CHARGERY

Operating Instructions

CHARGERY SUPER BEC V1.0

Battery Eliminator Circuit for 3S~14S LiPo battery packs

Chargery Power Co., Ltd.

Head Office

Add: Room 6-303, Lang Qin Yu, Houhai Avenue, NanShan, ShenZhen, China

Zip code: 518054

Tel: +86 755 2643 6165

Fax: +86 755 2641 2865

Email: admin@chargery.com.cn

Web: www.chargery.com

Thank you for purchasing the Chargery SUPER BECs. This is a very powerful BEC, which offers interesting security features. Depending on the models, it makes a continuous current of up to 20A at an input voltage of up to 58V. The Chargery SUPER BEC is highly efficient and has been designed for safe use with all the proven 2.4 GHz RC receivers and modern servos. It combines security with a constant voltage supply for your RC model and makes use of an external receiver battery superfluous. Hereby Chargery SUPER BEC improves the power to weight ratio of your RC model. The Chargery SUPER BEC current is perfectly adapted to the needs of digital servos with high power consumption.
Please read the entire user manual carefully. Make sure that the polarity of your power connector is correct and matches the BECs.

Please read the entire manual before proceeding. Before installation, be sure your radio system uses center red or positive receiver/servo connections.

Features:

- High efficiency 5.5V, 6V, 7.4V and 8.4V selectable output voltage.
- Wide input voltage range from 9V to 58V (3 to 14 LiPo Cells). Minimum 12V input for 8.4V applications.
- High current capability of up to 20Amps continuous, 25Amp peak with enough ventilation for different model.
- High power output that handles multiple servos including digital servos.
- Built-in Current and Thermal overload protection.
- **Short circuit protection on input and output**
- **Over voltage protection on output,** when output voltage over 10.0V, the BEC will turn off within 0.1uS prevent receiver and servo from burning or fire.
- Less than 1mA consumption when no load, It is very useful if you forget disconnect the battery and SUPER BEC after landing, the unit can save any small power for your model.
- LED status indicator gives visual feedback.
- Ideal for R/C model 2.4GHz radio systems.
- Impact design: L58*W45*H21mm.
- Weight: 80g excluding wires for CPBEC15A and CPBEC20A, 70g for CPBEC10A

MODEL	CPBEC10A	CPBEC15A	CPBEC20A
Output	10A continue, 15A peak	15A continue, 20A peak	20A continue, 25A peak
Max. Power	126W(8.4V×15A)	168W(8.4V×20A)	210W(8.4V×25A)

Package Contents:

- Chargery SUPER BEC unit: 1pcs
- Output wire: 4pcs
- User Instruction Manual: 1pcs

CAUTIONS

1. Never reverse the polarity from battery to Chargery SUPER BEC input wires
2. Do not extend the output power wire. If extending the output wire, replace the output wires with a thicker gauge to prevent voltage drops from the wire. If need, extending input wires is better than extending output wires.
3. Always perform a transmitter/Receiver range check on first installation the SUPER BEC, and whenever components or component are changed.

4. After landing disconnect battery pack from ESC, and SUPER BEC from Battery pack in time.
5. Check the condition of all wires and connectors in your power system regularly to insure good condition.

The servo load ratings for the SUPER BEC assume servos which are average in current drawn at idle and under load, which are in good condition, and which are operating non-binding control surfaces. If necessary, replace servos and/or repair control surface before flight to insure reliable operation. Note the servos vary widely in their specifications. Depending on your servos, you may be able to use fewer or more servos. Operate the model's control surfaces on the ground and check temperature of SUPER BEC. If cool to just warm, perform a short test flight and check temps again. If any part of SUPER BEC is uncomfortably warm to the touch after the short test flight, you may need to examine your setup. If cool to the touch, you may be able to use more servos, or use SUPER BEC 7.4V or 8.4V setting if the high voltage operation is supported by your servos.

WARNING!

DO NOT OPERATE THE CHARGERY SUPER BEC AT OVER 15A CONTINUOUSLY WITHOUT DIRECTED FORCED AIR VENTILATION.

