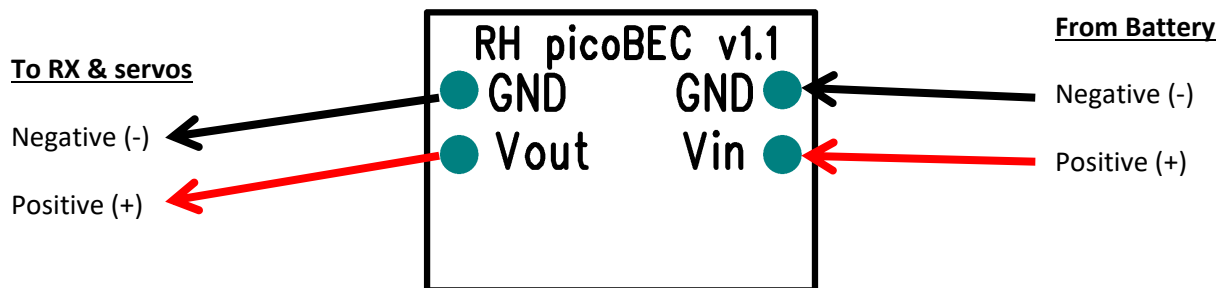


RH picoBEC for F3P

Specifications

- New lighter version (v. 1.1) with improved cooling and red PCB
- Based on state of the art Linear Technology LDO regulator
- Lightweight 0.30 g \pm 0.02 g
- Programmable output voltage with three settings: 5.2 V, 5.5 V and 5.8 V \pm 0.05 V
- Max continuous current (2S LiPo input, 5.8 V out) 1.1 A (with good airflow)
- Momentary max current 1.7 A
- Max momentary input voltage 20 V
- Protected against
 - Overcurrent (tolerates short circuit at output)
 - Overheating
 - Reverse input voltage (protects RX and servos as well)
- Cooling Large copper areas on PCB
- Recommended supply 2S LiPo
- Dimensions 11 x 16 x 2 mm

Connections



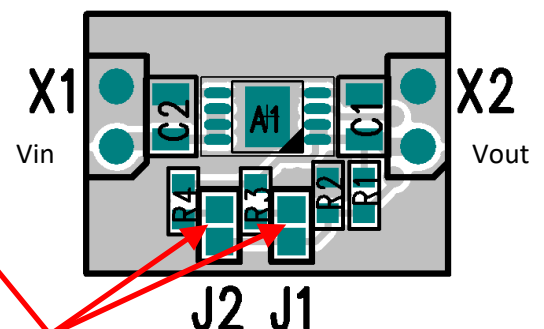
Voltage programming

Default setting: 5.8 V (J1 and J2 open)

Middle setting: 5.5 V → Solder a short to either **J1** or **J2**

Low setting: 5.2 V → Solder shorts to **both J1 and J2**

*Note: You can use solder or use a short piece of wire to short the jumpers. Be careful not to desolder the nearby resistors!



Applications Information

The picoBEC has been specifically designed to be a companion for the YGE 7 S brushless speed controller which does not have an integrated BEC circuit. It works well with 1S and 2S batteries if the servos can operate from the battery voltage directly. However, especially in F3P new very small and light digital servos have grown popular. They are often specified to work only with maximum voltage of 5.5 V or 6.0 V. Some of them may work with 2S Lipo voltage for a while but long term reliability is questionable. Also movement smoothness and centering could suffer if higher than specified voltages are used.

The picoBEC has three output voltage settings to match most of the small digital servos. The 5.8 V setting (default) is recommended for servos that specify up to 6 V operating voltage. The mid setting 5.5 V is especially intended for the small Hitec digitals and the lowest 5.2 V would be good for the Emax ES9251.

The current capability of the picoBEC is higher than anything else in comparable size and exceeds also the integrated BEC circuits in brushless ESCs that are commonly used in F3P pattern planes. It is also better protected (see the specs) than anything else available for this class.

Wiring Tips

When connecting the picoBEC with YGE 7 S, connect the battery wires and the power supply wires going to the picoBEC to the same solder pads on the YGE circuit board. Then connect the output side of the picoBEC to the GND and (+) pins of the RX throttle channel. The signal wire from the YGE is wired directly to the RX throttle channel signal pin. See the picture below for details.

If you are using dynamo wire to lighten servo connections, it is advisable to use slightly thicker wire, say 0.25 mm minimum for the GND connection. The signal wires to the servos can be as thin as possible (as thin as you can handle) while I recommend using at least 0.2 mm for the plus wires. The logic behind this is that the signal is always referred to the GND by the servo electronics and this is why the GND should be stable in all occasions. The signal wire does not carry any power and can be very thin if necessary – the resistance of even a very thin wire does not exceed usable limits within the dimensions of a typical F3P plane.

