USER MANUAL

ON LINE UPS

6K– 10KVA

Uninterruptible Power Supply

IP-9306-03

NOTES

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1. Safety Instructions

Please read the FOLLOWING user manual and the safety instructions before installing the unit and starting it up!

1.1 Transport

★Please transport the UPS system only in the original packaging (to protect against shock and impact).

1.2 Set-up

★Condensation may occur if the UPS system is moved directly from a cold to a warm environment. The UPS system must be absolutely dry before being installed. Please allow an acclimatization time of at least two hours.

★Do not install the UPS system near water or in damp environments.

★Do not install the UPS system where it would be exposed to direct sunlight or near heat.

★ Do not block off ventilation openings in the UPS system's housing.

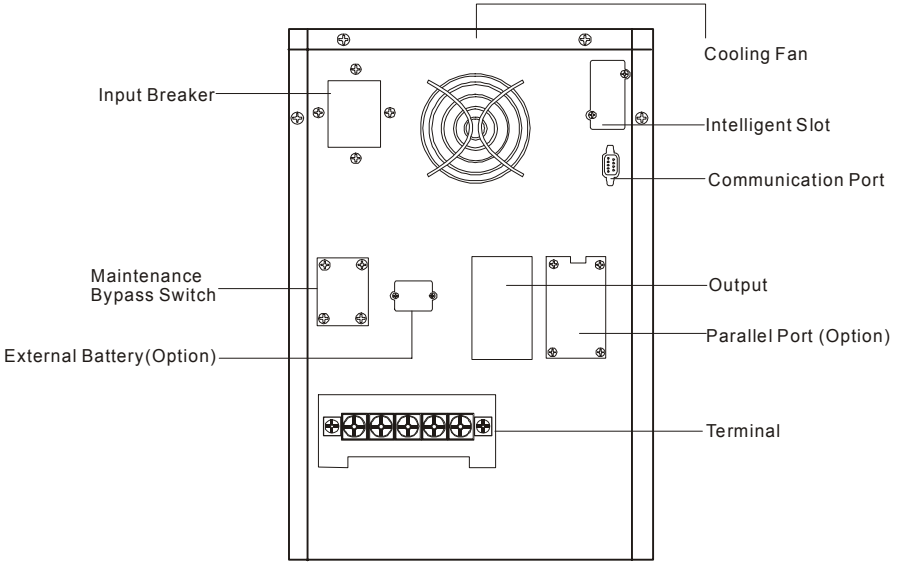
1.3 Installation

★Do not connect appliances or items of equipment which would overload the UPS system (e.g. laser printers) to the UPS outlet socket

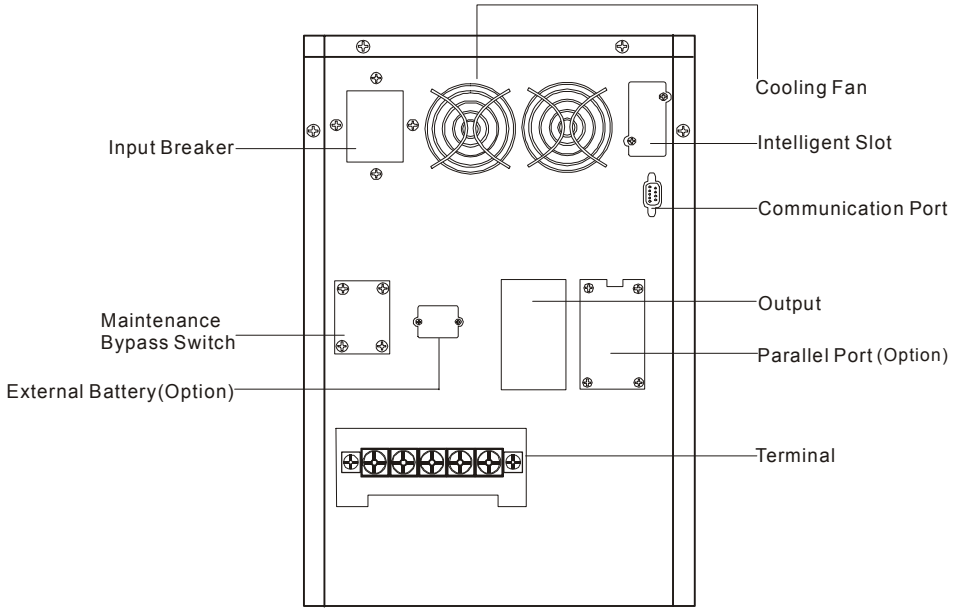
★Place cables in such a way that no one can step on or trip over them.

★Do not connect domestic appliances such as hair dryers to UPS output sockets.

