NUMERIC ONFINITI plus 1-3 kVA Online UPS Uninterruptible Power Supply System User Manual

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USER AND INSTALLATION MANUAL

ONFINITI+
1-3 kVA Online UPS
Uninterruptible Power Supply System
NEW ENERGY
TO POWER
www.numericups.com

Contents

PREFACE

Congratulations, We are delighted to welcome you to our family of customers. Thank you for choosing Numeric as your power backup solution provider; you now have access to our widest network of 254 service centres in the country.
Since 1984, Numeric has been enabling its clients to optimize their business with top notch power solutions that promise seamless and clean power with controlled environmental footprints.
We look forward to your continued patronage in the years to come!
This manual provides general information regarding installation and operation of Onfiniti+.

Disclaimer

- The contents of this manual are bound to change without prior notice.
- We have exercised reasonable care to give you an error-free manual. Numeric disclaims liability for any inaccuracies or omissions that may have occurred. If you find information in this manual that is incorrect, misleading or incomplete, we would appreciate your comments and suggestions.
- Before you begin the installation of the UPS system, please read this manual thoroughly. The warranty of this product is null and void, if the product is abused/misused.

Introduction

Onfiniti+ from Numeric is a true on-line double conversion UPS available from a range of 1-3kVA, with and without a transformer. Onfiniti+ is easy to install and is a reliable power solution backed by the widest service support.
This user manual covers the UPS listed below:

1. Onfiniti+ 1 kVA FM and Onfiniti+ 1 kVA FMI
2. Onfiniti+ 2 KVA FM and Onfiniti+ 2 kVA FMI
3. Onfiniti+ 3 kVA FM and Onfiniti+ 3 kVA FMI

Please verify the model of the UPS you have purchased before you begin your installation.

Important Safety Warning

Please comply strictly with all warnings and operating instructions in this manual. Save this manual properly and read carefully the following instructions before installing the unit. Do not operate this unit before reading through all safety information and operating instructions carefully.

1-1. Transportation

- Please transport the UPS system only in the original package to protect against shock and impact.

1-2. Preparation

- Condensation may occur if the UPS system is moved directly from cold to warm environments. The UPS system must be absolutely dry before being installed. Please allow at least two hours for the UPS system to acclimate to the environment.
- Do not install the UPS system near water or in moist environments.
- Do not install the UPS system near a heater or where it would be exposed to direct sunlight.
- Do not block ventilation holes in the UPS housing.

1-3. Installation

- Do not connect appliances or devices which would overload the UPS system (e.g. laser printers) to the UPS output sockets.
- Place cables in such a way that no one can step on or trip over them.
- Do not connect domestic appliances such as hair dryers to UPS output sockets.
- The UPS can be operated by any individual with no previous experience.
- Connect the UPS system only to an earthed shock-proof outlet which must be easily accessible and close to the UPS system.
- Please use only VDE-tested, CE-marked, ISI-marked mains cable (e.g. the mains cable of your computer) to connect the UPS system to the building wiring outlet (shock-proof outlet).
- Please use only VDE-tested, CE-marked, ISI-marked power cables to connect the loads to the UPS system.
- When installing the equipment, it should be ensured that the sum of the leakage current of the UPS and the connected devices does not exceed 3.5 mA.
- The UPS is designed for linear load applications.

1-4. Operation

- Do not disconnect the mains cable in the UPS system or the building wiring outlet (shock-proof socket outlet) during operations since this would cancel the protective earthing of the UPS system and of all connected loads.
- The UPS system features its own current source (batteries). The UPS output sockets or output terminals block may be electrically live even if the UPS system is not connected to the building wiring outlet.
- In order to fully disconnect the UPS system, first press the OFF/Enter button to disconnect the mains.
- Prevent fluids or other foreign objects from entering into the UPS system.

1-5. Maintenance, service and faults

- The UPS system operates with hazardous voltages. Repairs may be carried out only by qualified maintenance personnel.
  CAUTION – Risk of electric shock. Even after the unit is disconnected from the mains (building wiring outlet), components inside the UPS system still connected to the battery may be electrically live and dangerous.

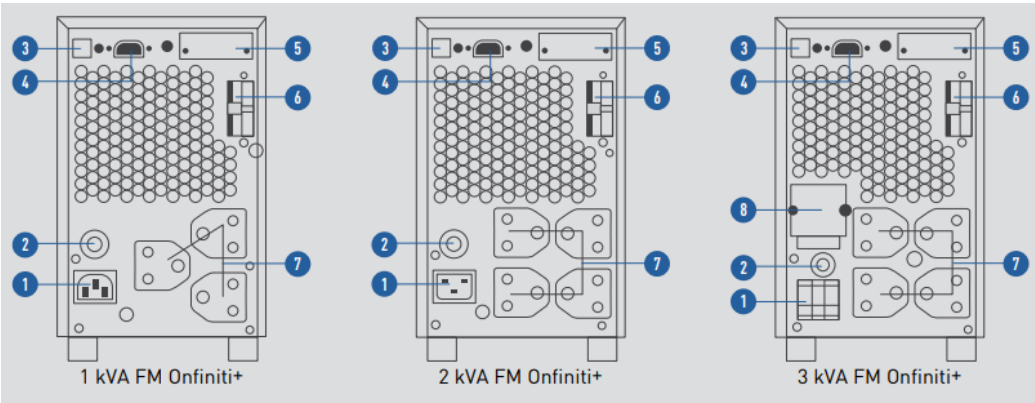
- Before carrying out any kind of service and/or maintenance, disconnect the batteries and verify that no current is present and no hazardous voltage exists in the terminals of high capability capacitor such as bus capacitors.
- Only persons adequately familiar with batteries and with the required precautionary measures may replace batteries and supervise operations. Unauthorized persons must be kept well away from the batteries.
  CAUTION – Risk of electric shock. If the battery circuit is not isolated from the input voltage, hazardous voltages may occur between the battery terminals and the ground. Before touching, please verify that no voltage is present.
  • Batteries may cause electric shock and have a high short-circuit current. Please take the precautionary measures specified below and any other measures necessary when working with batteries:
  – remove wristwatches, rings and other metal objects
  – use only tools with insulated grips and handles..
- When changing batteries, install the same number and same type of batteries.
- Do not attempt to dispose off batteries by burning them. This could cause battery explosion.
- Do not open or destroy batteries. Escaping electrolyte may be toxic and can cause injury to the skin and eyes.
- Please replace the fuse only with the same type and amperage in order to avoid fire hazards.
- Do not dismantle the UPS system.
- Connect UPS to short circuit protected building wiring.
- The UPS system has internal fuses on both DC & AC inputs. Those devices do not protect the upstream cables connected to DC & AC inputs and upstream breakers or fuses shall be set up in accordance with AC & DC wires ratings to meet the local national electrical code standard.

