USER’S MANUAL

JP5530 1-3KVA

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1.1 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 electronic shock
	Alternating Current (AC)
	Direct Current (DC)
	Protective ground
	Do not dispose with ordinary trash

1.2 Safety Notes

1) Read safety notes carefully and thoroughly before operation, to ensure use correctly and save this manual properly.
2) Please follow the alarm table and requirements on UPS when you operate it.
3) Please don't use UPS in case of overload.
4) Don't open UPS by non-professionals since the danger of electricity which is raised by batteries.
5) Keep batteries away from fire, otherwise, they will be burned.
6) Don't open or damage batteries, it is harmful to eyes, skin and so on.
7) Avoid short circuit of two poles on battery.
8) 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.
9) Life of UPS will be subject to the environment; don't use UPS in the following environment:
   Too high or too low temperature (above 40℃ or below 0℃), high humidity (above 90%);
   Any place which is close to heating facilities or with shake and shock;
   A place with metal, cankerous, flammable articles around
10) Please use dry powder fire extinguisher instead of liquid fire extinguisher in the event of fire.

This UPS series is an uninterruptible power supply incorporation double-converter technology. It provides perfect protection specifically for strict load.
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, communication, government, traffic, manufacture, education and so on.

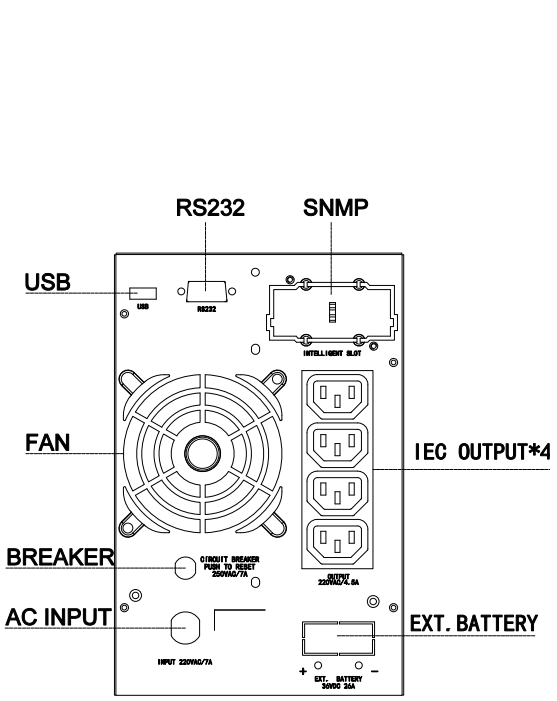
2.1 System type and Configuration

There are two types of UPS according to the battery configuration, standard type and long backup time type, each available in the following ratings：1KVA、2KVA and 3KVA.

