



Operating Instructions

CY- HB6 is Smart Balancer for 2 to 6 liPo batteries

Applied to the 2AH or above capacity battery packs



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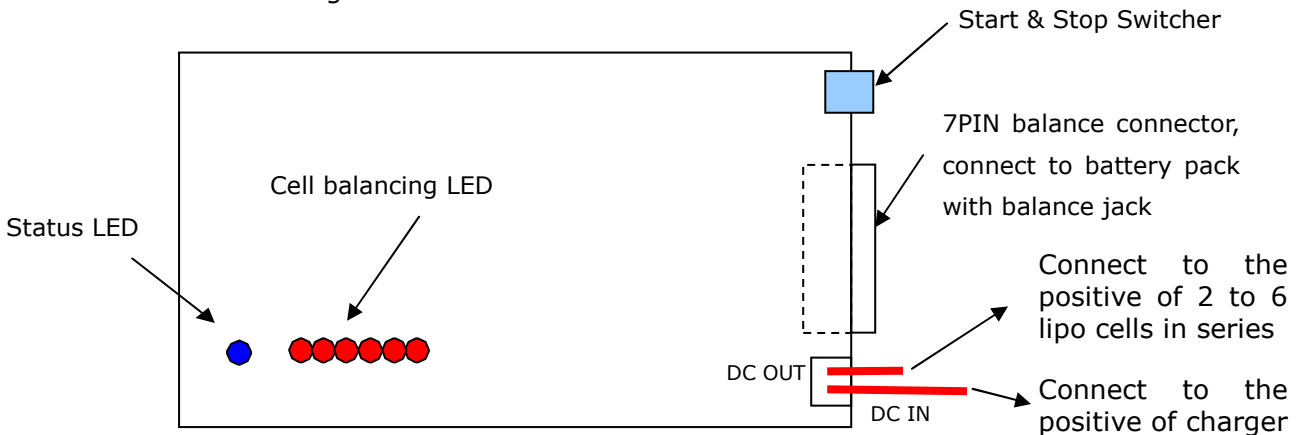
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CY- HB6 is designed specially for 2 to 6 LiPo cells with 2AH or above capacity; it can detect and balance each cell in a pack while the battery pack is charged. It is important to read the instructions before using the balancer.

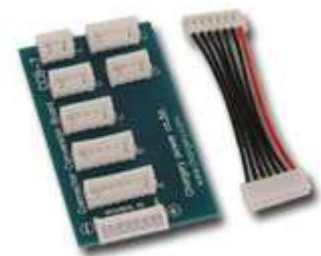


There is 1 balance socket and 2 leads on the right of CY – HB6. You should assure the connection in accordance with CONNECTION DIAGRAM.

The Chargery LiPo Balancer is an extremely smart device. It can balance any 2S to 6S lithium polymer battery pack with 2AH or above capacity, and automatically cut off the charging process while any cell voltage is over 4.25V. As first high rate smart balancer, HB6 will resume the balance of the battery in a shortest time. Specially applied to large capacity battery, do not try to balance the battery under 2AH.

Features:

- Balance while charge
- **Balance 2*3S or 3*2S battery packs simultaneously, the 2 or 3 packs should be connected to the CCB firstly, and then connect CCB to HB6**
- Automatically cut-off charging circuit while detecting the voltage of cell is over 4.25v
- Automatically detect and indicate battery balance status for any 2 to 6 cells pack
- Audio alarm for over voltage
- Audio alarm for under voltage
- LED(s) display each cell in balancing
- **Reverse polarity and short circuit protection (input and output and Balance connector)**
- With Special Connector Conversion Board (CCB) to fit all kinds of battery connectors



Use CY-HB6 to balance the battery while charge:

CY-HB6 may detect and balance 2 to 6 cells in series independently while charging. Please follow the steps below to connect the charger, balancer and your battery.

1. Connect the HB6 (DC OUT) to the positive of the 2S – 6S battery pack.
2. Connect the HB6 to the Connector Conversion Board (CCB), and plug the balance connector of battery into the CCB. **Please attend the positive and the negative**

indication of the CCB.

