

ULTRAPOWER

UP11

Multi Charger
Built-in Power Supply

INSTRUCTION MANUAL



Single channel
maximum
240W/12A

www.ultrapower.hk

INTRODUCTION

Thank you for your purchasing of Ultra Power's UP11 Four Channel AC/DC Smart Balance Charger. This product is a rapid charger with a high performance microprocessor and specialized operating software. Please read this entire instruction manual completely and attentively before using this product, as it covers a wide range of information on operation and safety.

For more details, please visit: www.ultrapower.hk



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WARNINGS AND SAFETY NOTES

PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE USING THE PRODUCT!

The following warnings and safety notes are for your protection, please refer to all aspects of this instruction manual to ensure proper operation. **FAILURE TO FOLLOW THESE SAFETY PRECAUTIONS MAY CAUSE FIRE, PROPERTY DAMAGE AND/OR PERSONAL INJURY!**

- **WARNING** - to reduce the risk of fire, electrical shock or injury to persons or property:
For indoor use.
Disconnect the supply before making or breaking the connections to the battery.
Provide adequate ventilation during charging.

- **WARNING:** Against recharging of non-rechargeable batteries.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
Children shall not play with the appliance.
Cleaning and user maintenance shall not be made by children without supervision



For indoor use only



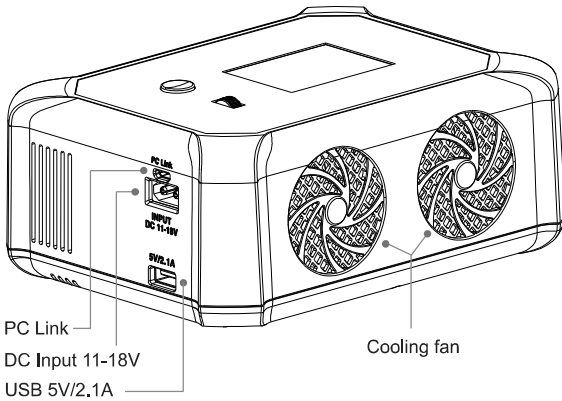
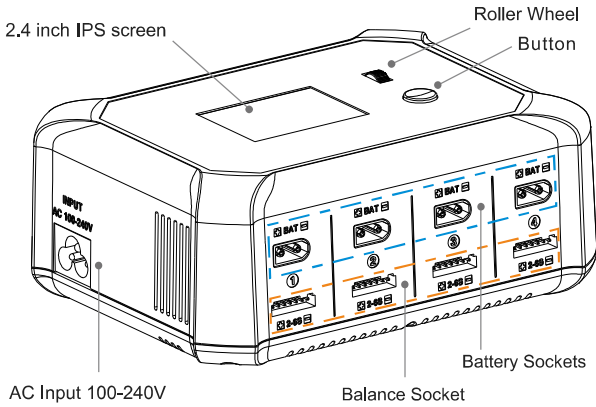
Read operator's manual

-The charger intend to charge the following battery types:
LiPo, LiHV, Lilon, LiFe, NiMh, NiCd, Pb battery only.
Number of batteries: Four Pack
MAX Battery rated capacity: 50000mAh

WARNINGS AND SAFETY NOTES

- NEVER leave the battery or charger unattended while in use. In case of any malfunction, immediately discontinue use and refer to this manual for troubleshooting ideas.
- ALWAYS keep your charger away from dust, dirt, moisture, rain, and high temperature. Avoid leaving your charger or battery in direct sunlight or exposing them to intense vibration or shock.
- ALWAYS make certain to observe proper input and output polarity. The UP11 operates safely with input voltage between AC 100-240V DC 11-18V.
- ALWAYS place the charger on a heat-resistant, non-flammable surface when in use. Keep flammable materials away from charger when in use.
- NEVER use the charger while placed on automobile seats, carpeting, or other flammable materials.
- ALWAYS make sure that the vent holes on the bottom of the charger are unobstructed and the cooling fan in operation.
- ALWAYS fully read all warnings and instructions on both charger and battery prior to use. Be aware of battery safety warnings. Make sure that all charging parameters are correctly setup prior to charging any battery. **INCORRECT SETTINGS MAY CAUSE FIRE, PROPERTY DAMAGE AND/OR PERSONAL INJURY!**
- ALWAYS press the roller wheel to terminate charge completely when battery is fully charged, and return to the standby screen on the LCD display.