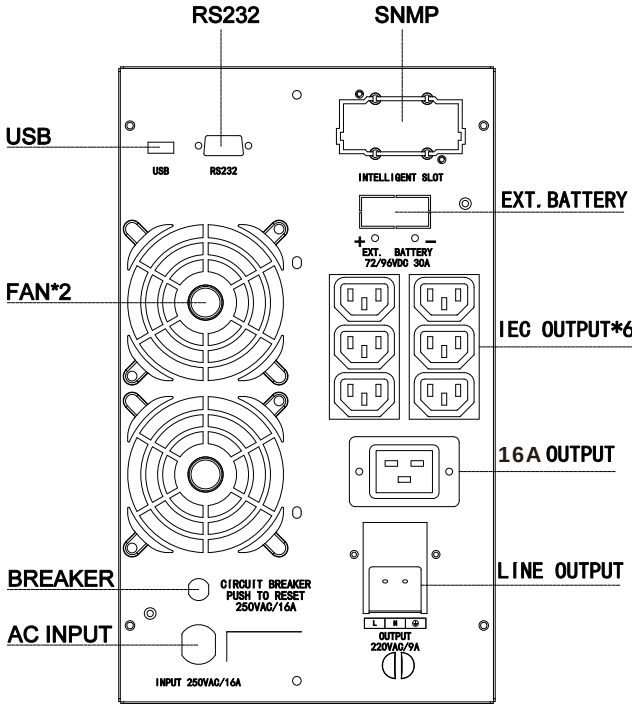
Table2-1 UPS types and configurations

UPS type		JP5530 series	JP5530 RM series
Standard	1KVA	With 1A charger and 2pcs batteries	With 1A charger and 2pcs batteries
	2KVA	With 1A charger and 6pcs batteries	With 1A charger and 6pcs batteries
	3KVA	With 1A charger and 6pcs batteries	With 1A charger and 6pcs batteries
Long back up time	1KVA	With 4A(1A/2A/4A/6A optional) charger, and external battery	With 4A(1A/2A/4A/6A optional) charger, and external battery
	2KVA	With 4A(1A/2A/4A/6A optional) charger, and external battery	With 4A(1A/2A/4A/6A optional) charger, and external battery
	3KVA	With 4A(1A/2A/4A/6A optional) charger, and external battery	With 4A(1A/2A/4A/6A optional) charger, and external battery

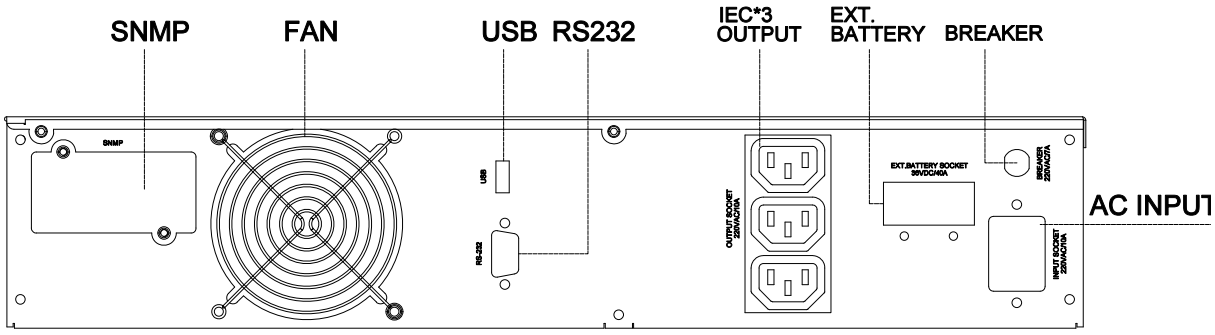
2.2 UPS Appearance



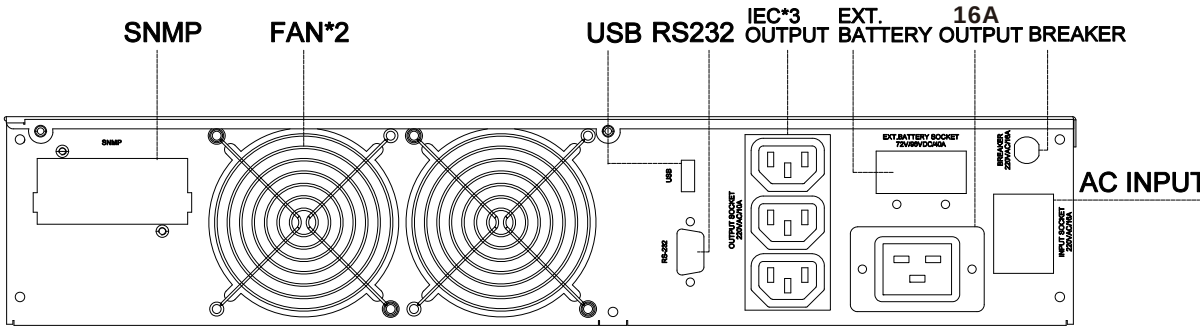
JP5530 1K rear panel



JP5530 2/3K rear panel



JP5530 1K rear panel



JP5530 2K/3K rear panel

Note:Other standard output sockets are optional, such as EU,BS,etc;

3.1 Unpacking Inspection

3.1.1 Open the packing box of UPS and take it out, visually examine the unit for transit damage.

3.1.2 Check against the accessory lists that the accessories of the UPS are present.(table 3-1)。

3.1.3 If the UPS arrives damaged, or there is any missing accessory, please contact the distributor immediately.

Table 3-1 Accessory list of UPS

Type	Accessory	Quantity	PC
Standard	User manual	1	PC
	RS232 cable or USB cable (optional)	1	PC
	IEC output power cord	1	PC
Long back up time	External battery cable	1	PC
	User manual	1	PC
	RS232 cable or USB cable (optional)	1	PC
	IEC output power cord	1	PC

3.2 Installation notes

3.2.1 When locating UPS, make sure there is no hazardous objects around the UPS, and that the installation environment meets the specification.

