

1S 10A Lithium Battery Charger & Protection Module (BMS 1S 10A)

This compact BMS board is designed for charging and protecting single-cell 3.7 V lithium-ion and lithium-polymer batteries. It is ideal for DIY power banks, Bluetooth speakers, portable audio systems, small robots, LED lamps, cordless tools and any project that runs from a single 18650 or Li-Po cell and needs high discharge current.

Key Features

- Suitable for **single-cell 3.7 V Li-ion / Li-Po batteries** (e.g. 18650)
- Supports up to **10 A discharge current** (depending on cooling and wiring)
- **Over-charge protection** (cuts off charging around 4.2 V)
- **Over-discharge protection** (cuts off load at low voltage to protect the cell)
- **Over-current and short-circuit protection**
- Can be used together with common 1-cell lithium chargers (TP4056, 5 V USB chargers, etc.)
- Simple wiring with clearly marked pads: **B+ , B- , C-**
- Compact PCB, easy to integrate into portable projects

Pinout & Wiring

- **B+**: connect to battery positive and load/charger positive
- **B-**: connect to battery negative
- **C-**: connect to charger negative and load negative (protected output)

Connect the battery directly to B+ and B-. Connect your load (device) between B+ and C-, and connect the charger between B+ and C-. In this configuration the battery is fully protected while you can **charge the battery and power the load at the same time.**

Protection Functions

The integrated protection IC monitors battery voltage and current:

- Stops charging when the battery reaches the maximum safe voltage
- Disconnects the load when the battery voltage drops too low
- Disconnects the output in case of short circuit or over-current

Using this 1S 10 A BMS greatly increases the safety and lifetime of your lithium battery and saves you from designing a complex protection circuit from scratch.