

# **K1**

AC/DC双通道智能充电器

## 用户手册

***ISDT***

## 感谢您购买ISDT K1 智能平衡充电器。

欢迎您登陆艾斯特官方网站www.isdt.co了解更多智能平衡充电器功能，购买丰富相关配件。  
由于产品功能的不断更新，您手中的说明书可能会与实际操作有所出入。请以实际智能平衡充电器功能为准。

### 警告与安全提示

为确保您的安全和良好的用户体验，请在使用本产品前阅读本说明和警告。

- 不要在无人值守的情况下使用充电器，如充电器出现任何功能异常，请立即终止使用并对照说明书查阅原因；
- 确保充电器远离灰尘、潮湿、雨和高温，避免阳光直射及强烈震动；
- 请将充电器放置于耐热、不易燃及绝缘的表面。不要放置在车座、地毯等类似的地方使用。请确保易燃、易爆炸物品远离充电器的操作区域；
- 确保您已充分了解所使用电池的充放电特性及规格，并在充电器中设置恰当的充电参数。  
如参数设定错误，可能对充电器及电池造成损坏，甚至发生火灾、爆炸等灾难性后果。

**接入电池前请确保电池电压与本产品工作电压范围相符；  
工作过程中请确保选择的串数与接入电池串数一致。**

使用过程中确保本产品远离热源及潮湿环境，并注意通风散热；  
本产品工作过程中将产生大量热量，切勿让儿童操作，以免烫伤；使用结束后，应尽快断开及移除电池。



警告!



远离火源!

### 产品规格

型号: K1

输入电压范围: AC 100~240V / DC 10~30V

输出电压范围: DC 1~26.7V

最大输入电流: 20A

充电电流: 0.2~10.0A x2

平衡电流: 0.5A/Cell Max

最大充电功率: AC 100W / DC 250Wx2

电池电压异常报警: 支持

串数设定错误报警: 支持

支持电池类型及串数: LiFe, Lilon, LiPo, LiHv, ULiHv 1~6S; Pb 1~10S; NiMH/Cd 1~16S

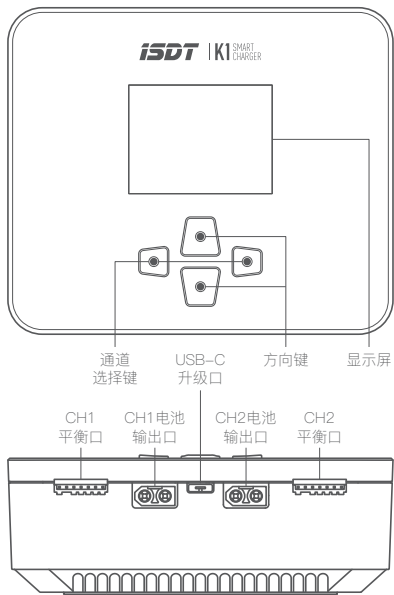
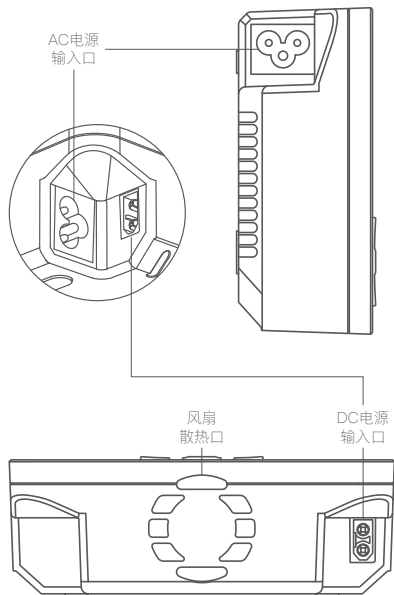
工作温度: 0°C~40°C

存储温度: -20°C~60°C

尺寸: 135x115x49 mm

重量: 约485g

## 接口 / 按键



## 按键操作说明 (待机界面下)

CH1 选择键: 短按进入CH1详细参数界面, 长按进入CH1任务设置菜单。  
CH2 选择键: 短按进入CH2详细参数界面, 长按进入CH2任务设置菜单。  
同时长按CH1和CH2确认键: 进入高级设置菜单。

