Operating Instructions

CHARGERY B6+

Smart Balancer for 2 to 6 liPo batteries

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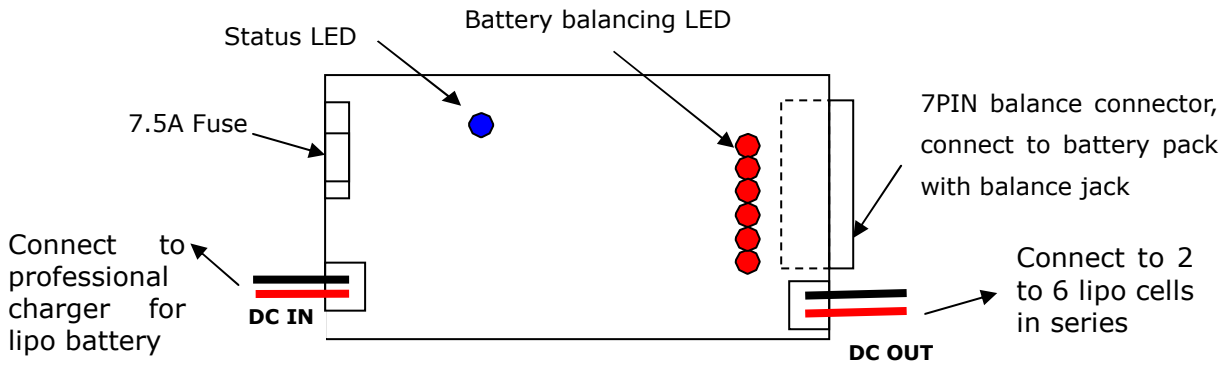
CY- B6+ is designed specially for 2 to 6 LiPo cells in series; it can detect and balance each cell in a pack while the battery pack is charged. It is important to read the instructions before using the balancer.



There is 1 balance socket and 2 DC output leads on the right of CY – B6+, 1 auto fuse and 2 DC input leads on the left. You should assure the connection in accordance with CONNECTION DIAGRAM.

The Chargery LiPo Smart Balancer is an extremely versatile device. It can balance any lithium 2S to 6S battery pack which has a balance connector and nominal voltage of 3.7V per cell. 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*3S or 3*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 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, output and balance connector**)
- With Special Connector Conversion Board(**CCB)** to fit all kinds of battery connectors

Use CY-B6+ to detect and balance (Stand-Alone Mode):

1. Connect Li-Poly Battery Pack to the CCB-7
2. Connect B6+ to the plug F on the CCB-7 through the special wire with 7pin connector
3. 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.

Use CY-B6+ to balance the battery while charge:

While balancing, you can charge the battery, but we suggest you use the professional lipo charger.

The operating steps are as below:

1. Connect the B6+ to the charger
2. Connect the DC OUT of the B6+ to the battery power leads
3. Connect the B6+ to the CCB through the Special wire
4. Plug the balance connector of the battery pack into the CCB
5. Press the START button on the charger to start charging process

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.

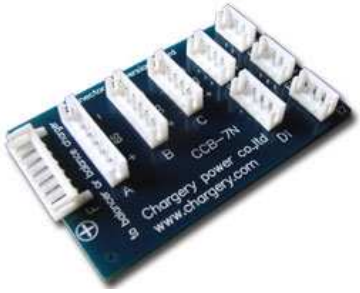
Error Alarm and possible reasons:

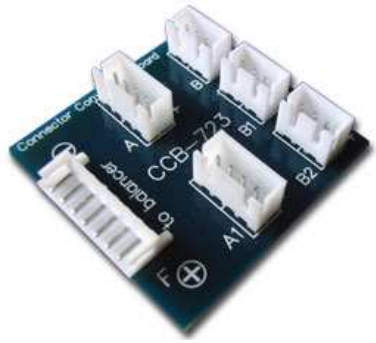
Red LEDs flash	Corresponding cell is balancing and the difference of cell voltage is less than 200mV. Or any cell voltage is over 4.20V
Red LEDs flash and Buzzer beeps	Corresponding cell is balancing and the difference of cell voltage is over 200mV
Blue LED flash and Buzzer beeps	DC IN reverse polarity, Connection break.
	DC OUT reverse polarity, Connection break
	DC OUT short circuit and DC IN correct connection
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 - 6S lipo cells
- Input Voltage: max. 30V
- Output Voltage: max. 30V
- Max charging Current: 6A
- Auto fuse: 7.5A
- Balancing Current: 250mA max.
- Balance accuracy: <10mv
- Over Charge Protection : 4.25±0.05V/ cell
- Low voltage alarm: 3.0±0.05V / cell
- Input Lead: Silicon wire 200mm long power leads ending in 4.0mm Banana male connector
- Output balance connector: Wire to board connector, JST EHR male
- Output Lead: Silicon 100mm long power leads ending in Deans male connector
- Compact size: 85 x 52 x **13**mm.
- Case type: Aluminum Alloy
- Weight:50g