Installation and setup

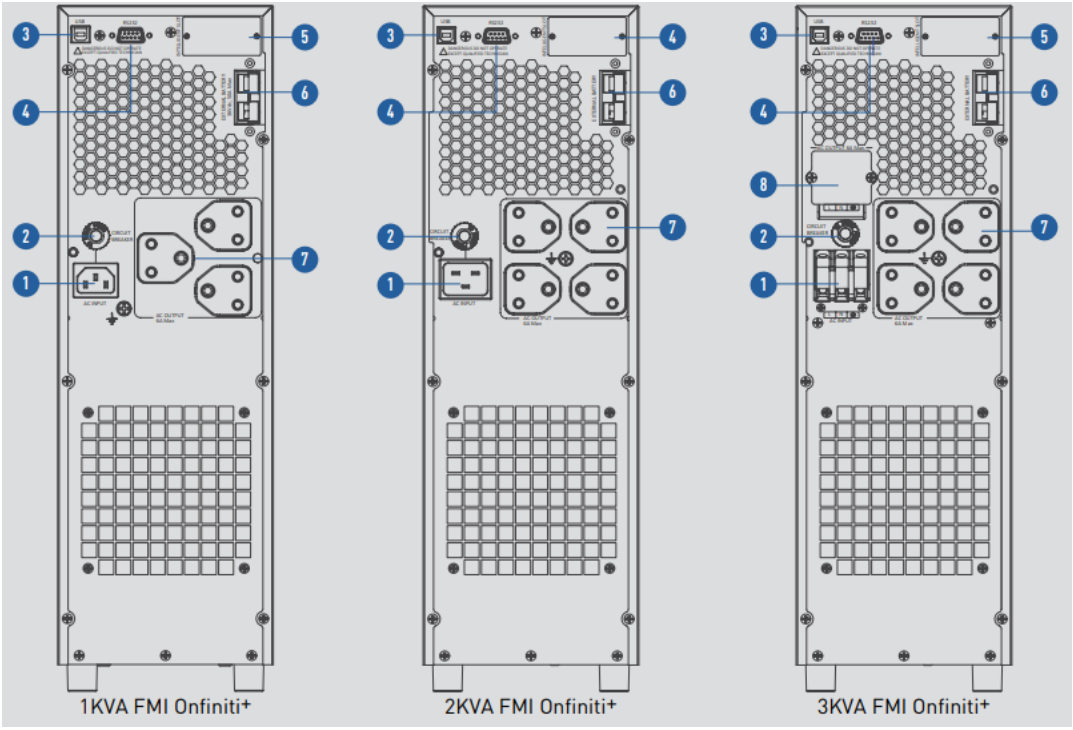
NOTE: Before installation, please inspect the unit. Be sure that nothing inside the package is damaged. Please keep the original package in a safe place for future use.

2-1. Rear panel view

UPS without ISO transformer:



UPS with ISO transformer:



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

2-2. Setup the UPS

Step 1 UPS input connection
Plug the UPS into a two-pole, three-wire, grounded receptacle only. Please use the below recommended cable & breaker for input.

Model	Wire size in sq. mm./No. of runs	Recommended input breaker
1 kVA – FM/FMI	1/3	10 A (C Curve)
2 kVA – FM/FMI	2.5/3	20 A (C Curve)
3 kVA – FM/FMI	4/3	32 A (C Curve)

Step 2 UPS output connection

- For socket-type outputs, simply connect the devices to the outlets.
- For terminal-type input or outputs, please follow the steps below, for the wiring configuration:

  a) Remove the small cover of the terminal block.

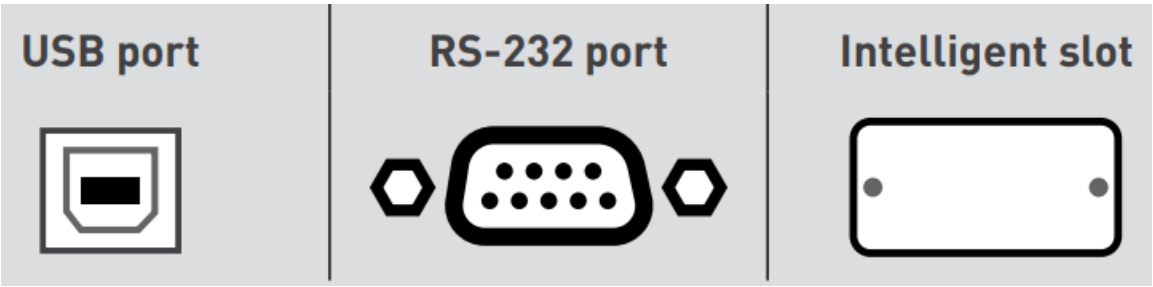
  b) Use AWG14 or 2.1 mm2 power cords.

  c) Upon completion of the wiring configuration, please check whether the wires are securely affixed.

d) Put the small cover back to the rear panel.