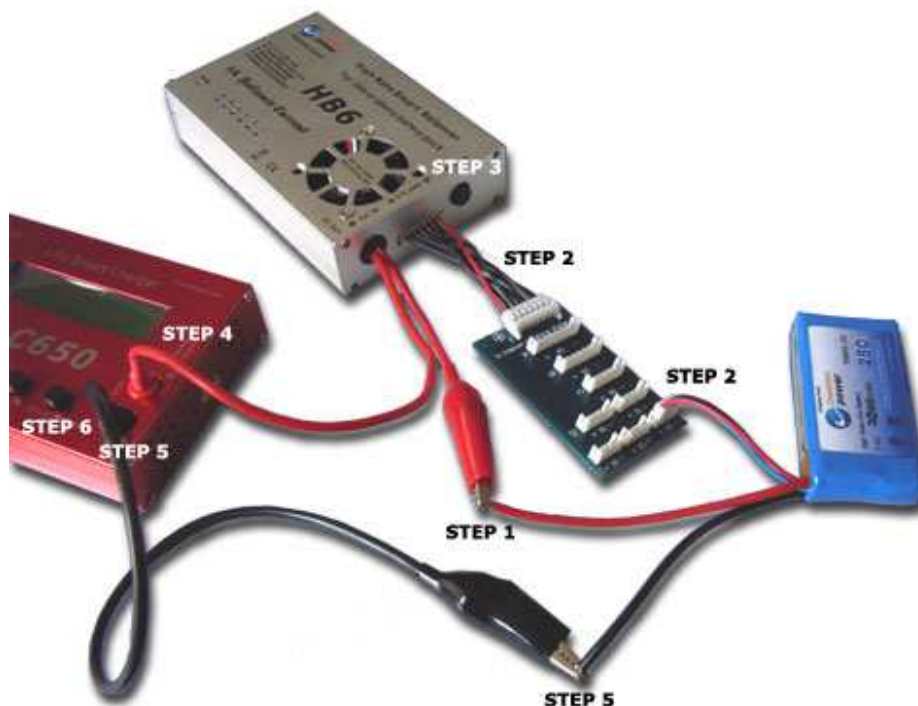
3. Press the START/STOP button to start the balance process. Wait 2-3 seconds until the balance LED indicates battery pack conditions as below
 - a) The voltage difference of any cells in series is under 0.020V, Blue status LED and red LED(s) is on for 1-2s, and then off.
 - b) The voltage difference of any cells in series is 0.020 to 0.20V, the red LED(s) flash till the battery resumes balanced status.
 - c) If the difference of the cell voltage is over 0.20V, the buzzer will beep while the LED flash.
 - d) If the voltage of any cell is lower than 3.0V or larger than 4.3V, the Blue LED will flash and the buzzer will beep continuously, the balancing stopped. Please unplug the battery. The battery is over discharged or over charged.
 - e) When the voltage of any cells is lower than 3.3V, the cooling fan will stop.
 - f) If the battery is 2S, the cooling fan is stopped.
 - g) To stop the balancing process, please press the STOP button.

While balancing, if the battery needs to be charged, please operate as below:

4. Connect the DC OUT(+) of professional lipo charger (such as C650) to HB6(DC IN)
5. Connect the DC OUT (-) of lipo charger to the negative of the Li-Poly battery pack.
6. Press the START/ENTER button of the charger to start the charge process after confirming the charging current and cell count. We suggest the charging current is no more than 1A before the battery resumes balanced status.
7. To stop the charge, please press the STOP button of the HB6 or the charger.

NOTE:

DC OUT Power leads is shorter than DC IN power leads. The shorter power lead is only been connected to the positive of the battery pack, and the other is used to connect the CHARGER such as C650 and Battery pack.



During the charge, the balancer continues to detect and balance each cell. When the battery is fully charged, the battery is also balanced.

During the charging process, when the voltage of any cell is over 4.30V or lower than 3.00V, the balancer will cut off the charging circuit forcibly, at the same time, the blue status LED flash quickly and the buzzer beeps.

Error Alarm and possible reasons



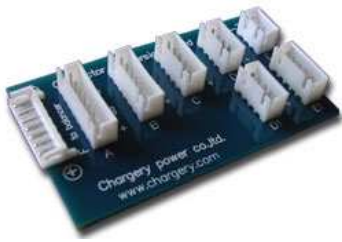
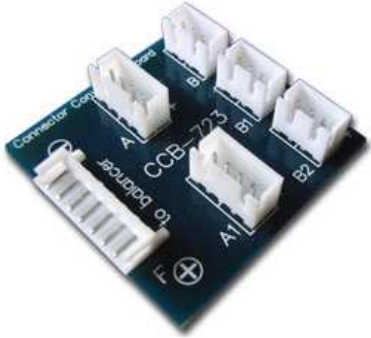


Red LEDs flash	Corresponding cell is balancing and the difference of cell voltage is less than 200mV. Or any cell voltage is over 4.20V
Red LEDs flash and buzzer beeps	Corresponding cell is balancing and the difference of cell voltage is over 200mV
Blue LED flash and Buzzer beeps continuously	Any cell voltage in a pack is under 3.0V or over 4.30V at any time
Cooling fan stop	Any cell voltage is less than 3.3V, or the normal voltage of battery is 7.4V