## 充电器预设电池类型及任务参数

|         | 额定电压  | 满充电压  | 平衡充 | 非平衡充 | 支持串数  | 最大充电电流 |
|---------|-------|-------|-----|------|-------|--------|
| NiCd/MH | 1.20V | 1.40V | ✗   | ✓    | 1~16S | 10.0A  |
| Pb      | 2.00V | 2.40V | ✗   | ✓    | 1~10S | 10.0A  |
| LiFe    | 3.20V | 3.65V | ✓   | ✓    | 1~6S  | 10.0A  |
| Lilon   | 3.60V | 4.10V | ✓   | ✓    | 1~6S  | 10.0A  |
| LiPo    | 3.70V | 4.20V | ✓   | ✓    | 1~6S  | 10.0A  |
| LiHv    | 3.80V | 4.35V | ✓   | ✓    | 1~6S  | 10.0A  |
| ULiHv   | 3.90V | 4.45V | ✓   | ✓    | 1~6S  | 10.0A  |

## 如何确定充电电流

在充电前必须先了解清楚所用电池允许的最大充电电流，使用过大的电流对电池充电会对电池的寿命造成影响甚至损坏，过大的电流也会造成充电过程中电池发热甚至爆炸。电池充放电能力一般以C数来标识，充电C数乘以电池容量就是电池所支持的最大充电电流，例如1000mAh的电池，标识充电能力是5C，那么最大充电电流为： $1000 \times 5 = 5000\text{mA} = 5\text{A}$ ，也就是最大支持5A充电。

对于锂电池而言，如果无法确定电池充电C数，为了安全起见请将充电电流设定在不大于1C的值。

充电C数与充电时间的参考关系：

充电时间 $\geq 60$ 分钟/充电C数（例如使用1C充电，充电完成时间大约需要60~70分钟），由于电池转换能效的差异，此时间有可能会有所延长。

## 任务设定

将充电器与电源连接上电，连接好电池，短按对应通道按键进入任务设定菜单，菜单项如下：

|      |  |
|------|--|
| 任务   | 充电   |
| 电池类型 | LiFe, Lilon, LiPo, LiHv, ULiHv, Pb, NiMh/Cd                        |
| 电池串数 | LiFe, Lilon, LiPo, LiHv, ULiHv (1~6S); Pb (1~10S); NiMH/Cd (1~16S) |
| 电流设置 | 0.2~10.0A  |

## 充电

对于锂电池，强烈建议连接平衡端口均衡充电，以确保充电器能够准确监测每个电池的电压，并对不一致的电芯进行平衡操作。

当使用非平衡模式（不连接到电池平衡口）充电时，充电器在开始任务前会有相应的报警提示。

电流设定范围为0.2~10.0A。

## 工作参数显示

工作中在方向键上可以切换屏幕下半部分的信息显示内容，信息内容依次为：各电芯电压、各电芯内阻、工作参数。其中电芯电压及内阻仅在平衡充电模式下才会显示。

## 高级设定

待机界面下，同时长按左右两边通道选择键进入高级设置菜单，菜单项如下：

### 双通道任务选择

选择该项，充电器将以相同参数对两个通道下的电池同时进行充电。

将充电器接通电源并接上电池，

在高级设置菜单中选择该项进行双通道任务参数设置。

### 直流电源

选择该项，充电器的CH1将成为一个直流电源。

输出电压为5~24V可调，电流为0.2~5.0A可调。

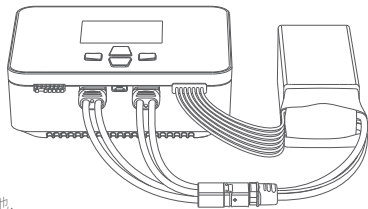
### 并行任务选择

选择该项，可将整机最大功率输出在一个电池上。

需使用一根一分二的电源线，一端连接电池，另外两端连接充电器的电池输出口。

电池平衡口连接在充电器任一平衡口即可。将充电器接通电源，并按要求接上电池，

在高级设置菜单中选择该项进行并行任务参数设置。并行充电电流设定范围为10~16A。



并行充电

## 系统设置

高级设置菜单下，选择系统设置进入系统设置菜单，菜单项如下：

### 最低输入电压

限制范围为10~24V。当使用电池作为输入电源时，此项设定可以保护电池不会过放。当充电器检测到输入电压低于设定值，将立即停止所有在执行的任務并提示输入电压过低。当使用电池组作为电源时，可保护电池不被过放。

### 最大输入功率限制

限制范围为100~550W。当连接的输入电源达不到充电器的最大工作功率（500W）要求时，为了保护输入电源及使充电器稳定工作，需要根据电源的实际输出能力设定此参数。

### 音量

音量设置有高、中、低及关闭四个选项。当设定为“关”时，将关闭操作提示声，但不关闭错误提示声。

## 自动分屏

自动分屏设置有60秒、30秒及关闭三个选项。

可选择在设定时间内，主界面显示由单通道参数界面自动切换至双通道（分屏）参数界面。亦可选择“关”，将自动分屏功能关闭。

## 系统自检

在移除CH1及CH2所有电池连接后，选择该项进行系统自检操作。

## 校准

该项可以校准充电器的输入电压，输出电压和平衡口电压。



[www.isdt.co](http://www.isdt.co)

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# **K1**

AC/DC DUAL CHANNEL  
SMART CHARGER

## **USER GUIDE**

***ISDT***

## Thanks for purchasing the ISDT K1 Smart Charger.

Please visit: [www.isdt.co](http://www.isdt.co) for more details on the functions of this smart charger, as well as purchase various accessories. Functions of products will be kept on upgrading, the manual in your hand may be different from the actual operation, please refer to the actual functions.

