

F400

Smart Switching Power Supply

(AC/DC 4-Channel Charger)

F400

USER GUIDE

Thank you for purchasing the ISDT F400 Smart Charger.

The ISDT F400 is the next-generation four-channel smart charger, launched following the success of the F160. It delivers a more flexible and high-performance charging solution for a wide range of battery types. It's fully programmable manually as well as with a simple connection from your mobile phone via our ISD Link APP which allows users to customize various parameters to ensure optimal performance tailored to your specific preferences. Product features are subject to continuous updates; the contents of this manual may change over time. Please refer to our social media for the latest updates.

Warnings & Safety Tips

To ensure your safety and good user experience, please read these instructions and warnings before using this product.

- Read the instruction manual carefully to be familiar with the features of the charger and set proper charging parameters before operating. Setting the parameter incorrectly will result in damage to the product, personal property and cause serious injury as well.
- Never use the charger unattended, if the charger has any abnormal function, please stop using it immediately and check the reason according to the manual.
- Make sure the charger is kept away from dust, moisture, rain and high temperatures, and avoid direct sunlight and strong vibrations; Place the charger on a heat-resistant, non-flammable and insulated surface. Do not place it on car seats, carpets, or other similar places.
- Please ensure that flammable and explosive materials are kept away from the operating area of the charger; Make sure you have a full understanding of the charging and discharging characteristics and specifications of the battery you are using and set the appropriate charging parameters in the charger. If the parameters are set incorrectly, it may cause damage to the charger and battery, and even catastrophic consequences such as fire and explosion.

- Before connecting the battery, please ensure that the battery voltage is consistent with the working voltage range of this product; During the working process, please ensure that the number of strings selected is consistent with the number of connected battery strings. During use, ensure that the product is kept away from heat sources and humid environments, and pay attention to ventilation and heat dissipation; This product will generate a lot of heat during the working process, do not let children operate it, so as not to burn; Disconnect and remove the battery as soon as possible after use.

Do not use the charger without supervision

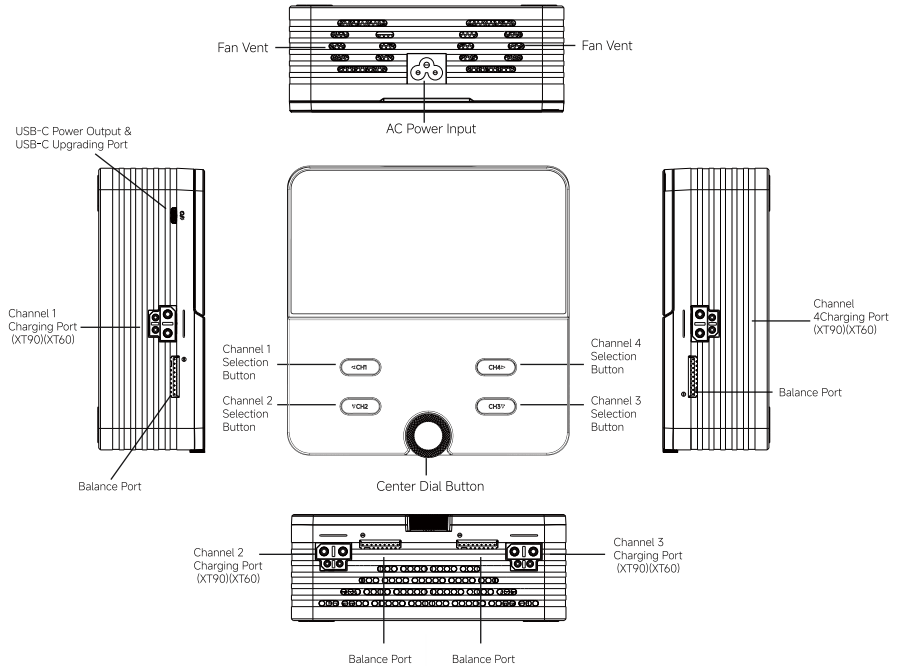
- Do not attempt to charge primary (non-rechargeable) batteries.
- Batteries pose a severe risk of fire if not properly handled.
- Read the entire operation manual before using the charger.
- This unit may emit heat during use.
- Operate this device only in a cool, well-ventilated area away from flammable materials.
- Failure to comply with safety procedures may result in property damage or personal injury.



