



คู่มือการใช้งาน

USER MANUAL

Uninterruptible power supply

Line Interactive



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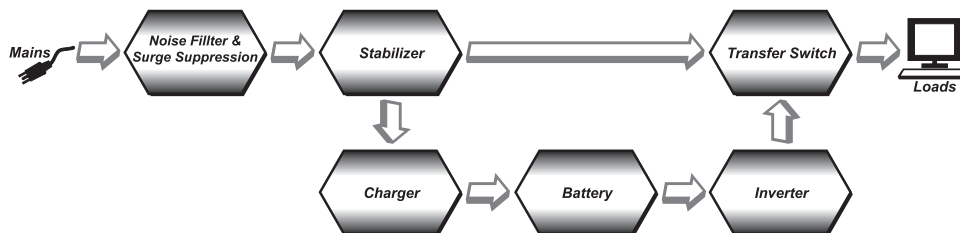
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1. Introduction

Due to progressive in modern technology nowadays, the wide range of technology are applied to equipments and tools (apparatus) especially, computerized equipment for highest efficiency. But these computerized equipments work very complicated, then there must be continuous stabilized electric energy supply in order that computerized equipments are able to work correctly and efficiently..

Syndome UPS SZ-Series is electric energy supply that can continuously supply energy all the time to prevent all kinds of electrical problems in computerized equipments. Inside UPS, there is automatically voltage regulator system which shall control voltage of mains to control output voltage. When electricity is off, battery shall immediately supply reserved energy. This helps in extending working time and helps in database collection during using reserved energy. When electricity is back to normal status, the system shall switch back to use electricity from mains as normal and battery shall be charged for next time.

Syndome UPS SZ-Series has system that can show results both by light and warning signal for work status, work testing system including the ability to link with computer to control and show status of UPS in LAN system.



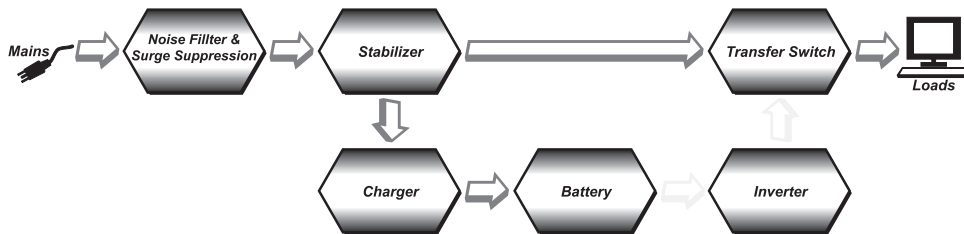
Syndome UPS SZ-Series consists of:

1. Noise Filter and Surge Suppression to filter noise and suppress surge.
2. Stabilizer for control voltage of mains in order to stabilize output voltage.
3. Charger to charge battery.
4. Battery to store reserved electrical energy
5. Inverter to invert DC to AC
6. Transfer Switch to transfer electric energy resource supplied to computer between Stabilizer and Inverter.

2. Operating Principle

Component of Syndrome UPS SZ-Series

2.1 Normal Status

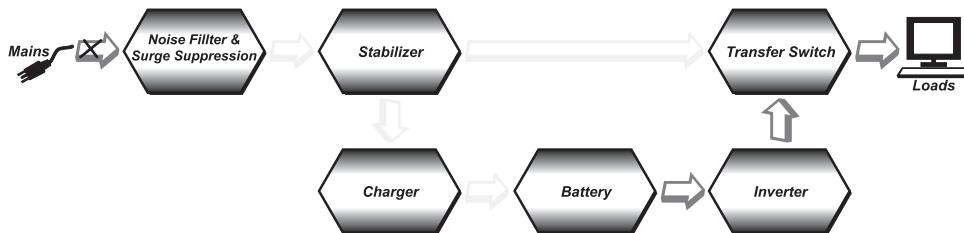


Operating Diagram under Normal Status

Under normal status electric energy shall go through Noise Filter and Surge Suppression and pass through Stabilizer to control the voltage before it shall go through Transfer Switch to distribute to Load.

One part of electric energy shall pass to Charger circuit to fill up the battery.

2.2 Irregular Status (High/Low/Out of electricity)



Operating Diagram under Irregular Status (High/Low/Out of electricity)

When the electricity form mains is higher or lower than normal or the electricity is off, the electric energy from battery shall be inverted to AC by inverter and shall go through Transfer Switch distribute to Load continuously.

When the electricity is back to normal status Transfer Switch shall transfer Load from inverter to switch back in order to use electric energy from Stabilizer. This transferal also happens continuously.

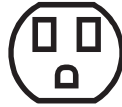
3. Installati

3.1 Place for installation

UPS should be installed in the place where there is adequate ventilation and no dust, appropriate temperature or avoid place near heat source and should not put UPS in the sunshine.

3.2 Install

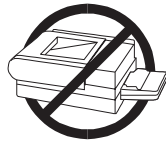
3.2.1. Bring input plug of UPS connect to distribution point of Mains ; plug on the wall in building.



220VAC 50Hz.

Inspect voltage of Mains to assure for voltage 220 Vac 50 Hz

3.2.2. Bring plug of computer and jointed equipment connect to outlet at the back of UPS



Inspect that rating of total load current consumption must not exceed distribution energy of UPS. Do not connect laser printer to UPS since it consumed very high electricity.

