

Wiring Schematic And Other Details Of HOME UPS Lxi Model

Doc. No. – 2015 Lxi 01

Transformer Details :-

INVERTER	CORE SIZE	No. Of. Turns	Wire SWG
300 VA 12 V	4(16) No. 2" Stack	0-25(Bifilar) 0-312-563	13 SWG 22 SWG
500 VA 12 V	4(16) No. 2½" Stack	0-22(Bifilar) 0-275-495	12 SWG 22 SWG
600 VA 12 V	4(16) No. 2¾" Stack	0-18(Bifilar) 0-225-405	12SWG 21 SWG
800 VA 12 V	4(16) No. 3" Stack	0-16(Bifilar) 0-200-360	11 SWG 20 SWG

LED Connection Details

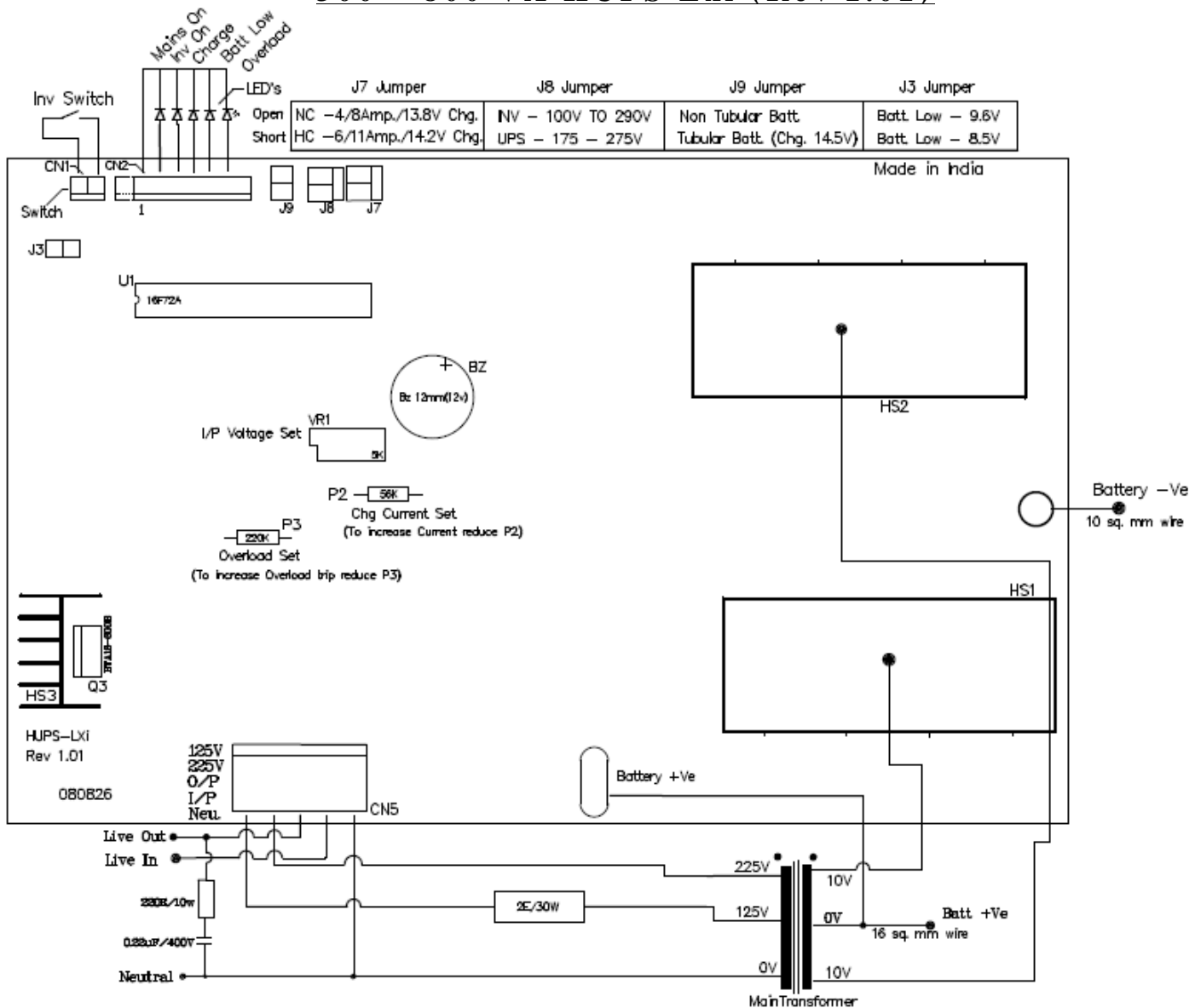
Connector CN2

- Pin 1 – Black - LED Common Ground
- Pin 2 – Mains On LED
- Pin 3 - Inverter On LED
- Pin 4 – Charging / Charged LED
- Pin 5 – Battery Low LED
- Pin 6 – Overload LED

Jumper Details

- For Normal 8Amp charging (13.8V) J7 – Open
- For 11Amp charging (14.2V) J7 – Short
- For Tubular batteries (14.5V) J9 – Short
- For 11Amp chg. in Tubular batt. J7 and J9 – Short.
- For Battery low cut-off 8.5V – Short J3 (Open – 9.5V)

300 – 800 VA HUPS Lxi (Rev 1.01)



ACE Digital HOME UPS Lxi (Rev 1.01)

Features :-

1. Based on highly reliable Micro controller PIC16F72.
2. MOSFET technology , PWM AC output.
3. Selectable Inverter / Home UPS mode, with mains high and low cutoff.
4. Soft Start inverter mode.
5. Inverter Mode protected against Overload, Short Circuit, Reverse Phase.
6. Automatic low battery warning and cutoff.
7. Four stage FUZZY LOGIC battery charging control, with jumper selectable current and voltage.

Assembly Instructions:-

1. Make the transformer as per given design and assemble according to wiring diagram.
2. Do not connect the transformer wires to the main heat sink for initial testing.
3. Keep the Inverter Switch off , and connect the battery, observing correct –Ve and +Ve polarity.
4. All the LED's will turn on with buzzer sound and will turn off one by one.
5. Switch on the Inverter Switch and check the MOSFET Gate drive . It should be equal on both Channels.
