MEDALPOWER

Uninterruptible Power Supply(UPS)

6KVA

Line interactive UPS

MP-LU6000VA#14B7T

www.medal-power.com

Please comply with all the warnings and operating instructions described in this manual. Please take this manual stored in the appropriate position, so that the matters needing attention. Before operating this product, please read the operation instructions and high security matters.

Catalog

1.Safety and electromagnetic compatibility (EMC) related matters needing attention.

Please read the using manual and safety instructions, then install and use this production!

1 1.Transport and storage

 When handling the ups system, it is important to pack the original packing material to prevent or mitigate the accidental collision.

 The place where the ups product is stored must be dry and ventilated.

1-2.Preparatory work

 The ups system may have condensation when the cold environment is directly sent to theindoor warm environment. At this point, you must wait until completely dry before you can install. for this, after moving to the installation site, please put at least 2 hours to allow the ups to adapt to the environment and then install.

 This ups system must not be installed in a moisture environment nearby.

 This ups machine must not be installed in a place where the sun is directly or near a heater.

 A Never block or obscure the vents of the ups machine.

1-3.Installation

 Don’t overload.

 Lines such as power lines should be routed in areas where they are routed or untripped.

 Do not block or obscure the vent holes on the ups.

 The ups has a ground terminal for the potential grounding of the ups battery box connected to the external ups after the system is completed.

 This ups can only be installed by the professional technical.

 A short - circuit protection device shall be provided in the building system.

 The building system shall be equipped with the general emergency switch to cut off the power supply of ups all load in time.

 The ups ground must be ground before the ups is connected to the buildingsystem.

 Installation and wiring must comply with local power laws, regulations.

1-4 . **Notice of connection**

- This UPS must be earthed.
- The input power is shall be single phase and grounded.
- It is not recommended that this continuous electrical system be used to maintain life - related applications, because when this machine is fault, it may trouble to these instruments, please do not use this machine in the presence of flammable gases and air, oxygen or nitrous oxide.
- Please ensure that the output ground terminal of this continuous electrical system is indeed connected to the ground wire.
- This continuous electrical system will be connected to a DC power supply (i.e, the battery), so even if the ups is not connected to the mains, the output terminal may still be voltage.

BEFORE REPAIR THE CIRCUIT CONNECTION

1.Shut off UPS of seperate the UPS

2.Conduct a dangerous voltage test between terminals, including protection ground terminals

Reverse feed hazard

1-5.Operation

Do not disconnect the ups ground cable or the building system ground cable, otherwise the protection ground for the ups system and the connected load will be invalidated.

The ups is characterized by its own internal battery, so even if the ups is not connected to any building wiring system, its output terminal is likely to be charged.

If you want to completely disconnect this ups system, press off the “off” key before disconnecting the main power supply.

This ups system can be implemented by an inexperienced person.

Prevent any liquid or other foreign matter from entering the ups system.

1-6.Standard

* Safety	
IEC/EN 62040-1	
* EMI	
Delivery of radiation.....:IEC/EN 62040-2	Category C3
Electromagnetic radiation.....:IEC/EN 62040-2	Category C3
* EMS	
ESD.....:IEC/EN 61000-4-2	Level 4
RS..... .:IEC/EN 61000-4-3	Level 3
EFT.....:IEC/EN 61000-4-4	Level 4
SURGE.....:IEC/EN 61000-4-5	Level 4
CS.....:IEC/EN 61000-4-6	Level 3
Power frequency magnetic field .....:IEC/EN 61000-4-8	Level 4
Low frequency signal .....:IEC/EN 61000-2-2	
Warning: this product is a non - civil commercial and industrial. Product:Additional precautions may be required to prevent interference.	

