

Think Green, Think Smart, Think Clean
- Enlighten Efficiency

Cosmic Solar Solutions

- Enlightening Solar



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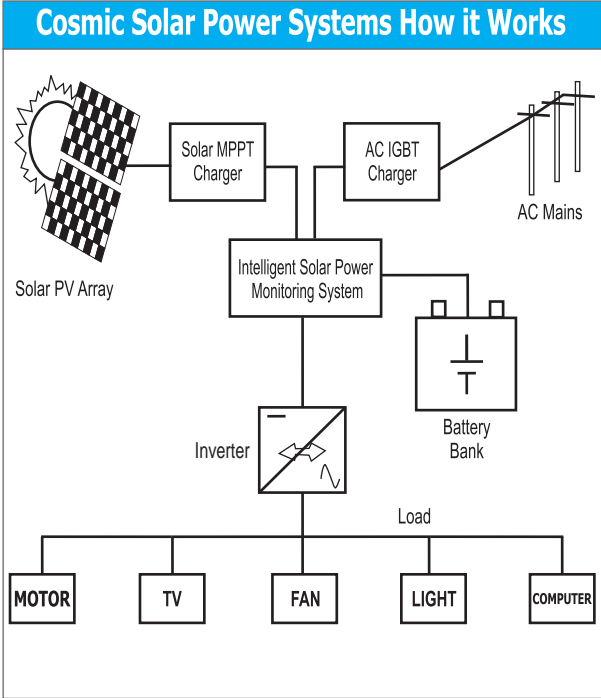
SAVE ENERGY, EARN MONEY, PROTECT EARTH...

Solar Solutions

Solar Energy is a clean renewable resource with zero emission, has tremendous potential of energy which can be harnessed using technology. With recent developments, solar energy systems are easily available for industrial and domestic use with the added advantage of minimum maintenance. Solar energy is made financially viable with government tax incentives and rebates. Solar Inverter has potential to cater the growing needs of the power. Cosmic has developed a range of non-polluting, environment-friendly products and solutions that offer not only reliable energy, but also hope for a better future.

TECHNICAL SPECIFICATION FOR SOLAR OFFGRID ONLINE UPS SYSTEM

DESCRIPTION	OFFGRID SOLAR ONLINE UPS SYSTEM
TECHNOLOGY	Advance PWM with high Frequency Switching, Double conversion, Isolated output and Dual Input AC V from EB and DCV from SP V Module, with MPPT Solar Charger.
CAPACITY	3KVA to 100KVA
INPUT	
Voltage AC	160V - 280V AC for Single Phase and 300V - 450V AC for 3Phase.
Voltage DC	SPV 96V DC - 1000V DC
Frequency	50Hz+ / _ 5 Hz
OUTPUT	
Voltage	225V AC for Signal Phase Output and 400 AC for 3 Phase Output.
Frequency	50Hz+ / _ 0.1 Hz
Regulation	225V + / _ 1%, 400V + / _ 1%.
Wave Form	Pure Sinewave
Power Factor	0.8 Lag
Distortion	Less than 2%
Invertor	By Using IGBT Devices
Load Crest Factor	Upto 3:1
Noise Level	less than 40 db
Withstanding Capacity	125% Over Load for 60 secs
Type of Cooling	Forced Air Cooling
Type of AC Charger	CVCC(Constant Voltage Constant Current) by using IGBT devices
Type of Solar Charger	Advanced DSP based MPPT Solar priority Type
Efficiency	Better than 92% on Inverter, Above 90% as overall
TRANSFER TIME	Null
PROTECTIONS	
Input	Over Voltage / Under Voltage / Spikes / Surges
Battery	Over Charge / Low Voltage (Deep Discharge)
Output	Over Voltage / Under Voltage / Over load / Short Circuit
Solar PV	Reverse Power at night time, Lighting
INDICATIONS	Mains on / Inv.on / Inv.Trip / Batt. Low / Inv. U/V - O/V Trip / Solar on.
ALARMS	Battery Low / Mains Failure
LCD DISPLAY	Input Volt / Output Volt / Output Current / Output Freq
	Battery Volt / Battery Current / Solar PV Volts / Solar PV / Total Power Generated by Solar.
BATTERY	Lead Acid - Inverter / Tubular / SMF
Battery Voltage	48 V DC to 360V DC
Recharging Time	6 - 8 Hrs