### Warnings and Safety Tips

**For your safety and a better user experience, please read this manual and follow the instruction before using the new charger.**

- Never use the charger without supervision, please stop using the charger and refer to the manual for reasons if any functional abnormality.
- Keep the charger away from dust, humidity, rain and high temperature, as well as avoid direct exposure to the sunlight and intense vibration.
- Place the charger on a heat-resisting, non-flammable and insulating surface. Do not use it on the car's seats, carpet or other similar places. Keep inflammable and explosive objects away from operation areas of the charger.
- Read the instruction manual carefully to be familiar with the features of the charger, and set proper charging parameters before operating. Setting the parameters incorrectly will result in damage to the product, personal property and cause serious injury as well.

#### NEVER USE CHARGER UNSUPERVISED

- Never attempt to charge primary (non-rechargeable) batteries.
- Batteries pose a severe risk of fire if not properly handled.
- Read entire operation manual before using charger.
- This unit may emit heat during use.
- Only operate this device in a cool ventilated area away from flammable objects.
- Failure to observe safety procedures may cause damages to property or injury.



WARNING!



FIRE HAZARD!

### Specifications

Model No.: K1

Input voltage: AC 100~240V / DC 10~30V

Output voltage: DC 1~26.7V

Max. input current: 20A

Charging current: 0.2~10.0A x2

Balance current: 0.5A/Cell Max

Max. charging power: AC 100W/DC 250Wx2

Abnormal voltage alarm: Support

Incorrect cell count setting alarm: Support

Supported battery: LiFe, Lilon, LiPo, LiHv, ULiHv 1~6S; Pb 1~10S; NiMH/Cd 1~16S

Working temperature: 0°C~40°C

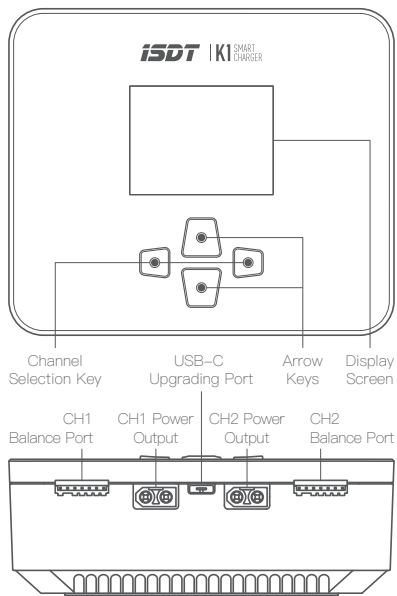
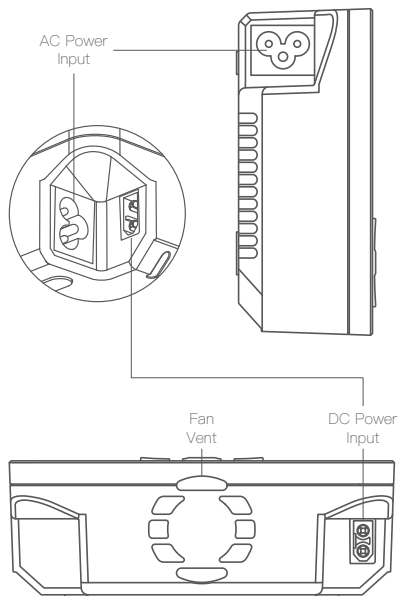
Storage temperature: -20°C~60°C

Dimension: 135x115x49 mm

Weight: About 485g



## Port / Keys



## Key operation instructions (under standby interface)

- CH1 Selection key: Short press to enter the CH1 detailed parameter interface, long press to enter the CH1 task setting menu.
- CH2 Selection key: Short press to enter the CH2 detailed parameter interface, long press to enter the CH2 task setting menu.
- Long press the CH1 and CH2 Selection key at the same time: Enter the advanced settings menu.