2.Installation and setting

This online interactive ups is divided into two types: standard type and long delay machine. the comparison table of the models is as follows:

MODEL	TYPES	MODEL	TYPES
6K	Standard	6KS	Long backup

2-1.Opened and inspection

Please open the packing and check whether the following items are complete. The items included in the package are as follows：

- One of the ups
- A manual for use
- A monitoring software installation CD (optional)
- A RS - 232 connection line (optional)
- A USB connection line(optional)
- A battery connecting line(optional)

Note: before installation, please check the packaging content, confirm that there is no suspected damage or damage abnormal, if any damage and missing pieces, do not use this product. And should immediately notify the carrier and your distributor. Please put away the original packing material for future use.

2-2.Back - pole view

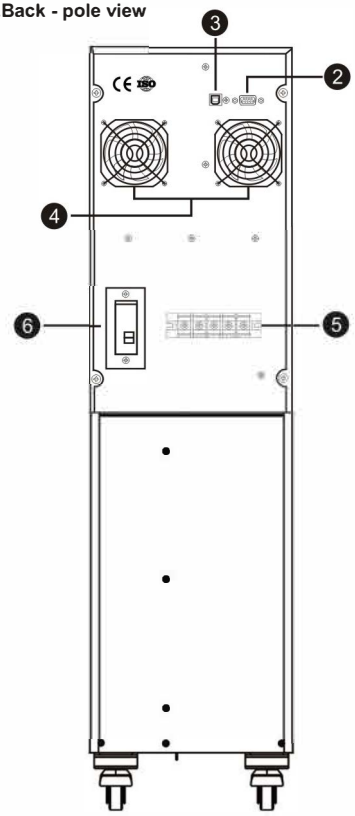


Figure 1 : 6K/10K Back - pole view

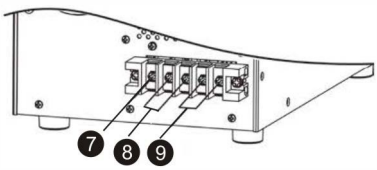


Figure 3 : 6K(S)/10K(S) Input and output terminal

1. External battery interface
2. Rs - 232 communication port
3. USB communication port
4. Fan
5. Enter/output terminals) for details, see figure 3
6. Input power circuit breaker
7. Ground terminal
8. Mains input terminal
9. Output terminal

2-3.Stand-alone installation

The installation and wiring shall comply with the local electrical regulations, and the following instructions shall be performed by the professional electricians.

1). Confirm that the building distribution lines and circuit breakers are sufficient to support the capacity of ups to avoid electric shock or fire accidents.

Note: Do not use wall cutlets as the ups input power(its rated current is smaller than the maximum input current of this ups),otherwise the socket may be burned.

2). Before installing,turn off the power supply switch in the room.

3). All load devices must be powered off before connecting to the ups system.

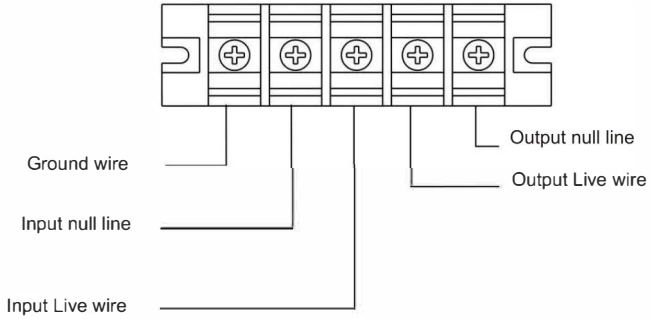
4). Prepare the wire according to the following contrast table

Model	Cabling specification(AWG)			
	Mains input	Mains output	Battery input	Ground wire
6K	10	12		12

Note1 : to use in the above table is recommended for safety and efficiency.

Note2 : the color of the wire must be in accordance with local electrical regulations.

5). Remove the terminal block cover in the back panel of the ups.Next,follow the schematic diagram of the terminal block to route the wiring (in the case of wiring,please connect the ground wire first.When removing the wiring,leave the ground wire to the last!)



Schematic diagram of terminal block

Note1: Confirm that all the wires on the terminal are locked and fixed.

Note2: Please set the output circuit breaker between the output terminal and load device, and confirm that the circuit breaker has leakage protection function.

