M8DAC

Manual V1.1

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ToolkitRC

www.toolkitrc.com

ToolkitRC Technology (Shenzhen) Co., Ltd

Introduction

Thank you for purchasing the M8DAC balance charger, please read this manual carefully before use.

Key Points

Tips Important Information

Further information

To ensure you have the best experience with this product please scan the QR code below to stay up to date with news, information and firmware updates for your charger. Or visit www.toolkitrc.com.

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Safety

1. M8DAC allows an input voltage of AC 100V-240V. To ensure that the power supply voltage is consistent, pay attention to the positive and negative polarity of the power supply before use.
2. Do not use this product in hot or humid environments, Keep away from flammable liquids and gases.
3. Never leave charging batteries unattended.
4. When not in use, please turn off/unplug the device.
5. When using the charging function, please set a current that matches the battery performance envelope. Do not set an excessive current for charging to avoid damage to the battery. Check the guidelines of your battery's manufacturer for correct charging instructions.

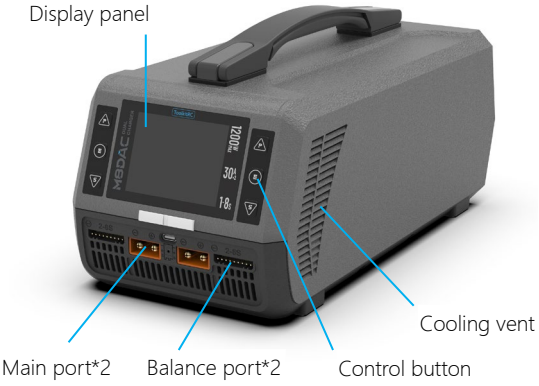
Contents

Product description

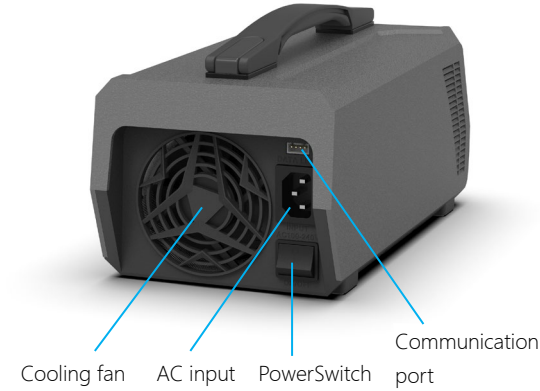
The M8DAC is an easy-to-use balance charger with a total charging power of up to 1200W. It features an IPS high-brightness display, simplified display and operation buttons, making it more convenient to use.

- Charge, discharge and balance management of LiPo, LiHV, 1-8S, batteries.
- AC power supply: 100.0-240.0V MAX 1300W.
- Charging power: MAX 30.0A @MAX600W*2 ASYN
  MAX 50.0A @MAX1200W SYNC
- Discharge power: MAX 5A@50W*2 normal ASYN
  MAX 10A@100W normal SYNC
- Charging accuracy: <0.005V.
- Balancing current: 2000mA.
- Built-in 65W USB-C fast charger.
- Automatically allocate input power.
- Multi-language system, can set 11 kinds languages.

M8DAC Layout



Front



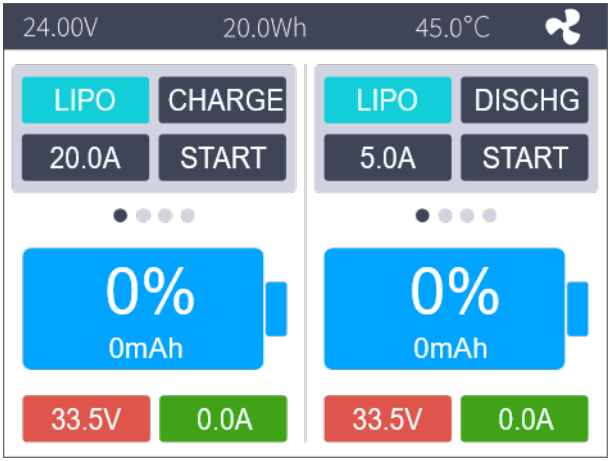
Back

Quick start

1，Connect the device to AC 100-240V power source.

