ISDT ®

K2 ZiP

AC/DC DUAL CHANNEL SMART CHARGER

USER GUIDE

Thank you for purchasing the ISDT K2 zip Smart Balance Charger.

The ISDT K2 Zip is our latest and greatest innovative Charger for versatile and powerful charging solution designed for various battery types. Its fully programmable with a simple connection from your mobile phone via our ISD Link APP which allows users to customize various parameters to ensuring optimal performance tailored to your specific preferences. Please visit our official website: www.isdt.co for more information.

📑 Warnings and Safety Tips

To ensure your safety and a 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 parameters 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 keep 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.

NEVER USE CHARGER UNSUPERVISED

• Never attempt to charge primary (non-rechargeable) batteries.
• Batteries pose a severe risk of þre 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.: K2 zip
Input voltage: AC 100~240V / DC 10~30V
Max. input current: DC 35A
Output voltage: DC 1~34V
Charging current: 0.2~20A ×2
Discharging current: 0.2~1.5A ×2
Balance current: 1.5A/Cell Max
Max. charging power: AC 200W / DC 500W ×2
Max. discharging power: 15W ×2
Supported battery types and cell count: LiFe, LiIon, LiPo 1~8S; LiHv, ULiHv 1~7S;Pb 1~14S; NiMH/Cd 1~18S
USB-C1: PD 65W

Parallel charging power/current:800W/30A
Parallel discharging power/current: 30W/3A
Abnormal voltage alarm: Support
Incorrect cell count setting alarm: Support
Support Working temperature: 0~40℃
Storage temperature: -20~60℃
Dimension: 133×126×57.7mm
Weight: Approximately 776g

USB-C2: PD 65W

🔖 Key operation instructions (under standby interface)

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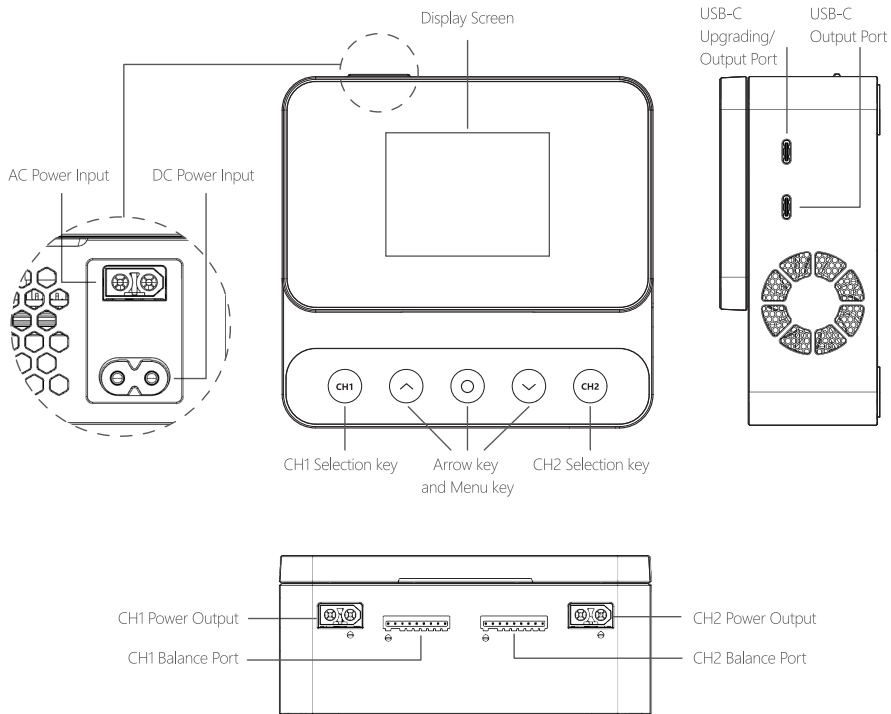CH2 Menu key: Short press to enter the CH2 detailed parameter interface, long press to enter the CH2 task setting menu.
Long press the CH1 and CH2 Menu keys at the same time: Enter the advanced settings menu.

