

Use of USB power bank with Ultramics

Commercial power banks are designed for the use with smartphones and tablets, devices with a high power requirement. When the smartphones not connects to the power bank then the internal circuit shut down the power to the USB port. When connected again the circuit detects the high power consumption and switch on the USB power. Ultramics are very low power devices and the commercial power banks detect a very small current consumption. For this reason, the circuit of the power bank shut down the Ultramic with the obvious consequence.

There is a solution for this issue:

- You can buy a power bank without batteries simply searching on the web "power bank diy"



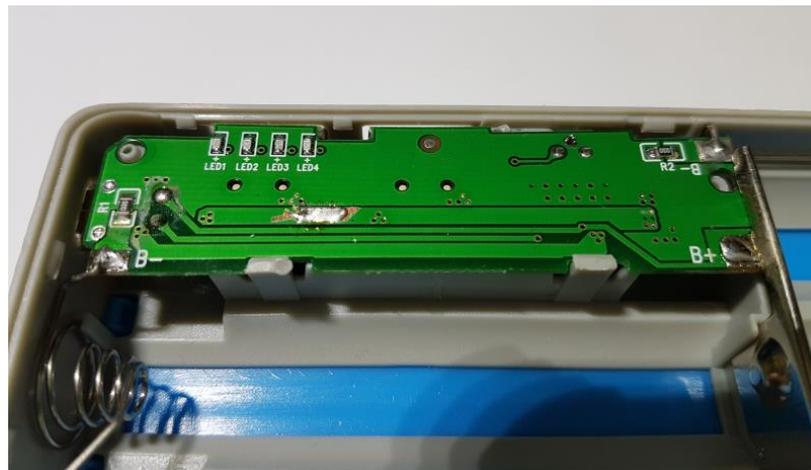
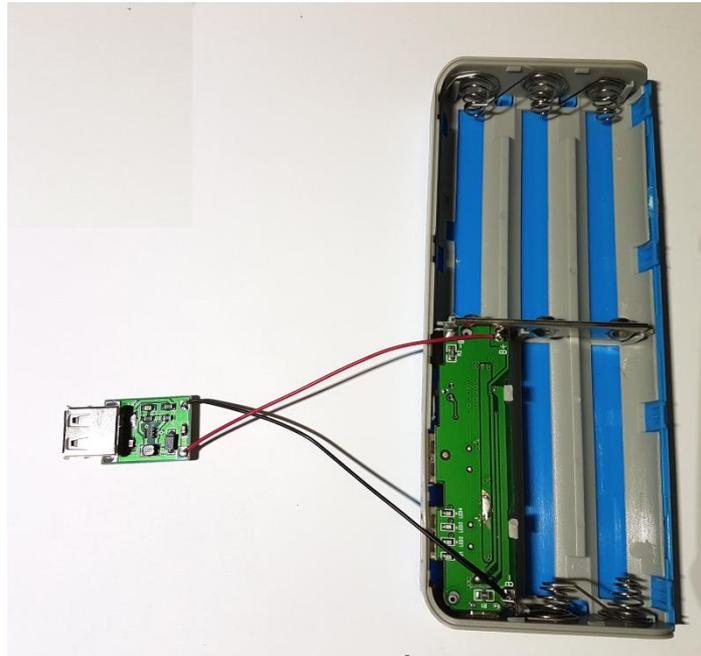
- Buy the 18650 rechargeable batteries searching on the web "18650"



- Buy a step up converter searching "dc-dc converter step up boost module usb"

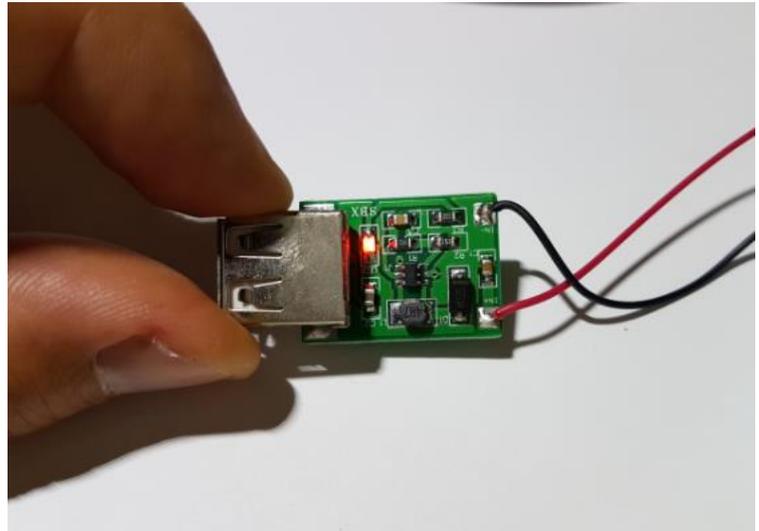
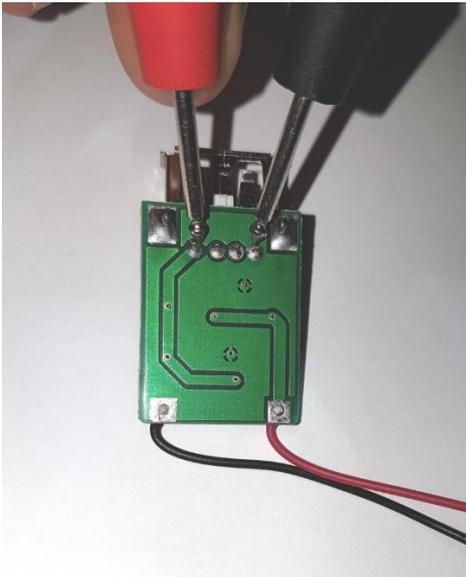


- Solder the converter to the end of the batteries and check the polarity



- Usually B+ is the positive connection of the battery and B- the negative.
- You can check the polarity with a tester
- The positive is the end with the spring (left in the image)

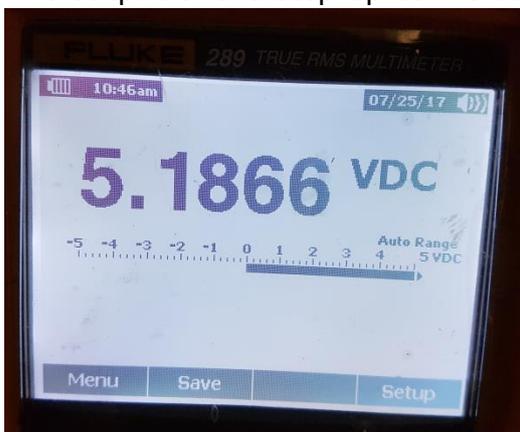
- Check the voltage to the end of the usb connector. The ground (black wire) is connected always to the plane of the circuit.



- The voltage of a full charged battery is ranging from 3.6V up to 4.2V



- The output of the step up converter is between 4.9V and 5.4V



- Connect the Ultramic

Cautions

- Check the polarity of the batteries! An inversion in polarity destroy the circuit of the power bank and the Ultramic.
- The 18650 batteries must be placed always in parallel mode so all the positives are connected together and the same for the negative poles. For this reason it's better to buy a large battery holder (i.e. 5 batteries) and then insert the batteries required.
- If you want to reduce further the power remove the led of the step up converter.
- Sometime there's a not perfect contact between the metal of the power bank and the battery so please check it well.