6). The terminal block cover plate should be recover after wires connected.

Warning: (for standard models)

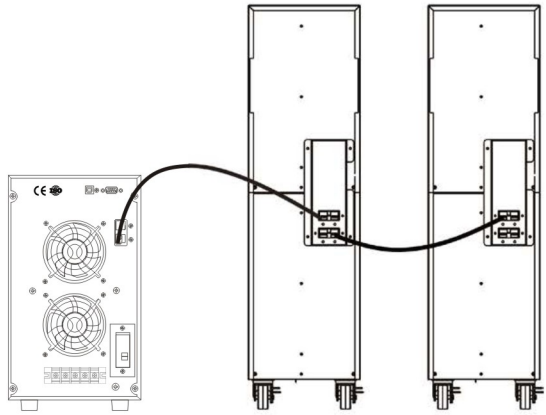
- Before installing, verify that the ups is not on. Ups cannot be turned on until the installation is complete.
- You can't try to convert the standard ups into a long backup. In particular, the standard form of built-in electricity can not be used; It also connects to external batteries.
- This is because the battery specification and voltage may vary, and once the connection is associated with an electric shock or fire hazard.

Warning: (for long back up models)

- Please confirm that a DC circuit breaker or other protection device with the same function is provided between the ups and the external battery. If not, be careful when installing the external battery. When there are circuit breakers, please disconnect the electric oil circuit breaker before installation.

Warning :

- A DC circuit breaker is used to disconnect the battery bank and ups. however, for other battery banks, please verify that there is a DC circuit breaker or same functional protection device between the ups and the external battery. If not, be careful when installing the external battery. When there is a circuit breaker, please disconnect the battery circuit breaker before installation.



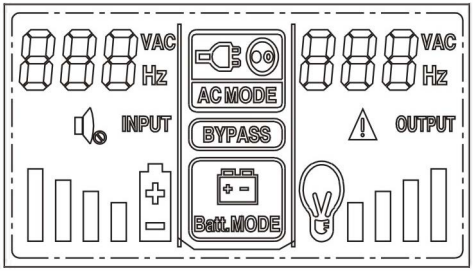
- Please confirm the battery voltage indicated on the back panel. If you want to change the number of batteries in the battery box, please change the control panel settings. If the connected battery voltage is incorrect, the ups may be damaged and cannot be repaired; Therefore, be sure to confirm that the battery voltage is in accordance with the ups specifications.
- please distinguish the positive and negative poles of the external battery terminal, so as to connect the positive and negative poles of the battery correctly, otherwise, the wrong positive and negative poles will cause the ups to be damaged and unable to repair.
- Please confirm that the wiring of the ground wire is correct. In particular, it is necessary to check and confirm whether the current specifications, color, location, wiring and electrical conductivity of the wiring meet the requirements.
- Please confirm that the mains input and output are correct. In particular, you need to check and verify that the current specifications, color, location, wiring, and electrical conductivity of the wiring are in compliance with the requirements. please check and confirm that the wire and neutral wire are connected properly without any connected or short - connected.

3.Use operation

3-1.Key

Button	Function
Switch (ON/OFF)	➢ Switch on ups: press the power on / off button for more than 2 seconds, and the ups power will be turned on. ➢ Turn off the ups: press the power on / off button for more than 2 seconds to close the ups under battery mode.
Button (FUNCTION)	➢ Close buzzer: when the ups is in battery mode, press function button is more for 5 seconds, then the buzzer can be opened or closed. However, when the ups system issues a warning or an error occurs, the mute function will not work. ➢ Set mode: when the ups is in standby mode or bypass mode, press the function button for 10 seconds, then Enter the ups setting mode and then exit the setting mode for 10 seconds. ➢ Confirm selection: in the ups setting mode, the function button is used to confirm the selection.
Button (UP/DOWN)	➢ Switch the led display: select the function button to view the load or battery capacity. If release button is more than 30 seconds, the led restores the default. ➢ Setting Up / down selection key in the ups setup mode, the up / down button is used to select the / next option

