

## **“PCU” FEATURES & SPECIFICATIONS:**

Its the new generation PCU designed for the max power conversion technology with using advanced Processor with State-of-the-art MOSFET based PWM technology along with Inbuilt MPPT / PWM technology charge controller. It has been developed in such a way that it has all the necessary features for an excellent product performance in renewable segment with extensive care on safety protection front too. The compact enclosure designed in such a way that end user can easily carry it due to light weight.

### **INVERTER SPECIFICATION:**

Power Rating	: 650 W
Input AVR range	: 110V to 275V
Nominal Input Voltage	: 12VDC
Input frequency range	: 40 to 60 Hz.
Inverter output frequency	: 49 to 51 Hz.
Output wave form	: Pure Sine Wave with less than 3% THD.
Output voltage in inverter	: 210V / 220V Programmable +- 5%.
Output voltage in Mains	: Same as Input Voltage.
Solar Charge controller	: Inbuilt Charger controlled with inbuilt Microcontroller
Battery Charging Current	: 1A to 10A Programmable in steps of 1A Direct Main : Priority always Solar (max current shared from Solar)
Inverter efficiency	: >85%
Power factor	: 0.8
Typical transfer time	: Less Than 40 ms in Wide mode. : Less Than 15ms in Normal mode ( Optional ).
Battery LVD Cut off	: 10.8 V /12V (+- 0.2V)
Load Reconnection	: 12.6 V /12V (+- 0.2V)
Charging priority	: Battery will be charged through PV as priority – Refer Charging Priority chart for details specification.

### **Wide Input Range:**

Grid Low cut off / Recovery	: 100 V +- 5 V / 110 V +- 5 V
Grid high cut off / Recovery	: 265 V +- 5 V / 275 V +- 5 V

### **Normal Input Range ( Optional ) :**

Grid Low cut off / Recovery	: 170 V +- 5 V / 180 V +- 5 V
Grid high cut off / Recovery	: 265 V +- 5 V / 275 V +- 5 V

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## **SOLAR CHARGE CONTROLLER SPECIFICATION:**

Type	: PWM
Max Input PV Voltage (Voc)	: 26 V
Max PV Input (Vmp)	: 21 V
Charging Current (I max)	: 30 Amps
Efficiency	: 90% pk*.

## **PROTECTIONS:**

- ✓ Self Diagnostic Support on Start Up.
- ✓ Battery over Charge, Under Charge, and wire removal.
- ✓ O/P Short Circuit/Over Load
- ✓ Phase Reversal.
- ✓ Mains High Voltage/Low Voltage Cut OFF.
- ✓ High Charging Current
- ✓ Optional Temp Sensing for MOSFET Protection.

## **OTHER SPECIFICATION:**

### **Display Features:**

Mains Status	: Yes
Charging Status	: Yes
Battery Status	: Yes
Load Status	: Yes
Error Status	: Yes

