

ACE DIGITAL HOME UPS (MICRO CONTROLLER BASED)

Rev 4.xx (1500VA - 2500VA)

Features :-

1. Micro Controller Based Design.
2. MOSFET technology, PWM AC output (Modified square wave).
3. Selectable Inverter or Home UPS mode, with mains high and low cutoff.
4. Soft start Inverter Mode.
5. Inverter mode protected against Overload, Short Circuit, Reverse Phase and Unbalanced Load.
6. Overload auto reset.
7. Automatic low battery warning and cutoff.
8. FUZZY LOGIC battery charging control.
9. Charging current can be varied from 2 Amp to 12 Amp.
10. Unique home away feature, shuts down inverter in no load conditions.

LED Display :- Mains on, inverter on, Battery charging and Voltage Level, Battery charged, UPS/Inverter mode, Overload, Short Circuit, battery Low and Reverse Phase.

LCD DISPLAY :- Mains Mode - Mains Voltage, Battery Level in %, Battery charging/charged, Battery charger off, Standby on/off,
INVERTER MODE :- Inverter On, Battery level in %, Load level in %, Battery low, Overload, Short Circuit, Unbal. Load, Home Away, Phase Reverse.
Name of Manufacturer (16 characters).

Assembly Instructions :

1. Make the transformer as per given design and assemble according to wiring diagram.
2. Do not connect transformer wires to the main heat sinks, for initial testing.
3. Keep the inverter on/off switch off.
4. Connect the battery, Display will come on and will show the status accordingly.
5. Switch on the inverter switch and check the MOSFET Gate drive, It should be equal on both Channels.
6. Display will show inverter on / inverter on LED will glow.
7. Now switch off the inverter switch. Connect the heat sink and switch on inverter. The output is available and display will show Inverter on.
8. Load level Display can be adjusted using preset P3.
9. Now connect mains. Display status will change to mains and charging will start Charging current can be set using preset P2 (set at 8 Ampere).
10. LCD will display mains voltage.
11. Low voltage cutoff is set at 90V/170V. High voltage cutoff is set at 290V/270V.
12. Output Voltage adjustments can be done by P1. Connect a 400 VA load on inverter and rotate preset P1 in anti-clockwise direction till the O/P voltage @210 V AC. Do not rotate the preset further. To use the Kit with half regulation connect on 215V tap of trfrmr. & turn preset anti-clockwise till o/p voltage reaches its maximum value on no load.
13. Battery level can be adjusted by R3. In Inverter mode the battery level should be 60-65% on 2.17 V/cell. In LED model the charging LED will blink twice when voltage is > 2.13 v/cell. three times when batt. > 2.18v/cell & four times when batt. > 2.25v/cell . On full charge the LED will be off. Batt full charge set at 2.3 v/cell . To increase to 2.36 v/cell short jumper J7.
14. Battery low off at 1.6 v/cell .
15. Fan on intermittently in charging mode and in inverter mode, if load > 40 %.

SRISHTI ELECTRONICS

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Micro Controller Based Digital Home UPS Kits

1500VA (24V) and 2500VA (48V)

Software Rev 4.xx

Transformer Details

INVERTER	CORE SIZE	NO. OF TURNS	WIRE SWG
1500 VA 24 V	7 No. 3 1/2" (3.5 inches)	0 - 20 (Bifilar) 0-130-214-225 0 - 15	10 SWG 17 SWG 25 SWG
2500 VA 48V	7B No. 3 1/2" (3.5 inches)	0 - 36 (Bifilar) 0-117-192-200 0 - 14	10 SWG 15 SWG 24 SWG
2500 VA 48V	8 No. 3 1/4" (3.25 inches)	0 - 48 (Bifilar) 0-155-255-265 0 - 18	10 SWG 15 SWG 24 SWG

Transformer Voltages
 Primary Winding - 0 - 20 / 40 Volts (Bifilar)
 Sec. - I Winding - 0 - 121 - 215 - 225 Volts
 Sec. - II Winding - 0 - 16 Volts