PRODUCT PARAMETERS AND CHARACTERISTICS



- **Roller Wheel**
 - Short press: Enter task settings/confirm current settings
Start charging/stop charging/ Clear warning messages
 - Long press: Enter System setting/terminate current task
Start charging/stop charging
 - Scroll up and down: Select the corresponding menu
- **Button**
 - Short press: Switch the channel/ Exit the settings
 - Long press: Stop charging/ Clear warning messages

PRODUCT PARAMETERS AND CHARACTERISTICS

Specification :

Input Voltage: AC 100-240V, DC 11.0-18.0V

Output Voltage: 0.1-26.1V

Charge Current: 0.1-12.0A

Charge Power: DC Input: CH1(240W)+CH2(120W)+CH3(120W)+CH4(120W)

AC Input: Max.240W (CH1+CH2+CH3+CH4=240W)

Support power distribution

Support Battery Types: LiPo/LiHV(Support 4.45V Battery)/LiFe/Lilon(1-6S)

NiMH/NiCd(1-16S)

Lead Acid 2V-24V(1-12S)

Balance Current: Max.500mA/cell

Discharge Power: 4x10W

Balance accuracy: < 0.005V

LCD Screen Type: 2.4" 320x240 IPS LCD

Use Temperature: 0-40°C

Storage Temperature: -20-60°C

Dimensions: 175x135x69mm

Weight: 1.0kg

STANDARD BATTERY PARAMETERS

	NiCd/NiMH	Pb	LiFe	Lilon	LiPo	LiHV
Rated Voltage	1.20V	2.00V	3.20V	3.60V	3.70V	3.80V
Full Charge Voltage	1.40V	2.40V	3.60V	4.10V	4.20V	4.35V
Storage Voltage	Not supported	Not supported	3.30V	3.70V	3.80V	3.90V
Pre-charge Voltage	/	2.00V	2.90V	3.10V	3.20V	3.20V
Balance Charge	Not supported	Not supported	supported	supported	supported	supported
Unbalanced Charge	supported	supported	supported	supported	supported	supported
Support Cells	1-16S	1-12S	1-6S	1-6S	1-6S	1-6S
Max Charge Current	12.0A	12.0A	12.0A	12.0A	12.0A	12.0A

Be EXTREMELY careful to choose the correct voltage settings based on the cells and chemistry of the battery being charged. Failure to do so may result in battery damage, explosion, or fire!

CONFIRMING CHARGE CURRENT

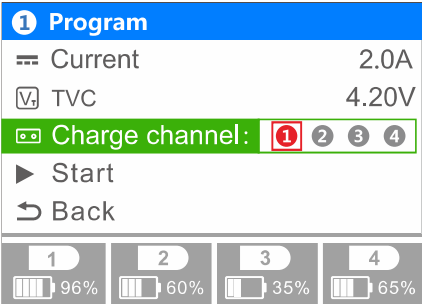
It is critically important to understand the maximum charging current for the battery pack to be charged. Excessive charge current can significantly reduce the life of a battery, or in severe cases a fire or explosion.

The charge and discharge current of a lithium battery is determined by its “C” rating. Most batteries indicate the C rating of the pack on the main label. Multiply the C rating of the battery pack by the capacity to determine the safe and proper charge current. For example, a 5000mAh battery with a 1C rating means that the maximum charge rate should be $5000 \text{ (capacity in mAh)} \times 1 \text{ (C rating)} = 5,000\text{mA}$. Therefore, the maximum charge rate for a 5000mAh 1C lithium battery should be 5A (5,000mA).

If it is not possible to determine the C rating, please assume that the pack is 1C and use that value to calculate a safe charge rate. Keep in mind that batteries vary, and therefore charging times will vary.

TASK SETTINGS

Power on the charger and connect a battery, the charger will enter into the standby page, then short press the roller wheel to activate the program setting menu. The items in the menu are as follows:



Battery	Battery Type Selection
Cells	Select number of battery pack cells
Mode	Working mode: Charge / Storage/Discharge
Current	Select desired charge current : 0.1A-12.0A
TVC	Terminal voltage control
Charge Channels	The same battery, this setting can start four channels at a time
Start	Start charging/ stored program.
Back	Return to previous screen or function

- **Charging channel:** This setting provides convenience for charging multiple identical batteries. You can select the channel to be started. Red indicates selected, and grey indicates not selected
For example: When all four channels are the same battery, you can select 1.2.3.4 are all set to red, the charger will charge all four channels simultaneously .
Note: If the batteries are not consistent, you need to select the corresponding channel to set and start it separately, unable to start simultaneously. Otherwise, charging is abnormal

The default mode of the UP11 is series charging, therefore you must connect the output wires to the battery pack that you wish to charge. For lithium packs, it is highly recommended to ALWAYS connect the balance leads and utilize balance charging. To ensure that the charger can accurately monitor the voltage of each cell

Storage

When selecting the storage function, the UP11 will automatically begin charging if the battery pack voltage is below the ideal storage voltage. Likewise, the UP11 will automatically enter the discharge mode if the battery pack voltage is higher than the ideal storage voltage.