2，The screen shows the boot logo for 2 seconds.

3，After booting up, the screen enters the main interface as shown below:



4. Press the ▲▼button briefly to move the cursor and select a setting option.

5. Press the Ⓔbutton briefly to confirm the selection.

6. Press the ▲▼button briefly to modify the setting.

7. When the cursor is on the [Start] menu, press the Ⓔbutton briefly to start operation.

8. Press and hold the ▲button to switch the information page.

9. Press and hold the ▼button to enter the system settings menu (when the charger is idle).

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1. Press [button] briefly once to use the confirm function.

2. Successfully operating any button will trigger a 'didi' sound.

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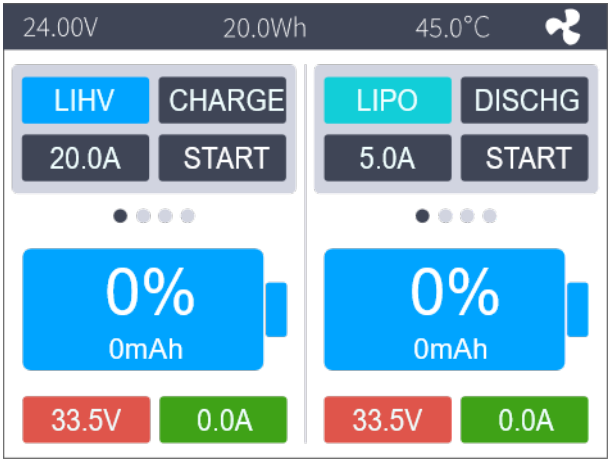
Charging settings

1, Battery Type Setting

After turning on the device, press the ▲▼button to move the cursor to the [LIPO] or [LIHV] menu, press the Ⓔbutton once, and the cursor will turn dark blue. Set the battery type by pressing the ▲▼button again to change the battery type. which is displayed as follows.



The M8DAC supports charging LiPo and LiHV batteries. After selecting the category that matches the actual battery, press the Ⓔbutton once to confirm.

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Important

1, Choosing the wrong battery type for charging may damage the battery, charger, burn, and other dangers, please be sure to choose carefully.

2、Do not charge batteries that are not labeled with a

battery type.

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Nomenclature

1, Lipo: Often called a lithium polymer battery, a battery with a nominal voltage of 3.70V and 4.20V when fully charged.

2, LiHV: Often referred to as a high-voltage lithium battery, a battery with a nominal voltage of 3.85V and 4.35V when fully charged.

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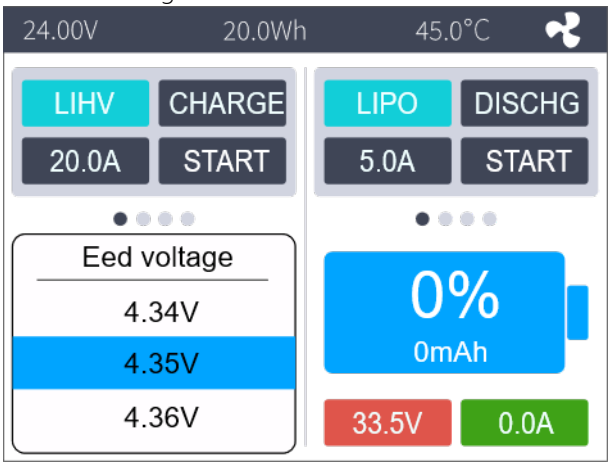
2，End voltage

When the cursor selects the battery type [LIHV], press and hold the Ⓔbutton to set the cutoff voltage, as shown in the figure below:



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1. If you are not familiar with battery characteristics, do not modify the cutoff voltage.

Setting the voltage too high may damage the battery or cause a fire hazard.

