Instructions of Multi-Copter Brushless Motor Electronic Speed Controller

Thanks for purchasing our Electronic Speed Controller (ESC).The brushless system with high power for RC model can be very dangerous, so we strongly suggest you read this manual carefully. Any claims arising from the operating, failure or malfunctioning etc. will be denied. We assume no liability for personal injury, property damage or consequential damages resulting from our product or our workmanship. As far as is legally permitted, the obligation to compensation is limited to the invoice amount of the affected product. At the same time, We do not assume any liability arising from modifications due to unauthorized product. We reserve the right to change without notice about product design, appearance, performance and operational requirements.

The specification for multi-copter brushless ESC:

Class	Continuous current	Instant current (10S)	BEC type	BEC output	Battery cell		crystal oscillator	weight	Dimension L*W*H
					LI-Io Li-poly	NiMH NiCd			
10A	10A	12A	linear	5V/2A	2-4	5-12	inlay	12g	34*24*8
20A	20A	25A	linear	5V/2A	2-4	5-12	inlay	22g	46*26*11
30A	30A	40A	linear	5V/2A	2-4	5-12	inlay	23g	46*26*11
40A	40A	60A	N/A	OPTO	2-6	5-21	inlay	39g	55*26*13
50A	45A	55A	N/A	OPTO	2-6S	7-26	inlay	40g	68*27*10

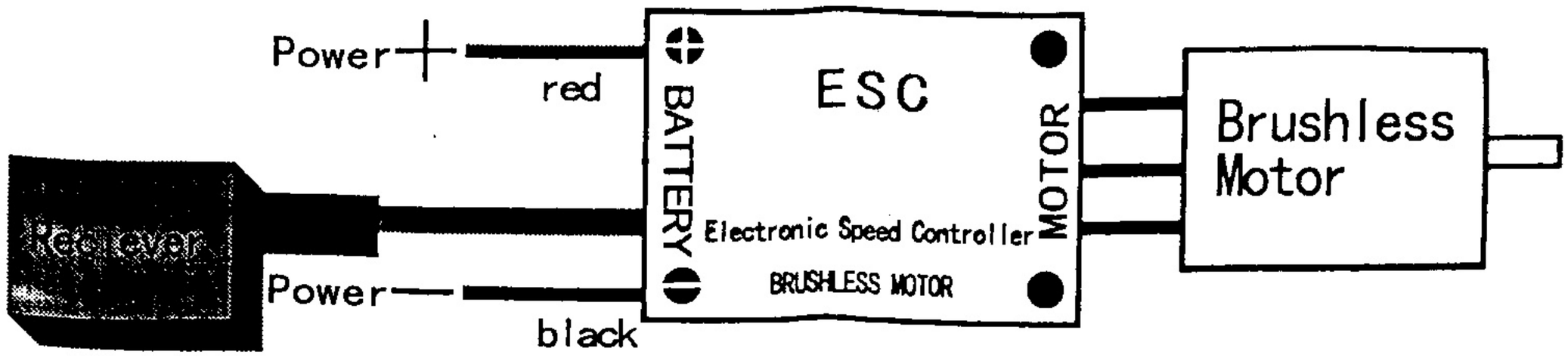
Features:

- Drive tube and high-power Mos, and Mos tube plus a separate heat sink, Extreme low output resistance of the PCB(printed circuit board),super current endurance.
- The power input uses extreme low output resistance greatly enhance the power stability, and has the protective effect on the battery.
- Safety electrical function: when the power is turned on, regardless of the throttle stick in any position does not start the motor immediately, to avoid personal injury.
- Separately voltage regulator IC for microprocessor, providing good anti-jamming capability.
- Supported motor speed (Maximum): 210000 RPM (2 poles), 70000 RPM (6 poles), 35000 RPM (12 poles).
- Using a Simon K's dedicated multi-copter program tgy_debug, and the master chip with high stability crystal oscillator, making the motor control to more precise.

