

# USER'S MANUAL (IFU)

## PURE SINE WAVE LI UPS 600VA



### Salient features

- Micro Controller based PWM technology using MOSFETs.
- Digital flash memory.
- Software controlled Auto Self - Test.
- A convenient no load shutdown at battery mode.
- Pure Sine wave output.
- Change over with Phase synchronisation.
- An extra wide input voltage range
- Inbuilt SMPS based charger with automatic power factor correction.
- Cold start at full load.
- Software controlled double protection for Overload and short circuit.
- RS- 232 interface for auto shutdown.

#### GLOBAL CERTIFICATIONS:

ISO 9001:2000  
ISO 14001:2004

R&D  
Recognised  
by  
MINISTRY OF SCIENCE & TECHNOLOGY  
GOVERNMENT OF INDIA

Before connecting, operating, or adjusting this unit, please read this instruction booklet carefully .

Customer Care : +91 124 4170561-566

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## *1. Introduction*

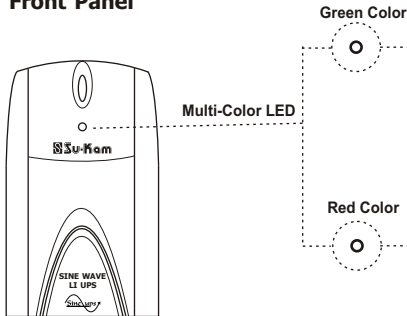
### **1.1 Overview**

The Su-Kam Sine Wave UPS is an advanced high performance line interactive Uninterruptible Power System (UPS) designed to protect your computer and other computerized equipment from utility line failures, disturbances, frequency deviations, spikes and surges. In the event of utility power failure, the UPS will rapidly transfer loads to an alternative power source, which derives power from the battery placed inside the UPS.

The UPS has inbuilt SMPS based charger with automatic power factor correction.

## 1.2 Panel's Explanation

### Front Panel

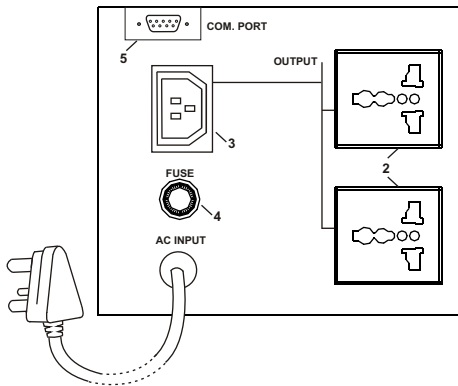


## 1.3 LED Indications

Continuous Mode	Blinking Mode	
	Slow	Fast
Mains ON Charging ON Output ON	Mains ON Charging ON Output OFF	—

Continuous Mode	Blinking Mode	
	Slow	Fast
Backup ON	Low Battery	Overload

### Back Panel



1. 3 Core 6A Input Plug (Mains Input).
2. 2 6A AC Output Socket (Universal).
3. 6A D-Type AC Output Socket.
4. T2.5A/250V (Slow Blow) fuse.
5. RS-232 Communication Port.

The UPS will turn OFF permanently in case of low battery, overload, short circuit protection and also in case of no load shut down. There will be no LED indication in such a case.

## 1.4 Smart-AVR

The UPS automatically regulates output voltages within the normal range, both in low utility voltage and high utility voltage conditions. The UPS is equipped with cold start function to enable the user to start it without utility power.

## 1.5 Safety Instructions

- ☛ The UPS contains voltages which are potentially hazardous.
- ☛ The UPS has its own internal energy source (battery). The output receptacles may be live even when the UPS is not connected to an AC supply.
- ☛ All repairs should be performed by qualified service personnel.

Safe and continuous operation of the UPS depends partially on the care taken by user. Please observe the following precautions:

- ☛ Do not disassemble the UPS.
- ☛ Connect the UPS to a two pole, three-wire (Line, Neutral & Earth) mains with receptacle. Connection with any other type of receptacle may result in a shock hazard and may violate local electrical codes.
- ☛ Do not allow water or any foreign object to get inside the UPS and do not put objects containing liquid on or near the UPS.
- ☛ Keep UPS away from fire or heating sources.
- ☛ The Power socket should be installed near the equipment and be easily accessible. To isolate from AC input, disconnect the plug of the power cord of the system.
- ☛ The battery will discharge naturally. If it is charged periodically, Its life will be prolonged. It will be damaged if it is not used for a long Period. This won't be covered in our Warranty.





