OLYMPUS POWER PVT.LTD.

Switch On and Simple Forget

SOLAR PCU
USER MANUAL

Salient Features

- Built-in MPPT / PWM Solar Charge Controller.
- Micro Controller / DSP Based smart controller design.
- Pure Sine Wave Output.
- Electronic Overload and Short Circuit Protection.
- Easily Serviceable.
- Auto Changeover / Reset Feature.
- Mains Input Voltage Range Selection.
- Multi Stage Charging.
- Audio Visual Indications (Status & Fault).

ISO 9001:2008

Introduction

Dear Customer,

Thank you for purchasing Olympus Power product. Olympus Power Pvt. Ltd Make Advance MICRO CONTROLLER based SOLAR PCU / UPS products have been carefully designed to operate in both industrial and commercial environments. In commercial applications, our SOLAR PCU / UPS products fit according to aesthetically into the environment and perform reliably for years.

General Safety & Precautions

- Review the following safety precautions to avoid injury and to prevent damage to the SOLAR PCU or any other products connected to it. To avoid potential hazard use this product only as specified.
- Service shall be done ONLY by qualified / authorized personnel!
- To Avoid Fire or Personal Injury, never use Automobiles Batteries with your SOLAR PCU. They are not suitable for these applications.
- Always check the water level in batteries (For flooded batteries only).This will keep your batteries in good condition and also enhance its life.

Do's

Provide proper ventilation!

- Install the power SOLAR PCU in a location that is well ventilated so that the heat it generates can be dissipated easily.
- Do check the water level of your battery for every 3 months as this is very much essential to keep the battery in good condition.
- Keep your batteries rust-free, good lubricating oil or petrol can be beneficial to lubricate your battery terminals at least once every month.
- Check that your SOLAR PCU is earthed properly.
- Always mount the SOLAR PCU in a cool and dry location
- While wiring your Power SOLAR PCU use Standard and insulated Wires, poor Wiring may lead to Short Circuit that may even lead to fire.

Don'ts

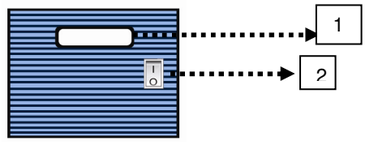
- Do not operate without covers!
- Do not operate SOLAR PCU with covers removed.
- Avoid exposed circuitry!
- Do not touch exposed connections and components when powered.
- Do not operate with suspected failures!
- If you suspect that the SOLAR PCU is damaged, have it inspected by qualified personnel.

Do not operate in an explosive atmosphere!

Do not touch the SOLAR PCU terminals while the power is applied to the SOLAR PCU even if the SOLAR PCU stops.

Front Panel Description

This section describes the front panel of the SOLAR PCU



LCD Indication

- This display is provided to display information related to SOLAR PCU
- This switch is provided to switch ON/OFF the unit.

This section describes the front panel of the UPS

- WHEN SWITCH IS IN OFF POSITION

SWITCH OFF
AWAY MODE

- WHEN SWITCH IS IN ON AND MAINS AVAILABLE

MAINS: ON
INVERTER OFF

MAINS VOLT: 000V
BATT VOLT: 00.0V

O/P VOLT: 000V
O/P LOAD: 00.0A

- WHEN SWITCH IS IN ON AND MAINS UNDER

MAINS: UNDER
ON BATTERY

MAINS VOLT: 000V
BATT VOLT: 00.0V

O/P VOLT: 000V
O/P LOAD: 00.0A

- WHEN SWITCH IS ON AND MAINS OVER

MAINS: OVER
ON BATTERY

MAINS VOLT: 000V
BATT VOLT: 00.0V

O/P VOLT: 000V
O/P LOAD: 00.0A

Under various protection condition

- When battery is low

BATTERY LOW
FAULT

When short circuit has occurred

SHORT CIRCUIT
FAULT

- When overload has occurred

OVERLOAD
FAULT

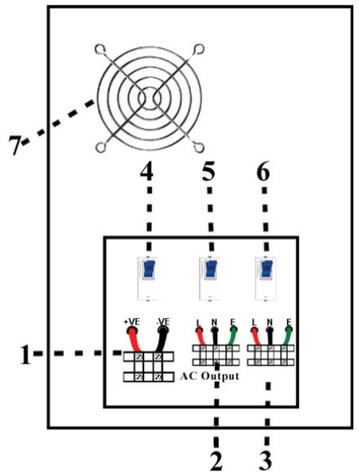
When O/P voltage is less than lower threshold voltage limit

O/P UNDER
FAULT

- When O/P voltage is more than higher threshold voltage limit

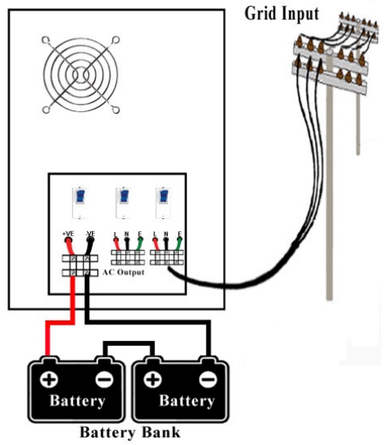
O/P OVER
FAULT

Description of Back Panel



- INPUT Terminal Block :-
  This is provided at back panel to connect battery to SOLAR PCU
- OUTPUT Terminal Block :-
  This is provided at back panel to connect load to SOLAR PCU
- BATT. Terminal Block :-
  This is provided at back panel to connect mains I/P to SOLAR PCU
- OUTPUT MCB :-
  This is provided at back panel to isolate load from SOLAR PCU
- BATT. MCB :-
  This is provided at back panel to isolate mains I/P from SOLAR PCU
- INPUT MCB :-
  This is provided at back panel to isolate battery from SOLAR PCU
- FAN :-
  This is provided at back panel to provide ventilation to SOLAR PCU

Installation & Wiring



Easy Installation

- Check for mechanical and electrical damages during transit.
- Mount the SOLAR PCU in suitable , clean , dry and ventilated place
- Ensure that the front panel switch and all MCBs are in OFF position.

