

# USER MANUAL



PURE SINE WAVE INVERTER  
WITH COPPER TRANSFORMER

## 1. WELCOME NOTE

Dear Valuable Customer,

We are grand welcome in SF POWERSMART family. We congratulate you for your excellent choice i.e. Pure Sine Wave SF POWERSMART Home UPS. SF POWERSMART Home UPS will provide to complete comfort during the absence of utility power and provide to your appliances the exact replication of mains supply.

## 2. SALIENT FEATURES

- Pure Sine Wave Output Wave Shape
- Tri-Color LCD Display for better user interface
- Dual Stage of ASIC (Automatic Sense Intelligent Control) Charging Algorithm i.e. High & Normal Charging
- MCB Protection
- Wide voltage range for battery charging i.e. 90V – 300V
- Mains low voltage charging facility i.e. 8~10Amp charging current at 120V mains input
- 100% Copper Transformer inside
- Auto smart in-built protections i.e. Output Short Circuit, Overload, Battery Deep Discharge, Batter Overcharge, Heat-up / Over Temperature, MCB Trip as Fuse Trip, Revere Phase etc.)
- Advance Surface Mounting Technology
- Manual Mains Bypass Facility
- Noiseless operation
- Easy to service
- Compact in size

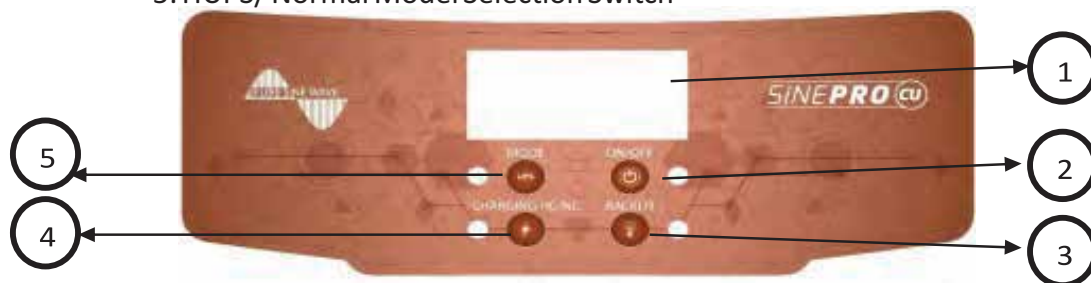
## 3. PURPOSE OF MANUAL

This manual is providing you for an understating of your Home UPS and its optimum use. Please read this user guide carefully before installing and using your SF POWERSMART Home UPS. Pay special attention to CAUTION & WARNING statement in this manual.

## 4. AESTHETICAL DESCRIPTIONS

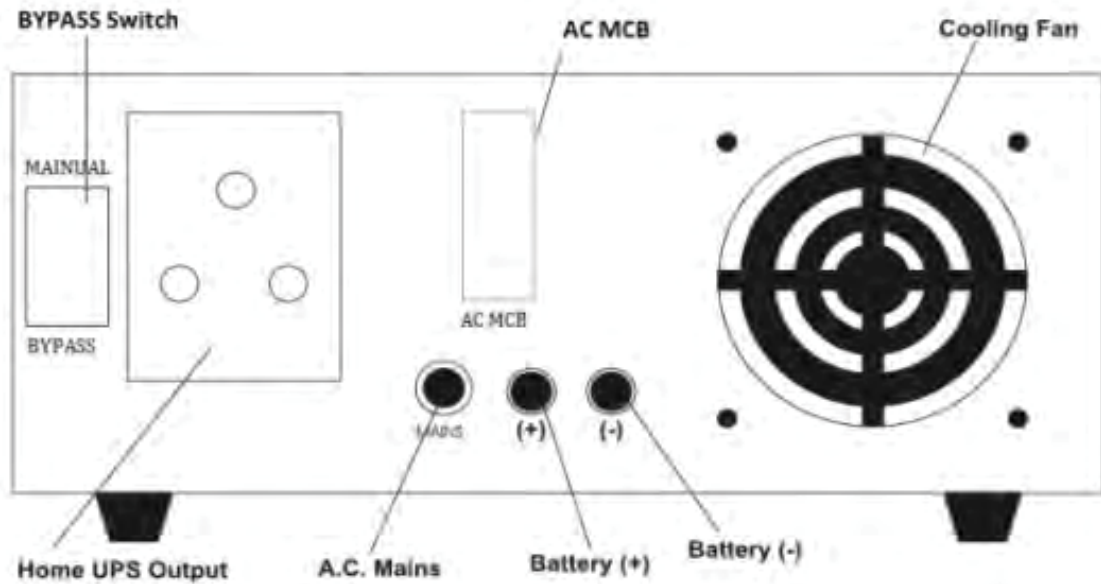
### 4.1. Front View of SF POWERSMART SiNE PRO CU Home UPS