LED CONNECTION DETAILS

Connector CN2

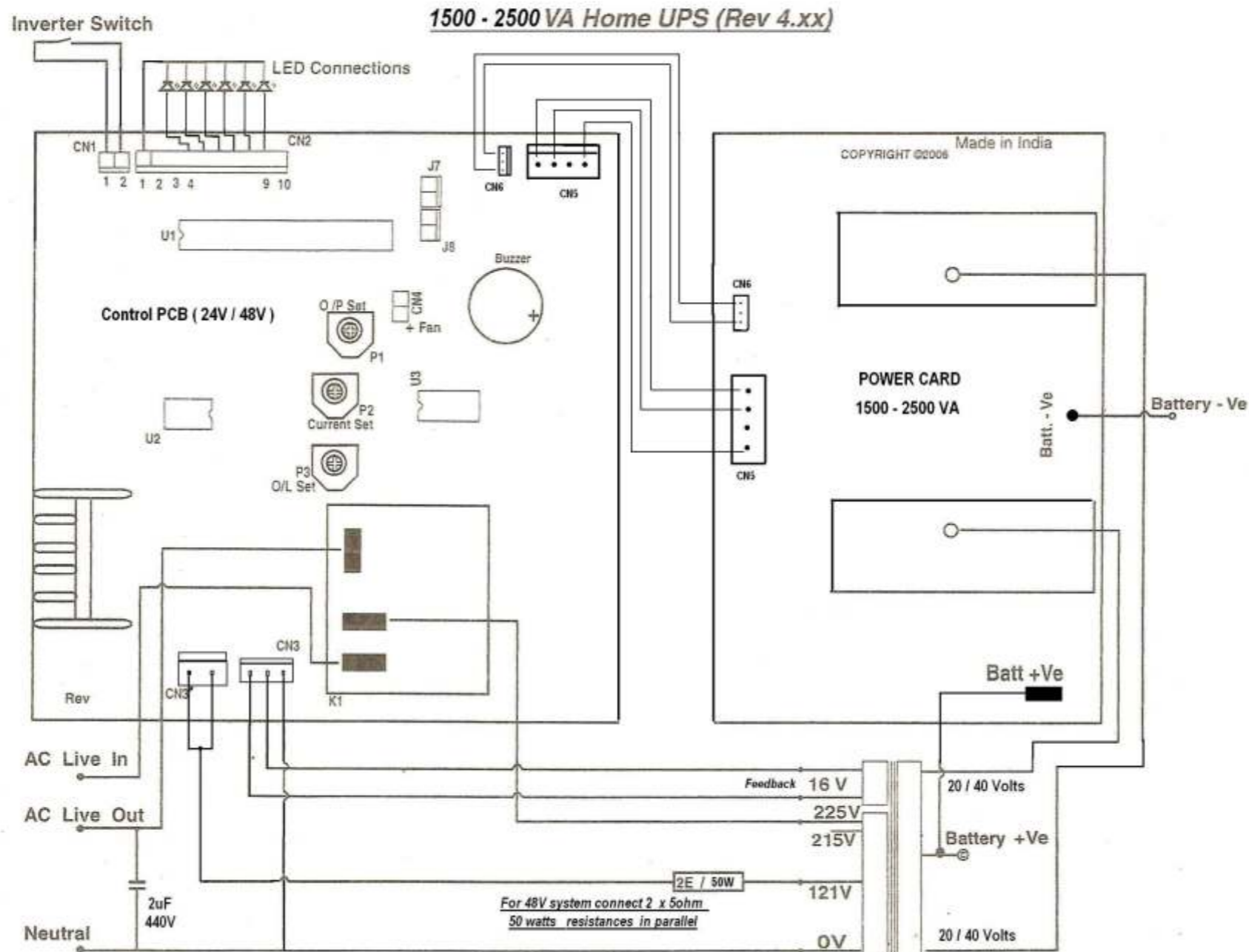
Pin 1 - Black	- LED Ground
Pin 2 & 3 - NC	
Pin 4 - Orange	- Mains on LED
Pin 5 - Yellow	- Inverter on LED
Pin 6 - Green	- Charging LED
Pin 7 - Blue	- Charged LED
Pin 8 - Violet	- Battery Low LED
Pin 9 - Grey	- Overload LED
Pin 10 - White	- UPS/Inverter LED

Mode Selection

Mode Selection	Jumper J8	In UPS mode change over below 175 V AC and above 265 V AC.
Inverter	Open	
UPS	Short	

Jumper J7 Details

Battery Boost Volt.	Jumper J7	Charging current increases by 30% when jumper J7 is shorted.
2.3 V/Cell	Open	
2.35 V/Cell	Short	Battery Float at 2.25 V/Cell



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