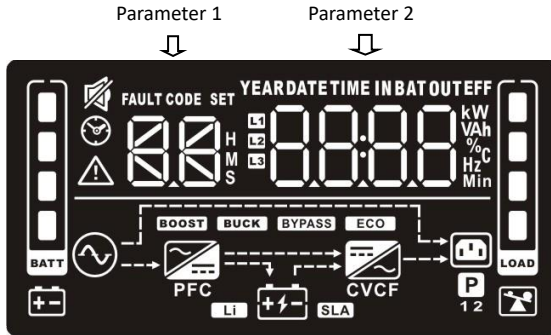


Quick Guide

PowerWalker VFI CG PF1 Series

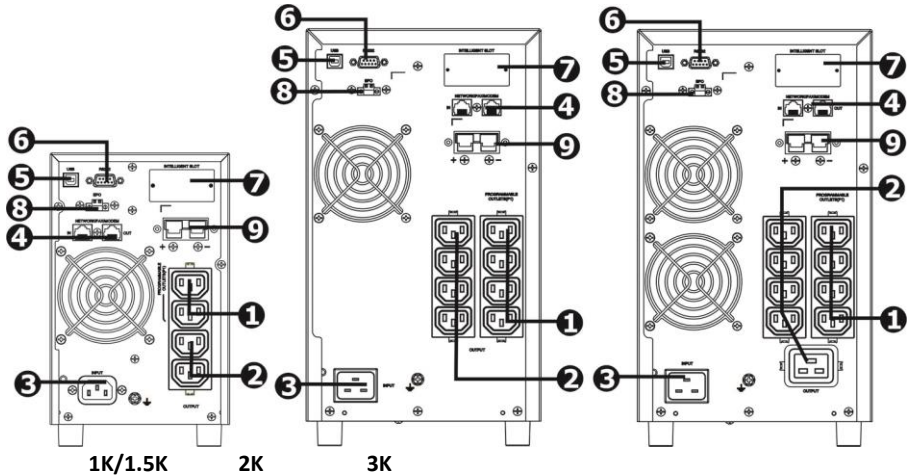
I. LCD Panel



Display	Function
	Indicates the estimated backup time. H: hours, M: minute, S: second.
	Indicates the configuration items
	Indicates the warning and fault codes
	Indicates that the UPS alarm is disabled.
	Indicates the input voltage, input frequency, input current, battery voltage, battery current, battery Power, ambient temperature, output voltage, output frequency, load current and load percent.
	Indicates the load level by 0-24%, 25-49%, 50-74% and 75-100%.
	Indicates overload.
	Indicates that programmable management outlets are working.
	Indicates the UPS connects to the mains.
	Indicates the battery is working.
	Indicates charging status
	Indicates the bypass circuit is working.

	Indicates the ECO mode is enabled.
	Indicates the AC to DC circuit is working.
PFC	Indicates the PFC circuit is working.
	Indicates the inverter circuit is working.
CVCF	Indicates the UPS is working in converter mode.
	Indicates the output is working.
	Indicates the battery level by 0-24%, 25-49%, 50-74%, and 75-100%.
	Indicates low battery.

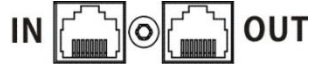
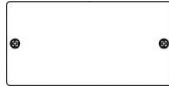
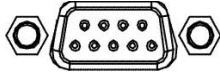
II. Rear panel view



- | | |
|---------------------------------------|--|
| 1. Programmable outlets: | 5. USB communication port |
| 2. Output receptacles: | 6. RS-232 communication port |
| 3. AC input | 7. SNMP intelligent slot |
| 4. Network/Fax/Modem surge protection | 8. Emergency Power Off connector (EPO) |
| | 9. External battery connection |

III. Communication connection






USB port
 RS-232 port
 Intelligent slot
 Network Surge Protection



Apart from standard USB Port, the UPS is equipped with RS-232. Those two ports do not work at the same time.