2. The charging cutoff voltage can be set within a range of ±50mV of the full voltage.

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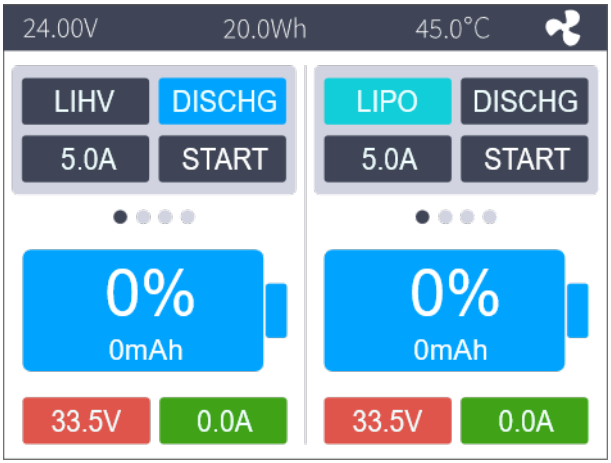
3，Work Mode Selection

Press the ▲▼button to move the cursor to the [Charge] menu and change the work mode, as shown in the figure below.



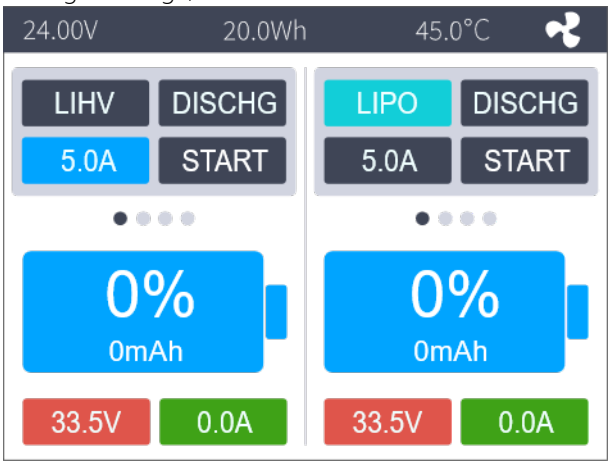
Lipo and LiHV batteries can be set to three working modes: charging, discharging, and storage. Press the Ⓔbutton once to confirm.

4，Current Setting

Press the ▲▼button to move the cursor to the [Current] position and adjust the working current.

Supports charging and storing charge, with a

maximum current of 30A. Supports discharging and storing discharge, with a maximum current of 5A.



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Tips:

1, Please set the charging rate of 1-2C according to the battery capacity. For example, if the battery capacity is 2000mAh, please set the charging current to 2.0-4.0A. Check the guidelines of your battery's manufacturer for correct charging instructions.

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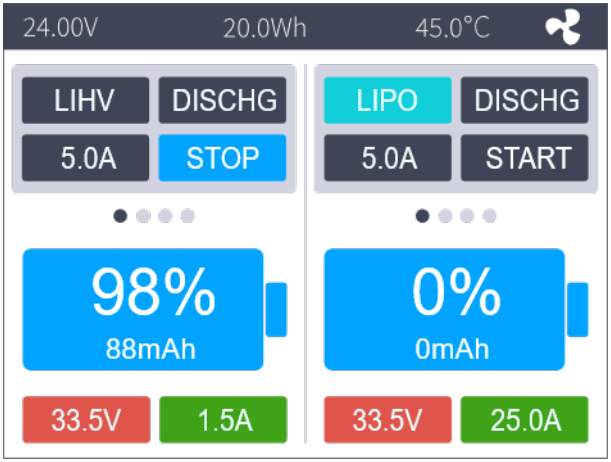
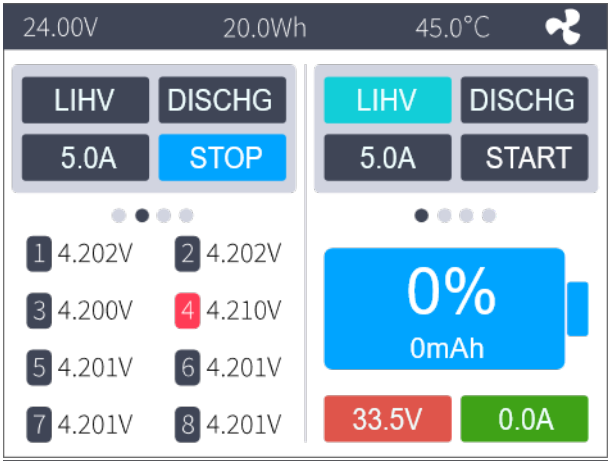
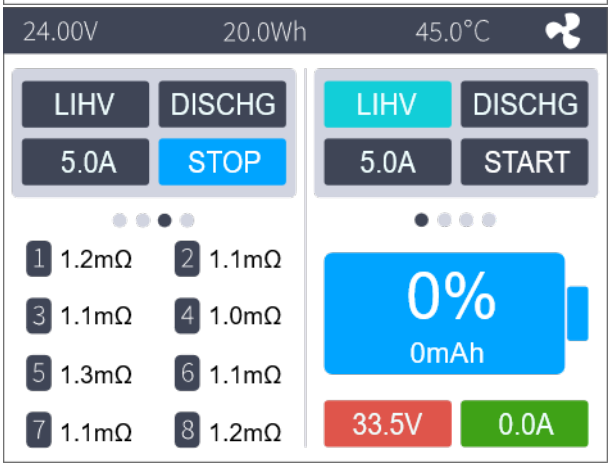
Charging

