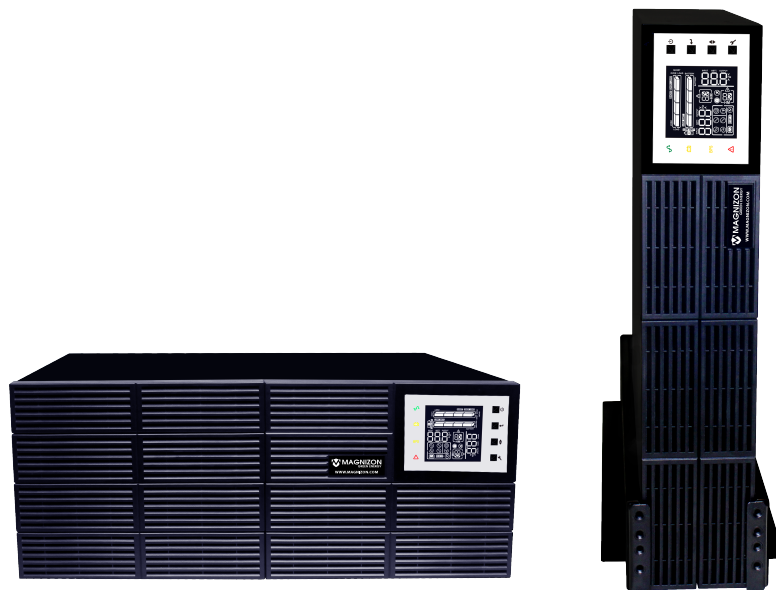




USER MANUAL

MU1000/2000/3000RM2U/3U



True on-line double conversion technology

Rack & tower convertible UPS

Safety notes

Operating safety

1. Read safety notes carefully and thoroughly before operation ensure correctly use and save this manual properly.
2. Pay attention to alarm table on the UPS and operating according to it.
3. Avoid installing the UPS in location under direct sunlight, running water, or excessive humidity.
4. Do not install the device in the environment where close to heating facilities such as space heaters or furnaces.
5. Place the UPS in a room with good ventilation and safe distance. Refer to manual to perform installation.
6. Cleaning with dry stuff, do not use liquid or spray detergent.
7. In the event of fire alarm occurring in the vicinity, please use dry power fire extinguishers. The use of liquid fire extinguishing agents may causes electric shock.

Electric safety

1. Verify that cabling and battery cable polarity are correct and earth connection well before switching on the UPS.
2. Before moving or re-wiring the UPS, please disconnect the mains source and make sure the UPS is completely shut down. Or else, the output terminal may carry live voltage, thus presenting electric shock risk.
3. Please use the attached devices and attachments specified by the company.

Battery safety

1. High ambient temperature shortens the battery lifetimes, so the battery should be replaced periodically to ensure normal UPS operation and for adequate autonomy time.
2. Service of battery should be performed or supervised by personnel knowledgeable of battery.
3. In replacement of battery, please use the same number and type of battery.
4. A battery can present a risk of electrical shock and high short circuit current. The following precaution should be observed when working on batteries:
 - A. Remove watches, rings, or other metal object from the hands;
 - B. Use tools with insulated handles;
 - C. Wear rubber gloves and boots;
 - D. Do not lay tools or metal parts on top of batteries;
 - E. Disconnect the load before operate the terminal of battery.
5. Do not open or mutilate the battery. It may cause an electrolyte leakage that is toxic and harmful to the skin and eyes. If electrolyte comes into contact with the skin, wash the affected area with plenty of clean water immediately and go to the hospital for a check.
6. Do not make the positive and negative terminals of the battery short circuit; otherwise it may cause electric shock or fire.

Maintenance

1. The operating environment and storage method are two main factors affecting the lifetime and reliability of the UPS. Hence, it is advisable not use the device in the following environments:
 - A. Where the temperature and relative humidity are outside the specifications (temperature: 0°C ~ 40°C, relative humidity: 20% ~ 90%);
 - B. Where vibrations or shocks are existed;
 - C. Dust, corrosive agents or salts or inflammable gas are present.
2. If the UPS will remain idle for a long period, it must be stored in a dry environment. The storage temperature should range between -25°C ~ +55°C (without battery). Make the ambient temperature over 0°C and keep a period of time before power on the UPS.








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1. Introduction

Description of Commonly Used Symbols

Some or all of the following symbols may be used in this manual and may appear in your application process. Therefore, all users should read the form carefully and thoroughly.

Symbol & Description	
Symbol	Description
	Caution, danger
	Danger electric shock
	Alternating current (AC)
	Direct current (DC)
	Protective ground
	Recycle
	Do not dispose with ordinary trash

2. Product description

The Magnizon MU series UPS is an uninterruptible power supply incorporating double-converter technology. Supporting rack/tower structure, high power density saving space. It provides perfect protection specifically for strict load.

The double-converter principle eliminates all mains power disturbance. A rectifier converts the alternating current from the socket outlet to direct current. This direct current charges the batteries and powers the inverter. On the basis of this DC voltage, the inverter generates a sine wave AC power, which permanently supplies the loads.

Designed with the proven on-line, double conversion architecture, this series of UPS offers the greatest degree of availability in power protection and provides continuous, high-quality AC power to connect strict load, especially for the basic equipments in some areas as: finance, communications, government, traffic, manufacture, education and so on.

2.1 System type and configuration

According to the different configurations of the parts of the battery in the machine, MU series UPS can be divided into two categories: standard type and long backup time type; According to different power points, it divided into: 1KVA, 2KVA and 3KVA.

Table 2.1-1 Magnizon UPS types and configurations

Type	UPS Model	Battery Pack Model	Remarks
1KV	MU1000RM2U	NC(UPS built-in battery)	with 1A internal charger, 2 batteries
2KV	MU2000RM2U	BP048V9RM2U	with 1A internal charger, 2U battery pack built with 4 batteries
2KV	MU2000RM2U	BP048V27RM2U	with 4A internal charger, 3U battery pack built with 12 batteries

2KV	MU2000RM3U	NC(UPS built-in battery)	with 1A internal charger,4 batteries
3KV	MU3000RM2U	BP072V9RM2U	with 1A internal charger, 2U battery pack built with 6 batteries
3KV	MU3000RM3U	NC(UPS built-in battery)	with 1A internal charger, 6 batteries