3.2.3. Link line to LAN system (if applicable).

4. Getting Started

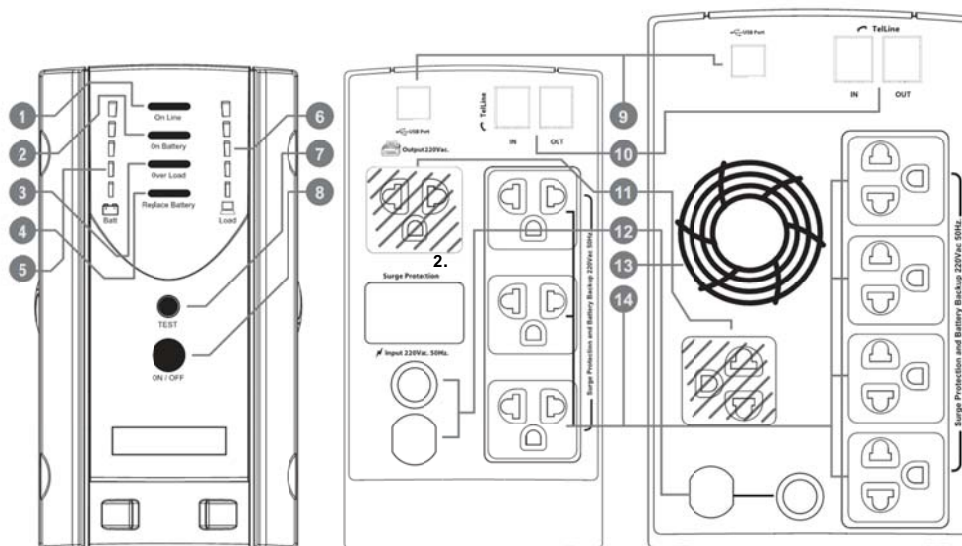
4.1 Presentation of Result and Warning signal

Status	LED				Alarm
	OnLine	On Battery	Over Load	Replace Battery	
UPS as normal	■	□	□	□	-
UPS is using the electricity from the battery	▬	■	□	□	Sounding every 10 sec.
Battery was very low energy	■	□	□	▬	Sounding every 1 sec.
Short Circuit or overload of UPS output	■	□	■	□	continuous sounding
Replace Battery	■	□	□	▬	-
Shutdown	□	□	□	□	-

▬ = LED flashing

■ = LED Lighting

□ = LED not Lighting



1. On Line Lighting
2. On Battery Lighting
3. Overload Lighting
4. Replace Battery Lighting
5. Battery Level
6. Load Level
7. Test/Alarm Switch

8. Power On/Off Switch
9. Interface Port
10. Tel Line Surge Protection
11. Output for Printer
12. Input & Fuse
13. Air Flow
14. UPS Output

4.2 Testing before Operation

4.2.1. Turn on switch of UPS light signal at will show green color.

4.2.2. Turn on computer and jointed equipments.

4.2.3. There are 2 types of testing:

Type 1 Simulate the abnormal electricity by pull out input plug of UPS. UPS shall use electricity from the battery and reserve for computer. During this time, light signal will be change to red color and there shall be light signal at together with warning sound. Then put back UPS input plug, light signal at shall be off and warning sound shall stop. Light signal will be green. The computer shall be continuously operating. To get confidence, this testing to be done again for 2 - 3 times.

Type 2 Press the button to test UPS and battery. There shall be warning sound.

- There is warning sound only one time, battery is in normal status.
- There is warning sound more than one time, battery is low and can reserve Energy for short time.
- There is long warning sound more than one time, battery is very low and can not supply energy.

The battery to be charged first.

During pressing the button computer can operate continuously which means that UPS is ready to work.



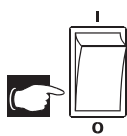
In case that battery is low, it should be charged for 3-4 hours before operation.

4.2.4. After completion of testing, start the operation.4. After completion of testing, start the operation.

4.3 Stop Operation of UPS

4.3.1. Shutdown the computer and jointed equipment.

4.3.2. Shutdown UPS.



Always shutdown UPS when finish operation because if the electricity was out UPS shall continuous to distribute reserved energy and this shall result in loss of battery.if you do not want to use UPS for a long time, you should shutdown UPS switch.

4.4 Operation when electricity was off

When electricity is off the operator can continue to operate for some times until reserved energy is almost run out. The operator has to collect database quickly and shutdown computer & jointed equipment and shutdown UPS and the operator can re-operate when the electricity is back to normal status.



Should not use reserved energy until it is almost run out of energy. This is to prevent the case that the electricity is out again as the battery is not fully charged.

5. Maintenance

Syndome UPS SZ-Series was specially designed in order that the user do not need to tack care too much. The user can only tack care of outside UPS and operate correctly including follow the manual. UPS can be operated for a long time. If there is problem beyond mentioning in this manual user should immediately contact or inform our company. Do not try to open UPS case and repair it by yourself. This will result in cancellation of warranty. In case that the electricity has not out for a long time, the battery status should be tested once a month using testing mentioned in item 4.2. This is for making battery supply energy and is charged back the energy including testing whole operation status of UPS. This testing will make user assure that UPS is always ready.

6. Problems and Resolution

User can resolve the problem occurred during the operation by studying and follow the resolution table. But if user is unsure or is unable to follow resolution table or there is problem beyond this, the user should consult or inform company service department.



Do not open UPS case to repair it yourself because, inside UPS, there is voltage that can endanger. The repair & maintenance should be performed only by expert technician from company.

Turn on UPS to charge battery
Turn on UPS to chage battery
please inform company Service Department **Tel : (662) 8726900** (Automatic)
In case of problem,
Email: public@syndome.com