3-2 LCD Board



LCD Display	Functions
	Display the mains Input&Output voltage and frequency.
INPUT	Display the mains Input
OUTPUT	Display the UPS Output
	Display the UPS faulty
	Display battery capacity
	Display battery load
	Display UPS in battery mode
	Display UPS in mains mode
	Display UPS in mute mode

3-3.Stand-alone operation

1. AC mode ON

1). Make sure the system wiring is correct, and turn the circuit breaker of the battery box to the <ON> Then switch the mains input circuit breaker to <ON>. The internal power of the UPS will be automatically turned on, the fan will work, and the UPS will go to standby mode.

2). Hold the button <ON> for more than 2 seconds, after heard a beep, the UPS will enter the mains mode.

3). If the power input is abnormal after power on, UPS will go into battery mode directly. That will avoid power interruption of the load

Notice: When the UPS is in battery mode, it will be turned off when the battery is exhausted. When the electricity is restored, the UPS will automatically restart to mains mode.

2. Battery mode ON

1). Make sure that battery box set up to <ON>.

2). Hold the button <ON> for more than 2 seconds, after heard a beep, the UPS will work.

3). After few seconds, the UPS will turn into battery mode.

3. Device connection

When the UPS is ON, then connect the device to the UPS.

1). Turn on the UPS first, then turn on the devices.

2). If there are some inductive loads, such as printers, it is necessary to calculate the inrush current, so that to confirm whether the capacity of the UPS can support. Because the start power consumption of these inductive loads is large.

3). When the UPS is over load, it will beep twice per second, then please reduce the number of loads. It is recommended that the power of the loads don't exceed 80% of the rated power. To ensure the safe and reliable operation of the system.

4). On the AC mode, if the UPS is overloaded for more than the acceptable time, the UPS will in fault state.

4. Battery charge

1). Whether in bypass mode or in mains mode after connect the UPS to mains, the charger will automatically charge the battery. When the battery is fully charged will remain floating state.

2). It is recommended to charge the battery for 10 hours before use, otherwise, the backup time will be shorter than expected.

3). Make sure that the number of batteries matches the actual number of connections.

4). The charging current can be adjusted by LCD panel or software. The charging current adjustment range is 2A to 6A.

5. Battery mode operation

1). When UPS in battery mode, the beep warning will be different according to the battery power remaining: When the battery remaining more than 25%, it will beep once per 4 seconds. When the battery voltage reaches the warning level, it will beep once per seconds, so that to remind the user that the battery is low and UPS will automatically shut down.

2). When UPS in battery mode, if the beep annoying, you can press the button <FUNCTION> to turn off the beep warning.

3). The backup time of long backup model is depending on the capacity of the external battery.

4). The battery backup time varies depending on ambient temperature and load type.

6. AC mode OFF

1) Press the ON/OFF button of UPS for more than 2 seconds, the buzzer will sound.Then the inverter will be closed, and UPS will go into standby mode.

2) In standby mode, UPS has no output voltage. Shut off the input circuit breaker.After a few seconds, the LCD has no display, which means that UPS completely shuts down.

7. Battery mode OFF

In the battery mode,press ON/OFF over 2s,the buzzer will ring. UPS will shut down all the power and output.

8. The buzzer muted

1). On the battery mode, hold the button <FUNCTION> for more than 3 seconds, silent mode can be on. Press the Mute button again to cancel the mute.

2). Warning alarm can not be muted.

9. Operation in alarm mode

1). If the LCD display FAL and the buzzer ring per second,it indicates something wrong during the operation. Users can find the alarm code in the LCD panel. And solve the problem according to the troubleshooting methods detailed in Chapter 4

2). Some alarm sounds can not be closed before troubleshooting.

10. Operation in fault mode

1). If LCD display FAL and the buzzer rings continuously, it indicates it may have serious malfunction. We can find the alarm code in the LCD panel. And solve the problem according to the troubleshooting methods detailed in Chapter 4.

