

Manual of Sensorless Brushless Motor Speed Controller

Normal startup procedure:

| | | | | |
|--|---|---|---|------------------------|
| Switch on transmitter, move throttle stick to bottom | Connect battery pack to ESC, special tone like "123" means power supply is OK | Several "beep-" tones should be emitted, presenting the quantity of lithium battery cells | When self-test is finished, a long "beep-----" tone should be emitted | Ready to go flying now |
|--|---|---|---|------------------------|

Throttle range setting: (Throttle range should be reset whenever a new transmitter is being used)

| | | | | |
|---|---|--|--|---|
| Switch on transmitter, move throttle stick to top | Connect battery pack to ESC, and wait for about 2 seconds | "Beep-beep-" tone should be emitted, means throttle range highest point has been correctly confirmed | Move throttle stick to the bottom, several "beep-" tones should be emitted, presenting the quantity of battery cells | A long "Beep-" tone should be emitted, means throttle range lowest point has been correctly confirmed |
|---|---|--|--|---|

Program ESC with transmitter (4 Steps):

1. Enter programming mode
2. Select programmable items
3. Set item's value (Programmable value)
4. Exit programming mode

1. Enter programming mode

- 1) Switch on transmitter, move throttle stick to top position, connect the battery pack to ESC
- 2) Wait for 2 seconds, the motor should emit special tone like "beep-beep"
- 3) Wait for another 5 seconds, special tone like "123" should be emitted, which means programming mode is entered



2. Select programmable items:

After entering programming mode, you will hear 8 tones in a loop in the following sequence. If you move the throttle stick to bottom within 3 seconds after one kind of tones, this item will be selected.

1. "beep" brake (1 short tone)
2. "beep-beep-" battery type (2 short tone)
3. "beep-beep-beep-" cutoff mode (3 short tone)
4. "beep-beep-beep-beep-" cutoff threshold (4 short tone)
5. "beep-----" startup mode (1 long tone)
6. "beep---beep-" timing (1 long 1 short)
7. "beep---beep-beep-" set all to default (1 long 2 short)
8. "beep---beep-----" exit (2 long tone)

Remark: 1 long "beep-----" = 5 short "beep"



3. Set item value (Programmable value):

You will hear several tones in loop. Set the value matching to a tone by moving throttle stick to top when you hear the tone, then a special tone "123" emits, means the value is set and saved. (Keeping the throttle stick at top position, you will go back to step 2 and select other items, Moving the stick to bottom within 2 seconds, you will exit the program mode directly)

| Items | Tones | | |
|------------------|-------------------------|-------------------------------|-----------------------------------|
| | "beep-" 1 short tone | "beep-beep-" 2 short tones | "beep-beep-beep" 3 short tones |
| Brake | Off | On | |
| Battery type | Li-ion / Li-poly | NiMh / Nicd | |
| Cutoff mode | Reduce power | Shut down | |
| Cutoff threshold | Low | Medium | High |
| Startup mode | Normal | Soft | Super soft |
| Timing | Low | Medium | High |



4. Exit programming mode

There are 2 ways to exit programming mode:

1. In step 3, after special tone "123", move throttle stick to bottom within 2 seconds.
2. In step 2, after tone "beep---beep---" (ie. The item #8), move throttle stick to bottom within 3 seconds.