2.2 The appearance of UPS

2.2.1 Appearance of the whole machine

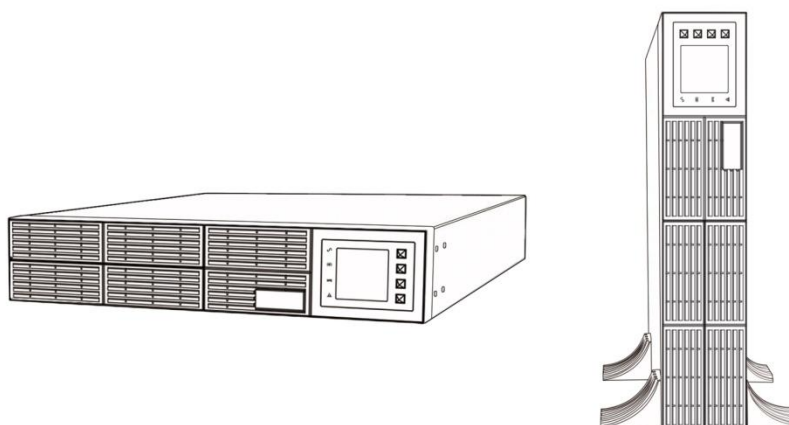


Figure 2.2-1 The machine appearance drawing



Figure 2.2-2 The front panel of MU1000/2000/3000RM2U

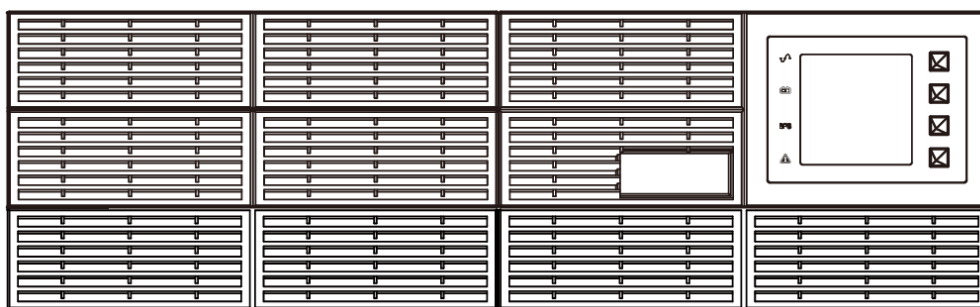


Figure 2.2-3 The front panel of MU2000/3000RM3U

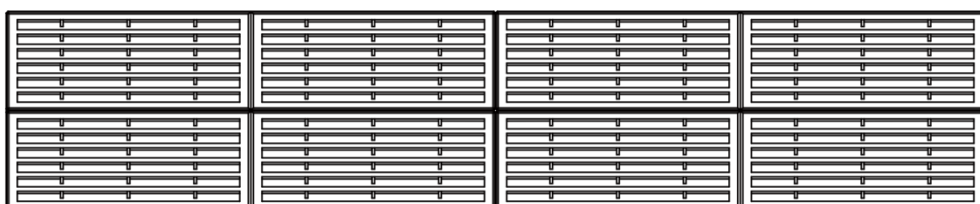


Figure 2.2-4 The front panel of 2U battery pack



Figure 2.2-5 The front panel of 3U battery pack

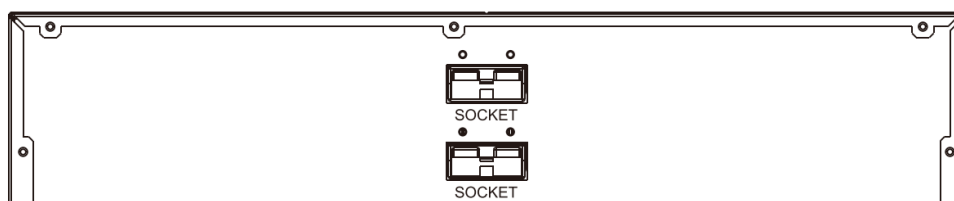


Figure 2.2-6 The rear panel of 2U battery pack

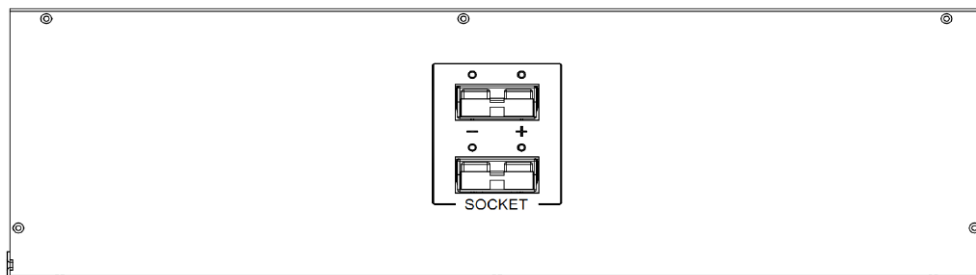


Figure 2.2-7 The rear panel of 2U battery pack

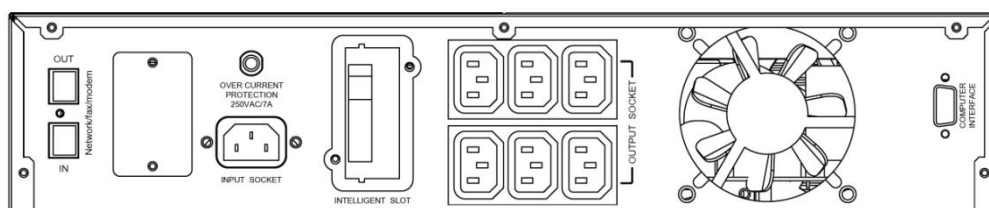


Figure 2.2-8 The rear panel of MU1000RM2U

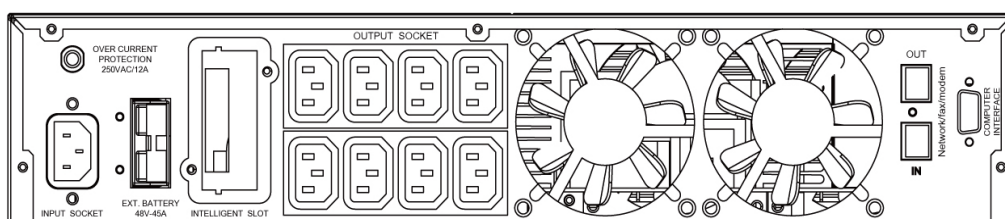


Figure 2.2-9 The rear panel of MU2000RM2U

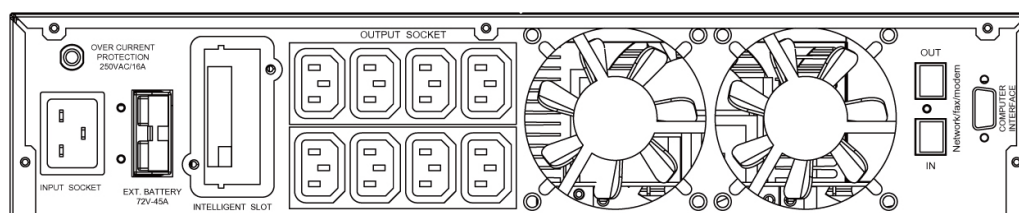


Figure 2.2-10 The rear panel of MU3000RM2U

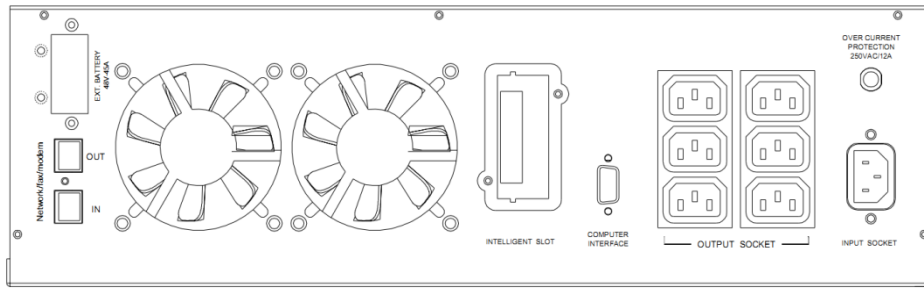


Figure 2.2-11 The rear panel of MU2000RM3U

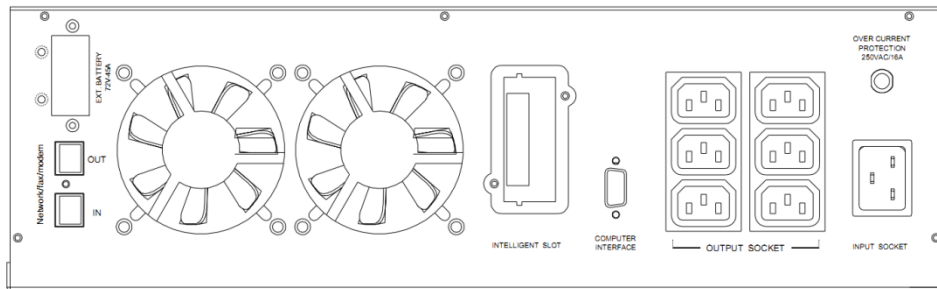


Figure 2.2-12 The rear panel of MU3000RM3U

Note: The output socket is divided into socket and IEC, universal socket and German socket, which is not shown in the diagram.

3. Installation

3.1 Unpacking inspection

- 3.1.1 Open the UPS packaging and take it out, visually examine the unit for transit damage.
- 3.1.2 Check against the accessory list that the accessories of the UPS are present (table 3.1-1).
- 3.1.3 If the UPS arrives damaged, or there is any missing accessory, please contact the distributor immediately.

Table 3.1-1 UPS shipping accessories list

model	Accessory	quantity	Unit
standard	user manual	1	PCS
	QC certificate	1	PCS
	Product after sales service guarantee	1	PCS
	CD	1	PCS

3.2 Installation Notes