Step 3 Communication connection

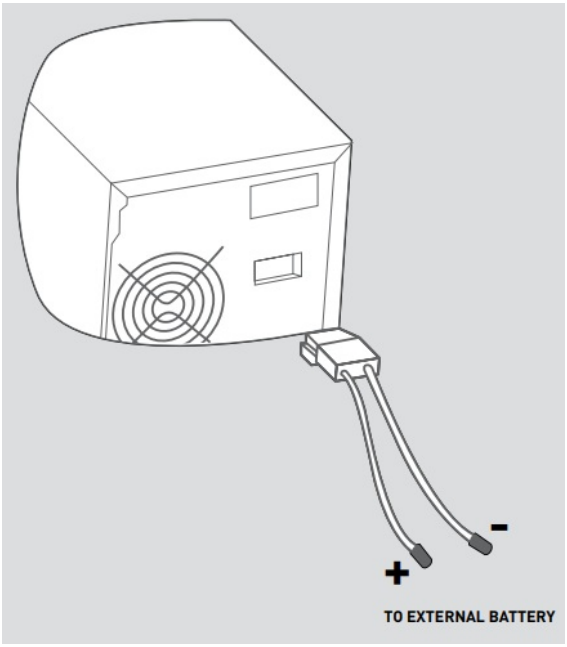
Communication port:



To allow for unattended UPS shutdown/start-up and status monitoring, connect one end of the communication cable to the USB/RS-232 port and the other to the communication port of your PC. With the monitoring software installed, you can schedule UPS shutdown/start-up and monitor UPS status through PC. The UPS is equipped with intelligent slot perfect for either SNMP or AS400 card. When installing either SNMP or AS400 card in the UPS, it will provide advanced communication and monitoring options.
Note: USB port and RS-232 port can't work at the same time.

Step 4 Turn on the UPS
Press the ON/Mute button on the front panel for two seconds to power on the UPS.
Note: The battery charges fully during the first five hours of normal operation.
Do not expect full battery run capability during this initial charge period.
Step 5 Install software
For optimal computer system protection, install UPS monitoring software to fully configure UPS shutdown. You may insert the provided CD into CD-ROM to install the monitoring software. If not, please follow the on-screen instructions to install the software. When your computer restarts, the monitoring software will appear as an orange plug icon located in the system tray, near the clock.

Step 6 External battery connection
This UPS series is not including batteries. Batteries are connected in a separate cabinet with protection. Please connect external batteries as per the below chart.



Recommended External Breaker Rating

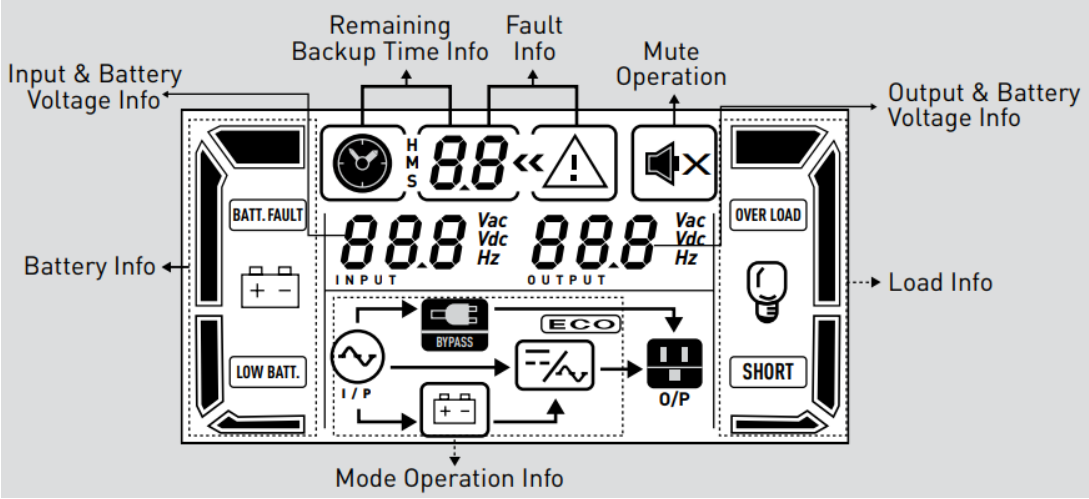
S. No.	Rating of UPS	Battery Breaker
1	1 kVA – FM/FMI	50 Adc (C Curve)
2	2 kVA – FM/FMI	50 Adc (C Curve)
3	3 kVA – FM/FMI	50 Adc (C Curve)

Operations

3-1. Button operation

Button	Function
ON/Mute button	• **Turn on the UPS**: Press and hold ON/Mute button for at least 2 seconds to turn on the UPS. • **Mute the alarm**: 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. • **Up key**: Press this button to display previous selection in UPS setting mode. • **Switch to UPS self-test mode**: 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**	• **Turn off the UPS**: Press and hold this button for 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. • **Confirm selection key**: Press this button to confirm selection in UPS setting mode.
Select button	• **Switch LCD message**: 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. • **Setting mode**: Press and hold this button for 5 seconds to enter UPS setting mode when UPS is in standby or Bypass mode. • **Down key**: Press this button to display next selection in UPS setting mode.
ON/Mute + Select button	• **Switch to bypass mode**: When the main power is normal, press ON/Mute and Select buttons simultaneously for 5 seconds. Then UPS will enter Bypass mode. This action will be ineffective when the input voltage is out of acceptable range.

3-2. LCD Panel



Display	Function
Remaining backup time information	
	Indicates the remaining backup time in pie chart.
	Indicates the remaining backup time in numbers. H: hours, M: minute, S: second
Fault information	
	Indicates the warning and fault occurrences.
	Indicates the warning and fault codes. The codes are listed in details in section 5-5 .
Mute operation	
	Indicates that the UPS alarm is disabled.
Output & battery voltage information	
	Indicates the output voltage, frequency or battery voltage. Vac: output voltage, Vdc: battery voltage, Hz: frequency
Load information	
	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.
Mode operation information	
	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.
Battery information	
	Indicates the battery level by 0-25%, 26-50%, 51-75%, and 76-100%.
	Indicates the battery is fault.
	Indicates low battery level and low battery voltage.
Input & battery voltage information	
	Indicates the input voltage or frequency or battery voltage. Vac: Input voltage, Vdc: battery voltage, Hz: input frequency

