USER'S MANUAL

JP5520 10-20KVA

1. Introduction

（1）Foreword

JP5520 series UPS are development produce compact and intelligently uninterrupted power system by JALPOWER. Which ensure you to operating computer in a stable and pure power circumstance, and to manage network system intelligently. UPS have becoming necessary equipment to computer and information system.

（2）Caution

a. It’s must to reading this manual before operating the UPS.
b. Follow all operating and user instructions.
c. Don’t uncover the machine during operation.
d. Please handle with care of the machine.
e. Don’t use UPS over rating lead.
f. Please time limit charge at battery.
g. Keep dry and clean of the UPS.
h. Please well arranged save this manual.

2. Dimension Structure

10-20KVA UPS appearance

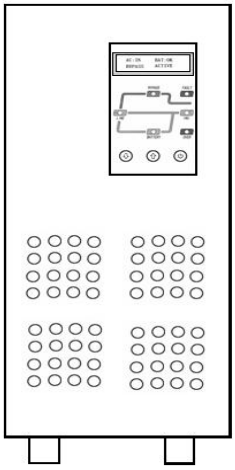


Fig1 Front Panel

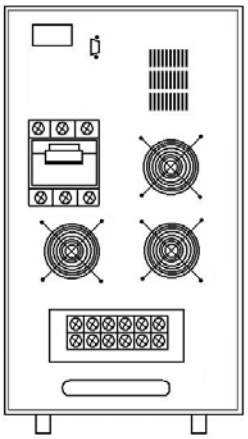


Fig2 Rear Panel

3. Put by UPS

（1）Handle or move

a. Are all the connection wire essential dismantle to after shut down.
b. Put lightly with care, Bump with strictly forbid.
c. Not to be upright and move.

（2）Put by

a. Not to be tipped Fig3.

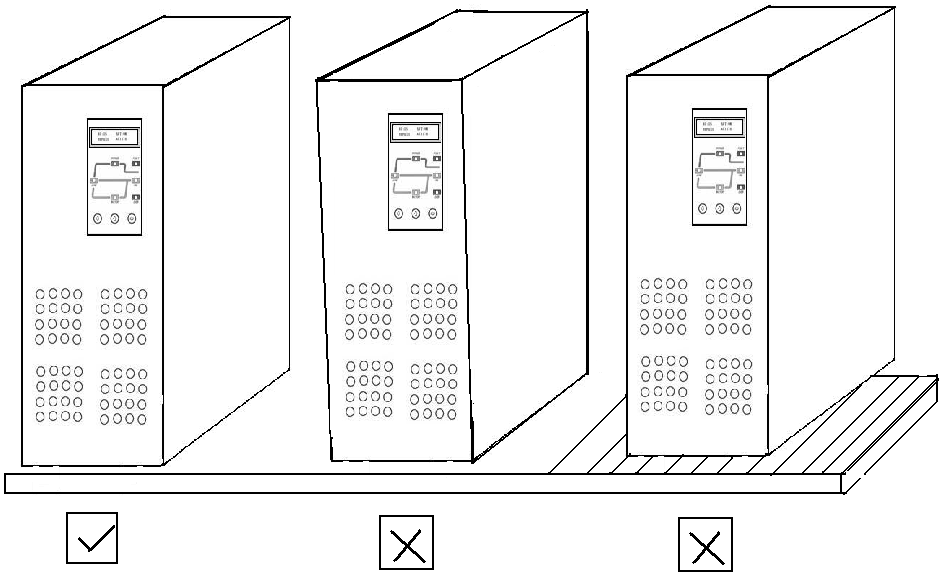


Fig3 Option on place of the UPS

b. Maintain a minimum clearance of 100 mm all around the UPS for proper air flow and cooling Fig4.

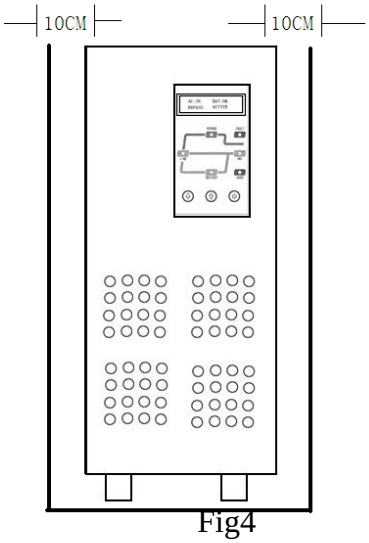


Fig4

c. Free form sun shine, raindrop or moisture Fig5, Fig6.

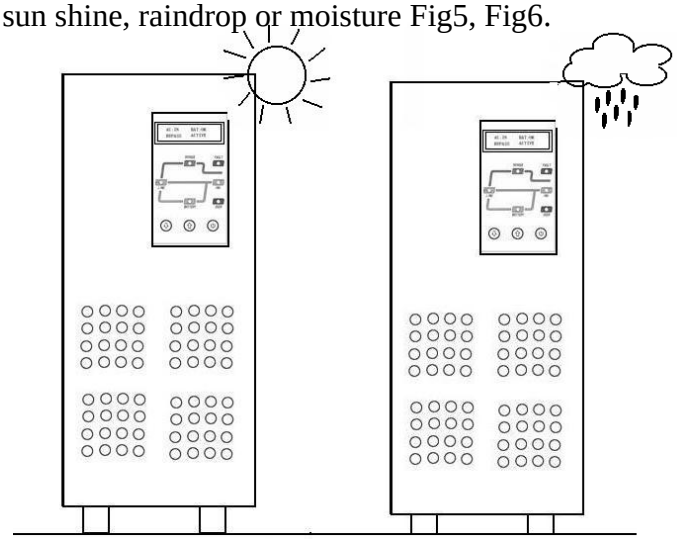


Fig 5 Fig6

d. Far form fire source and high temperature, prevent over temperature Fig7.
e. Don’t put by objects on top of UPS Fig 8.

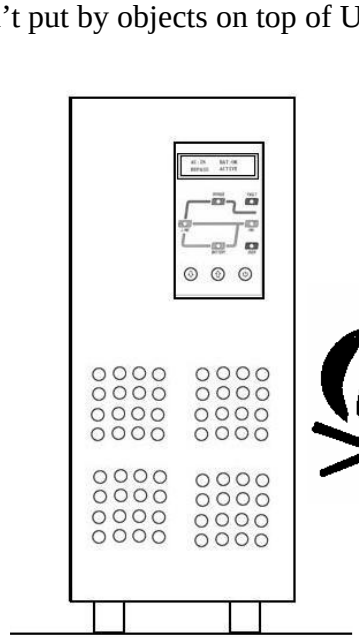


Fig7

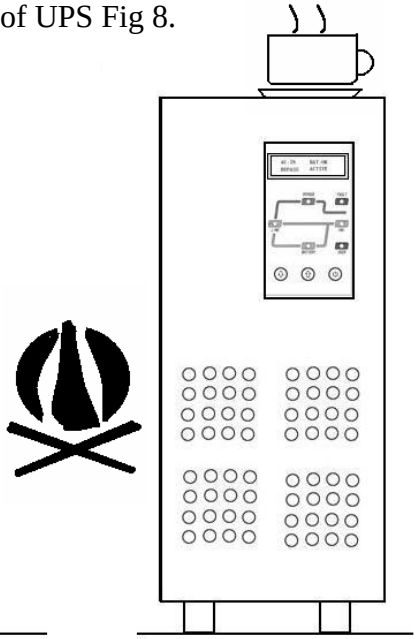


Fig8

f. Free form moisture, flammable liquids, gasses or corrosive substances Fig9.

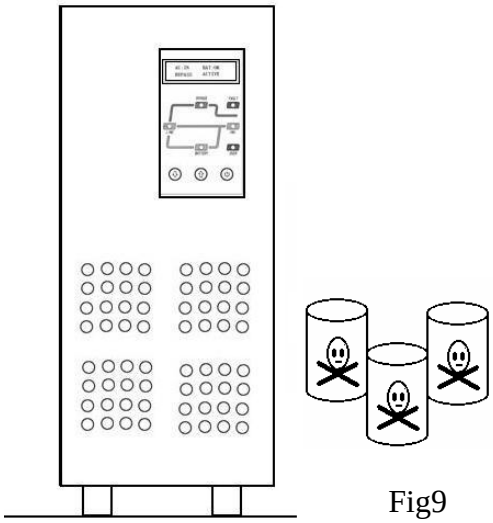


Fig9

g. Operation environment temperature 0~40℃。

4. Installation and connection

（1）Caution

a. Follow construction of electrician rule.
b. Do well to ground connection, be grounded on refer to point. Will grow ups interference and data fault because of not good ground wire, influential at UPS and computers. Joint ground, refer to Fig10.