- 3.2.1 When locating the UPS, make sure there is no hazardous objects around the UPS and that the installation environment meets the specifications.
- 3.2.2 The UPS should not be tilted. The air inlet port at the front panel and the outlet port on the rear panel and two side panels should not be blocked so as to ensure good ventilation.

- 3.2.3 In case if the UPS is unpacked, installed and used at very low temperatures, condensations of water drops may appear. It is necessary to wait until the UPS fully dried inside out before proceeding to installation and use. Otherwise, they may be a risk of electric shock.
- 3.2.4 Place the UPS near the utility power source outlet which supplies power to the UPS. In any emergency, switch off the main input socket, cut off the battery voltage input. All power sockets must be connected with ground protection.

3.3 Cable connection

3.3.1 Connecting input and output cables

1. Input cable connection

If the UPS is connected via the power cable, please use a proper socket with protection against electric current, and pay attention to the capacity of the socket: over 10A for MU1000RM2U and MU2000RM2U/3U, over 16A for MU3000RM2U/3U.

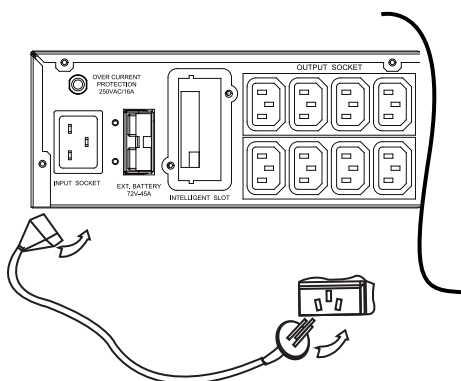


Figure 3.3-1 Connection method of input for MU1000/2000/3000RM2U

2. UPS output cable connection

Table 3.3-1 Output way of UPS

Rating	Model	Quantity of output socket
1KVA	MU1000RM2U	6
2KVA	MU2000RM2U	8
2KVA	MU2000RM3U	6
3KVA	MU3000RM2U	8
3KVA	MU3000RM3U	6

The output of MU1000/2000/3000RM2U/3U uses output sockets. The total output power shall not exceed 1KVA/ 0.9KW, 2KVA/ 1.8 KW, 3KVA/ 2.7 KW. Simply plug the load power cable to the output sockets of UPS to complete connection as shown in the following diagram

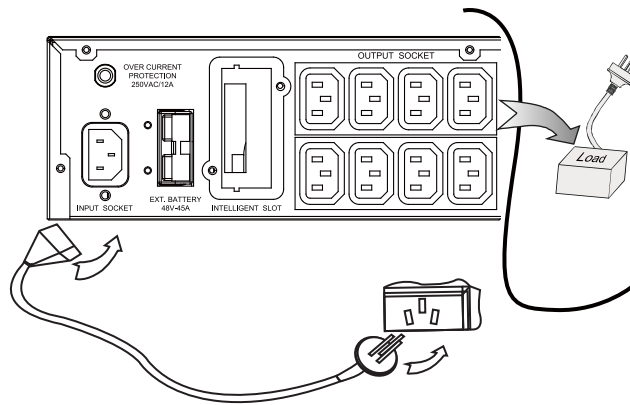
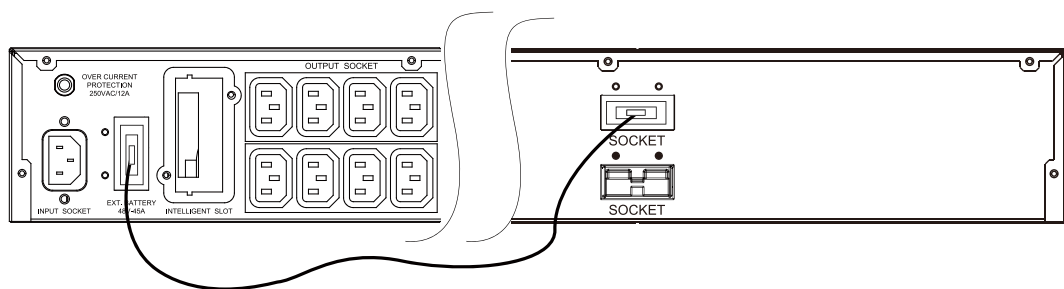