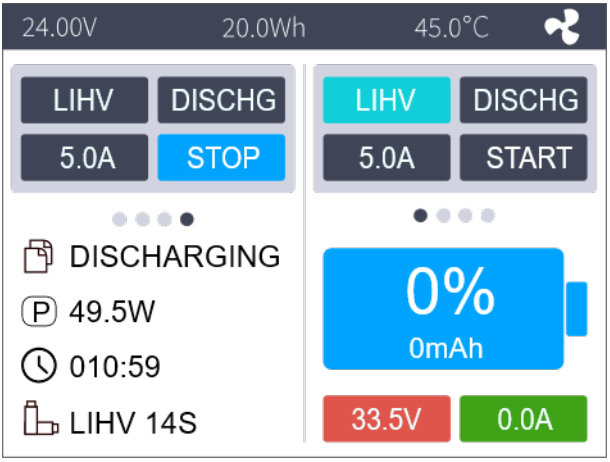
Press the ▲▼button to move the cursor to the [Start] position, then press the Ⓔbutton once to start the charger on this channel. As shown in the figure below.



Press and hold the ▲button to switch the information page, where you can view the voltage value, internal resistance, and operating status of the corresponding channel.







To stop the charging and discharging operation, select [Stop] and briefly press the Ⓔbutton once to stop the operation. A prompt box and alert sound will appear when charging is complete or if a charging error occurs.

Display content description:

24.0V: Input supply voltage.

20Wh: the cumulative power consumption of the input power supply.

45°C: The internal temperature of the charger.

33.5V: the voltage of the main port of the left channel.

5.00A: the current of the main port of the left channel.

10:59: Left channel working hours.

88mAh: the cumulative capacity of the left channel.

1 **4.200V**: The first battery voltage

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4 **4.210V:** The fourth battery voltage (Red mark means this battery is under balance management)

-.--V: No battery connected.

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Tips:1. When charging, please ensure someone is supervising the charge throughout the process to deal with abnormalities safely.

2. When charging a lithium battery, only connecting to the main port will not perform balance management. Please pay attention to the balance of the battery. After connecting to the balance port, it will automatically begin balance management.

3. After charging is completed, unplug the battery and insert a new battery, it will automatically continue to charge and discharge according to the set mode. please pay attention to whether the detected cell number matches the actual number.

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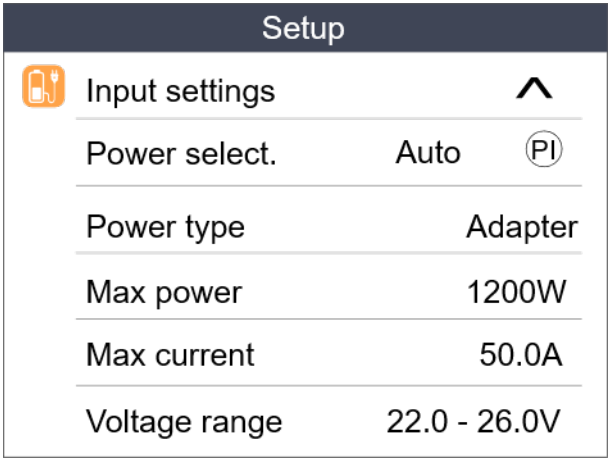
System settings

Press and hold the button, and when the charger is idle, you can enter the system settings interface. The settings are as follows:

Back: Exit the settings page and return to the main interface.



