

# LITHIUM BATTERY 18650 BOOST MODULE, 5V/6V/9V/12V

**Model: 200587/200588/200589/200590**

## Characteristics

Four in one board UPS continuous charging and discharging:

One way of 5V power supply is to charge the battery, and the other is to conduct boost output

When the 5V power supply (full current) is connected, the battery can be pulled out at will

When the battery has power, the power supply can also be cut off at any time

In other words, if either 5V power supply or battery has power, the load can be kept working continuously (UPS)

When the UPS function is not used, charging the battery can also be used as ordinary portable mobile power supply

Advantages: when the 5V charging power supply is connected, the load does not occupy the charging current of the battery. The power supply can charge the battery efficiently and quickly while carrying the load

Four in one board without battery box can be soldered for 3.7V polymer lithium battery or other specifications of 3.7V lithium battery

## Description

This circuit is a more scientific circuit scheme which can be charged and discharged at the same time.

When the power supply has power, the load is supplied directly by the power supply through the boost circuit.

Once power supply is cut off, the battery path is automatically started to supply power to the load through the boost circuit.

After the power supply comes in, the load is powered by the power supply, and the battery is charged at the same time.

The charging 3 4 pin should be connected to DC 5V for charging, and the charging current is 500mA max. the maximum power of the charging power supply used should be at least 3W higher than the load power consumption, that is, the power supply can also have enough current to charge the battery while carrying the load

For example, if the load  $\leq 2W$ , 5V1A charging power supply can be used;

If  $2W < \text{load} \leq 5W$ , 5V2A charging power supply should be used.

SW switch pin can be connected in series to control the on-off of boost output circuit;

Do not need the switch function, please short the SW pin, the boost channel is normally on.

Output positive and negative poles 5 6 connected to load, load normal recommended  $\leq 5W$ , transient  $\leq 8W$

When the output voltage is 5V, the normal load current is recommended to be  $\leq 1A$ ;

When output 6V,  $\leq 800mA$

When output 9V,  $\leq 500mA$

When output 12V,  $\leq 400mA$

Lithium battery overcharge protection, over discharge protection, current limiting protection, over temperature protection, output short-circuit protection. If the lithium battery enters the protection state and does not output after short-circuit operation, it will automatically activate and re output by connecting to 5V charging.

## Matters needing attention:

There are MOS and other components on the board, which are easy to be damaged by induction electricity or static electricity of the soldering iron. Please make sure that the soldering iron used is grounded (and the grounding wire is connected). It is better to wear anti-static gloves to operate.

## Tips:

1. When it is used as UPS, the SW pin should be short circuited to keep the output on in real time, and the battery can be started at any time when the power is cut off.
2. As a mobile power supply, the switch can be added to the SW to turn off when it is not in use. There is no static loss, which is very energy-saving.
3. If the SW does not want to be connected to the switch, it can also be short circuited, and the output indicator lamp can be soldered remove after all the tests are completed, which can reduce the current consumption of more than ten or twenty mA, and does not affect the normal output of the circuit, so it can save electricity.
4. In the process of operation, it is possible to trigger the board to enter the protection state and not output due to various reasons (wrong contact, wrong connection, etc.). After the problem is eliminated, the charging port of the board can be connected with 5V charging, and the board can be activated and re output after being powered on again.
5. Special usage (very special)  
If you want to supply 5V to the load when there is an external 5V power supply, and when there is no external power supply, the lithium battery will directly supply 3.7V to the load (without boosting), the positive wire of the board output can be directly connected to the load from the s pad lead of SW pin.

6. The 5V charging power supply used by individual users uses an output capacitor with a larger capacity value inside. This capacitor can continue to discharge after the power is cut off, so that the power supply voltage has a slow down process, which will cause the board to not switch the battery power supply quickly after the power is turned off.

## 5V Charging Input

