

# Manual

PowerWalker VI RLP Series

1000-3000

## IMPORTANT SAFETY INSTRUCTIONS

This manual contains important instructions. Please read and follow all instructions carefully during installation and operation of the unit. Read this manual thoroughly before attempting to unpack, install, or operate the UPS.

**CAUTION!** The UPS must be connected to a grounded AC power outlet with fuse or circuit breaker protection. DO NOT plug the UPS into an outlet that is not grounded. If you need to power-drain this equipment, turn off and unplug the unit.

**CAUTION!** The battery can power hazardous components inside the unit, even when the AC input power is disconnected.

**CAUTION!** The UPS should be placed near the connected equipment and easily accessible.

**CAUTION!** To prevent the risk of fire or electric shock, install in a temperature and humidity controlled indoor area, free of conductive contaminants. (Please see specifications for acceptable temperature and humidity range).

**CAUTION! (No User Serviceable Parts):** Risk of electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

**CAUTION! (Non-Isolated Battery Supply):** Risk of electric shock, battery circuit is not isolated from AC power source; hazardous voltage may exist between battery terminals and ground. Test before touching.

**CAUTION!** To reduce the risk of fire, connect the UPS to a branch circuit with 10 amperes (850 / 1K / 1.5K) / 16 amperes (2K / 3K) maximum over-current protection in accordance with CE requirement.

**CAUTION!** The AC outlet where the UPS is connected should be close to the unit and easily accessible.

**CAUTION!** Please use only VDE-tested, CE-marked mains cable, (e.g., the mains cable of your equipment), to connect the UPS to the AC outlet.

**CAUTION!** Please use only VDE-tested, CE-marked power cables to connect any equipment to the UPS.

**CAUTION!** When installing the equipment, ensure that the sum of the leakage current of the UPS and the connected equipment does not exceed 3.5mA.

**CAUTION!** The 1000 / 2000 / 3000 / Battery module models are only qualified maintenance personnel may carry out installations.

**CAUTION!** Do not unplug the unit from AC Power during operation, as this will invalidate the protective ground insulation.

**CAUTION!** To avoid electric shock, turn off and unplug the unit before installing the input/output power cord with a ground wire. Connect the ground wire prior to connecting the line wires!

**CAUTION!** Do not use an improper size power cord as it may cause damage to your equipment and cause fire hazards.

**CAUTION!** Wiring must be done by qualified personnel.

**CAUTION! DO NOT USE FOR MEDICAL OR LIFE SUPPORT EQUIPMENT! Under no circumstances this unit should be used for medical applications involving life support equipment and/or patient care.**

**CAUTION! DO NOT USE WITH OR NEAR AQUARIUMS!** To reduce the risk of fire, do not use with or near aquariums. Condensation from the aquarium can come in contact with metal electrical contacts and cause the machine to short out.

**CAUTION!** Do not dispose of batteries in fire as the battery may explode.

**CAUTION!** Do not open or mutilate the battery, released electrolyte is harmful to the skin and eyes.

**CAUTION!** A battery can present a risk of electric shock and high short circuit current. The following precaution should be observed when working on batteries

1. Remove watches, rings, or other metal objects.
2. Use tools with insulated handles.

**CAUTION!** The unit has a dangerous amount of voltage. When the UPS indicators is on, the units may continue to supply power thus the unit's outlets may have a dangerous amount of voltage even when it's not plugged in to the wall outlet.

**CAUTION!** Make sure everything is turned off and disconnected completely before conducting any maintenance, repairs, or shipment.

