

**USER'S MANUAL
&
Warranty Card**

PURE SINE WAVE HOME UPS

**PS
SPL
S**

2 YEARS WARRANTY



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INTRODUCTION

Dear Customer,

Congratulations for entering into the most **PRIVILEGED** and **SATISFIED** Customer list of **SILICON POWER SYSTEMS** by purchasing our product.

Now you are assured of reliable & safe power source for your computer systems and other peripheral as well as lighting loads in your building.

Silicon Sine wave Home UPS System manufactured by Silicon Power Systems undergo stringent quality checks. **SILICON SINE WAVE HOME UPS** is designed and developed using state of art micro controller based technology. The product is designed to provide you efficient performance requiring minimal care and maintenance at your end. This manual will help you familiarize with its salient features, controls and safety instructions along with understanding the basic working of the product and its maintenance and use.

Any suggestions regarding the product are always welcome. we will definitely take into consideration.

We hopefully expect more repeat order and references, above all, a long lasting relationship with you.

Thanking you and assuring you of our best services at all times,

By **SILICON POWER SYSTEMS**
BANGALORE.



CONTENTS

SALIENT FEATURES

KNOWING YOUR HOME UPS

FRONT PANEL

BACK PANEL

IMPORTANT SAFETY INSTRUCTIONS

SPECIAL NOTICES

TROUBLE SHOOTING

TECHNICAL SPECIFICATIONS

BYPASSING THE HOME UPS

WARRANTY CARD



SALIENT FEATURES

- ⇒ Pure Sine Wave output to run all the appliances
- ⇒ Smart Overload Sense and Short Circuit Protection
- ⇒ Automatic Low Battery Cutout
- ⇒ Smart SMPS based fast battery charger with automatic power factor correction peak power output 300%
- ⇒ User friendly Graphic display

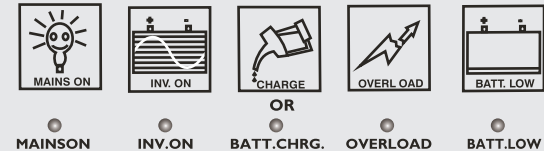


KNOWING YOUR HOME UPS

Now lets begin the journey to explore various aspect of your Silicon Pure Sine Wave Home UPS. Welcome aboard!

Silicon's Home UPS is a truly futuristic concept. It works as an offline (Stand-by)UPS and switches over from mains to backup mode or vice-versa. It ensures continuous supply of power from the battery bank whenever mains supply from utility power is not available.

FRONT VIEW



On the front panel of the Home UPS there is one ON/OFF power active switch, and a graphic symbol panel for indications.

1. MAINS ON: This graphic symbol/ LED, is lit when the incoming mains is available.
2. INV. ON: This graphical symbol/LED, is lit when the incoming mains is not available and the output is from Home UPS (Battery Backup).
3. BATT. CHARGING / CHARGED: This graphical symbol/LED, shows that the mains line is coming and side by side the charging of batteries is also taking place. This graphical symbol, glows intermittently(Blinking) during charging and glows continuously when battery is charged.



KNOWING YOUR HOME UPS

4. **BATT. LOW:** This graphical symbol/LED, when glows indicates that the battery voltage has gone down to the lower limit during discharge. After this indication Home UPS will shut down automatically after few minutes. During this the buzzer gives a continuous beep.
5. **OVERLOAD/SHORT CIRCUIT:** This graphic symbol/LED, when glows indicates that either short circuit has occurred or there is Overload on the Home UPS. The Home UPS resets itself automatically and makes 8 attempts in case overload and 4 attempts in case of short circuit to turn on again, if the overload or short circuit continues even after these attempts, it turns off permanently and will turn on only after ON/OFF power active switch is turned OFF and then turned ON. In the event of unsuccessful attempts it automatically shuts down. During overload or short circuit, graphical symbol/LED lights up and the buzzer gives beep. The beep is intermittent in case of overload and short circuit. If there is short circuit at the output, the Home UPS will turn off permanently after a few attempts. It can be reset by removing short circuit and then switching off and on the power active switch.

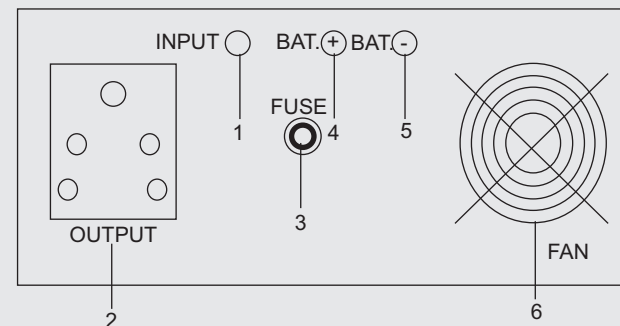


BACK PANEL

BACK PANEL:

The Home UPS has two battery wires (Positive and Negative) coming out from the rear side, a Fuse Holder, an output socket and an input mains cable. Connect the two battery wires to the terminals of the battery, the red colored to the positive terminal and black colored to the negative terminal. The three core input cable provided from the UPS is used to connect the Home UPS to the incoming AC Mains. Ensure that incoming AC Mains is proper in all the ways with good earthing. After this the output is connected through the output socket at the rear of the Home UPS.

