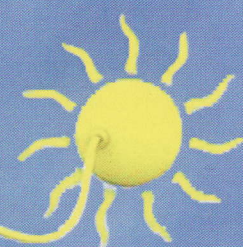


SOLAR PCU

POWER CONDITIONERS FOR GREEN ENERGY



DIAMOND GREEN ENERGY CORPORATION

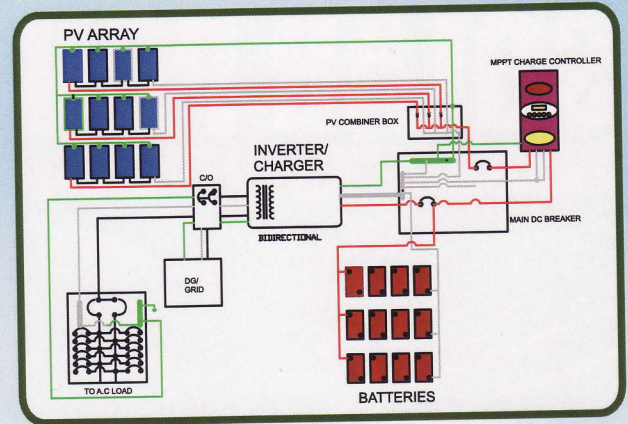
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Range : 1 KVA to 150 KVA

- A) PRIORITY: SOLAR -> BATTERY -> GRID
 B) PRIORITY: SOLAR -> GRID -> BATTERY

WORKING OF SOLAR PCU (BIDIRECTIONAL)

- When solar energy is sufficient then total o/p load will operate on solar through MPPT & Inverter. Excess solar power will charge batteries.
- When solar energy is weak then inverter is taking DC source from solar & balance from batteries.
- When batteries reach 75% discharge level (25% kept as a buffer) the o/p load is shifted to grid and change over time will be 1 to 2 seconds.
- After shifting load to grid (bypass) the batteries are charged from solar energy and if solar energy not sufficient to charge the batteries, then remaining DC power is taken from grid chargers (Inverter is acting as a grid charger in reverse directions, so the system is called as a bidirectional PCU)
- Once the batteries are fully charged then load is shifted back to inverter from grid.
- During change over from inverter to grid (i.e 75% battery discharged) and if grid supply is not present then again load is shifted to inverter to use buffer battery backup (i.e balance 25%)
- When grid returns during inverter which is working on buffer battery backup then the load is shifted to grid & batteries are charging through solar or grid as per bidirectional logic.



Technical specifications

MODEL	SERIES					
	5kVA - 8kVA	10kVA	15kVA - 30kVA	50kVA	100kVA	150kVA
Rating	5kVA - 8kVA	10kVA	15kVA - 30kVA	50kVA	100kVA	150kVA
DC Voltage	96V	120V	240V	360V	360V	360V
Solar Voltage range	108V - 200V	128V - 240V	255V - 500V	355V - 700V		
Charge Controller	MPPT based Charge Controller.					
MPPT Rating	Multiples Of 100A (Customized as per requirement)					
Grid charger Rating	As Per System & Battery Capacity					
Grid Input	Single Phase/Three Phase					
Grid Voltage Range	160V-270V or 340V-470V					
Type of Inverter	IGBT based PWM Inverter					
O/P Waveform	Pure Sinewave					
O/P Power Capacity	5kVA-150kVA (@ Output PF 0.8)					
O/P Voltage	230 + 1% (1-phase) 415 + 1% (3-Phase)					
Frequency	50Hz					
T.H.D	<3% on Linear Load <5% on Nonlinear Load					
O/P P.F	0.8 lagging to Unity					
Inverter Efficiency	>90%					
Overload Capacity	100%-120% for 30sec 125%-150% for 0 sec					
Change Over Time	'0 seconds' for Atlas series.					
Duty Cycle	Continuous					
Operating Mode	Hybrid Online					
Noise	50dB at 1m distance					
Operating Temperature	0-50 Deg. Celsius					
Storage Temperature	-10 Deg. Celsius to 55 Deg. Celsius					
Humidity	95% (Non Condensing)					
Altitude	<1000m above sea level					
Enclosure Protection	IP20 or IP21					
Cooling	Forced Air Cooling					
Color	Siemens Grey / Black					
Cable Entry	Bottom Rear Side					
Dimensions	450mm(L) X 710(W) X 650mm(H)-5kVA, 500mm X 1000mm X 950mm - 10kVA-30kVA , 750mm X 1400mm X 1200mm - 50kVA-150kVA					
Weight	80kg (5kVA), 120kg - 300kg (10kW-30kVA) , 450kg - 650kg (50kVA-150kVA)					
Metering	Solar Voltage Solar Current Solar Power	O/P Voltage O/P Current	Grid Voltage Grid Current	Battery Voltage Battery Current I/P Frequency O/P Frequency		
Faults Display	O/P Under O/P Over	Battery Reverse Polarity Array Reverse Polarity		O/P Overload Over Temperature Short Circuit		DC Under DC Over
Protections	MCB at Grid MCB at Array MCB at Battery MCB at O/P	Fuses at Inverter I/P Fuses at Array I/P		AC Over AC Under DC Over DC Under		Over Temperature Overload Short Circuit
Pre Alarm	Overload & Battery Low					

Remote Monitoring Solutions

EnerMon is a power monitoring application for our Solar PCU to monitor and measure parameters centrally or at a remote location. The monitoring screen displays the reading and meters for the PCU. One can configure display values, and color coded ranges for the values. You can select the readings to log for later viewing. The frequency of data logging is user defined. The event log tracks the history of power and PCU related events.

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