

Solar Inverter

FEEL THE DIFFERENCE

Maruthi's Solar Inverter can power domestic loads like Personal Computers, Laptop, Incandescent bulbs, CFL lamps, Fluorescent lamps, Halogen lamps, Fans, small mixers, blenders, food processors, TV, music system, DVD player etc. The output generated by this is pure sine-wave and is meant for all types of sensitive electronic equipments. It does not generate irritating audible hum as with any conventional Inverter with any type of loads.

This SOLAR Inverter collects and stores SOLAR energy in the battery and generates pure Sine wave 220V AC output to power domestic electric appliance and fittings. It has a dual SOLAR-SMPS charger with advanced intelligence to automatically select either SOLAR power as priority or ac mains to power up the loads. It has advanced protection system to make it one of the most rugged SOLAR Electric Power generating system available.



SINE WAVE INVERTER

The two stage Inverter has a High frequency MOSFET based SMPS voltage booster followed by an IGBT based Sine-wave Inverter. It does away with the conventional Iron core transformer making it one of the lightest Inverter available. In comparison, over 75% reduction in weight and over 50% reduction in size, is achieved. The efficiency of this Inverter is high primarily due to the removal of the Iron core transformer and due to the deployment of High frequency SMPS and IGBT technology.

SOLAR CHARGER

The SOLAR charger charges the battery whenever the SOLAR energy is available. The Solar charger is of PWM type and having three level charging topology. It has the temperature compensation. The system automatically tops up the battery and protects from overcharge. Separate LED's clearly show the battery's charge level. Higher capacity SOLAR panel can be connected optionally to reduce the dependence on mains ac supply.

SMPS CHARGER

The SMPS charger is used to top up the battery in case the SOLAR energy is insufficient. The microcontroller continuously monitors the SOLAR PV panel Voltage, the battery Voltage, the AC line Voltage and frequency and controls the operation of the charger. The SMPS charger deploys a three stage constant current - constant voltage - trickle charge method to keep the battery fully charged automatic boost mode selection keeps all the cells in the battery healthy and primed.

FEATURES

- High frequency SMPS based IGBT Inverter.
- Fully automatic SOLAR charger with auxiliary SMPS mains charger.
- No bulky Iron core transformer, so light weight and compact.
- Highly stable sine wave voltage and frequency with 16 bit Digital Control.
- No load cutoff and automatic re-connect of the inverter.
- Excellent output voltage regulation with load and decreasing battery voltage.
- Fuse Fail detection.
- Low idle power consumption.
- Silent operation. No hum noise on fans, fluorescent lamp, motors etc.
- Advanced fault protection.
- Single switch control for Start/ Standby/ Reset/ Shutdown.
- Intelligent cooling fan control to minimize dust accumulation.
- Auto reset function for Overload and Short circuit trip.
- Low Battery & Battery deep discharge protection.
- Capacity to charge highly discharged battery.
- Automatic Boost and trickle charging.
- PWM Solar charging (Boost/Float/Trickle).
- Battery temperature compensation.
- Easy external accessibility for AC and DC fuses.
- Extensive Indications and Alarms.

Model	MSI 550	MSI 850	MSI 1000
Rating	550VA	850VA	1000VA
Battery Voltage	12V DC	12/24V DC	24V DC
Peak Inverter Efficiency	>90%	>90%	>90%
No Load Power consumption	< 6W		
Output voltage in backup	220V+/-5V		
Output frequency in backup	50Hz+/- 0.1Hz		
Output Wave form	Pure Sine Wave		
Load type	Resistive, Inductive, Capacitive		
Main Relay rating	30A/250V (resistive load)		
Mains mode operation range in UPS mode	185+/-5V to 260+/-5V a/c		
Mains mode operation range in INV mode	120+/-5 to 280+/-5V a/c		
Cooling	Forced air with automatic control		
Changeover time	<8mS in UPS mode / < 15mS in INV mode		
SOLAR PV rating	12V-500W/24V-1000W		
SMPS Charging Current	12V-8A+/- 2A/24V- 6A+/-2A		
Float (Trickle) charging Voltage	13.7/27.5+/-0.1V		
Boost mode Voltage	14.1/28.2 +/- 0.1V		
A/c Fuse rating	10A, 30mm Glass		
DC fuse rating	2x 40A 20mm Blade		
Dimension WxDxH (mm)	275x295x90		
Weight	5.0Kgs		

Data subject to change due to continuous improvement.

Maruthi Solar Systems

An ISO 9001-2008 Certified Company

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