1. Tri- Color Bigger Size LCD Display
2. ON/ OFF Switch
3. LCD Backlight ON/ OFF Switch
4. High & Normal Charging Switch
5. HUPS/ Normal Model Selection Switch

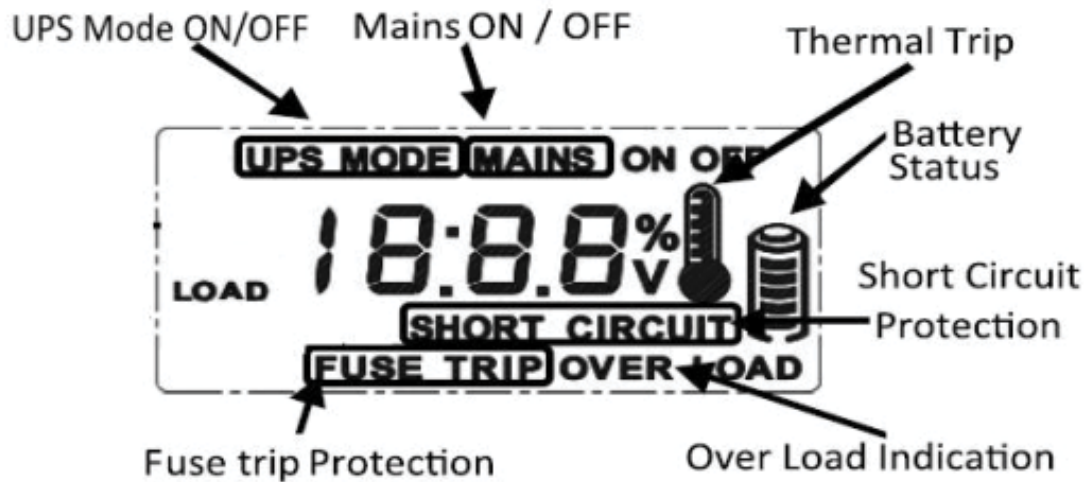


#### 4.2. Rear View of SF POWERSMART SiNE PRO CU Home UPS

**CAUTION: Do not reverse Battery Connections, it will blow battery fuse**



#### 4.3. LCD Display of SF POWERSMART SiNE PRO CU Home UPS



## 5. SAFETY GUIDELINES

- To switch off the output, in case any emergency, use the switch of front panel to switch Back-up off & disconnect power cord from mains & remove at least one battery connection.
- Always ensure that no objects containing a liquid are ever kept near the unit.
- Water must be avoided from the HUPS.
- Always connect HUPS to a 230V 6/16Amp 3Pins Type Mains Socket with proper earthing connection. The socket must be connected to appropriately protected branch of Mains MCB. Connection to any other type of socket may result in a shock Hazard.
- Don't allow any spark near battery. Be sure not to come in contact with battery acid by any means.
- Place the battery bank as near as possible to HUPS.
- Replace batteries & fuse only with same rating and type.
- Never disconnect the battery cables while HUPS is delivering Power or charging the battery.
- Always installed or repair by a qualified personal or service technician.
- Battery bank kept outside the living room because it will generate explosive gases.
- SF SONIC TAMRA Home UPS should be grounded through a permanent wiring system.

