U P S

Line-Interactive

1025VA-2000VA

USER MANUAL

EMC Statement

These products are tested and thereby comply with the conditions of CE regulation, which established to offer sufficient protection against dangerous interference for installation. Installation and use of the equipment should comply with the instructions provided to avoid such interference due to the amount of radiofrequency energy that generates by the equipment; Despite this, we cannot assure that a certain amount of interference may not occur in some installations.

If by turning on and off, you conclude that the equipment's harmful interference influences your radio or television reception, use one of the following preventive measures:

- Place the receiving antenna in a separate location or orientation
- Ensure a greater distance between the receiver and the equipment
- Ensure that your Equipment connects to an outlet on a separate circuit
- Contact a technician experienced with radio and TV or the dealer for technical assistance

Declaration of Conformity Request

Units labelled with a CE mark comply with the following stander and directives:

- EMC Directive 2014/30/EU
- LVD Directive 2014/35/EU
- Safety: EN 62040 - 1
- EMC: EN 62040 - 2

The EC Declaration of Conformity is available upon request for production with a CE mark.

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1. IMPORTANT SAFETY INSTRUCTION

WARNING: SAVE THESE INSTRUCTIONS!!

- **WARNING: Manual contains important instructions of UPS and batteries during installation and maintenance. Follow this instruction at all time**
- **WARNING:** It is recommended to install UPS in an ANSI/NFPA75 room in which temperature and humidity are controlled and free from electrically conductive particles. **DO NOT** expose UPS to direct sunlight or high heat source; **DO NOT** block off ventilation opening around the housing.
- **CAUTION:** Before conducting maintenance, repair, or shipment, please turn off everything completely and disconnect them.
- **CAUTION:** The UPS is **NOT** applicable for any inductive loads such as motors or domestic appliances like hairdryers, speakers, and fluorescent lamps.
- **CAUTION:** All interconnection and power cable should be connected **ONLY AFTER** the UPS shut down and disconnected from main.
- **CAUTION:** Only use No.26 AWG or larger certified cables to connect UPS and device
- **CAUTION: DO NOT** unplug UPS from main power during operation or protective ground will fail. **DO NOT** disconnect battery under load or shut down may occur.
- **CAUTION:** Ensure the total leakage current of UPS and the connected equipment under 3.5mA.
- **CAUTION:** Ensure UPS connects to grounded main power with a fuse or circuit breaker protection.
- **CAUTION:** Dangerous amount of voltage might still exist even the UPS disconnects from the main power since residual voltage exists due to battery supply.
- **CAUTION:** Beware of all the details on the cautionary sticker located on UPS.
- **CAUTION (No user-serviceable parts):** Do not attempt to remove the unit's cover, no user-serviceable parts inside. Please refer all service to qualified service technicians.
- **CAUTION: DO NOT** dispose UPS and its batteries to fire, the battery may explode
- **CAUTION: DO NOT** attempt to open or mutilate the battery.
- **User's operations**: Users only permits to:
  • Turning the UPS unit on and off.
  • Operating the user interface.
  • Connecting data interface cables.
- **CAUTION:** Battery can cause shock and short circuit current. When servicing batteries:
  A. Remove watches, rings, or other metal objects.
  B. Use tools with insulated handles.
  C. Wear rubber gloves and boots.
  D. Please **DO NOT** place any tools or metal parts on top of batteries.
  E. Disconnect charging source before connecting/disconnecting battery terminals
  F. Servicing of batteries should be performed or supervised by personnel with necessary precautions and knowledge. Keep unauthorized personnel away from batteries.
- **DANGER:** Hazardous electric component inside this unit (example: Heat-sinks) remain energized from the battery supply even when the main power is disconnected.
- **DANGER:** Battery circuit is not isolated from the AC input. Hazardous voltage may exist at battery terminals and ground—test for safety before any direct contact.
- **CAUTION:** Remove the battery's pole during service inside the battery cabinet or UPS.
- **CAUTION: ONLY** replace batteries with the same type and quantity.