Specifications

Parameter Name	Parameter Value
Model	F400
Input Voltage	AC 100 ~ 240V 5A 50/60Hz; DC 8~34V 15A
Max. Charging Power	AC / DC 400W
Output Voltage	DC 4 ~ 34V
Charging Current	0.5 ~ 15A × 4
Discharging Current	0.2 ~ 3A × 4
Max Discharging Power	20W × 4
Balancing Current	1.5A per cell (max)
Max. USB - C Output Power	5V=3A, 9V=3A, 12V=3A, 15V=3A, 20V=3.25A(PD3.0)
Operating Temperature Range	0 ~ 40°C
Storage Temperature	-20~60°C
Supported Battery Types and Quantity	LiFe, LiIon, LiPo: 1 ~ 8S; LiHv, ULIHv: 1 ~ 7S; Pb: 2 ~ 12S; NiMH/Cd: 4 ~ 18S;
Display	3.4-inch IPS Screen
Abnormal Voltage Alarm	Supported
Reverse Polarity Protection	Supported
Incorrect Battery Quantity Alarm	Supported
Overcurrent Protection	Supported
Low Voltage Protection	Supported
Short Circuit Protection	Supported
Dimensions	164×159.9×62.2mm
Weight	Approx. 1.5Kg

Port / Buttons

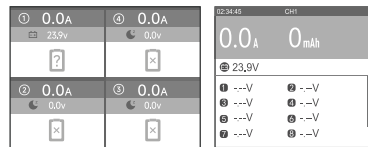


Preset Battery Type of Charger and Task Parameters

	Rated Voltage	Full Charge Voltage	Storage Voltage	Discharge Voltage	Balance Charge	Unbalanced Charge	Supported Cell Count	Max. Charging Current
NiCd/MH	1.20V	1.40V	×	0.90V	×	✓	4-18S	5A
Pb	2.00V	2.40V	×	1.90V	×	✓	2-12S	15A
LiFe	3.20V	3.65V	3.30V	2.90V	✓	✓	1-6S	15A
LiIon	3.60V	4.10V	3.70V	3.20V	✓	✓	1-6S	15A
LiPo	3.70V	4.20V	3.80V	3.30V	✓	✓	1-6S	15A
LiHv	3.80V	4.35V	3.85V	3.40V	✓	✓	1-7S	15A
ULiHv	3.90V	4.45V	3.90V	3.50V	✓	✓	1-7S	15A

Key Operation

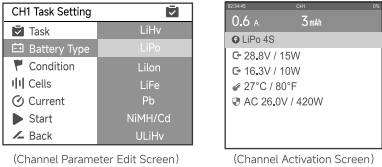
- If no AC power is connected, install the battery or connect a DC power supply first, then press the central button to power on the device. When AC power is connected, the device will power on automatically.
- After power-on, short-press the corresponding connected channel button to enter the channel parameter mode, or directly long-press it to access task settings.



(Channel Interface)

(Channel Parameter Interface)

- Short-press the central button: In the channel parameter interface, short-press to enter task settings, perform option selection or confirmation operations.
- Long press the central button: Enter the system menu.
- When in the parameter editing mode under task settings, slide the dial (central button) left or right to adjust the parameter values.
- After adjusting the parameters, short-press the central button to exit the current parameter selection and automatically save the settings.
- After completing parameter modification in the task setting interface, slide the central button to the Start option, then short-press the central button to start the current task.



How to determine the charging current

Before charging, it is necessary to understand the maximum charging current allowed by the battery used, the use of excessive current to charge the battery will affect the life of the battery and even damage, which will result in overheat even explosion during the charging process. The charging and discharging capacity of battery is usually marked with C value.