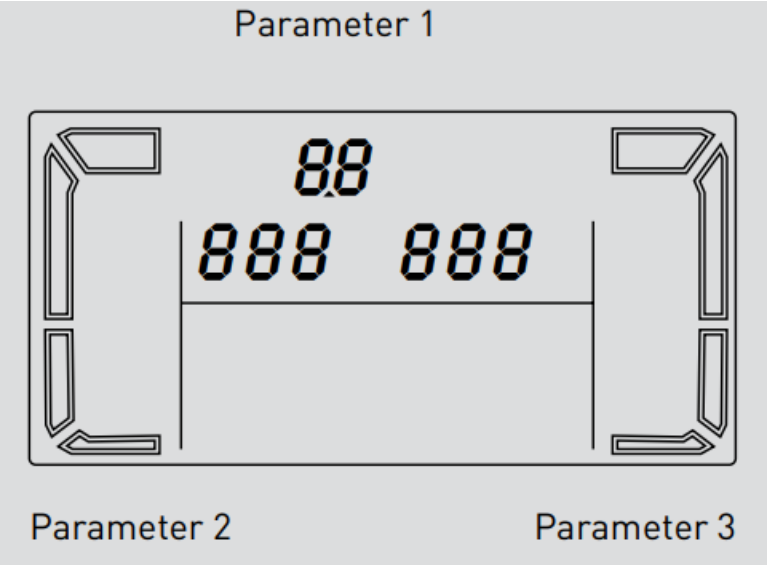
3-3. Audible Alarm

Battery Mode	Sounds every 4 seconds
Low Battery	Sounding every second
Overload	Sounding twice every second
Fault Bypass	Sounds continuously
Mode	Sounds every 10 seconds

3-4. LCD display wordings index

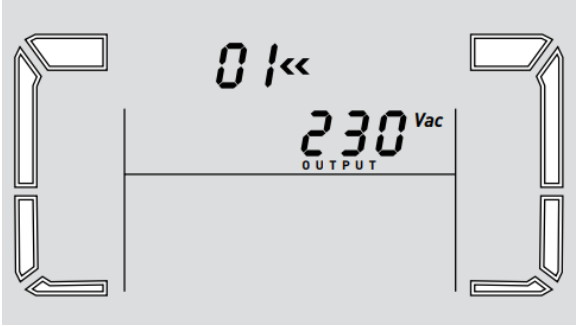
Abbreviation	Display content	Meaning
ENA	EnA	Enable
DIS	dIS	Disable
ESC	ESC	Escape
HLS	HLS	High loss
LLS	LLS	Low loss
BAT	bAt	Battery
CF	CF	Converter
TP	tP	Temperature
CH	CH	Charger
FU	FU	Bypass frequency unstable
EE	EE	EEPROM error

3-5. UPS Setting

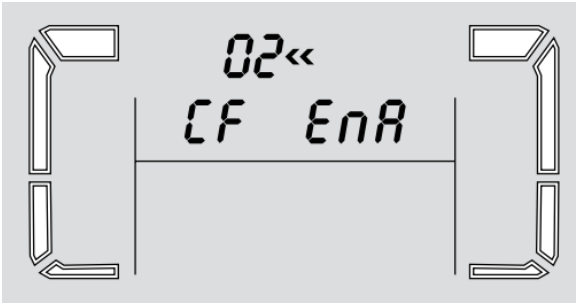


There are three parameters to set up the UPS.
Parameter 1: It's for program alternatives. Refer to the below table.
Parameter 2 and parameter 3 are the setting options or values for each program.

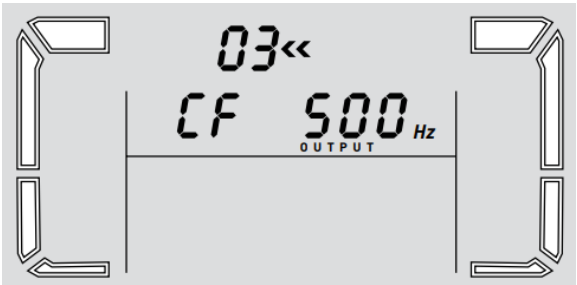
01: Output voltage setting

Interface	Setting
	**Parameter 3:** Output voltage For 200/208/220/230/240 Vac models, you may choose the f ollowing output voltage: **200**: Presents output voltage is 200 Vac **208**: Presents output voltage is 208 Vac **220**: Presents output voltage is 220 Vac **230**: Presents output voltage is 230 Vac (Default) **240**: Presents output voltage is 240 Vac

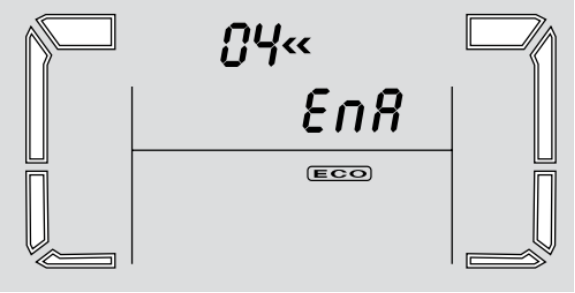
02: Frequency converter enable/disable

Interface	Setting
	**Parameter 2 & 3**: Enable or disable converter mode. You ma y choose the following two options: **CF ENA**: Converter mode enable **CF DIS**: Converter mode disable (Default)

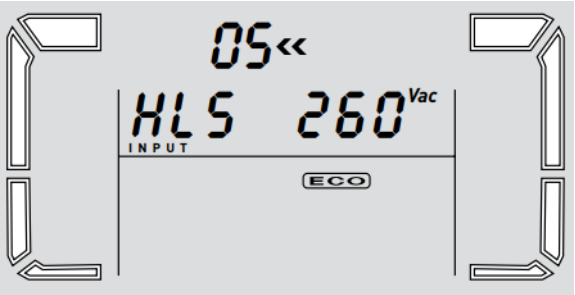
03: Output frequency setting

Interface	Setting
	**Parameter 2 & 3:** Output frequency setting. You may set the initial frequency on battery mode: **BAT 50:** Presents output frequency is 50 Hz **BAT 60:** Presents output frequency is 60 Hz If converter mode is enabled, you may choose the following o utput frequency: **CF 50:** Presents output frequency is 50 Hz **CF 60:** Presents output frequency is 60 Hz