★The UPS can be operated by any individuals with no previous experience



6KVA



10KVA

12	overloaded in utility mode and UPS still in INV mode	•	•	•	•	•	•		•	•		Beep twice every sec.
13	overloaded in utility mode and UPS in bypass mode	•	•	•	•	•	•	•	•			Beep twice every sec.
14	Utility power abnormal		↑	↑	↑	↑	•	↑	★	↑	↑	↑
15	Overloaded in battery mode , Early-warning		•	↑	↑	↑	↑		↑	•	•	Beep twice every sec.
16	Overloaded in battery mode, Cut off the output	•	•						↑			Continuously beep
17	Over temperature	•					•	↑	↑			Continuously beep
18	Inv abnormal	•				•		↑	↑			Continuously beep
19	Output short circuited	•	•			•			↑			Continuously beep
20	BUS voltage abnormal	•			•			↑	↑			Continuously beep
21	Charger and battery failed	•						↑	↑	↑	★	Beep once every sec
22	BAT SCR failed	•		•			•	↑	↑			Continuously beep
23	Fan abnormal	•	•				•	↑	↑	↑	↑	Beep once every sec
24	INV RLY failed	•			•		•	↑	↑			Continuously beep
25	Communication abnormal	•		•	•			↑	↑			Continuously beep
26	Parallel abnormal	•	•	•			•		↑			Continuously beep

●: Solid ON ★ : Flash ↑ : LED display and alarm warning are dependent on other conditions

◇**Installation for 6K/ 10K**

★**Warning:** This is a product for restricted sales distribution to informed partners. Installation restrictions or additional measures may be needed to prevent disturbances'.

★A readily accessible disconnect device shall be incorporated in the building installation wiring and must be close to the UPS system.

★This is permanently connected equipment and only qualified maintenance personnel may carry out installations.

1.4 Operation

★Do not disconnect the mains cable on the UPS system or the building wiring socket outlet (shockproof socket outlet) during operations since this would cancel the protective earthing of the UPS system and of all connected loads.

★The UPS system features its own, internal current source (batteries). The UPS output sockets or output terminals block may be electrically lived even if the UPS system is not connected to the building wiring socket outlet.

★In order to fully disconnect the UPS system, first press the Standby switch then disconnect the mains lead

★ Ensure that no fluids or other foreign objects can enter the UPS system.

★ The UPS operates with hazardous voltages. Only qualified maintenance personnel may carry

1.5 Maintenance, servicing and faults

★ The UPS system operates with hazardous voltages. Repairs may be carried out only by qualified maintenance personnel.

★ Caution - risk of electric shock. Even after the unit is disconnected from the mains power supply (building wiring socket outlet), components inside the UPS system are still connected to the battery and are still electrically live and dangerous.

★ Before carrying out any kind of servicing and/or maintenance, disconnect the batteries and verify that no current is present and no hazardous voltage exist in the terminals of high capability capacitor such as BUS-capacitors.

★ Only persons are adequately familiar with batteries and with the required precautionary measures may replace batteries and supervise operations. Unauthorised persons must be kept well away from the batteries.

★ Caution - risk of electric shock. The battery circuit is not isolated from the input voltage. Hazardous voltages may occur between the battery terminals and the ground. Before touching, please verify that no voltage is present!

★ Batteries may cause electric shock and have a high short-circuit current. Please take the precautionary measures specified below and any other measures necessary when working with batteries:

- remove wristwatches, rings and other metal objects
- use only tools with insulated grips and handles.

★ When changing batteries, install the same number and same type of batteries.

★ Do not attempt to dispose of batteries by burning them. This could cause battery explosion.

★ Do not open or destroy batteries. Escaping electrolyte can cause injury to the skin and eyes. It may be toxic.

★ Please replace the fuse only by a fuse of the same type and of the same amperage in order to avoid fire hazards.

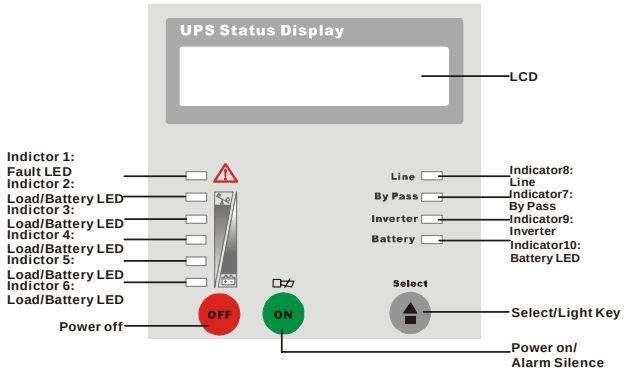
★ Do not dismantle the UPS system.

Appendix 2—The Corresponding Form of the LED Display for 6K/10K

No.	Operating state		LED display										Alarm warning
			1#	2#	3#	4#	5#	6#	7#	8#	9#	10#	
1	Utility Power Mode	0~35% Load capacity						•		•	•		none
2		36%~55% Load capacity					•	•		•	•		none
3		56%~75% Load capacity				•	•	•		•	•		none
4		76%~95% Load capacity			•	•	•	•		•	•		none
5		96%~105% Load capacity		•	•	•	•	•		•	•		none
6	Battery Mode	0~20% Battery capacity		•							•	•	Beep once every sec
7		21%~40% Battery capacity		•	•						•	•	Beep once every 4 sec
8		41%~60% Battery capacity		•	•	•					•	•	Beep once every 4 sec
9		61%~80% Battery capacity		•	•	•	•				•	•	Beep once every 4 sec
10		81%~100% Battery capacity		•	•	•	•	•			•	•	Beep once every 4 sec
11	Bypass mode			↑	↑	↑	↑	•	•	•			Beep once every 2 min.

