

ACE SINEWAVE LINE INTERACTIVE UPS

800VA - Rev 2.xx (01/04/2015)

Doc.No. - 2015_SWLI800_M01

Features :-

- 1) Microcontroller based design with DSP technology.
- 2) Pure Sinewave Output.
- 3) Three step AVR with input range 140-270 VAC (Output Range – 195 – 245V AC).
- 4) SMPS based battery charger, charges battery from 140V onwards (no sound from Transformer).
- 5) Fuzzy Logic multi – stage battery charger.
- 6) Adjustable Charging Current from 5 – 12 Amp.
- 7) Complete overload and short circuit protection .
- 8) Closed loop regulated Sine Wave output from no load to full load.
- 9) Changeover time from Mains to UPS mode less than 9 mSec.
- 10) Line Synchronized change over.
- 11) Soft start UPS mode.
- 12) Compact double sided PTH design , with minimum components. Easy to repair and maintain.

Assembly Instructions :-

- 1) Make the transformer as per given design (Use split bobbin only), and assemble according to wiring diagram. **Connect 3 “ DC Fan (Fan voltage same as that of DC system) as shown in the diagram.**
- 2) Keep the UPS switch off.
- 3) Connect the battery using minimum length of 10-16 sq mm. battery wire.
- 4) Switch on the UPS switch. After self diagnostics the UPS will start working. At this time the UPS on LED will glow. The output voltage is @ 225 Volts.
- 5) Put some load on the UPS. The output voltage will remain constant. If battery is below 10.4 volts Battery Low LED will be on, and buzzer will sound every 5 seconds. The UPS is switched off when battery voltage falls below 9.6 volts.
- 6) In case the load connected is more than the capacity of the UPS, Overload LED will glow and the UPS will switch of after some time (@ 20 seconds). It has to be manually reset after that.
- 7) Connect the UPS to Mains Line carefully, observing the correct polarity of Live and Neutral.
- 8) The UPS enters the mains mode after a few seconds. The Mains On LED starts glowing.
- 9) When battery is being charged Charge LED is in Blinking mode and when battery is fully charged the LED glows continuously.
- 10) **For Line Synchronization of AC Mains and UPS mode connect Transformer wires as shown in the wiring diagram.**
- 11) The Fan works in the boost charging mode , and in UPS mode when the load is > 40%.
- 12) Charging current can be adjusted by preset VR2 .
- 13) The battery boost voltage is 2.33V/cell when Jumper J7 is open. When J7 is shorted the boost voltage becomes 2.36V/cell and the charging current increase by @ 30%.
- 14) Mains to UPS mode change over voltages are 140 Volts and 270 volts (± 8V).

Transformer Details (Use Split Bobbin Only)

UPS	Core Size	Voltage/ No. Of. Turns	Wire SWG
800VA 12V	4 (16) No. stack – 3”	7.1V / 12 Turn	3 x 12 SWG
		0-158-183-212-230-250V 0-267-309-358-390-422 T	1 x 20 SWG
		14.2V / 24 Turn	1 x 25 SWG
800VA 12V	7(43) No. stack – 2 1/2”	7.1V / 13 Turn	4 x 12 SWG
		0-158-183-212-230-250V 0-289-335-388-421-458 T	1 x 19 SWG
		14.2V / 26 Turn	1 x 25 SWG

LED Connection Details

Connector CN5 on AVR PCB :-

____ LED On / LED Blink

- 1 - Ground Common
- 2 - UPS ON LED
- 3 - Mains On / Fuse Blown LED
- 4 - Charged / Charging LED
- 5 - Overload / Hot LED
- 6 - Battery Low LED

Jumper Details J7

Chg. Cur. / Batt. V	Jumper J7
8 Amp. / 2.33V/cell	Open
10 Amp. / 2.36V/cell	Short

In 4 (16) No. 3” design – keep ratio of AC side : Dc side = 60 : 40

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