



**PUREVOLT™**

# SINE WAVE/SOLAR INVERTERS

**DSP  
BASED  
DESIGN**



Ratings Available  
100 VA to  
15 KVA.

**YOUR BEST ACCESS TO POWER BACKUP**



# FEATURES LIST OF DSP SINEWAVE/SOLAR INVERTER

- DSP based Design ; less components, small size less electricity bill more efficiency
- Soft start features; protects appliances at startup.
- Supply the highest quality pure sine wave power; protects your expensive household appliance and sensitive office equipments.
- Highly cost effective design.
- Efficiency >80%.
- Charging from 100VAC to 290VAC.
- Over load and D.C. low protection.
- Software controlled Auto self testing.
- Inverter and UPS operation (PC Compatible).
- Intelligent Auto sense; continuously monitors health of system.
- AC Input low and high voltage cut off protections in both, inverter and U.P.S. modes.
- Constant voltage/Constant current pulse charging with wide Input range (130-280) V. (Charging current-10Ampr)
- Silent operation of fans, tube light or appliances.
- Quick change over from Mains to inverter mode.
- Software controlled Auto reset feature for over load, short ckt and low battery
- Special charging algorithm to enhance battery life.
- Fully protected against short circuit of AC mains with output.
- Phase to phase short circuit protection.
- Very low no load current for prolonged battery operation under standby.
- Cooling fan improves reliability of system.
- Secure operation; No tension for night charging.
- Intelligent charging; adapts itself to low, high battery, more and less power cut areas, battery health conditions.
- Can even charge 6.4 volt deep discharged battery.
- Reverse battery protection (optional).
- Generator compatible.
- Charging current adjustable from 0 to 20 Amp.

## Solar Features

- Auto switchover between solar and mains charging
- Zero drop solar charger (10-40) Amp.
- Simultaneous charging through mains as well as solar panel.
- Short charging time.
- Long battery backup.

# TECHNICAL SPECIFICATIONS

MODEL	100VA/200VA/300VA/400VA/ 600VA/800VA/12V	1000VA/1500VA/24V	2000VA/36V	2500VA/3000VA/48V/4000VA/ 5KVA/7.2V/6KVA/96V, 7.5KVA/96V
Input voltage (UPS)	180-260V	180-260V	180-260V	180-260V
Input voltage (INV)	90-280V	90-280V	90-280V	90-280V
Output voltage on mains mode	Same as input	Same as input	Same as input	Same as input
Out voltage on inverter mode	220 ±5%	220 ±5%	220 ±5%	220 ±5%
Output frequency on inverter mode	50Hz ±0.1Hz	50Hz ±0.1Hz	50Hz ±0.1Hz	50Hz ±0.1Hz
Switching from mains to inverter and from inverter to mains.	Automatic	Automatic	Automatic	Automatic
Switching from mains to UPS and from UPS to Mains	Automatic	Automatic	Automatic	Automatic
Output waveform on mains mode.	Same as input	Same as input	Same as input	Same as input
Output waveform on inverter mode.	PURE SINE WAVE	PURE SINE WAVE	PURE SINE WAVE	PURE SINE WAVE
Battery charging current	Constant charging approx 6% of the rated battery current in AH.	Constant charging approx 6% of the rated battery current in AH.	Constant charging approx 6% of the rated battery current in AH.	Constant charging approx 6% of the rated battery current in AH.
Charger	Power factor controlled boost technology	Power factor controlled boost technology	Power factor controlled boost technology	Power factor controlled boost technology
Efficiency	> 80%	> 80%	> 80%	> 80%
Inverter overload	120%	120%	120%	120%
Inverter short circuit	300%	300%	300%	300%
Technology	DSP BASED DESIGN.	DSP BASED DESIGN.	DSP BASED DESIGN.	DSP BASED DESIGN.
Auto reset features	Yes	Yes	Yes	Yes
<b>SOLAR SPECIFICATON</b>				
PV Panel Voc Max.	23V	45V	68V	92V/138V/184V
PV Panel on load V Output	15.5V	31V	46.5V	62V/93V/124V
Output Current	10 to 40 Ampr	10 to 40 Ampr	10 to 40 Ampr	10 to 40 Ampr
Battery Full Charge Cutoff	13.8 VDC	27.6 VDC	41.4 VDC	55.2/82.8 /110.4VDC



# SOLAR INVERTER VS SOLAR PCU

## Solar Inverter:

Solar Inverter has priority for solar charging similar to PCU. However during solar day, battery will be charged through solar but in presence of mains the load will be fed through mains through bypass mode. Solar energy stored in battery can be utilized when AC mains is absent (in Inverter mode). This way solar energy will be stored in the battery and can be utilized when AC mains gets cutoff. As long as the mains is present solar power is kept stored.