7. Appendix

Appendix 1—Display Panel (for 6K/10K)



- Power ON/OFF: To turn on the UPS simply by pressing the "ON" button on the front panel continuously for 1 second. Press the "OFF" button on the front panel continuously for 1 second to turn off the UPS.
- Bypass LED (orange LED): Whenever the bypass LED is turned on, it shows that the loading current is supplied directly from the utility power.
- Utility power LED (green LED): Whenever the utility power LED is turned on, it shows that the utility power is normal.
- Inv LED (green LED): Whenever the INV LED is turned on, it shows that the loading current is supplied from utility power or battery via the inverter.
- Battery LED (orange LED): Whenever the battery LED is turned on, it shows that the loading current is supplied from battery via the inverter.
- Fault LED (red LED): Whenever the fault LED is turned on, it shows that the UPS is in abnormal condition.
- #2-#6 LEDs (the #2 LED is orange and the #3-#6 LEDs are green): These LEDs indicate the percentage of the load capacity in utility power mode or battery capacity level in battery mode.

2. Description of commonly used notations

Some or all of the following Notations may be used in this manual and may appear in your application process. Therefore, all users should be familiar with them and understand their explanations.

Notation and Explanation	
Notation	Explanation
⚠	Alert you to pay special attention
⚠	Caution of high voltage
|	Turn on the UPS
○	Turn off the UPS
⏻	Idle or shut down the UPS
~	Alternating current source (AC)
⎓	Direct current source (DC)
⏚	Protective ground
	Alarm silence
	Overload indication
	Battery check
	Recycle
	Keep UPS in a clear area

3. Introduction – 6K/10K

3.1 Product Specilfication and Performance

1) General Specification

Model		6K	10K
Power Rating		6KVA/4.2KW	10KVA/7KW
Frequency (Hz)		50/60	50/60
Input	Voltage	(176-276)VAC	(176-276)VAC
	Current	31A max.	50A max
Battery	Voltage	240VDC	240VDC
	Current	24A max	40A max
Output	Voltage	220VAC	220VAC
	Current	27A	45A
Dimension (WxDxH) mm		260x570x717	260x570x717
Weight (kg)		90	93

2) Electrical Performance

Input			
Model	Voltage	Frequency	Power Factor
6K(E)/10K(E)	Single-phase	46Hz-54Hz or 56Hz-64Hz	>0.98 (Full load)

6.4 Communication Port

RS232 Interface

The following is the pin assignment and description of DB-9 connector.

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

10.2 AS400 Interface(Option)

Except for the communication protocol as mentioned above, this series UPS has AS400 card (an optional accessory) for AS400 communication protocol . Please contact your local distributor for details. The following is the pin assignment and description of DB-9 connector in AS400 card.

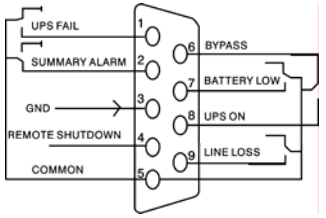


Figure 16.2: DB-9 Interface of AS400 communication protocol

Pin #	Description	I/O
1	UPS Fail	Output
2	Summary Alarm	Output
3	GND	Input
4	Remote Shutdown	Input
5	Common	Input
6	Bypass	Output
7	Battery Low	Output
8	UPS ON	Output
9	Line Loss	Output

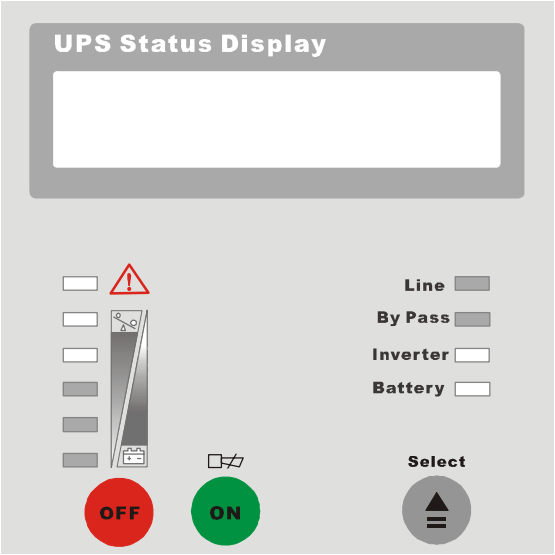


Fig 15.3 UPS bypass mode diagram

1) Other indications on the display panel are the same in utility mode.
2) The UPS does not have the backup function when it is in bypass mode. The power used by the load is supplied from the utility power via internal filter.

4. Abnormality mode

In case the fault LED is turned on when the UPS is in use, it shows that the UPS is operating in abnormal mode.

