

Quick Guide

PowerWalker VFI RT HID Series

I. Assembly

The UPS can be assembled in a rack form using rack ears (Rack Mount Kit is not included) or in tower form using tower holder. The LCD part can be taken out and turned 90 degrees to align with orientation of the UPS.

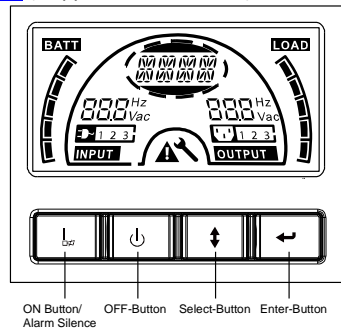
Internal batteries are disconnected for transportation. It is necessary to open front panel (2 screws on the side, 1 screw behind the LCD) and connect the two available connectors before first usage. External batteries are connected in front using third connector.

Details at <https://support.powerwalker.com/kb/faq.php?id=83> (faq.powerwalker.com)

II. Display Panel

The LCD uses blue back-light as standard. In case of critical error the back-light changes to red. Buttons react to:

- Click – Press the button for around 1s and release
- Press – Press and hold for more than 3s, release
- Press long – Press and hold for more than 10s, release



Control Button	Switch	Function
	ON / Alarm Silence	Press to turn on the UPS. Click to disable alarm buzzer (press during battery mode). Press long to perform battery life test
	OFF	Press to turn off the UPS. (UPS will switch to bypass if it is configured) Click to disable alarm buzzer in bypass mode. Press to release the UPS from fault mode or EPO status.
	Select	Press the Select button to select the settings value one by one
	Enter	Press to enter settings mode (depending on the UPS Mode) Click to enter settings item (settings string will flash) Click to confirm settings Press to exit Settings mode

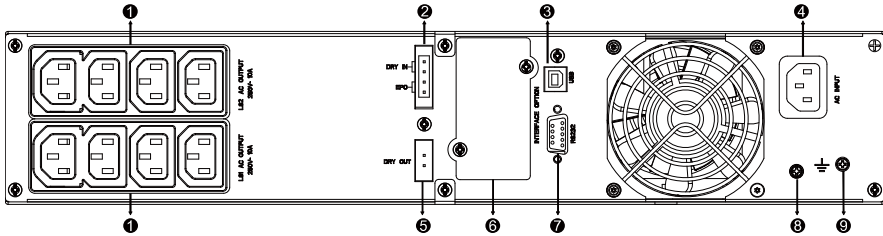
III. Description of LCD display function

No.	Description	Function
	Input frequency and voltage	Indicates the value of input frequency and voltage
	Input plug indicator	Lights on when the input power is at no loss.

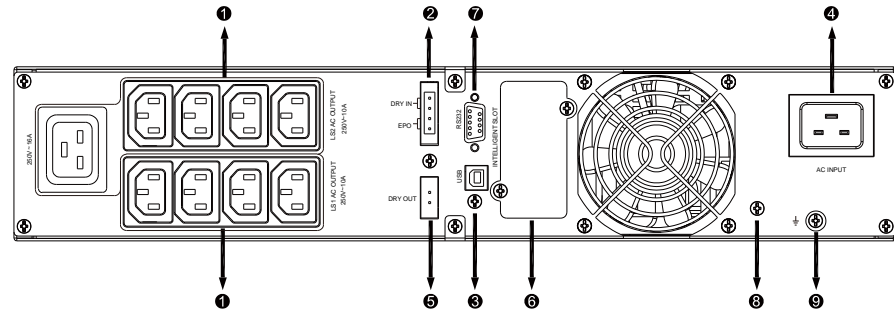
	Output frequency and voltage	Indicates the value of output frequency and voltage
	Output plug indicator	The UPS has two groups of outlets. The output plug indicator will light on if there is output power respectively.
	UPS status/user setting display String	Strings Indicate the UPS status(see Table 4) Strings Indicate user setting options(see Table 5)
	Warning indication	Lights on when the UPS is failure or alarm.
	Settings	Lights on when the UPS under settings mode.
	Battery volume level display	Indicates the amount of battery volume remaining. Each battery volume level bar indicates approximately 20% of total battery volume
	Load Power level display	Indicates the load level of the UPS. Each level bar indicates approximately 20% of the total UPS output Power.

