NUMERIC Valura 1-3 kVA Single Phase UPS Instruction Manual

Contents

NUMERIC Valura 1-3 kVA Single Phase UPS

Product Information

The Valura UPS from Numeric is a true online double conversion UPS available in a range of 1-3kVA, with or without a transformer.
It is easy to install and provides a reliable power solution. The UPS models covered in this user manual are:

1. Valura 1 kVA FM or Valura 1 kVA FMI
2. Valura 2 kVA FM or Valura 2 kVA FMI
3. Valura 3 kVA FM or Valura 3 kVA FMI

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.

Transportation

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

Preparation

Condensation may occur if the UPS system is moved directly from a cold to a warm environment. 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.

Installation

Please refer to the installation and setup section for detailed instructions on installing the UPS.

Operation

Please refer to the operation section for detailed instructions on operating the UPS.

Maintenance, Service, and Faults

Please refer to the maintenance, service, and faults section for information on maintaining and troubleshooting the UPS.

Installation and Setup

Rear Panel View

UPS without ISO transformer	1 kVA FM UPS with ISO transformer	2 kVA FM	3 kVA FM	1 kVA FMI
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	Same as UPS without an ISO transformer	Same as UPS without an ISO transformer	Same as UPS without an ISO transformer	Same as UPS withou an ISO transformer

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
1/3	2.5/3	10 A (C Curve)
2/3	4/3	20 A (C Curve)
3/3		32 A (C Curve)

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 Valura.

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

- Valura from Numeric is a true on-line double conversion UPS available from a range of 1-3kVA, with and without a transformer. Valura 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. Valura 1 kVA FM or Valura 1 kVA FMI
2. Valura 2 kVA FM or Valura 2 kVA FMI
3. Valura 3 kVA FM or Valura 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.

Transportation

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

Preparation

- Condensation may occur if the UPS system is moved directly from cold to warm environment. 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 heater or where it would be exposed to direct sunlight.
- Do not block ventilation holes in the UPS housing.

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 ensure that the sum of the leakage current of the UPS and the connected devices does not exceed 3.5 mA.
- UPS is designed for linear load applications.

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.

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.

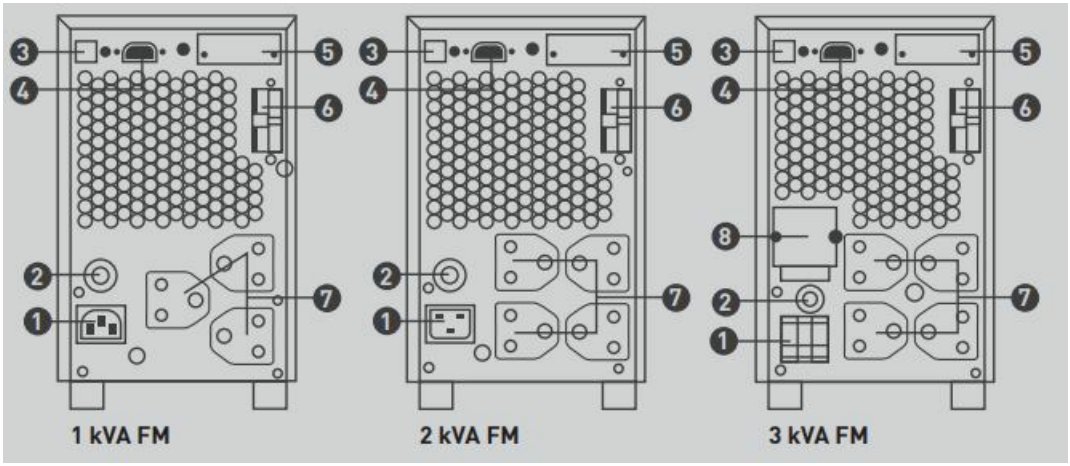
- Before carrying out any kind of service and/or maintenance, disconnect the batteries and verify that no current is present and no hazardous voltage exists in the terminals of high capability capacitor such as BUS-capacitors. Only persons adequately familiar with batteries and with the required precautionary 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 can cause injury to the skin and eyes. It may be toxic. 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