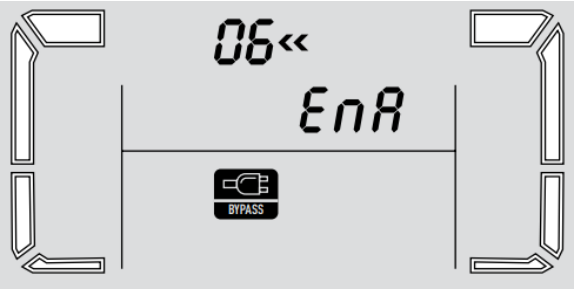
04: ECO enable/disable

Interface	Setting
	**Parameter 3**: Enable or disable ECO function. You may choose the following two options: **ENA**: ECO mode enable **DIS**: ECO mode disable (Default)

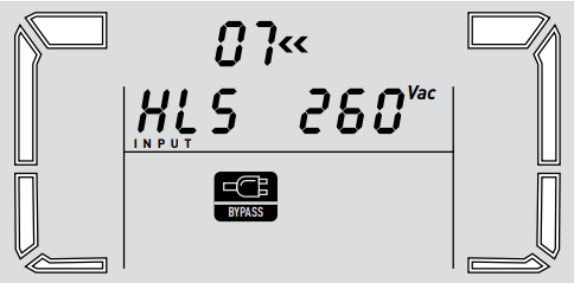
05: ECO voltage range setting

Interface	Setting
	**Parameter 2 & 3:** Set the acceptable high voltage point and low voltage point for ECO mode by pressing Down key or Up key. **HLS:** High Loss Voltage in ECO mode in parameter 2. For 200/208/220/230/240 Vac models, the setting range inparameter 3 is from +7 V to +24 V of the nominal voltage. (Default: +12 V) **LLS:** Low Loss Voltage in ECO mode in parameter 2. For 200/208/220/230/240 Vac models, the setting range in parameter 3 is from -7 V to -24 V of the nominal voltage. (Default: -12 V)

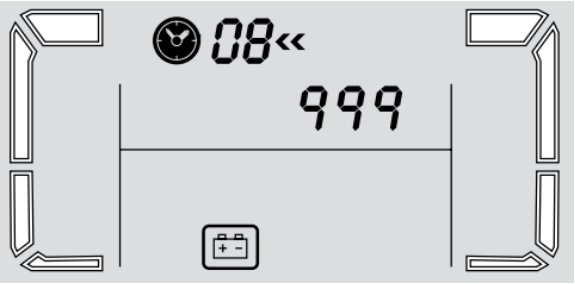
06: Bypass enable/disable when UPS is off

Interface	Setting
	**Parameter 3**: Enable or disable Bypass function. You may choose the following two options: **ENA**: Bypass enable **DIS**: Bypass disable (Default)

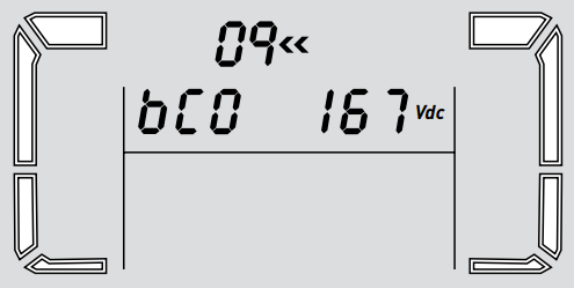
07: Bypass voltage range setting

Interface	Setting
	**Parameter 2 & 3**: Set the acceptable high voltage point and acceptable low voltage point for Bypass mode by pressing the Down key or Up key. **HLS:** Bypass high voltage point For 200/208/220/230/240 Vac models: **230-264:** Setting the high voltage point in parameter 3 from 230 Vac to 264 Vac. (Default: 264 Vac) **LLS:** Bypass low voltage point For 200/208/220/230/240 Vac models: **170-220:** Setting the low voltage point in parameter 3 from 170 Vac to 220 Vac. (Default: 170 Vac)

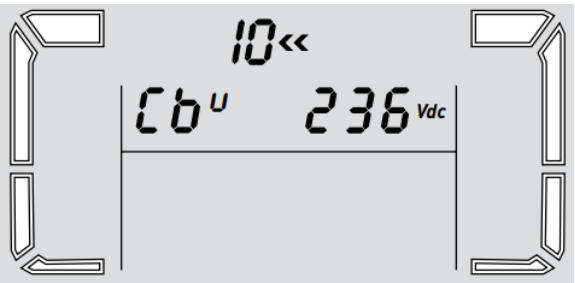
08: Autonomy limitation setting

Interface	Setting
	**Parameter 3:** Set backup time on battery mode for general outlets. **0-999:** Setting the backup time in minutes from 0-999 for general outlets on battery mode. **0:** When setting as “0”, the backup time will be only 10 seconds. **999:** When setting as “999”, the backup time setting will be disabled. (Default)

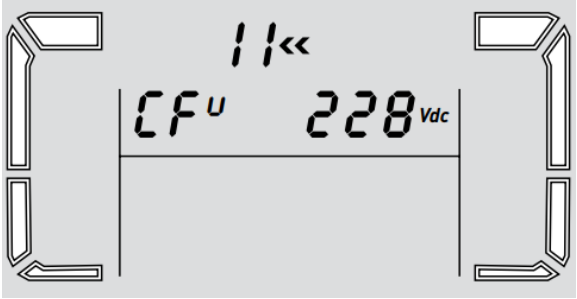
09: Battery minimum cut-off voltage setting

Interface	Setting
	**Parameter 3:** Set the acceptable battery minimum cut-off voltage point by pressing the Down key or Up key. **167-190:** Setting the minimum battery cut-off voltage point in parameter 3 from 167 to 190. **Unit:** 0.01 V/CELL (Default: 175)

10: Charger boost voltage setting

Interface	Setting
	**Parameter 3:** Set up the charger boost voltage. 225-240: Setting the charger boost voltage point in parameter 3 from 225 to 240. **Unit:** 0.01 V/CELL (Default: 236)