Rear View





SAFETY INSTRUCTIONS

- 1 MAINS INPUT Wire
- 2 OUTPUT Socket
- 3 Fuse Holder
- 4 Battery Positive
- 5 Battery Negative
- 6 FAN

IMPORTANT SAFETY INSTRUCTIONS

Before proceeding further kindly go through the safety instructions carefully.

General Precautions:

- 1. Before using the Home UPS read all instructions and cautionary markings on the Home UPS, the Batteries, all appropriate section of this instruction manual.
- 2. Do not expose Home UPS to rain, liquids of any type. The Home UPS is designed for interiors only.
- 3. Do not disassemble the Home UPS, take it to a Silicon Engineering Service Centre when service or repair is required. Opening by unqualified personnel entails electric shock or fire hazard.
- 4. To reduce risk of electric shock, disconnect all wiring before cleaning.



SAFETY INSTRUCTIONS

- 5. **Warning-Risk of Explosive gases**
WORKING IN THE VICINITY OF A LEAD ACID BATTERY MAY BE DANGEROUS. BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL OPERATION.
Provide ventilation to outdoors from the battery compartment.
The battery enclosures should be designed to prevent accumulation and concentration of hydrogen gas in "pockets" at the top of the compartment. Vent the battery compartment from the highest point. A sloped lid can also be used to direct the flow to the vent opening location. To reduce the risk of battery explosion, follow all the Instruction of batteries supplier or any equipment you intend to use in the vicinity of batteries.
- 6. Do not cover your Home UPS with any cover or cloth.
- 7. Do not install this Home UPS on or near flammable materials (plywood, Chemicals, gasoline etc.)
- 8. Do not install this home UPS near extremely humid places or where there is water it is designed for use in interiors only.
- 8. Be extra cautious when working with metal tools on and around batteries. It could short-circuit the batteries or other electrical parts, producing a spark that could cause explosion.
- 9. Remove conductive jewelry such as rings, bracelets, necklaces and watches when working with a battery. A battery can produce a short-circuit current high enough to weld a ring or causing severe burns.






SPECIAL NOTICES

IMPORTANT PRECAUTIONS: The output side of the Home UPS AC wiring should never be connected to a generator or incoming utility power. This condition is far worse than a short circuit. If the unit survives this condition, it will shut down until correction is made.

Note: Never disconnect the battery cables while the Home UPS is delivering power or battery charger is operating. The Power Active Switch has no effect on the charger; it turns off only the power output during backup mode. To disconnect the batteries for service:

- (a) turn off the power switch.
- (b) disconnect all AC power.
- (c) disconnect all the batteries cables.

SPECIAL NOTICES: Do not switch on the heavy load TV, Refrigerators, Motor, Cooler etc when Home UPS is running on battery backup and is in UPS mode. This may cause rebooting of your computer.

-  Avoid connecting the stabilizer between utility power and Home UPS. The AVR of stabilizer may cause your computer to reboot.
-  We recommend that you have point to point wiring of the Home UPS
-  Check water level of the battery periodically & ensure battery terminals are cleaned and properly fastened & Lubricated with petroleum jelly.

GROUNDING INSTRUCTIONS: This Home UPS must be connected to a grounded, permanent wiring system.



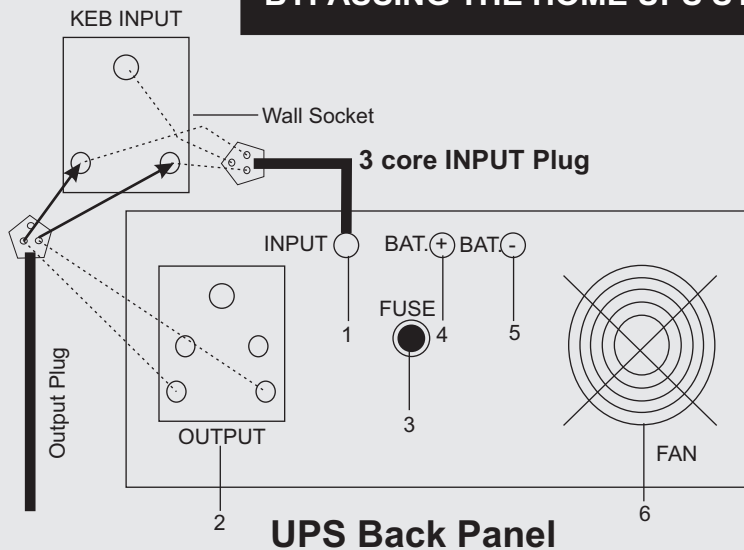
TROUBLE SHOOTING

Symptoms	Rectifications
Main Power is coming. Home UPS shows mains fuse blown on its display panel	Reduce the load and replace the glass fuse of specified rating given at the rear side of the Home UPS.
No Power during backup mode	Check if low battery LED is glowing, switch OFF the Home UPS by power active switch. Allow the battery to charge before running the Home UPS on battery again.
	Check if overload/short circuit LED is glowing. Reduce load and reset the Home UPS by Power Active switch.
Home UPS does not operate	Check the battery connections
Home UPS trips frequently at backup mode	Reduce the overload and restart the Home UPS through the power active switch.