## *2. Installation and Operation*

### **2.1 Installation.**

- ☛ Inspect the Carton Box for any damage that may have occurred while in transit. Immediately notify the carrier and place of purchase if there is any damage . Retain the package for future use.
- ☛ Connect the power cord to a verified grounded 3-wire receptacle.
- ☛ For connecting your equipment to the UPS and to ensure that your computer equipment will be protected during a utility failure, it is important to make sure that the maximum power need of the equipment is not over the rated capacity of the UPS

### **2.2 Operation**

- ☛ When the Power Cord is connected with normal utility power, UPS will turn ON automatically and goes through the procedure of self test. If test results are O.K., the LED will blink in green color indicating that the mains is available and UPS starts battery charging. UPS output will be available only when front power switch is pressed for few seconds (LED glows continuously when O/P is ON)

-  Press the front power switch again for few seconds, the UPS will turn OFF the power to equipment (O/P OFF) . if the AC Power Cord is still connected, LED will blink in green color indicating that the battery is charging. To turn OFF the power completely, please pull out the power Cord.
-  To test backup function during power failure, press the front power switch for few seconds. The UPS will work in backup mode with buzzer beeps. In this mode the LED glows continuously in Red color. To turn OFF the UPS, Please press the front Power Switch again for few seconds.
-  The UPS will automatically turn OFF the output power during backup mode when power consumption is lower than 6% of full specified load.
-  If overload condition occurs, the buzzer will beep rapidly. The LED will also blink rapidly in red color indicating the condition of overload. Please proceed to unplug the least critical equipment. In case of low battery, the LED will blink slowly.

### 2.3 Storage Instructions

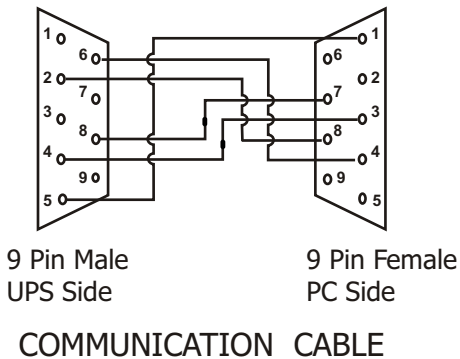
For extended storage in moderate climates, **the batteries must be charged for 8 hours every 2 months** by plugging the power cord into the wall receptacle. Repeat it every month in high temperature locations.

### 3. *Communication Interface*

#### 3.1 **DB 9 Communication Port**

Located at the rear side of the unit, the com-connector is a plug in interfacing port (9-pin sub. D-female) which enables advanced communication between the UPS and Computer (interface kit required).

The diagrammatic interface (communication cable) of UPS with computer:





### 3.2 Info Disc Manager

The Su-Kam UPS monitoring software "Info Disc Manager Version 13-09-07 S" is compatible with almost all popularly used operating systems as Windows 95, 98, NT, 2000, Millennium and XP to name a few with best reliability. An easy to install auto run software CD and DB-9 Communication connector cable is to be connected to facilitate convenient interfacing of PC with UPS.

On first start, the software shows a registration form it is mandatory to fill this for proper functioning of the software. Once registration is completed, the software will ask user to select the communication port for communication with the UPS. The port once selected will become the default and the software will start automatically on that port every time. In case user wants to change the port which is once made default then he must change it in less than 30 seconds when the port form pops up after the beginning of the software.

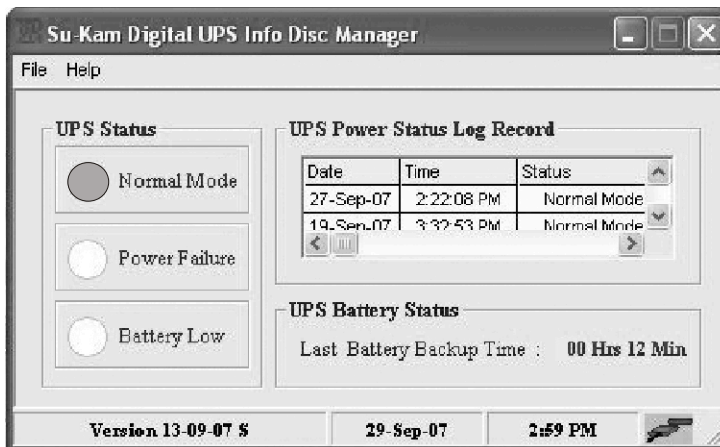
Once installed it will start automatically after completion of operating system booting and continuously monitor the system by showing the icon in the status bar of desktop.

When the battery low signal appears, the software sends the system to shutdown thus preventing damage caused by abrupt shutdown. It pops up message of power failure for the signal received. It logs data of Power failure, Normal mode, Battery low to show the log records of last three states of UPS.

The Graphical User Interface of software has following display console-

- Flashing red or green communication icon in status bar of software to show ongoing communication status.
- Mains status indicator.
- Power failure status indicator.
- Low battery status indicator.
- UPS power status last three log records.

This is a complete solution designed to prevent hard-disk crashes and to take care of sophisticated compute components. It completely eradicates the chances of abrupt shutdown thus providing total care, security and convenience.