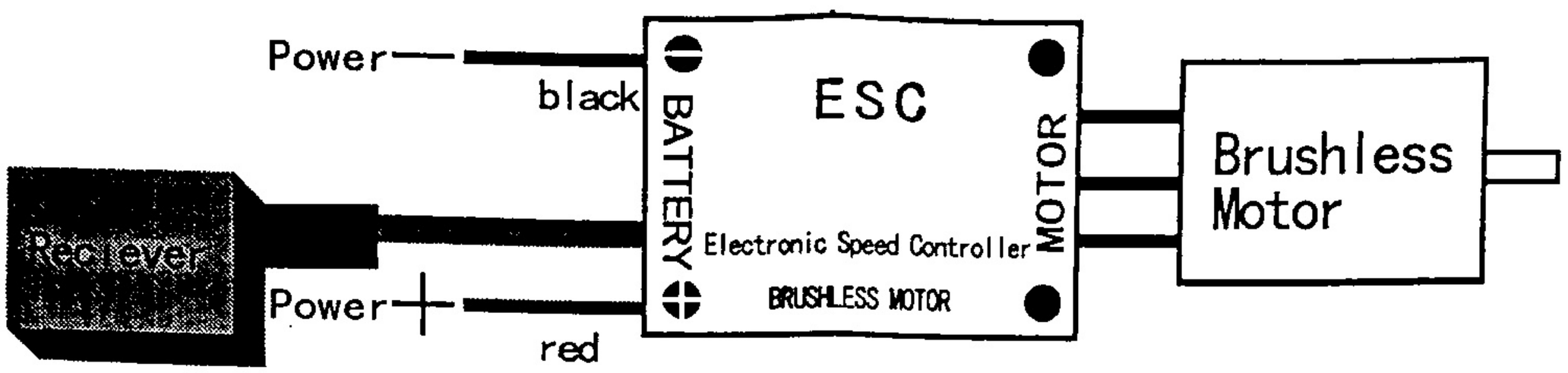
Wiring diagram:

Very important: if you use banana plugs connectors on main power wires (Input wires), please connect the black wire (negative polarity) **BEFORE** red wire (positive polarity).

10-40Adiagram.



50A diagram



Product Function Illustrate:

The ESC of multi-copter brushless motor is special design for multi-copter aircraft, Throttle curve freely set and remove the brake function. To let player get a good throttle linearity. Wide voltage range can be configured to be compatible with a variety of brushless motor market.

Operating Instruction:

Before using new ESC, please check all connectors are correct, available(CANNOT connect the battery at this moment).

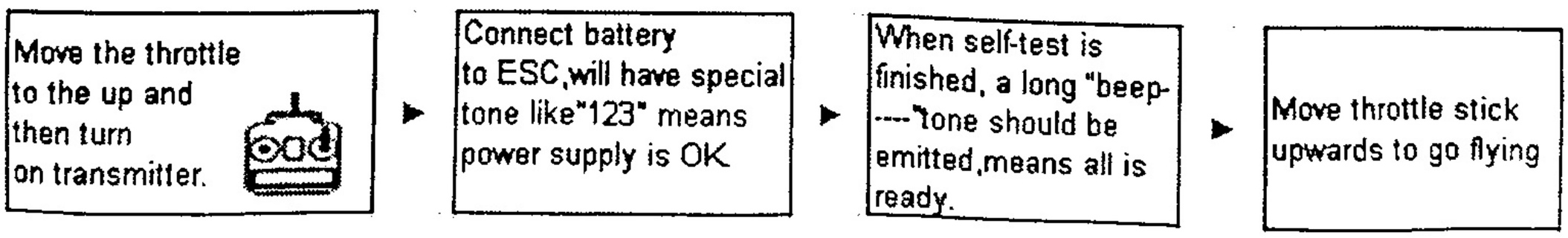
When all is OK, please follow the ESC as below procedure:

1.Move the throttle stick to the bottom position and then turn on the transmitter.

2. Connect the battery pack to the ESC, the ESC begins the self-test process, a special tone " 123" is emitted, which means the voltage of the battery pack is in normal range, and then N "beep" tones will be emitted, means the number of lithium battery cells.Finally a long "beep——" tone will be emitted, which means self-test is OK, and waiting you to turn on the motor.

If there is no response, please check the battery whether in good condition, the battery connection is available.

Normal start procedure:



Special Warning:

When you use the brushless ESC, in order to allow ESC adapt the throttle range at first time, please using the ESC or replace other remote control, should be re-set the throttle to get the most best throttle linearity.

Throttle Range setting:

(Warning! The throttle range should be re-set when a new ESC is being used, others are not!)