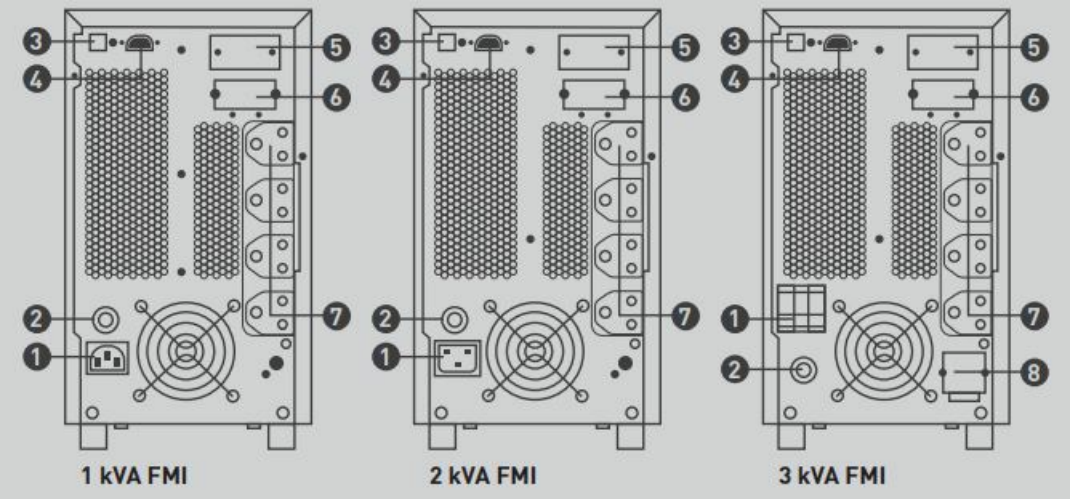
Note: Before installation, please inspect the unit. Be sure that nothing inside the package is damaged. Please keep the original package in a safe place for future use.

Rear panel view

UPS without ISO transformer



UPS with ISO transformer



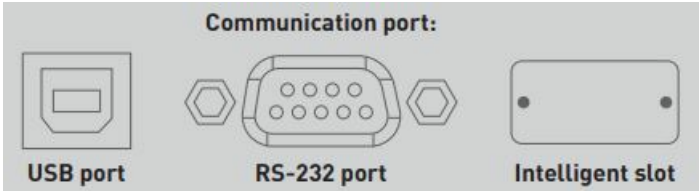
1. AC input
2. Input circuit breaker
3. USB communication port
4. RS-232 communication port
5. SNMP intelligent slot (option)
6. External battery connection
7. Output receptacles
8. Output terminal

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



- 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 the PC. The UPS is equipped with an intelligent slot perfect for either SNMP or AS400 cards. When installing either SNMP or AS400 card in the UPS, it will provide advanced communication and monitoring options.
- **Note:** The 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 the software

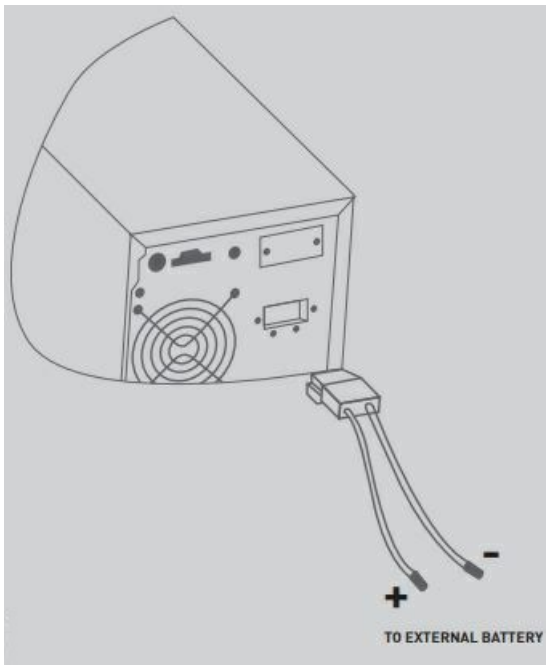
- For optimal computer system protection, install UPS monitoring software to fully configure
- UPS shutdown. You may insert the provided CD into CD-ROM to install the monitoring software. If not, please follow the on-screen instructions to install the software. When your computer restarts, the monitoring software will appear as an orange plug icon located in the system tray, near the clock.

Step 6: External battery connection

- These UPS series do not include 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)