11: Charger float voltage setting

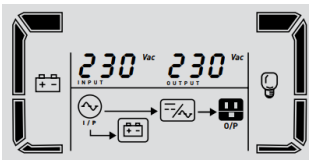
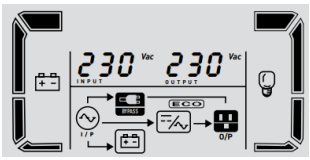
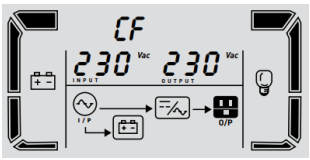
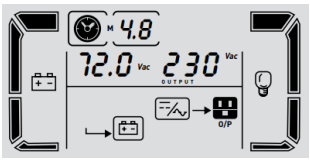
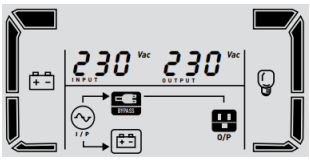
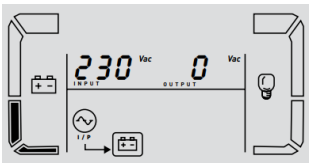
Interface	Setting
	**Parameter 3:** Set up the charger float voltage. 220-233: Setting the charger float voltage point in parameter 3 from 220 to 233. **Unit:** 0.01 V/CELL (Default: 228)

00: Exit setting

3-6. Charging current setting

3 bat (36 V)/6 bat (72 V)/8 bat (96 V)	For 10 A Model
J1	1 Adc
J2	2 Adc
J3	5 Adc
J4 (Default)	10 Adc

3-7. Operating mode description

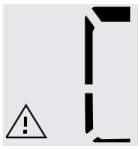
Operating mode	Description	LCD display
Online mode	When the input voltage is within the acceptable range, UPS will provide pure and stable AC power to output. The UPS will also charge the battery at online mode.	
ECO mode	Energy saving mode: When the input voltage is within the voltage regulation range, UPS will bypass voltage to output for energy saving.	
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 the battery under this mode.	
Battery mode	When the input voltage is beyond the acceptable range or power failure and alarm is sounding every 4 seconds, UPS will backup power from battery.	
Bypass mode	When input voltage is within the acceptable range but UPS is overloaded, UPS will enter Bypass mode or Bypass mode can be set by front panel. Alarm sounds every 10 seconds.	
Standby mode	UPS is powered off and no output supply power, but still can charge batteries.	

3-8. Fault reference codes

Fault event	Fault code
Bus start fail	01
Bus over	02
Bus under	03
Bus unbalance	04
Inverter soft start fail	11
Inverter voltage high	12
Charger fail	45

Fault event	Fault code
Inverter voltage low	13
Inverter output short	14
Battery voltage too high	27
Battery voltage too low	28
Over temperature	41
Overload	43

3-9. Warning indicator

Warning	Icon (ffashing)	Alarm
Low Battery		Sounding every second
Overload		Sounding twice every second
Battery is not connected		Sounding every second
Over charge		Sounding every second
Over temperature		Sounding every second
Charger failure		Sounding every second
Battery fault		Sounding every second
Out of bypass voltage range		Sounding every second
Bypass frequency unstable		Sounding every second
EEPROM error		Sounding every second

Troubleshooting

If the UPS system does not operate correctly, please solve the problem by using the table below.

Symptom	Possible cause	Remedy
No indication and alarm even though the mains is normal.	The AC input power is not connected well.	Check if input power cord firmly co nnected to the mains.
	The AC input is connected to the U PS output.	Plug AC input power cord to AC inp ut correctly.
The icon and flashing on LCD d isplay and alarm is sounding every s econd.	The external or internal battery is i ncorrectly connected.	Check if all batteries are connected well.
Fault code is shown as 27 and the ic on BATT.FAULT is lighting on LCD display and alarm is continuously sounding.	Battery voltage is too high or the c harger is fault.	Contact your dealer.
Fault code is shown as 28 and the ic on BATT.FAULT is lighting on LCD display and alarm is continuously so unding.	Battery voltage is too low or the ch arger is faulty.	Contact your dealer.
The icon ⚠ and OVER LOAD is flashing on LCD display and alarm is soundin g twice every second.	UPS is overloaded.	Remove excess loads from UPS o utput.
	UPS is overloaded. Devices conne cted to the UPS are fed directly by t he electrical network via the Bypas s.	Remove excess loads from UPS o utput.
	After repetitive overloads, the UPS is locked in the Bypass mode. Con nected devices are fed directly by t he mains.	Remove excess loads from UPS o utput first. Then shut down the UP S and restart it.
Fault code is shown as 43 and the ic on OVER LOAD is lighting on LCD dis play and alarm is continuously soun ding.	The UPS shutdown automatically b ecause of overload at the UPS out put.	Remove excess loads from UPS o utput and restart it.
Fault code is shown as 14 and the ic on SHORT is lighting on LCD displ ay and alarm is continuously soundi ng.	The UPS shutdown automatically b ecause short circuit occurs on the UPS output.	Check output wiring and if connect ed devices are in short circuit statu s.

Symptom	Possible cause	Remedy
Fault code is shown as 45 on LCD display and alarm is continuously sounding.	Charger is faulty.	Contact your dealer.
Fault code is shown as 01, 02, 03, 04, 11, 12, 13 and 41 on LCD display and alarm is continuously sounding.	A UPS internal fault has occurred. There are two possible results: 1. The load is still supplied, but directly fro m AC power via Bypass. 2. The load is no longer supplied by powe r.	Contact your dealer
Battery backup time is shorter than no minal value	Batteries are not fully charged	Charge the batteries for at least 5 hours and then check capacity. If the probl em still persists, consult yo ur dealer.
	Batteries defect	Contact your dealer to repl ace the battery.

If the problem persists, visit **www.numericups.com** to register your service request and contact our nearest after sales service department; or contact us.: 0484-3103266 / 4723266 with the below details:.

1. Model number, Serial number
2. Date on which the problem occurred
3. LCD/LED display status, Buzzer alarm status
4. Utility power condition, load type and capacity, environment temperature, ventilation condition
5. The information (battery capacity, quantity) of external battery pack if the UPS is with external battery
6. Other information for complete description of the problem

Storage and Maintenance

5.1 Operation

The UPS system contains no user-serviceable parts. If the battery service life (3~5 years at 25°C ambient temperature) has been exceeded, the batteries must be replaced. In this case, please contact your dealer.

 Be sure to deliver the used battery to a recycling facility or ship it to your dealer in the replacement battery packing material.