Main Specification:

- Battery Cells : 2S - 6S
- Input Voltage: max. 30V
- Output Voltage: max. 30V

- Max charging Current: 10A
- Balancing Current: 1000mA max.
- Over Charge Protection : 4.30±0.05 V/cell
- Low voltage alarm: 3.0±0.05V / cell
- DC In positive Lead: silicon wire 200mm long ending in 4.0mm Banana male connector
- DC Out positive Lead: silicon wire 100mm long ending in alligator
- Output balance connector: Wire to board connector, JST EHR male
- Charging Negative lead: silicon wire 300mm long ending in 4.0mm Banana male connector and alligator.
- Compact size: 126 x 78 x 26mm.
- Case type: Aluminum Alloy
- Weight:260g

Accessories

<p>Conversion Wire(CEHN-7)</p>	<p>CCB-7N For 3*2S, 2*3S, 4S, 5S, 6S Kokam, Align batteries pack</p>	<p>CCB-7 For 2S, 2*3S, 4S, 5S, 6S Kokam and Align batteries pack</p>
		
<p>CCB-723 for 2*3S and 3*2S Kokam and Align batteries pack</p>	<p>CCB-7TPQF for 2S, 3S, 4S, 5S, 6S Thunderpower, Flightpower and Polyquest, Hyperion batteries pack</p>	<p>CCB-723TPQF for 2*3S and 3*2S Thunderpower, Flightpower and Polyquest, Hyperion batteries pack</p>
		

Warnings:

- Lithium polymer batteries can be a fire hazard if charged or discharged improperly.
- Never Charge/Discharge Lithium Batteries unattended
- Charge in an area free of flammable materials, on non-flammable brick, concrete, etc
- Keep Lithium batteries, Charger, and Balancer AWAY FROM CHILDREN and PETS!
- Never attempt to charge an impact-damaged (crashed) battery pack
- Packs which are chronically far out of balance may be damaged and should be discarded
- Do not use in direct sun light
- Do not use when ambient temperature is extremely high
- Use and store in a dry environment
- Un-plug balancer from the Li-poly pack when not in use

Warranty and Service

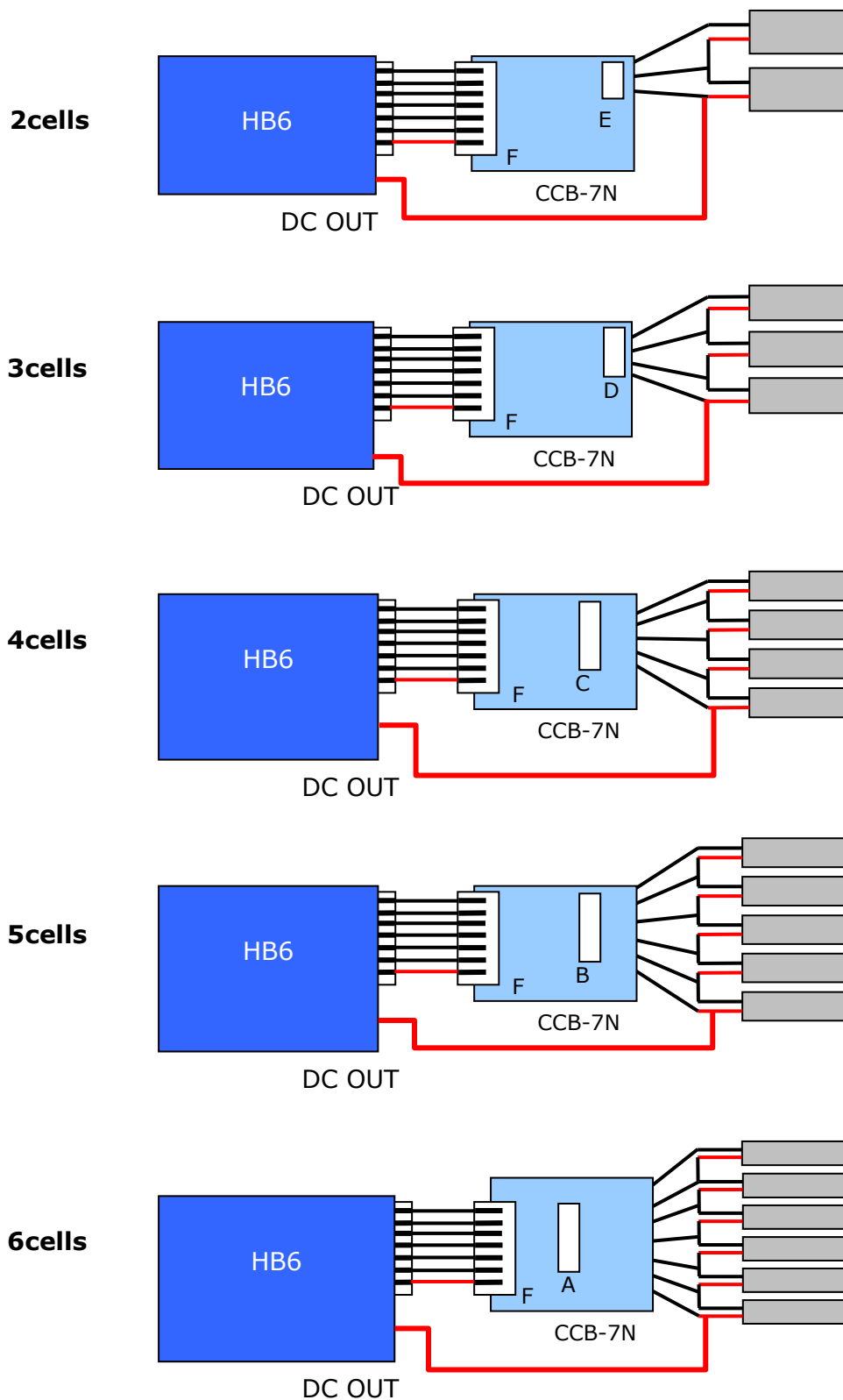
Chargery Power Co., Ltd. as manufacture of R/C model power warrants its CHARGER Y charger and battery pack to be free of defects in material and workmanship. This warranty is effective for 18 months from date of purchase. If within the warranty period the customer is not satisfied with the products performance resulting from a manufacturing defect the accessory will be replaced or repaired. This warranty does not cover the damage due to wear, overloading, incompetent handling or using of incorrect accessories.



