

1. 产品介绍

1.1 产品特点:

- 采用最先进的同步整流开关电源控制芯片设计，具有过流及过热保护功能，芯片最高效率高达93%，
- 体积小，重量轻，
- 输出电流大，持续输出为8A峰值电流高达12A，充分保证设备用电需求，
- 采用高品质转换芯片，极大的降低了电磁干扰，保证接收机正常工作，
- 具有较宽的工作电压范围，可以在7V~25.5V之间正常工作，
- 具有工作状态指示灯，输出正常时改指示灯会亮，

1.2 产品规格:

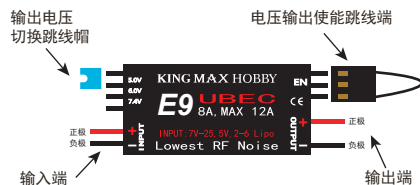
输出: 5.0V/8A 或 6.0V/8A 或 7.4V/8A(可通过跳线帽进行切换)
 输入电压: 7~25.5V(2-6串锂电池组或6-16节镍氢/镍镉电池组)
 持续输出电流: 8A
 峰值输出电流: 12A(持续时间不超过15秒)
 纹波: 小于355mVp-p (@8A/12V)
 尺寸: 45mm*22mm*7.5mm (长*宽*高)
 重量: 16g(含线)

对比传统UBEC的优点:

当使用3串(11.1V)以上电池时，可以大大降低BEC发热，并提高整体效率，例如：当使用4串锂电时，正常使用时电压约为14.8V，采用传统线性稳压方式，要输入5V/1A的电流，电源端也必须输入1A的电流。因此会有 $4.8V * 1A = 14.8W$ 的功率消耗在BEC上，然后BEC实际有用的输出只有 $5V * 1A = 5W$ ，所以整体效率只有 $5/14.8 = 33.8\%$ ，另外9.8W的功耗转化为热量，所以会导致BEC过热，芯片进入保护状态而无法工作，使用开关电源方式，输出5V/1A的电流，测试电源端只需要输入0.37A的电流即可，即： $14.8W * 0.37A = 5.476W$ 的功率，UBEC整体效率为 $5/5.476 = 91.3\%$ 。

2. 使用方法

2.1 使用示意图:



注意:
 电压输出使能端口，当使能跳线插上时电压输出关闭，
 当使能跳线拔下时电压输出开启，
 正常工作时必须拔下跳线，否则将没有电压输出。

2.2 特别说明:

尽管已经采用了各种措施降低电磁干扰，但开关稳压模式的UBEC在工作时仍不能完全避免出现少量的电磁干扰，为保证接收机正常工作，请您在使用时整个UBEC尽量远离接收机。

1. Product Introduction

1.1 Product Features:

- Designed with the most advanced synchronous rectification switch mode DC-DC regulator IC, featuring overcurrent and overheating protection. The chip's maximum efficiency reaches up to 93%.
- Compact size and lightweight design.
- High output current, with a continuous output of 8A and a peak current of up to 12A, fully meeting the power demands of equipment.
- Utilizes high-quality conversion chips, significantly reducing electromagnetic interference and ensuring the normal operation of the receiver.
- Wide operating voltage range, capable of functioning normally between 7V and 25.5V.
- Equipped with a working status indicator light, which illuminates when the output is normal.

1.2 Product Specifications:

- Output: 5.0V/8A or 6.0V/8A or 7.4V/8A (switchable via jumper cap)
- Input Voltage: 7~25.5V (2-6S LiPo battery pack or 6-16S NiMH/NiCd battery pack)
- Continuous Output Current: 8A
- Peak Output Current: 12A (duration not exceeding 15 seconds)
- Ripple: Less than 355mVp-p (@8A/12V)
- Dimensions: 45mm * 22mm * 7.5mm (L * W * H)
- Weight: 16g (including wires)

Advantages Compared to Traditional UBEC:

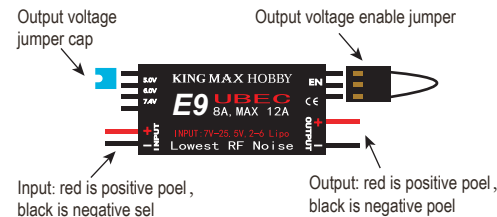
When using a 3S (11.1V) or higher battery, it significantly reduces BEC heat generation and improves overall efficiency.

For example, when using a 4S LiPo battery:

- Under normal use, the voltage is approximately 14.8V. With traditional linear voltage regulation, to output 5V/1A, the input side must also draw 1A. This results in a power loss of $4.8V * 1A = 14.8W$ on the BEC, while the actual useful output is only $5V * 1A = 5W$. Thus, the overall efficiency is only $5/14.8 = 33.8\%$, with the remaining 9.8W converted into heat, causing the BEC to overheat and the chip to enter protection mode, rendering it inoperable.
- Using the switching power supply method, to output 5V/1A, the input side only requires 0.37A, i.e., $14.8W * 0.37A = 5.476W$. The UBEC's overall efficiency is $5/5.476 = 91.3\%$.

2. Instructions

2.1 Usage diagram:



Note: Voltage output enable port, when the enable jumper is plugged in, the voltage output is turned off, and when the enable jumper is unplugged, the voltage output is turned on. The jumper must be unplugged for normal operation, otherwise there will be no voltage output.

2.2 Special instructions:

Although various measures have been taken to reduce electromagnetic interference, the UBEC in the switching voltage regulation mode cannot completely avoid a small amount of electromagnetic interference during operation. To ensure the normal operation of the receiver, please keep the entire UBEC as far away from the receiver as possible when using it.