lay tools or metal parts on top of batteries.
- Disconnect charging source prior connecting or disconnecting batteries terminals.
- When replacing batteries, replace with the same type and number of the sealed lead-acid batteries.
  - Never short circuit batteries. When working with batteries, remove watches, rings and other metal objects, and only use insulated tools.
  - The battery must be replaced exclusively by qualified personnel (risk of shock). Prohibit users from their own battery replacement. Contact your reseller if need.
- The maximum ambient temperature rating is 40°C.
- Do not dispose of battery or batteries in a fire. The battery may explode.
- Do not open or mutilate the battery or batteries. Released electrolyte is harmful to the skin and eyes. It may be toxic.
- Icon  $\Phi$  on the rating label stands for phase symbol.
- This pluggable type A equipment with battery already installed by the supplier is operator installable and may be operated by laymen.
- During the installation of this equipment it should be assured that the sum of the leakage currents of the UPS and the connected loads does not exceed 3.5mA.
- Attention, hazardous through electric shock. Also with disconnection of this unit from the mains, hazardous voltage still may be accessible through supply from battery. The battery supply should be therefore disconnected in the plus and minus pole of the battery when maintenance or service work inside the UPS is necessary.
- In the event that there is fire occurring in the vicinity, please use dry-power extinguishers. The use of liquid extinguishers may give rise to the danger of electric shock.

**This product complies with the safety and environmental regulations in EU.**

If the time arises to throw away your product, please recycle all the components possible. Batteries and rechargeable batteries are not to be disposed in your domestic waste! Please recycle them at your local recycling point. Together we can help to protect the environment.



## 1. Introduction

**PowerMust LED series** is an intelligent and compact line interactive UPS (Uninterruptable Power Supply) which is designed to protect your personal computer or sensitive electronic equipments from all forms of power interference, including complete power failures. It is equipped with many features that allow any attached equipment to operate longer and more reliability.

## 2. Description of Features

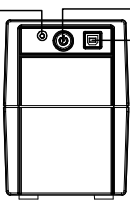
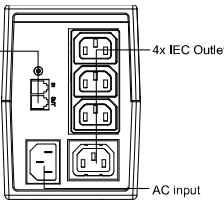
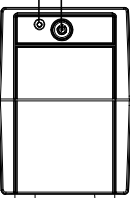
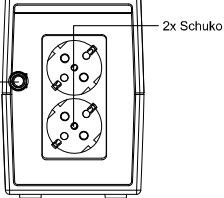
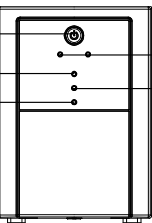
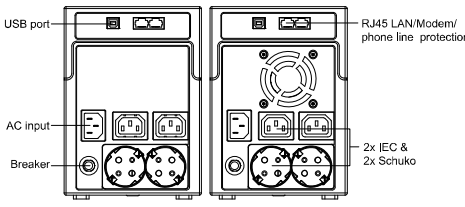
- Easy to use and install utilized microprocessor control to maximize the reliability and efficiency
- Equipped with built-in boost and buck AVR function
- DC Cold start function
- Auto restart while AC recovery.
- Provides AC Overload protection
- RJ11/RJ45 (in/out) LAN/Modem/Phone line protection

### 3. Package Contents

You should have received the following items inside of package:

636/848 IEC	424/636/848 EG Schuko	1060/1590/2212 IEC & Schuko
<ul style="list-style-type: none"> <li>- UPS Unit x 1</li> <li>- Startup manual x 1</li> <li>- Communication cable x 1</li> <li>- Software CD</li> <li>- IEC output cable x2</li> </ul>	<ul style="list-style-type: none"> <li>- UPS Unit x 1</li> <li>- Startup manual x 1</li> </ul>	<ul style="list-style-type: none"> <li>- UPS Unit x 1</li> <li>- Startup manual x 1</li> <li>- Communication cable x 1</li> <li>- Software CD</li> <li>- IEC output cable x2</li> <li>- AC Input Power cable x1</li> </ul>