TASK SETTINGS

- **Restoring an excessively discharged lithium battery pack**

After the charging task starts, if the cell voltage is detected to be lower than the preset voltage, a small current of 0.2A will be used to activate and repair the battery. When the voltage is higher than the pre-charging voltage, it will be adjusted to the set battery for charging. The process is designed to protect and activate batteries that have been discharged.

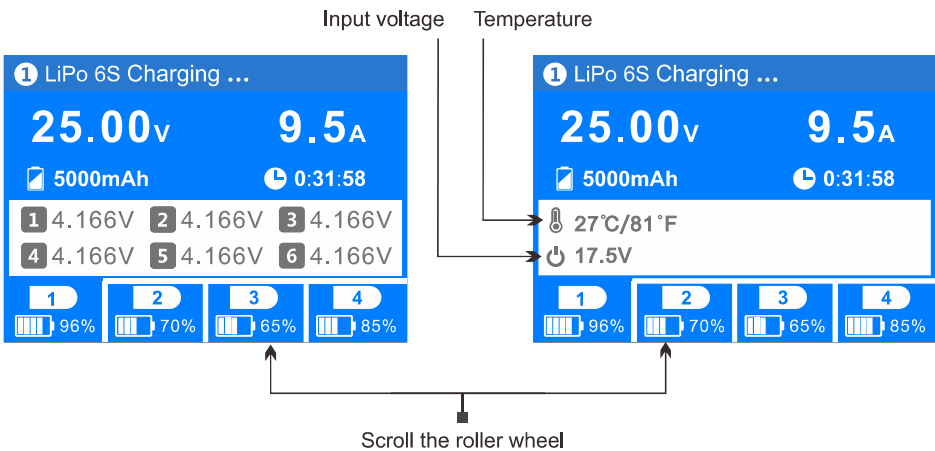
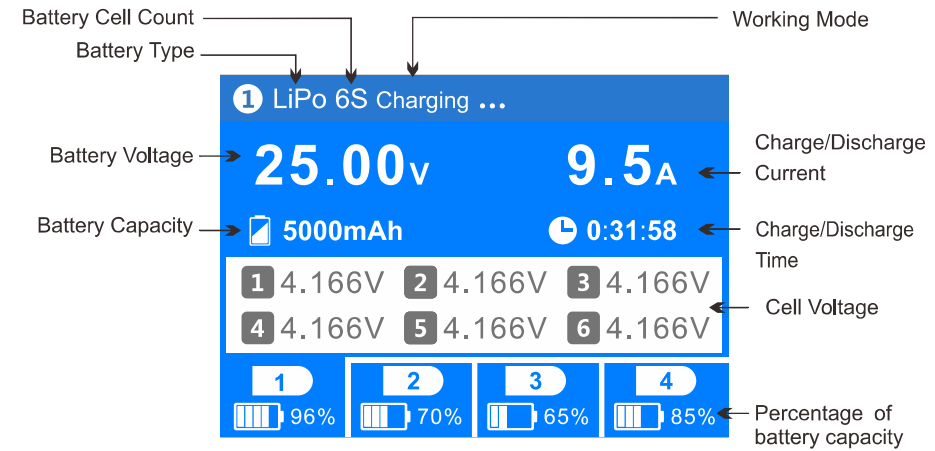
- **Measuring Internal Resistance**

The UP11 features the ability to monitor the internal resistance of each cell in a lithium battery pack. This feature is only operational when in the balance charging mode. Internal resistance can be useful to determine the overall “health” and performance of a lithium battery, the closer the IR values are between the cells in the battery pack, the better that the battery will deliver its energy.

- **NOTE:** The process of charging a lithium battery is dynamic, therefore you will notice fluctuations in both charge current and IR during the charging process.

Due to the difference measurement methods of the battery resistance, it is impossible to achieve the absolute data similar to the professional resistance measurement instruments. Therefore, the internal resistance value is only suitable for reference with horizontal comparison, such as judging the consistency of the performance with the battery or the performance comparison between different batteries. The charging current has some influence on the accuracy of the internal resistance measurement. A large-capacity and low internal resistance battery requires a large charging current to accurately measure the internal resistance.