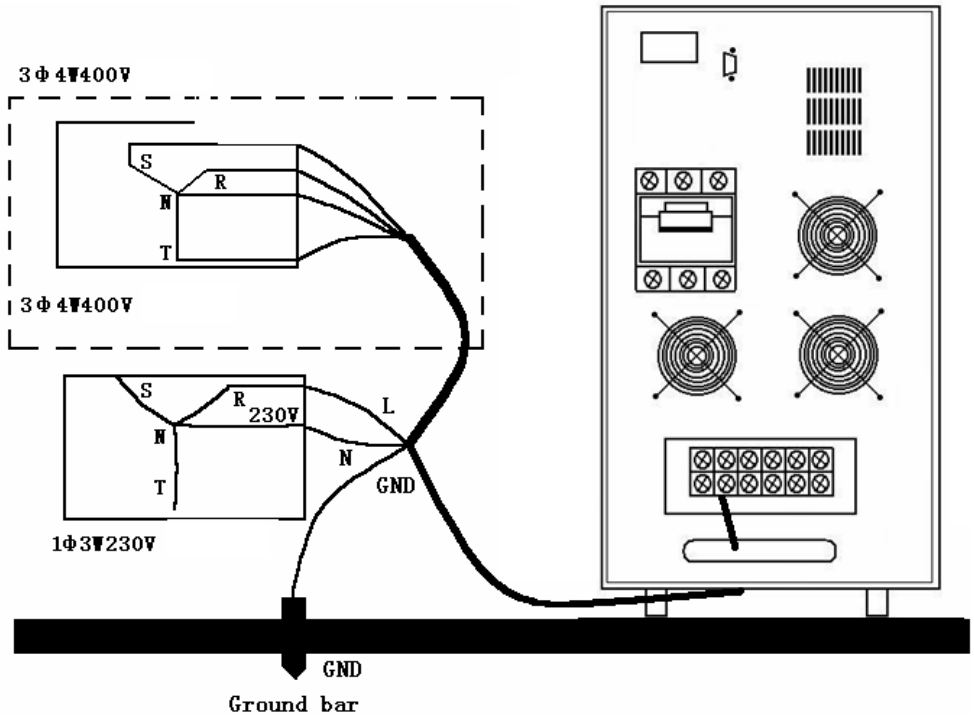


Fig10

c. Free form electric operating, caution construction safety, will be input mains switch “off”.
d. If properly input voltage for use all powerful meter measurement.
e. Power wire, terminal use of high quality products, restrain use of faulty products.
f. Use of high quality terminal pressure connection to power wire, restrain direct twine on terminal bus.
g. After fixation input power wire, check if bump bezel, so as not to short circuit or bump other substances.
h. When connection to distribution box free from common switch and other equipments, be sure to connection to source, refer to Fig11.

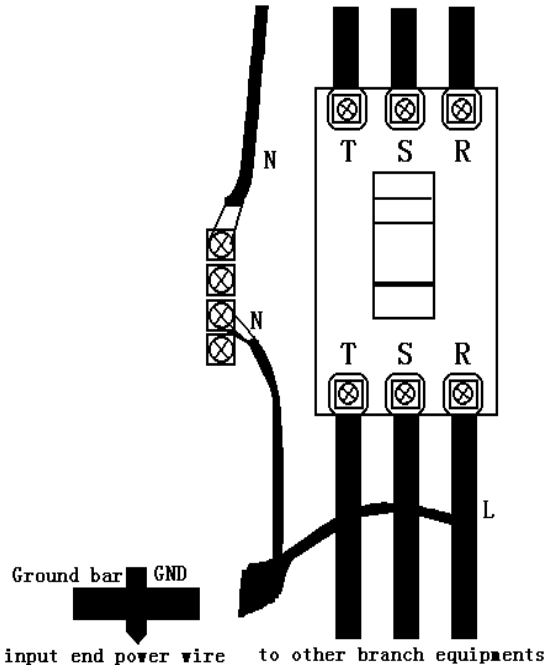


Fig11

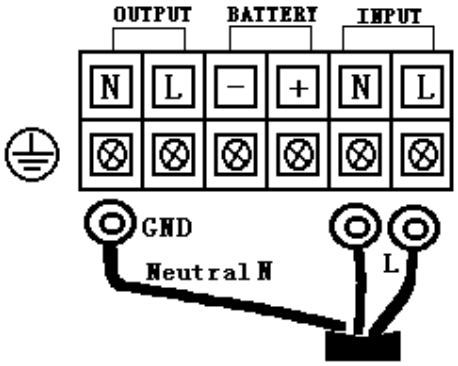
i. Don’t reverse connection, the polarity of power supply.
j. Voltage drop must less than 5V, between of neutral and ground.
k. Generally socket be restrain use, otherwise will bring about load damage.

（2）Single UPS installation

Installation method: refer to Fig1.

- Use screw driver to tear down four screws.
- Opening front panel, namely seeing downside distribution box of power switch. Refer to Fig12、13.

Fig12



SWITCH:BYPASS mode and AUTO mode transfer.

SW1:city input switch SW2:bypass switch SW3:battery input switch Fig13

- First into the distribution inlet and outlet hole of the output/input and batteries group power wire, after that assembly connection.

Caution: Don't connection to 380V, test take place fault, for the single phase input UPS belong to 2X0V system, when movering or again connection, be sure to again carry on according to more than step.

（3）Connection wire option

Compare with rated value of input current and cross section of input power wire.

Cable 1

TYPE	Three-phase input current(max)	Three-phase input cable Sez.(mm^2)	Wire Sep.
10KVA	63A	16 mm^2	OT16-6
15KVA	95A	20 mm^2	OT16-8
20KVA	128A	25mm^2	OT25-10

Compare with rated value of output current and cross section of output power wire.

Cable 2

TYPE	Output current(max)	Output cable Sez.(mm^2)	Wire Sep.
10KVA	45A	10 mm^2	OT10-6
15KVA	75A	16 mm^2	OT16-8
20KVA	90A	20mm^2	OT20-10

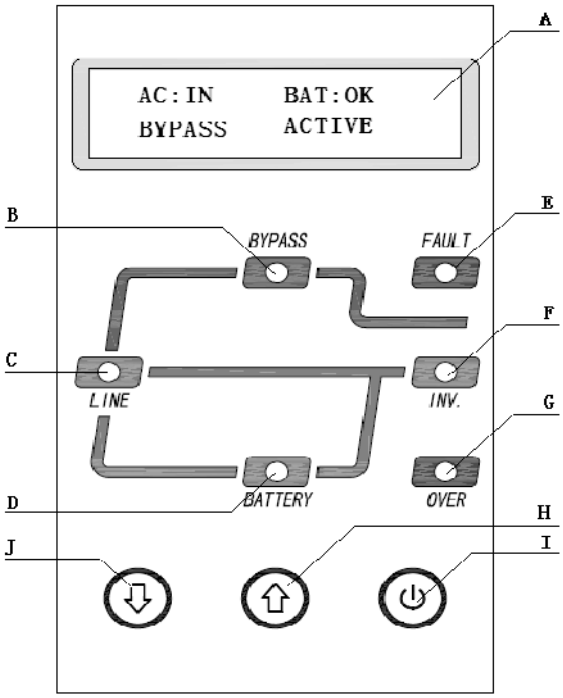
5. UPS Operation

（1）Prepare before for turn-on

For normal running be able to the UPS. Please validation below thing before for turn-on, refer to Fig2.

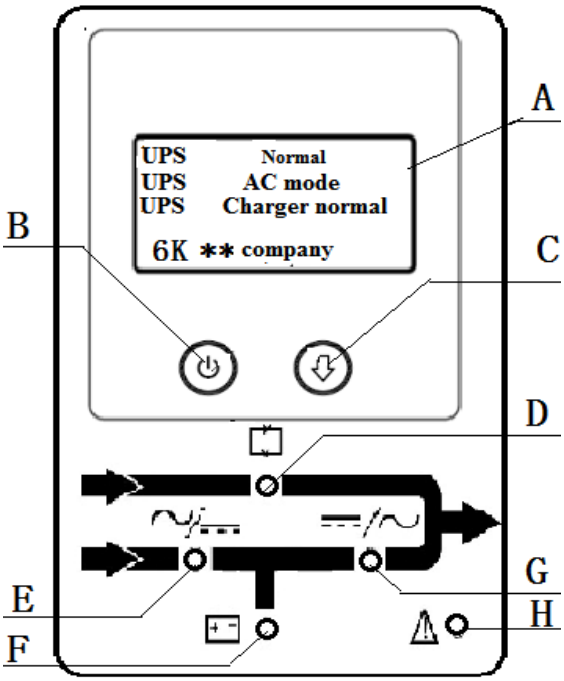
a. Validation be located “OFF” for all power switch.
b. Again validation primary for installation places.
c. Use hand shaking input power wire, whether loose, if loose to screw up.
d. No load.
e. Whether measure up to 2X0V±15% make use of voltmeter, check input voltage.

