

ACE SINEWAVE SOLAR HYBRID UPS KITS (48V) Dt. -01/04/2014

Rev 1.02

ACE Solar UPS is an integrated system consisting of a Solar Charge Controller, Inverter and an AC Mains Charger. Batteries are charged either through Solar / Grid / DG set or with sharing of current. System gives priority to Solar Power first and uses Grid power only when Solar Power / Battery Charge is insufficient to meet the load requirements. Battery Voltage, Solar Power output and the load are continuously monitored. When batteries are charged to preset level the Solar UPS automatically cuts off from the system and load runs through the UPS using the batteries. Maximum battery charging is done through the solar to reduce the energy used from grid power.

FEATURES :-

- * Most advanced integrated Solar Backup.
- * Automatic Utilization of the available Solar Power in an Intelligent manner.
- * Preference to Solar Power when available.
- * Pure Sinewave output in the backup mode.
- * Heavy duty battery charger with current sharing.
- * Option to switch off grid charger. (If Solar Current > 3Amp.).
- * Selectable Normal / Tubular battery charging.
- * Multiple stage battery charger to keep battery in top condition.
- * Smart overload and short circuit protection.
- * Intelligent thermal management system.
- * LCD display to monitor the system.

SPECIFICATIONS :-

Rating	- 3000-3500VA / 48VDC
Battery	- 150 to 180 AH (SMF / Lead Acid / Tubular)
Solar PV Panel	- 320 Watts to 2400 Watts. (Max. 100V)
Wire For Solar Panel	- 2.5/4 sq. mm. for length less than 10/15 meter.

AC MAINS MODE SPECIFICATIONS

AC Input Range	- 100 to 290 V (Wide range), 180 to 265 V (Narrow range) $\pm 10V$
Change Overtime	- <50 milliseconds (Wide range) , <10 milliseconds (Narrow range)
AC Charging Current	- 14.0 Amp. $\pm 1A$. Maximum.
Battery Full Voltage	- 56.4V / 58.4V $\pm 0.4V$ (LA / Tubular batteries) (Boost Stage)
Battery Float Voltage	- 54.4V / 56.4V $\pm 0.4V$ (LA / Tubular batteries) (Float Stage)
Battery Bulk Voltage	- 58.0V / 60.8 V $\pm 0.4V$ (LA / Tubular batteries) (Equilization)
Grid Charger Mute	- Short Jumper J4 (If PV Current > 3.0 Amp. then Mains Chg. off)

SOLAR CHARGER SPECIFICATIONS

Maximum PV Voltage	- 100 V for 48V System.
Charging Current	- 14 Amp. (Maximum) ± 1 Amp.
Battery Full Voltage	- 56.4 / 58.4 V (Absorption Mode).
Battery Float Voltage	- 54.8 / 56.8 V (Float Mode).
Protection	- Over Current, PV Reverse, Battery Over Charge, Reverse Current Flow.

BACKUP MODE SPECIFICATIONS

Output Waveform	- Sinewave
Output Voltage	- 230 Volts AC nominal
Battery low warning	- 42.5 V ± 0.2 V
Battery low cutoff	- 41.4 V ± 0.2 V
Overload protection	- retries 5 times & output off.
Short Circuit protection	- retries once & output off.

LCD DISPLAY

When Grid Power Present

Displays - AC Mains Voltage, Battery Charging status, Battery Level, Solar Module Status, Solar Charging current, Mode

In Backup Mode

Displays – Backup Mode on/off, Hybrid Mode on/off, Battery Level, Load Level in %, Solar PV Status.

Fault Conditions

Displays – Battery low, Overload , Short Circuit, Mains Failure, Fuse Blown, Temperature High, No Load etc.

ACE Sine Wave Micro Controller Based Solar Hybrid UPS Kits (48V)