IV. Rear Panels

VFI 1000-1500-2000 RT



VFI 3000 RT



1 AC Output

2	Dry contact input / EPO
3	USB Port
4	AC Input
5	Dry contact output
6	Intelligent Slot
7	RS232
8	Earth Line Port

V. Connection of the UPS

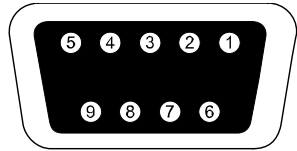
The UPS should be protected with circuit breaker on the input. Minimum rating should 10A for 1000VA, 12A for 1500VA, 16A for 2000VA and 20A for 3000VA. For output connection please use original cables and share the load equally among outlets.

VI. Connecting Battery Packs

Remove front panel, connect the battery via Anderson PP45 connectors. Make sure you are connecting with correct polarity (red to red, black to black). Make sure the wires are connected tight. Close front panel. Setup the amount of battery packs in the settings.

VII. Communication Ports

A Local communication with the software can be established via USB or RS232 connector. Alternatively UPS can be controlled using dry contacts.



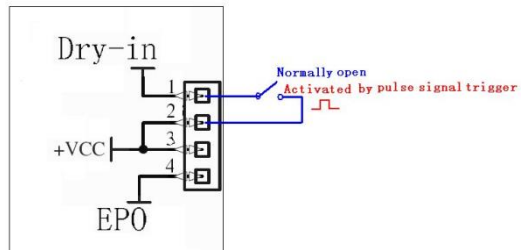
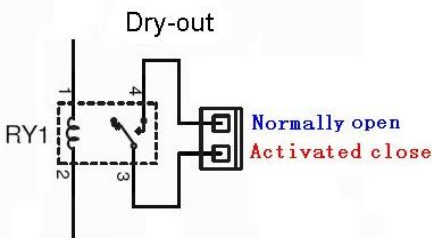
VIII. DB9 Female (RS232) pin description

PIN #	Signal name	Function	Direction from the UPS
2	Tx	Transmit to external device	Out
3	Rx	Receive from external device	In
5	GND	Signal common (tied to chassis)	Not applicable
Other		Not Used	

Dry contacts are not available for VI ERT series.

IX. Dry contact port and EPO

The relay output contact must not be connected to any utility connected circuits. Reinforced insulation to the utility is required. The relay output contact has a maximum rating of 30Vac/1A.



The signal input to control UPS On/Off status is the same as one button to control UPS On/Off status. The relay output can be configured by protocol command:

Dry out signal	Description
Summary Alarm [DEFAULT]	Activated when any warning happens

On Battery	Activated when the UPS operates on battery
Battery Low	Activated with the “bLOW” alarm
UPS ok	Activated when the UPS has no alarms and no fault.
On Bypass	Activated when the UPS has bypass output.
Dry in signal	Description
UPS On/Off	One second pulse activate, if active, the UPS turns off when UPS is on inverter; the UPS turns on when UPS is not on inverter. It is the same as a remote button to control UPS On/Off status.

For more information visit our website.

X. Extension Slot

UPS allows extending communication means by extension cards. Please check product website for list of accessories.

XI. UPS Initial Startup

1. Verify that the internal batteries (behind front panel) and optional battery packs are connected.
2. Plug the equipment (load), but do not turn it on
3. Plug in the UPS input power cord. The UPS front panel display illuminates and UPS status display shows “INIT” for initialization and then settles on “STbY”
4. Press and hold the ON/OFF button more than 3 seconds. The UPS status display changes to “LINE”
5. Configure the UPS (i.e. EBM battery settings)

At initial startup, the UPS sets system frequency according to input line frequency.