3.2.2 The UPS should not be titled. 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 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 input. All power sockets must be connected with ground protection.

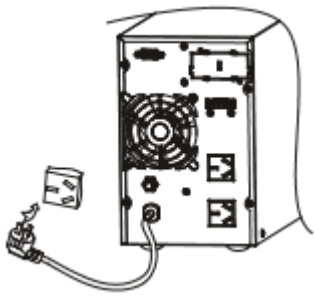
3.3 Cable connection

3.3.1 UPS input/output cables

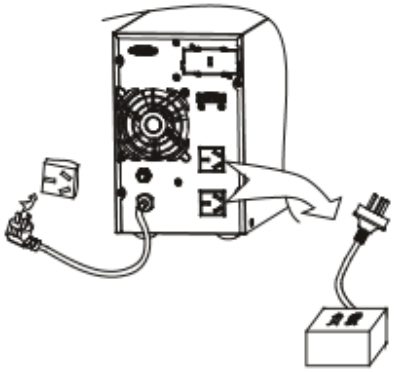
1).UPS input cable connection

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 1K(S)、over 16A for 2K(S)、over 16A for 3K(S)，the wiring configuration is shown in the following

diagram：



1-3K input connection



1-3K output connection

2) UPS Output cable connection

1K(S)、2K(S)、3K(S) UPS can use output sockets，place the load socket into UPS output sockets. Total output power shall not exceed 1KVA/1KW、2KVA/2KW、3KVA/3KW (0.8 output P.F can be optional), complete connection is shown as below：

Apart from using the socket for output, 3K has the terminal block available for output as well when the output current over 10A recommended. The wiring configuration is indicated as below:

1) Remove the cover of the terminal block.
2) Use AWG14 or 2.1mm^2 wires for wiring configuration.
3) Upon completion of the wiring configuration, please check whether the wires are securely affixed.
4) Put back the terminal block cover to the rear panel.

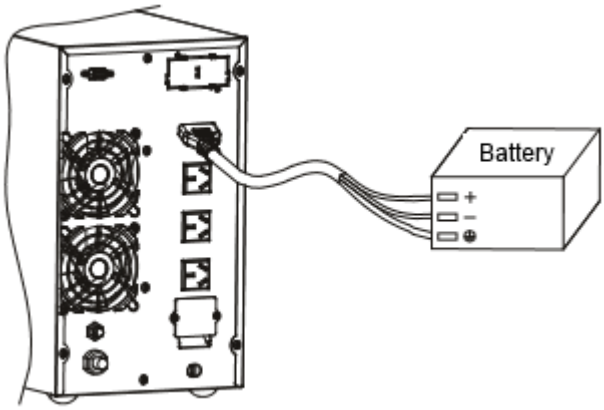
3.3.2 Operation procedure of external for long back up time UPS

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 the batteries of the pack in series, to ensure proper battery voltage that ,1KL-36VDC,2KL-72VDC, 3KL-96VDC.
2) Take out the battery cable delivered with the UPS, one end of the external battery cable is a plug for connecting the UPS, and the other end has 3 open wires for connecting the battery pack.
3) Connect the external battery cable to the battery terminal (Don’t connect the battery socket of the UPS first. Otherwise, it may cause electric shock).Connect the red wire to

the “+” terminal of battery，the black wire is connected to the “－ ” terminal of the battery，the green/yellow wire is grounded for protection purpose.

4) Put the battery plug into external battery socket on the UPS rear panel.



Battery connection diagram for long backup time models(RM series are same)

3.4 Connection communication cable

DB9 computer interface

If use the software which is putted with UPS to monitor the UPS, please just take out the USB (or RS232) cable, put the two sides of this cable to USB (or RS232) and USB (or DB9) port respectively on the UPS rear panel.

