



# Vitronics Controls

An ISO 9001-2008  
Certified OEM Company

# Bhanu

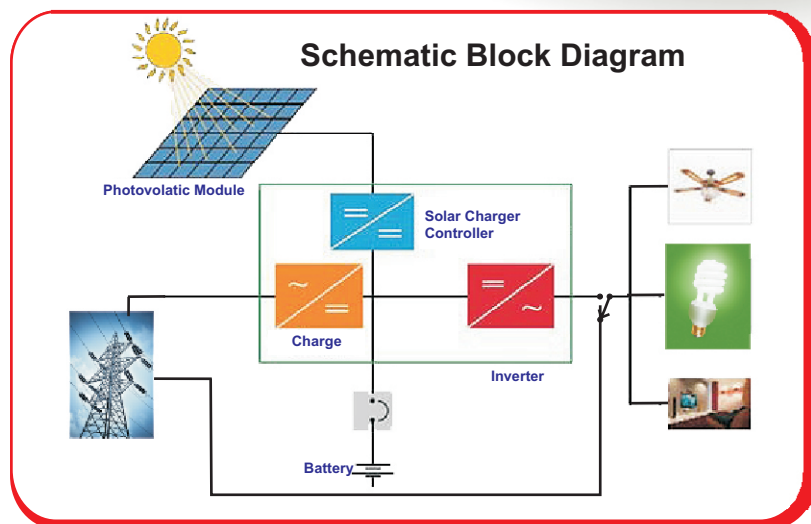
## Solar PCU

Model - 800VA12V

1000VA/1600VA/2500VA-24V

2000VA/2500VA/3500VA/5000VA48V

**DSP Based**  
**5 Stage Battery Charging**  
**Highlight Ruggedness**  
**A Patent ALR Technology For Efficient Charging**  
**Inbuild SBM Smart Battery Management**  
**True MPPT Solar Charger**



### Solar Hybrid Inverter (Power Conditioning Unit)

A solar Hybrid Inverter (PCU) can benefit the home in a variety of ways. Depending on the size, it can allow an establishment to remain unaffected in the event of power failure. It can also be used to simply cut the costs of daily energy use. Ideal for usage in homes, shoppes, Hospitals, Banks, Schools etc.

The Power Conditioning unit, ensures maximum utilization of solar by prioritizing the control process. the panels usually bigger in size charges the battery enough to take care of not only backup during power failure; but also the entire load during night. The inverter automatically disconnects the EB/ Mains power supply and the inverter supplies the entire power to the load, saving electricity.

# Solar PCU Features

- ▶ DSP based; less components, small size less electricity bill more efficiency.
- ▶ Soft Start features; protects appliances at start up.
- ▶ Last Fault Display and record : the system records the last fault and you can analyze it.
- ▶ Adaptive loss reduction process gives more efficient charging system.
- ▶ 5 stag battery charge control system for lower gassing and faster Charging
- ▶ In built SBM (Smart Battery Management) system to provide higher degree battery production & life
- ▶ Battery usage data is recorded for better evaluation of battery.
- ▶ Supply the highest quality pure sine wave power; protects your expensive
- ▶ household appliance & sensitive office equipments.
- ▶ Musical Alarm
- ▶ Highly cost effective design with special features to safeguard the mosfets to poor electrical quantity.
- ▶ Over load and D.C. low protection
- ▶ Software controlled Auto self testing
- ▶ Fully computer friendly UPS operation.
- ▶ Intelligent Auto sense; continuously monitors health of system.
- ▶ AC input low & high voltage cut off protections in both, invertor & U.P.S.modes.
- ▶ 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 & low battery.
- ▶ Very low no load current for prolonged battery operation under standby.
- ▶ Cooling fan improves reliability of system.

# Solar PCU Technical Specification

MODEL	800VA30/800VA60	1000VA/1600VA30/1600VA50 /2500VA50	2000VA30/2500VA30/3500VA30/3500VA60/5000VA60
Input Voltage (UPS)	180-260V		
Input Voltage (INV)	130-280V		
Output Voltage on mains mode	Same as input		
Output Frequency on inverter mode	50Hz $\pm$ 0.1Hz		

## Display

A.C Output Voltage of inverter, Mains Voltage input of inverter, Mains Frequency of the inverter, Inverter Load %, Battery Current

Battery Level in %, Battery Status, Inverter Status, Inverter Error (if any), Solar Voltage, Solar Current, Solar watts, Solar KWH

Solar Voltage, Days in service, Solar Status & mode of operation

Bill reducing protocol	Available	
Output Waveform on mains mode	Same as input	
Output Waveform on inverter mode	PURE SINE WAVE	
Overload	110%	
Overload delay	0-20sec	Settable for handling motor loads
Overload restart	5 times	Auto restart on over load
Charging current	5amp till 20amps	
Charging process	5 stage charging process	
Data logged	Battery usage	Number of time battery discharged till warning and number times battery charged
		Last Fault record
Mode control	Fast / slow UPS/Inverter	For computer applications select UPS mode In fast mode transfer is within 4milli sec.

## Inverter Protection

Unique protection scheme have been incorporated to enhance reliability.

Reverse Phase	In the event of phase voltage wrongly connected to the inverter output safe shut down will occur
Overload	In the event of overload system will shut down and restart 5 times
Short Circuit	A short circuit on the output will be detected separately and lead to lock down.

Over temperature	Excessive temperature rise due to poor cooling or fan failure will
Under charged battery	cause shut down
Battery loose	Sparking or spikes on the dc bus will cause safe shut down and lock down.
Battery deep discharge	Soft current build up in case of deep discharge battery
Battery bad	In event a cell is dead or shorted a time out circuit will prevent prolonged charging.
Auto reset features	Yes

### (Solar Charger) Protection

Solar panel Reversed
Solar panel shorted
Solar switch Bad
Inverter comm. failure

### Alarm 6 Separate audio tones

DC high / battery loose
Phase reverse or short
Hot or fuse fail
Overload / Output low
Battery low or bad, Battery
Water reminder

### MPPT CHARGER SPECIFICATONS

PV Panel Input Voltage	17-50 V	30-45V	70-120V
Output Voltage	12 V	24 V	48 V
Max Solar Charging Current	30 Amp	30/30/50/60 Amp	30/30/30/60/60 Amp
Battery Full Charge Cutoff Settable as per SMF/ Lead Acid/LIFEPO4(Configurable)	13/14.2 VDC	26/28.4 VDC	53.2/56.8 VDC
Max Pv Panel Connected	400/800 W	800/800/1500/2000 W	1600/1600/1600/3000/3000 W

### Our Other Power Product



Protect Solar Charge Controller from direct Sunlight & Water.

Panel open circuit voltage should not to do be more than specified voltage

\*Specification are subject to change without prior notice due to constant improvement in design & technology.

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