## Solar PCU

In Solar PCU, solar charging of battery takes priority during solar day. Battery charges through solar until it reaches full charge voltage (typically 14.2V). After battery is fully charged, the load is fed via battery in inverter mode thus AC power is not used in presence of solar power. After the battery gets fully discharged (upto say 11V), the mains takes over charging as well as the load is fed through mains only. This way solar energy will be used first on priority and mains energy will be utilized only after the solar energy is fully exhausted.

# SOLAR SUPER CONVERTER

Solar Super Converter is a Solar Priority Charger & charges the Battery up to a Preset Max cut off voltage. After reaching this voltage, the AC output is disconnected & the load is supported from the Battery, As the Battery voltage drops down and reaches a lower cut off voltage, the AC output is reconnected & the load is supplied from Mains. The Battery status is thus maintained within a healthy range prolonging the life of the Battery, while the harvested Solar Power is used optimally to supply the load thereby reducing Power bills, a PCU functionality.

A SOLAR CHARGE CONTROLLER or regulator is a small box consisting of solid state circuits pcb which is placed between a solar panel and a battery.

Solar Charge Controller Has Mainly Three Basic Functions:

- 1) To Limit The Voltage From The Solar Panel And Regulate The Same So As Not To Overcharge The Battery
- 2) Not To Allow The Battery To Get Into Deep Discharge Mode While Dc Loads Are Used
- 3) To Allow Different Dc Loads To Be Used And Supply Appropriate Voltage.

# SOLAR CONVERTER

We offer solar converter cum solar charge controller for existing inverters.

If you own an inverter system then by connecting our solar converter you can convert your existing non solar inverter system into a solar inverter.

This gives priority to solar charging and allows only the solar panel or mains to charge the battery at a time.

The switch over between solar and mains is automatic.

Some of the features of solar converter are:

- (1) Converts existing non solar inverter into a solar inverter.
- (2) 12V and 24V systems are available
- (3) 10 Amp, 20 Amp, 30 Amp and 40 Amp models are available
- (4) Auto switch over between solar and AC mains.
- (5) Manual selection also available in case solar charging is not sufficient in cloudy weather.
- (6) LED display for charging status
- (7) Housed in a rugged steel cabinet.







## OUR OTHER PRODUCTS

- Servo Voltage Stabilizer
- Automatic Voltage Regulator (AVR)
- Static Voltage Regulator
- Isolation Transformer
- Variable Auto Transformer
- Constant Voltage Transformer (CVT)
- On-line UPS

# TYPES OF SOLAR CHARGE CONTROLLERS

## 1. Pulse Width Modulation (PWM)

More modern charge controllers use Pulse Width Modulation (PWM) to slowly lower the amount of power applied to the batteries as the batteries get closer and closer to fully charged. This type of controller allows the batteries to be more fully charged with less stress on the battery, extending battery life. It can also keep batteries in a fully charged state (called "float") indefinitely. PWM is more complex, but does not have any mechanical connections to break.

### Features:

- |                            |   |
|----------------------------|---|
| 1. Input panel voltage     | - 15V to 168V   |
| 2. Battery Voltages        | - 12V,24V,36V,48V,60V,72V,96V   |
| 3. Solar Charging currents | - 10 Amp,20 Amp, 30 Amp and 40 Amp                                      |
| 4. Charging efficiency     | - 97.5%   |
| 5. Casing                  | - ABS plastic casing / Metal casing                                     |
| 6. Input/ Output terminals | - copper wires with thimbles  |
| 7. DC output               | - 5 Amp DC output with battery low cut available in 12V and 24V models. |

## 2. Maximum Power Point Tracking or MPPT

The most recent and best type of solar charge controller is called Maximum Power Point Tracking or MPPT. MPPT controllers are basically able to convert excess voltage into amperage. This has advantages in a couple of different areas.

Our MPPT Charger employs the latest digital signal processing technology for accurate & definite tracking of the maximum Power Point (MPP) irrespective of environmental factors such as temperature & Solar Irradiation. A high speed modified P & O algorithm has been implemented to optimally harvest & transfer maximum energy from the connected Solar Panel to the Batteries. The charger is also equipped with the following safety features for lasting Performance.

### Features:

1. Lightning protection
2. Battery Reverse protection
3. Panel reverse protection
4. Over Current protection
5. Battery over charger protection
6. Wide battery voltage range (12V to 96V)
7. Wide charging current range (10 Amp to 100 Amp)
8. Built in Reverse Panel current protection during nights.
9. Zero battery discharge during nights.
10. Efficiency Greater than 96%
11. Compact size: 23 X 27 X 9 (cm)
12. Up to 30% energy conversion efficiency as compared to ON/OFF or PWM type.
13. Battery can be charged faster, in shorter duration
14. Even in cloudy weather, battery can be charged faster.
15. Higher voltage PV panel can be used to charge lower voltage battery

**PUREVOLT™**

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