（2）Two kinds of LCD panel for choosing:



Panel

A: LCD display
B: Bypass input indicator
C: Mains input indicator
D: Battery indicator
E: Failure indicator
F: Inverter indicator
G: Overloads indicator
H: Page-up button
I: ON/OFF button
J: Page-down button



New panel

A: LCD display
B: ON/OFF button
C: Function button
D: Bypass input indicator
E: Mains input indicator
F: Battery indicator
G: Inverter indicator
H: Failure indicator

（3）First start-up operating

After validation properly of more than thing, please according under method turn-on.

a. Put switch on auto mode. Turn on the “NO fuse breaker” with front panel(SW1,SW2,SW3), front panel indicator and bypass indicator at times are lightness. Refer to Fig14.(panel 1)

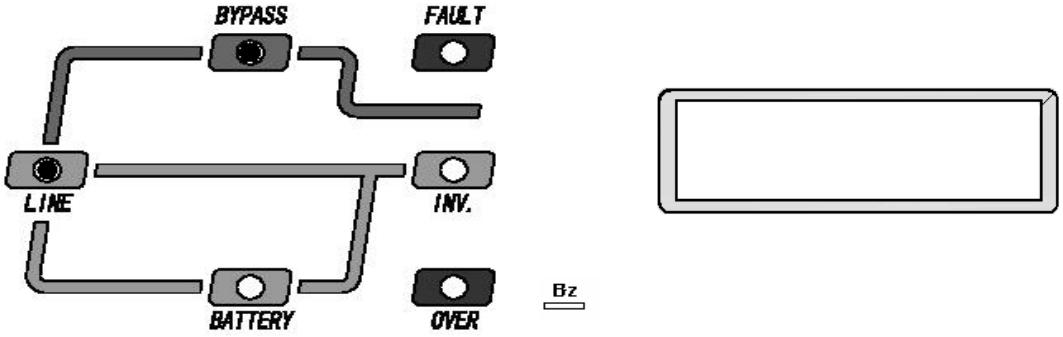


Fig14

b. Will ON/OFF button push down with front panel, follow on lightness of input indicator and bypass indicator, LCD display mains OK, battery OK, mains output through bypass, refer to Fig15.

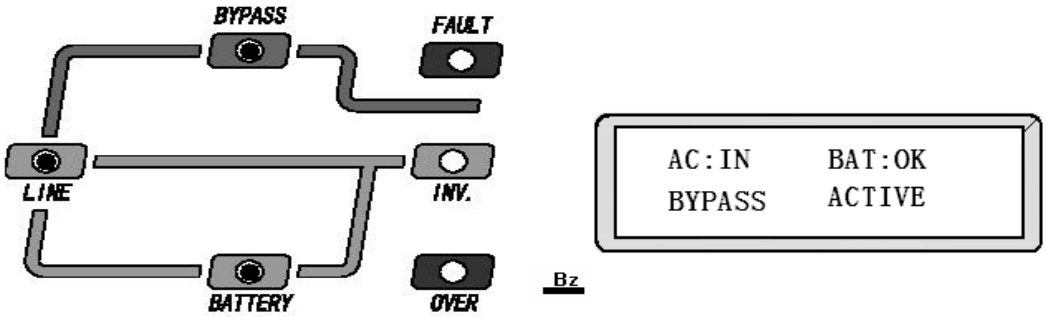


Fig15

c. After 20 seconds with the front panel, input indicator are lightness LCD display (AC) OK, (BAT) OK, inverter output, refer to Fig16.

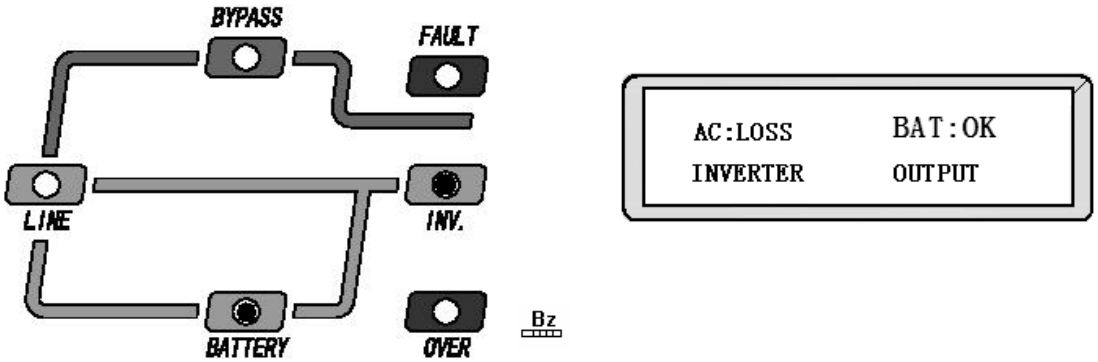


Fig16

d. Disconnected input power of the UPS, mains indicator are go out, LCD display (AC) OFF, (BAT) OK, inverter output, beeps every 4 seconds will the UPS, show UPS is operating from battery power.
After beeps 90 seconds, beep stop, when battery runs low, beep every 1 second, battery capacity indicator at times flashing. Refer to Fig17.

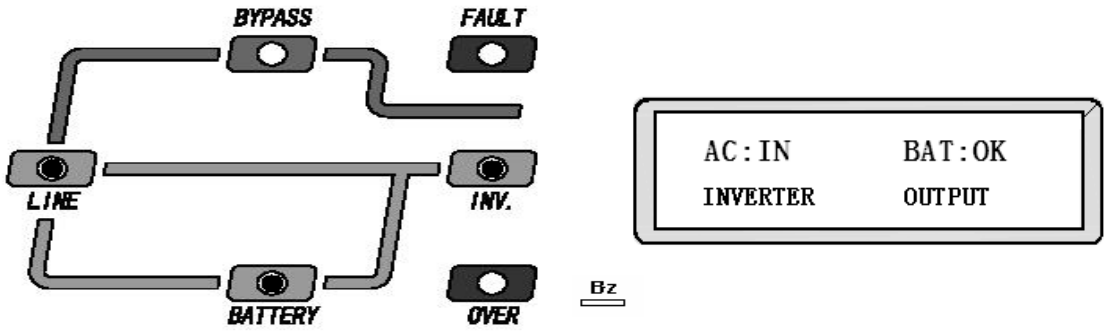


Fig17

e. Restoration input power of the UPS, mains indicator lightness, push down LCD cycle push button to exchange displays item, check displays value whether normal, first turn-on are that is accomplish. Measurement output voltage whether normal, will the load connection to output end of the UPS, UPS provides clean power to the loads.
f. Mare connection load, will exchange displays item to output power displays the percentage(%) on LCD indicator push button, if displays value be greater than 100%, show overload, turn-off unimportant of loads, cause displays value be smaller than 100%.

（4）If turn-on or turn-off in everyday use, according to below method operating.

a. When everyday turn-off of the UPS, push down “on/off” button on front panel, that is shut-down.

b. When everyday turn-on of the UPS, push down “on/off” button on front panel, that is starting.

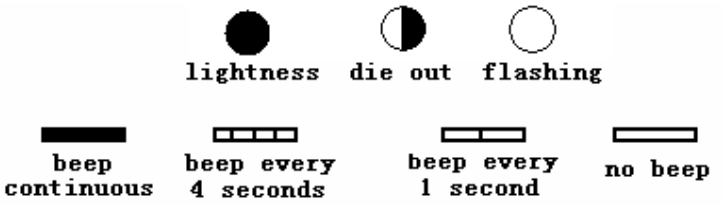
（5）When on/off operation for long be no use of the UPS.

a. If be no use for out march (10) days of the UPS, the first push down on/off button that is shut down on the front panel, then will turn power switch (NFB) into OFF on the front panel.

b. If be no use for out march three months of the UPS, according to first turn-on method, will UPS running more than 24 hours, keep batteries at full capacity, and so external battery life.

6. Condition handling

（1）Meaning as follows for representative notation.