Charging Expert for R/C Model

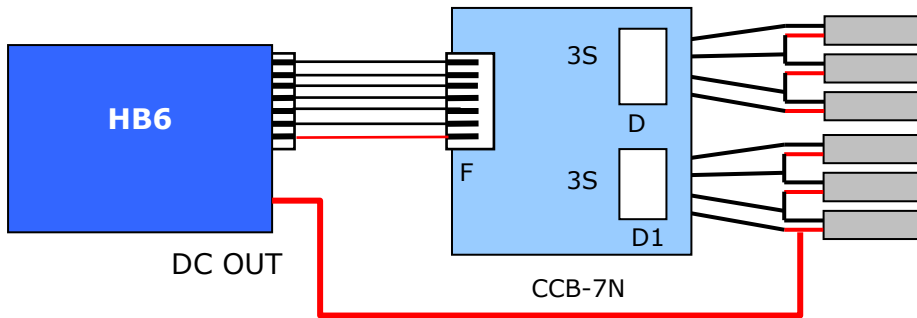
HB6 Connection Diagram

Stand-Alone Mode (without charge)

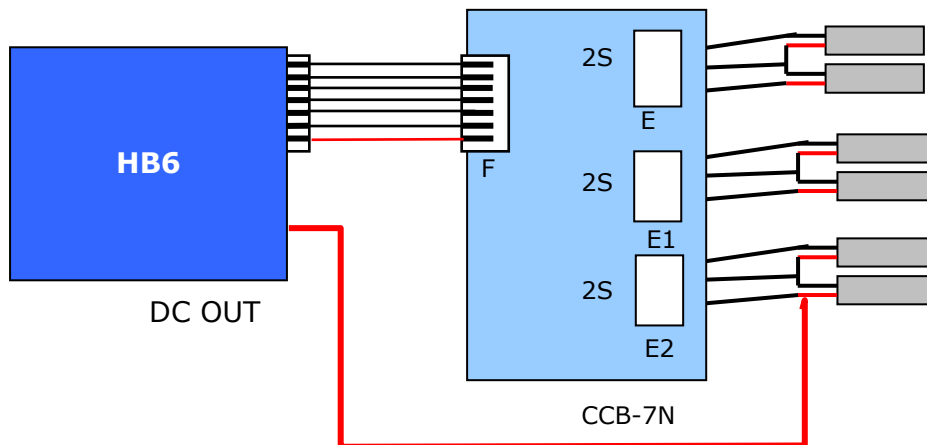


HB6 CONNECTION DIAGRAM

1. Balance two **3S** battery packs simultaneously



2. Balance three **2S** battery pack simultaneously



HB6 Connection Diagram

Balance while Charge