- Check polarity of battery and connect wires according to correct polarity.
- Now LCD is ON and it shows "SWITCH OFF/ AWAY MODE"
- Connect mains I/P to SOLAR PCU and switch ON the INPUT MCB and BATT. MCB.
- Wait for 2 minutes and then switch on battery MCB .
- Switch ON the SOLAR PCU and OUTPUT MCB. Check if UPS works properly.

Note:-While Installing with MPPT Solar Charger always ensure that the charger is initially connected to battery. Never connect MPPT Charger to SOLAR PCU without battery connection

Technical Specification

Input	
Input Voltage Range	✦ 100V ~ 300V (Wide input voltage range) ✦ 180V ~ 260V (Normal input voltage range)
Nominal Input Voltage(s) Supported	220V AC , 50Hz
Solar Charge Controller	
Type	MPPT/PWM
Charge Algorithm	3-stage Bulk / Acceptance / Float Plus Equalize
LCD Display	Backlit, Alphanumeric Display showing battery voltage, DC amperage, Cumulative KWH hours
Output	
Output AC waveform	Pure Sine Wave
Efficiency	>88%
General	
LCD/LEDs Indications	SOLAR PCU ON (Yellow), Battery Low (Red), Mains ON (Green),Charging (Green), Overload(Red)
Operating Temperature Range	0° C to 50° C
Max Charging Current(when battery is fully discharge)	10A ±2amp
Charge End Voltage	Grid charging stop when battery reaches 13.8V ±0.2V and transfer to backup mode (per battery)
Grid Recharge Voltage	Grid charging starts when battery reaches 11V ±0.2V and transfer to grid (per battery)

Troubleshooting Chart

In any case of unsatisfactory operation, please consult the next table first:

SYMPTOM	REMEDY
Battery is not charging even if mains available	If LCD display shows "MAINS : OFF" Batteries are fully charged / Check if input MCB is OFF
LCD Displays "OVERLOAD"	Check load.
LCD Displays "SHORT CIRCUIT"	Check wiring. And reset the SOLAR PCU by switching OFF SOLAR PCU first and then by switching ON the SOLAR PCU

Models	Output Volt Amp / Watt Capacity	DC Voltage VDC	Max.PV open Circuit Array Voltage	No Battery
SO312	300VA / 240W	12V	22VDC	1
SO612	600VA / 480W	12V	22VDC	1
SO812	800VA / 640W	12V	22VDC	1
SO1024	1000VA / 800W	24V	44VDC	2
SO1524 SO1536 SO1548	1500VA / 1200W	24V / 36V / 48V	44 / 66/ 88 VDC	2 / 3 / 4
SO2036 SO2048 SO2072	2000VA / 1600W	36V / 48V / 72V	66 / 88 / 132 VDC	3 / 4 / 6
SO2548 SO2572	2500VA / 2000W	48V / 72V	88 / 132 VDC	4 / 6
SO3048 SO3072 SO3096	3000VA / 2400W	48V / 72V / 96V	88 / 132 / 176 VDC	4 / 6 / 8
SO3548 SO3572 SO3596	3500VA / 2800W	48V / 72V / 96V	88 / 132 / 176 VDC	4 / 6 / 8
SO4072 SO4096	4000VA / 3200W	72V / 96V	132 / 176 VDC	6 / 8
SO5036 SO5048 SO5096 SO5120 SO5144 SO5192	5000VA / 4000W	36V / 48V / 96V / 120V / 144V / 192V	66 / 88 / 176 / 220 / 264 / 352 VDC	3 / 4 / 8 / 10 / 12 / 16
SO6144 SO6192	6000VA / 4800W	144V/ 192V	264 / 352 VDC	12 / 16
SO7.5144 SO7.5192	7500VA / 6000W	144V/ 192V	264 / 352 VDC	12 / 16
SO10096 SO10120 SO10192	10000VA / 8000W	96V / 120V / 192V	176 / 220 / 352 VDC	8 / 10 / 16
SO15096 SO10120 SO10192	15000VA / 12000W	96V / 120V / 192V	176 / 220 / 352 VDC	8 / 10 / 16
SO20096 SO20120 SO20192	20000VA / 16000W	96V / 120V / 192V	176 / 220 / 352 VDC	8 / 10 / 16

Warranty Conditions

Warranty and liability claims for injuries and damage shall not be accepted if they are due to one or more of the following causes: Improper use of the SOLAR PCU

- Improper installation, commissioning, operation and maintenance
- Operation of the SOLAR PCU with defective and/or non-operational safety
- And protective equipment
- Failure to observe the information in the user manual regarding installation,
- Commissioning, operation and maintenance
- Unauthorized modifications
- Inadequate monitoring of wearing parts
- Improper repairs
- Emergencies caused by external influence or force majeure

Warranty Card

Model No:- ----------
Serial No:- ----------
Customer Name:- ----------
Address:- ----------

Date of Purchase:- ----------

Dealer Stamp

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