[Notes]: indicator flashing, flashing cycle and beep that will do synchronous.

（2） When running condition display of the ups and unusual condition handling method:

Please contrast panel indicators on ups, LCD display value and buzzer beep, namely can hear of running whether unusual of the ups, please condition handling on panel indications.

a. • Displays condition as follows on panel

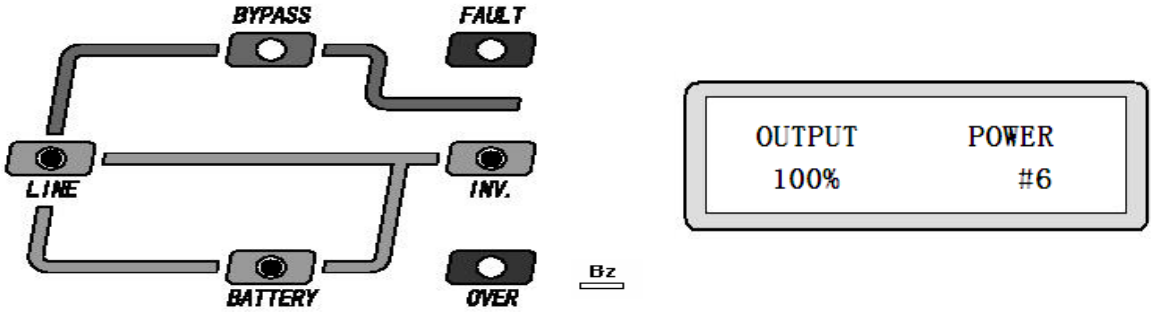


Fig 18

- The ups running condition

Mains power OK, ups running OK, full load put to use

- Handling way: No handling

b. Displays condition as follow on panel

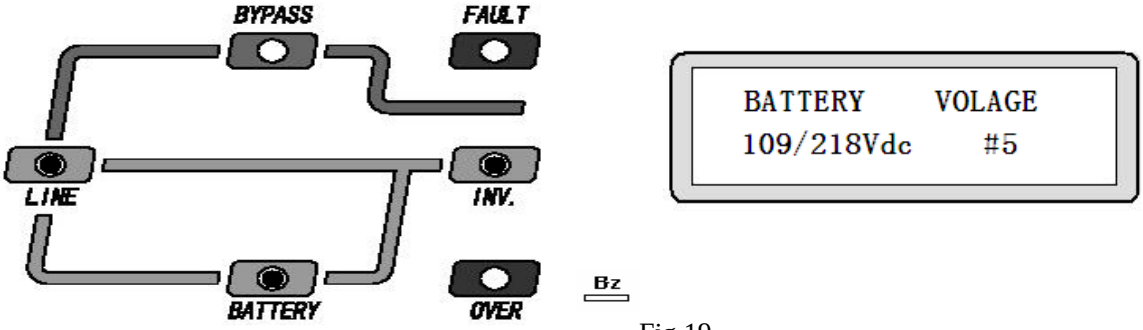


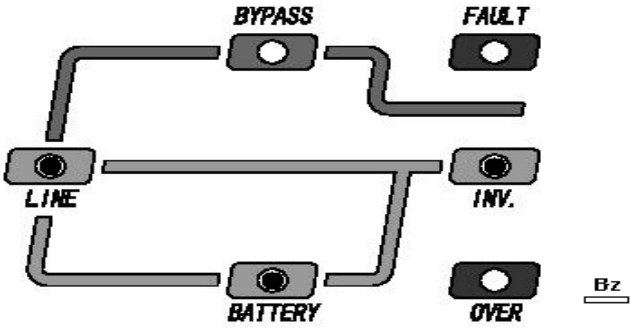
Fig 19

- The ups running condition

Mains power OK, ups running OK, batteries power a full charge to more than 90%

- Handling way: No handling

c. Displays condition as follow on panel



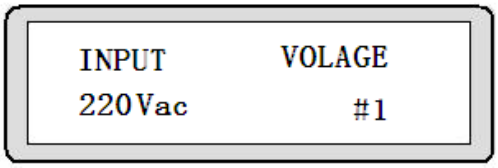


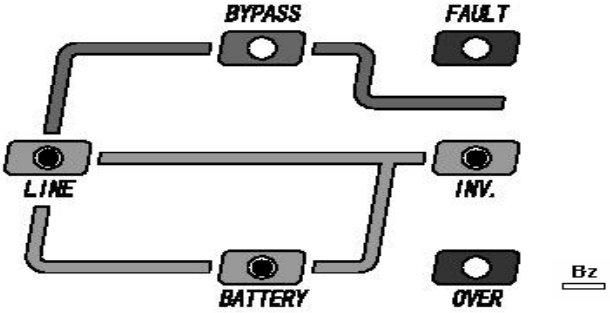
Fig20

- The ups running condition

Mains power with 120vac OK, normal running of the ups

- Handling way: No handling

d. Displays condition as follows on panel



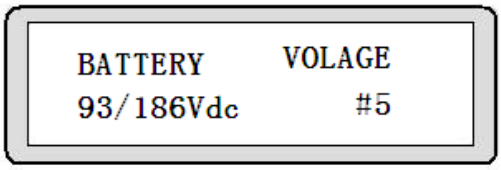


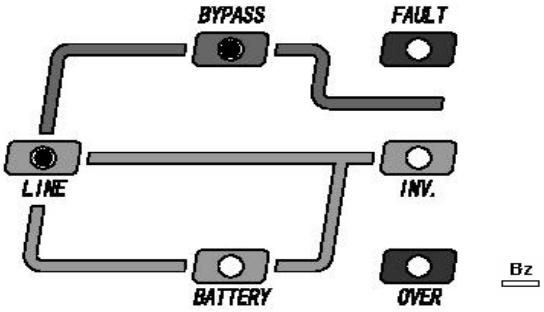
Fig21

- The ups running condition

Mains power OK, ups running OK, battery low capacity

- Handling way: Charger fault, replace charge board

e. Displays condition as follows on panel



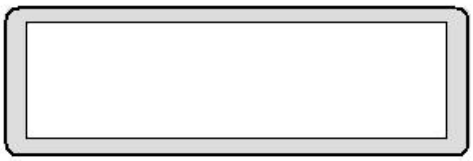


Fig22

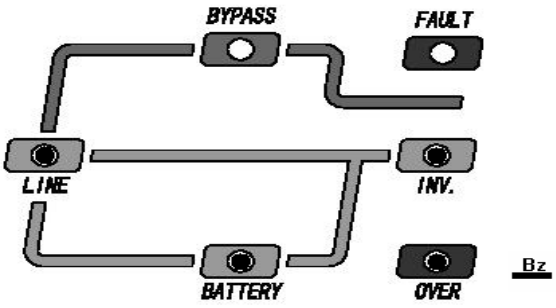
- The ups running condition

Mains power OK, power supply through at mains, ”ON/OFF” button never pushdown on front panel, the ups never starting

- Handling way

Please according to flow chart 29 handling

f. Displays condition as follows on panel



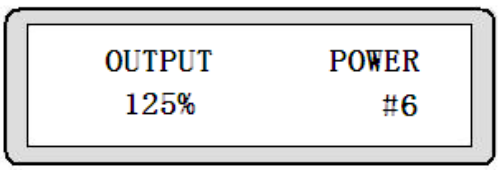


Fig23

- The ups running condition

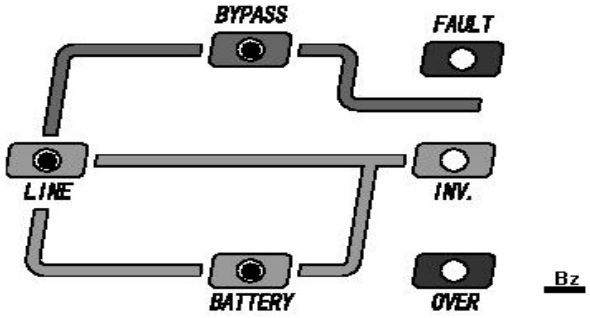
Mains power supply, overload is 125%, the overload indicator that is lightness, beep continuous

- Handling way

Cut down less load, cause load display be power (%)<100%

If condition never change after grow less load, please according to flow chart 30 handling

g. Displays condition as follows on panel



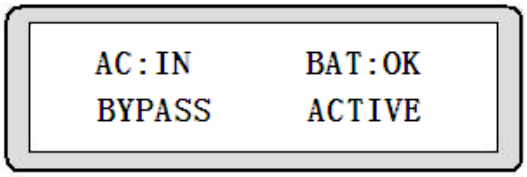


Fig24

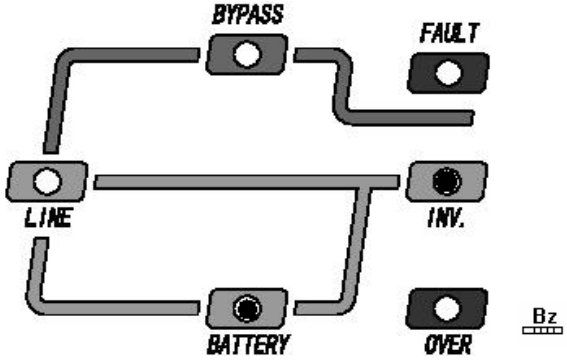
- The ups running condition

Mains power OK, ups unusual running, output through to mains bypass.

