

Solar Power Conditioning Unit

Single Phase PWM Range



Range - Capacity 850VA/12V with 15A Solar Charge Controller

Brainy is a modern artificial intelligent machine with a contemporary look - a first in the power back- up industry which has been introduced by Su-Kam. Brainy is the world's first hybrid home UPS to harness solar energy into electricity and use its artificial intelligence to maximize utilization of solar energy to power homes. Brainy can operate on both Solar Power as well as Grid Power. It is integrated with in-built Solar Charge Controller which enables the conversion of solar power to electricity.

Working Principle

The UPS always gives preference to solar power while charging the battery. It senses the availability of solar power, grid power and gives charging preference to the solar power charge and only switches to the grid when the solar power is not available. It is designed to give you maximum benefit from the sun and minimize your electricity bill. In fact, the battery charging from the sun is highly efficient - more than >96%.

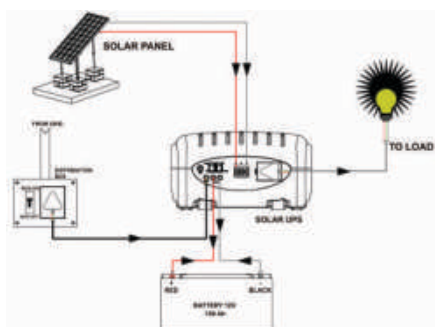
Features

- Brainy Solar Hybrid UPS can operate on both Solar Power as well as Grid Power.
- Integrated with an in-built 15amp Solar Charge Controller that enables the conversion of solar power to electricity.
- Brainy Solar Hybrid UPS always gives preference to solar power while charging the battery.
- It is designed to give you maximum benefit from the sun and minimize your electricity bill.
- Brainy UPS is used with 80W panel which is expandable to 240W in 12V
- Multi-information LCD display panel showing Rs saved from Solar, Battery voltage etc.
- Contemporary, futuristic design.
- Affordable pricing to suit any budget
- Easy system installation

Convenience

- Brainy uses both solar power and grid power and shares them to give you an uninterrupted Power supply to your home.
- The futuristic and aesthetic design of Brainy adds to the overall ambience of the room
- Affordable pricing to suit everyone's budget.
- Easy system installation.

INSTALLATION DIAGRAM



LOAD CHART

	A	B	C	D	E
Computer	1	-	-	-	-
TV	-	-	1	-	-
Tube light	3	2	3	4	-
FAN	3	2	3	4	-
Room Cooler	-	-	-	1	-
CFL	-	-	-	2	36

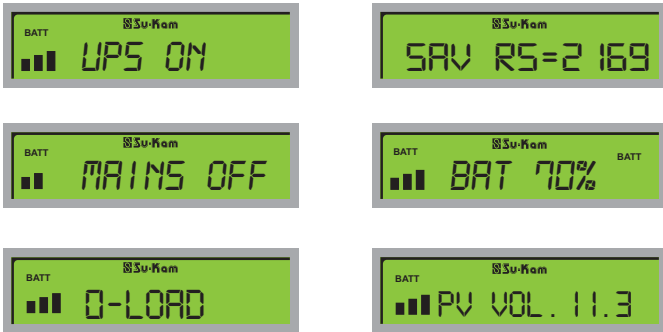
Indicative values only, actual calculation depends on manufacturer's specification

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Displays

- User friendly display. Informative LCD displays for use and to understand the functionalities of the system.
- An easy to read LCD panel ensures display of information of every event running like battery charging, system on/off, battery charge level, output load percentage and various other system status.



- Critical visual blinking warnings like over load, low battery, main fuse blown, short circuit, high temperature etc. Saves valuable time in identifying and rectifying fault areas and increases system life.
- LCD panel shows rupees saved from Solar charging at pre determined tariff rate.

Eco Friendly

- Brainy draws power from solar energy as first preference.
- Unlike conventional energy fuel, Solar PV Panel doesn't emit any gases or leaves any residuals, thus reducing global warming and contributing towards a greener environment.
- Due to extended battery life, the periodic process of battery replacement and disposing

Certificates

- IEC 61683, IEC 60068-2-1,2,14,30,31
- IEC 62093
- MNRE Approved
- EN - 62040 - 1, EN - 62040 - 2
- LE Certified



Matching Trolley

- X-tra durable: Made from tough, long lasting PPCP compound material which does not get destroyed ever if there is leakage / spillage from batteries.
- X-tra convenient: In built ribs for smooth in and out movement of battery without getting stuck.
- X-tra ease of movement: Sturdy yet smooth wheels enabling extra ease of movement while carrying the bulky battery.
- X-tra space saving: Stacks up with Inverter / UPS neatly in a corner, thus taking less space. Aesthetically designed to match
- X-tra safe: Provides good ventilation for battery.

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TECHNICAL SPECIFICATIONS

Backup Mode (Solar Power Available / Not Available)	
Inverter Output power	850VA/12VDC
Wave form type	Sine wave
Output Voltage in Volts (AC)	220 V \pm 10 %
Output frequency in Hz	50 \pm 1% Hz
Efficiency	> 75% (80-100% Resistive Load)
Distortion (THD)	
Forced ventilation	
Nominal Input voltage (DC)	
Battery Low Voltage warning	10.7V \pm 0.2V
Battery Low Voltage cut off	10.5V \pm 0.2V
Battery Reverse pole protection	Dc Fuse Blown
Short Circuit protection	retry for 4 times & permanent out put OFF
Over load Protection	150% for >10 Seconds
Over Load Shutdown	permanent out put OFF
Over Heating protection	>105°C
Grid Mains Mode	
Grid Charging Current (Tubular / SMF / LA)	14A \pm 2A*
Charge End Voltage (Battery Boost & Float Charging Voltage)	14.4V (SMF, Tubular) / 14.0V (LA) \pm 0.2V.(Grid charging stops when battery reaches float charging 13.6V \pm 0.2V and PV power will be >5 to 8W then System transfer to backup mode as same as specified changeover time (Ups <15 msec. or W-Ups <40msec. **).
Change over time:	Mains to Inverter < 40 milliseconds
Wide Window & Narrow Window	Mains to Inverter <15 milliseconds
Wide Window	
Grid low cut	105VAC \pm 10V
Grid low cut recovery	120VAC \pm 10V
Grid high cut	285VAC \pm 10V
Grid high cut recovery	275VAC \pm 10V
Narrow Window	
Grid low cut	185VAC \pm 10V
Grid low cut recovery	190VAC \pm 10V
Grid high cut	265VAC \pm 10V
Grid high cut recovery	255VAC \pm 10V