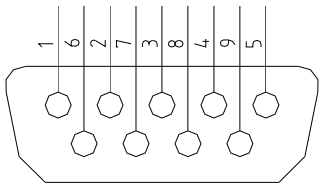


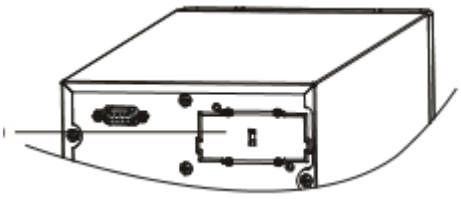
Table 2-9 DB9 on the real panel

Table 2-3 DB9 communicate port

PIN	Description	Note
2	UPS RxD（RS232 Standard）	
3	UPS TxD（RS232 Standard）	
5	public	

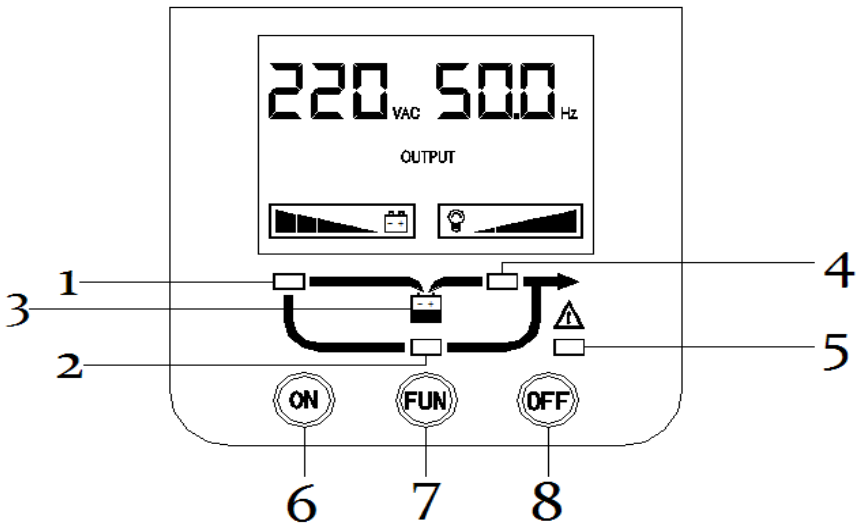
SNMP card slot

If you use SNMP card to monitor UPS, please review SNMP card manual.



SNMP card:Realization of remote monitoring and management of UPS through Internet

4.1 Introduction of display panel



(1)

1#-5# LED picture(1)

1# Utility power indicator: when there is utility power, it is green

2# Bypass Indicator: UPS supply power to load via bypass, it is orange

3# Battery indicator: mains abnormal, batteries provide power, it is orange

4# Inverter indicator: when inverter provides power to load, it is green

5# Fault indicator: when UPS alarms or fault, it is red

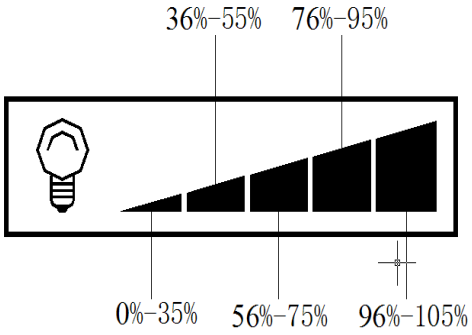
6# On Button: start UPS

7# Function Button: it can turn over pages and review present UPS parameters

8#OFF Button: shut off UPS

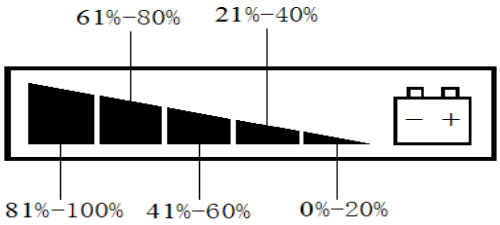
Load capacity diagram is shown as below:

There are five black squares from left to right side, and the corresponding load capacity is increasing when the squares light one by one.



Battery capacity diagram is shown as below:

There are five black squares from left to right side, and the corresponding battery capacity is decreasing when the squares are eliminated one by one.



Turning on and completely powering down the UPS

Note:

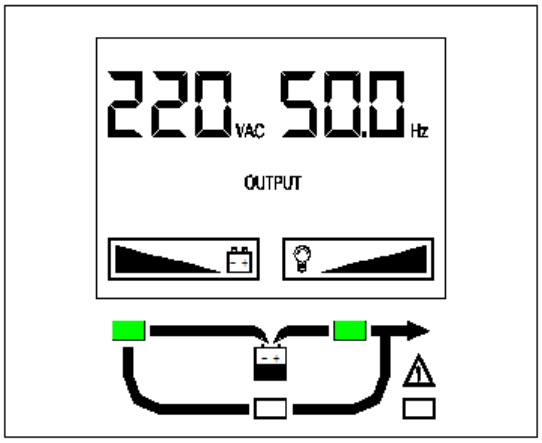
The battery is fully charged before delivery. However, storage and transportation will inevitably cause some charge loss. Therefore, it is advisable to charge the battery for 10 hours before using it, so as to ensure adequate battery autonomy.