Figure 3.3-2 Connection method of output for MU1000/2000/3000RM2U

3.3.2 Operation procedure of battery pack for UPS

The battery connection procedure is very important. Any incompliance may result in the risk of electric Shock. Therefore, the following steps must be strictly complied with:

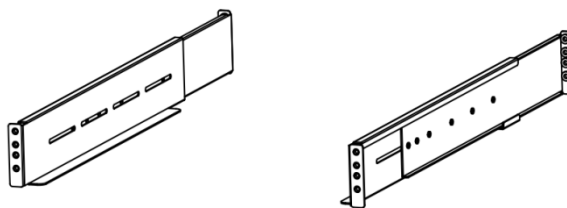
1. First connect in series the batteries of the pack to ensure proper battery voltage that MU1000RM2U for 24VDC (Built-in battery), MU2000RM2U/3U for 48VDC, MU3000RM2U/3U for 72VDC.
2. Take out the battery cable delivered with the UPS, one end of the external battery cable is a plug for Connecting the UPS; the other end has 2 open wires for connecting the battery pack.
3. Connect the external battery cable to the battery terminal (DO NOT connect the battery socket of the UPS First. Otherwise, it may cause electric shock). Connect the red wire to the "+" terminal of the battery. The black wire is connected to the "-" terminal of the battery.
4. Connect the plug of the battery pack cable to the external battery socket on the rear panel of the UPS to Complete the connection procedure.



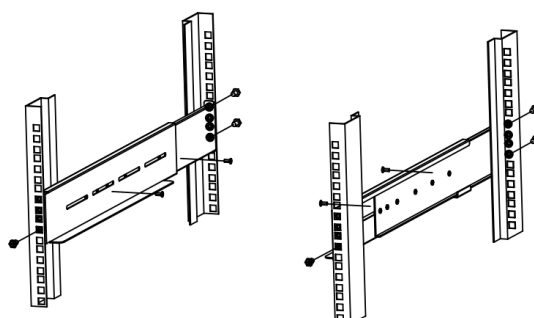
Note: The length of the external battery cable is normal, If users need a Longer one, please consult the distributor. There is a limit to the length Of the external battery cable to ensure normal operation of the UPS

3.4 Rail kits installation

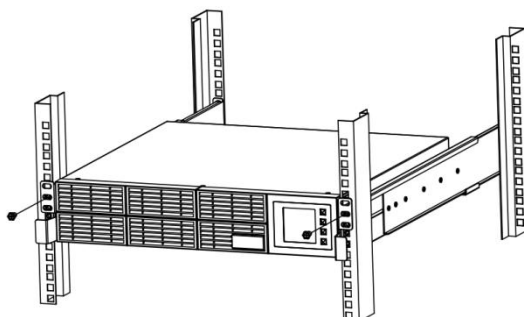
1. Take out the rail kits and pay attention to distinguishing the left and right rail kits, as shown below:



2. Fasten the rail kits to the cabinet, as shown below:

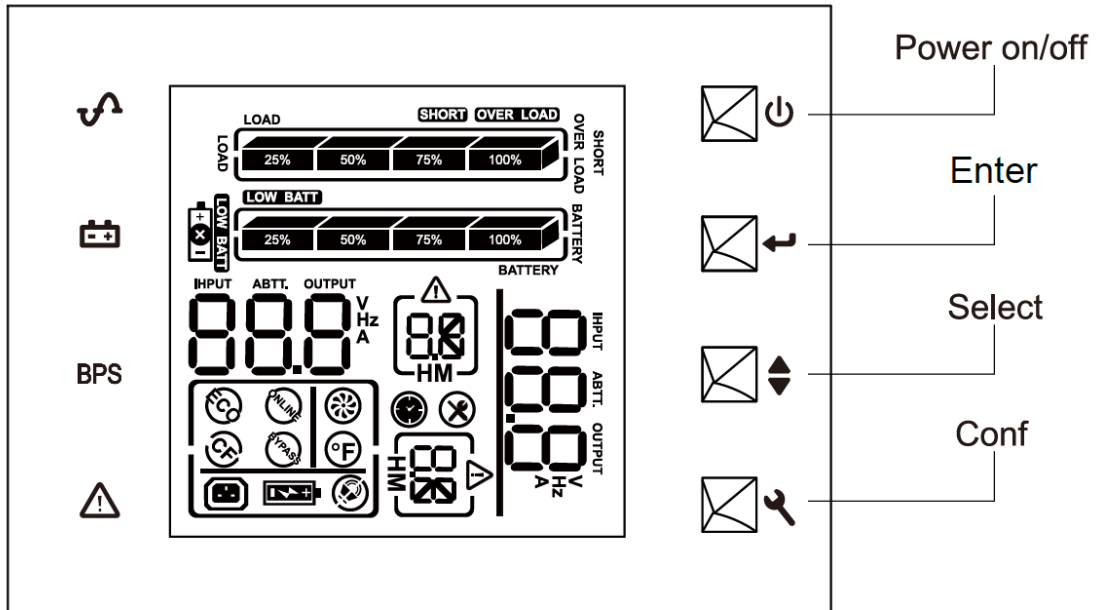


3. Unit mounting fixing, as shown below:



4. Operation

4.1 Introduction of Display Panel






*Note: The function button of "Enter" only eliminate battery mode alarm,
The elimination of other UPS fault alarms is invalid.*

4.2 Button Description


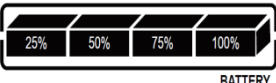

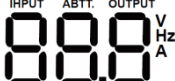











Button Name	Function
Power on/off	Press it and hold over 2s, UPS will start. And press it and hold over 2s again, UPS will shut down.
Enter	Press it 1s, UPS will work in mute mode. And press it and hold over 2s, UPS will test batteries automatically at AC mode; when UPS parameter adjust mode, press down and hold over 1S, to confirm and save parameters.
Select	Press it 1s ,View UPS parameters(Input voltage/ frequency, output voltage/ frequency, battery voltage); When UPS is in Settings mode, Press it 1s to select the parameters.
Conf	Press it and hold over 2s, UPS will be UPS setting mode, hold them over 1S, user can enter UPS parameter adjust mode(output voltage/ frequency, bypass, display angle).