Installation

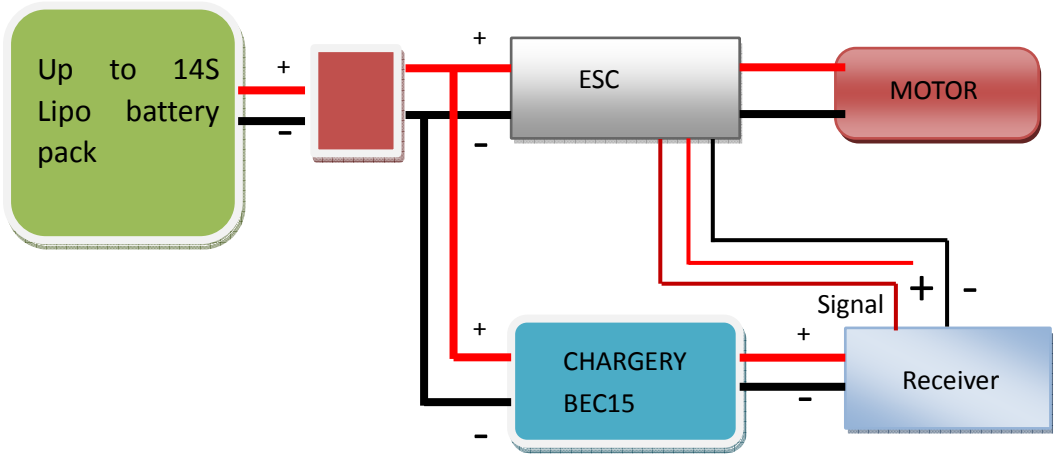
1. Power Connections

   Please disconnect the battery from its terminal before soldering the power connections.

   Connect the Chargery SUPER BEC open input power wires by soldering the Red power wire to the positive (+) terminal of battery pack. Solder the Chargery SUPER BEC Black power wire to the negative (-) terminal of the battery pack.
2. Plug the Chargery SUPER BEC voltage output plugs into the battery slot and/or an available slot of the receiver. Both output plugs of the Chargery SUPER BEC is recommended to be used to prevent voltage drops through the plugs, when large current loads are applied. Make sure the polarity is matching with the receiver slot before inserting the Chargery SUPER BEC plug black wire negative (-) and red wire positive (+). Connect the ESC signal connection to Rx with the positive red wire removed
3. WARNING! Under heavy continuous current load for several minutes, the Chargery SUPER BEC unit will get extremely hot and cause burns when touched. Allow unit to cool before handling.

   CAUTION! Long duration of current loads of 15A continuous must be used cautiously with forced cooled air ventilation directed at the Chargery SUPER BEC. Ideally place the Chargery SUPER BEC unit close to the aircrafts propeller for ventilation.

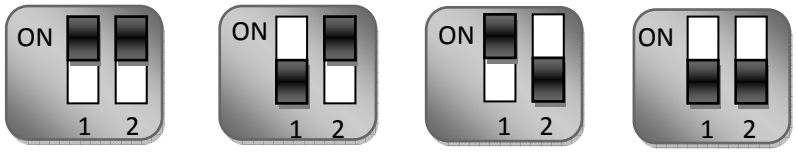
   Securely mount the Chargery SUPER BEC unit on your R/C model away from the receiver and antenna.



Setup:

1. With the Chargery SUPER BEC unit installed and required servo(s) connected, turn on the transmitter with a minimum throttle level without the battery connected.
2. Before connecting the battery to the circuit, please ensure that the proper output voltage settings are set for your particular application. To set the Chargery SUPER BEC to output 5.5V, 6.0V, 7.4V or 8.4V, set the switch

settings on the Chargery SUPER BEC unit as shown below respectively.



5.5V **6.0V** **7.4V** **8.4V**

CAUTION!

It is recommended to double check the output voltage with a voltmeter to ensure proper voltage selection. Do not switch the voltage selection when power is applied, power must be disconnected before changing the voltage selection. Doing so may damage the unit and connected loads.

3. Make sure your transmitter has the throttle off before continuing. Now connect the fully charged battery into the circuit.
   Note: It is required to use a battery pack with a minimum of either 3 LiPo or 8 NiCd/NiMH cells, 4 LiPo cells for 8.4V operation.
4. The LED on the Chargery SUPER BEC unit should turn on.
5. Now the Chargery SUPER BEC is actively powering the RC receiver and servo(s). To further isolate noise from the ESC to Receiver and Servo(s), we also add a ferrite suppression ring to the receiver connector wire set. In the majority of user configurations the ferrite ring will be unnecessary, so you may choose to remove it, then range check your system before flight-only adding it back if your particular setup shows increased range with ring in use.

Warranty and Service

Chargery Power Co., Ltd. as manufacture of R/C model power warrants its SUPER BEC. To be free of defects in material and workmanship, this warranty is effective for 6 months from date of purchase. If within the warranty period the customer is not satisfied with the products performance resulting from a manufacturing defect, the accessory will be replaced or repaired.

Damage due to physical shock (dropping on the floor, etc.), inappropriate power supply (lower input voltage or over input voltage, no forced air ventilation etc.), water, moisture, and humidity are specifically NOT covered by warranty.

In event of non-warranty damage, exchangeable for new at 50% discount from retail price.

Chargery Power Co., LTD.
Chuangye Road, Nanshan Shenzhen, 518054, China.
Tel: 86 (0)755 26436165, fax: 86 (0) 755 26412865
Email: jasonwang3a@163.com
Homepage: www.chargery.com