4.2 Turn on /Shut off UPS

4.2.1 Turn on UPS in mains mode

Press button for more than 1 second, UPS will start. At the same time UPS will make self-checking, all the indicators on the panel will turn on and power off one by one.

UPS goes to work normally after self-checking, all the indicators as below:



(Inverter mode)

Note: If mains abnormal, UPS will work in battery mode.

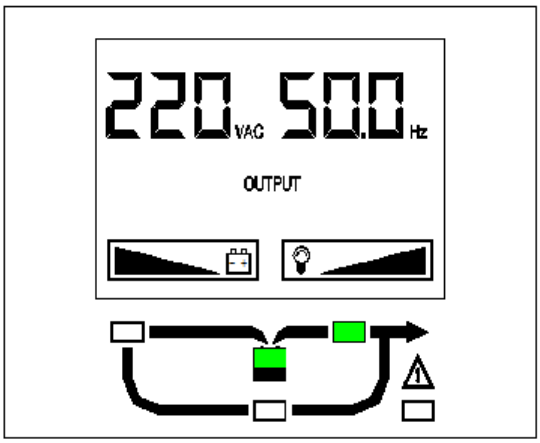
UPS provide power to load.

4.2.2 Turn on UPS without utility power

- Press button for more than 1 second, UPS will start. In the power on process, the UPS has the same operation as if it is connected to utility power indicator is not turned on and

the battery indicator is turned on instead.

Battery indicator will flash, mains indicator power off, battery will provide power to the load.



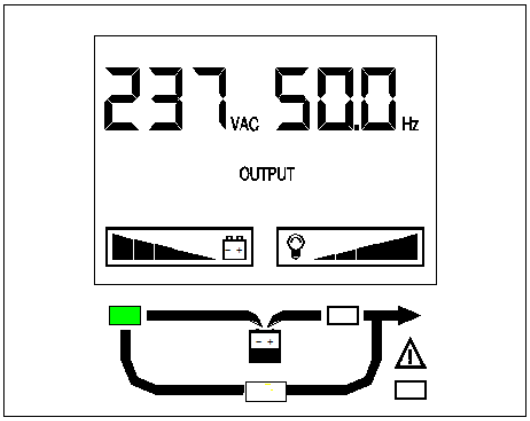
（Battery mode）

In battery mode, buzzer will beep every 4 seconds.

Shut off UPS

Press button for more than 1 second, UPS will shut off.

- When UPS shut off, UPS indicator as below:



- there is no output from UPS.

(Note: only when UPS overloads or have failure, UPS switches inverter into bypass

5.1 Battery Maintenance.

The battery is key component of the UPS. The battery life depends on the ambient temperature, charge and discharge times. High ambient temperature and deep discharge will shorten the battery life.

5.1.1 Sealed maintenance-free lead-acid battery is used in the standard. When being connected to the utility power whether the UPS has been turn on or not, UPS keeps charging the battery and also offers the protective function of charging and discharging.

5.1.2 Keep the ambient temperature between 15-20℃.

5.1.3 If UPS has not been used for a long period, charging is recommended at the intervals 3 months.

5.1.4 Normally, the battery should be charged and discharged every 4 to 6 months. Charging should be begun after UPS shut down automatically in the course of discharging. In the regions of hot climates, the battery should be charged and discharged every 2 months. Moreover, the standard charging time should 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.

5.2 UPS check function

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

5.2.1 Check the operation status of UPS

If the main voltage is normal, UPS should operate in normal mode; if the main voltage is abnormal, UPS should operate in battery mode. In both cases, there should be no fault indication.

5.2.2 Check the transfer between UPS operation modesDisconnect the main input to simulate a mains failure, UPS should transfer to battery mode and operate normally; then recover the mains input, UPS should transfer to normal mode and operate normally.

5.2.3 Check LED indicators of UPS

During check processes stated above, check the LED indication of UPS agrees with UPS operation mode.