4.3 LED display Description

LED display	Meaning
 /Green	Line light, UPS AC input normal or it in AC mode
 /Yellow	Battery light, UPS in battery mode

BPS / Yellow	Bypass light, UPS in bypass mode
 /Red	Fault light, UPS at fault or on alarm

4.4 Panel Display & Meaning

Display Sign	Meaning
	Display load capacity, display 25%-50%-75%-100% load capacity.
SHORT	Means output short circuit
OVER LOAD	Means Overload. When overload, it will alarm and flash every second.
	Display battery capacity, display 25%-50%-75%-100% battery capacity.
LOW BATT 	Means battery voltage is low, when alarm it will flash every second.
INPUT ABTT. OUTPUT 	Display Input voltage/ frequency, output voltage/ frequency, battery voltage.
	When UPS failure this signal will display, and together with the corresponding code.
	Display when UPS in ECO mode
	Display when UPS in CF mode
	Display when UPS in battery mode or AC mode
	Display when UPS in bypass mode
	Display when UPS reports fan alarm, and together with the corresponding code.
	Display when UPS over temperature Fault, and together with the corresponding code.
	Display when UPS Connect the mains
	Means battery is being charged.
	Battery mode mute display, when mute mode, will show “/”.
	Display when UPS in Settings mode, adjust display angle 90° or 180° .



Display when UPS in Settings mode.

4.5 Operation mode

The operation mode of UPS can be divided into AC mode, Battery mode ,Bypass mode and Standby Mode

4.5.1 AC mode

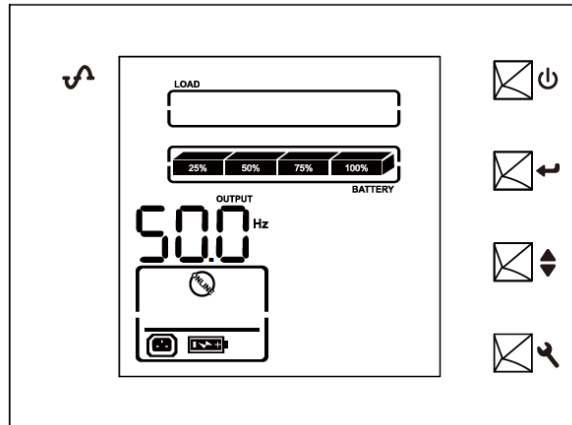


Figure 4.2-1 AC Mode

1. If the load is over 100%, the buzzer will beeps half a second, it reminds that the UPS take too much load, please reduce some unnecessary load, and make sure that the load below 100%.
2. If the battery indicator light twinkles, means the battery voltage is too low, or the UPS disconnect with Battery, at this time, please check the battery' connecting, and press the "↩" key to self diagnosis, Confirmed that the connection is good or not, it may be because of battery failure or aging, please refer to the Fault treatment table.

Note: Connection to the power generator should be made according to the following steps:

- ◆ Activate the power generator. Wait until the operation is stable and connect generator output to the UPS input (please make sure UPS do not have load), and then according to start-up program, connected the loads to UPS one by one.
- ◆ It recommended that the capacity of the AC generator chosen should double that of the UPS

4.5.2 Battery mode

1. In battery mode, The buzzer beeps once every 4 seconds, at this time press the "enter" key over 2 seconds, UPS will performs the function of silencing, buzzer no longer alarm, and then press the "enter" key over 2 seconds, the alarm recovery.

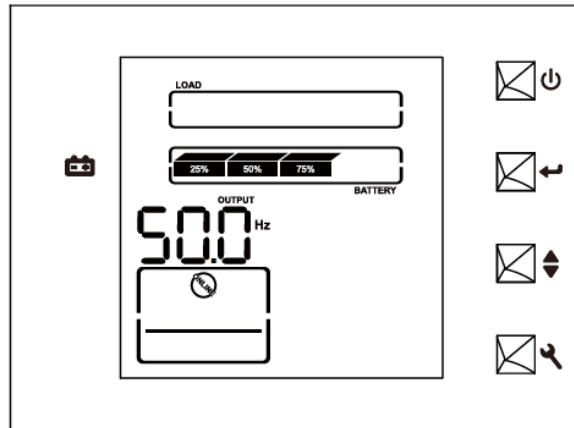


Figure 4.2-2 Battery Mode

2. When the battery capacity reduced, the number of battery capacity indicator will decrease. When the battery voltage drops to the warning potential (it can keep more than 1 minutes backup time) buzzer beeps one time every second. Prompt user battery capacity is insufficient, should remove some loads in time.

4.5.3 Bypass mode

Through the "↕" and "🔧" key, to make UPS work in bypass model. The LCD screen display as below, the screen display "BYPASS" , The load icon on the right side display will light up according to the load. UPS beeps every two minutes.

1. If the "BPS" indicator light twinkle, means that the voltage or frequency of AC input have
- 2.
3. exceeded the normal Range or the AC input zero lines reversed or not grounded.
2. When UPS works in bypass mode, if AC power cut off, it can not conversion to battery mode, the power for load is supplied by the AC input.

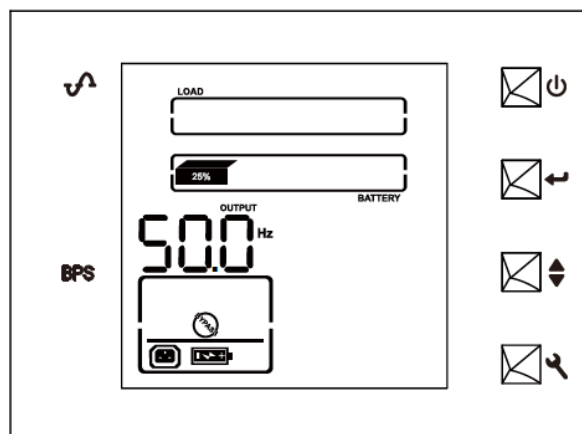


Figure 4.2-3 Bypass Mode

4.5.4 Standby mode

Connect the electricity and the screen lights up, BYPASS is not on, no output, UPS is not on.