- Handling way

Please according to flow chart 31 handling

h. Displays condition as follows on panel



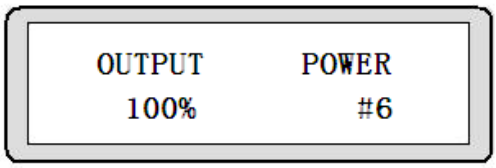


Fig25

The ups running condition

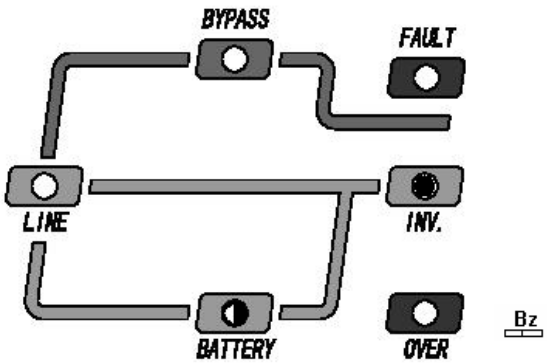
Mains failure, battery output, full load running, beeps every 4 seconds.

Battery capacity indicator lightness (after 90 seconds mute)

- Handling way

Mains failure is really, please remove non-critical loads, and increase running time .If non-normal mains failure, please according to flow chart 28 handling

i. Displays condition as follows on panel



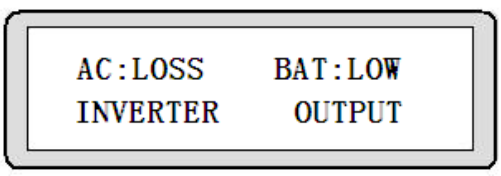


Fig26

- The ups running condition

Mains failure, battery output, battery power will out of store, beep every 1 second battery capacity indicator be flashing every 1 second

- Handling way

Automatic shut down be about to ups, please will at hand works in no time finished, must in time store data in computer.

j. Displays condition as follows on panel

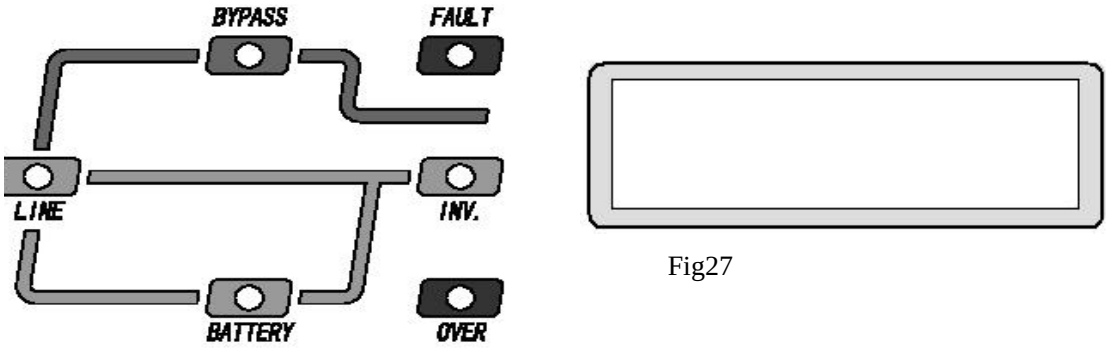


Fig27

- The ups running condition

Mains failure and battery power out of store, automatic shut down will the ups.

- Handling way

Await restoration to mains, automatic once again starting wills the ups

If mains failure at more than 6 hours, please shut down according to long time ON/OFF procedure.

New LCD panel display and alarming

Menu	Contents	Description
Menu1	UPS UPS AC MODE UPS CHARGER NORMAL 6K xxxxxxxxx	UPS Running mode，Charger status，UPS model&Company。
Menu2	INPUT ： **Vac/**Hz OUTPUT:**Vac/**Hz BATT ： **Vdc LOAD ： **% T:**℃	Input,output,battery,load,temperature parameters。

Alarming items：

UPS NORMAL/OVERLOAD/FAULT
UPS AC MODE/BYPASS MODE/BATTERY MODE
UPS CHARGER NORMAL/FAULT OR BATTERY VOLTAGE NORMAL/UNDER VOLTAGE
UPS MODEL&COMPANY