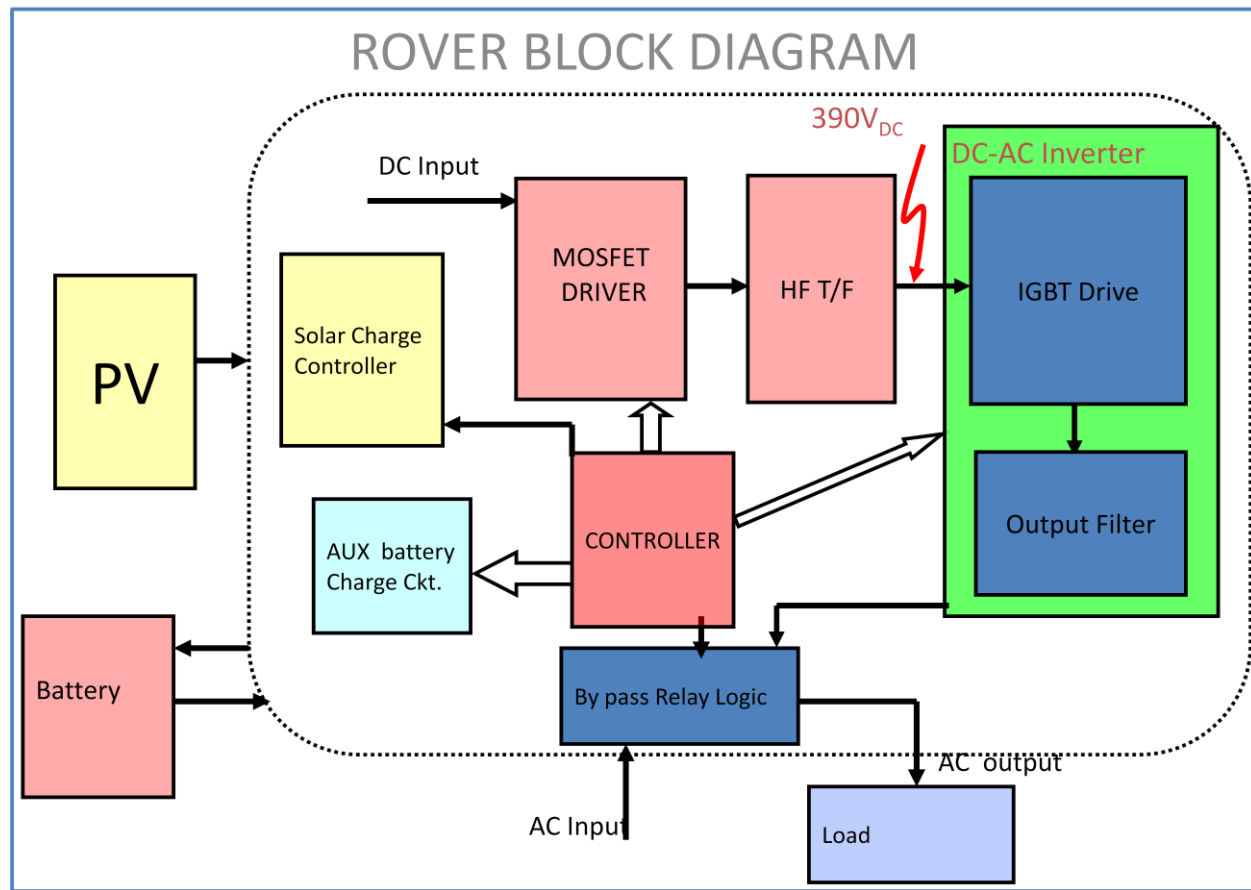
### **Environmental Features:**

Operating temperature	: 0 Degree to +50 Degree Celsius.
Storage Temperature	: 0 Degree to +55 Degree Celsius.
Acoustics Noise	: < 60 db
Humidity	: 0 to 95% RH
Cooling Type	: Convection

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## BLOCK DIAGRAM:



## CHARGING PRIORITY CHART – GENERAL ILLUSTRATION:

PV	GRID	Battery Status	Charging By	Output Mode
100%	AVAILABLE	11.8 V TO 13.5 V	PV*	INVERTER
100%	AVAILABLE	> 14.2 V	PV*	INVERTER
50% TO 100%	AVAILABLE	11.8 V TO 13.5 V	PV+ GRID	INVERTER
50% TO 100%	OFF	11.8 V TO 13.5 V	PV	INVERTER
50% TO 100%	OFF	> 14.2 V	PV	INVERTER
OFF	AVAILABLE	11.8 V TO 13.5 V	GRID	GRID
OFF	AVAILABLE	> 14.2 V	NO CHARGING	INVERTER
OFF	OFF	> 14.2 V	NO CHARGING	INVERTER
50% TO 100%	AVAILABLE	<10.8 ( Low bat)	PV + GRID	GRID
50% TO 100%	OFF	<10.8 ( Low bat)	PV	OFF
OFF	AVAILABLE	<10.8 ( Low bat)	GRID	GRID
OFF	OFF	<10.8 ( Low bat)	NO CHARGING	OFF

- Negligible from Grid

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