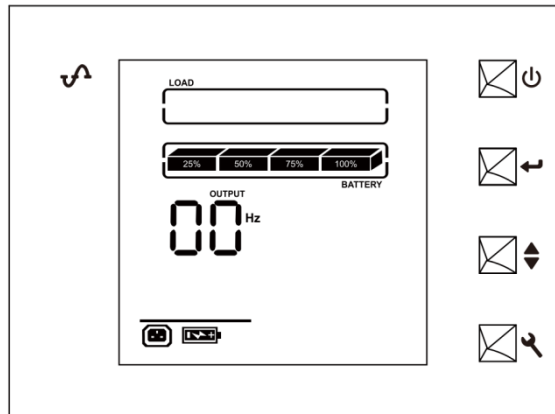


Figure 4.2-4 Standby Mode

4.6 Operating instructions


4.6.1 The operation of boot and shutdown UPS

Note: The battery is fully charged before delivery. However, storage and Transportation will inevitably cause some charge loss. Therefore, it is Advisable to charge the battery for 10 hours before using it, so as to Ensure adequate battery autonomy.


1. The operation of boot UPS

The operation of boot UPS can divide into: boot with AC power and boot without AC power

1.1 Boot with AC power

Connect with AC input and battery to the UPS, press the "  " button over 1 second until the buzzer beeps, seconds later, the screen display output voltage or frequency, the UPS is in line mode. If the AC input is abnormal, the UPS will conversion to battery mode.


1.2 Boot without AC power

Only connect with battery, press the "  " button over 1 second until the buzzer beeps, seconds later the screen display output voltage or frequency, it will light up according to the battery' capacity. UPS work in battery mode.


2. Shutdown operation

Shutdown operation can divide d into: in AC mode, in battery mode.

2.1 Shutdown in line mode

Long press the "  " button over 1 second, UPS will shut down. If the bypass opened, the LCD screen display "BYPASS", UPS work in bypass mode, UPS have output. If you want to cut off output, can cut off the input circuit breaker, after a few seconds, the LCD screen UPS will extinguish.


2.2 Shutdown in battery mode

Long press the "  " button over 1 second, UPS will shut down. The UPS will begin self-inspect, UPS have no output, a few seconds later the LCD screen will extinguish.

4.6.2 Battery self check operation

When UPS is working, users can manually perform battery self-inspect to check the battery status, thereAre two methods to initiate the battery self-inspect:

1. Through the Confirm button

In line mode, long press the "  " button over 2 seconds until the buzzer beeps , the battery self-inspect default duration for 10 seconds (user can set through the win-power). In the event of a battery fault during battery self-inspect, the UPS will conversion to line mode automatically.

2. Through the background monitoring software

Users can also initiate battery self-inspect through the background monitoring software (Win-power).

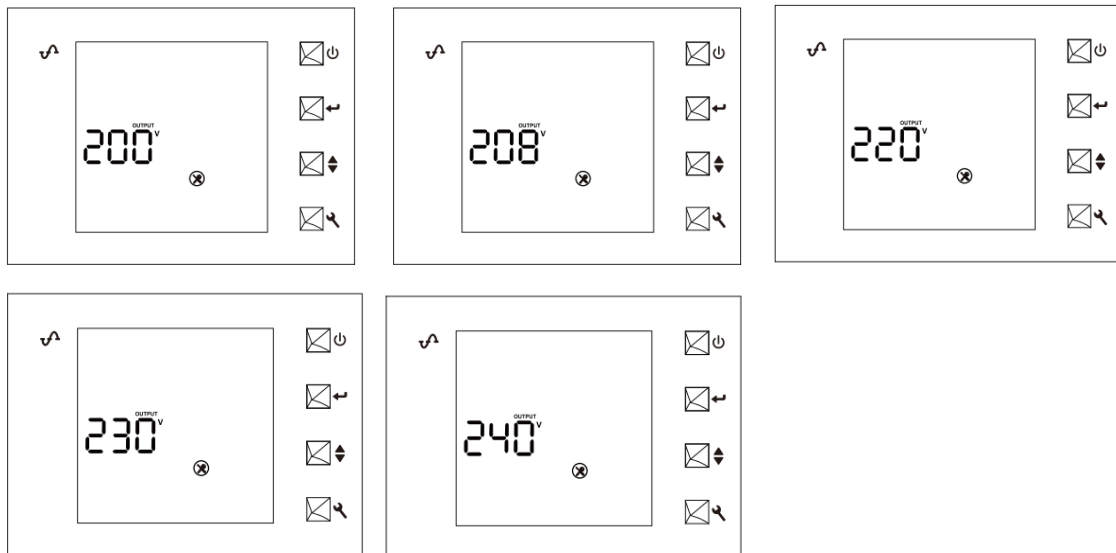
4.6.3 LCD display and alarm sound

No	Operative mode		LCD screen display	Alarm
1	AC mode	Load < =5%	Battery capacity light in order, load indicator light	None
2		5% < Load < =25%	Battery capacity light in order, load indicator light	None
3		25% < Load < =50%	Battery capacity light in order, load indicator light	None
4		50% < Load < =75%	Battery capacity light in order, load indicator light	None
5		75% < Load < =100%	Battery capacity light in order, load indicator light	None
7		Load > 100%	Battery capacity light in order, load indicator light 5 lattice twinkle,	1 beep/ 1 second
8	Battery mode	Load < =5%时	Battery capacity lights show the battery capacity, load indicator light lamp display none	1 beep/ 4 second
9		5% < Load < =25%	Battery capacity lights show the battery capacity, load indicator light 1 lattice bright	1 beep/ 4 second
10		25% < Load < =50%	Battery capacity lights show the battery capacity, load indicator light 2 lattice bright	1 beep/ 4 second
11		50% < Load < =75%	Battery capacity lights show the battery capacity, load indicator light 3 lattice bright	1 beep/ 4 second
12		75% < Load < =100%	Battery capacity lights show the battery capacity, load indicator light 4 lattice bright	1 beep/ 4 second
14		Load > 100%	Battery capacity light in order, load indicator light 4 lattice twinkle	2 beep/ 1 second
15		Battery low voltage	Battery capacity lights twinkle	2 beep/ 1 second
16	Bypass mode		Battery capacity light in order, Load capacity lamp displays the current load, the screen	1 beep/ 2 minutes
17	Bypass mode zero lines reverse connection		Battery capacity load capacity marquees, lights display the current load, the screen shows "	1 beep/ 2 minutes
18	Overload conversion to bypass in line mode		Battery capacity light in order, load indicator light 4 lattice twinkle, the screen shows " Fault code	Ring continually