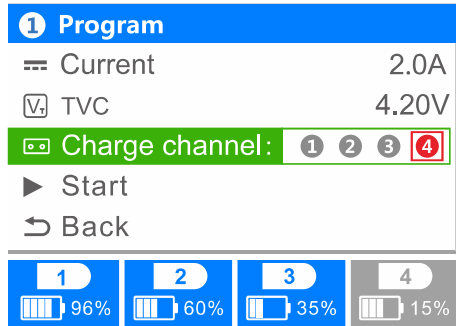
WORKING PARAMETERS DISPLAY



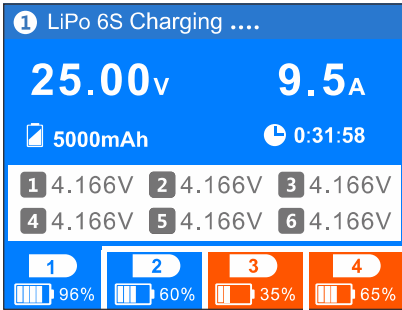
Rotating the roller wheel up or down during charging will switch the information displayed on the lower half of the LCD screen between cell voltage, cell IR and working parameters. Cell voltage and IR can only be displayed during the balance charging process.

WORKING PARAMETERS DISPLAY

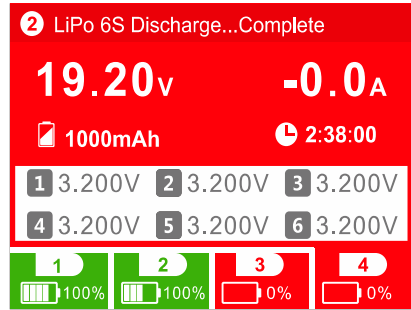
Four independent output channels, setting and work independently as follows: 1.2.3 Channel charging, aisle 4 is standby.



2.4" IPS Display, clearly show Four channels working status in real-time.



CH1 and CH2 charging (Blue color)
CH3 and CH4 Storage charging (Orange color)



CH1 and CH2 charging completed (Green color)
CH3 and CH4 discharging completed(Red color)

SYSTEM SETTINGS MENU

Long press the roller wheel to activate the system setting menu.

Language	English, French, German, Japanese, Simplified Chinese, Traditional Chinese
MIN Input Voltage	Adjustable from 10V-12V
Capacity Cut	Terminates charge process when reach this value Maximum capacity can be adjusted by user
Time Cut	Terminates charge process when exceeding time set by user
Backlight	Three options-High, Medium, Low
Volume	Four options- High, Medium, Low and Off
About	Software version and information
Factory Reset	Returns all settings to factory default values
Back	Return to last program or menu

Volume: When setting the buzzer volume to OFF, the operation sound will be shielded, but the error sound will not be shielded.

Power distribution:

AC input :240W

1. When only one battery is charged :240W(CH1) /120W(CH2/CH3/CH4)
2. Charge two batteries at the same time : 120W+120W/120W+120W
3. Charge three batteries at the same time : 80W + 80W +80W
4. Charge four batteries at the same time : 60W+60W+60W+60W

DC Input: 600W

CH1(240W)+CH2(120W)+CH3(120W)+CH4(120W)

WARNINGS AND ERROR MESSAGES

- **Error Message for Abnormal Battery Connection**
Unplug and re-connect all plugs to ensure proper connection and polarity. Check to make sure that all connectors are free of dirt, grease, or oxidation.
- **Error Message for Unstable Input Voltage**
Make certain that the battery socket is free from dirt or oxidation. Make sure that the Max Input Voltage is set correctly in the System menu

CONFORMITY DECLARATION

The UP11 satisfy all relevant and mandatory CE directives and FCC Part 15 Subpart B: 2017.

For EC directive:

The product has been tested to meet the following technical standards:

Testing standards	Result
EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A14:2019+A2:2019,	YES
EN60335-2-29: 2004+A2: 2010+A11:2018, EN 62233:2008	YES

Information on the disposal for Waste Electrical & Electronic Equipment (WEEE) This symbol on the products and accompanying documents means that used electrical and electronic products should not be mixed with general household waste. For proper disposal for treatment, recovery and recycling, please take these products to designated collection points where they will be accepted on a free of charge basis. In some countries you may be able to return your products to your local retailer upon the purchase of a new product. Disposing of this product correctly will help you save valuable resources and prevent any possible effects on human health and the environment, which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest collection point for WEEE.



Liability exclusion

This charger is designed and approved exclusively for use with the types of battery stated in this Instruction Manual. Ultra Power accepts no liability of any kind if the charger is used for any purpose other than that stated. We are unable to ensure that you follow the instructions supplied with the charger, and we have no control over the methods you employ for using, operating and maintaining the device. For this reason we are obliged to deny all liability for loss, damage or costs which are incurred due to the incompetent or incorrect use and operation of our products, or which are connected with such operation in any way. Unless otherwise prescribed by law, our obligation to pay compensation, regardless of the legal argument employed, is limited to the invoice value of those Ultra Power products which were immediately and directly involved in the event in which the damage occurred.



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