Ripmax

Quantum

Electronic Speed Controller

Introduction

Thank you for purchasing a Ripmax Quantum Brushless Electronic Speed Controller (ESC). Electric motors can be very dangerous, so please read this manual carefully.

Installation

If not already pre-fitted, connectors should be soldered carefully to the cables and insulated with heat shrink tube to avoid a short circuit. Ensure that you use connectors that are suitable for the peak power draw. Install the ESC in a position that has good airflow for optimum cooling.

Warning

Please remove the propeller/rotors when programming the ESC and ensure that the motor is clear of obstacles. Take care to ensure loose screws, nuts and washers are not magnetically attracted to the insides of the motor or this will also damage the ESC.

Settings (Words in bold are default settings)

1. Brake (ON/**OFF**)

2. Battery Type (NiMH/**LiPo**)

3. Low Voltage Cut Off Type (**Soft**/Hard cut)

4. Cut off Voltage Threshold (Low/**Medium**/High)
    • For Li-XX packs, the number of cells are automatically calculated (providing the pack is fully charged). Low (2.8V) / Medium (3.0V) / High (3.2V)
    • For Ni-XX/LiFe packs - (Low / Medium / High)
     Cut Off voltages are 0-60-65% of the initial voltage of the battery pack.
     0% means no protection.

5. Motor Timing (Low/**Medium**/High)

In most cases, medium timing works well for all types of motors. However, some motors require different timing, so we therefore suggest you follow the recommendations of the motor manufacturer.

6. Soft Acceleration Startup Mode (Soft/**Medium**/Hard)

7. Governor (**Off**/On)
When set "On" there will be an 8 second delay from start to full RPM. After start up, if the throttle is cut for less than 3 seconds the next start will be in "Off" mode. If the throttle is cut off for more than 3 seconds then the next start will be like "On" mode. Once the governor mode is enabled, the ESC's Brake and Low Voltage Cutoff Type settings will automatically be reset to No Brake and Reduce Power respectively regardless of what settings they were previously set at.

8. Motor Rotation (**Forward**/Reverse)
In most cases motor rotation is usually reversed by swapping any two motor wires. However, in cases where the motor wires have been directly soldered the ESC's wires, the motor rotation can be reversed by changing the value of this setting on the ESC.

9. Restore Factory Default Setup – Sets the ESC back to factory default settings.

Throttle Range Setting

1. Turn on transmitter, move the throttle stick to its high position, connect a suitable battery pack to the ESC and wait for 2 seconds until you hear "Beep-Beep".

2. The "Beep-Beep" tone will repeat for 4 times. Before the 4th "Beep-Beep" move the throttle stick to its closed position. The motor will emit special tones meaning that the setting of throttle range is completed. After 1 second, the system will enter the battery cells confirmation program and emit "123" system "LIVE" tones.

Note: In order to make the ESC compatible with your transmitter's throttle range, when you use this ESC for the first time or if you change to use on other transmitter, you must reset the throttle range by following the above listed steps.

Programing

1. To enter the program mode ensure the throttle stick is at its full throttle position on the transmitter then plug in the ESC. After two seconds there will be four sets of a "Beep-Beep" noise indicating that the program mode is selected.

2. Now you will hear 9 tones in a loop with the following sequence. If you move the throttle stick to the bottom you will hear a different tone indicating that you have selected a setting to change.

(1) "Beep" (1 short) - **Brake**
(2) "Beep-Beep" (2 short) - **Battery Type**
(3) "Beep-Beep-Beep" (3 short) - **Cutoff Mode**
(4) "Beep-Beep Beep-Beep" (4 short) - **Cutoff Threshold**

(5) "Beeeep" (1 long) - **Motor Timing**
(6) "Beeeep-Beep" (1 long, 1 short) - **Startup Mode**
(7) "Beeeep-Beep-Beep" (1 long, 2 short) - **Governor Mode**
(8) "Beeeep-Beep-Beep-Beep" (1 long, 3 short) - **Rotation Direction**
(9) "Beeeep-Beep-Beep-Beep-Beep" (1 long, 4 short) - **Reset to Default**

3. Now you need to change the setting using the table below. Listen to the beeps, when you hear the combination of beeps for your chosen setting return the throttle stick to its high throttle position. You will hear that special tone again. This means your value has been selected. The ESC will return you to step 2 for more setting changes or simply unplug the ESC to exit setting mode.

Items \ Tones	"Beep" (1 Short)	"Beep-Beep" (2 Short)	"Beep-Beep-Beep" (3 Short)	"Beep-Beep-Beep-Beep" (4 Short)
Brake	Off	On		
Battery Type	NiMH/NiCd	Li-Ion/NiCd		
Cutoff Mode	Soft	Hard		
Cutoff Threshold	Low	Medium	High	
Motor Timing	Low	Medium	High	
Startup Acceleration	Soft	Normal	Hard	
Governor Mode	Off	On		
Motor Rotation	Forward	Reverse		
Default Setting	Restore			

Warranty

We accept no responsibility for the use, installation, application, or maintenance of this product. No liability shall be assumed nor accepted for any damages, losses, injury or costs resulting from the use of the product. As far as is legally permitted, the obligation for compensation is limited to the invoice amount of the product in question.

Company Information

Please contact your place of purchase first in regards to any enquiries/warranty claims.

Address: Ripmax Ltd, 241 Green Street, Enfield, EN37SJ United Kingdom
Website: http://www.ripmax.com
Phone: 020 8282 7500