## Preset Battery Type of Charger and Task Parameters

|         | Rated Voltage | Full Charge Voltage | Balance Charge | Unbalanced Charge | Supported Cell Count | Max. Charging Current |
|---------|---------------|---------------------|----------------|-------------------|----------------------|-----------------------|
| NiCd/MH | 1.20V         | 1.40V               | ✗              | ✓                 | 1~16S                | 10.0A                 |
| Pb      | 2.00V         | 2.40V               | ✗              | ✓                 | 1~10S                | 10.0A                 |
| LiFe    | 3.20V         | 3.65V               | ✓              | ✓                 | 1~6S                 | 10.0A                 |
| Lilon   | 3.60V         | 4.10V               | ✓              | ✓                 | 1~6S                 | 10.0A                 |
| LiPo    | 3.70V         | 4.20V               | ✓              | ✓                 | 1~6S                 | 10.0A                 |
| LiHv    | 3.80V         | 4.35V               | ✓              | ✓                 | 1~6S                 | 10.0A                 |
| ULiHv   | 3.90V         | 4.45V               | ✓              | ✓                 | 1~6S                 | 10.0A                 |

## How to Confirm Charging Current

Make sure to know the maximum charging current of the battery before charging, never use excessive current to charge to damage your battery, which will result in over heat 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 to 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  $1000 \times 5 = 5000\text{mA}$ ; therefore, the maximum charging current is 5A. For a lithium battery, if it is impossible to confirm the supported charging C value, please set the charging current below 1C, for the sake of its (lithium battery) safety. The reference relation between C value and charging time: charging time  $\geq 60$  minutes/ charging C value (e.g. it 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.

## Operating the Charger

Power on K1 smart charger, connect the battery, and short press the middle button to enter the task setting menu as follows:

|                               |  |
|-------------------------------|--|
| <b>Task</b>                   | Charge   |
| <b>Battery</b>                | LiFe, Lilon, LiPo, LiHv, ULiHv, Pb, NiMH/Cd                        |
| <b>Battery and cell count</b> | LiFe, Lilon, LiPo, LiHv, ULiHv (1~6S); Pb (1~10S); NiMH/Cd (1~16S) |
| <b>Current</b>                | 0.2~10.0A  |

## Charge

Balancing port is strongly recommended when charging lipo battery, which can make sure to monitor voltage on each cell battery and balance it when charging. Warning beeper will yell before start charging lipo if in non-balance mode(no connecting with balance port).  
Current setting range: 0.2~10.0A

## Charging Screen

Press the direction button to switch the information displayed in the lower half of the screen, as cell voltage, cell internal resistance, working parameter. The cell voltage and internal resistance only on display in balancing charging mode.

## Advanced Settings

Under the standby interface,

**long press the left and right channel selection buttons at the same time to enter the advanced settings menu.**

### Dual task

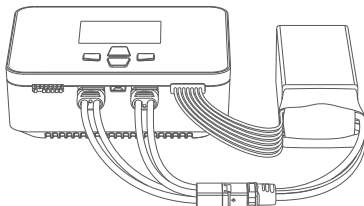
Select this setting, the charger will charge to the two channel batteries with the same parameters at the same time.  
Connect the charger with the power supply and power on, select this setting on the advanced setting menu to set the task parameters.

### DC power (CH1)

The charger CH1 is equivalent to a DC power supply when selecting this function, with output voltage adjustable from 5~24V, and current adjustable from 0.2~5.0A.

### Paralled task

Select this setting, it could output Max Power to one battery.  
Find a power splitter or 1/2 power cord, one end connect with the battery, and the other two ends connect with the battery output port. The battery balance port could connect with any of the charger's balance port. Connect the charger with the power supply and power on, and connect your battery as required, select this setting on the advanced setting menu to set the task parameters.



Paralled charge

## System Setting Menu

Under the advanced setting menu, select the system setting into the system setting menu as follows:

### **Min. input voltage protection: 10-24V**

all tasks in operation will be stopped at once and hint warning of low voltage, when the input voltage is lower than the input voltage as set up. It will protect the battery from being discharged when using battery pack as power supply.

### **Max. input power setting: 100-550W**

if the input power is smaller than the max working power (550W) , please set up the parameter as the actual output power as max input, to protect the input power and enable the charger to work stable.

### **Volume**

There are 4 options of High Mid Low and Off for volume setting. When the setting is OFF, it will turn off the operation sound, but not the warning error beep.

### **Split screen**

There are 3 options of 60 seconds, 30 seconds and OFF for automatic split screen setting.

You can choose to switch the display of the main interface from the single-channel parameter interface to Dual channel (split screen) parameter interface. You can also select "Off" to turn off the automatic split screen function.

### **Self-test**

When all batteries on CH1 and CH2 port are not connected, please select this option to self-test task manually.

### **Calibration**

the input voltage, output voltage and balance voltage of the charger can be calibrated with this task.