IV. Modes and warnings

Warning	Icon	Alarm	Muted
Online mode		No Alarm	N/A
ECO mode		No Alarm	N/A
Frequency Converter mode		No Alarm	N/A
Battery mode		Sounding every 5 seconds	Yes
Bypass mode		Sounding every 10 seconds	Yes
Standby mode		No Alarm	N/A
Low Battery	BL	Sounding every 2 seconds	No
Overload	OL	Sounding every second	No
Over input current	OI	Sounding 2 beep every 10 seconds	No
Battery is not connected	NC	Sounding every 2 seconds	No
Over Charge	OC	Sounding every 2 seconds	No
Site wiring fault	SF	Sounding every 2 seconds	No
EPO enable	EP	Sounding every 2 seconds	No
Over temperature	EP	Sounding every 2 seconds	No
Charger failure	CH	Sounding every 2 seconds	No

Battery fault		bf	Sounding every 2 seconds (At this time, UPS is off to remind users something wrong with battery)	No
Out of bypass voltage range	 BYPASS	bv	Sounding every 2 seconds	No
Bypass frequency unstable		FU	Sounding every 2 seconds	No
Battery replacement		br	Sounding every 2 seconds	No
EEPROM error		EE	Sounding every 2 seconds	No

V. 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 80%.

VI. Button operation

ON/Mute Button

- Press and hold ON/Mute button for at least 2 seconds to turn on the UPS.
- When the UPS is on battery mode, press and hold this button for at least 3 seconds to disable or enable the alarm system. But it's not applied to the situations when warnings or errors occur.
- Press this button to display previous selection in UPS setting mode (up key)
- Press and hold ON/Mute button for 3 seconds to enter UPS self-testing while in AC mode, ECO mode, or converter mode.

OFF/Enter Button

- Press and hold this button at least 2 seconds to turn off the UPS. UPS will be in standby mode under power normal or transfer to Bypass mode if the Bypass enable setting by pressing this button.
- Press this button to confirm selection in UPS setting mode.

Select Button

- Press this button to change the LCD message for input voltage, input frequency, battery voltage, output voltage and output frequency. It will return back to default display when pausing for 10 seconds.
- Press and hold this button for 3 seconds to enter UPS setting mode when UPS is in standby mode or bypass mode.
- Press this button to display next selection in UPS setting mode. (down key)

ON/Mute + Select Button

- When the main power is normal, press the two buttons simultaneously for 3 seconds. Then UPS will enter to bypass mode. This action will be ineffective when the input voltage is out of acceptable range.
- In setting mode, press the two buttons simultaneously for 0.2s to exit the setting mode.

VII. UPS Setting

Parameter 1		Parameter 2	
01	Output voltage setting	200/208/220 / 230/240	Value in V AC
02	Frequency Converter Mode	ENA/dIS	Enable or Disable (default)
03	Output frequency setting	50 / 60	Value in Hz
		50 / 60	Value in Hz
04	ECO Mode	ENA/dIS	Enable or Disable (default)
05	ECO voltage range setting	HLS	Upper Limit for Input Voltage
		LLS	Bottom Limit for Input Voltage
	HS Upper Limit for Input Voltage	Nominal +7V to +24V	Value in V AC
	LS Bottom Limit for Input Voltage	Nominal -7V to -24V	Value in V AC
06	Bypass	ENA/dIS	Enable or Disable (default) bypass mode
07	Bypass Input Voltage setting	HLS	Upper Limit for Input Voltage
		LLS	Bottom Limit for Input Voltage
	HS Upper Limit for Input Voltage	Nominal +7V to +24V	Value in V AC
	LS Bottom Limit for Input Voltage	Nominal -7V to -24V	Value in V AC
08	Bypass frequency range setting	HLS	Upper Limit for Input Frequency
		LLS	Bottom Limit for Input Frequency
	HS Upper Limit for Input Voltage	Nominal +1 to +5 Hz	Value in Hz
	LS Bottom Limit for Input Voltage	Nominal -1 to -5 Hz	Value in Hz
09	Programmable outlets	ENA/dIS	Enable or Disable (default)
10	Programmable outlets setting	0-999	Backup time limit in minutes for programmable outlets. 0 actually means 10s and 999 means disabled
11	Autonomy limitation setting	0-999/dIS	Backup time limit in minutes. 0 actually means 10s
12	Battery total AH setting	7-999	Total Power of batteries in Ah (2 strings of 9Ah means 18Ah regardless of the length of the string)
13	Maximum charger current setting	1 / 2 / 4 / 6 / 8 / 10 / 12	Total Power of batteries in Ah (2 strings of 9Ah means 18Ah regardless of the length of the string)
14	Charger boost voltage setting	2.25-2.40V	Boost Charging voltage per cell. Each battery has 6 cells.Default is 2.36V/cell means 14.16V/bat
15	Charger float voltage setting	2.20-2.33V	Float Charging voltage per cell. Each battery has 6 cells.Default is 2.28V/cell

