DIY - How to make a battery pack from RC Li-Po batteries (for eBike -electric bike)

A tipcal RC Li-Po battery is very small, cheap, light and hase ahigh discharging and charging current.

The discharging current ranges from 10C onwards. So if we have a 20C 5000 mAh=5Ah battery pack, a short duration 100 A discharging current (50A long duration) battery pack can be obtained.

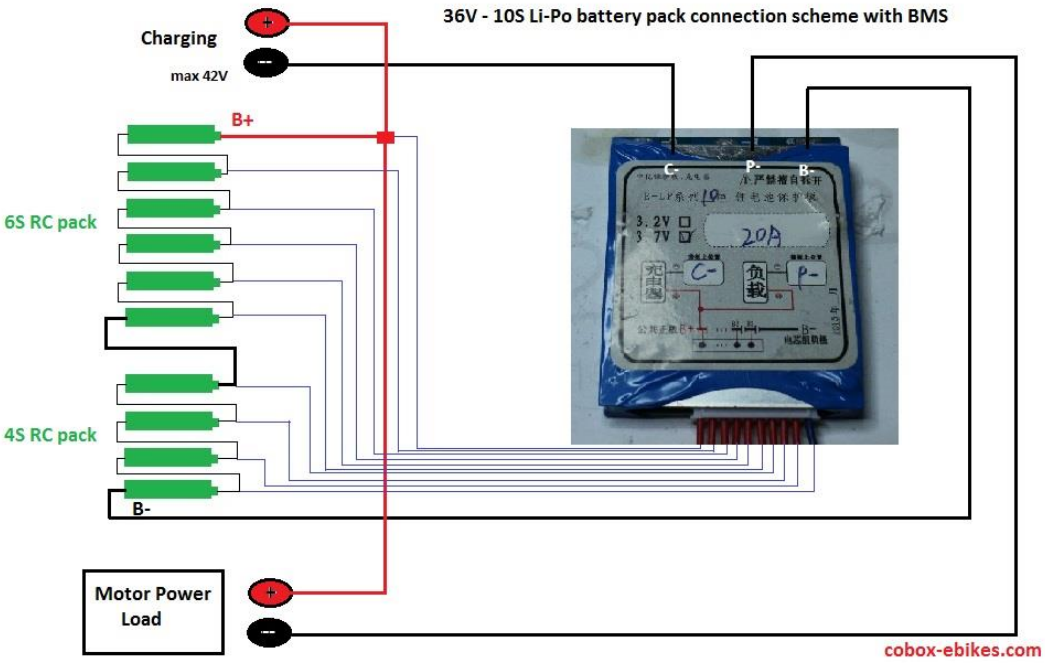
It is important to note that handling of Li-Po bateries requires extreme caution! In particular, a damaged Li-Po cell can easily short circuit, resulting in an excessively high current , heat, fire, and other damage.

In this demonstration, I am assembling an eBike (i .e. electric bike) Li-Po battery pack, but these cells could also be used for many other purposes, such as back-up power or for LED flashlights…

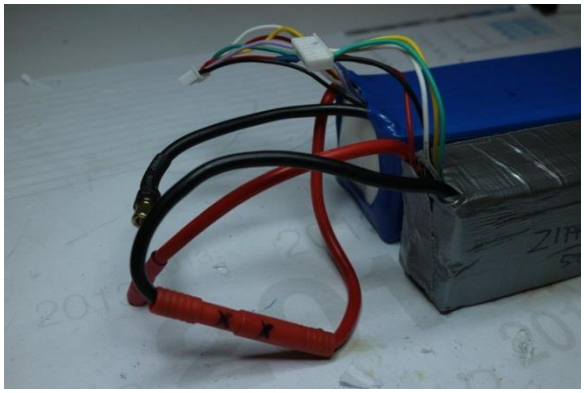
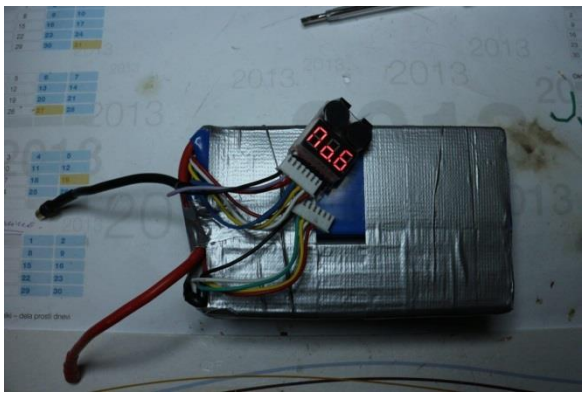
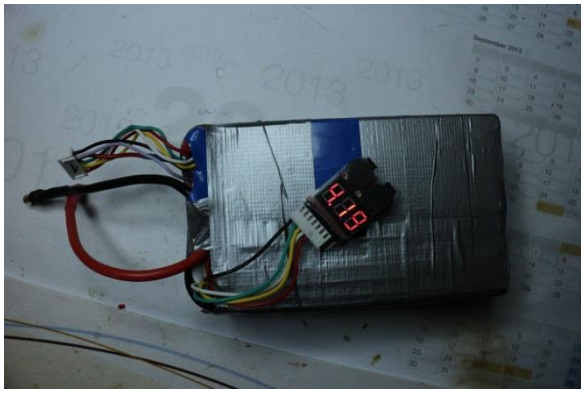
I have two 6S 5000 mAh RC battery packs. One pack has one defect cell. I remove the defect cell and one of the good cells from the defect battery pack and thus get a 4S pack. I also rewire the BMS connector. Here, I use the BMS from my previous DIY post: [DIY - How to Make an eBike Battery Pack from old Li-Ion 18650 laptop batteries]



I connect the 6S and 4S packs together in serial to get a 10S battery pack. Wiring diagram is shown below.



I also cheek each battery pack using RC LI-Po battery tester. The RC Li-Po tester clearly indicates how many cells there are in the battery pack (including the Voltage of each Li-Po battery cell). However, this particular RC Li-Po tester can only test up to 8 battery cells. Fully charged battery cell has a voltage of nearly 4.2V. The pictures below depict the testing of a 6S (number of cells) and a 4S (voltage of a single cell in a pack) battery pack.


When I connect everything together, I get a 10S 5Ah 36V Li-Po battery pack. I put the pack into the triangle bike bag for easy fitting on to the bike.

Total weight of the battery pack is only 1,42 Kg


Side by side: The New battery pack and the battery pack from a previous DIY

On the left hand side in each photo a battery pack from an old laptop (18650 Li-Ion) batteries is shown.