3-3.5 KVA

Rev 1.02 Dt. 01/04/2015

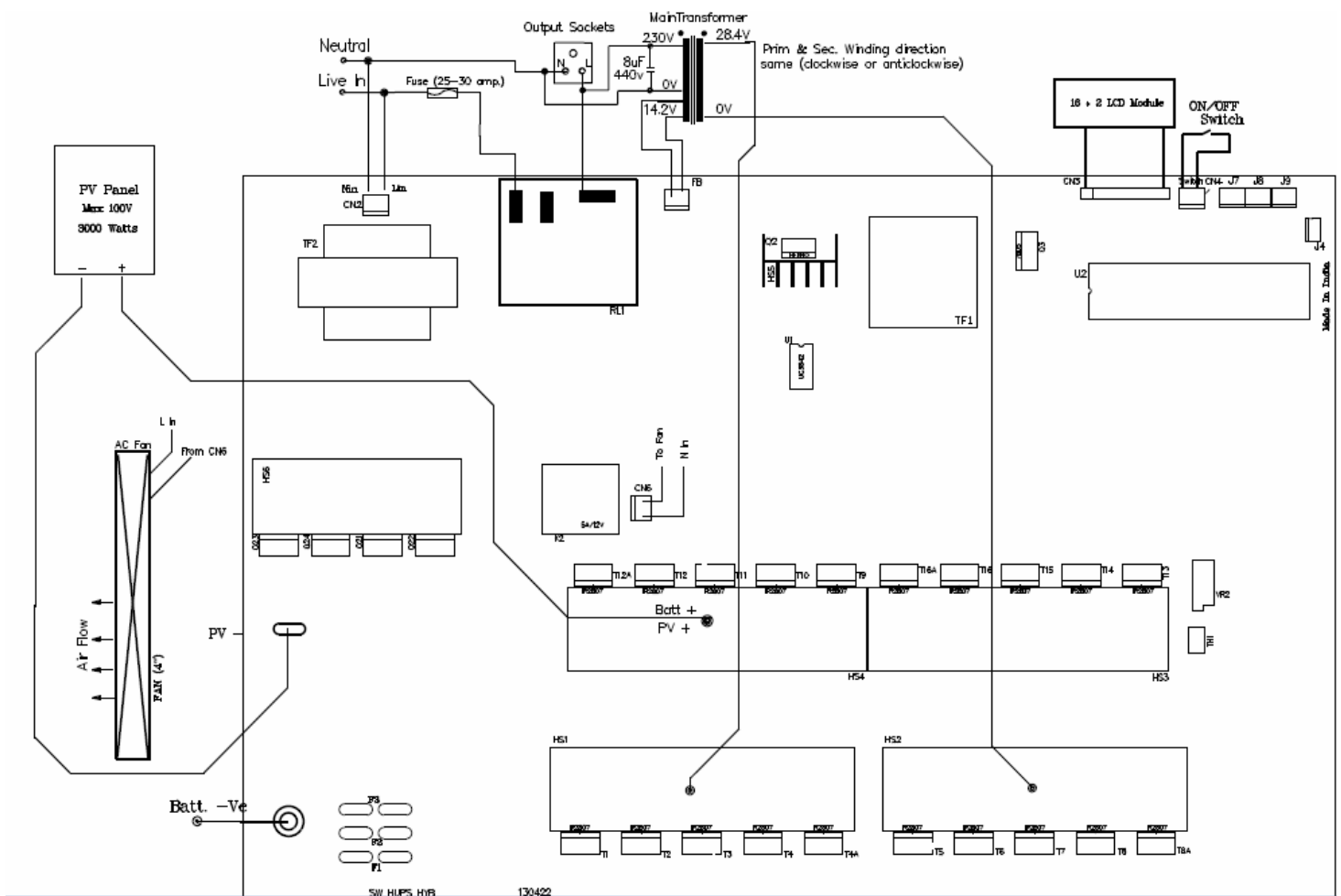
Transformer Details (Use Split Bobbin Only)

Inverter	Core Size	Voltage/ No. Of. Turns	Wire SWG
3 KVA 48V	8 No. stack - 3 1/2"	28.4V / 34 Turn 230V / 276 Turn 14.2V / 17 Turn	4 x 10 SWG 1 x 13 SWG 1 x 25 SWG
3.5 KVA 48V	8 No. stack - 4"	28.4V / 30 Turn 230V / 243 Turn 14.2V / 15 Turn	4 x 10 SWG 1 x 12 SWG 1 x 25 SWG

Jumper Details J4, J7 and J8

Jumper	Open	Short
J4	Mains Charging On.	Mains Charging Off If Solar current >3Amp
J7	Lead Acid Battery Boost-56.4V/Float-54.4V	Tubular Battery Boost-58.4V/Float-56.4V
J8	Wide Range AC - 100 to 280V	Narrow Range AC - 180 to 265 V
J9	Solar-Mains-Battery Preference mode	Solar-Battery-Mains Preference mode

3000-3500 VA Sinewave Solar Hybrid UPS (Wiring Details)



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