**CAUTION!** Connect the Protection Earth (PE) safety conductor before any other cable is connected.

**WARNING! (Fuses):** To reduce the risk of fire, replace only with the same type and rating of fuse.

**DO NOT INSTALL THE UPS WHERE IT WOULD BE EXPOSED TO DIRECT SUNLIGHT OR NEAR A STRONG HEAT SOURCE!**

**DO NOT BLOCK OFF VENTILATION OPENINGS AROUND THE HOUSING!**

**DO NOT CONNECT DOMESTIC APPLIANCES SUCH AS HAIR DRYERS TO UPS OUTPUT SOCKETS!**

**SERVICING OF BATTERIES SHOULD BE PERFORMED OR SUPERVISED BY PERSONNEL KNOWLEDGE OF BATTERIES AND THE REQUIRED PRECAUTIONS. KEEP UNAUTHORIZED PERSONNEL AWAY FROM BATTERIES!**

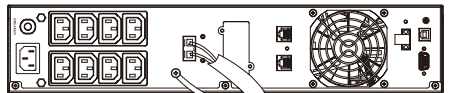
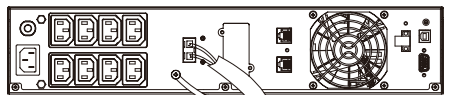
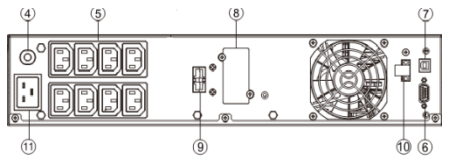
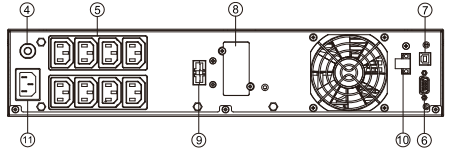
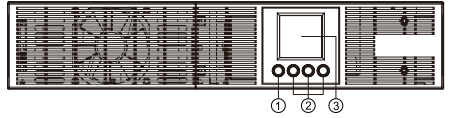
## UNPACKING

(1) UPSx1; (2) User's manual x1; (3) Input power cord x1; (4) Flat head screws: M4x8Lx8; (5) Rackmount trail (optional)x1; (6) Screw hole dust covers x1; (7) Rackmount ears (Stands)x2; (8) USB communication cable (optional)x1.

# BASIC OPERATION

## UPS FRONT/REAR PANEL DESCRIPTION

- 1. Power On/Off Button**  
Master ON/OFF for the UPS.
- 2. Function Buttons**  
Scroll up, scroll down, select, and cancel LCD menu in setting mode.
- 3. Multifunction LCD Readout**  
Indicate status information, settings, and events.
- 4. Input Circuit Breaker**  
Provide input overload and fault protection.
- 5. Independent Outlets**  
Provide battery backup and surge protection. They ensure power is provided to connected equipment over a period of time during a power failure. **Most important, the 8 outlets can be set up and work independently.**
- 6. Serial Port**  
Serial port provides communication between the UPS and the computer. The UPS can control the computer's shutdown during a power outage through the connection while the computer can monitor the UPS and alter its various programmable parameters.
- 7. USB port**  
This is a connectivity port which allows communication and control between the UPS and the connected computer. It is recommended to install the Power master software on the PC/Server connected with the USB cord.
- 8. SNMP/HTTP Network slot**  
Slot to install the optional "SNMP card 2" for remote network control and monitoring.
- 9. Extended Runtime Battery Module Connector**  
Connect to additional external battery modules.
- 10. EPO (Emergency Power Off) Connector**  
Enable Power-Off in emergency from a remote location.
- 11. AC Input Inlet**  
Connect the AC Power cord to a properly wired and grounded outlet.



### UPS – External Battery Module Connection (1) :

#### Single Battery Pack Installation

Step 1: Use the battery cable of the Battery module to connect the Battery module to the UPS module.

Step 2: Use screws to fix ground connection.

### UPS – External Battery Module Connection (2) :









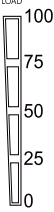


#### Multiple Battery Packs Installation

Step 1: Connect the 1<sup>st</sup> Battery module to the UPS module using battery cable.

Step 2: Use the battery cable to connect the 2<sup>nd</sup> Battery module to the 1<sup>st</sup> Battery module.

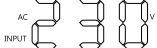
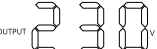
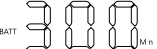





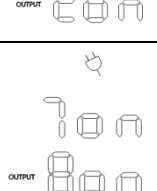
Step 3: Use screws to fix ground connection.

