![LENTO (House of Green Energy)]

Advanced Solar Hybrid Home Inverters

Convenience

Solar Hybrid DSP uses both Solar Power as well as Mains for charging the battery bank according to parameter priority set, providing the users availability of uninterrupted power supply.

Salient Features

- DSP based design with absolute and stable sine wave output.
- State of art MOSFET based PWM technology with greater efficiency at lower cost with dynamic stability.
- Three Stage Solar Charging (TSSC) suitable for all types of battery charging.
- Combined mains and solar intelligent constant current charging with solar power priority.
- PV availability, battery charging from solar power indication with display on LCD and LED.
- User friendly, feather touch control and selection switches with LED indication on front panel.
- Protections such as Mains Fuse Trip, Overload, Short circuit, Battery low, over temperature indication with buzzer as well as display on LCD available.

- Maximum Solar Power Utilization during charging and backup mode.
- PV pole reversal protection indication on LCD
- Deep discharge battery charging from mains as well as solar.
- More back–up being a sine wave UPS (ASIC Control).
- No humming Noise (Silent UPS)
- AC Mains available, battery charging/Charged and its voltage indication provided on LCD display as well as LED.

PRODUCT DESCRIPTION

The hybrid solar system feature a bank of solar photo voltaic modules tied to a bank of batteries with a controlling interface. The controlling interface is the critical component here. Lento has designed a superior computerized digital controller with these features:

- Monitoring of battery voltage, optimum charging of battery, state of battery charge monitor, low voltage and overload cut out.
- Quick battery charging mode using solar power or AC mains power or both with the controller sensing SPV module power and switching to mains if voltage is low, as happens in case of rainy conditions
- Switch over of load to solar when monitoring unit senses it can bear the load. Lento controller monitors and seamlessly switches power in milliseconds, making it ideal even for sensitive electronic devices like computers.
- DSP based sine wave output with fixed 50 Hz 230 V sine wave output. This enhances reliability and durability of equipments that are designed to work on sine waves such as air conditioners, refrigerators, tube lights and fans.
- Energy conservation is highest while battery backup is longest in our DSP based solar hybrid systems.

TECHNICAL SPECIFICATIONS HYBRID UPS/ SPCU

System Capacity	850VA	1050VA	1050VA	1450VA	2000VA
Max PV Panel Power	500W		1000W		
Battery Voltage	12V		24V		
No Load Current	≤2.2A	≤2.4A	≤2.2A		
Output Voltage @ No Load	220V ±7V				
Output Voltage @ Full Load	180V–220V				
DC Current @ Full Load	53A ± 2A	63A ± 2A	31A ± 2A	46A ± 2A	62A ± 2A
Output Frequency	50HZ ± 1HZ				
Solar Charger Type	PWM				

UPS MODE

Low Cut Voltage	180±10V
Low Cut Recovery	9V–12V HYSTERSIS
High Cut	260V ± 10V
High Cut Recovery	9V–12V HYSTERSIS
Change Over Mains to UPS	<=10ms
Change Over UPS to Mains	<= 10ms

NORMAL MODE

Low Cut Voltage	100±10V
Low Cut Recovery	9V–12V HYSTERSIS
High Cut	280V ± 10V
High Cut Recovery	9V–12V HYSTERSIS
Change Over Mains to UPS	<=50ms
Change Over UPS to Mains	<= 10ms

CHARGING MODE (HC/QC)

Max Charging @ Mains Only	13A ± 1A
Max Charging @ Solar Only	30A ± 1A
Max Charging @ Solar + Mains	25A ± 1A
Solar + Mains Charging Current Adding in HC Mode, Max charging current below 13.7V Battery voltage; above 13.7V Battery Voltage charging current is 15A ± 1A	

CHARGING MODE (NC/EC)

Max Charging @ Mains Only	13A ± 1A
Max Charging @ Solar Only	30A ± 1A
Max Charging @ Solar + Mains	25A ± 1A
Mains Charging Current will be zero if solar current is >13A, Max charging current below 13.7V Battery Voltage; above 13.7V Battery Voltage charging current is 15A ± 1A, system will cut off the mains when battery voltage reaches Boost voltage level and Output load is transferred to Solar + Battery Power.	

BATTERY CHARGING VOLTAGE

Boost Voltage	14.4 V ± 0.2V	28.8V ± 0.2V
Float Voltage	13.7 V ± 0.2V	27.4V ± 0.2V

PROTECTION

Over Load Warning	Yes	Short Ckts (Mains Mode)	AC Fuse Trip	Mains MCB Trip
Over Load Protection	Yes	Short Circuit Protection (Battery Mode)	Yes	
Battery Low Alarm	Yes	Short Circuit Retry (Battery Mode)	Yes	
Battery Low Protection	Yes	PV Reverse Protection	Yes	
Over Temperature Alarm	Yes	Mains MCB Trip/Fuse Trip	Yes	
Over Temperature Protection	Yes			

* All Protections are resetable through PCU switch & Mains.

* Above mentioned specifications are subjected to change as per development without prior notice.

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