Accessories

CEHN-7 Conversion Wire	**CCB-7N-XH** For 3*2S, 2*3S, 4S, 5S, 6S Align batteries pack	**CCB-7N-EH** For 2S, 2*3S, 4S, 5S, 6S Kokam batteries pack
		

CCB-723 for 2*3S and 3*2S Kokam and Align batteries pack	**CCB-7TPQF** for 2S, 3S, 4S, 5S, 6S TP, Flightpwer and Polyquest, Hyperion batteries pack	**CCB-723TPQF** for 2*3S and 3*2S TP, Flightpower and Polyquest, Hyperion batteries pack
		

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 CHARGERY charger and battery pack to be free of defects in material and workmanship. This warranty is effective for 12 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.

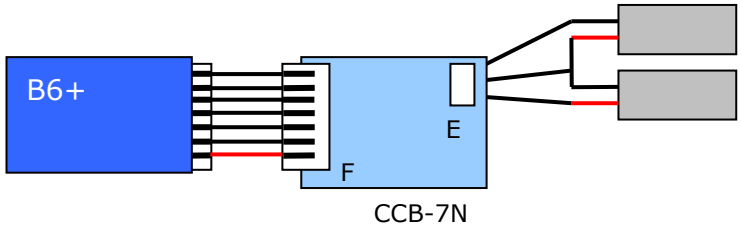
CHARGERY power

Charging Expert for R/C Model

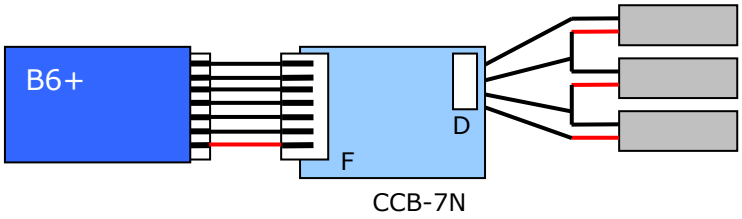
B6+ Connection Diagram

Stand-Alone Mode (without input)