Benefits of Solar online UPS

- ▶ Works on Double Conversion Technology
No Need to Connect Stabilizer to your load
- ▶ It has Battery backup Facility
No need to have one more UPS for your Critical load During Power Cut
- ▶ 100% Income Tax, Depreciation on our Solar Online UPS.
- ▶ 10 to 15% Per Annum Savings on your Investment on our Solar Online UPS interms of Savings on Commercial Electrical Bill.
- ▶ ROI Within 7- 8 years
Next 10 to 12 years Solar Power Free of Cost

Solar Power Generating System with MPPT

Double Conversion with Load Sharing Technology. This is one of the advanced technology in the market to utilize 100% of Solar PV generated power by enhancing Solar Power through MPPT Load Sharing and current control technology which can be used for sensitive, sophisticated and industrial loads.

The output load is completely isolated from input by using Double conversion technology and also our Solar UPS Out power is constant for 24/7 without any fluctuation.

The Solar Power is utilized maximum level even during cloudy season. The priority always for Solar Power. Solar Power and EB Power will be paralleled and will work together but always priority for the Solar Power. After utilizing Solar Power still if load required more than Solar generated power. Our Solar UPS Smart Dual Sharing technology will allow EB Power to feed the power to Inverter Input. So Output load will be protected with Uninterrupted Clean Power.



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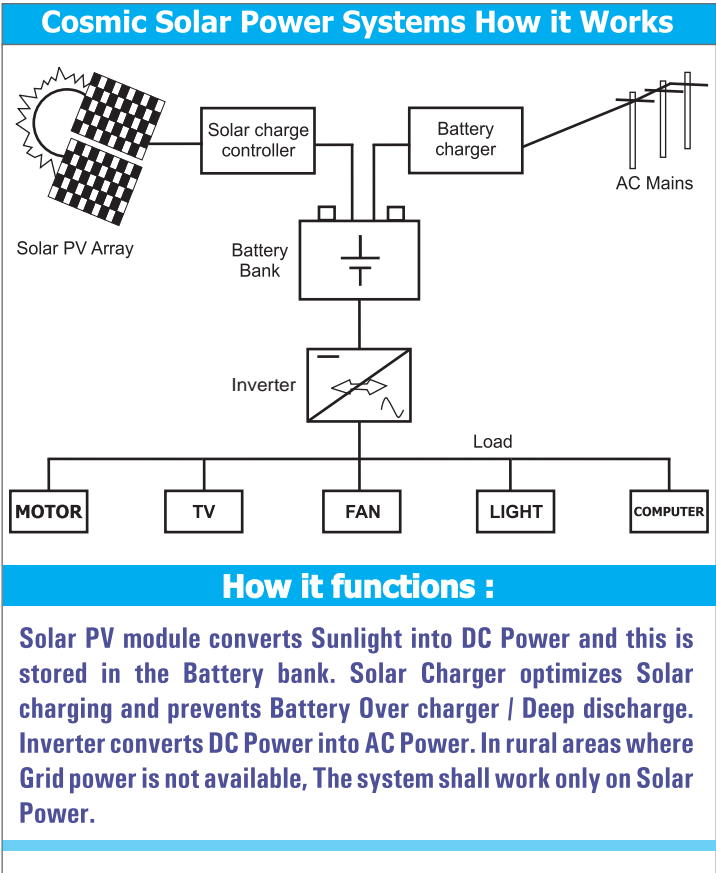
Cosmic Solar Hybrid Offgrid UPS

The Sun is a vital source of energy. Life on earth is completely dependent on only a part of the sun's total energy. Renewable energy from the sun is abundant, clean, silent, inexhaustible and moreover in this expensive world, it is free.

Solar Power Systems: Works on both Solar and AC Mains Power depending on Sun light availability and energy requirement.