### 4. Product Overview

	Front Panel	Back Panel
636/ 848	<p>LED Indicators AC mode: green lightning Battery mode: green flashing</p>  <p>Power ON/OFF USB port</p>	 <p>RJ11 LAN/Modem/ phone line protection</p> <p>4x IEC Outlets</p> <p>AC input</p>
424/ 636/ 848 EG	<p>LED Indicators AC mode: green lightning Battery mode: green flashing</p>  <p>Power ON/OFF</p>	 <p>AC input</p> <p>2x Schuko</p>
1260/ 1590/ 2212	<p>Power ON/OFF</p>  <p>Battery mode: yellow flashing Fault mode: red lightning</p> <p>Normal: green lightning AC mode: green lightning</p>	 <p>USB port</p> <p>AC input</p> <p>Breaker</p> <p>RJ45 LAN/Modem/ phone line protection</p> <p>2x IEC &amp; 2x Schuko</p>

### 5. Installation and Initial Startup

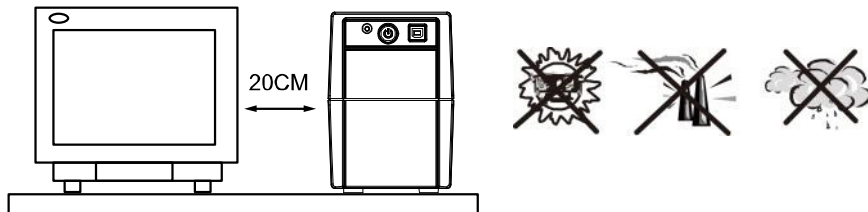


Before installation, please inspect the unit. Be sure that nothing is damaged.

#### I: Placement & Storage Conditions

Install the UPS in a protected area that is free of excessive dust and has adequate air flow around the unit, and is free from excessive dust, corrosive fumes and conductive contaminants. Please place the UPS away from other units at least 20 cm to avoid

interference. Do NOT operate the UPS where the temperature exceeds 0-40° C and the humidity is over 0-90 % RH.




**II: Connect to Utility and Charge**

Plug in the AC input cord to the 2-pole, 3-wire grounded wall outlet. For the best results, we suggest charging the battery at least 6 hours with no load (no electrical devices such as computers, monitors, rtc.) connected before initial use. The unit charges its battery while connecting to the utility.

**III: Connect the Loads**

Plug in the loads to output receptacles on the rear panel of the UPS. Simply turn on the power switch of UPS unit, and devices connected to the UPS will be protected by UPS unit.




Do not attach a power strip or surge suppressor to the UPS.

**IV: Connect LAN cable, Modem or Phone line for Surge Protection**


Connect for example a single modem or phone line into surge-protected “IN” outlet on the back panel of the UPS unit. Connect from “OUT” outlet to the computer with another phone line cable.

**V: Connect USB Cable**

To monitor the UPS status, such as unattended UPS shutdown and start-up, by using bundled software, please connect the UPS and PC with USB cable included.



**NEVER** connect a **laser printer** or **scanner** to the UPS unit, because **in-rush current generated by motor's devices** may cause the damage of the unit.



**VI: Turn On/Off the Unit**

Turn on the UPS unit by pressing the power switch. Turn off the UPS unit by pressing again the power switch.

## 6. Audio Indicator


<u>Audible Alarm</u>	<u>Situation</u>
Sounding every 10 seconds	Battery Mode
Sounding every 1 second	Battery Low
Sounding every 0.5 seconds	Overload
continuous sounding	Faulty

## 7. Software Installation on your PC

Connected by USB to a PC or notebook, the Software enables communication between the UPS and the computer. The UPS software monitors the status of the UPS, shuts down the system before the UPS is exhausted and can remotely observe the UPS via the Network (enabling users to manage their system more effectively). Upon AC failure or UPS battery low, UPS takes all necessary actions without intervention from the system administrator. In addition to automatic file saving and system shut-down functions, it can also send warning messages via pager, e-mail etc.