<u>DO'S and DON'TS</u>	
<b>DO</b>	<b>DON'T</b>
Switch off the HUPS & Unplug Mains Supply while cleaning, Servicing or Touching	Don't block ventilation slots, it may result fire Hazard
Unplug the HUPS from socket outlet during lightening storm.	Don't place HUPS in direct radiation.
Use distilled water only for battery refilling	Don't add acid into the battery as it can cause damage
Installed battery in proper ventilated area	Don't keep cell cap loose or open
Place battery horizontally & handle with care	Don't place the battery at height
Keep out of reach of children	Don't dispose of battery in fire

## 6. Installation Process

### Where to install

The system should be installed in a location that meets the following requirements:

- a) **Dry** – Do not allow water to drip or splash on the SF POWERSMART UPS
- b) **Cool** – The ambient air temperature around the system should be between 0°C to 45°C (32°F to 113°F). Cooler environment is better for the system.
- c) **Ventilation**: Allow at least two inches (5cm) of clearance around the system for air flow.
- d) **Safe**: DO not install the SF POWERSMART in the same compartment as batteries or in any compartment which are storing flammable liquids such as gasoline.
- e) **Close to battery** - Install the system as close to the battery as possible in order to minimise the length of cable required to connect the system to the battery. It is better and cheaper to run longer AC wires than longer DC cables.

**CAUTIONS!** To prevent fire, do not cover or obstruct ventilation openings. Do not install the system in a zero - clearance compartment. Overheating may result.

**WARNING!** This equipment contains components which tend to produce arcs or sparks. To prevent fire or explosion do not install in compartment containing batteries or flammable materials or in locations which require ignition protected equipment.

### How To Install

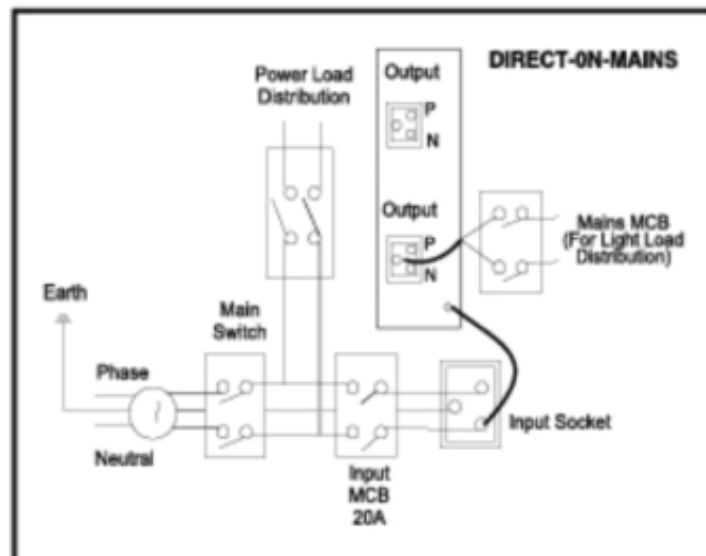
#### DC Cabling:

1. Ensure that the ON/OFF switch on the front panel of the SF POWERSMART UPS is OFF position before you begin the installation.
2. Connect the negative terminal of the battery to the thick black wire of system
3. Connect the positive terminal of the battery to the thick red wire of system

#### AC Cabling:

Plug in the power cord to the mains socket on the wall. The cabling should have proper earthing.

Connect AC input supply to the 3 way terminal of the system such that the line is connected to 'L', neutral is connected to 'N' and earth is connected to 'E'. Input supply should remain ON once the system is installed. Take out from output socket.



## 7. Start Operation

Once the AC and DC wiring have been installed and connected, take a moment to re-examine all the connections and make sure they are secured and in the proper terminals.

1. Check to see that the SF POWERSMART UPS is turned off and then apply battery (DC) power to it. Ensure that all wiring has been installed properly. Next turn on the battery bank DC disconnects or connect the proper fuse in line to the battery to complete the battery circuit.
2. Put ON/OFF switch to the ON position. This system should run a load without AC input (battery only). Place a load on the system and make sure it works.
3. To charge your batteries connect AC power to the system by lugging in the AC power and turning on the mains line. This shows that charger is working properly. Any AC load powered by the system should also work at this point since a portion of the AC power is passed through this SF POWERSMART UPS to power the loads.
4. Disconnect the AC power the system should transfer to battery mode immediately. This will be indicated by clicking sound as the internal transfer relay changes position.
5. The system will begin to take power from the batteries and use it to power the load. And the load continues to operate uninterrupted.