Symptoms	Problem	Remedy
There is no output power	Low Battery	Check condition of batteries & recharge
	Loose or corroded battery connections	Check and clean all connections
	Loose AC output connections	Check all AC output connections
System shut down after 20 sec, no display	Output of Home UPS is wired back to its own input	Check the proper AC input and output wiring.
Low/High AC output voltage	Measuring with the wrong voltmeter	Meter must be a true RMS reading meter
Low surge power	Weak batteries or battery cables too long.	Refer to cable and battery recommendations in this manual.



BYPASSING THE HOME UPS SYSTEM



Note : (.....) Dotted lines indicates UPS connection
 (→) Arrow lines Indicates Bypass connection

The Home UPS Systems can be bypassed by connecting the output plug (which connects the load to the Home UPS System) directly to the socket on the wall from where the Home UPS System input has been taken Care must be taken to ensure that the ON switch of the HOME UPS SYSTEM has been switched off so that the battery does not discharge. To bypass the Home UPS System follow these steps:

- 1) Removes Input Plug from the wall socket.
- 2) Remove output Plug from HOME UPS SYSTEMS'S output socket.
- 3) Insert output plug into the wall socket.



TECHNICAL SPECIFICATIONS

INPUT VOLTAGE WINDOW

Mains A.C. Low Cut	105±5V
Mains A.C. Low Cut Recovery	120±5V
Mains A.C. High Cut	285±5V
Mains A.C High Cut Recovery	275±5V

OUTPUT PARAMETERS

Mains Output Frequency	Same as input (45Hz-55Hz)
Output Frequency on Inverter	50.0Hz.±0.1Hz
Output Voltage with Full Load	220V/200V ± 10V
Waveform	Sine Wave
Overload	Above 110%
Short Circuit Protection	>250% Load (Few msec)

BATTERY CHARGING

SMPS based charger with automatic Power Factor Correction				
Maximum Charging Current Limit	9.0±1.0 Amp			
Charging Boost Voltage	13.9V ± 0.2V per battery			
Charging Float Voltage	13.6V ± 0.2V per battery			
Battery Lower Voltage Limit	10.0V ± 0.2V per battery			
Recommended Battery Capacity	120AH-180AH			
Number of Batteries	1	1	1	2

Note : Specifications subject to change without prior notice



TECHNICAL SPECIFICATIONS

MODEL	HU600SW	HU800SW	HU1000SW	HU1400SW
CAPACITY	600VA/12V	800VA/12V	1000VA/12V	1400VA/24V

TECHNOLOGY

Micro controller based state-of-the-art technology using MOSFETs

SMPS based charger

ENVIRONMENT

Storage Temp.	0-50°C
Operating Temp.	0-40°C
Humidity	0 - 90% Non Condensing



WARRANTY CARD

TERMS AND CONDITIONS OF WARRANTY

Silicon Power Systems hereby warrants to the original purchaser against any manufacturing defects arising through faulty workmanship and defective materials (Except LED's switches and external body) **for a period of 2 years** from the date of original purchase. Your sale receipt is the proof of purchase for the product and the warranty period commences from that date. The said warranty shall be provided against the presentation of the sale receipt. The replaced defective parts / components shall be the property of Silicon Power Systems.

The above warranty shall not be valid:

1. If the installation of the Home UPS is improper (if not undertaken by Company Engineer or its representative)
2. If physical damage has been done at the user's end.
3. If the Home UPS has been opened by an un-authorized personnel.
4. If water / any other liquid is found inside the inverter.
5. If damage caused due to fuse replacement of improper rating.
6. For any defects arising in the Home UPS due to battery related failure / defects.
7. If modification of the product / Change in factory settings is done by an un-authorized personnel.
8. If the product is used improperly and unprofessionally.
9. If defects arising in company's opinion by reasons of accident, abuse, misuse, neglect, improper installation or through fire, flood or other act of God and any other natural calamities.
10. The problem of fuse blown will not be included in the warranty of the product. The service given for the same will be a paid service.
11. The Company will not be responsible for any delay in servicing due to non availability of any components or due to reasons beyond the control of the company.
12. The company is in no way are will be held liable for any loss or injury or damage caused to life or property or death and disability caused to any form of life for any reason whatsoever.
13. The company expressly denies the right of any person to incur or assure for it any other liability or obligation in connection with the sale of Home UPS.
14. Claims if any, to this warranty shall be made only before the courts having jurisdiction in Bangalore.

WARRANTY CARD

Model No.:..... Date of Purchase:.....

Serial No.:..... Dealer's Name:.....

Invoice No.:.....

Name of Purchaser:.....

Address:.....

DEALER STAMP