

# Manufacturer of Solar PV Modules & other Solar Products and Comprehensive EPC Solution Provider



## Himalayan Solar

Power Solution for a **Shining Future**

### Solar Home System



We also  
manufacture :

Solar  
PV  
Panel

Solar  
Pump  
Controller

Solar  
Water  
Pumps

Lithium  
Ion  
Battery

Solar  
Power  
Packs

Solar  
Charger  
Controller

Solar  
Power  
Plants

Solar  
Street  
Lights

# Solar Home Systems

## Description

- Solar Home System essentially comprises a Solar PV module / battery, Electronic Charge Controller, Mounting Structure, Luminaire, Fan etc. Himalayan Solar offers a wide range of Solar PV Home Systems with standard and custom built versions. The standard models generally conform to MNRE specifications.
- The electric power stored in the battery is used for lighting the lamp/Fan/TV during night. Fan can also be operated during daytime. Electronic charge controller and LED (bulb/batten) luminaires have electronic circuits. Electronic charge controller protects the battery from overcharge and deep discharge.
- It also has the facility to protect from reverse polarity, if battery connections are made by mistake in the reverse manner. Constant voltage charging strategy is adopted in the charge controller (some charge controllers are of PWM/VF type) which protects the battery from being over charged and keeps the battery in good health.
- If battery is deep discharged then Red LED marked "LOW" will start glowing, the loads, luminaires etc. will be disconnected and it will not be possible to switch "ON" the lights & fan. The glowing of green "LED" indicates battery charging. The LED (Bulb/Batten) Luminaire have inbuilt constant current led driver circuit. When DC voltage from the battery is given to the (bulb/batten) It starts glowing. A bed switch etc. is provided with each luminaire for switching ON and OFF of the lights.

## Solar Based Led Home Light System

### GENERAL SPECIFICATIONS

- 1) System Voltage: 12 Volts DC
- 2) Solar PV module of 150Wp/100Wp/75Wp
- 3) Battery Lifepo4 12.8V/100AH/80AH
- 4) 22W BLDC Ceiling Fan (48inch/1200mm): 25W/22W
- 5) LED Luminaire/Bulb/Batteries 6W /9W
- 6) MPPT Solar Charge Controller with inbuilt battery space
- 7) Module Mounting Frame suitable for grouting
- 8) Nuts/Bolts/Hardware/Cable
- 9) USB ports for mobile charging (5V, 1A)





# Construction Features and Provisions

## SPV MODULE

- 1) 36/72 Nos. mono/poly crystalline solar cells in 12 V Configuration.
- 2) Laminated in EVA
- 3) High Transmission toughened glass as superstrate
- 4) Anodized Aluminum Frames.
- 5) Terminal box with terminals.
- 6) Pmax minimum 150Wp




## BATTERY

- 1) Type. of battery: 12.8V LiFePO4 Battery Pack
- 2) Capacity: 100AH
- 3) Terminals: Two Wires

## LED BATTEN & LUMINAIRE

- 1) Aluminum/Plastic cabinets with adequate heat dissipation
- 2) Lens are used for LEDS.
- 3) LED driver dc to dc buck converter (constant current)
- 4) Adequate protection against open circuit, short circuit and reverse polarity.

## MPPT SOLAR CHARGE CONTROLLER

- 1) MPPT Solar charge controller with inbuilt battery.
- 2) MS Powder coated CRCA / plastic housing cabinet.
- 3) Overload /short circuit protection provided.
- 4) Blade fuse is used for short circuit.
- 5) System ON/OFF switch provided.
- 6) Connection /points for module, battery, fan and bulbs / luminaires
- 7) Solder free installation.
- 8) No Load, Short circuit, battery deep discharge, battery overcharge and reverse polarity protections.
- 9) Reverse flow of current from battery to module is protected.
- 10) Very-low idle power consumption.
- 11) LCD indication for 

- a. Battery deep discharge (Load Disconnect).
- b. Charging in progress
- c. Overload /short circuit

## LCD DISPLAY

- 1) Battery voltage, PV voltage, PV current, battery chg. Current
- 2) Battery low, overload/short circuit, load current, battery status in %.