3) Operating Environment

Temperature	Humidity	Altitude	Storage temperature
0°C-40°C	<95%	<1000m	0°C-40°

Note: if the UPS is installed or used in a place where the altitude is above than 1000m, the output power must be derated in use, please refer to the following:

Altitude (M)	1000	1500	2000	2500	3000	3500	4000	4500	5000
Derating Power	100%	95%	91%	86%	82%	78%	74%	70%	67%

3.2 Unpacking and Inspection

1) Unpack the packaging and check the package contents. The shipping package contains:

- A UPS
- A user manual
- A communication cable
- A battery cable (for 6KE/10KE only)

2) Inspect the appearance of the UPS to see if there is any damage during transportation. Do not turn on the unit and notify the carrier and dealer immediately if there is any damage or lacking of some parts.

3.3 Input and output power cords and protective earth ground installation

1. Notes for installation

1) The UPS must be installed in a location with good ventilation, far away from water, inflammable gas and corrosive agents.

2) Ensure the air vents on the front and rear of the UPS are not blocked. Allow at least 0.5m of space on each side.

3) Condensation to water drops may occur if the UPS is unpacked in a very low temperature environment. In this case it is necessary to wait until the UPS is fully dried inside out before proceeding installation and use. Otherwise there are hazards of electric shock.

2. Installation

Installation and wiring must be performed in accordance with the local electric code and the following instructions by professional personnel.

For safety, please cut off the mains power switch before installation. The battery breaker also needs to be cut off if it is a long backup time model ("E" model).

1) Open the terminal block cover located on the rear panel of the UPS, please refer to the appearance diagram.

2) For 6K(E) UPS, it is recommended to select the UL1015 10AWG(6mm^2) wire or other insulated wire which complies with AWG Standard for the UPS input and output wirings.

3) For 10K(E), it is recommended to select the UL1015 8AWG(10mm^2) wire or other insulated wire which complies with AWG Standard for the UPS input and output wirings

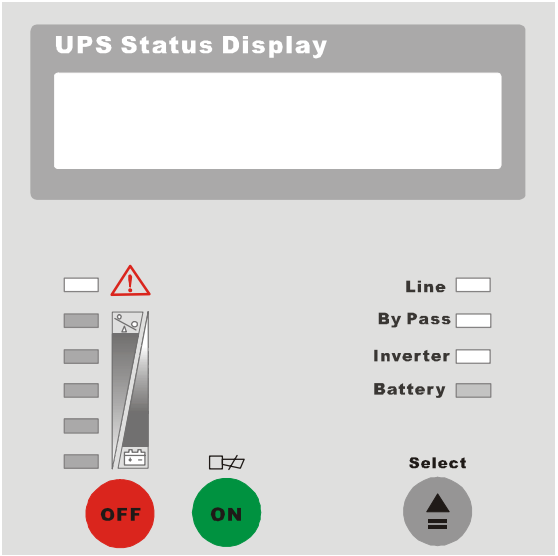


Fig 15.2 Battery mode diagram

2) When the battery capacity decreases, the number of the battery capacity LEDs turned on will be reduced. If the battery voltage descends to the alarm level, the buzzer will beep once every second to remind the users of insufficient battery capacity and the UPS is soon going to shut down automatically. Then the load operations should be carried out promptly and the loads should be eliminated one by one.

3. Bypass mode

The display panel in bypass mode is shown in the following diagram Fig 15.3. The utility power LED and the bypass LED are lit. The displayed number of the load LEDs will be turned on in accordance with the load capacity connected. The UPS will beep once every 2 minutes in bypass mode.

The utility power LED flashes, it shows that the voltage or frequency of the utility power has exceeded the normal range of the UPS.

2) If output overloaded, the load level LEDs will be turned on and alarm will keep twice every second. You should get rid of some unnecessary loads one by one to decrease the loads connected to the UPS less than 90% of its nominal power capacity.

Note: Please follow the following steps to connect the generator：

- Activate the generator and wait until the operation is stable before supplying power of the generator to the UPS (be sure that the UPS is in idle mode). Then turn on the UPS according to the start-up procedure. After the UPS is turned on, then the loads can be connected to the UPS one by one.
- The power capacity of the AC generator should be at least twice of the UPS capacity.

2. Battery mode

The display panel in battery mode is shown in the following diagram Fig.15.2. The battery LED and the INV LED are turned on. The displayed number of the battery level LEDs will be turned on in accordance with the battery capacity. Note that the load level LEDs in utility power mode will indicate the level of the battery capacity in battery mode instead.

1) When the UPS is running in battery mode, the buzzer beeps once every 4 seconds. If the “ON” button on the front panel is pressed for more than 1 second again, the buzzer will stop beeping (in silence mode). Press the “ON” button once again for more than 1 second to resume the alarm function.

Note: Do not use the wall receptacle as the input power source for the UPS, as its rated current is less than the UPS’s maximum input current. Otherwise the receptacle may be burned and destroyed.

4) Connect the input and output wires to the corresponding input and output terminals according to the following diagram.

Note: you must make sure that the input and output wires and the input and output terminals are connected tightly.

5) The protective earth ground wire refers to the wire connection between the equipment which consumes electric equipment and the ground wire. The wire diameter of protective earth ground wire should be at least as above mentioned for each model and green wire or green wire with yellow ribbon wire is used.