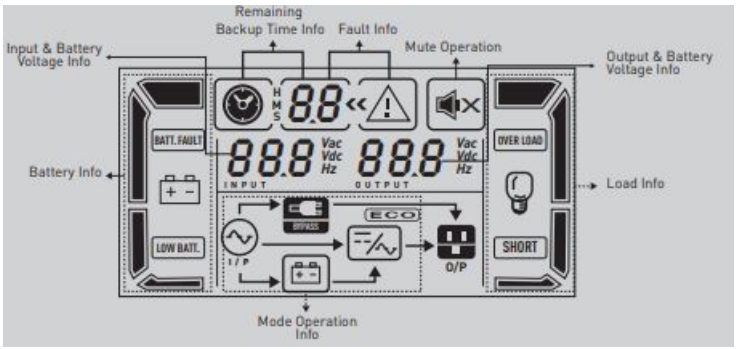


Operations

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 th e UPS. **Mute the alarm:** When the UPS is on battery mode, press and hold this button for at l east 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 ent er 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 UP S. 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 voltag e, input frequency, battery voltage, output voltage and output frequency. It will return b ack to default display when pausing for 10 seconds. **Setting mode:** Press and hold this button for 5 seconds to enter UPS setting mode w hen UPS is in standby or Bypass mode. **Down key:** Press this button to display next selection in UPS setting mode.
ON/Mute + Select butt on	**Switch to bypass mode:** 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.

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 occurs.
	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

Display	Function
Load information	
	Indicates the load level by 0-25%, 26-50%, 51-75%, and 76-100%.
OVER LOAD	Indicates overload.
SHORT	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.
ECO	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%.
BATT.FAULT	Indicates the battery is fault.
LOW BATT.	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

Audible alarm

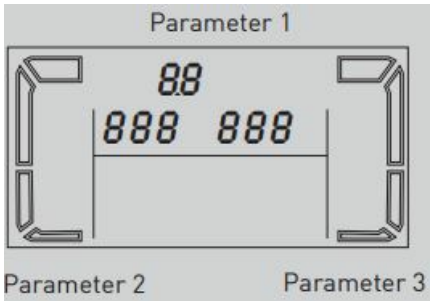
Battery mode	Sounds every 4 seconds
Low battery	Sounds every second
Overload	Sounds twice every second
Fault	Sounds continuously
Bypass mode	Sounds every 10 seconds

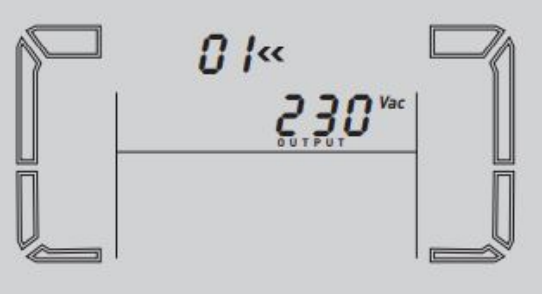
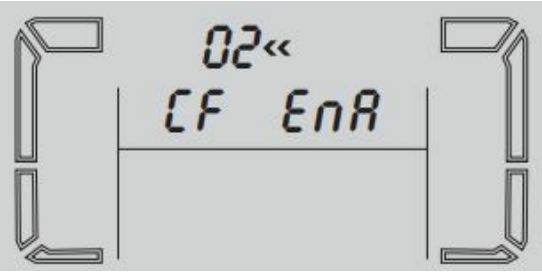
LCD display wordings index

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

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.



Interface	Setting
01: Output voltage setting	
	**Parameter 3:** Output voltage For 200/208/220/230/240 Vac models, you may choose the following output voltage: **200:** Presents output voltage is 200 Vac **208:** Presents output v oltage 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	
	**Parameters 2 & 3:** Enable or disable converter mode. You may choose the following two options: **CF ENA:** Converter mode ena ble **CF DIS:** Converter mode disabled (Default)
03: Output frequency setting	
	**Parameters 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 ma y choose the following output frequency: **CF 50:** Presents output frequency is 50 Hz **CF 60:** Presents output frequency is 60 Hz

Interface	Setting
04: ECO enable/disable	
Parameter 3: Enable or disable the ECO function. *EnA* You may choose the following two options: ENA: ECO mode enable DIS: ECO mode disabled (Default)	
05: ECO voltage range setting	
05 *HLS 260* ***Vac*** **I N P U T**	**Parameter 2 & 3:** Set the acceptable high voltage point and low voltage point for ECO mode by pressing Down k ey or Up key. **HLS:** High Loss Voltage in ECO mode in parameter 2. For 200/208/220/230/240 Vac models, the s etting 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 pa rameter 3 is from -7 V to -24 V of the nominal voltage. (Default: -12 V)
06: Bypass enable/disable when UPS is off	
06 *EnA* **BYPASS**	**Parameter 3:** Enable or disable Bypass function. You m ay choose the following two options: **ENA:** Bypass enable **DIS:** Bypass disable (Default)

Documents / Resources

	**NUMERIC Valura 1-3 kVA Single Phase UPS** [pdf] Instruction Manual Valura 1-3 kVA Single Phase UPS, Valura 1-3 kVA, Single Phase UPS, Phase UPS, UPS

References

- Home | Numeric UPS