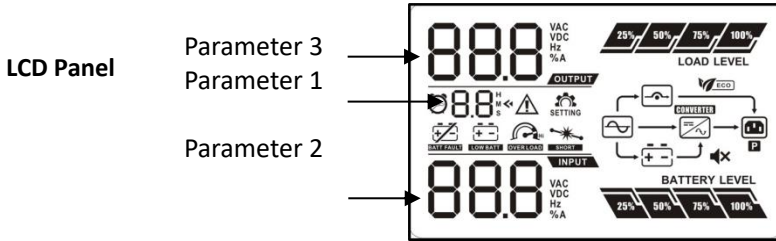


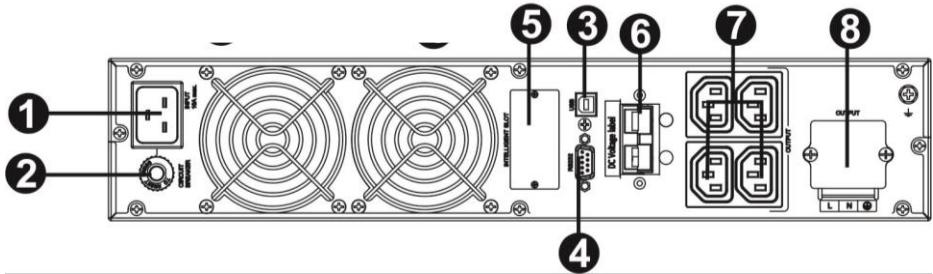
PowerWalker VFI 1000-3000 CRM

Quick Guide



Display	Function
	Indicates the remaining backup time in numbers. H: hours, M: minute, S: second
	Indicates the warning and fault codes, and the codes are listed in details in 3-5 section..
	Indicates that the UPS alarm is disabled.
	Indicates the output voltage, frequency or battery voltage. Vac: output voltage, Vdc: battery voltage, Hz: frequency
	Indicates the load level by 0-25%, 26-50%, 51-75%, and 76-100%.
	Indicates overload.
	Indicates the load or the UPS output is short circuit.
	Indicates the UPS connects to the mains.
	Indicates the battery is working.
	Indicates the bypass circuit is working.
	Indicates the ECO mode is enabled.
	Indicates the Inverter circuit is working.
	Indicates the output is working.
	Indicates the battery is fault.
	Indicates low battery level and low battery voltage.

I. Rear panel view



- 1. AC input
- 2. Input circuit breaker
- 3. USB communication port
- 4. RS-232 communication port
- 5. SNMP intelligent slot (option)
- 6. External battery connection
- 7. Output receptacles
- 8. Output terminal (only 3kVA unit)

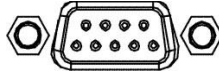
The drawing shows VFI 3000 CRM, other versions may have slightly different location of components

Communication connection

USB port



RS-232 port



Intelligent slot



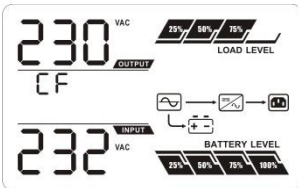
Apart from standard USB Port, the UPS is equipped with RS-232. Those two ports do not work at the same time.

II. Modes and warnings

Mode / Condition	Icon	Audible Alarm	Muted
Online Mode		No alarm	N/A
Standby Mode		No alarm	N/A
Battery Mode		Sounding every 4 seconds	Yes
Low Battery		Sounding every second	Yes
ECO Mode		No alarm	N/A

Bypass Mode		Sounding every 10 seconds	Yes
Overload		Sounding twice every second	No
Battery is not connected		Sounding every second	No
Over Charge		Sounding every second	No
Over temperature		Sounding every second	No
Charger failure		Sounding every second	No
Battery fault		Sounding every second	No
Out of bypass voltage range		Sounding every second	No
Bypass frequency unstable		Sounding every second	No
EEPROM error		Sounding every second	No
Fault		Sounding continuously	Yes

III. 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%.

IV. 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 5 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 5 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 5 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 ON/Mute and Select buttons simultaneously for 5 seconds. Then UPS will enter to bypass mode. This action will be ineffective when the input voltage is out of acceptable range.

V. UPS Setting

Parameter 1		Parameter 2		Parameter 3	
01	Output voltage setting			200/208/220 /230/240	Value in V AC
02	Frequency Converter Mode	CF	Converter Mode	ENA/diS	Enable or Disable (default)
03	Output frequency setting	CF	Converter Mode setting (if enabled)	50 / 60	Value in Hz
		BAT	Battery Mode setting	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	Nominal +7V to +24V	Value in V AC
		LLS	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	230-264	Value in V AC
		LLS	Bottom Limit for Input Voltage	170-220	Value in V AC
08	Autonomy Limitation setting			0-999	Backup time limit in minutes. 0 actually means 10s and 999 means disabled
00	Exit setting				

VI. Technical Specification

MODEL	VFI 1000 CRM/CRS	VFI 2000 CRM/CRS	VFI 3000 CRM/CRS
POWER	1000 VA / 800 W	2000 VA / 1600 W	3000 VA / 2400 W
Input Voltage Range	Low Line Transfer	160VAC/140VAC/120VAC/110VAC±5% (Ambient Temp.<35 degC; based on load percentage)	
	Low Line Comeback	175VAC/155VAC/135VAC/125VAC ± 5 % (Ambient Temp.<35 degC; based on load percentage)	
	High Line Transfer	300 VAC ± 5 %	
	High Line Comeback	290 VAC ± 5 %	
Input Frequency Range	40Hz ~ 70 Hz		
Input Power Factor	> 0.99 @ nominal voltage (input voltage)		
Output voltage	200/208/220/230/240VAC		
AC Voltage Regulation	±1% (Batt. Mode)		
Frequency Range	47 ~ 53 Hz or 57 ~ 63 Hz (Synchronized Range)		
Frequency Range (Batt. Mode)	50 Hz ± 0.25 Hz or 60Hz ± 0.3 Hz		
Overload	105%~110%: 10min; 110%~130%: 1min; >130%: 3s at Ambient Temp.<35 degC If utility is normal, UPS will switch to bypass mode. Otherwise to battery mode.		
Current Crest Ratio	3:1		
Harmonic Distortion	< 3 % THD (linear load); < 6 % THD (non-linear load)		
AC Mode to Batt. Mode	0ms to Battery Mode or 4ms (typical) from inverter to bypass		
EFFICIENCY			
AC Mode	88%	89%	90%
Battery Mode	83%	87%	88%
BATTERY			
Battery (only CRM)	2x 12 V / 9 AH	4x 12 V / 9 AH	6x 12 V / 9 AH
Recharge Time (only CRM)	4 hours recover to 90% Power (Typical)		
Charging Current	1.0 A (max.) for VFI CRM and 6.0 A (max.) for VFI CRS		
Charging Voltage	27.4 VDC ± 1%	54.7 VDC ±1%	82.1 VDC ±1%
ENVIRONMENT			
Operation Humidity	20-90 % RH @ 0- 40 degC (non-condensing)		
Noise Level	Less than 50dBA @ 1 Meter		
MANAGEMENT			
Smart RS-232 or USB	PowerWalker ViewPower		
Optional SNMP	Power management from SNMP manager and web browser		