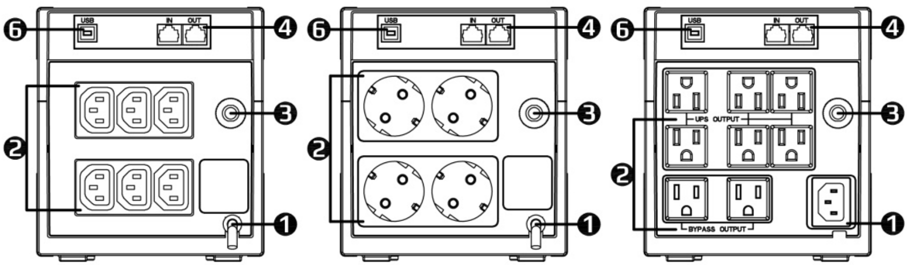
WARNING (Fuses): Ensure fuse replacement with the same type and rating **ONLY**.

2. Introduction

The information provided in this manual covers Line-Interactive 1025VA-2000VA uninterruptible power system (UPS). This manual contains basic functions, operating procedures, and emergencies, also including information on how to ship, store, handle, and install the equipment. Only detailed requirements of the UPS units described herein. The installation must carry out according to this manual. The electrical installation must further comply with local legislation and regulations.

3. Installation

1025-2KVA



3.1 Rear panel view

3.2 Connection to Main and Load

- Follow all installation and safety instructions very carefully; failure to do so may cause hazardous situations to personnel and equipment.
- Ensure the main power voltage matches with UPS. (110V/220V)
- For electrical installation, closely observe the nominal current rating of the source.
- Check the equipment's power requirement to prevent overloading situations.
- Do not connect devices that draw either massive power shortly or half-wave rectified current - such as hairdryer, vacuum cleaner, laser printer, and plotter.

Note: Although you may use the UPS immediately, maximum back up time will not be available yet. It is recommended to charge the batteries for a minimum of 8 hours before use.

- Connect the input cable to the UPS and the other end to the mains. The battery will automatically charge when connecting to the main power.
- Connect the loads to the UPS; Ensure receptacles are connected firmly.

❶ Input	❹ Network transient protector
❷ Outlet	❺ RS232 port
❸ Input breaker	❻ USB (optional)

- (Optional) To protect your telecom/internet system, use RJ45/RJ11 cable to install the input/output cable with matching in/out jack.

4. Operation

Necessary information for the operation of the unit is covered in this chapter. Normally UPS runs automatically, but on a few occasions such as just after installation, all procedures are described herein.

4.1 General Description

As Line-Interactive UPS, it is capable of providing clean and stable power to your critical system. While the UPS regulates and filters power fluctuation, it also keeps the battery charged for any emergency.

- Automatic transformer regulates over and under-voltage power.
- During a power failure, the UPS immediately provides backup power from the battery to support your essential equipment.
- Power transference is typically achieved uninterrupted within 4 milliseconds.

Line-Mode/Battery-Mode

UPS will operate in Line-Mode that supports power and charge battery while connected to power. During a power failure, the UPS will switch to Battery-Mode, in which power is maintained from the battery. In case of failure time exceed Battery-Mode duration, UPS will shut down until voltage return to prevent battery discharge.

Diagnostic Test

While the advanced battery management system monitors the conditions of the batteries, it sends early warnings if a battery replacement is needed. Diagnostic tests can be performed from the control panel.

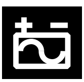
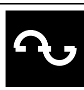
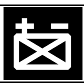
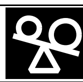
4.2 System Configuration

The UPS device and battery make up the system. Depending on site and load requirements, certain additional options are available as tailored solutions. Please consider the following when planning your UPS system:

- The total demand for the protected system shall dictate the output power rating (VA). When measuring demand, please allow a margin for future expansion and calculation error.
- Battery-mode duration needs dictate the battery size. If the load is less than the UPS nominal power rating, then the actual backup time is longer.

4.3 UPS Control

Control panel functions

Display	Function Description	Display	Function Description
LED Display			
LED light	<u>**LED Indicator (blue)**</u> Indicate UPS current mode Line-Mode: steady light Battery mode: flash every 2 second Overload: rapid flash		
LCD Display			
	<u>Battery mode</u> UPS is operating with battery power		<u>Line mode</u> UPS is operating with main power normally
	<u>Battery Fault</u> Battery fault occurred		<u>Overload</u> Output exceeds UPS capacity

Output	<u>Output</u> Display of current output voltage	AVR	<u>AVR MODE</u> Correcting over-voltage or under-voltage condition. Output power remain normal
Battery	<u>Battery level</u> Display of battery power remaining (25/50/75/100)%	Load	<u>Load level</u> Display of current load on UPS (25/50/75/100)%
Button Display			
	<u>ON/OFF/Test/Silence</u> The master button for UPS control, refer to Button Operation		

Button operation

Cold Start function

When the main power is disconnected from UPS, it is capable of starting with battery power for users' needs. Simply start the UPS as the instruction below.

