



## PP-ESC10A Brushless Electronic Speed Controller

**To change any of the parameters of the ESC a programming box is needed P/N PP-PROGBOX**

**Initial "one off" connection procedure of the ESC (This is to teach the ESC the full throttle position and must be repeated if a different transmitter or receiver is used)**

- Turn on transmitter.
- Set throttle on the transmitter to "Full Throttle".
- Turn on aircraft, the ESC will bleep twice, this confirms that the full throttle position has been registered by the ESC.
- Return the throttle stick on the transmitter to "off" position. The ESC will then enter the normal operation mode. Please see below for more information.
- Disconnect battery in aircraft.

### **Normal Operation**

- Turn on transmitter.
- Ensure the throttle on the transmitter is set to "off"
- Turn on aircraft.
- The ESC will bleep once followed by either 2, 3 or 4 bleeps (corresponding to the number of LiPo's it detects) then it will bleep once more to confirm all checks have been completed and are OK.  
(Example if using a 3S LiPo - Bleep.....Bleep, Bleep, Bleep.....Bleep)
- Go fly!
- If there is any fault the ESC will bleep continuously. A common cause is the throttle on the transmitter is not set to off when the battery is connected.

### **Features**

- Equipped with powerful high-speed MCU.
- Fully protected including low voltage, signal loss shutdown, thermal protection.
- Self check function.
- Soft and smooth start up to reduce shock to the airframe and motor mount.
- Smooth and linear throttle curve.
- Excellent low speed operation.
- Supports high speed (up to 240,000 RPM with 2 poles, and 40,000RPM with 12 poles).
- Safe operation. Individual power supply circuits for motor speed control and BEC (Battery Eliminating Circuitry).
- No motor start unless the throttle on the transmitter is set to off.
- More options and parameters can be easily configured with programming box (PP-PROGBOX).

### **Specification**

- **Input voltage:** 3V -13V DC (supports 1-3 Lithium Polymer batteries).
- **Continuous maximum current:** 10A.
- **Maximum burst current:** 15A (for 10 seconds maximum)
- **Max speed:** 240,000RPM (2 poles), 40,000RPM (12 poles).
- **BEC output:** 1A/5V
- **Size:** Length 22mm, Width 17mm, Height 7mm
- **Weight:** 7g (approx.)

### **Parameter**

- **Low voltage threshold:** User can set the low voltage threshold according to cell count. The range is 0-49.9V, the default is 5.5V.
- **Brake:** Options are 1.) Off 2.) Soft brake. 3.) Hard brake. The default setting is "off". We recommend that the brake is set to off unless a folding prop is used.
- **Timing:** Options are 1.) Low, 2.) Middle, 3.) High. The default setting is middle, which is suitable for nearly every type of brushless motor.
- **Start up mode:** Options are 1.) Fast, 2.) Soft, 3.) Ultra soft. Fast applies to low inductance and ultra soft apply to high inductance motors.
- **LiPo protection:** Options are 1.) Reduce power, 2.) Cut off. The default setting is reduce power.
- **PWM frequency:** Options are 1.) 13kHz, 2.) 8kHz. The default setting is 8kHz. 13kHz is an option for low inductance motor.
- **Start power:** To set the ratio of output power when starting in range of 0% - 49%. The default setting is 00%.
- **Model type:** airplane mode only for this model of ESC.
- **Rotational direction:** The direction of rotation can be changed by swapping any 2 of the 3 wires that connect to the motor.