🔖 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	✕	✔	1~18S	20.0A
Pb	2.00V	2.40V	✕	1.90V	✕	✔	1~14S	20.0A
LiFe	3.20V	3.65V	3.30V	2.90V	✔	✔	1-8S	20.0A
LiIon	3.60V	4.10V	3.70V	3.20V	✔	✔	1-8S	20.0A
LiPo	3.70V	4.20V	3.80V	3.30V	✔	✔	1-8S	20.0A
LiHv	3.80V	4.35V	3.85V	3.40V	✔	✔	1-7S	20.0A
ULiHv	3.90V	4.45V	3.90V	3.50V	✔	✔	1-7S	20.0A

Display Screen

USB-C Upgrading/ Output Port

USB-C Output Port

AC Power Input

DC Power Input

CH1 Selection key

Arrow key and Menu key

CH2 Selection key

CH1 Power Output

CH2 Power Output

CH1 Balance Port

CH2 Balance Port

🔖 How to Confirm 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 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*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. 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.

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🔖 Operating the Charger

Task	Charge, Discharge, Destroy, Storage
Battery	LiHv、LiPo、LiIon、LiFe、Pb、NiMh/Cd、ULiHv
Battery and cell count	LiFe,LiIon,LiPo (1~8S) ; LiHv,ULiHv (1~7S) ; Pb (1~14S) ; NiMH/Cd (1~18S)
Current	0.2~20.0A

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: 0.2~20.0A The battery type, cell count and charging current are auto set accordingly when connecting with BattAir battery.

Discharge

Current setting range: 0.2~1.5A

The battery type, cell count and discharging current are auto set accordingly when connecting with BattAir battery.

Destroy

Connect the battery to be scrapped, and select the scrap function in task options, which is capable to discharge the battery to 0V. Current setting range: 0.2~1.5A; The battery type and cell count are auto set accordingly when connecting with BattAir battery.

Storage

Current setting range: 0.2~20.0A The battery type, cell counts, and storage current are auto set accordingly when connecting with BattAir battery.

Working parameter display

During charging, you can switch channels to read charging or battery information simply by pressing the channel button. Voltage, Internal resistance of each cell, battery temperature and charging mode are display.

Note:

Cell Voltage and internal resistance are displayed only in balanced charging mode.

BattAir information is displayed only when BattAir Batteries are connected, the voltage of each cell can be displayed without connecting the balance port. The Charging preset and storage current is automatically set according to BattAir information or to be tweak via the BattAir App.

📑 **Advanced Settings**

Under the standby interface, long press the CH1 and CH2 button at the same time to enter the advanced setting menu:

Dual task

Select this setting, the charger will charge/discharge/store 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

The charger CH1 or Ch2 is equivalent to a DC power supply when selecting this function, with output voltage adjustable from 2 to 30V, and current adjustable from 1.0 to 5.0A.

Parraled 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.
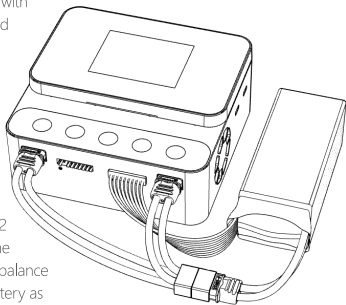
DC power (CH1)

The charger CH1 is equivalent to a DC power supply when selecting this function, with output voltage adjustable from 2 to 30V, and current adjustable from 1.0 to 5.0A.

System Setting Menu

Under the Advanced Settings menu, select the system setting into the system setting menu as follows:

Min. input voltage protection: 10~31V

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: 100~1200W

If the input power is smaller than the max working power(1000W), 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.

USB Charge

When this item is set to "Off", and TYPE-C is the upgrade port.

When this item is set to "On", TYPE-C acts as a USB charging port and outputs 5V/2A power.

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.

Keep trickle

After charging is complete, choose whether to continue trickle charging.

The trickle charge function is enabled to maintain the lithium battery voltage in a fully charged state, this function is enabled by default.

BattAir

When the corresponding channel (CH1 output, CH2 output, Power input) connect to a BattAir battery, you could read this and modify the related parameters of BattAir battery.