The above steps will complete the functional test of the SF POWERSMART UPS. If all areas pass, the system is ready for use. If something fail figure out the reason before proceeding or contact the service centre

**Note:** Manual / Bypass switch selection should be manual mode, if SF POWERSMART UPS faulty, than select Bypass selection.

## 8. SPECIFICATIONS

PARAMETERS	SPECIFICATIONS	
	SiNE PRO CU 900	SiNE PRO CU 1200
Rating	850VA	1050VA
No Load Output Voltage	220V $\pm$ 7V	
Nominal Battery Voltage	12V	
Output Frequency	50Hz $\pm$ 1Hz	
Output Wave Shape	Sine Wave	
Battery Low Cut Off	10.5V $\pm$ 0.2V	
Charging Current (HC)	17Amp $\pm$ 1Amp	18Amp $\pm$ 1Amp
Charging Current (NC)	12Amp $\pm$ 1Amp	13Amp $\pm$ 1Amp
Switchover Time at UPS Mode (Mains to Back-up or vice versa)	$\leq$ 10msec	
Switchover Time at Normal Mode (Mains to Back-up)	$\leq$ 40msec	
Switchover Time at Normal Mode (Back-up to Mains)	$\leq$ 10msec	
Mains Voltage Range for Battery Charging (@Normal Mode)	90V - 300V $\pm$ 10V	
Mains Voltage Range for Battery Charging (@ UPS Mode)	180V - 270V $\pm$ 10V	

## 9. APPLICATION & LOAD CHART\*

1. IT Appliances: Computers & Printers
2. Electrical Appliances: Fan Tubelights, CFL, LED Bulb and Other Home Appliances: TV, DVD, Music systems etc.

LOAD CHART OF SF POWERSMART UPS\*

Model	SiNE PRO CU 900				SiNE PRO CU 1200			
	A	B	C	D	A	B	C	D
Options								
Computers (TFT)	0	0	0	1	0	0	0	2
Printer (Laser)	0	0	0	1	0	0	0	1
TV (LCD 26")	0	0	1	0	0	0	1	0
Tube light (40W)	4	0	3	1	4	0	3	1
Fan (80W)	4	0	3	3	5	0	4	3
CFL (15W)	4	37	5	5	4	42	5	5

\* Depending on the actual VA rating/technical specifications of the appliance. Specifications are subject to change without prior notice due to constant R&D effort. Accessories show in the picture is not the standard part of the product.

## 10. TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	RECOMMENDED ACTION
No Indication on LCD Display	Battery may have got discharge	Recharge the battery by applying mains input
Mains supply is normal condition but HUPS working on Battery or Back-up mode	<ul style="list-style-type: none"> <li>• Mains plug may loose</li> <li>• Wall socket outlet may dead</li> <li>• MCB may trip</li> <li>• Mains input voltage is too low or too high</li> </ul>	<ul style="list-style-type: none"> <li>• Fit mains plug properly</li> <li>• Check wall socket outlet</li> <li>• Check mains input MCB</li> <li>• Wait for mains is in range</li> </ul>
HUPS ON but Output Not Show	Output plug may be loose	Fit the output plug properly
HUPS showing "OVERLOAD/ OVERLOAD TRIP" on LCD Display	The HUPS has tripped due to excess load applied	Reduce the applied load & Reset the HUPS by ON/ OFF Switch
HUPS showing "SHORT CIRCUIT/ SHORT CIRCUIT TRIP" on LCD Display	The HUPS has tripped due to output Short Circuit in Back-up Mode	Switch Off the HUPS & call an authorized technician

## 11. MAINTENANCE

Very less maintenance required to your SF POWERSMART Home UPS while operating. You should clean the exterior of the HUPS periodically with damp cloth to prevent accumulation of dust & dirt. Very less maintenance required to your SF POWERSMART Home UPS while operating. You should clean the exterior of the HUPS periodically with damp cloth to prevent accumulation of dust & dirt.

## Marketing Division

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For terms & conditions, please visit [www.sfbatteries.in](http://www.sfbatteries.in) | [customercare@sfbatteries.in](mailto:customercare@sfbatteries.in)