Multiplying the charging C value and battery capacity equals the maximum charging current supported by the battery. For example, for a 1000mAh battery with a charging capacity of 5C, the maximum charging current would be 1000*5=5000mA; therefore, the maximum charging current is 5A.

For lithium batteries, if the battery charge C number cannot be determined, please set the charging current to a value of no more than 1C for safety reasons. relation between C value and charging time: charging time ≥60 minutes / charging C value
(e.g. its needs around 60~70 minutes to complete charging with 1C).
Due to differences in battery conversion efficiency, the time to complete the charging might be extended.

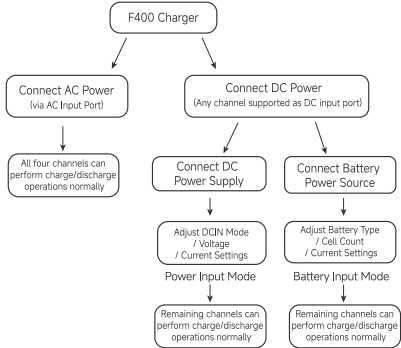
Charger Operation Steps

Before operation, please ensure you have fully understood the battery specifications and related safety warnings.

1. Two Input Modes (AC/DC)
AC Input Mode: Connect the supplied power cord to a charger or a suitable power source.
DC Input Mode: Connect a power supply or battery to any channel port for power supply.
2. Connect the battery to an idle channel port on the charger.

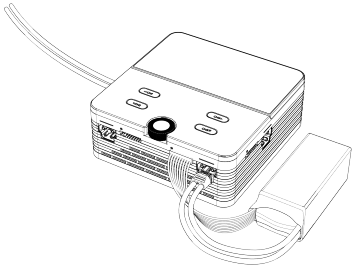
3. Connect the balance lead, ensuring it is directly connected to the balance port. (Strong recommendation: Do not use an additional balance board, as this may cause incorrect reading of the battery voltage.)
4. Press the channel button of the connected power supply/battery to enter the channel parameter mode. Then short-press the central dial button, or directly long-press the channel key to enter the task parameter setting menu.
5. Adjust parameters by sliding left/right or short-pressing the central dial button. After adjustment, short-press again to save and confirm the parameters.
6. Before starting charging, carefully inspect the wiring at the power and battery connections.
7. After inspection, tap "Start" on the task setting menu page to begin charging.
8. During charging, you can short-press the middle button or directly long-press the channel button on the channel parameter interface to enter settings, to terminate the current task or adjust the charging current.

The specific operation is shown in the flowchart below:

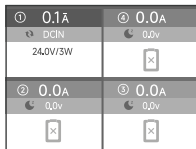


Input Function Display

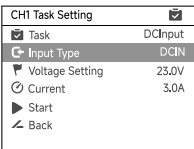
Power Input



(Power Input Diagram)



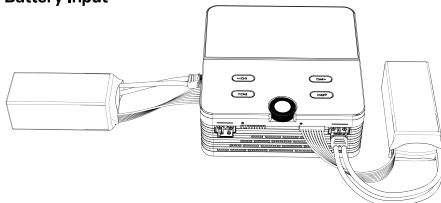
(DC Input Startup Channel Screen)



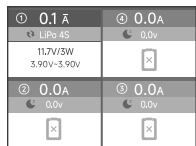
(DC Input Task Parameter Screen)

Note: **Voltage Setting** – Represents the protection voltage (operation stops when voltage drops below this level), NOT the current input voltage.

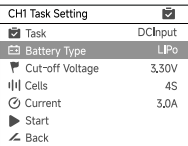
Battery Input



(Battery Input Diagram)



(Battery Input Start Interface)



(Battery Input Task Parameter Interface)

System Settings Menu

Backlight Adjustment: Adjusts the backlight, supporting three brightness levels: High, Medium, and Low.