Solar sinewave ups technical specifications

Technology	: DSP Based PWM MOSFET / IGBT
Capacity	: 1KVA to 3KVA
Input Voltage	: 175V to 265V AC for computer 100V to 300V AC for lighting
Transfer Time	: <10ms
Waveform	: Pure Sine Wave
Frequency	: 50Hz ± 0.5Hz
Efficiency	: >96%
Output Voltage	: 225V ± 1% (on Battery mode)
Power factor	: 0.8 lag
Charger On Mains	: DSP Based Technology Trickle cum float Charger
Charger On Solar	: Intelgent Maximum power point tracking (MPPT)technology
Battery charging current	: Up to 30A (On Solar)
Peak charger efficiency	: 97%
Short Circuit	: >300% load (short circuit with Manual Reset Function)
Indications/LCD Display	: Mains On, Mains Charging, Solar Charging, Inv On, Battery Low, Overload
Alarms	: Battery Low, Over Load, Mains Failure, Short Circuit
Protection	: Mains and Solar High and Low Voltage, Short Circuit, Battery deep discharge and over charge
Type of cooling	: Forced Air Cooling
Noise level	: Less than 60db
Crest factor	: Upto 3:1
Withstanding capacity	: 125% up to 60 Seconds
Battery voltage	: 1KVA / 24V DC 3KVA / 48V DC
Operating Temp	: 0-50°C



Key Features

- ▶ DSP based control guarantees high reliability
- ▶ Pure Sine Wave output
- ▶ 30%More energy is harvested by using MPPT solar charger
- ▶ Auto priority logic in the charger for both mains and solar inputs
- ▶ If the load is less than 5W, the inverter automatically switches to sleep mode to save power
- ▶ Compact and light weight
- ▶ User friendly installation
- ▶ High efficiency and extended backup time
- ▶ Normal and Computer mode
- ▶ Noiseless operation of fans, lamps and Home.
- ▶ Liquid crystal display

Solar Hybrid UPS How it Works

During Day time, Cosmic Solar Hybrid UPS will work as Solar Power generating System which will generate the power by using Sunlight through Solar Photo Voltaic Modules priority will be for Solar Energy. When Solar Power is available our Solar Hybrid System will charge the battery completely through Solar Charger. The MPPT Charger will enhance the Solar power by 15 to 30%. Once Battery is fully charged based on availability of SPU Power. It will supply the Solar Power to output load without any interruption by switching of the EB Powerto ensuring100% utilization of Solar Power so you need not depend on EB Power. when Sunlight power is not available this will reconnect the EB Power to ensuring he uninterrupted power supply. Even during power cut in thenight the stored Solar Power from the Batteries can be utilized as backup power.

Features:

- ⌚ Battery Less operation
- ⌚ Variable Frequency Drive incorporated for smooth operation even during minimum sunlight
- ⌚ Transformerless design makes the product smaller in size and also cost effective
- ⌚ MPPT incorporated to track maximum power and give 35% more energy from the panel Maximum torque at minimum sunlight



Advantages:

- ⌚ Cosmic battery less solar pumps can be installed at a site completely eliminating loss of energy in transmission.
- ⌚ Can be installed to the required load of pumps upto 15KW (15 hp)
- ⌚ SPV modules need only minimum maintenance and no battery is required

Potential for Use:

Cosmic battery less solar pumps are more suitable for remote areas with no or unreliable grid or as an alternative to diesel pumps. Some of the most popular applications are :

- ⌚ Drinking water supply for small habitations
- ⌚ Horticulture farms, orchards, vineyards, gardens and nurseries
- ⌚ Agro forestry and plantations
- ⌚ Dairy, poultry and sheep farm
- ⌚ Aqua culture, fish farming





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Cosmic Pump Series

Cosmic Solar Inverter for 3phase motors, with efficiency of 98 % deliver maximum energy in all conditions Transformer-less design, advanced electronics and optimised internal connections reduce potential energy losses. Balanced three-phase AC output ensures grid compliance at all times and precise MPP tracking at 99.9 % in steady conditions and 99.8 % in dynamic conditions enable the inverter to harvest all the energy of the PV modules.

Excellent MPPT Efficiency, 98 % conversion efficiency, 1000 V DC, AC power burst and an excellent cooling concept provides high yield and earlier return on investment. High voltage input and reduced losses on the DC side. Early start up and late stop of power production result in maximised yield while exact cooling minimizes energy losses. MPP tracker, allows for more modules in a series and longer strings, while providing greater flexibility in the PV setup.

