



## Operating Instructions

### Smart Balancer

### For 2 to 8 LiPo batteries



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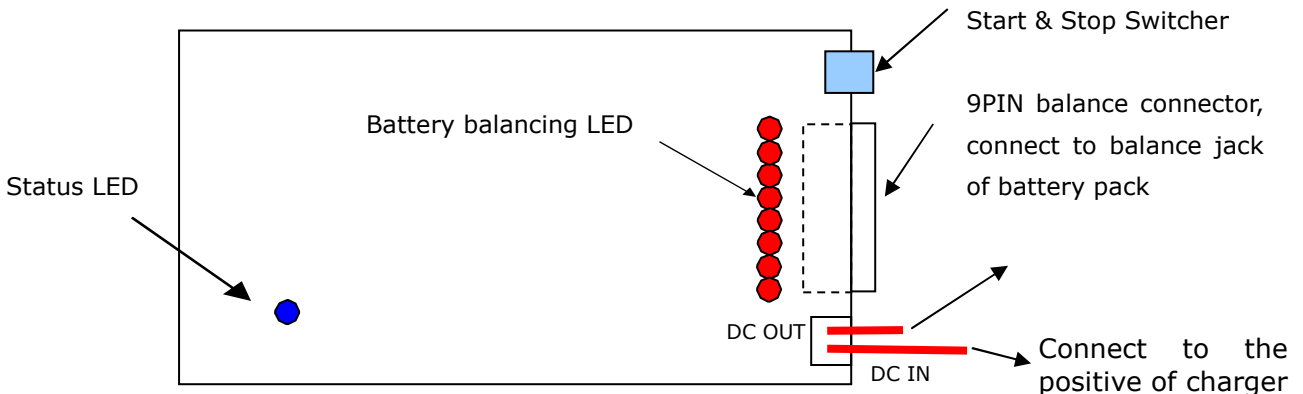
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**CY- B8+** is designed specially for 3 to 8 LiPo cells in series; it can detect and balance each cell in a pack while the battery pack is charged. It is important to read the instructions before using the balancer.



There is 1 balance socket and 2 leads on the right of CY – B8+. 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 8S lithium polymer battery pack, and automatically cut off the charging process while any cell voltage is over 4.25V.

Two working ways to balance the battery pack:

- Stand-Alone Mode --- without input power.
- Balance while Charging mode --- using a LiPo professional charger

**Features:**

- Balance while charge
- **Balance 2\*4S, 2\*3S or 4\*2S battery packs simultaneously**
- 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 8 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-B8+ to detect and balance (Stand-Alone Mode):**

1. Connect Li-Poly Battery Pack to the CCB
2. Connect B8+ to the plug F on the CCB through the special wire with 9pin connector
3. Press the Start/Stop button,
4. Wait 2-3 seconds until the balance LED indicates battery pack conditions as below:

**A: The voltage difference of the 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 the cells in series is 0.02 to 0.20V:** Blue status LED is off, the red LED(s) flash (on for 5s and off for 3s). These cells are balanced until the red LED(s) is off.

**C: The voltage difference of the cells in series is over 0.20V:** The buzzer will beep 3 times every 5s, at the same time the blue status LED is off, then the red LED(s) flash (on for 5s and off for 3s). The cells are balanced until the red LED(s) is off.

5. Press the Start/Stop button again to stop the balancing process.

### **Use CY-B8+ to balance the battery while charge:**

While balancing, you can charge the battery, but we suggest you use the professional lipo charger such as C650 as the Power supply.

The operating steps are as below:

1. Connect the DC power supply to the lipo charger C650
2. Connect the B8+ to the CCB through the Special wire
3. Plug the balance connector of the battery pack into the CCB
4. Connect the DC OUT (+) of the B8+ to the battery positive power leads
5. Connect the DC IN (+) of B8+ to the DC out (+) of C650
6. Connect the DC OUT (-) of C650 to the battery negative power leads
7. Press the Start/Stop on the B8+ to start the balancing process
8. Press the START/ENTER button on the C650 to start charging process

#### **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 as Stand-Alone mode. When the battery is full charged, the battery is also balanced.

The charging current and the charging voltage will vary depending on the charger. During the charging process, when the voltage of any cell is over 4.25V or lower than 3.0V, the balancer will cut off the charging circuit forcibly, at the same time, the blue status LED flash quickly and the buzzer will beep continuously.

During the charge, the balancer continues to detect and balance each cell, when the difference

of any cell voltage is more than 20mV. The warnings and actions are as below:

- **Fully charged and balance finished alerts:** all LED is OFF ----- keep the connection between CY-B6+ and battery pack
- **The difference of any cell voltage is over 0.20V while charging:** the buzzer will beep 3 times every 5s, blue status LED is off, and the red LED(s) flash ( "on" for 5s and "off" for 3s.) ---- Please reduce charge rate to 0.5A and carefully monitor the balance status.