Volume Control: Supports High, Medium, Low, and Mute modes. For safety reasons, the alarm tone cannot be disabled.

Charge Complete Alert: Supports One-time and Repeat modes.

USB Output Switch: Turns the USB output On or Off.

Split screen Settings: Supports 30s, 60s, or Off. When disabled, the screen will not automatically return to the all-channels interface.

Language: Supports 14 languages.

Theme: Dark Mode and Light Mode.

Trickle Charge Switch: Enable/Disable continuous maintenance of full-charge voltage after the battery is fully charged.

System Self-Test: Performs automatic diagnostic routines when no battery is connected.

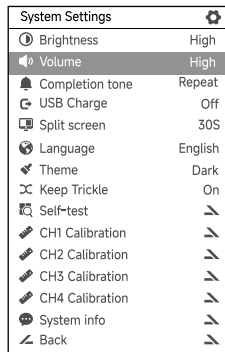
CH1-4 Voltage Calibration: Calibrates the output voltage and balance port voltage for each channel.

System Information: Displays firmware version information.

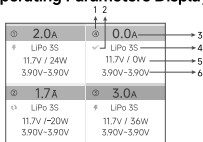
Back: Exits system settings.

Press and hold the middle button to enter the system menu.

The detailed options are as follows:



Operating Parameters Display



- 1.Current Channel Number
- 2.Task Type
- 3.Real-time Output Current
- 4.Battery Type & Cell Count
- 5.Battery Total Voltage
- 6.Cell Voltage Range

Wireless Connection

Scan the QR code at the bottom to download and install ISD Link APP

1.Please turn on wireless communication and Bluetooth before opening the APP.

2.Open the APP and Click the top right "+" sign to begin searching for your running device. (Recommended Bring your phone closely to the device for best connections)

3.Device will beep to indicate the connection.

4.Confirm the connection on your device.



App Download



www.isdt.co

All product images, descriptions and promotional materials are for reference only.

For the latest information, please visit our official website.

Shenzhen ISDT Technology Co., Ltd. reserves the right of final interpretation and revision of these terms.

F400

智能开关电源

(交流/直流 四通道 充电器)

F400

用户指南



感谢您购买ISDT F400智能充电器

ISDT F400 是继 F160 成功后推出的新一代四通道智能充电器，提供了更灵活、更高性能的充电解决方案，适用于多种电池类型。它既可以通过手动操作，也可以通过ISDLink与您的手机简单连接，用户可以自定义各种参数，以确保根据您的特定偏好实现最佳性能。

产品功能会不断升级：目前的手册可能会随着时间推移有所不同。请关注我们的社交媒体获取最新动态。



警告与安全提示

为了确保您的安全和良好的用户体验，使用本产品前请务必阅读相关说明与安全警告。

- 操作前请仔细阅读使用说明书，熟悉充电器的功能特性并设置正确的充电参数。操作不当将导致产品、个人财产受损，甚至造成严重伤害。
- 切勿在无人看管的情况下使用充电器，如果充电器有任何功能异常，请立即停止使用并按照说明书检查原因。
- 确保充电器远离灰尘、潮湿、雨水和高温，避免阳光直射和剧烈振动；请将充电器置于耐热、阻燃且绝缘的表面。请勿将其放置于汽车座椅、地毯或其他类似的地方。
- 请确保易燃易爆物品远离充电器工作区域；务必充分了解所用电池的充放电特性及技术参数，并在充电器中设置合适的充电参数。若参数设置不当，可能会导致充电器和电池损坏，甚至引发火灾和爆炸等严重后果。
- 在连接电池前，请确保电池电压与该产品的工作电压范围一致；在工作过程中，请确保所选电池串数与实际连接的电池串数一致。使用时，确保产品远离热源和潮湿环境，注意通风和散热；该产品在工作过程中会产生大量热量，切勿让儿童操作以防烫伤；使用完毕后请立即断开并取出电池。