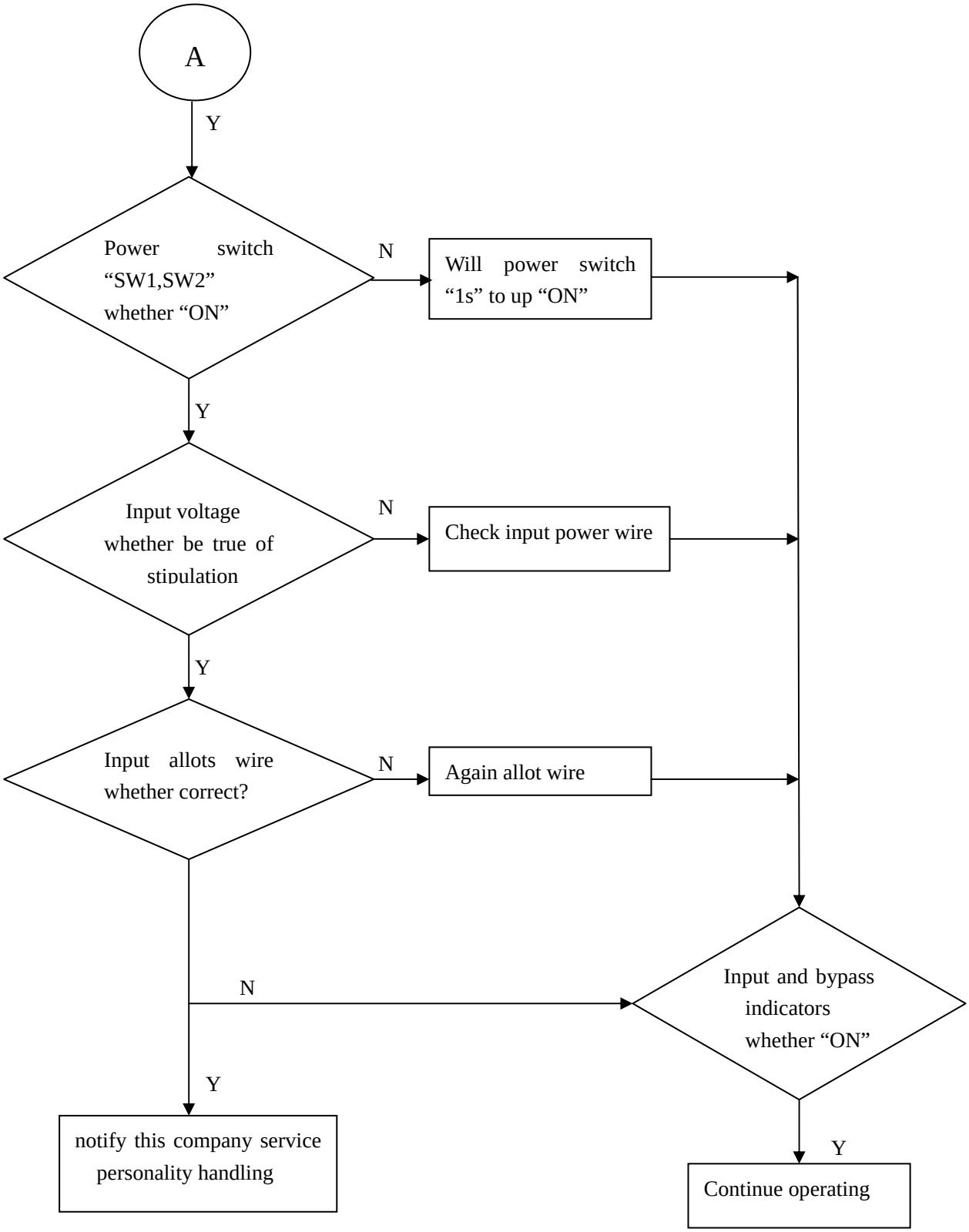


Fig .28 condition handling flow chart

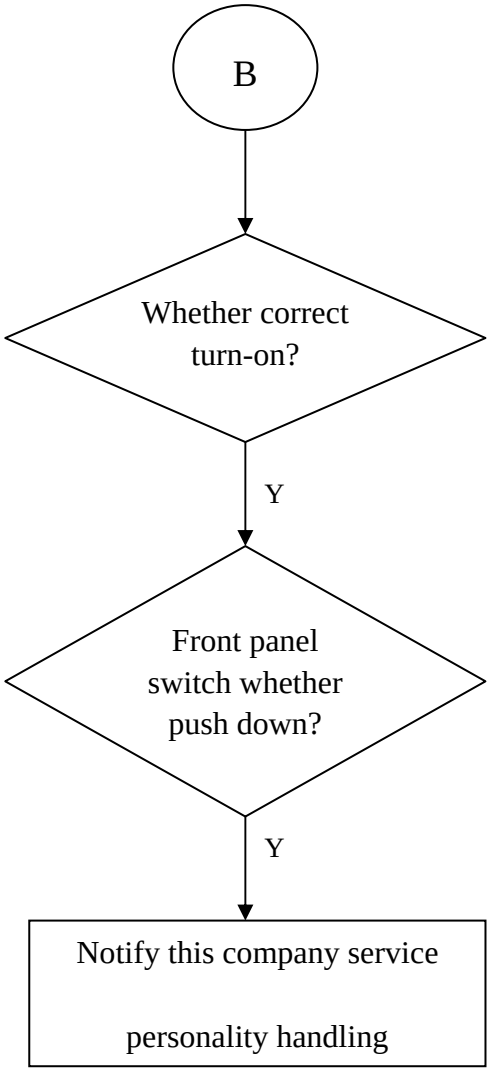


Fig29 Condition handling flow chart

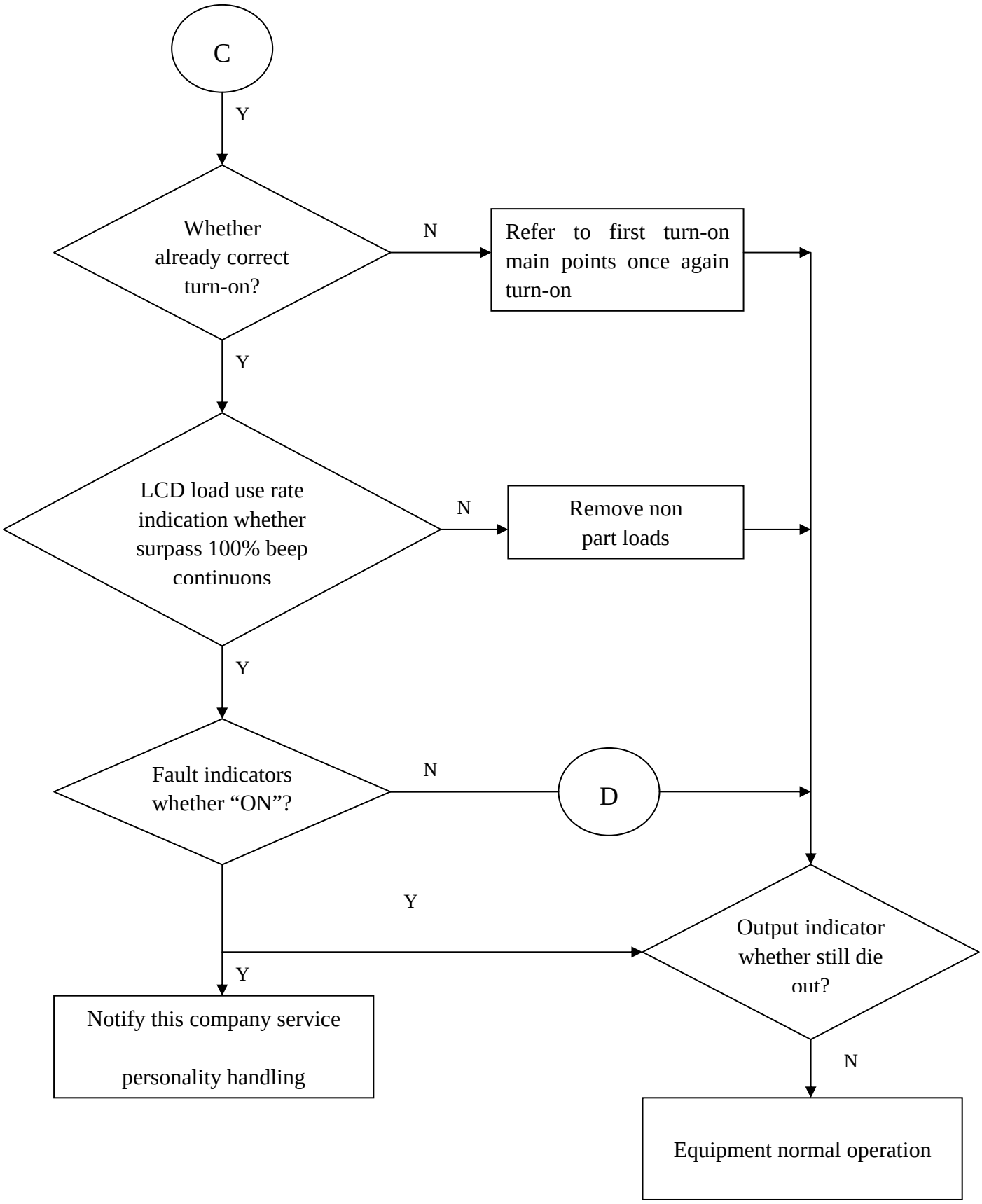


Fig 30 Condition handling flow chart

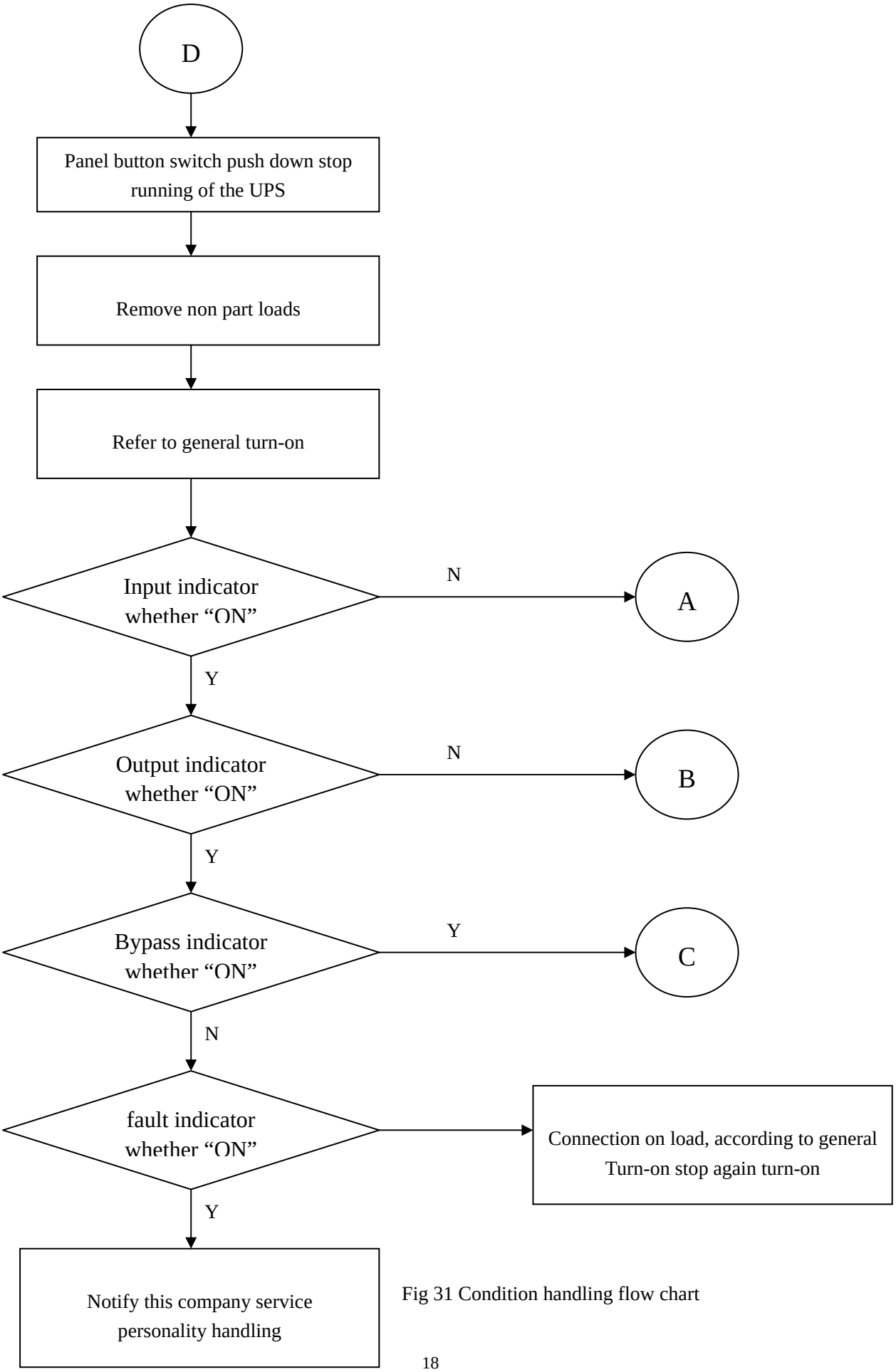


Fig 31 Condition handling flow chart

7. Work theory

1. UPS system square frame, as fig32

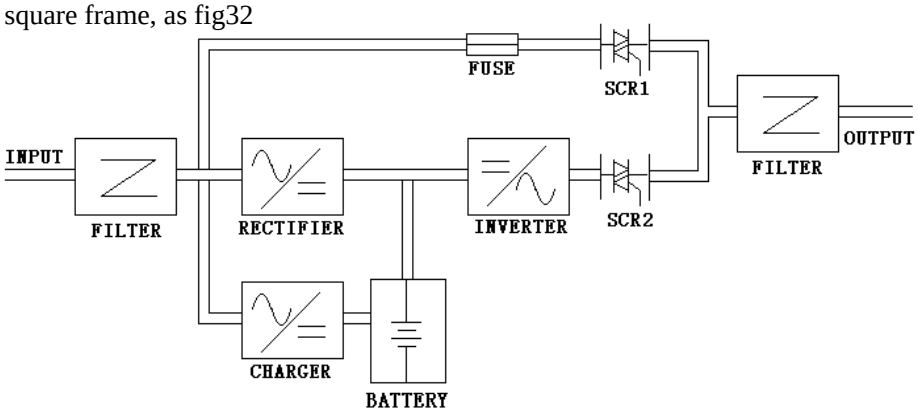


Fig 32

2. UPS running method under bypass.

1) UPS normal running method under bypass mode, as fig33

Put switch on bypass, main power gets rid of high-step noise via filter and supply to use equipment via SCR1. One way to charge to charge battery, another way to rectifier become DC power and via inverter become pure sine wave power.