6) After having completed the installation, make sure the wiring is correct.

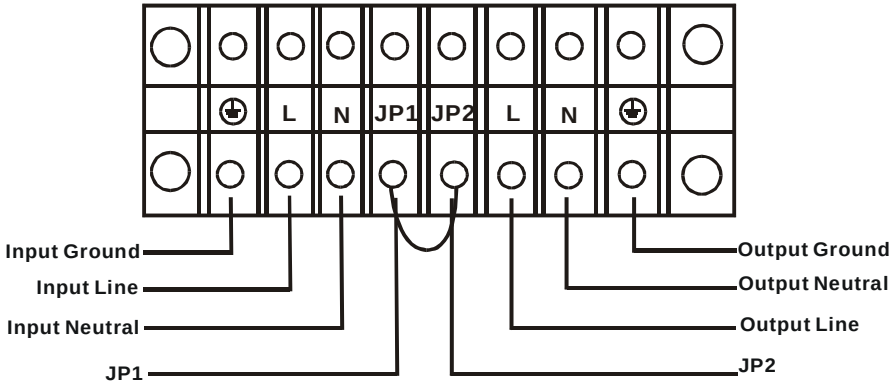
7) Please install the leak current protective breaker at the output power distribution panel of the UPS if necessary.

8) To connect the load with the UPS, please turn off all the loads first, then perform the connection and finally turn on the loads one by one.

9) No matter the UPS is connected to the utility power or not, the output of the UPS may have electricity. The parts inside the unit may still have hazardous voltage after turning off the UPS. To make the UPS have no output, power off the UPS, and then disconnect the utility power supply.

10) **Suggest charging the batteries for 8 hours before use. After connection, turn the input breaker in the “ON” position, the UPS will charge the batteries automatically. You can also use the UPS immediately without charging the batteries first, but the backup time may be less than the standard value.**

10) If it is necessary to connect the inductance load such as a monitor or a laser printer to the UPS, the start-up power should be used for calculating the capacity of the UPS, as its start-up power consumption is too big when it is started.



Input and output Terminal Block wiring diagram of 6K(E)/10K(E)

Important notes: If the UPS is used in single mode, JPI and JP2 must be connected by 10AWG(6mm2). If the UPS is used in parallel mode, the Jumper between JP1 and JP2 must be removed.

3.4 Operating procedure for connecting the long backup time model UPS with the external battery

1. The nominal DC voltage of external battery pack is 240VDC. Each battery pack consists of 20 pieces of 12V maintenance free batteries in series. To achieve longer backup time, it is possible to connect multi-battery packs, but the principle of “same voltage, same type” should be strictly followed.

2. The connector of the external battery cable is used to plug into the external battery socket of the UPS, the other end of the external battery cable is made of three open wires with ring terminals to connect with the external battery pack(s). The procedure of installing battery bank should be complied with strictly. Otherwise you may encounter the hazardous of electric shock.

When you contact the service center, please provide the following information:

- Model No. and the serial No. of the UPS。
- The date when the problem arose。
  Complete description of the problem, including the LED display, alarm warning, and power condition and load capacity. If your UPS is a long backup time model, you may also provide the battery information.

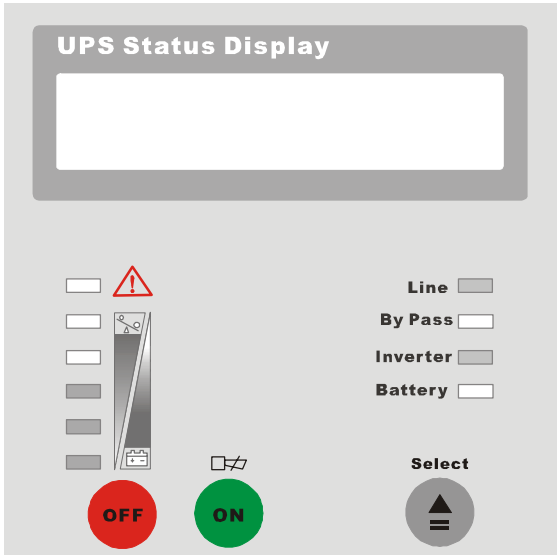
6.3 Operating mode for all models

1. Utility power mode

The display panel in utility power mode is shown in the following diagram. The utility power LED and the INV LED are turned on. The load level LEDs will be turned on in accordance with the load capacity connected.

1) If the battery LED is turned on and the utility power LED flashes, it indicates the voltage or frequency of the utility power has exceeded the normal range, the UPS operates in battery mode.