**UPS Status During Normal Mains Mode**

## 4. *Trouble Shooting*

The trouble shooting chart covers most of the difficulties that you may encounter under normal working conditions. Should the UPS fails to operate properly, please check the following before calling for service:

1. Is the UPS plugged into an incorrect wall receptacle?
2. Is AC Input voltage / frequency out of range?

When calling for service, please offer the following information:

1. Model No. and Serial No.
2. Date of occurrence of the problem.
3. Full description of problem, including condition, environment which it is installed, devices connected to the UPS.

<b>Problem</b>	<b>Possible Cause</b>	<b>Trouble Shooting</b>
No light, No Alarm switch	1. AC fuse Blown	Replace AC fuse of actual rating
	2. Power cord is loose	Connect AC power cord to wall receptacle
	3. Mains switch is not "ON"	Turn On mains switch
	4. System failure	Contact your dealer
UPS switched off Automatically or RED buzzer beeps.	1. Overload connected at UPS's outlet	Reduce Load
	2. Short circuit on Inverter	Check load & output side properly for shorting
	3. Battery Low	Battery is low due to excessive load or battery is consumed. Wait, until mains returns.
UPS switched off UPS will not switch to battery mode.	1. Mains failure, battery discharged, battery depleted.	Wait, until mains returns. Allow the UPS to recharge the battery for at least 6 hours
	4. System failure	Contact your dealer

## 5. *Technical Specifications*

<b>MODEL</b>	<b>SU600WB</b>
<b>CAPACITY</b>	<b>600VA/12V</b>

### INPUT PARAMETERS

Input Supply	1 Phase, 3 Wire
Voltage range	145VAC-295VAC $\pm$ 5V
Frequency Range	Same as Input

### OUTPUT PARAMETERS (MAINS MODE)

Voltage range	200VAC-255VAC $\pm$ 5V
Waveform	Same as Input
Frequency Range	Same as Input

### OUTPUT PARAMETERS (INVERTER MODE)

Voltage Regulation	200VAC-245VAC
Frequency Regulation	50 $\pm$ 0.2Hz
Output Waveform	Sine Wave
Transfer Time (Typical)	8 msec
Overload Handling Capacity	105% for 3 mins, 160% for 5 secs

### BATTERY PARAMETERS

Cell / Battery Type	12V/7.2AH
Battery Voltage (Nominal)	12V
Battery Charging Current	1A $\pm$ 0.1A

### USER INTERFACE

Communication Port	RS-232
Operating System	Windows 95/98/NT/2000/XP/2003 Server

### PROTECTION

Over/Under Voltage	Switch to battery O/P when mains is over/under the specified range
Overload/Short Ckt	Fuse & current limited for battery mode, Fuse protection for mains mode
Low/High Battery	Battery deep discharge / over charge protected
Surge Protection	Yes

**Note : Specifications subject to change without prior notice.**

REV. 05-02-08

*Technical  
Specifications*

<b>MODEL</b>	<b>SU600WB</b>
<b>CAPACITY</b>	<b>600VA/12V</b>

**ENVIRONMENTAL PARAMETERS**

Operating Temperature	0-45°C
Acoustic Noise (at 1 mts)	<50dB
Relative Humidity	0-90% non-condensing

**OTHERS**

Indications & Alarm	LED Indications & Alarm
Protection Class	IP20
Dimensions W X D X H (in mm)	112 x 345 x 150
Weights (Kg)	6.5

WARRANTY CARD

Model No. :-----

Serial No. :-----

Name of Purchaser :-----

Address :-----

Date of Purchase :-----

Dealer's Name :-----

DEALER STAMP

## TERMS AND CONDITIONS OF WARRANTY

- ★ Su-Kam warrant to the original purchaser provided the product is still in possession of and used by the original purchaser from the date of purchase.
- ★ The warranty stands on all parts (except LED's, switches and external body) for UPS will be for a period of 12 months.
- ★ The warranty will be automatically terminated on the expiry of the warranty period, even in case of the UPS not being in use in the specified period.
- ★ This warranty is valid only if it is duly signed by the authorized dealer.
- ★ The warranty will be invalidated if defects arising in company's opinion by reasons of accident, abuse, misuse, neglect, improper installation (if not undertaken by the company or its representative), fire, flood, or other act of GOD and any other natural calamities and any other unauthorized repairs done or carried out will have to be borne by the purchaser. The problem of fuse blown will not be included in the warranty of the product. The services given for the same will be paid service.
- ★ The company is in no way 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.
- ★ The warranty will not apply if the original seals are found broken or tampered with.
- ★ Free service under the terms of warranty will be provided only by authorized representatives/dealers of the company.
- ★ 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 UPS.
- ★ Claims if any, to this warranty shall be made only before courts having jurisdiction in New Delhi.

Please send your query or Complaint to [info@su-kam.com](mailto:info@su-kam.com)

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