Input Power: Default internal power PI.

Power Type: The type of current input power is an internal adapter.

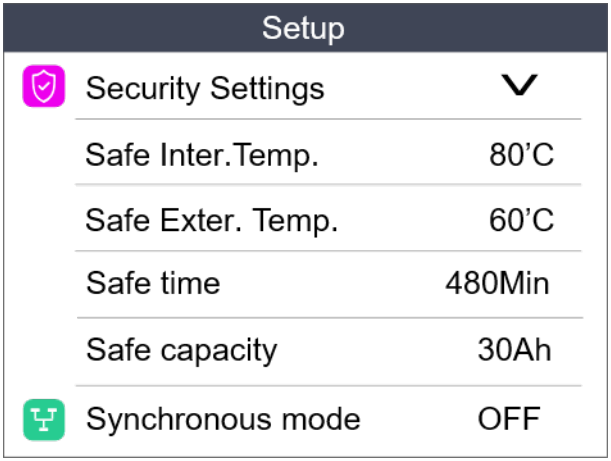
Max power: The maximum power the adapter can provide when charging.

Max current: The maximum current the adapter can provide during charging.

Voltage range: Effective voltage range of the internal adapter.

Security settings: Work-related security settings. As

shown in the figure below.



Safe Inter. Temp.: above this temperature value, the device will stop the main port output.

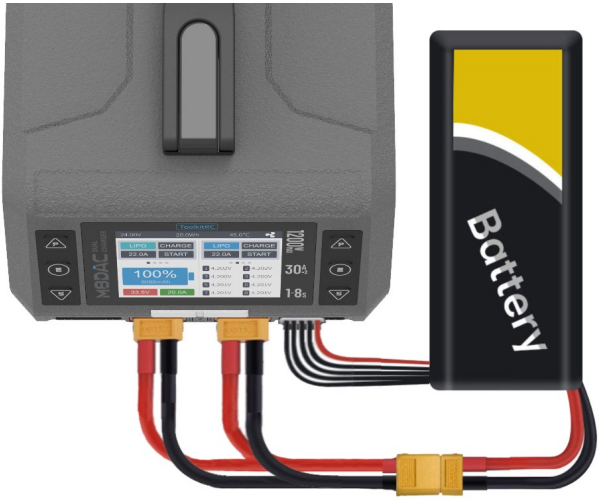
Safe Exter. Temp.: When the external sensor detects that the battery temperature is higher than this temperature, the device will stop working and issue a warning.

Safe time: the maximum time of continuous charging, it will stop charging if it exceeds this.

Safe capacity: the maximum capacity for continuous charging, and it will stop charging if exceeded.

Synchronous mode: After turning on this function, the two channels can be combined with the main port to charge the same battery, and the maximum current can reach 50A.

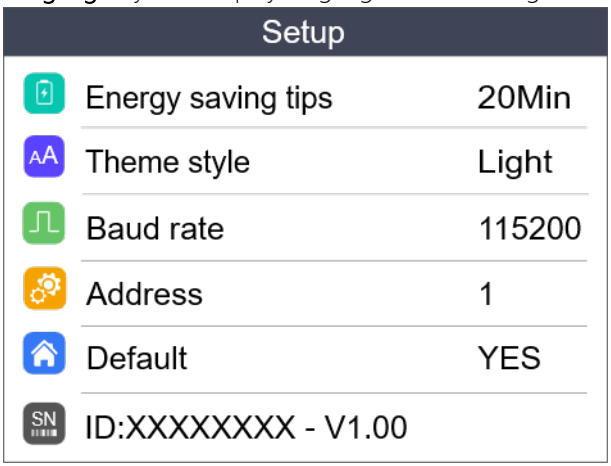
As shown in the figure below:



Setup		
	Continuous work	OFF
	Work completed	END
	Balance start Vol	Always
	Backlight	10
	Buzzer	6
	Language	English