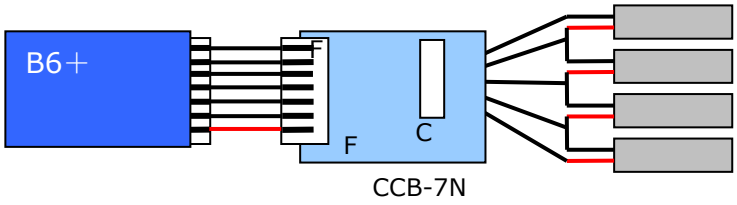
2cells



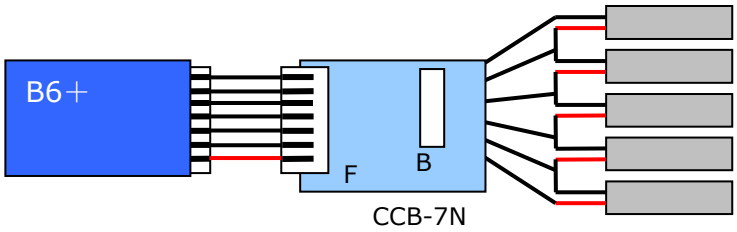
3cells



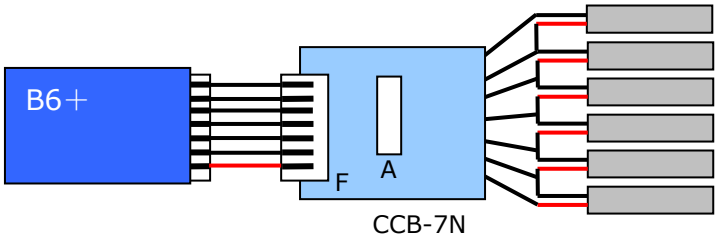
4cells



5cells



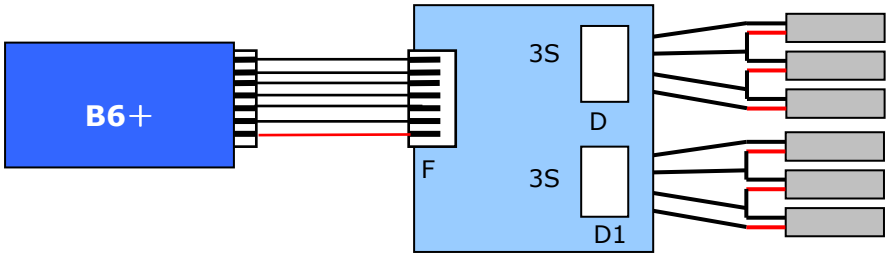
6cells



B6+ CONNECTION DIAGRAM

Stand-Alone Mode (without input)

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



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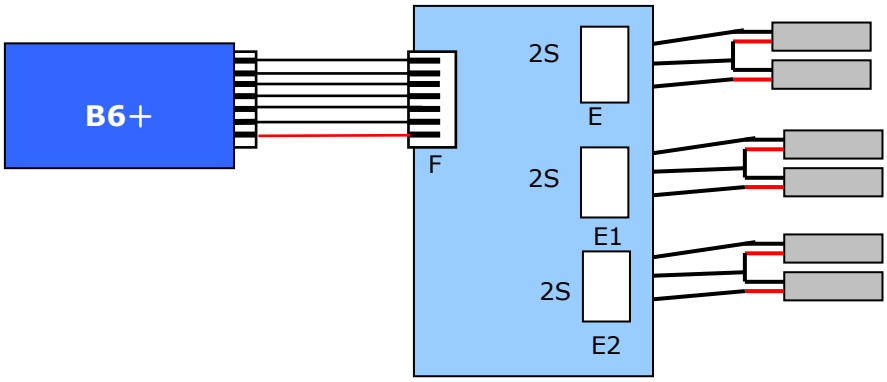
2. Balance three **2S** battery pack simultaneously