Fig 15.1 The utility power mode



6.2 Trouble Shooting

The #1 Fault LED is turned on, and the battery LED is flashed, the buzzer beeps every second.	The charger of the UPS is defective.	Please contact the distributor or service center.
Battery LED flashes	Battery low or battery not connected.	Check the battery. If the battery is damaged, replace the battery immediately and ensure that the battery breaker is in “ON” position.
The utility power is normal, but the UPS can not turn in line mode	Maintain switch loose	Please contact the distributor or service center.
Battery discharging time diminishes	Battery not yet been fully charged.	Keep UPS connected to utility power persistently for more than 10 hours to recharge the batteries again.
	UPS overloaded.	Check the loads and remove the non-critical equipment.
	Battery aged.	Replace the batteries. Please contact the distributor to obtain the parts and replacement service.
The UPS cannot power on after pressing the ON button	The “ON” button is pressed too briefly.	Press the “ON” button for more than 1 second.
	The UPS is not connected to the battery or the battery pack voltage is too low.	Check the battery or recharge the battery.
	UPS fault.	Please contact the distributor or service center.

1) A DC breaker must be connected between the battery pack and the UPS. The capacity of breaker must be not less than the data specified in the general specification.

2)Set the battery pack breaker in “OFF” position and connect the 20 pieces of batteries in series.

3)You must connect the external battery cable to the battery first, if you connect the cable to the UPS first, you may encounter the hazardous of electric shock. The positive pole of the battery is connected to the 10KE in parallel with blue and brown wires; the negative pole of the battery is connected to the 10KE in parallel with black and white wires; the green and yellow ribbon wire is connected to the ground of the battery cabinet.

3. To complete the connection by plugging the connector of the external battery cable into the external battery socket of the UPS. Do not attempt to connect any loads to the UPS now. You should connect the input power wire to the right position first. And then set the breaker of the battery pack in the ON position. After that set the input breaker in the ON position. The UPS begins to charge the battery packs at the time.

4. Parallel operation

1. Brief introduction of the redundancy

N+X is currently the most reliable power supply structure. N represents the minimum UPS number that the total load needs; X represents the redundant UPS number, i.e. the fault UPS number that the system can handle simultaneously. The bigger the X is, the higher reliability of the power system is. For occasions where reliability is highly depended on, N+X is the optimal mode. As long as the UPS is equipped with parallel cables, up to 3 UPSs can be connected in parallel to realize output power sharing and power redundancy.

2. Parallel installation

1) Users need to opt a standard 25-pin communication cable, which should have 25 cores, corresponding stitches and shield, as the UPS parallel cable. The length of the parallel cable is appropriate to be less than 3 m.

2) Strictly follow the stand-alone wiring requirement to perform the input wiring of each UPS.

3) Connect the output wires of each UPS to an output breaker panel.

4) Disconnect the Jumper on JP1 and JP2 of the terminal block first, and connect each output breaker to a main output breaker and then to the loads.

∗ **The requirement of the output wiring is as follows:**

- **When the distance between the UPSs in parallel and the breaker panel is less than 20 meters, the difference between the wires of input & output of the UPSs is required to be less than 20%.**

- **When the distance between the UPSs in parallel and the breaker panel is greater than 20 meters, the difference between the wires of input & output of the UPSs is required to be less than 10%.**

6.2 Trouble Shooting

Problem	Possible cause	Solution
The #1 Fault LED and the #6 LED are turned on, the buzzer beeps continuously.	The UPS transfers to fault mode due to internal overheat.	Make sure the UPS is not overloaded; the air vents are not blocked and the ambient temperature is not too high. Wait for 10 minutes for the UPS to cool down before turning on again. If failed, please contact the distributor or service center.
The #1 Fault LED and the #2 and #5 LED are turned on, and the buzzer beeps continuously.	The UPS output is short circuited.	Remove all the loads. Turn off the UPS. Ensure that the load is not failed or the UPS has no internal faults before turning it on again. If failed, please contact the distributor or service center.
The #1 Fault LED and the #4 LED are turned on, the UPS beeps continuously.	The UPS transfers to fault mode due to its internal fault.	Please contact the distributor or service center.
The #1 Fault LED and the #5 LED are turned on, the UPS beeps continuously.	The UPS transfers to fault mode due to its internal fault.	Please contact the distributor or service center.
The utility power LED flashes.	The voltage or frequency of the utility power is out of the input range of the UPS.	The UPS is running in battery mode. To save your data and close the application program. Make sure the utility power is within the input voltage or frequency range permitted by the UPS.
The #1 Fault LED and the #2 LED are turned on, the UPS beeps continuously.	The UPS is overloaded or the load equipment is faulty.	Check the loads and remove all no-critical equipment. Recalculate the load power and reduce the number of loads connected to the UPS. Check that the loads are not failed.

6.1 Notes for Battery Disposal and Battery Replacement

1) Before disposing of batteries, remove conductive jewelry such as necklace, wrist watches and rings.

2) If it is necessary to replace any connection cables, please purchase the original materials from the authorized distributors or service centers, so as to avoid overheat or spark resulting in fire due to insufficient capacity.

3) Do not dispose of batteries or battery packs in a fire, they may explode.

4) Do not open or mutilate batteries, released electrolyte is highly poisonous and harmful to the skin and eyes.

5) Do not short the positive and negative of the battery electrode, otherwise, it may result in electric shock or fire.

6) Make sure that there is no voltage before touching the batteries. The battery circuit is not isolated from the input potential circuit. There may be hazardous voltage between the battery terminals and the ground.

