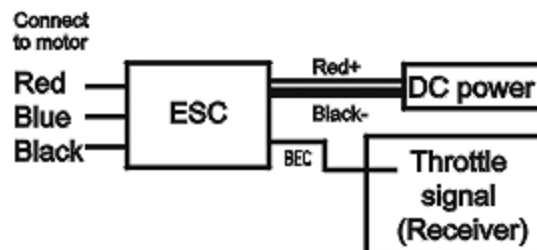




1. Small and compact PCB design for light weight and simple installation.
2. Large heat sink for optimum thermal performance.
3. Highly compatible to work with 98% of all brushless motors currently on the market.
4. Ultra-smooth motor start designed to run with all kinds of brushless motors.
5. The power inlet utilizes a Japanese made "Low ESR" capacitor in order to provide stable power source.
6. The BEC power outlet utilizes a Japanese made special polymer aluminum electrolytic capacitor. It provides better noise filtering capability than other brushless ESC on the market, delivering stable performance of R/C receiver and BEC.
7. The BEC features dual TO-252 package regulators. They provide superior thermal performance with 2A peak current.
8. The throttle has more than 200 step resolution that provides great throttle response and control.

Specification

Model	Continuous Current	Burst Current	BEC Output	Dimension	Weight
RCE-BL25C	25A	35A	2A: 2cells Lithium/6-7cells Ni-MH→4 servos 3cells Lithium/8-9cells Ni-MH→3 servos	45 x 22 x 11	23 g
RCE-BL35C	35A	45A	4cells Lithium/10-12cells Ni-MH→2 servos	45 x 22 x 12	25 g



1. Low operating temperatures at high current loads.
2. **Supported Motor types:** 2-10 pole in/outrunner brushless motors.
3. **Maximum RPM recommended:** 2 Pole → 190,000 rpm, 6 Pole → 630,000 rpm.
4. **Input voltage:** 5.5V ~ 16.8V (Lithium 2 ~ 4 cells/Ni-MH 6 ~ 12 cells).

Feature Options

1. **Proportional Brake Option** - 3 settings that include Soft Brake (0~60%)/Medium Brake (0~80%)/ Hard Brake (0~100%).
2. **Electronic timing option** - 3 settings that include Low timing/Mid timing/High timing.
Generally, 2 pole motors are recommended to use low timing, while 6 or more poles should use Mid timing. High timing gives more power at the expense of efficiency. Always check the current draw after changing the timing in order to prevent overloading of battery.
3. **Battery protection option**- 3 settings that include Li-ion, Li-poly high voltage protection/ Li-ion, Li-poly low voltage protection/ Ni-MH battery voltage protection.
The default setting is Li-ion, Li-poly low voltage protection, this option will prevent over-discharge of the battery. The following reference is the guideline for setting the Battery Protection option.
3-1 Li-ion, Li-poly high voltage protection- CPU will automatically determine cell number of input Lithium battery(7.4~16.8V). When the voltage of single cell drops to 2.9V, the first step of battery protection mode will be engaged by the ESC resulting in reduced power. If the voltage of single cell drops to 2.6V, the second step of battery protection mode will be engaged by the ESC resulting in power cutoff. For 11.1V/3cells Lithium battery, the full charged voltage will be approximately 12.6V According to this input voltage, CPU will determine that this is a 3cell battery.
First step protection: 2.9V x 3cell=8.7V
Second step protection: 2.6V x 3cell=7.8V
When the voltage drops to 8.7V, the power will be reduced. When the voltage drops to 7.8V, the power will be cut off.
3-2 Li-ion, Li-poly low voltage protection-This option is same as instruction 3-1, but when the voltage of single cell drops to 2.6V, the first step of battery protection will be engaged. When the voltage of single cell drops to 2.3V, the second step of battery protection will be engaged.
NOTE- THIS OPTION IS ONLY SUITABLE FOR A FULLY CHARGED BATTERY PACK IN GOOD WORKING CONDITION.
3-3 Ni-MH battery voltage protection-This option applies to 7.2V Ni-MH battery. When the voltage drops to 4.6V, the battery protection will be engaged by the ESC resulting in power cutoff
4. **Reverse Option** : Includes 3 settings: No reverse / Twice click reverse / Twice click reverse plus 3-second compulsory reverse
4-1 No Reverse- This option disables reverse function, utilizing brakes only
4-2 Twice-click Reverse- This option is a dual step process. When in forward operation, apply brake and release to neutral position, apply brake a second time and the ESC will engage the brake.
4-3 Twice click reverse plus 3-second compulsory reverse-This option is same as instruction 4-2. When the brake is applied for 3 seconds, ESC will engage reverse.
5. **Thermal Protection** : When the ESC temperature reaches 80°C for any reason, it will engage the battery protection circuit, reducing power to the ESC. We recommend mounting the ESC in a location with adequate air flow and ventilation, then check output current for best efficiency.
6. **Safe Power On Alarm:** When the operator turns on the ESC, it will automatically detect the transmitter signal. The ESC will emit a confirmation tone and enter normal operation mode if the throttle is set to the neutral position.
If the throttle position is at full throttle, it will begin to enter Setup Mode.
If the throttle is in any other position, the ESC will emit an alarm and not enter into user mode for safety precautions, and to prevent runaway cars.