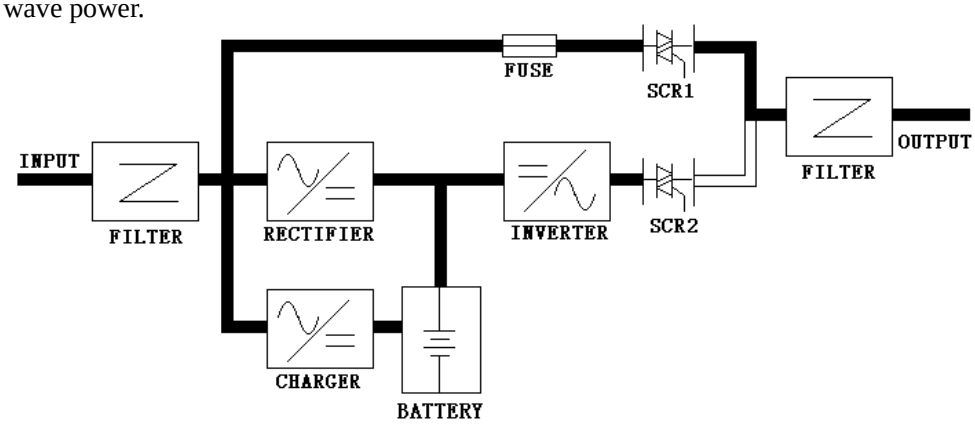


fig33

2) UPS city power off under bypass mode, as fig34

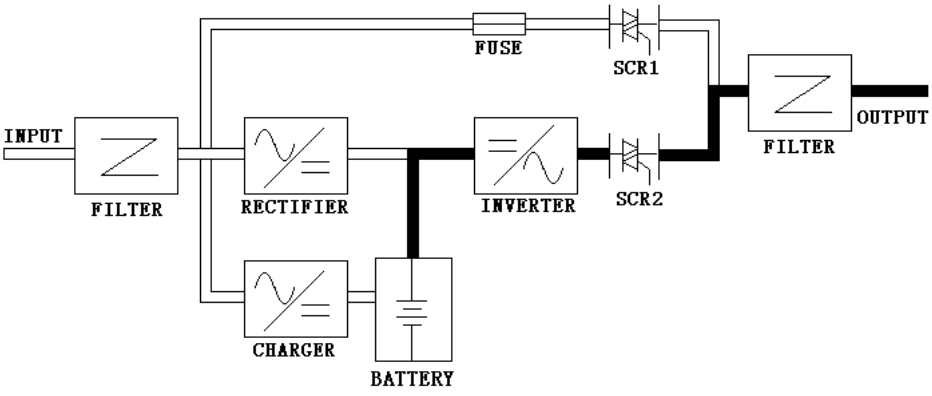


fig34

When city power off, battery change into pure sine wave power and supply to equipment via SCR2.

3) UPS running method when power is out of specified range (15%),as fig35

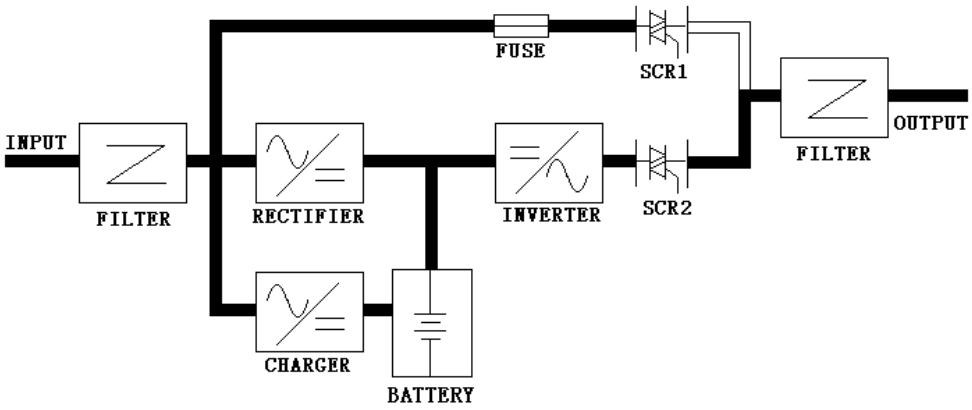


fig35

3. UPS running method under auto mode.

1). Put switch on auto mode, when UPS normal running, filter get rid of high-step noise, one way to charge battery , another to supply for user's eqiupment with pure sine wave Via SCR2. AS fig 36

