RCmart International, Inc.
Instructions of Brushless Speed controllers 40A

Features / Specifications:

1. This speed controllers especially designed to offer high power and high efficiency combined with low weight and compact dimensions.
2. Automatic cut – off and auto detection of all types and number of cells.
3. **Brake set to non-active – Factory default setting**

   It is defined as a Hard start mode. Start motor quickly and be able to response to acceleration instantly. It takes the least time for motor to reach its full speed. This mode is suitable for these models, such as helicopter or fan-fly, which require fast response to acceleration. Under this mode, at the termination of a powered flight, the controllers will reduce the current drain to the motor progressively so providing ample power to the BEC, receiver for positive control. There is no immediate cut off but a rather drizzle down of propeller speed and motor response. The player will not lose the power at one moment The system will provide a very good soft landing before the cut off of the system power. (The system power will be cut off when the battery voltage is down to 65% of the full battery charge voltage).
4. **Brake set to active**

   It is defined a Soft start mode. Start slowly & steadily, without any intermittence at full speed & with a very solid brake reaction when actuated. It is suitable for glider / sailplane or airplanes with propeller foldable & collectable. The cut off is sharp. The system will cut off motor power and actuate the brake at one moment when the Power of the battery is lower than 65% of the full battery charge voltage.
5. **Over temperature protection** - Motor to be intermittently turned off when the temperature reaches 105° centigrade.
6. **Low speed control – Be able to let motor running steadily at very low speed.**
7. Fail safe mode - Once there is any abnormal signal or signal fail between transmitter & receiver being detected for about 2 seconds, the controller will cut off the motor power automatically. Once the signals get back to normal, the system will auto-turn on again automatically.
8. **Specifications**

Model	Dimension (mm)	Weight with wire (g/oz)	Current (A) / Current peak 10sec	Cells/servos NiCd/NiMh	Cells/servos Li-polymer	Over Temp Protection	Brake Programmable
BLESC-40A	45 x 25 x 10	29/	40 / 60	6/5, 8/5, 10/4, 12/3	2/5, 3/4, 4/3	Y	Y

Note: When using fast servos or digital servos, it is necessary to reduce the number of servos by one to two.

Operating Instructions:

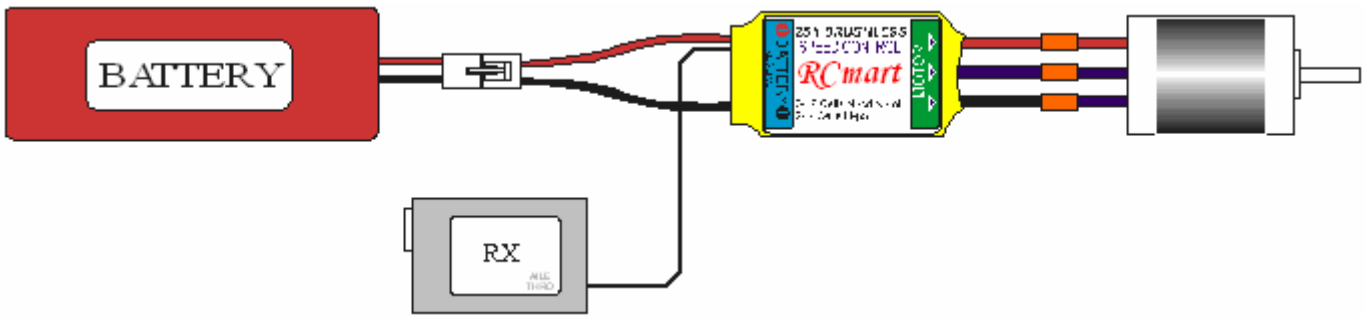
1. Connect the output wires of the Speed Controller to the motor.
2. Plug the connector (JR, Futaba, etc) into the receiver throttle channel.
3. Ventilation - Mount the speed controller in the model at proper position with good ventilation & so as to isolate it from vibration and shock. Allow space around it for cooling. Make sure that there is sufficient cooling of the motor and speed controller by the ducting air through adequate cooling holes from the outside airflow. Ventilation is extremely important for those use voltage source over 12 V.

4. **Assure throttle stick at correct forward or reverse direction** - Switch on the transmitter, move the throttle stick to the low speed or brake position. Switch on the power to receiver. If there is a music of " Do Re Mi ", the transmitter is set at the correct forward / reverse direction. Otherwise, after 3 ~ 4 seconds, it will sound a series beeps (- - -) instead of tones of "Do Re Mi". To correct this mis-direction problem, please reverse the reverse selection switch of the throttle stick & re-start the above process again. About two seconds after " Do Re Mi ", there will be a tone of "DaLa " (Brake non-activated) or " DaLa DaLa" (Brake activated). These prompt tones are indicating the power on safe is properly relieved.
5. **Motor rotating direction** - Slowly move the throttle stick for acceleration & make sure the motor is rotating in the right orientation. Exchanging any two of motor wires will change the motor direction accordingly. (**Warning:** Be sure not to exchange the battery wires in order to reverse the motor direction. It will permanently damage the speed controller)
6. **Brake setting**

   The speed controller is supplied with the 'brake' non-activated. If you want to turn on the brake, do the following:

   - Switch on the transmitter and move the throttle stick to full speed.
   - Connect the battery pack and turn on the receiver switch (if used).
   - Wait 3~4 seconds.
   - You will hear 3 tones of " Do Do Do ".
   - Right after above tones of " Do Do Do ", move the throttle stick fast to the low speed position immediately, you will hear two tones of " Dala Dala ".
   - The 'brake' is now turned on.
7. **Enable or disable the brake** - The brake setting is memorized, that means it will not be changed after disconnecting the battery pack. When turning on the speed controller with the brake 'non - active', there will always be one ' Dala' tone after tone of " Do Re Mi ". When the brake is set active, there will be a double 'Dala Dala' tone after tone of " Do Re Mi ". If you want to change the brake status, repeat the above brake setting procedure.
8. Be sure to move the throttle stick to the brake or low speed position to relieve the power on safe every time when switch on the speed controller. Prior to start the motor, be sure to confirm the system feed back with the correct prompt tones.
9. **Warning**

   - Once the battery pack is connected, handle the model with extreme care – Ensure that you are well clear of the propeller at all times. Rotating propellers are extremely dangerous!
   - Connect the battery pack just before flight and disconnect it immediately after landing.
   - Do not connect speed controller to just '<u>any</u>' kind of power source. Take care to ensure the right Polarity of NiCd, NiMH or LI-polymer power packs. When using the wrong polarity, the speed controller will be severely damaged.



Wiring connection diagram