2). When such failures occur, check the parts such as load, wiring, ventilation, electricity, and batteries immediately. Do not try to restart the UPS until the problem is resolved. If you can not solve the problem, please contact your dealer or service provider immediately.

3). If the situation is urgent, please immediately disconnect the mains, external batteries and output, in order to avoid further expansion of the danger.

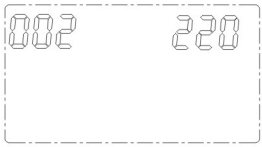
3-4. UPS setting

LCD Display	Setting
	This UPS has 4 items to set. ● 001:Quantity of battery Setting ● 002:Output voltage Setting ● 003:Chargeing current Setting ● 004:Exit Setting Press Function button over 10S. When the LCD display "SET ON",loosen your hand to enter the setting mode.

● 001:Quantity of battery Setting

LCD Display	Setting
	The quantity of battery you can choose is as follows: 016 : Indicate the quantity of battery is 16 018 : Indicate the quantity of battery is 18 020 : Indicate the quantity of battery is 20 (For long back up model only)

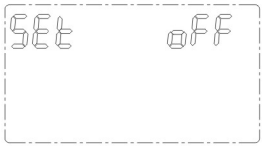
- 002:Output voltage Setting

LCD Display	Setting
	The output voltage you can choose is as follows: 220:Indicate the output voltage is 220VAC 230:Indicate the output voltage is 230VAC

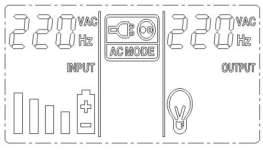
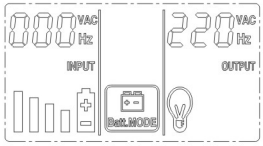
- 003:Chargeing current Setting

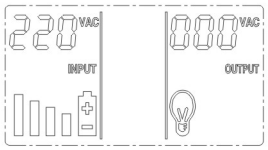
LCD Display	Setting
	The charging current you can choose is as follows: 002:Indicate the charging current is 2A 003:Indicate the charging current is 3A 004:Indicate the charging current is 4A 005:Indicate the charging current is 5A 006:Indicate the charging current is 6A

- 004:Exit Setting

LCD Display	Setting
	Press Function button over 10S. When the LCD display "SET OFF", loosen your hand to exit the setting mode.

3-5.LCD Operating mode description

Operation Mode	Description	LCD Display
Online Mode or Frequency Transform Mode	When the input voltage is in the allowable range, UPS works in the AC mode, providing a stable pure sine wave output and charging the battery at the same time.	
Battery Mode	When the input voltage is not normal or the power goes out, UPS switches to the battery mode, and the buzzer will ring every 4 seconds, and UPS power is supplied with battery power.	

Standby Mode	When UPS plugs into the mains and does not turn on, neither set in standby bypass mode, it works in standby mode. UPS only charges the battery, but has no Output.	

3-6.Errors indications

Errors	LCD Display	Errors	LCD Display
Overload	FAL 102	Reach Maximum loading	FAL 123
Short Circuit	FAL 105	Standard Model without Loadiong for 2 hours	FAL 124
Over Temperature	FAL 106	Output Abnormal in Mains Mode	FAL 125
High Battery voltage	FAL 028	Low Battery	FAL 134
Low Battery voltage	ALA 027	Over than Rated Temperature	ALA 041

3-7.Buzzer warning

Battery Mode	One beep per 6 second
Low battery	One beep per second
Overload	One beep per second
Error	Long beep

4. Troubleshooting

When the UPS system is not running properly, please follow the table below to try to solve the problem.