7) Even though the input breaker is disconnected, the components inside the UPS are still connected with the batteries, and there are potential hazardous voltages. Therefore, before any maintenance and repairs work is carried out, switch off the breaker of the battery pack or disconnect the jumper wire of connecting between the batteries.

8) Batteries contain hazardous voltage and current. Battery maintenance such as the battery replacement must be carried out by qualified personnel who are knowledgeable about batteries. No other persons should handle the batteries.

5. Operation and Operating Mode

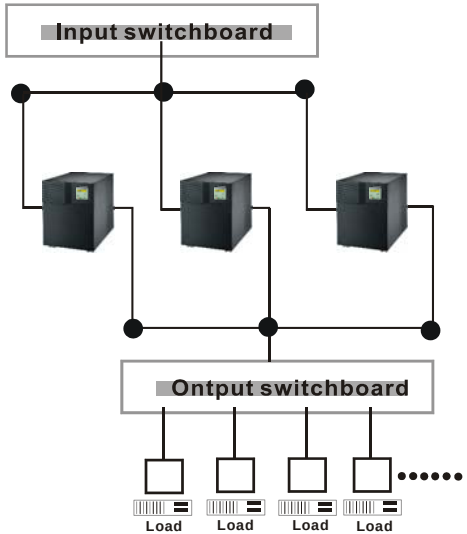
Operation and maintenance

1) To perform the general operation, follow the stand-alone operating requirement。

2) Startup: The units transfer to INV mode simultaneously as they start up sequentially in utility power mode。

Shutdown: the units shut down sequentially in INV mode. When the last one completes the shutdown action, each unit will shut down the inverter simultaneously and transfer to bypass mode.

It is easy to operate the equipment, with no previous training. You just need to read through this manual and operate according to the instructions in it. The meaning of the LED indicators, please refer to the appendix 1 “Display panel”



Parallel Installation Diagram

5.1 Operation

1 Turn on the UPS with utility power supplied (in Line mode/AC mode)

1) After you make sure that the power supply connection is correct, set the bypass breaker and the input breaker in the “ON” position first. At this time the fan rotates and the UPS supplies power to the load via the bypass. The UPS operates in Bypass mode.

2) To power on the UPS by simply pressing the “ON” button continuously for more than 1 second.

3) When being powered on, the UPS will perform self-diagnosis, with the load/battery level LEDs turned on and then off one after another in ascending order. A few seconds later, the INV LED is turned on, the UPS is already running in Utility Power mode. If the utility power is abnormal, the UPS will operate in battery mode without output interruption of the UPS.

2. Turn on the UPS with no utility power supplied (in Battery mode)

1) Press the “ON” button continuously for more than 1 second to power on the UPS.

2) For long back up time model (“S” model), please make sure that the battery breaker is in “ON” position.

3) During the course of starting up, the UPS has the same action as if it is connected to utility power except that the utility power LED is not turned on and the battery LED is turned on instead.

6. Battery Maintenance

- This series UPS only requires minimal maintenance. The battery used for standard models are value regulated sealed lead-acid maintenance free battery. These models require minimal repairs. The only requirement is to charge the UPS regularly in order to maximize the expected life of the battery. When being connected to the utility power, whether the UPS is turned on or not, the UPS keeps charging the batteries and also offers the protective function of overcharging and over-discharging.
- The UPS should be charged once every 4 to 6 months if it has not been used for a long time.
- In the regions of hot climates, the battery should be charged and discharged every 2 months. The standard charging time should be at least 12 hours.
- 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. Battery replacement should be performed by qualified personnel.
- Replace batteries with the same number and same type of batteries.
- Do not replace the battery individually. All the batteries should be replaced at the same time following the instructions of the battery supplier.
- Normally, the batteries should be charged and discharged once every 4 to 6 months. Charging should begin after the UPS shuts down automatically in the course of discharging, the standard charging time for the standard UPS should be at least 12 hours.

the position of"BPS'.

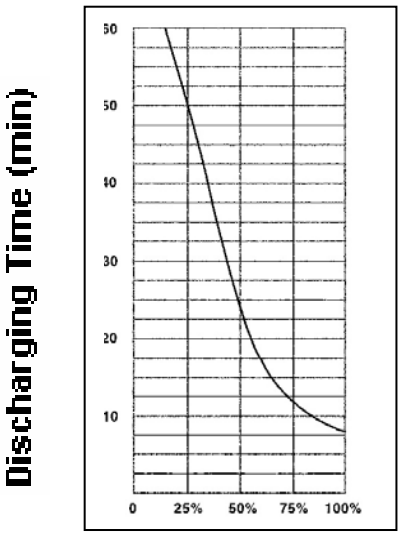
2)When turning on the UPS combine system before enter into inverter mode, UPS output switch must at "OFF" model.

3)When UPS combine system work at inverter model,please do not operate any UPS maintain switch.

