Ultimate Battery Eliminator Circuit(UBEC) Users' Manual
SUNRISE MODEL 6A

1 Features:

1.1 Adopting the most advanced designing of Switch mode mastered by the main-controlling chip, combination of FET of extremely low resistor against high frequency, current limit protection, high efficiency of chip up to 93%.

1.2 Small and light.

1.3 Heavy output current. Continuous output current is 6A, burst output current is 8A, which can meet the demand of digital servo of high torque or simulating servo fully.

1.4 Output Voltage of 5.5V gets rid of the trouble of transforming between 5V and 6V each other.

1.5 Output wires configured with a professional filtering magnet loop largely reduces the electromagnetic interference to assure the receiver's regular work.

1.6 6V to 33.6V wide range of regular working voltage.

1.7 Maximum operating frequency >1MHz.

1.8 Output port adopted high quality solid capacitance and silica gel wires of 60 chips prolongs the sevice time of products extremely.

1.9 Totally enclosed electronic inductance reduces largely the electromagnetic interference.

2 Advantages of 6A Switch BEC over traditional BEC:

Comparing with the linear regulator BEC, Switch BEC with battery pack has main advantages as followings:

When you use more than three bunches of Li-XX (11.1V) battery pack, it can reduce largely the heat in BEC and improve the efficiency of the whole kit. For example, a battery pack of four bunches Li-xx battery can supply 16.8V in it's regular work. If a traditional linear regulator BEC is used, the power pack must supply 1A current so as to output 5V/1A current. So the power of BEC is 16.8W(16.8V*1A). However, the actual useful output power of BEC is only 5W(5V*1A). So the efficiency of the whole power is only 29.7%(5/16.8), the rest of 11.8W power into heat may lead to the serious over-heat in BEC even a fatal damage and out of work of chips; If you use a Switch BEC, the testing power pack is just needed to input 0.36A so as to output 5.5V/1A, and the power is 6.048W(16.8V*0.36A), the whole efficiency of Swich BEC is 90.9%(5.5/6.046).

Note: Although many measures are taken to reduce the electromagnetic interference, a little electromagnetic interference is still unavoidable completely in using Swich BEC. For the working regularly of receiver, please keep the output filtering bead away from main controlling panel as far as possible(The output filtering bead is not allowed to pile on the main controlling panel). Meanwhile, please keep the Swich BEC away from the receiver as far as possible.

3 Specification:

3.1. Output Voltage: 5.5V

3.2. Continuous output current: 6 Amps

3.3. Burst output current: 8 Amps

3.4. Input: 6V-33.6V (2-8 cells lithium battery pack)

3.5. Quiescent current: 10mA

3.6. Size: 25mm*20mm*7mm (length*width*height)

3.7. Weight: 16g