				means 13.68V/bat
16	EPO logic setting		AO	Active Open (default). EPO will be activated if pins 1 and 2 are not shorted
			AC	Active Close. EPO will be activated if pins 1 and 2 are shorted
17	External output isolation transformer connection		ENA/dIS	Allow or disallow (default) external output isolation transformer connection.
18	Display setting for autonomy time		EAT/RAT	EAT will display the remaining autonomy time (Default). RAT will show accumulated autonomy time.
19	Acceptable input voltage range setting		HLS	Upper Limit for Input Voltage
			LLS	Bottom Limit for Input Voltage
	HS	Upper Limit for Input Voltage	280 / 290 / 300	Value in V AC
	LS	Bottom Limit for Input Voltage	110 / 120 / 130 / 140 / 150 / 160	Value in V AC
00	Exit Settings			

Maximum charger current setting

Please set the appropriate charger current based on battery Power used. The recommended charging current is 0.1C~0.3C of battery Power as following table for reference.

Charging current (A)	2	4	6	8	10	12
Battery Power(AH)	7-20Ah	20-40Ah	40-60Ah	60-80Ah	80-100Ah	100-150Ah

VIII. Technical Specification

MODEL	VFI 1000 CG PF1	VFI 1500 CG PF1	VFI 2000 CG PF1	VFI 3000 CG PF1
POWER*	1000VA/1000 W	1500VA/1500 W	2000VA/2000 W	3000VA / 3000W
INPUT				
Voltage	Low Line Transfer	160VAC/140VAC/120VAC/110VAC ± 5 %		
	Low Line Comeback	175VAC/155VAC/135VAC/125VAC ± 5 %		
	High Line Transfer	300 VAC ± 5 %		
	High Line Comeback	290 VAC ± 5 %		
Frequency Range		40Hz ~ 70 Hz		
Power Factor		> 0.99 @ full load		
THDi		< 5% @ 205-245VAC THDU < 1.6% @ input and full linear load condition		
OUTPUT				
Output voltage	200/208/220/230/240VAC			

AC Voltage Regulation	± 1% (Batt. Mode)			
Frequency Synchronized Range	47 ~ 53 Hz or 57 ~ 63 Hz			
Frequency Range	50 Hz ± 0.1 Hz or 60Hz ± 0.1 Hz (Batt. Mode)			
Current Crest Ratio	3:1			
Harmonic Distortion	< 2 % THD (Linear Load) ; < 4 % THD (Non-linear Load)			
Transfer Time	Zero from AC Mode to Battery Mode Below 4ms from Inverter to Bypass			
Waveform	Pure Sinewave			
EFFICIENCY				
AC Mode	>89% @ full charged battery		>91% @ full charged battery	
ECO Mode	>96% @ full charged battery			
Battery Mode	>88%		>90%	
BATTERY				
Battery Type	12V/7AH	12V/9AH	12V/7AH	12V/9AH
Numbers	3		6	
Recharge Time	3 hours recover to 95% Power for internal battery@ 2A charging current			
Charging Current	Default 2A, max. 12A adjustable		Default: 2A, Max: 8A adjustable	
PHYSICAL				
Dimension, D x W x H	397 X 145 X 220		421 X 190 X 318	
Net Weight (kgs)	13.0	14.6	23.2	28.0
ENVIRONMENT				
Operation Humidity	20-95 % RH @ 0- 40°C (non-condensing)			
Noise Level	Less than 50dBA @ 1 Meter (With fan speed control)			
MANAGEMENT				
USB with HID	PowerWalker ViewPower			

* Derate Power to 80% of Power when the output voltage is adjusted to 200VAC or 208VAC.