6. Backup time for the standard model

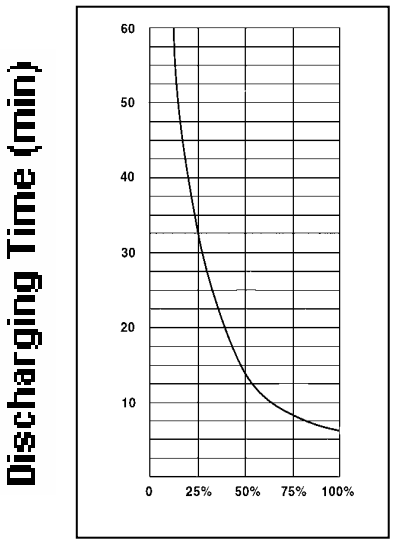
The backup time of the long backup time model is dependent on the external battery pack capacity and the load level as well as other factors.

The backup time of standard model may vary from different models and load level. Please refer to the following:



Load level

backup time of 6KVA



Load level

backup time of 10KVA

3. Turn off the UPS with utility power supplied (in Line mode/AC mode)

1) Press the "OFF" button continuously for more than 1 second to turn off the inverter of the UPS immediately.

2) When being powered off, the UPS will perform self-diagnosis, the Load/Battery level LEDs will be turned on and then off one after another in ascending order, then the INV LED will be turned off and Bypass LED will be turned on. The UPS is working in Bypass mode.

3) Upon completion of the above to turn it off, output of electric current of the UPS is still present. In order to cut off the output from the UPS, simply cut off the utility power supply and the UPS will perform self-diagnosis, finally not any display is shown on the display panel and no voltage output is available from the UPS output.

4. Turn off the UPS with no utility power supplied (in Battery mode)

1)Press the "OFF" button continuously for more than 1 second to power off the UPS.

2)When being powered off, the UPS will perform self-diagnosis, the Load/Battery level LEDs will be turned on and then off one after another in ascending order. Finally not any display is shown on the display panel and no voltage is available from the UPS output.

Suggestions: Please turn off the connected loads before turning on the UPS and turn on the loads one by one after the UPS is working in INV mode. Turn off all of the connected loads before turning off the UPS.

5. Parallel Machine Maintenance

This UPS has the function of parallel redundancy; so if you need to add a stand-alone to the parallel system, refer to the following operating process of adding a new UPS. If you need to remove the UPS for load reduction or UPS damage, refer to the following operating process of removing the paralleled UPS.

Join new UPS process:

1) Before joining new UPS,user should peepare input & output line,switch and combine line.
2) New UPS input & output switch should be turned off,according to port sing,link lnput & output line and batteries;synchronously,remove the connection between JP1 and JP2.
3) Turn off UPS system,when all UPS work at bypass model,please take apart every UPS repaired board,turn all UPS repaired switches from 'UPS ' to 'BPS' and then turn off all UPS input switch.
4) If UPS system works at single UPS model,then have to remove the connection of JP1 and JP2.
5)Take apart the board of parallel ports, insert one end of combine line into parallel card's slot and screw down its pin; and then lock up the board of parallel ports over again; at the same time, take apart the maintain board of new UPS.
6)Turn on the battery switch new UPS and line input connection switch outside; measure voltage difference between output live wire of new UPS and output live wire of parallel system.If the voltage difference<1V,please close output live wire's witch of new UPS.
7) Take apart the board of parallel ports when UPS has turned to bypass mode,insert the other end of combine line into parallel card's slot and screw down its pin; and then lock up the board of parallel ports over again.
8) Close line input switch of all UPS (include new UPS) in the parallel system; lock up maintain board,unless all UPS turn to bypass mode;press the open key in turn ,observe whether the display state of every UPS is normal ;at the same time,observe whether all UPS all together turn to inverter model;and measure the voltage difference of every UPS port's JP2.

9) Turn off all UPS,take apart maintain board of all UPS unless they all have turned to bypass mode,Turn all the maintain switches from "BPS" to " UPS" and lock up every maintain board.
10) Turn on UPS, make all UPS changed into line inverter mode to work parallel.

Note:If the state of UPS is abnormal in step 8,please fllow operational process of removing single UPS to maintain.

Operational process of removing single UPS:

1) want to remove UPS which is running normally,please perss the close key of the removing one continusly for 2 times.
2) Shut off the UPSs own line switch, line output switch, outside and battery switch,when this UPS need to remove out.
3) Turn off other UPS which are running,take apart the maintain cover of every UPS and turn all UPS maintain switch from "UPS" to " BPS" until all running UPS turn to BPS mode.Then turn off every UPS own input switch.
4) After emoving ingle UPS,if leaving UPS system is changed to single running,please connect the short line between JP1 and JP2 of this UPS output port.
5) Take apart another UPS parallel cover and combine line connected with the UPS which need to remove until all UPS panels become blck,then lock up the cover of parallel ports again.
6) Take apart UPS parallel cover and combine line when the UPS have to remove,then lock up the cover of parallel ports anain.
7) Shut input line switch of leaving UPS system,turn maintain switch from "BPS" to "UPS" until all UPS turn to BPS mode and lock up the maintain cover,then turn on the machine and turn all UPS to line inverter mode running.

Combine machine warning:

1) When UPS combine system work at inverter mode,make sure that all UPS maintain switches at same place,that is to say,be at the position of "UPS",or be at