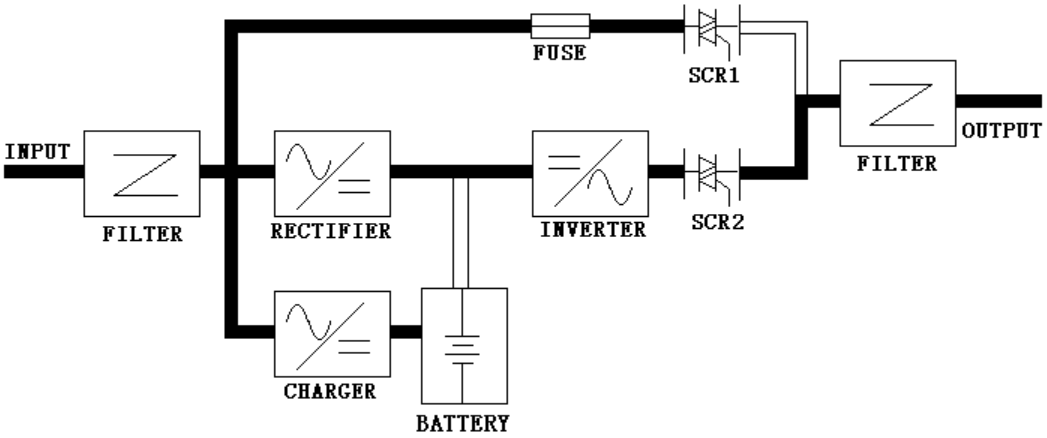


Fig36

2). UPS running when main power is off. As fig 37

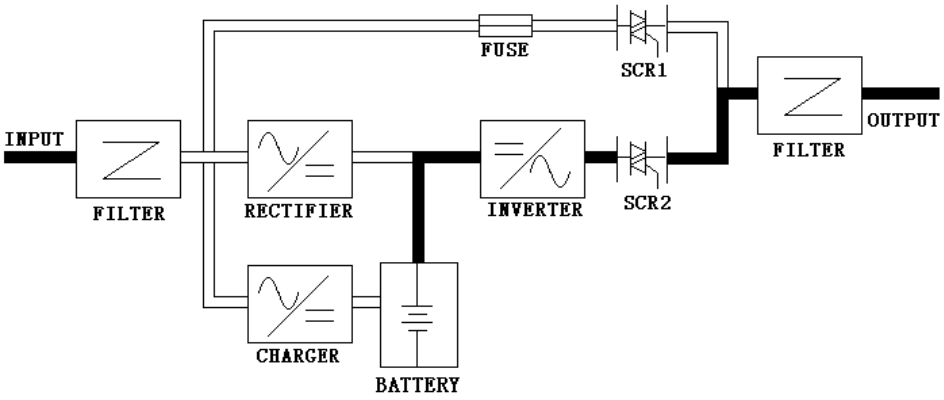


Fig37

3) UPS running with bypass supply.

UPS transfer to bypass supply with following fire status:

1) overload
2) inverter protection
3) In the course of UPS starting slowly when press SW4 key to start within 20 seconds.
4) After pressed SW4 key to close.
5) Over temperature in UPS.

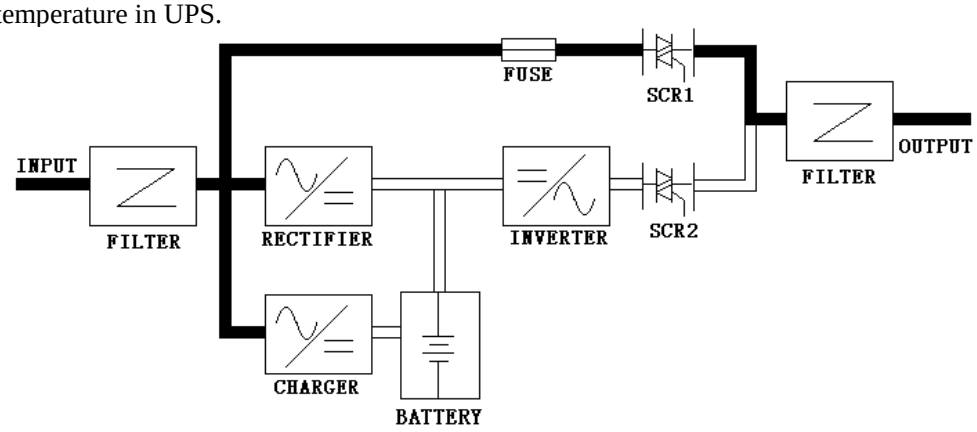


Fig 38

8. Maintenance of the ups and battery

(1) Everyday maintenance of the UPS

a. Must in good time maintenance of the UPS, don't be infected with dust, ensure life.
b. Turn the UPS power switch OFF before cleaning .Use only a soft cloth, never liquid or aerosol cleaners
c. Must in good time ,check at per month for all connection wire ,prevent bump or loose、moisture.
d. Keep with out hindrance be inlet and outlet ventilation holes for the UPS, must in good time check at per month for block or insert any object into the ventilation holes.

(2) Battery and charge

a. When ups "ON", or will input power switch SW1, battery switch SW3 to ON can be automatic charge at batteries, charging to more than 90% for batteries.
b. Battery power supply time have to do with load rate.
c. For the sake of lengthens power supply time can be additional battery.
d. Must keep full of condition at batteries, be lengthen life.
e. Battery presents a risk of electrical shock or burn from high short circuit .The following precautions should be observed before replacing the batteries:
   - Turn off and disconnect ups from mains power prior to opening the battery replacement door.
   - Remove rings, watches, and other metal objects.
   - Use a Phillips (cross head) screwdriver with insulated grips .Do not laid tools or other metal objects on top of the batteries.
   - If battery replacement kit is damaged in any way or shows signs of leakage contact your dealer immediately.

9. Communication interface

(1) Make use of communication interface to connection the computers; monitor it power.

(2) DB9 communication interface on rear panel connection to computer ,can hear of condition for ups ,task systems are DOS 、WINDOWS3.1、WINDOWS95、WINDOWS-NT、NOVELL etc. User should purchase software of computer, can be cause ups connection to computer, when hear of mains failure with system, send out information alarm, when measure up to predetermine time, can be according to normal shutdown procedure will shutdown system after storage data, after that automatically shutting down ups when restoration at mains power, automatically restoration running of ups, at once automatically restoration running of system.

(3) This ups interface ,second interface can be provide put to use ,first interface only provide condition of UPS ,fit in with individuality computer put to use .Second interface provide detailed data of ups ,fit in with network servers、workstations、monitor system etc .Only provide first interface of the standard ups. Software need moreover to purchase

a. First interface :only provide alarm with mains failure、low battery voltage and shutdown ups
b. Second interface :RS232 communications serial port connection to data are provide :input voltage、output voltage、output frequency、input frequency、battery voltage 、load percentage(%) internal etc.
c. Through SNMP adapter outside connection to ups, that is have functions are network management, ensure at soft and reliability for running network.
d. This DB9 are connection signal as follow:

PIN1: UPS Fault

PIN2: Mains Power Failure

PIN3: Inverter Power ON

PIN4: PIN1, 2,3,5,8 Common Grounds

PIN5: Battery Voltage Low

PIN6: Shutdown the UPS or RS232 RXO Wire

PIN7: Pin6 Ground

PIN8: Inverter Output

PIN9: RS232 TXD Wire

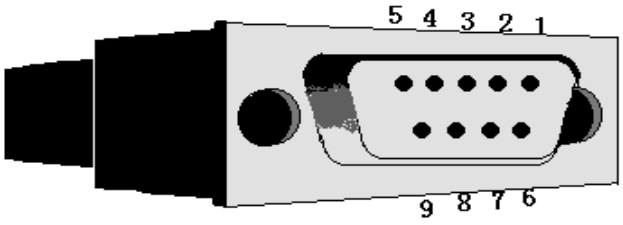


Fig39 DB9 Communication interface on the UPS

10. Specifications

Model	JP5520 1K S/L	JP5520 2K S/L	JP5520 3K S/L	JP5520 4K S/L	JP5520 6K S/L	JP5520 10K S/L	JP5520 15KL	JP5520 20KL
Capacity	1KVA	2KVA	3KVA	4KVA	6KVA	10KVA	15KVA	20KVA
INPUT								
Input voltage(Vac)	165～275							
Frequency(HZ)	45～66 Automatically select synchronization range according to grid frequency							
Phase	Single phase three wires							
Battery voltage(VDC)	48	96	192					
Charge Current	2.5A/5A					2.5A/5A	10A	
Battery type	4*7Ah 12V/ External	8*7Ah 12V/ External	16*7Ah 12V/External			16*9Ah 12V/ External		
OUTPUT								
Power factor	0.8/0.9 (optional)							
Voltage(V)	210-240V ±1%							
Frequency(HZ)	50/60±0.5%(Free oscillation)							
Transfer Time(ms)	0							
Waveform	Sine Wave，THD<3%							
Overload Capacity	110%~129% full load keep 10min；130%~150% load keep 60s；							
Crest Factor	>3:1							
OTHER								
Backup time	Standard time is 10min/ Long backup time can be extended freely							
Charge recovery time	<10hours							
Efficiency	>92%			>90%				
Communication	RS232 connector，support for monitor software							
SNMP(optional)	Can be network monitored by SNMP adapter							
Display	LED display work status and fault indicator；LCD display single phase input voltage, input frequency, single phase output voltage, load, battery voltage etc							
Noise (dB)	<58(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%，No Condensing							
Size(D×W×H) (mm)	590*230*750(S)/590*230*540(L)					596*305*1050(S)/ 596*305*890(L)	596*305*890	700*405*955
Weight(KG)	80/50	99/60	107/52	113/58	115/60	171/116	127	195

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.