5.2 Storage

Before storing, charge the UPS for 5 hours. Store the UPS covered and upright in a cool, dry location. During storage, recharge the battery in accordance with the following table:

Storage temperature	Recharge frequency	Charging duration
-25°C to 40°C	Every 3 months	1-2 hours
40°C to 45°C	Every 2 months	1-2 hours

5.3 Disposal

Ref standard: ISO 14001: 2015

- After unpacking the UPS & Battery, the removed packaging materials like polythene paper, thermocole/polyethylene, carton box, nylon belt, nylon thread shall be collected and disposed through authorized recycler.
- Batteries when found faulty/damaged must be handed over to identified authorized recycler or to Numeric, where it is disposed properly.
- Battery contains harmful metals and chemicals such as nickel-cadmium, alkaline, mercury, nickel-metal hydride and lead acid, which contaminates if it is not disposed properly.
- When batteries containing cadmium is used in fills, they will eventually dissolve and release the toxic substance than can seep into water supplies posing serious health hazards for the population/society.
  Hence, recycling of batteries will prevent pollution and also saves resource.

Specifications

6-1. UPS without ISO transformer

NOMINAL POWER* (KVA)		**1 KVA FM**	**2 KVA 72 V FM**	**2 KVA 96 V FM**	**3 KVA 72 V FM**	**3 KVA 96 V F M**
PID		NU 72 01 701	NU 72 01 703	NU 72 01 705	NU 72 01 707	NU 72 01 709
Active power**		1000 VA/800 W	2000 VA/1600 W		3000 VA/2400 W	
INPUT						
Voltage range	Low line transfer	160/140/120/110 Vac ± 5% (based on load percentage 100% – 80%/80% – 70%/70 – 60%/60% – 0)				
	Low line comeback	175/155/135/125 Vac ± 5 % (based on load percentage 100% – 80%/80% – 70%/70 – 60%/60% – 0)				
	High line transfer	300 Vac ± 5%				
	High line comeback	290 Vac ± 5%				
Frequency range		40 Hz ~ 70 Hz				
Phase		Single phase with ground				
Power factor		≧ 0.99 @ nominal input voltage				
OUTPUT						
Output voltage		200/208/220/230/240 Vac				
AC voltage regulation		± 1%				
Frequency range (Synchronized)		46 – 54 Hz or 56 – 64 Hz				
Frequency range (Battery mode)		50 Hz ± 0.25 Hz or 60 Hz ± 0.3 Hz				

Overload		105%~110%: UPS shuts down after 10 min at battery mode or transfer to Bypass when the utility is normal 110%~130%: UPS shuts down after 1 min at battery mode or 2 min transfer to Bypass when the utility is normal 130%~150%: UPS shuts down after 3 secs at battery mode or 30 secs transfer to Bypass when the utility is normal				
Current crest ratio		3:1				
Harmonic distortion		≦ 3% THD (Linear load); ≦ 5% THD (Non-linear load)				
Transfer Time	AC mode to battery mode	Zero				
	Inverter to Bypass	4 ms (Typical)				
Waveform (Battery mode)		Pure sinewave				
EXTERNAL BATTERY						
Battery type		Depending on the capacity of external batteries				
Battery numbers		3	6	8	6	8
Maximum battery AH		120	120	100	120	100
Current of external BAT pack		30 Adc max	30 Adc max	30 Adc max	45 Adc max	32 Adc max
Charging current 10 A model (FM)		1 / 2 / 5 / 10 A (adjustable)				
Charging voltage		41.0 Vdc ± 1 %	82.1 Vdc ±1 %	109.5 Vdc ±1 %	82.1 Vdc ±1 %	109.5 Vdc ±1 %
PHYSICAL						
Dimension W x D x H (in mm)		145 x 290 x 225	145 x 397 x 238			
Net weight (kgs)		4.9	7.9		8.3	
ENVIRONMENT						
Operation humidity		20-90% RH @ 0- 40°C (non-condensing)				
Noise level		Less than 50 dBA @ 1 Meter (AVG)				
MANAGEMENT						
Smart RS-232 or USB		Supports Windows® 2000/2003/XP/Vista/2008/7/8/10, Linux, Unix and MAC				
Optional SNMP		Power management from SNMP manager and web browser				

*FM – Floor Mount; FMI – Floor Mount with isloation transformer.
**Derate capacity to 80% of capacity in frequency converter mode or when the output voltage is adjusted to 208. Vac/200 Vac. Product specifications are subject to change without further notice.

6-2. UPS with ISO transformer

NOMINAL POWER* (KVA)	**1 KVA FMI**	**2 KVA 72 V FMI**	**2 KVA 96 V FMI**	**3 KVA 72 V FMI**	**3 KVA 96 V FMI**
PID	NU 72 01 702	NU 72 01 704	NU 72 01 706	NU 72 01 708	NU 72 01 710
Active power**	1000 VA/800 W	2000 VA/1600 W		3000 VA/2400 W	

INPUT

Voltage range	Low line transfer	160/140/120/110 Vac ± 5% (based on load percentage 100% – 80%/80% – 70%/70 – 60%/60% – 0)				
	Low line comeback	175/155/135/125 Vac ± 5% (based on load percentage 100% – 80%/80% – 70%/70 – 60%/60% – 0)				
	High line transfer	300 Vac ± 5%				
	High line comeback	290 Vac ± 5%				
Frequency range		40 Hz ~ 70 Hz				
Phase		Single phase with ground				
Power factor		≧ 0.99 @ nominal input voltage				
OUTPUT						
Output voltage		200/208/220/230/240 Vac				
AC voltage regulation		± 2%				
Frequency range (Synchronized)		46 – 54 Hz or 56 – 64 Hz				
Frequency range (Battery mode)		50 Hz ± 0.25 Hz or 60 Hz ± 0.3 Hz				
Overload		105%~110%: UPS shuts down after 10 min at battery mode or transfer to Bypass when the utility is normal 110%~130%: UPS shuts down after 1 min at battery mode or 2 min transfer to Bypass when the utility is normal 130%~150%: UPS shuts down after 3 secs at battery mode or 30 secs transfer to Bypass when the utility is normal				
Current crest ratio		3:1				
Harmonic distortion		≦ 3% THD (Linear load); ≦ 5% THD (Non-linear load)				
Transfer Time	AC mode to battery mode	Zero				
	Inverter to Bypass	4 ms (Typical)				
Waveform (Battery mode)		Pure sinewave				
EXTERNAL BATTERY						
Battery type		Depending on the capacity of external batteries				
Battery numbers		3	6	8	6	8