Problem situation	Possible Causes	Solution
The main power source is normal, but nothing display, also no alarm.	AC input be loose, not connected.	Check if the input cable is loose or not.
LCD displays FAL 102,Alarm beeps two times for every second.	UPS overload.	Please remove exceed load.
LCD displays FAL 105,Alarm beeps for a long time.	UPS automatically shut down, the output short circuit.	Check the output line, whether there is a short circuit.
LCD displays ALA 028,Alarm beeps every second.	The battery voltage is too high.	Please contact the seller.
LCD displays ALA 027,Alarm beeps every second.	The battery voltage is too low.	Please contact the seller.
LCD displays FAL 125 ,Alarm beeps continuously.	UPS internal failure.	Please contact the seller.
The battery backup time is shorter than the time shown on the specifications.	The battery may not be full.	Please charge for at least 7 hours first, then check the battery charge. If the voltage is still low, please contact the seller.
	Battery failure.	Please contact the seller.
LCD displays FAL 106,Alarm beeps continuously.	UPS overheating.	Check the fan and contact the seller.

5. Storage and Maintenance

5-1 Storage

Please charge for **7** hours before storage. Storage should be placed in a dry place by upright. During storage, follow the table below for charge maintenance:

Storage Temperature	Charging interval	Charging time
-25°C - 40°C	Every 3 months	1-2 hours
40°C - 45°C	Every 2 months	1-2 hours

5-2 Maintenance

⚠ The UPS system is used in a hazardous voltage and can only be serviced by qualified service personnel.

⚠ There is danger of electric shock.Even if the main power is disconnected, the components within the UPS system are still dangerous due to the connection to the battery.

⚠ To engage in any service or maintenance, you should disconnect the battery and verify that there is no dangerous voltage at both ends of the bus capacitor.

⚠ Only maintenance personnel who are fully familiar with the battery and have protective measures can engage or supervise the replacement of the battery.Unauthorized personnel must be kept away from the battery.

⚠ There is danger of electric shock.The battery circuit is non-isolated from the mains input.A dangerous voltage may occur between the battery terminals and the ground.Before touching, make sure there is no voltage !

⚠ The battery may cause electric shock, resulting in short circuit current.Before repairing, take off metal bjects such as watches and rings, and use tools with insulated handles when repairing.

⚠ When replacing the battery, install the same number and the same size of the battery.

⚠ Do not throw the battery into the fire, otherwise it may cause an explosion.Waste batteries should be disposed of in accordance with local regulations.

⚠ Do not disassemble or damage the battery, the electrolyte contained in batteries once leaked, the skin and eyes will cause harm, and may even be toxic.

⚠ Can only replace the same type and amperage of the fuse to avoid fire.

⚠ Unprofessional personnel do not disassemble UPS systems.

6.Product technical parameter

Model	6K
Capacity	6000VA/4800W
Input Voltage	145-280VAC
Output Voltage	220V ± 10%(AC model) 220V ± 2%(Battery model)
Input Frequency	50/60HZ± 5%
Transfer Time	≤4ms
Rated output power	4800W
Output Frequency	50/60HZ± 5%
Waveform	Pure sine wave
Protection	Overload, short circuit, low voltage
Communication	RS-232, USB
Battery	
Battery charging Voltage	Built-in battery
Battery Quantity	14
Battery mode	12V7.2AH
Battery charging current	1A
Appearance	
Dimension	520*239*503
Netweight	55
Gross weight	58.5
Environmental conditions	
Temperature	0-50°C (Battery life will be shortened in an environment less than 25 degrees)
Humidity	＜95% （No condensation）
Altitude altitude	＜1000m
Noise	<55dB @1 meter
Management	Vista
Management	Support Windows 2000/2003/XP/2008,Windows 7/8,Linux,Unix and Mac
Optional SNMP	Power Management supports SNMP management and network management

*In the CVCF mode, the power will be reduced to 60 %, and the power will be reduced to 80 % when the output voltage is set to 208 VAC

**If the ups is installed and used for an environment above 1000 meters, the output power is reduced by 1 % per 100 meters

***Note: It is to be noted that all these parameters are subject to change without noticed.

MEDALPOWER

Leave Power for Medal Power

www.medal-power.com