"On/Off/Test/Silence" button

Turn on the UPS

- Switch on the Load
- Press the "ON" button until a single "beep" alarm disappeared or the LED display turns on.

Shut Down the UPS

- Switch off the Load
- Press the "OFF" button for 3 seconds during Line/Battery-mode.
- (If applicable) To avoid electrical hazards, please turn off the internal/external input breaker. Then, turn off any external battery breaker and wait till all fans completely shut down.

Test

Press once to start self-test function during Line-Mode

Silence

Press once to enable/disable alarm buzzer during Battery-Mode

Green mode

The Green mode feature will enable UPS no-Load or light-load shutdown to maintain power consumption and battery life. During battery mode, the UPS will shut down approximately 4 min with no load/light load operating.

Green mode can also be enabled or disabled via monitoring software.

During Line-Mode, the UPS will automatically shut down after two hours if the battery is full and load conditions remain low. You can switch UPS back on by pressing "ON/OFF/Test/Silence" button

The UPS indicates Green mode with follow up alarm after UPS starting alarm.
Green Mode enable: double Beep
Green Mode disable: No follow up alarm
When turning on UPS, please keep holding the "On" button until the follow-up alarm occurred. The UPS will switch mode and retain settings until the manual adjustment.
Green Mode enable: Double Beep
Green Mode disable: Triple Beep
Note: UPS delivers with Green Mode disabled.

4.4 UPS Configuration

UPS Manual test

Manual tests for UPS or battery can be conducted from the UPS configuration as well and are functional even when the UPS is not charging the battery.

Simple test: It's recommended to conduct a simple simulation test when

1. The first use of UPS.
2. Adding new loads.
3. 6 months' regular check-up

Switch on the UPS and wait for the power indicator to light up, then unplug UPS to simulate the main power failure.

5. UPS Monitoring Connection

UPSMON Pro software (Or other power monitoring software) can further utilize the UPS with warning reminders, monitoring, control shut down, and setting adjustments.

Using monitoring features requires connecting the UPS to a computer or the internet

Connect UPS to Computer with USB (Optional)/RS232 port

- Locate the USB on UPS.
- Connect with factory-provided
- Ensure your computer can install and support power management software.

6. Maintenance

Please read the following instruction to ensure your safety and maintain a longer product lifetime. This section contains detailed information about moving, maintaining, and placing the UPS. With a minimal amount of maintenance, you can expect the UPS to function smoothly.

6.1 Transportation

Please handle UPS with extreme caution since a high amount of energy is within the batteries. Keep the unit in position as marked on the packaging and never drop the unit.

6.2 Storage

Please read the following instructions if the UPS is not installed immediately:

- Store the equipment as is in its original packing and shipping carton.
- Do not store in temperatures outside the range of +15°C to +25°C.
- Protect the equipment from wet or damp areas and moist air.
- To maintain the vitality of the batteries, please recharges the UPS at least 8 hours every six months.

6.3 Operation

CAUTION: Ensure that all environmental concerns and requirements are met according to safety instruction; otherwise, the safety of installation personnel cannot be guaranteed since the unit may malfunction.

- Please ensure no flammable substances such as gases or fumes.
- Avoid extreme temperature and humidity. Protect the equipment from moisture.
- Ensure there is enough space (300mm or above recommended) at the rear and side of UPS for proper ventilation.
- Ensure that the front of the UPS remains clear for user operation.
- **Only** authorized agents or technicians may service the unit.

- **Do not** open the UPS cabinet. Components may contain hazardous or fatal voltage.
- Output receptacles may carry live voltage without connecting to the main power.
- Pay special attention to UPS air inlet; **do not** let it coved by dust.

6.4 Battery

6.4.1 Maintenance

The reliability of the battery is heavily related to the environmental issue.

At the temperature of 25 degrees Celsius, A regular 6-12 months' checkup is advised.

6.4.2 Replacement

Please contact for technical assistance.

APP-A. Troubleshooting

Troubleshooting procedures give simple instructions in determining UPS malfunctions. Start the troubleshooting procedure if you witness any alarm indication.