- Use the bundled CD and follow the on-screen instructions to install the software WinPower.
- Enter the following **serial No.** to install software: **511C1-01220-0100-478DF2A**
- After the software is successfully installed, the communication with UPS has been established and a green icon will appear in the system tray.
- Double-click the icon to use the monitor software (as above).
- You can schedule UPS shutdown/start-up and monitor UPS status through PC.
- Detail instructions please refer to the e-manual in the software.




 Check <http://www.ups-software-download.com/index.htm> from time to time to get the latest version of monitoring software.

## 8. Trouble Shooting

Symptom	Possible Cause	Remedy
No LED display on the front panel.	1. Battery weak.	1. Charge battery up to 8 hours.
	2. Battery defect.	2. Replace with the same type of battery.
	3. Power switch is not pressed.	3. Press the power switch again.
Alarm buzzer beeps continuously when AC supply is normal.	Overload of the UPS.	Verify that the load matches the UPS capability specified in the specs.
When power failure, back-up time is shorten.	1. Overload of the UPS.	1. Remove some non-critical load.
	2. Battery voltage is too low.	2. Charge battery 8 hours or more.
	3. Battery defect due to high temperature operation environment, or improper operation to battery.	3. Replace with the same type of battery.
Mains normal but LED is flashing.	Power cord is loose.	Reconnect the power cord properly.

- If any abnormal situations occur that are not listed above, Please stop using the unit and contact your reseller for advice.
- When replacing the batteries, use batteries with exactly same specifications.
- The battery must be replaced exclusively by qualified personnel (risk of shock).

 Prohibit user replace battery by oneself. Please contact your reseller if need.

## 9. Specifications

Model	Complete Series					
	424	636	848	1260	1590	2212
<b>CAPACITY</b>	450VA/240W	650VA/360W	850VA/480W	1200VA/600W	1500VA/900W	2200VA/1200W
<b>INPUT</b>						
Voltage	220 VAC					
Voltage Range	162~268 VAC					
<b>OUTPUT</b>						
Voltage	220 VAC					
Voltage Regulation	+/-10% (Battery mode)					
Frequency Range	50/60Hz					
Frequency Regulation	±1Hz (Battery mode)					
Transfer Time	Typical 4-8ms					
Waveform	Modified Sine Wave					
<b>PROTECTION</b>						
Full protection	Discharge, overcharge and overload protection					
<b>ENVIRONMENT</b>						
Humidity	0-90 % RH @ 0° to 40° C (non-condensing)					
Noise Level	Less than 40dB					
<b>Software</b>						
Monitoring Software	WinPower (included)					
<b>BATTERY</b>						
Type & Number	12V/4.5Ah x1	12V/ 7Ah x1	12V/9Ah x1	12V / 7Ah x 2	12V / 9Ah x 2	12V / 9Ah x 2
Charging Time	6 hours recover to 90% capacity					
Protection	Overload, discharge and overcharge protection					
Backup Time (est.100W)	8 min	16 min	20 min	30 min	50 min	50 min
<b>PHYSICAL</b>						
LED Indicator	Green LED (AC Mode, Backup Mode)			Normal, Battery mode, AC mode, Fault mode		
Outlet and Connector	2-4x outlets, RJ11 Surge Protection, USB port (EG series : no USB port and RJ11)			4-6x outlets, USB port, RJ45 Surge Protection		
Dimension (DxWxH)	279mm x 100mm x 143mm			365mm x 139mm x 195 mm		
<b>WEIGHT</b>						
Net weight	3.5kg	4.4kg	5.0kg	8.6kg	10.2kg	10.2kg