### 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 4.2V
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	any cell voltage in a pack is under 3.0V or over 4.30V at any time

### Main Specification:

- Battery Cells : 2S - 8S
- Input Voltage: max. 40V
- Output Voltage: max. 40V
- Max charging Current: 10A
- Balancing Current: 300mA.
- Over Charge Protection :  $4.30 \pm 0.05$  V/cell
- Low voltage alarm:  $3.0 \pm 0.05$  V / 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: 108 x 64 x 24mm.
- Case type: Aluminum Alloy
- Weight: 150g

### 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

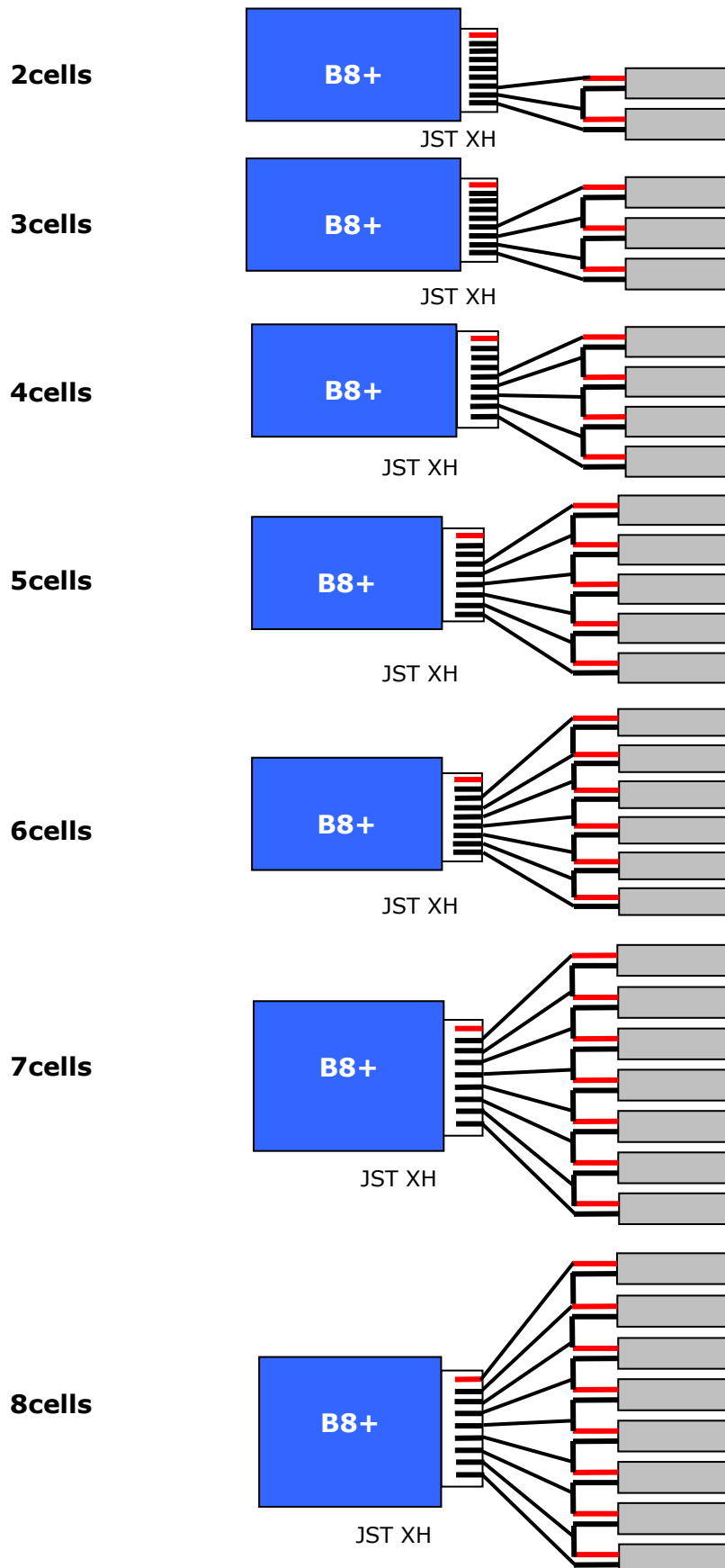
Chargery Power Co., Ltd. as manufacture of R/C model power warrants its CHARGER charger and battery pack to be free of defects in material and workmanship. This warranty is effective for 18 months from date of purchase. If within the warranty period the customer is not satisfied with the products performance 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**

# B8+ Connection Diagram

## Stand-Alone Mode (without input)



# B8+ Connection Diagram

## Balance while Charge