切勿在无人看管的情况下使用充电器

- 切勿尝试给原电池（不可充电电池）充电
- 使用充电器前，请阅读所有操作说明
- 本设备在使用过程中可能会发热
- 仅可在凉爽、通风区域使用本设备
- 不遵守安全规程可能导致财产损失或人员受伤



警告！



远离火源！



产品规格

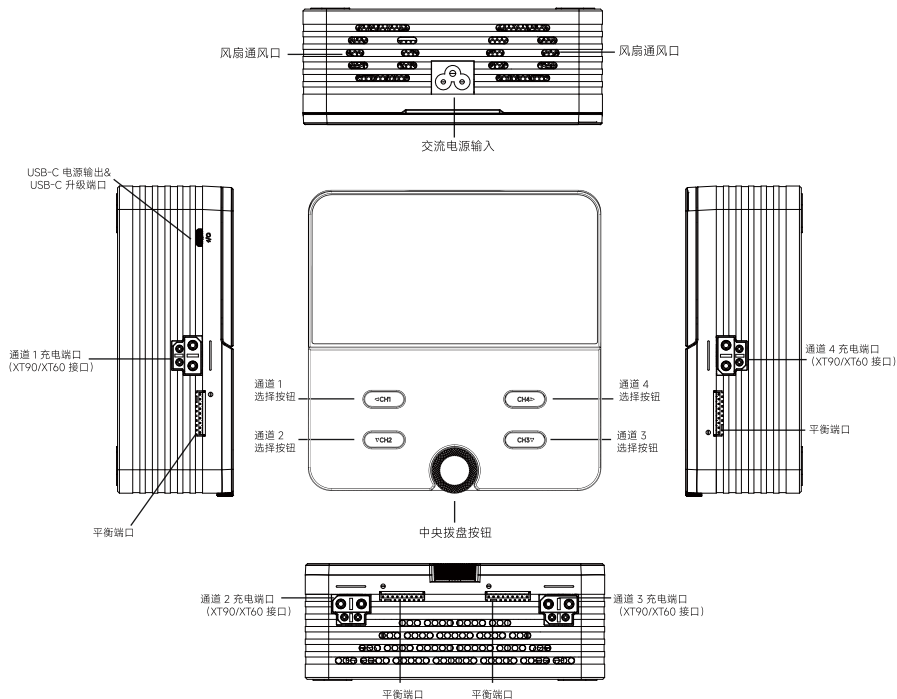
参数名称	参数值
规格型号	F400
输入电压	交流100~240V 5A 50/60Hz; 直流8~34V 15A
最大充电功率	交流 / 直流400W
输出电压	DC 4 ~ 34V
充电电流	0.5~15A × 4
放电电流	0.2~3A × 4
最大放电功率	20W × 4
平衡电流	1.5A/每个电芯最大值
最大USB-C输出功率	5V≐3A, 9V≐3A, 12V≐3A, 15V≐3A, 20V≐3.25A (PD3.0)
工作温度范围	0~40°C
储存温度	-20~60°C
支持的电池类型和电池数量	LiFe, LiIon, LiPo:1~8S; LiHv, ULIHv:1~7S; Pb:2~12S; NiMH/Cd:4~18S;
显示屏	3.4英寸IPS屏幕
异常电压报警	支持
反接保护	支持
错误电池数量设置报警	支持
过高电流保护	支持
低压保护	支持
短路保护	支持
尺寸	164 × 159.9 × 62.2 mm
重量	约1.5Kg



预设电池充电器类型及任务参数

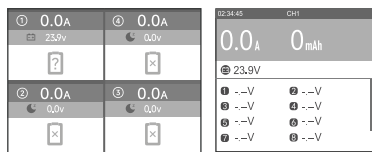
	额定电压	满充电压	存储电压	放电截止电压	平衡充电	非平衡充电	支持电芯串数	最大充电电流
NiCd/MH	1.20V	1.40V	×	0.90V	×	✓	4-18S	5A
Pb	2.00V	2.40V	×	1.90V	×	✓	2-12S	15A
LiFe	3.20V	3.65V	3.30V	2.90V	✓	✓	1-8S	15A
LiIon	3.60V	4.10V	3.70V	3.20V	✓	✓	1-8S	15A
LiPo	3.70V	4.20V	3.80V	3.30V	✓	✓	1-8S	15A
LiHv	3.80V	4.35V	3.85V	3.40V	✓	✓	1-7S	15A
ULiHv	3.90V	4.45V	3.90V	3.50V	✓	✓	1-7S	15A