Maximum battery AH	120	120	100	120	100
Current of external BAT pack	30 Adc max	30 Adc max	30 Adc max	45 Adc max	32 Adc max
Charging current 10 A model (F M)	1 / 2 / 5 / 10 A (adjustable)				
Charging voltage	41.0 Vdc ± 1 %	82.1 Vdc ±1 %	109.5 Vdc ±1 %	82.1 Vdc ±1 %	109.5 Vdc ±1 %
PHYSICAL					
Dimension W x D x H (in mm)	145 x 290 x 4 58	145 x 397 x 458			
Net weight (kgs)	26	35		36	
ENVIRONMENT					
Operation humidity	20-90% RH @ 0- 40°C (non-condensing)				
Noise level	Less than 50 dBA @ 1 Meter (AVG)				
MANAGEMENT					
Smart RS-232 or USB	Supports Windows® 2000/2003/XP/Vista/2008/7/8/10, Linux, Unix and MAC				
Optional SNMP	Power management from SNMP manager and web browser				

*FM – Floor Mount; FMI – Floor Mount with isloation transformer.
**Derate capacity to 80% of capacity in frequency converter mode or when the output voltage is adjusted to. 208 Vac/200 Vac. or operating temperature is > 40 deg C and > 50 deg C Product specifications are subject to change without
further notice.

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Regional Offices

New Delhi B-225, Okhla Industrial Area, 4th Floor, Phase-1, New Delhi – 110 020. Phone: +91 11 2699 0028	Mumbai C/203, Corporate Avenue, Atul Projects, Near Mirador Hotel, Chakala, Andheri Ghatkopar Link Road, Andheri (East), Mumbai – 400 099. Phone : +91 22 3385 6201
Kolkata Bhakta Tower, Plot No. KB22, 2nd & 3rd Floor, Salt Lake City, Sector – III, Kolkata – 700 098. Phone : +91 33 4021 3535 / 3536	Chennai 10th Floor, Prestige Center Court, Office Block, Vijaya Forum Mall, 183, N.S.K Salai, Vadapalani, Chennai – 600 026. Phone : +91 44 3024 7236 / 200

Branch Offices

Chandigarh SCO 4, First Floor, Sector 16, Panchkula, Chandigarh – 134 10 9. Phone : +91 93160 06215	Dehradun Unit-1 and 2, Chakrata Road, Vijay Park Dehradun – 248001. Uttrakhand Phone : +91 135 661 6111	Jaipur Plot No. J-6, Scheme-12B, Sharma Colony, Bais Godown, Jaipur – 302 019. Phone : +91 141 221 9082
Lucknow 209/B, 2nd Floor, Cyber Heights, Vibhuti Khand, Gomti Nagar, Lucknow – 226 018. Phone : +91 93352 01364	Bhubaneswar N-2/72 Ground Floor, IRC Village, Nayapally, Bhubaneswar – 751 015. Phone: +91 674 255 0760	Guwahati House No 02, Rajgarh Girls High School Road (Behind Rajgarh Girls High School), Guwahati – 781 007. Phone : +91 96000 87171
Patna 405, Fraser Road, Hemplaza, 4th Floor, Patna – 800 001. Phone : +91 612 220 0657	Ahmedabad A-101/102, Mondeal Heights, Beside Hotel Novotel, Near Iscon Circle, S G Highway, Ahmedabad – 380 015. Phone : +91 79 6134 0555	Nagpur Plot.No.174, H.No.4181/C/174, 1st Floor, Loksewa Housing Society, Near Dr. Umathe & Mokhare College, Bhamti Road, Lokseva Nagar, Nagpur – 440 022. Phone : +91 712 228 6991 / 228 9668
Ranchi 202 & 203, 2nd Floor, Sunrise Forum, Bardwan Compound, Lalpur, 2nd Floor, Ranchi – 834 001. Phone : + 91 98300 62078	Bhopal Plot No. 2, 221, 2nd Floor, Akansha Complex, Zone-1, M.P.Nagar, Bhopal– 462 011. Phone : +91 755 276 4202	Pune Pinacle 664 park avenue, 8th floor, Plot no 102+103, CTS No. 66/4, Final, 4, Law College Rd, Erandwane, Pune, Maharashtra – 411 004. Phone : +91 +20 6729 5624
Bengaluru No-58, First Floor, Firoze White Manor, Bowring Hospital Road, Shivajinagar, Bangalore -560 001. Phone : +91 80 6822 0000	Coimbatore No. B-15, Thirumalai Towers, No. 723, 1st Floor, Avinashi Road, Coimbatore – 641 018. Phone : +91 422 420 4018	Hyderabad Prestige Phoenix Building, 1st Floor, Survey no. 199, No. 6-3-1219/J/101 & 102, Uma Nagar, Opposite to Begumpet Metro Station Begumpet 500016 Phone: +91 40 4567 1717/2341 4398/ 2341 4367
Kochi Door No. 50/1107A9, JB Manjooran Estate, 3rd Floor, Bypass Junction, Edappally, Kochi – 682 024. Phone : +91 484 6604 710	Madurai 12/2, DSP Nagar, Dinamalar Avenue, Madurai – 625 016. Phone : +91 452 260 4555	

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Documents / Resources

	NUMERIC ONFINITI plus 1-3 kVA Online UPS Uninterruptible Power Supply System [pdf] User Manual 1 kVA FM, 1 kVA FMI, 2 kVA FM, 2 kVA FMI, 3 kVA FM, 3 kVA FMI, ONFINITI plus 1-3 kVA Online UPS Uninterruptible Power Supply System, ONFINITI plus, ONFINITI plus Power Supply System, 1-3 kVA Online UPS Uninterruptible Power Supply System, 1-3 kVA Online UPS Power Supply System, Online UPS Uninterruptible Power Supply System, Online UPS Power Supply System, Online Power Supply System, UPS Power Supply System, Power Supply System, Power Supply

References

- User Manual