Setup mode

1. **Setup mode** : Step one is to connect the ESC BEC connector to the throttle channel of the receiver. Please refer to the user manual of your radio system The second step is to connect the 3 power-out signal pins to the brushless motor Before your turn on the transmitter, please adjust the throttle stick to the maximum at full throttle position. Then you could connect the battery to the ESC. You will hear confirmation sounds as soon as your enter the Setup mode. Please refer to the attached flow chart for details.
2. **Throttle stick position in Setup mode:** Setup mode includes four settings: Brake, Electronic timing, Battery protection, Reverse. Every setting has three options. Simply place the throttle stick to the position at high, middle, low for option settings. For example, first Brake setting (hard): move the stick to the high position. Then Timing setting (mid): move the throttle stick to the middle position.

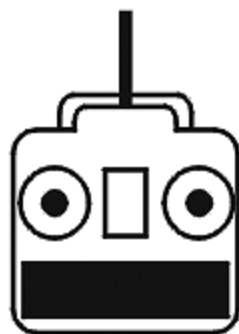
Please refer to the below.

Mode	Throttle position	Low	Middle	High
Proportional Brake		1-1 Soft brake (0~60%)	1-2 Medium brake (0~80%)	● 1-3 Hard brake(0~100%)
Electronic Timing		2-1 Low-timing	● 2-2 Mid-timing	2-3 High-timing
Battery Protection		3-1 Li-ion, Li-poly high voltage protection	● 3-2 Li-ion, Li-poly low voltage protection	3-3 Ni-Mh battery voltage protection
Reverse		4-1 No reverse	● 4-2 Twice click reverse	4-3 Twice click reverse plus 3-second compulsory reverse

Note: "●" default setting

User Mode

- Ensure the throttle stick is in the neutral position.
- Switch on transmitter



1

Connect battery power to ESC



2

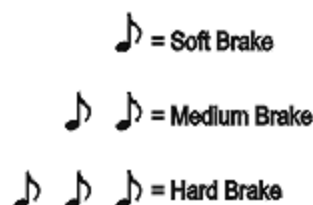
Setting Status Beeps

- First mode sound (Proportional brake)
- Second mode sound (Timing)
- Third mode sound (Battery protection)
- Fourth mode sound (Reverse)

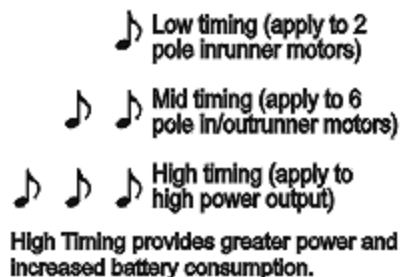
3

Setup Instruction

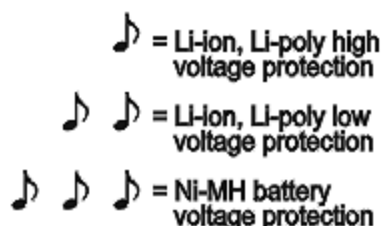
First mode sound Proportional brake status



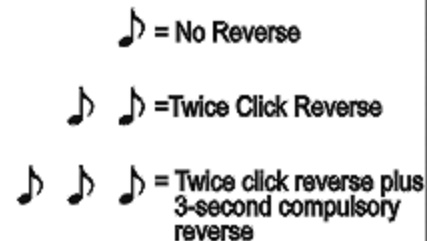
Second mode sound Electronic timing status



Third mode sound Battery protection status



Fourth mode sound Reverse status



Setup Mode

- Place the throttle stick to the highest position.
- Switch on transmitter



1

Connect battery to ESC



2



Throttle channel adjustment process, highest position acknowledge sound.

3



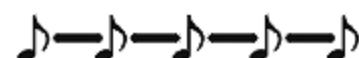
Place the stick to the neutral position, neutral position acknowledge sound.

4



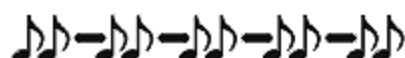
Place the stick to the lowest position, lowest position acknowledge sound.

5



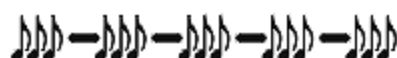
Use throttle stick to set preferred **Proportional Brake Mode** within the 5 tones. A confirmation tone will sound when mode program is complete.

6



Use throttle stick to set preferred **Timing Mode** within the 5 tones. A confirmation tone will sound when mode program is complete.

7



Use throttle stick to set preferred **Battery Protection Mode** within the 5 tones. A confirmation tone will sound when mode program is complete.

8



Use throttle stick to set preferred **Reverse Mode** within the 5 tones. A confirmation tone will sound when mode program is complete.

9



After setup is completed, place the stick to the neutral position to exit Setup Mode and enter User mode (or wait until the User mode beeps finish). The ESC is ready for use.