**DEFINITIONS FOR OTHER ICONS**

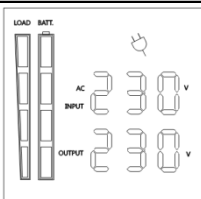
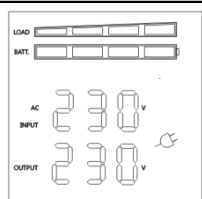
	<p><b>MUTE:</b> This icon appears whenever the UPS is in silent mode. The alarm does not beep during silent mode until the battery reaches low capacity.</p>
	<p><b>EBM:</b> Indicate the numbers of external battery module.</p>
	<p><b>SCHEDULE:</b> Users can setup the schedule to turn on and shut down the computer and UPS through PowerMaster Management software. The LCD display will show how much time is left before the UPS will turn back on or shut down.</p>
	<p><b>FAULT:</b> This icon appears if there is a problem with the UPS.</p>
	<p><b>Setting mode</b></p>
	<p><b>Bat mode:</b> When this icon is blinking, the batteries need to be replaced.</p>
	<p><b>Line mode:</b> Solid light</p>
<p>LOAD</p> 	<p><b>Load capacity</b></p> 
<p>BATT.</p> 	<p><b>Battery capacity:</b>          Bat mode: battery capacity          Line mode:</p> <ol style="list-style-type: none"> <li>1. Battery charging: cycle lighting</li> <li>2. Battery full charged: lighting</li> <li>3. Line mode without charger: battery capacity</li> </ol> 

**LCD DISPLAY**

1. Press the display key "UP/DOWN" to indicate the different item

Item	Description	LCD display
1st (default)	AC input	
	AC output	
2nd	Battery remaining time	
	Load capacity	
3rd	Battery capacity	
	Temperature	
4th	Output1 status	
	Output2 status	
5-7th	Output3-8 status same to 4th	

2. Press the "UP/DOWN" button simultaneously for 3 seconds to activate or exit the vertical screen mode.

Landscape Mode	Vertical Screen Mode
	

**BUTTON OPERATION**

Operation Description	
POWER	Press this button to turn on UPS. In line mode, Battery mode press the button to turn off UPS
SETUP	Press this button simultaneously for 5 seconds to get into setting mode while in standby mode. Press this button for long time to exit setting mode and saving changes.
UP/DOWN	In setting mode, press this button to display next selection, or press this button for long time to exit setting mode without saving changes. In line mode, bypass mode, battery mode, press the button 5 seconds to switch the LCD display orientation from Rack to Tower form

ENTER

In setting mode, press this button to confirm selection  
 In line mode, bypass mode, battery mode, press the button 3 seconds to enable or disable the buzzer

### LCD SETTINGS CONFIGURATION

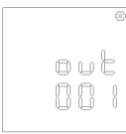





There are 9 UPS settings that can be configured by the user.




1. Press the "SETUP" button for 5 seconds to activate or exit the setting mode.

The first configuration parameter will be displayed on the LCD screen.

Note: The manual settings programming mode can ONLY be invoked while UPS is in Standby mode. To make UPS on Standby mode, connect utility power to UPS and do not turn on UPS.

2. Press the "UP/DOWN" button to scroll different page or the different parameters.
3. Press the "ENTER" buttons to select the parameter you want.

Setting item	Configure Submenu	Available Settings	Default Setting	LCD Display
001-008	Output1-8 settings	[dEL on] delay on/ [ [dEL oFF] delay off/ [dEL rbt] delay reboot [iMM on] immediately on / [ [iMM oFF] immediately off/ [iMM rbt] immediately reboot	dEL on	
009	Output Voltage	[208V] [220V]230V[240V]	230V	
010	Output Frequency	[50Hz] [60Hz]	50Hz	
011	EBM Number	[0bP]/[1bP]/[2bP]	0Bp	
012	Charging current	[1A]/[3A]/[6A]	1A	
013	Battery Self-test	[10S] battery self-test 10s/[LoW]battery self-test until battery low	10S	

