User Manual of 8A UBEC

8 Amps Switch-Mode UBEC

1. Why do you need UBEC?

The 8A-UBEC is a switch-mode DC-DC regulator supplied with a 2-3 cells lithium battery pack and outputs a consistent safe voltage for your receiver, gyro and servos. It is very suitable for nitro powered RC helicopter (above 30 class) and big fixed-wing aircraft.

Compared with the linear mode UBEC, the overall efficiency of the switch-mode BEC is much higher, so it can extend the working time of the receiver battery pack, and because a switch mode UBEC can significantly reduce the heat emission, it can avoid the loss of control caused by the over-heat problem which is frequently happened with the linear mode UBEC.

2. Specification:

2.1. **Output:** 5V/8A or 6V/8A (Changeable with an output-voltage select switch)

2.2. **Input:** 6V-12.6V (2-3 cells lithium battery pack)

2.3. **Size:** 42mm*39mm*9mm (length*width*height)

2.4. **Weight:** 38g

2.5. **Quiescent current:** 60mA

3. Features:

3.1. Designed with an advanced switch mode DC-DC regulator IC.

3.2. The output current is very large, the continuous output current is up to 8A, and the burst output current is 15A.

3.3. With the output short-circuit protection function.

3.4. A metal shield covers almost all the electronic components, and a specially made filter (ferrite ring) is attached with the output wires to significantly reduce the electromagnetic interference.

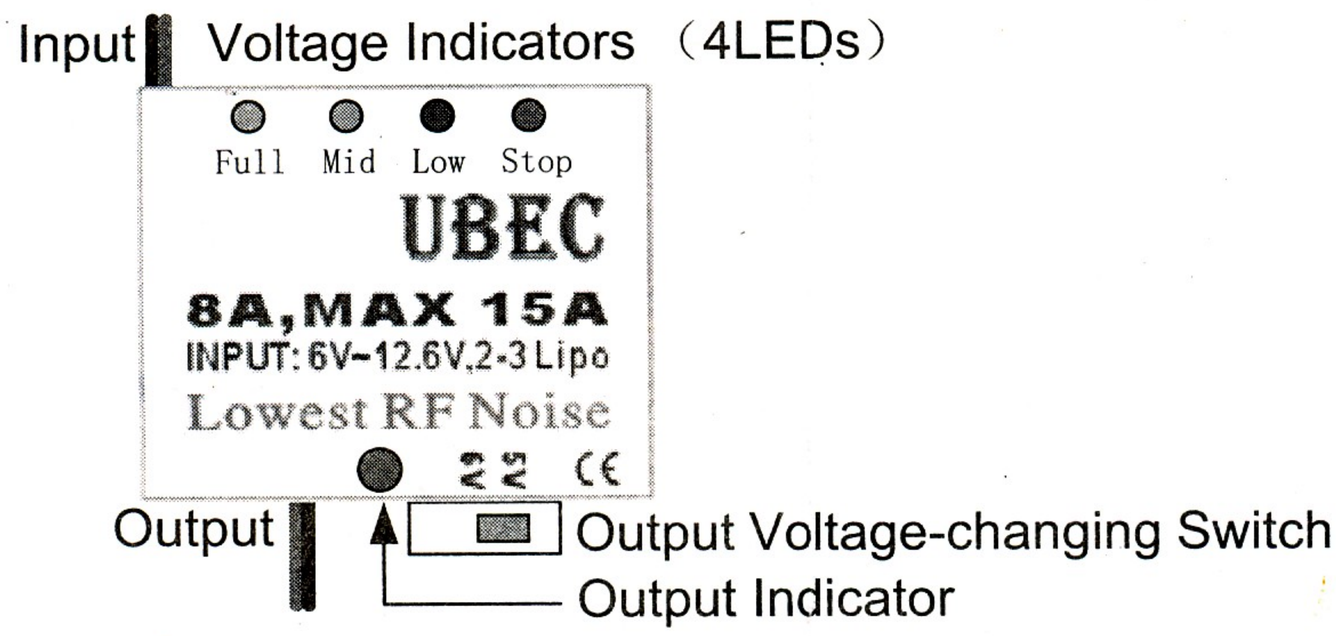
3.5. Automatically detects the number of the lithium battery pack (2 cells or 3 cells), and shows the battery capacity with 4 indicators (LEDs).

3.6. Shows the working status with an indicator (LED), lights when the output is in normal range.

3.7. 2 output leads to reduce the resistance when connecting the UEBC to the receiver.

3.8. Accessory: A step-down voltage regulator with 0.7V down (from 6.0V to 5.3V).

4. Wiring Method



5. Special Explanation

5.1. Although we have tried our best to reduce the electromagnetic interference caused by switch model UBEC, it still may cause some interference to the receiver. So please install the filter far away from the UBEC's main board, and DON'T stack the filter on the main board. Please put the whole UBEC as far as possible away from the receiver.

5.2. This UBEC is only designed for using lithium batter pack; we don't recommend the use of NiMh / NiCd battery pack.

5.3. The input polarity must be correct; otherwise the UBEC will be damaged. Please check the polarity carefully before connecting the battery pack.

6. How to Use the UBEC?

6.1. Change the output voltage

The voltage is chosen by an output-voltage select switch.

6.2. Working status indicator (LED)

The LED shows whether the output is normal or not. It lights when the UBEC has the normal output. If it doesn't light, please check the battery connections.

6.3. Battery capacity indicators (4 LEDs)

LED Status				The voltage of the lithium battery pack	
Full	Mid	Low	Stop	2S battery pack	3S battery pack
○	○	○	○	7.8－8.4V	11.7－12.6V
●	○	○	○	7.2－7.8V	10.8－11.7V
●	●	○	○	6.6－7.2V	9.9－10.8V
●	●	●	○	5.4－6.6V	<9.9V
4 LEDs flash at the same time				1)The voltage <5.4V 2)The voltage >13.5V	1)The voltage >13.5V
One LED flashes for a short time				The voltage of the battery pack is just at the critical edge of each range.	

○ means the LED lights, ● means the LED does not light

When you are using a 3 cells lithium battery pack, if there is only one LED ("STOP") lights, that means the voltage is less than 9.9v, please change the battery pack as soon as possible, otherwise it will be damaged because of over-discharging. For such a fully-discharged 3S battery pack, if the voltage is less than 9V, please don't use it again before it is recharged, otherwise the UBEC may mistakenly consider this battery as 2 cells, so the power capacity indication function will be confused.

6.4. Turn on or turn off the output

Set the main switch to the "ON" position to turn on the output; Set the main switch to the "OFF" position to turn off the output.

6.5. About the 0.7V step-down voltage regulator

Allowing use of Futaba servo models 9241, 9251, 9253, 9254, 9255, 9256 and other digital servos not capable of handling 6V. This small device can change the voltage from 6V to 5.3V. When the UBEC output is set to 6V, the step-down voltage regulator is useful.

Method: Just connect the regulator inline between the Gyro and the rudder servo (Or between the receiver and the servo), that's OK.

If you are using a servo that can accept 6V input, the regulator is not required.