6.1 Error Code on LCD & Trouble shooting

E1： fan fault
E2： can not recognize the model
E3： power board fault
E4： address of the module is the same
E5： don’t meet the requirement of starting UPS
E6： over-charging the battery
E7： charger fault
E8： Eeprom fault
E9： EPO switch wrong
F1： CAN cable fault
F2： short circuit of inverter voltage
F3： overload
F4： high temperature
F5： too high or too low BUS voltage
F6： too high or too low inverter voltage
F7： PFC fault
F8： circulation negative work
F9： not flow equalize
F10： working power fault
F11： inverter relay sticky death
F12： inverter can not close
F13： mains Input SCR fault
F14： input fuse fault
F15： battery fault

When reporting UPS fault to our service men, please provide the following information:

The UPS model and series No
The code of fault as following
The detail of fault contains LED/LCD indications, power condition, load capacity, buzzer beeps and configuration of battery.

Troubleshooting

In the event of an UPS fault, shoot the trouble according to Table 6-1. If the fault persists, seek immediate assistance from the local distributor customer service office.

6-1

S/N.	Fault conditions	Possible cause	Actions to take
1	Pressing the ON button cannot turn the UPS	The button holding time is not long enough	Press and hold the ON button for one second until the buzzer beeps, and the UPS will start
		No battery is connected to the UPS	Connect battery to the UPS
		The battery voltage is too low	Charge the battery first, and then turn on the inverter
		Battery damaged	Request professional to replace the battery
		UPS internal fault exists	Seek technical assistance from local distributor customer service office
2	The AC mains is normal, but the UPS has no input power	The AC input over current protection switch at the rear panel of the power module cut off the mains input upon input over current fault conditions	Press the AC input over current protection switch button to reconnect the mains input to UPS
3	The LINE LED flashes or is off	The mains voltage or frequency is outside the specifications	Check the input voltage, frequency, the AC input overcurrent protection switch and ,advisably, disconnect the load to prevent UPS shut down from causing any damage when the battery voltage reaches the end-of-discharge point
4	The ALARM and LEDS illuminate, the buzzer beeps	Overload	Turn off non-critical load
5	Output overload, no output, no transfer to Bypass mode	The UPS ceased output due to bypass overload; the bypass voltage or frequency is outside the specifications	Turn off non-critical load,and check the input voltage and frequency

7.1 Specification

MODEL	JP5530					
	1K (S/L)	2K (S/L)	3K (S/L)	RM1K S/L	RM2K S/L	RM3K S/L
Capacity	1KVA/1KW	2KVA/2KW	3KVA/3KW	1KVA/1KW	2KVA/2KW	3KVA/3KW
INPUT						
Voltage(Vac)	120VAC～300VAC					
Frequency(HZ)	45～66 Automatically select synchronization range according to grid frequency					
Phase	Single phase three wires					
Power Factor	Full load >= 0.98					
Battery voltage（V dc）	24/36	72/72	72/96	24/36	72/72	72/96
Description on Charger(A)	1A/4A					
Battery type	2*7Ah 12V / External	6*7Ah 12V / External	6*7Ah 12V / External	2*7Ah / External	6*7Ah / External	6*7Ah / External
OUTPUT						
Power factor	1					
Voltage(V)	208/220/230/240V +/- 1%					
Frequency(HZ)	50/60 +/- 0.05%(battery mode)					
Transfer Time（ms）	0					
Waveform	Sine wave , Linear Load THD<3%；Non-linear Load THD<5%					
Overload	105%~129% full load keep 60s；130%~150% load keep 30s；Above 150% load keep 300ms					
Crest Factor	>3:1					
OTHERS						
DC start	Yes					
Backup time	Normally 5min/Long time need to depend on demands					
Communication function	RS232 connector，support for monitor software (USB Port optional)					
SNMP（optional）	Can be network monitored by SNMP adapter					
Display	LED display UPS work status, LCD display UPS work parameters					
Noise (dB)	<45			<50(1meter)		
Alarm	Battery low-voltage, mains abnormal, overload, UPS fault, over temperature protection					
Protection	Input over-voltage protection, battery under-voltage protection, overload protection, short circuit protection, over temperature protection					
Working temperature (℃)	0～40					
Humidity	0～95%，Non condensing					
UPS Size(D×W×H) (mm)	355*145*226	402*190*326		400*440*88(2U)		
Weight(KG)	12/10	26/19	27/20	14 / 7.8	32 / 9.6	33 /10
Battery Pack Size(D×W×H) (mm)					400*440*88(2U)	

Note:

1、"L" is long backup UPS，"S" is standard UPS；

2、 Because the products are continuously improved, please contact the company or dealer to inquiry the latest specification.