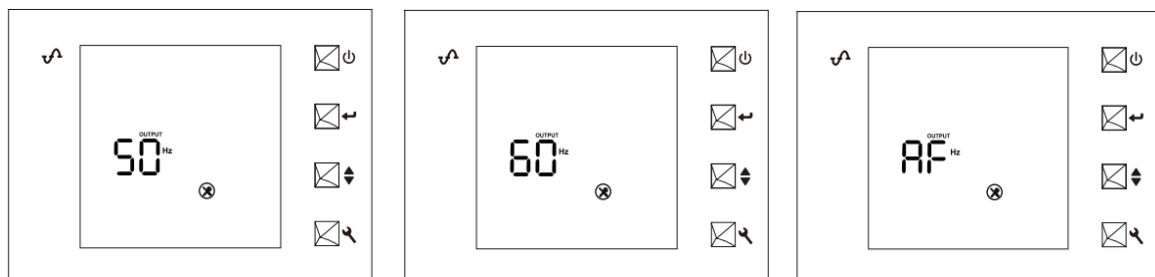
19	AC input abnormal	Battery capacity light in order, load indicator light display the current load	None
20	Overload in battery mode	Battery indicator light display the battery capacity, load indicator light 4 lattice twinkle, the	2 beep/ 1 second
21	Overload in battery mode, output cut off	Battery indicator light display the battery capacity, load indicator light 5 lattice twinkle, the	Continually buzzing
22	Over temperature	The screen display "Fault code 23"	Ring continually
23	Output short circuit	The screen display " Fault code 10",	Ring continually
24	Overcharge	The screen display "Fault 59,"	Ring continually

4.6.4 Parameter setting

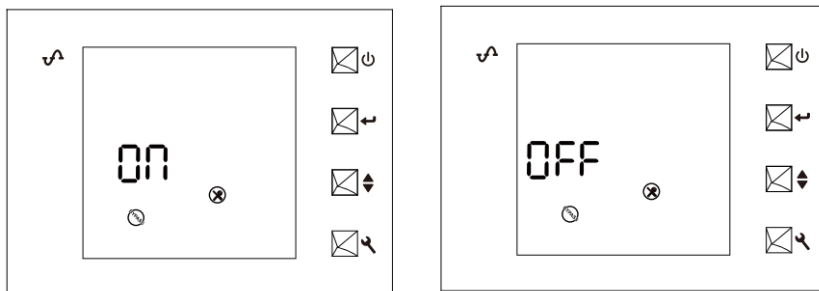
1. In standby mode or bypass mode, long press "⚙️" button 2 seconds into the setup interface, gently press "⬆️" button to set output voltage (200/208/200/208/240)



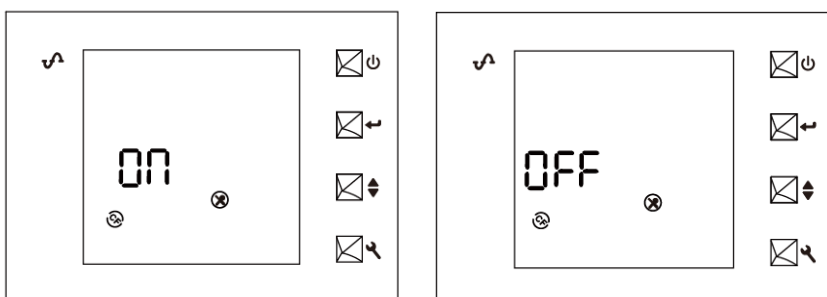
2. Then gently press "⚙️" button to enter the next setup interface, gently press "⬆️" button set output frequency (50/60/AF);



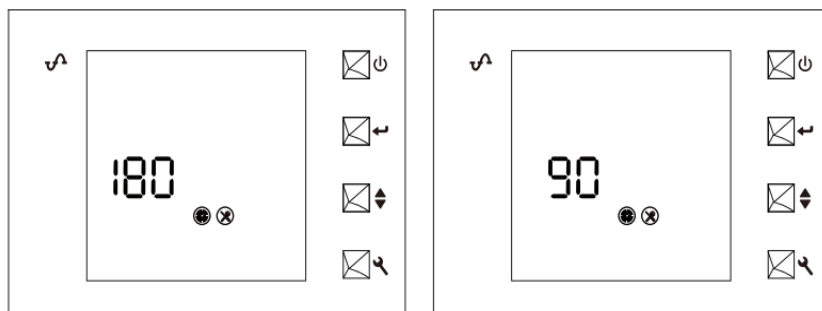
3. Then gently press "⚙️" button to enter the next Setup interface, gently press "⬆️" button set "BYPASS" function (ON/OFF);



4. Then gently press "↩" button to enter the next Setup interface, "⬆" button set "LCD backlight control" function (ON/OFF);



5. Then gently press "↩" button to enter the next Setup interface, "⬆" button set "DISPLAY ANGLE" function (180° / 90°);



The above settings need to gently press "↩" to take effect.

5. When display the main interface, in AC mode, long press "↩" key over 2 seconds to do the battery self-check, in other modes, long press "↩" key over 2 seconds, forbid buzzer beep.
6. When buzzer ring continually in fault mode, display fault code.

5. Maintenance

5.1 Battery Maintenance

Battery is an important part to UPS system. The batteries life depends on the ambient temperature, charge and

Discharge times, use or deep discharge at high temperature will shorten the life of the batteries.

- 5.1.1 Standard built-in battery for sealed maintenance free lead-acid battery, when UPS connect to the AC input, whether boot or not, the UPS keeps charging the battery and provide over charge, over discharge protection function.

- 5.1.2 Keep the ambient temperature between 15°C and 25°C.
- 5.1.3 If the UPS has not been used for a long period, charging is recommended at the intervals 3 month.
- 5.1.4 Under normal use, the battery should be charged and discharged every 4 to 6 months. Discharge to shutting down then charging for the UPS. In the regions of hot climates, the battery should be charged and discharged every 2 months. Moreover, the standard charging time should be not less than 10 hours.
- 5.1.5 Batteries should not be replaced individually. All batteries should be replaced at the same time following the instruction of the battery supplier.
- 5.1.6 Under normal conditions, the battery life lasts 3 to 5 years. In case if the battery is found not in good Condition, earlier replacement should be made. The battery should only be replaced by qualified service\Personnel.