## MODULE MOUNTING FRAME

- 1) Comprises of 6 members made from 32x32x3mm angle iron or as required.
- 2) Two Nos. MS Flat strips.
- 3) Four Nos. Foundation Bolts.
- 4) Necessary Nut/Bolts hardware.
- 5) Please note that size of the members of mounting frame can vary from place to place and inclination is achieved by lowering or raising the rear legs.

## CABLE

- 1) 4mm<sup>2</sup> twin core wire or any other size as per requirement.
- 2) Length as per requirement.
- 3) Insulated PVC cable.

# Electrical Specification

## MPPT SOLAR CHARGE CONTROLLER

- 1) Max. charging current: 15A
- 2) Max. Load current: 15A
- 3) Load disconnect battery voltage: 11.3 + 0.2 volts or as required.
- 4) Load reconnect battery voltage: >12.5 volts or as required.
- 5) Constant Charging voltage: 14.5 + 0.2 volts or as required.
- 6) Idle current consumption: Less than 40 mA
- 7) PV charging efficiency: >90%
- 8) Overload/short circuit protection: Provided

This measurement is done under following conditions i.e. PV is off, Load Off. The current drawn from the battery is the idle current. Some charge controllers are of variable duty cycle or variable frequency type as per requirements of the customer. Some are provided with overload electronic cut-off (Electronic Fuse) through reset switch.

## DC To DC Converter

1. Led driver: Buck (constant current) driver.
2. Overall efficiency: >85%.

## Light Output

1. > 32 Lux for each luminaire when measured from a height of 2.5 meter in an area of 2.5-meter diameter .
2. The light is glare free and not have any shadow band.



# Instruction for Use



## INSTALLATION

- The Solar module/modules is/are to be installed on the roof of the house or at any other place where shade free sun is available throughout the day. The solar PV modules is/are fixed in such a direction that it faces south at appropriate inclination. If inclination angle is not known, it can be kept in horizontal position, and it should face sun.
- The Solar PV Modules can be installed as per fig. 3 & 4 which is self-explanatory. The legs of the frame can be grouted with four number foundation rods provided. The PV modules, charge controller with inbuilt battery and LED (Bulb/Batten) luminaires, fan connections are made. The appropriate cable size should be used for making these connections. For a distance of 10 meters, from the charge controller to the luminaires 1.5 Sq.mm two core cable shall be sufficient. Wiring has to be as per requirements.

## Replacements

### FUSE

The blade fuse is provided in the charge controller. The fuse can be easily replaced by new one if it is burnt. In LED luminaires resettable fuse is used.

### BATTERY

The battery can be replaced by removing wires from PCB mounting terminals.

### PRINTED CIRCUIT BOARD

In case of faults in the PCB's of Charge controller and the (bulb/batten) luminaires, these can be easily replaced by removing the connectors and unscrewing the mounting screws.

## TROUBLE SHOOTING - If the system does not work, please ensure

1. That the module, charge controller, battery, fans and the luminaires are connected in proper polarity. Make correct connection if found wrong.
2. That the fuses is intact in the charge controller If fuse is blown out, replace by new one.
3. If charge controller does not show any indication during day time see that the battery is connected in proper polarity.
4. If Red LED makes "LOW" glows, allow the battery to charge for a few days before use.
5. Ensure that the lamp is OK
6. Even then if the system does not work, call the technician to check up the PCB etc. for component level trouble shooting.

## P.S.

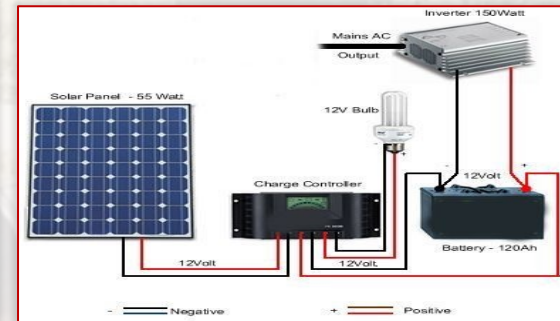
- In case of any problem please contact the source from where you have procured the system.
- In case of any problem with the battery or SPV modules please write to the manufacturer with copy to us and the source from where you have procured the system. Battery and SPV modules carry the warranty of respective manufacturers also.
- Please note that the light output of lamp is dependent on temperature, direction of lamp. The Luminaries should be preferably used with lamp in horizontal position.
- If the system does not behave properly, kindly contact the source from where you have procured/nearest dealer

