

Disclaimer

Thank you for purchasing our products. SUPERMATE 4 is a Li-Po balance charger. Any improper use may cause personal injury and equipment damage. Please read this manual carefully before use, and strictly comply with the operating procedures in the manual. The company assumes no liability or loss incurred directly or indirectly from improper use, installation, or any modification of this product.

Warning and Safety Notes

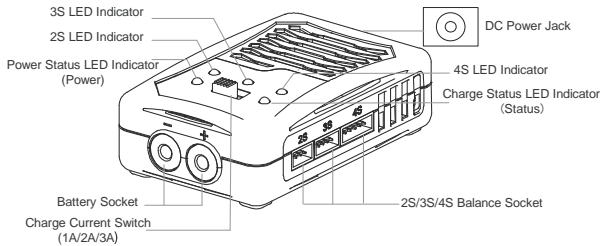
- For safety, please follow the precautions below. Otherwise, improper use may damage the charger and battery, even cause a fire.
- SUPERMATE 4 is suitable for charging rechargeable Li-Po batteries. Do not attempt to recharge dry batteries. Charging other types of batteries may cause fire or explosion.
 - The allowable DC input voltage is 10V~24V (2S: 10V~24V, 3S: 14V~24V, 4S: 18V~24V). Please choose suitable adapter.
 - Never leave the charger unattended when it is connected to its power supply.
 - During charging, always place the charger and batteries connected to it on a heat-resistant, non-flammable, and insulating surface. Never operate the charger in the vicinity of flammable materials.
 - Keep the charger away from dust, humidity, sunshine, or vibration environment. Do not touch the charger during charging.
 - Ensure that there is an unrestricted airflow to and from the charger’s cooling slots. Never place the charger on a carpet or similar surface.
 - Take great care to maintain correct battery polarity, and avoid short-circuit. Read the battery manufacturer’s instructions and adhere to them strictly.
 - Never charge the battery pack listed below:
 - Batteries fully charged or just after discharging
 - Non-rechargeable batteries (may cause fire or explosion)
 - Unsuitable rechargeable batteries
 - Faulty or damaged batteries
 - Batteries installed in other electronic device or connected with other components

Packing List

- | | |
|--|--------------------|
| SUPERMATE 4 Li-Po Balance Charger | Charging Cable |
| AC Adapter and the Power Cord (optional) | Instruction Manual |

Introduction

SUPERMATE 4 is a balance charger, designed for charging Li-Po batteries from 2 to 4 cells in balance mode. The maximum charge voltage is 16.8V and maximum charge current can reach to 3A. There are three kinds of charging current (1A/2A/3A) can be selected.



Descriptions of each component:

- DC Power Jack: It is used to connect the DC (direct current) power supply.
- 2S/3S/4S LED indicator: It is used to indicate the cell count of the Li-Po battery connected to the charger. If the battery pack is 2-cell, 2S LED indicator will glow solid red. If the battery pack is 3-cell, 3S LED indicator will glow solid red, and so on.
- Power Status LED Indicator (**Power**): It is used to indicate the status of the charging voltage. For details, please see *LED Descriptions*.
- Charge Status LED Indicator (**Status**): It is used to indicate the charging status. For details, please see *LED Descriptions*.
- Charge Current Switch: It is used to switch the charging current. There are three kinds of charging current (1A/2A/3A) can be selected. Please select the proper charge current according to the battery capacity.
- Battery Socket: It is use to connect with the battery main charge wire.
- 2S/3S/4S Balance Socket: It is used to connect with the battery balance wire. If the battery pack is 2-cell, connect the balance wire to 2S balance socket. If the battery pack is 3-cell, connect the balance wire to 3S balance socket, and so on.

Features

- Provide high charge efficiency, up to 96%.
- High-accuracy voltage and current regulation, $\pm 0.5\%$ charge voltage accuracy and $\pm 3\%$ charge current accuracy.
- Three-stage charging process: pre-charge, constant current charging, and constant voltage charging.
- Input over-voltage/under-voltage protection: once the DC input voltage is too high or too low, the charger is disabled.
- Charge overcurrent protection: it monitors the charge current, and prevents the current from exceeding 160% of the programmed charge current.
- Battery short protection: when the battery is short circuit, stop charging automatically.
- Battery overvoltage protection: when the battery voltage is too high, stop charging automatically.
- Temperature qualification: during the charge cycle, if the battery temperature is out of range (too hot or too cold), the controller suspends charge and waits until the battery temperature is within the range.
- Battery detection: detect insertion or removal of battery packs automatically.

Specifications

DC Input	10V~24V DC (2S: 10V~24V, 3S: 14V~24V, 4S: 18V~24V)
Battery Type	Li-Po
Cell Count	2 to 4 cells
Charge Voltage	2S: 8.4V, 3S: 12.6V, 4S: 16.8V
Charge Current	1A/2A/3A
Dimension (L*W*H)	53*84*27 mm
Weight	55g

Charge Procedures

First connect SUPERMATE 4 Li-Po balance charger to the adapter, and then connect it with the rechargeable battery.

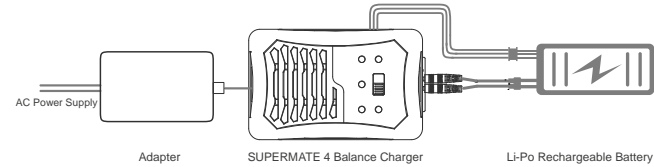
CAUTION: SUPERMATE 4 is suitable for charging rechargeable Li-Po batteries.

Do not attempt to charge other types of batteries.

Preconditions:

- The adapter is prepared.
- The rechargeable Li-Po battery is prepared.

Steps:



- Insert the output power cord of the adapter into the DC power jack of the charger.
 - Insert the input cord of the adapter into a wall socket. The **Power** LED indicator will start red flashing, which means the charger is ready to charge, please connect the battery.
 - Select the proper charging current (1A/2A/3A) by the toggle switch.
NOTE: You should select the proper charge current according to the battery capacity. For details, please refer to the battery manufacture's instructions.
 - Take the 2S Li-Po battery as an example. Connect the battery balance wire to 2S balance socket, 2S LED indicator will glow solid red and **Status** LED indicator will be off. Then connect the battery main charge wire to the battery socket. The charger starts charging and **Status** LED indicator is solid red during the charging cycle.
CAUTION: Only one battery can be charged at a time.
After connecting the battery properly, the charger will detect the battery cell count and select the charging voltage. When the **Power** LED indicator is red, indicating that the charging voltage is normal; if the **Power** LED indicator is red flashing, indicating that the charging voltage is too low.
 - When the battery is fully charged, the **Status** LED indicator will glow solid green.
 - Unplug the battery from the charger and the **Status** LED indicator will start red flashing.
- If you want to charge another Li-Po battery, go to Step 3 to Step 5.
 - If you do not need to charge other battery, unplug the adapter from the wall socket.

LED Descriptions

LED	Status	Descriptions
Power	Red flashing	The charging voltage is low.
	Solid red	The charging voltage is normal.
Status	Red flashing	The charger is ready to charge, please connect the battery.
	Solid red	The charger is charging.
	Solid green	The battery is fully charged.
2S/3S/4S	Solid red	Indicate the cell count of the connected Li-Po battery.