014	Battery Month test	[EnA]/[dIS]	EnA	
015	Power on delay	[EnA]/[dIS]	EnA	
016	Reset	[yES]/[no]	no	

**Event ID Descriptions**

Event ID	Description of Case	Remedy
E05	INV soft Start Fail	Restart the UPS, if the fault is still, please contact Technical Support.
E07	INV Volt High	
E08	INV Volt Low	
E09	INV Short	Your attached equipment may have problems, please remove them, and check again.
E11	Bat Volt High	Shutdown the ups and check the battery connect or replace them, then restart the ups.
E12	Bat Volt Low	
A59	Bat Disconnect	
A62	Bat Bad	
A56	Bat Volt Low	
A64	Overload Warning	
E14	Overload	Shut off the non-essential equipment then UPS may be normal.
E18	Fan Fail	Shutdown the ups and check the fan or replace, then the UPS can work normally.
A69	Fan Lock	
E19	Over Temperature	Environment or UPS temperature may too high, move UPS to a cool environment or shut off the non-essential equipment.
A68	Over Temperature	
A66	EPO Active	Check the EPO terminal, it may fall off, install it again will be ok.

## TECHNICAL SPECIFICATIONS

Model	1000R	2000R	3000R
<b>Configuration</b>			
Capacity (VA)	1000VA	2000VA	3000VA
Capacity (Watts)	900W	1800W	2700W
Form Factor	Rack/Tower		
<b>Input</b>			
Input Voltage Range	165 VAC ~290VAC		
Input Frequency Range	45~65Hz		
Input Power Factor	0.98		
Cold Start	Yes		
<b>Output</b>			
Output Waveform	Pure Sine Wave		
Output Voltage	230Vac ±10%		
Output Frequency	50 / 60Hz (Auto Sensing or Configurable) ±1%Hz		
Transfer Time (Typically)	2~6ms typical, 10ms max		
Rated Power Factor	0.9		
<b>Protection</b>			
Surge Protection	IEC 61000-4-5 Level 4		
Overload Protection	Line Mode: >110% alarm continuous <100% go back  AVR & Battery Mode >110% Fault after 1MIN <100% go back >120% Fault immediately		
Short Circuit Protection	UPS Output Cut off Immediately or Input Fuse / Circuit Breaker Protection		
<b>Battery</b>			
Specifications	(12V/9AH) *2	(12V/9AH) *4	(12V/9AH) *6
Recharge Time (Typically)	4 Hours (inside batteries)		
Sealed, Maintenance Free	Yes		
<b>Status Indicators</b>			
LCD Screen	Graphic LCD		
Audible Alarms	Battery Mode, Battery Low, Overload, UPS Fault, Replace Battery, Bypass Mode Charger Failure /Over Charged, Fan failure, EPO active, over temperature etc.		
<b>Environment</b>			
Operating Temperature	32°F to 104°F (0°C to 40°C)		
Operating Relative Humidity	10to 90% non-Condensing		
<b>Management</b>			
On-Device Features	Self-Test, Auto-Charge, Auto-Restart, Auto-Overload Recovery		
Connectivity Ports	(1) Serial Port (RS232). (1) USB Port		
SNMP/HTTP Capable	(1) Expansion Port		

### **BATTERY INSTALLATION AND REPLACEMENT**

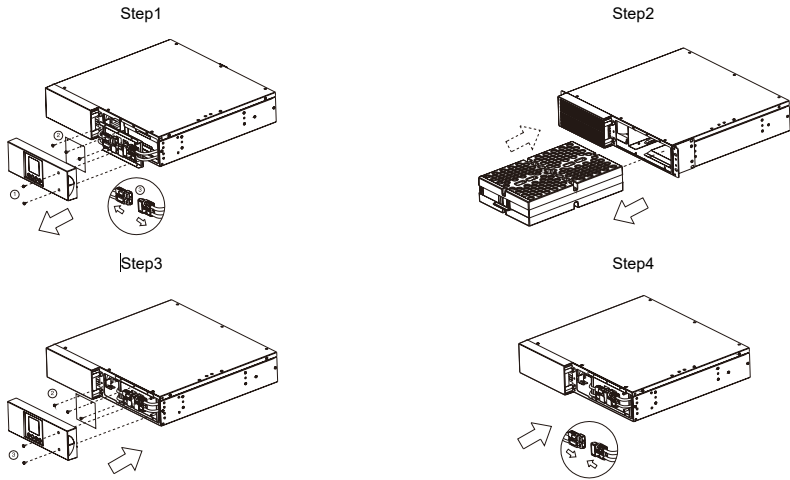
Step 1: Remove the front panel. Remove the retaining screws from the battery bracket and then remove the cover itself. Disconnect the connectors.