Continuous work: After turning on the function, remove the full charged battery, and after connecting the next battery, it will automatically start charging according to

the previous charging setting as last battery.
Work complete: Determine whether to stop or trickle up when charging is over
Balancing start voltage: Set the voltage at which the battery starts balancing relative to the full voltage.
Backlight: the backlight brightness level of the display can be set from 1 to 10 level.
Buzzer: Buzzer sound settings, can be set to 1-7 tones.
Language: system display language can be changed



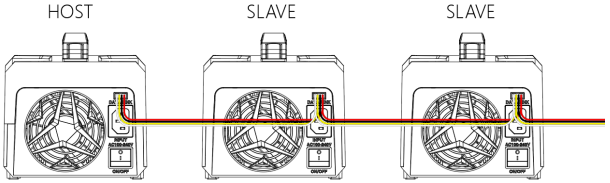
Theme style:two styles of Light and Dark can be selected
Baud rate: communication speed with the host.
Address: The slave address of this machine.
Default: restore all settings to factory values.
ID: the unique ID of the device factory settings.

Other functions

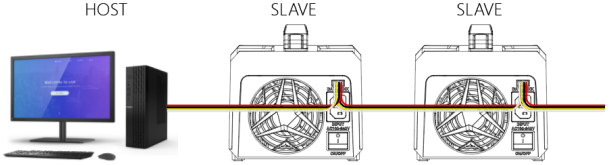
1. Cascaded synchronization mode

The M8DAC allows multiple units to be connected in cascade mode, with two working modes.

Mode 1: Set the address of one unit to 0, then this unit will act as the HOST, while the other units are set to any non-zero address between 1 and 15, operating in SLAVE mode. When the HOST sets the charging parameters, it will automatically send the set parameters to the other slave units via the cascade bus, achieving synchronized settings.



Mode 2: In this mode, a PC or other host computer serves as the host (HOST), and the charger serves as the slave. The slave is set with addresses 1-15, and the host can use the slave addresses to control a single slave or use address 0 to broadcast and control multiple slaves simultaneously.



Note: This feature is intended for third-party secondary development.

2. Firmware upgrade

After connecting the M8DAC to the computer with the USB data cable in the box, the computer will recognize a USB drive named Toolkit. Download the upgrade file app.upga on the official website. To update copy and past the new file and overwrite the files in the USB to upgrade the firmware.

3. Automatically continue charging

When a battery is fully charged, after unplugging the battery, connect to the next battery, the device will automatically continue to charge, you can start and stop this function in the settings menu.

4. Fan stepless speed regulation

When the internal temperature of the device exceeds 43°C , the fan will increase the fan speed linearly according to the internal temperature increase or power increase. Make it less noisy when operating at low temperatures or low power.

5, USB fast charging

M8DAC built-in USB fast charging protocol, up to C port up to 65W charging power, supported protocols are PD, QC, AFC, FCP, SCP, PE, SFCP, VOC.

6,Manual Voltage Calibration

Press and hold the S button on channel 2 while powering on to enter the manual voltage calibration function. Use a voltmeter to measure the actual voltage of each battery, move the cursor to the corresponding voltage value, and adjust the voltage value to match the voltmeter reading to complete the calibration.

7. Fully charged replenishment

When the lithium battery is charged, If the battery is not removed, it will automatically be charged at a constant voltage trickle to bring the battery to a fuller state.

Specification

Charging	Input	AC100.0-240.0V@MAX1300W
	Battery Type	LiPo LiHV @1-8S
	Bal Cur.	2000mA @2-8S
	Accuracy	<0.005V
	Charge Power	1.0-30.0A@600W*2 ASYN
		1.0-50.0A@1200W SYNC
	Discharge Power	1.0-5.0A@50W*2 ASYN 1.0-10.0A@100W SYNC
	USB	USB-C 20V@65W or upgrade PD,QC,AFC,FCP,SCP,PE,SFCP,VOC
	Battery Voltage	1.0V-5.0V @1-8S
	Battery Internal Resistance	1-100mR @1-8S
UI	Display	IPS LCD 2.8 inch 320*240 Pixel
	Operation	3 buttom
Product	Size	290mm*141mm*143mm
	Weight	2.3kg
Individual Packing	Size	324mm*172mm*200mm
	Weight	2.9kg