*Note: 1. Before replacing the battery, the ups must be shut off and disconnect the AC input.
2. Metal objects such as rings and watches should be removed.
3. Use the screwdriver with insulated handle. Tools and other metal objects should Not be placed on the battery.
4. Short circuit or reverse connection between the positive and negative terminal Of the battery is strictly forbidden.*

5.2 Checking UPS function

Every time when conducting field maintenance, please check the regular function of the UPS, including the following aspects:

- 5.2.1 Check the operation status of UPS
If the AC input is normal, the UPS should work in line mode; if the AC input is abnormal, the UPS should work in battery mode. In above cases, there should be no fault indication.
- 5.2.2 Check the transfer between the UPS operation modes
Disconnect the mains input to simulate a main failure, the UPS should transfer to the battery mode and operate normally; then recover the mains input, the UPS should transfer to line mode and operate normally.
- 5.2.3 Check LCD screen display of the UPS
During the check processes stated above, check that the LCD indication of the UPS agree with UPS operation mode.

6. Trouble shooting

When your UPS appear abnormal, please press the table to check and troubleshooting. If the problem persists, please contact our customer service center.

UPS abnormality can be divided into two cases. One is the warning of UPS, indicating abnormal conditions, which will not affect the output of UPS for the time being. The other is a UPS fault, which outputs an exception and needs to be handled immediately.

6.1 UPS Warning table

Warning code	Possible cause	Solution
7	LN site fail	Reconnect LN correctly.
10	Battery open	Check whether the battery connection is disconnected to ensure the battery circuit is normal.
11	Battery low	Check if the battery is damaged or charged.
12	Battery over charge	Check whether the battery voltage is normal and confirm the number of battery nodes.
15	Over load Warning	Check if the load is overloaded and remove the unimportant load.
16	Fan fail	Check whether the fan is rotating or changing.
18	Charger fail	Check whether the charging voltage is normal or replace the charging panel.

6.2 UPS trouble shooting table

Fault code	Possible cause	Solution
1	BUS soft start time out	please contact the supplier
2	BUS high volt Fault	please contact the supplier
3	BUS low volt Fault	please contact the supplier
5	BUS short fault	please contact the supplier
6	INV soft start time out	please contact the supplier
7	INV high volt Fault	please contact the supplier
8	INV low volt Fault	please contact the supplier
10	INV short	please contact the supplier
22	Over load Fault	UPS load is bigger than UPS rated power, after decrease load equipments quantity, UPS will work normally. If still can not solve, please contact the supplier .
23	Over temperature Fault	UPS work environment is very bad, poor ventilation, room temperature is very high. Turn off UPS and wait for 10minutes let UPS cool down then turn on UPS. If still can not solve, please contact the supplier.
29	Converter fault	please contact the supplier
55	NTC open.NTC	please contact the supplier
57	Battery open in battery mode	Check that the battery switch and the battery connection are normal. If still can not solve, please contact the supplier.

59	Battery over charge	Check that the battery voltage and the number of battery sections are normal. If still can not solve, please contact the supplier.
62	INV Cap Open Fault	please contact the supplier

When report UPS fault, please provide the following information:

- ◆ The machine model and machine serial No.
- ◆ The date of fault happened.
- ◆ The detail of fault(including the LCD screen display and buzzer beeps, input, load ,configuration of battery)

7. Product specifications and performance

7.1 Basic electrical performance

Model			MU1000RM2U	MU2000RM2U/3U	MU3000RM2U/3U
			1KVA/900W	2KVA/1800W	3KVA/2700W
Input	Input mode		Single-phase grounding		
	Normal voltage		200/208/220/230/240VAC		
	Voltage range		110~300VAC		
	frequency		50Hz/ 60Hz		
	Power factor		0.98		
Output	Output mode		Single-phase grounding		
	Rated voltage		200/208/220/230/240VAC		
	Power factor		0.9		
	Voltage accuracy		±2%		
	Frequency	Line model	(50/60/RF±1%)Hz, Input frequency and the output frequency is consistent		
		Battery model			
	Overload capacity		105%~150%	45S~25S; 150%~200%	25s~300ms; ≥200% 200ms
	Transfer time		0 ms（AC~Battery）; < 4 ms（AC~Bypass）		
	Current Crest Ratio		3:1		
Battery voltage			24VDC	48DVC	72VDC
quantity			12V×2 (9AH*2)	12VDC×4 (9AH*4)	12VDC×6 (9AH*6)
Backup time (full)			> 2.5min	> 3 min	> 3min
Backup time (half full)			> 5min	> 7min	> 7min
Charge Current(Max)			1A	1A	1A
Charge Voltage(VDC)			27.4V±0.2VDC	54.8V±0.4VDC	82.2V±0.6VDC
Battery charging time			5 hours to charge to 90%		

7.2 The size and weight

model	Length * width * height (mm)	The net weight (Kg)
MU1000RM2U	375*440*89	10.8

MU2000RM2U	438*440*89	8.5
MU3000RM2U	438*440*89	8.9
MU2000RM3U	558*440*133	21.5
MU3000RM3U	558*440*133	26.8

7.3 Environment

Item	Normal range
Ambient temperature	0~40℃
Environment humidity	20%~90% (No condensation)
Altitude	Less than 1000 m not de-rating, greater than 1000 m for every 100 m de-rating 1% rise
Storage temperature	-15℃~45℃

7.4 RS232 Interface

The type of signal provided by UPS, serial command interface RS232) can communicate with computer. RS232 communication interface can communicate the working status of city electricity and UPS to the computer to monitor the working state of city power and UPS.

RS232 data format is as follows:

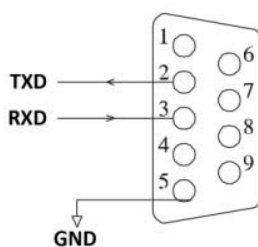
Baud rate: 2400 bps

Data length: 8 bits

End bit: 1 bit

Check bit: none

Pin#	Description	I/O
2	TXD	Output
3	RXD	Input
5	GND	Input



8.0 Warranty

Under normal use, from the date of purchase the UPS products, we offer 2 years free warranty service (Original configuration of batteries inside offer 1 year):

The warranty on the strength of the dealer effective certificate:

- ◆ With card warranty.
- ◆ If the machine fails, please contact the dealer or the company customer service staff, the transportation charges shall be borne by the buyer
- ◆ The nationwide warranty.
- ◆ Online technical support.

The following situation is out of free warranty:

- ◆ Man-made fault.
- ◆ Out of warranty.
- ◆ The production sequence of changes, the loss of finished products.
- ◆ Damage or loss caused by the external force majeure..
- ◆ Disassembly or modifications to the unit with no authorization.
- ◆ Disobeying provisions of operating/using the unit.
- ◆ Battery over discharged or man-made damage.

*Note: The above content is subject to change without notice and keeping the right
Of final interpretation*

615-60101-01