## क्या करें

- महीने में एक बार सोलर पैनल को साफ अवश्य करें।
- आवश्यकता न होने पर सिस्टम को बंद कर दें। ताकि सिस्टम की बैटरी ज्यादा खर्च ना हो।
- याद रखें की सोलर पैनल पर पेड़ या किसी इमारत की छाया न पड़े। सोलर पैनल से बैटरी को कम से कम 8-10 घण्टे प्रतिदिन चार्ज करें।
- यदि आप लम्बे समय तक सिस्टम का उपयोग नहीं करते हैं तो बैटरी को फुल चार्ज करके ही उपयोग करे

## Do

- Wash Your Panel once a month.
- Turn off the switch on the system if you don't use light USB charging Mobiles otherwise it will have the self power consumption
- Make sure the solar panel are never shaded by trees & building
- Please charge the Battery by solar panel 8-10 hours in a day.
- If you don't use the system for long time please full charge it first before use.



## क्या ना करें

- सिस्टम को ज्वीनशील पदार्थों से दूर रखे। सिस्टम को न फेंकें और न ही सिस्टम को गिरने दे।
- सिस्टम का कोई भी हिस्सा बारिश में खुला न छोड़े।
- सिस्टम को खोलकर बांधने की कोशिश न करें।
- सिस्टम को 12V DC पर ही चलाएँ किसी भी हिस्से को AC 110V/220V से सीधा न जोड़ें।
- सिस्टम को तेज हवा के समय पैनल को सावधानी पूर्वक रखें।
- सोलर पैनल की केबल को मजबूती से न खींचें। जिसके कारण जोड़ ढीले न हो

- Do not place the system near explosive or flammable objects
- Do not drastic crash or throw the solar panel.
- Keep the battery system away from water.
- The LED Lamp is DC 12V, Can't be use with AC 110/220V, Otherwise it will break.
- Do not install or handle the modules when they are wet or during periods of light wind.
- Do not drag the cable of the solar panel strongly or it will come to poor contact.

## Do Not

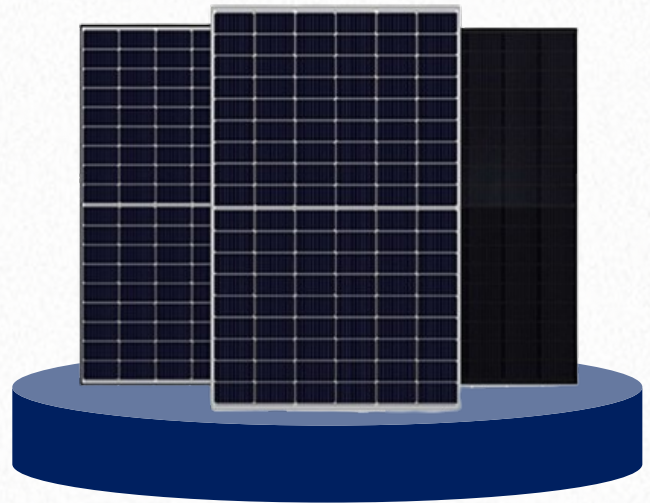




# Manufacturer of Solar PV Modules & other Solar Products and Comprehensive EPC Solution Provider

## Our Commitments

- ◉ Quality Products & Solutions
- ◉ Timely Delivery
- ◉ Cost Effectiveness
- ◉ Total Customer Satisfaction



# Himalayan Solar

Power Solution for a **Shining Future**

### Manufacturing Units:

- Plot No. 237,  
HSI IDC Industrial Estate,  
Alipur, Barwala, Panchkula  
134118, Haryana, India  
- Plot No. 3 & 4, Khasra No. 249,  
Khewat No. 980 & 977, Near  
Aryakulam International School,  
Assandh – Kohand Road, Munak,  
Karnal, Haryana - 132040

Reach Us At:

Website: [www.himalayansolar.co.in](http://www.himalayansolar.co.in)

Email: [Info@himalayansolar.co.in](mailto:Info@himalayansolar.co.in)

Phone: 917027794863