端口/按钮



按键操作指南展示

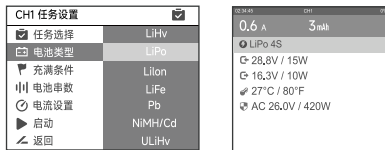
- 未接入AC电源时需插入电池或直流电源再按中央按钮使设备开机。
- 接入AC电源时设备自动开机。
- 开机后，短按已接入的对应通道按钮进入通道参数模式或直接长按进入任务设置。



(通道界面)

(通道参数界面)

- 处于任务设置的参数修改模式时，中央按钮左右滑动拨盘，即可调整参数数值。
- 参数调整完成后短按中央按钮后退出当前参数选择并自动保存参数。
- 在任务设置界面完成参数修改后，滑动中央按钮至启动选项，短按中央按钮启动当前任务。



(通道参数修改界面)

(通道启动界面)

- 短按中央按钮：在通道参数界面可短按进入任务设置，进行选项选择或确认操作。
- 长按中央按钮：进入系统菜单。



如何确定充电电流

充电前，必须了解所用电池允许的最大充电电流，过大电流会影响电池寿命甚至损坏，导致充电过程中过热甚至爆炸。电池的充放电容量通常标注为C值。充电C值与电池容量相乘等于电池支持的最大充电电流。

例如，对于一块1000mAh电池，充电容量为5C，最大充电电流为1000*5=5000mA；因此，最大充电电流为5A。

对于锂电池，如果无法确定电池充电C值，请将充电电流设置为不超过1C以保证安全。C值与充电时间的关系：

充电时间>60分钟/充电C值（例如，1C充电完成约需 60~70分钟）。

由于电池转换效率的差异，充电完成时间可能会延长。

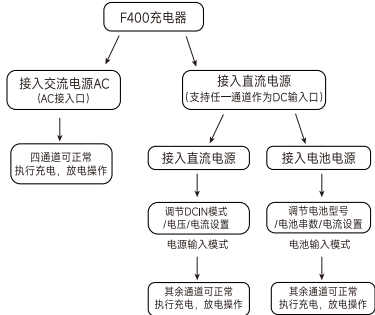


充电器操作步骤

操作前,请确保已了解电池规格及相关安全警告。

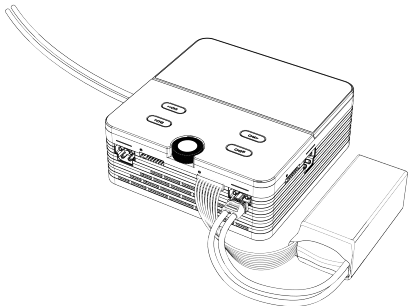
- 两种输入模式（AC/DC）
交流电（AC）输入模式：将配套的电源线连接至充电器或合适的电源。
直流电（DC）输入模式：将电源/电池连接任意一个通道端口，进行供电。
- 将电池连接至充电器空闲通道端口。
- 连接平衡线，确保平衡线直接连接到平衡端口。
(强烈建议：不要额外添加平衡板，否则可能会错误正确的电池电压。)
- 按下（已连接电源/电池）的通道按钮，进入通道参数，再短按中央拨盘按钮或直接长按通道键进入任务参数设置菜单。
- 通过中央拨盘按钮进行（左右滑动/短按）来调整参数内容，调整完成后再次短按进行参数保存确认。
- 在启动充电前，请仔细检查电源及电池连接处的接线。
- 检验完成后，在任务设置菜单页中点击启动，开始进行充电。
- 充电过程中，在通道参数界面可以通过短按中间按钮或直接长按通道按钮进入设置来进行终止当前任务或调节充电电流。

