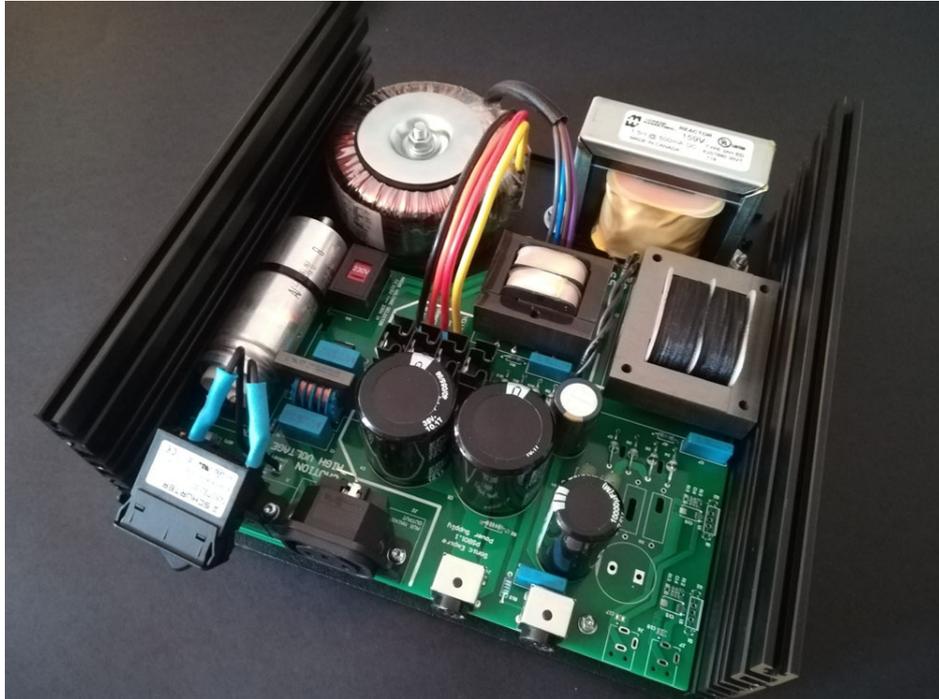


TWRPS-LBS-P LiFePo4 batteries power supply PSU



This board is part of the LiFePo4 batteries power supply system. This is the PSU board intended to recharge the batteries of the main and the daughter boards. It's controlled by the main board.

Features:

Input: 115-230 VAC

Output voltage:

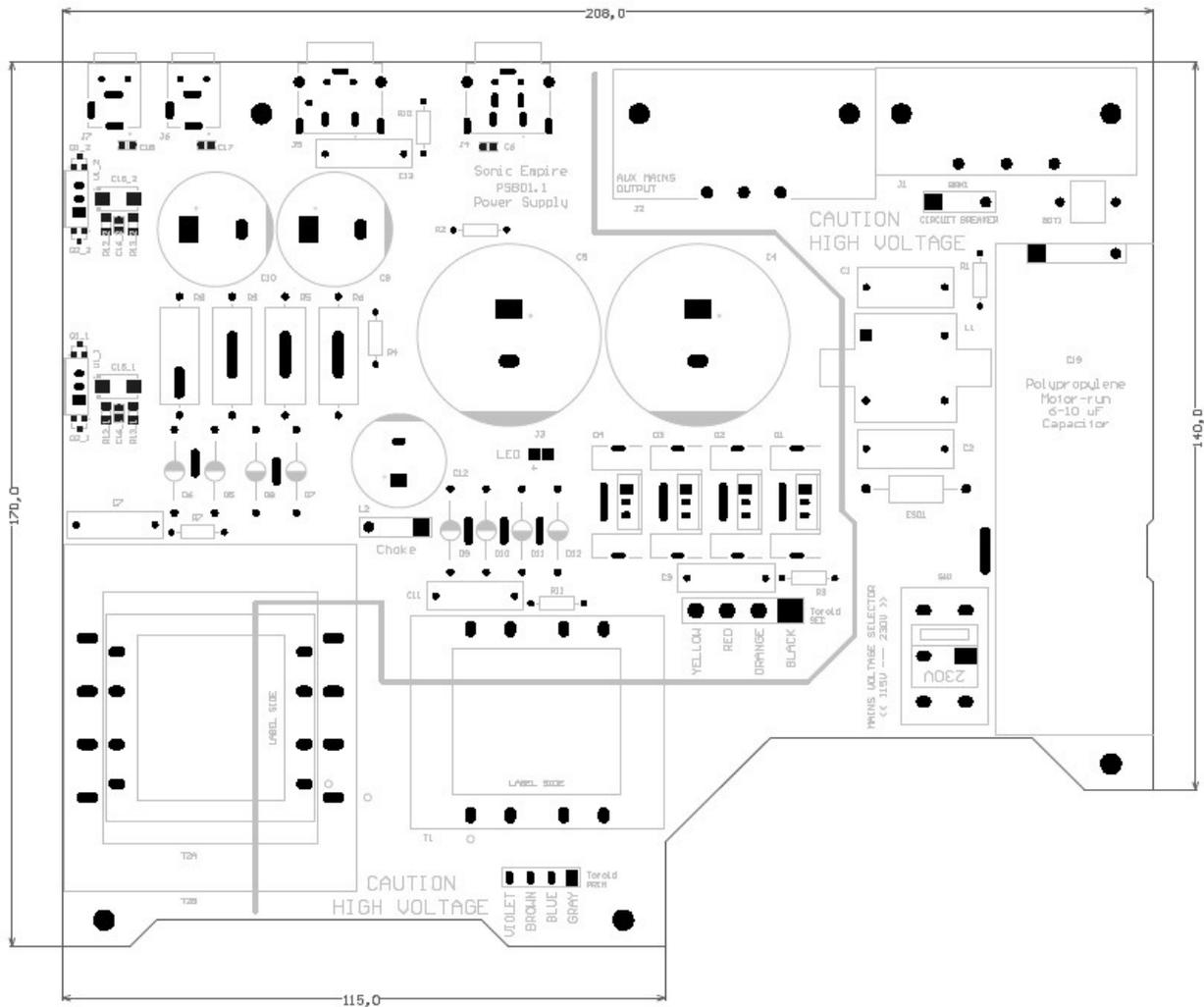
- linear supply to recharge the batteries of the main and the daughter board
- linear supply to power the TWSAFB-LT FIFO Lite board
- regulated supply to power the oscillators while recharging the batteries, to never shut down the oscillators

Board size: 208mm x 170mm

Board options: bare PCB only

Note: almost all parts are through hole, a few SMD parts only

PCB layout



Connectors and switches

J1: 115-230 main AC input. IEC male connector.

J2: 115-230 switched main AC output. Output voltage is available when the device is switched on. Suitable to power other devices. IEC female connector.

J3: Power on LED indicator. Pay attention to the polarity when cabling the LED.

J4: Battery Charger output and oscillators power supply when batteries are charging. Connect to the TWRPS-LBS-M main board.

J5: Auxiliary 9 VDC output to power digital devices. Connect to the TWSAFB-LT FIFO buffer.

J6, J7: Not used.

BRK1: Circuit breaker to power on the device. Connect to the part 4435.0576.

Toroid PRIM: Use these pads to connect the primary of the toroidal transformer. Pay attention soldering correctly the wires from the primary of the transformer. Follow the colors legend on the PCB.

Toroid SEC: Use these pads to connect the secondary of the toroidal transformer. Pay attention soldering correctly the wires from the secondary of the transformer. Follow the colors legend on the PCB.

SW1: Main AC voltage selector. **CAUTION:** be careful selecting the right voltage according to the main AC of your country.

L2 (Choke): Solder the wires of the external inductor, part 159V.

CAUTION: there is high voltage on the PCB. Be careful when powering on the board.

There is 1 available option for this board:

- bare PCB (almost all parts are through hole)

The BOM is available at post #166 on the diyaudio.com thread: The Well Regulated Power Supply.

Notes on bare board

The bare board option needs all the parts to be soldered (almost all parts are through hole).

There are a few things to pay the maximum attention:

- be careful installing connectors and polarized parts with the right orientation, the component orientation is clearly visible on the PCB overlay
- be careful when installing the toroidal transformer, follow the colors legend on the PCB.
- be careful selecting the right voltage according to the main AC of your country