6. Inverter On LED will be on.
7. Now switch off the Inverter and connect the Transformer Wires on the Heat Sinks.
8. Switch on the Inverter. Check AC output at the output socket.
9. Now connect the AC Mains. Mains LED will start glowing after a few seconds and the system will enter charging mode. The charging current will be @ 8-9 Amp. when J7 is open , and 11-12 Amp. when J7 is shorted. The current will start decreasing once battery voltage crosses 13.0 Volts.
10. *Charging current can be further adjusted by changing resistance P2. Increase it to reduce the current and vice versa.*
11. The Low and High voltage cut-off is set at 100V / 290V in the Inverter mode(J8-open) and 175V / 270V in the HOME UPS mode (J8-short). The change over voltages can vary by ± 15 Volts , depending on the operating temperature and conditions.
12. Output voltage in the backup mode cannot be varied. It depends on the Load connected, the battery voltage and the filter circuit connected at the output. It will remain between 200V and 250V in normal conditions.
13. The charger will charge the battery upto 13.8/14.2/14.5 Volts depending on Jumper J7 and J9. This is the boost mode. The charging current will start reducing after 13.0Volts.
14. The charger enters the Absorption mode after this and the charging current further reduces. Thereafter the charger will enter equalization and Float Mode. In the Float mode battery will float at 13.5/13.6/14.0 Volts. The equalization mode takes the battery upto 14.2/14.5/14.8 Volts to reverse the process of sulphation and to equalize all the cells. This mode is enabled occasionally.
15. In the backup mode the battery Low warning starts at 10.3 Volts and the system is switched off below 9.6Volts. If jumper J3 is shorted the battery low cutoff reduces to 8.5 Volts. The voltages are measured at PCB connections.

SRISHTI ELECTRONICS

New Delhi – 110015

Ph. 9810094997, email – dghai65@gmail.com