XII. User Setting String

Settings should be done in standby (no output) or bypass mode. Load Segments can be also changed in Line Mode

LCD String	Description	Values
OPV	Output Voltage	208/220/230/240 (Volt)
OPF	Output Frequency	50/60 (Hz)
bYPA	Bypass Status	Enable (001) / Disable (000)
MOdE	Operating Mode	UPS/ECO/CVF
LS1 / LS2	Load Segments	On (001) / off (000)
EbM	External Battery Modules	0-9

XIII. [UPS] Normal Operating Mode

UPS works in normal double conversion mode, providing clean and filtered power.

XIV. [CVF] Frequency Converter Mode

When input frequency is within 40 Hz to 70 Hz, the UPS can be set at a constant output frequency, 50 Hz or 60 Hz. The UPS will still charge battery under this mode. Frequency Converter requires de-rating of the UPS Power to 70%.

XV. [ECO] Economy Mode

It is also referred to as high efficiency mode. The load is supplied directly from mains via internal filter when input voltage is within the allowed range. If the input is abnormal, UPS would switch to battery mode. A transfer time up to 10ms is present during switching to battery mode.

XVI. Configuring EBM quantity

Setting correct EBM (External Battery Module) quantity is critical for reaching the desired backup time. Only if this value is set correctly, UPS will be able to maximize the battery usage. The value represents amount of original battery packs fitted with 2 strings of 9Ah batteries.

XVII. Configuring Load Segment

Load segments are groups of outlets that can be configured through the display. VFI RT HID models have two configurable load segments. When UPS is turned on (it has activated output), you can turn off a load segment. If the UPS is turned off (no output), then a load segment cannot be turned on.

XVIII. Bypass Mode

If the bypass is set to enabled (value = 001), then the UPS would provide output to the load as long as there is input. Turning off the UPS would essentially switch off the inverter and supply unfiltered power to the load.

XIX. UPS Status Display String

LCD Display String	Description
STbY	UPS work at Standby mode (no output)
LINE	UPS work in Line mode
bYPA	UPS work in Bypass mode (no backup function!)
bATT	UPS work in Battery mode (no AC input)
TEST	UPS work in battery life/function test mode
ECO	UPS work in ECO mode
CVCF	UPS work in converter mode
SITE	Site fail, check input connection
FANF	Fan fail, check if fan is not blocked
bLOW	Battery low, recharge or replace batteries
bOPN	Battery open, check battery circuit connection
bATF	Battery fault, replace batteries
EPO	EPO, deactivate EPO
OVLD	Overload, disconnect load
AMbH	Ambient temperature too high
For following errors contact our technical support: CHGF / TEPH / SHOR / ISFT / bSFT / OVTP / INVL / INVH / bUSH / bUSL / bUSE / bUSS / HIGH / NTCO	

XX. Indicators and Audible alarm

Audible alarm	Backup Mode	Sounding every 4seconds	"bATT" on the screen
	Low Battery	Sounding every second	"bLOW" on the screen
	UPS Fault	Continuously Sounding	Red display
	Overload	Sounding every second	"OVLD" on the screen
	Battery Replacement	Sounding every second	

Alarm can be muted when it is activated, but it will sound in case of low battery, fan fault, overheat and other major fault.

XXI. Technical Specification

Model		1000 RTS	1000 RT	1500 RT	2000 RT	3000 RT
Power	Watt	900W	900W	1350W	1800W	2700W
Input	Input voltage range	161-276VAC				
	Frequency range	45-55 or 54-66 Hz for Normal Mode				
Output	Voltage	220/230/240VAC				
	Voltage Regulation	±5% in battery mode				
	Frequency	50Hz or 60Hz ±0.2Hz				
	Waveform	Pure sinewave				
Overload rating		12s @102%-130%; 1.5s @130%-150%; 100ms @ >150%				
Internal battery	Battery Type	external	3x12V/7A H	4x12V/7A H	4x12V/9 AH	6x12V/9A H
	Recharge Time to 90% after discharged	N/A	3 hours			
Temperature		0 to 40°C				
Humidity		0%-95% relative humidity (non-condensing)				
Altitude		< 1000m				
Storage Temperature		0-45 degC				
Net weight		8.4kg	16.2kg	19.7kg	19.7kg	28.6kg
Dimensions		438 x 86.5 x 436				438x87x6 08