具体操作如下方流程图展示：



输入功能展示

电源输入



(电源输入展示图)

① 0.1A	④ 0.0A
DCIN	0.0V
24.2V/3W	×
② 0.0A	③ 0.0A
0.0V	0.0V
×	×

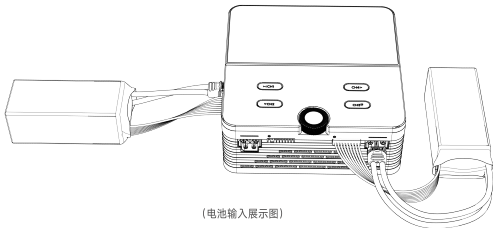
(DC 输入启动过渡界面)

CH1 任务设置	直流输入
任务选择	直流输入
输入类型	DCIN
电压设置	23.0V
电流设置	3.0A
启动	
返回	

(DC 输入任务参数界面)

注：电压设置——代表保护电压（低于这个电压会停止）不是当前输入电压。

电池输入



(电池输入展示图)

① 0.1A	④ 0.0A
LiPo 4S	0.0V
11.7/3w	×
3.90~3.90v	
② 0.0A	③ 0.0A
0.0V	0.0V
×	×

(电池输入启动界面)

CH1 任务设置	
任务选择	直流输入
电池类型	LiPo
截止电压	3.30V
电池串数	4S
电流设置	3.0A
启动	
返回	

(电池输入任务参数界面)



系统设置菜单

长按中间按钮进入系统菜单，具体内容如下：

系统设置		⚙️
🔦 背光亮度	高	
🔊 音量	高	
🔔 完成声音	重复	
🔌 USB Charge	关	
📺 分屏	30S	
🌐 语言	简体中文	
🌙 主题	暗黑	
⚡ 持续涓流	开	
🔍 系统自检	➡️	
🔋 CH1 电压校准	➡️	
🔋 CH2 电压校准	➡️	
🔋 CH3 电压校准	➡️	
🔋 CH4 电压校准	➡️	
📶 系统信息	➡️	
⬅️ 返回	➡️	

- **背光调节**：调节背光，支持高、中、低三档亮度调节。
- **音量调节**：支持高、中、低及静音模式，因安全考虑警报声不可关闭。
- **充电完成提示**：单次和重复。
- **USB输出开关**：开启和关闭。
- **分屏设置**：支持30s、60s和关闭，关闭后不自动回到所有通道界面。
- **语言**：支持14种语言。
- **主题**：暗黑模式和明亮模式。
- **持续涓流开关**：电池充满后是否持续维持到满充电压。
- **系统自检**：电池未连接可以执行自动检测程序。
- **CH1-4电压校准**：可以校准此通道的输出电压和平衡口电压。
- **系统信息**：固件版本信息。
- **返回**：退出系统设置。



无线连接

- 请在打开 APP 前开启无线通信和蓝牙功能。
- 打开 APP，点击右上角的 “+” 符号开始搜索你的正在运行的设备。
(推荐：将手机靠近设备以便获得最佳连接)
- 设备会发出蜂鸣声以示连接。
- 请确认你的设备已连接。



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工作参数显示

① 2.0A		② 0.0A		
# LiPo 3S		✓ LiPo 3S		
11.7V / 24W		11.7V / 0W		
3.90V~3.90V		3.90V~3.90V		
③ 1.7A		④ 3.0A		
① LiPo 3S		# LiPo 3S		
11.7V / 20W		11.7V / 36W		
3.90V~3.90V		3.90V~3.90V		

- 1.当前通道序号
- 2.任务类型
- 3.实时输出电流
- 4.电池类型&电芯数
- 5.电池总电压
- 6.电芯电压范围



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