Step 2: Pull the battery tray out slowly. Put the new battery tray back into the compartment after that.

Step 3: Fasten the battery bracket and then insert the connectors. Place the connectors in the bracket.

Step 4: Tighten the screws of the battery bracket and front panel.





## **TROUBLE SHOOTING**

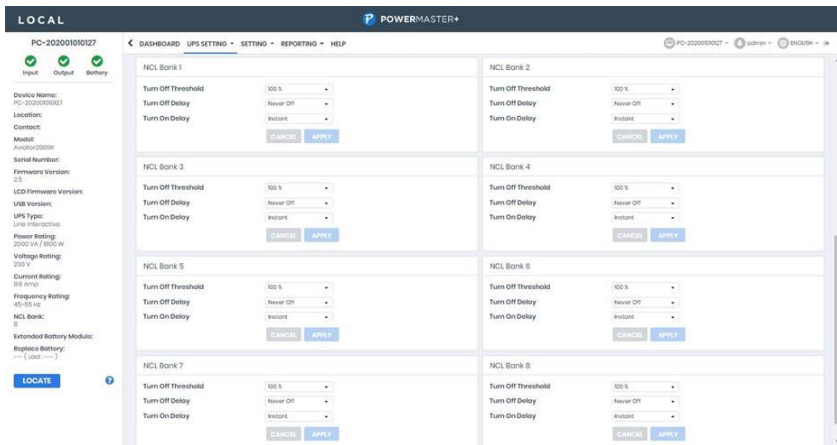
<b>Problem</b>	<b>Possible Cause</b>	<b>Solution</b>
<b>Warning</b>		
O/P Overload	Your equipment requires more power than the UPS can provide. If the UPS is in Line Mode, then it will transfer to Bypass Mode; if the UPS is in Battery Mode, it will shut down.	Shut off non-essential equipment. If this solves the overload problem, the UPS will transfer to normal operation.
Battery Mode	UPS is operating on battery power.	Save your data and perform a controlled-shutdown.
Battery Low	UPS is operating on battery power and will be shutting down soon due to extremely low battery voltage.	UPS will restart automatically when acceptable utility power returns.
BAT Disconnected/ Battery Replace	Missing battery power.	Check battery connector when use battery packages.
	UPS has failed in Battery Test.	Contact technical support to replace the battery.
Charger Failure	Charger has failed.	1. Shut down UPS and turn off AC input. 2. Contact the dealer for repair.
EPO OFF	Missing the EPO connection.	Check the EPO connection.
<b>Fault</b>		
Over Temperature	High ambient temperature.	1. Shut down UPS. Restart UPS to Check the fan for operation and if the ventilation hole has been covered 2. Contact the dealer for repair.
Output Short	Output short circuit.	1. Shut down UPS 2. Your attached equipment may have problems, please remove them and check again.
High O/P V	Output voltage is too high.	1. Shut down UPS 2. Contact the dealer for repair.
Low O/P V	Output voltage is too low.	
Bus Fault	Internal DC bus voltage is too high or too low.	
<b>Other</b>		
Startup fail	High temperature, or fan fail, or battery low, or EPO off.	1. Restart UPS and press the "▼" button to view the warning event. Then refer to the solution for the warning. 2. Contact the dealer for repair.

