



Why Do I Need a UBEC?

Most ESC's (**E**lectronic **S**peed **C**ontrollers) have a separate circuit built in called a BEC (**B**attery **E**liminating **C**ircuit).

The BEC is used to supply power to the receiver and servos.

Contrary to popular belief the BEC does not cut power to the motor when the battery voltage is low. That job is handled by the low voltage cut off portion of the ESC.

Most BEC in ESC's will only work on 2S (7.4V) or 3S 11.1V) LiPo.

There are some ESC's on the market which have switching BEC and will work on much higher voltages, up to 6S.

Our 35A, 45A, 60A and 70A ESC's beginning with PP-EESC have switching BEC's and work up to 6S LiPo (22.2V).

A UBEC (**U**niversal **B**attery **E**liminating **C**ircuit) which is sometimes called a SBEC (**S**witching **B**attery **E**liminating **C**ircuit) is used in one of 4 instances.....

1. When using a higher voltage than the built in BEC can handle. The red wire (+ve) (Futaba) or orange wire (JR/Spectrum) in the servo type lead that goes from the ESC to the throttle channel on your receiver has to be removed to disable the inbuilt BEC.
2. When using a large number or high power servos. BEC's can normally only supply 1-4A depending upon the size (Amps) and manufacturer. Higher current capability will be required for a high number and/or high power or digital servos.
3. When using an "OPTO" (**o**ptical **i**solated) ESC. OPTO ESC's do not have any built in BEC and therefore you will require a separate power source for your receiver and servos.
4. When you want extra peace of mind. If an ESC fails then quite often the BEC part will also fail at the same time. If this happens you lose all control and your aircraft crashes.

Using a UBEC or Receiver Battery with an OPTO ESC

If you are using a UBEC or a separate receiver battery with one of our OPTO ESC's (no BEC included) you should **not** remove or cut the red/orange wire. The red/orange wire is needed for the ESC to operate correctly.