Alarm

The UPS has an audible alarm. When different situations occurred, UPS will alert users with display and buzzer.

Battery-mode (Slow alarm)

During battery mode, the alarm will beep every 2 seconds for the first 15 seconds, then dropped to twice per minute. The alarm will stop when UPS resumes Line-mode.

Battery-Low (Rapid alarm)

During Battery-low (less than 30%), the UPS will beep every 0.5 seconds. The alarm will stop when UPS shutdown or returns to Line-mode.

Overload (Constant alarm)

When UPS operating with load exceeded its maximum capacity, UPS will emit a continuous alarm to warn an overload condition. UPS will automatically turn off to protect your essential load. Please consider remove or shutdown less-essential loads

Silencing Alarm

Here is the instruction to mute the active alarm or future alarm notification:

Note: During battery-mode, if the battery is low on power, the alarm will sound regardless of silent-mode enable/disable.

Silent alarm Enable/Disable: Press the "on" button during the Battery-Mode alarm.

If troubleshooting does not include or resolve your situation, feel free to contact for technical assistance.

PROBLEM	POSSIBLE CAUSE	Solutions
UPS can't operate switching on. No lights on,	Power source mistake or low battery power	Check the main power connection If operating with battery power, ensure enough charging time for UPS

no warning sound	Time of pressing the button is too short	Press and hold the "ON" button for a longer duration
	Output short circuit or overload on UPS	Turn off UPS and take off all load. Check for any potential internal short circuit Then attempt to turn on UPS again
	Hardware failure	Contact for technical assistance
	Battery out of order	Replace battery or contact for technical assistance
UPS always remain on battery-mode regardless of main power connection	No power source input	Check the main power source and cable
	Fuse melted or Circuit breaker tripped	Reset the breaker or replace the fuse (spare fuse is in UPS inlet.) then restart the UPS
	The main voltage is out of the UPS input range	UPS function normally, heck your main power voltage
Overload/Fault indicator lit or constant buzzer beeping	UPS load exceed the capacity UPS overloading	Remove or shut down the less essential load
Battery mode duration below expectation	Batteries aren't fully charged Batteries are worn out or faulted	Ensure enough recharge time for UPS Run a self-test to check battery status Replace UPS battery if the problem remains
	The charger is out of order	Contact for technical assistance
	Green mode enabled No-load or light load shutdown engaged	Operation normal. Turn off green mode to disable such function
The battery fault indicator occurred	Battery not connected	Check the UPS batteries; make sure they are well connected
	Battery out of order or damaged	Replace battery

APP-B Technical Specifications

Model	**1025AP**	**1500AP**	**2000AP**
Configuration			
Capacity (VA)	1025 VA	1500 VA	2000 VA
Capacity (Watts)	615 W	900 W	1200 W
Form	Tower Type		
Input			
Voltage	100 / 110 / 120 VAC or 220 / 230 / 240 VAC		
Input Voltage Range	75 - 150 or 165 - 300 VAC		
Input Frequency Range	50 Hz / 60 Hz (Auto Sensing)		
Output			

Waveform (Battery-Mode)	Simulated Sine Wave		
Voltage	100 / 110 / 120 VAC or 220 / 230 / 240 VAC		
Frequency (Battery-Mode)	50 Hz / 60 Hz ± 1 Hz		
Transfer Time	2 - 4 ms (Typical)		
Protection			
Full Protection	Overload, Surge, Short Circuit		
Tele Communication	RJ11 / RJ45		
Battery			
Type	12V 7Ah	12V 7.2Ah	12V 9Ah
Quantity	2	2	2
Sealed, Maintenance Free	Yes		
Typical Recharge Time	3-4 hr to 90%		
Management & Communication			
Indicator	LED Panel, LCD Panel (Option)		
Communication Port	USB B type		
Physical			
Dimensions (WxDxH) (mm)	147 x 360 x 164		
Weight (kgs)	8.5	10.1	11.1
Shipping Dimensions (mm)	233 x 449 x 277		
Shipping Weight (kgs)	9.7	11.3	12.3
Alarm			
Overload / Fault	Continuous Beeping		
Battery Mode	Beep every 2 seconds		
Low Battery	Beep every 0.5 second		
Environment			
Operating Humidity	0-90 % RH at 0-40°C (Non-condensing)		
Audible Noise	Less than 40 dB		

* Specifications are subject to change without further notice.
* Specifications are for reference; actual information should be based on the real product.