**INDIVIDUAL OUTLET CONTROL**

Method 1: Through LCD setting: Setting item 001-008



Method 2: Through PowerMaster+ Local: [UPS SETTING->CONFIGURATION]



Method 3: Trough SNMP Card 2 Webpage: [UPS->Outlet Action->Outlet Management]

UPS Power Management | Administrator login from 192.168.203.62 [Logout] | Summary | UPS | Log | System | Help

### Outlet Manager

Outlet Selection  All

#	Outlet Name	On Delay (sec.)	Off Delay (sec.)	Reboot Duration (sec.)
<input type="checkbox"/> 1	Outlet1	3	3	5
<input type="checkbox"/> 2	Outlet2	3	3	5
<input type="checkbox"/> 3	Outlet3	3	3	5
<input type="checkbox"/> 4	Outlet4	3	3	5
<input type="checkbox"/> 5	Outlet5	3	3	5
<input type="checkbox"/> 6	Outlet6	3	3	5
<input type="checkbox"/> 7	Outlet7	3	3	5
<input type="checkbox"/> 8	Outlet88	3	3	5

## AUTO-PING

The Auto-Ping feature allows the SNMP Card 2 to detect if a target device becomes unresponsive to IP pings and automatically reboot the device. If the device gets back to normal operation after reboot, network connection could be restored at the same time. First add an IP address of the target device and correlate the IP address to specific outlet, which powers the device. The SNMP Card 2 begins to verify its connection to the internet by periodically sending IP pings to the device. If the SNMP Card 2 continuously receives no response from the device, the setting action will be triggered on the outlet. To utilize the function, AutoPing configuration is based on different applications.

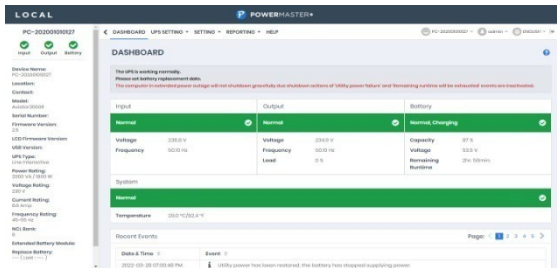
Auto Ping setting: [UPS->Outlet Action->Outlet AutoPing]



Status	Name	Active	Priority	IP Address	Target IP Address	Period (sec.)	Retries	Action	Restart Delay (min.)	Outlet
Disabled	AutoPing Name 1	Disabled	--	--	192.168.203.116	30	5	Reboot (3)	10	[7]
Success	AutoPing Name 2	Enabled	--	--	192.168.203.79	33	3	Turn Off	3	[1,2,3,4,5,6,7,8]
Disabled	AutoPing Name 3	Disabled	--	--	192.168.203.116	44	44	Turn On	4	[1,2,6,7,8]
Success	AutoPing Name 4	Enabled	--	--	192.168.203.88	999	200	Reboot (50)	10	[2,3,7,8]
Success	AutoPing Name 5	Enabled	--	--	1.1.1.1	567	123	Turn Off	0	[1,2,3,4,5,6,7,8]
Disabled	AutoPing Name 6	Disabled	--	--	254.120.0.0	999	3	Reboot (20)	3	[1,8,8]
Disabled	AutoPing Name 7	Disabled	--	--	192.168.203.118	79	79	Reboot (7)	9	[2,3,4,5,7]
Success	AutoPing Name 8	Enabled	--	--	192.168.203.79	31	3	Reboot (2)	1	[3,5,8,8]
Disabled	AutoPing Name 9	Disabled	--	--	0.0.0.0	30	2	Reboot (1)	0	[4]
Disabled	AutoPing Name 10	Disabled	--	--	0.0.0.0	30	2	Reboot (1)	0	[1,5,8,8]

## SOFTWARE DOWNLOAD

Power Master+ management software provides a user-friendly interface for your power systems. The graphic user-interface is intuitive and displays essential power information at a glance. Please follow procedure below to install the software.



## Installation procedure:

1. Download PowerMaster from the website: <https://powerwalker.com/software/#powermaster>
2. Double-click the file and follow the installation steps.

When your computer restarts, the PowerMaster software will appear as a blue icon located in the system tray.

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