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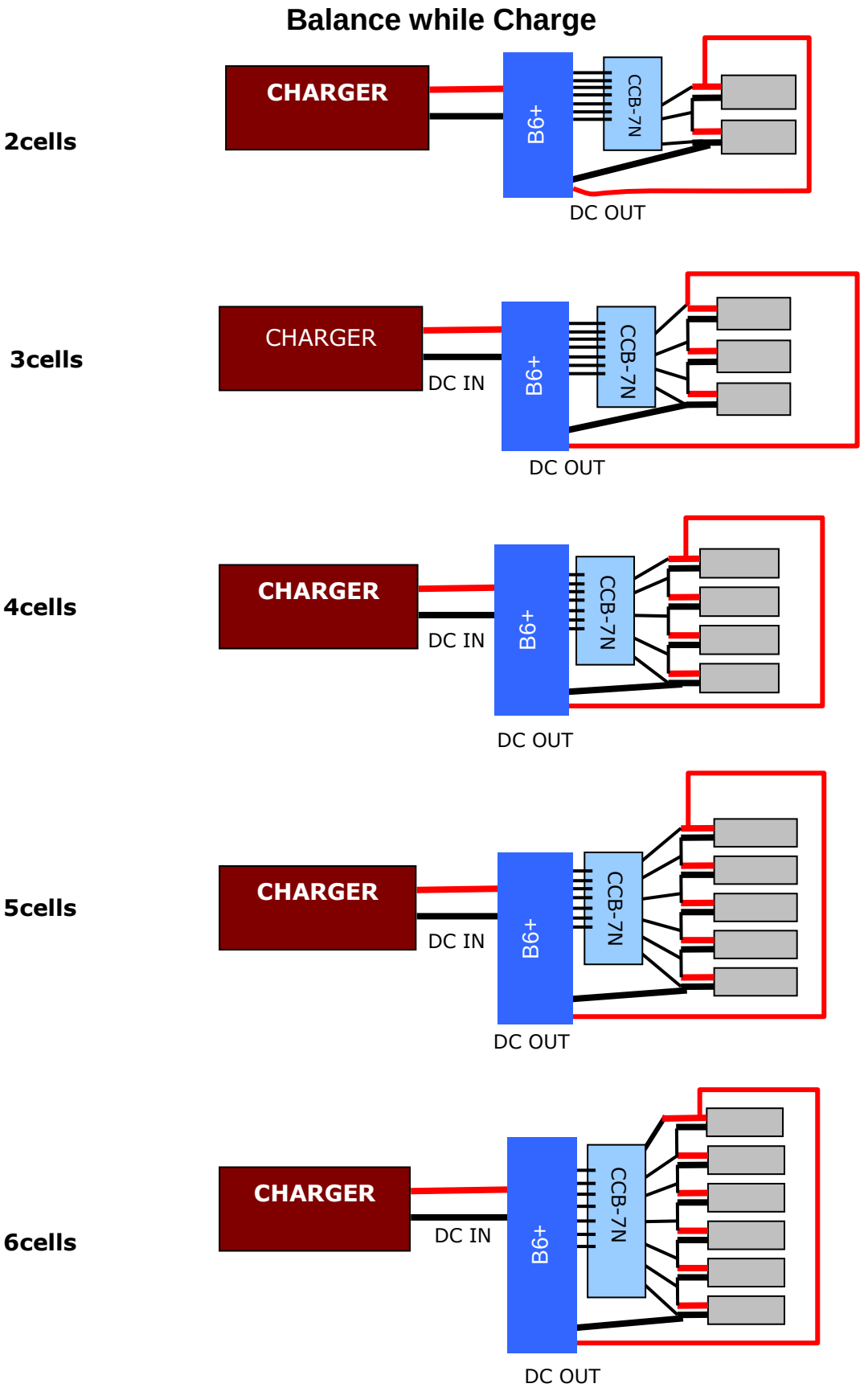
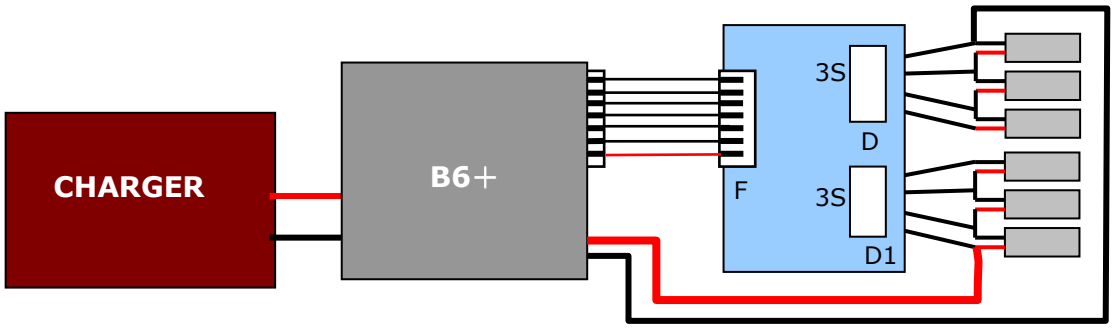
B6+ Connection Diagram



B6+ Connection Diagram

Balance while Charge

1. Balance charge **2* 3S** battery packs simultaneously



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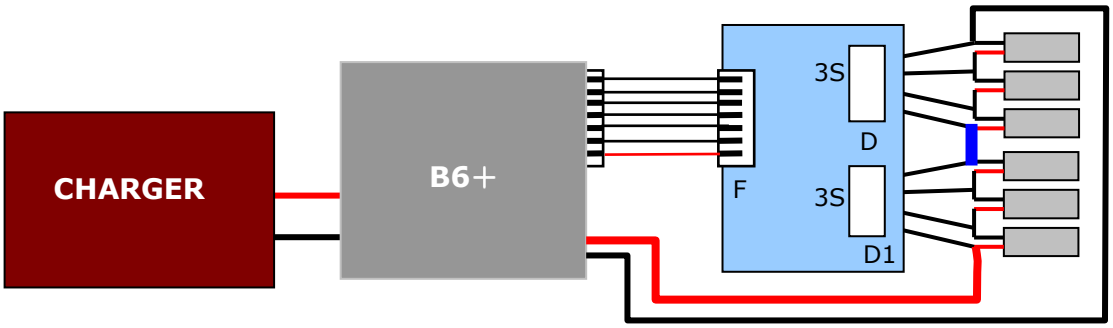
Charging current < 3A