Technical Specifications for Three Phase Motor Application

Rating	CPS - 3000	CPS - 5000	CPS - 7500	CPS - 10000	CPS - 15000
Motor Rating	3HP	5HP	7.5HP	10HP	15HP
Panel Wattage	3KW	5KW	7.5KW	10KW	15KW
Panel Voltage	400V DC - 960V DC				
Waveform	3 f Sine Wave Current				
THD	< 2%				
Efficiency	> 96%				
Internal Protection	Short Circuit, Overload				
Alarm Signal	Buzzer				
LCD Display	Panel Voltage, Output Voltage, Output VA, Temperature				
Front Panel Controls	On/Off Switch, Mains Connection Bypass				
Operating Temperature	0-550C				
Operating Humidity	0-90%				
MPPT	Incorporated				
Variable Frequency Drive	Incorporated				
Control Type	PWM Using DSP				
PWM Frequency	20KHZ				
Power Stage	IGBT Based				
Discharge in litres / day at 10 m head	207000	345000	517500	690000	1035000
Bore well size	150 mm dia.				



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MPPT Charger:

Cosmic has developed micro controller based MPPT (Maximum Power Point Tracking) charger for solar panels from 24V DC to 240V DC chargers up to 100A. The microcontroller scans the impedance of the circuit from maximum to minimum and finds the point at which maximum power is delivered and fixes the impedance at that point. MPPT charger provides 20% to 30% extra energy compared to conventional chargers.

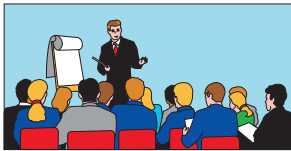


SPECIFICATIONS	MPPT 24V - 48V	MPPT 120V - 240V
Panel voltage range	48V DC - 96V DC	240V DC - 600V DC
PWM frequency	20KHz	
Power stage topology	Buck converter	Multiphase Interleaved DC-DC Converter
Switching element	MOSFET	IGBT
Current sensing		
Charging current	10A to 80A	
Power conversion efficiency	>95% at full rated current	
Protections	PV Transient voltage surge, PV reverse polarityHigh battery voltage, Low battery voltage. Over temperature, Overcharging	
Cooling	Automatic cooling fan	
Temp. compensation range	-5 to 7 mV / cell / celsius (option)	
COMMUNICATION INTERFACE	RS232 Communication(optional)	
Temperature	0 – 60°C	
Relative humidity	0 - 95 % (non-condensing)	

COMPANY at A GLANCE !!!

About Us

Cosmic Micro Systems Pvt. Ltd. is registered under the Company Act 1956 to have a clear vision to grow. Cosmic is a group of dynamic personnel having wide range of experience in Water treatment field who believe that the key to success is total customer satisfaction.



International Organization for Standardisation (ISO)

Cosmic is certified as an ISO Company having systematic manufacturing & testing facility to ensure reliability, consistency & quality. Documents are maintained to ensure accountability for product quality in all stages of manufacturing.



Vision

Cosmic is to provide complete water treatment solution to customers and to ensure value for their money. We wish to take the company to new heights to meet the current competition strictly adhering to common values and basic ethics.



Policy

Cosmic is committed to deliver High Quality Products and Services consistently and enhance customer satisfaction through continual improvement.



Technology

Cosmic product employs latest, advanced and proven technology using membranes. The systems are highly reliable and provide high Quality, Pure and Safe Water to meet the BIS and International Standards.



Approvals

Cosmic is a member of Water Quality Association USA, and Indian Water Works Association, for conforming the basic requirements of the customers and year after year customers satisfaction award winner by the Soft Desk media.



Customer Support

Cosmic has highly trained and skilled personnel to provide a wide range of services from specification, to site analysis, site preparation, assistance, installation, demonstration, system maintenance, on time service to avoid regular work interruptions. Every service call is completed with a service report that details the condition of your cosmic product.



Installation Base

Cosmic is supported by wide range of valuable customers who are satisfied by our service. Our list of clientele includes beverages, mineral water, fertilisers, textiles, healthcare, dairy, Chemical Industries, Private and Public Limited Companies, State and Central Government Organizations and Residences, etc.



MANUFACTURED BY :

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'ALL COSMIC PRODUCTS ARE BACKED WITH EXCELLENT AFTER SALES SERVICE'