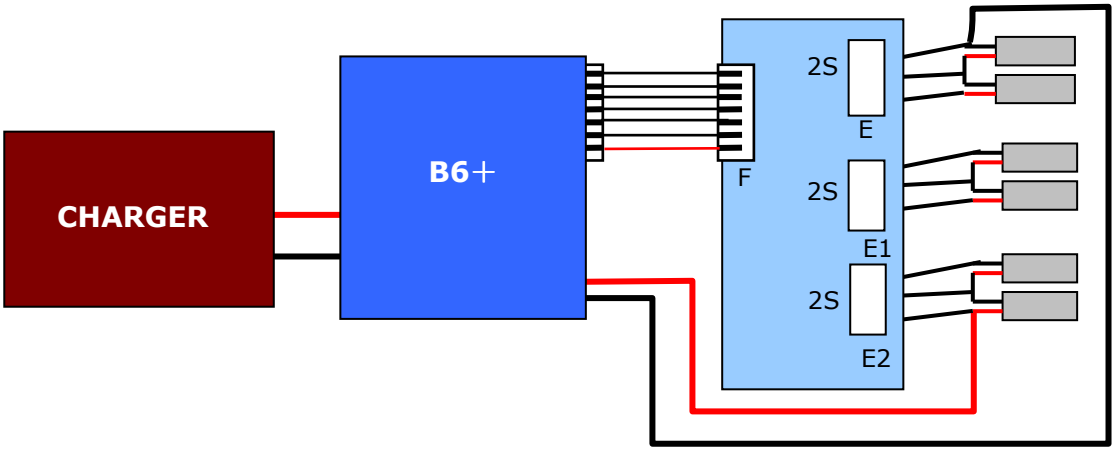


CCB-7N

Blue wire is to connect 2*3S packs in series through over 3A current

Charging current > 3A

2. Balance charge 3*2S battery packs simultaneously



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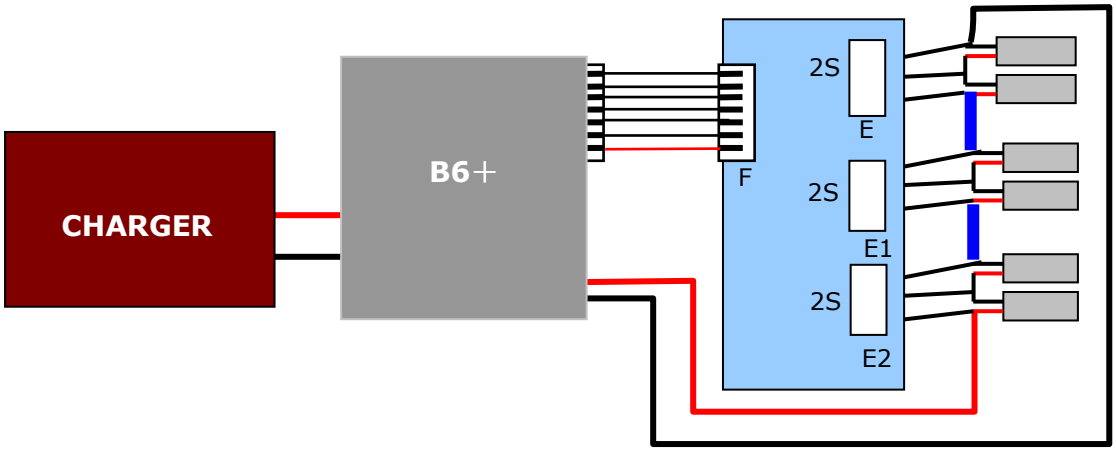
Charging current < 3A



CCB-7N

Blue wires are to connect 3*2S packs in series through over 3A current

Charging current > 3A