System Self-test

removing all battery connections from CH1 and CH2, select this option for system self-test.

CH1/CH2 Voltage Calibration

Select this option to calibrate the input voltage, output voltage, and balance port voltage of the charger.

Wireless conection

Open the "ISD Link" app, click "+" in the upper right corner to search, select the corresponding device in the list, and follow the prompts to successfully operate on the charger and connect wirelessly. After establishing a wireless connection with the mobile terminal, you can view the detailed parameters or set tasks through the mobile terminal.

ISD
Link

App Download

*All product photos, statements and literature are for reference only. For up—to—date information, please visit our official web www.isdt.co
SHENZHEN ISD TECHNOLOGY CO. LTD
ISDT reserves the right of final explanation and revision for the terms.

K2 ZiP

AC/DC双通道智能充电器

用户手册

感谢您购买ISDT K2 zip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放充电特性及规格，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：K2 zip

输入电压范围：AC 100~240V / DC 10~34V

最大输入电流：DC 35A

输出电压范围：DC 1~34V

充电电流：0.2~20A ×2

放电电流：0.2~1.5A ×2

平衡电流：1.5A/Cell Max

最大充电功率：AC 200W / DC 500W ×2

最大放电功率：15W ×2

支持电池类型及串数：LiFe, LiIon, LiPo 1~8S; LiHv,ULiHv 1~7S;
　　　　　　　　　　Pb 1~14S; NiMH/Cd 1~18S

并行充电功率及电流：800W/30A

并行放电功率及电流：30W/3A

电池电压异常报警：支持

串数设定错误报警：支持

工作温度：0~40℃

USB-C1：PD 65W
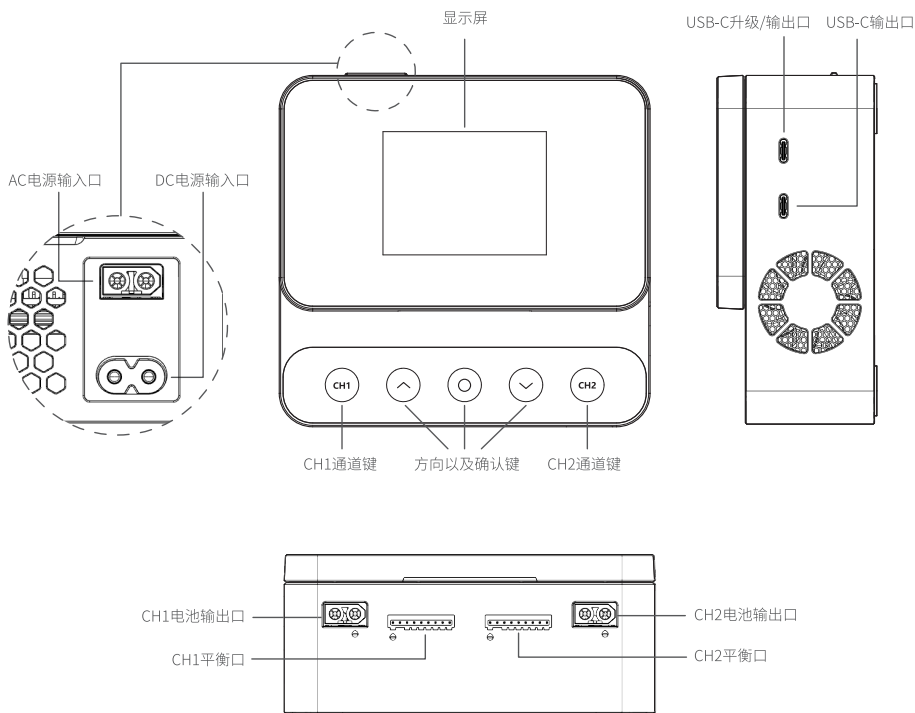
USB-C2：PD 65W

存储温度：-20~60℃

尺寸：133×126×57.7mm

重量：约776g

按键操作说明 (待机界面下)

CH1确认键：短按进入CH1详细参数界面，长按进入CH1任务设置菜单。

CH2确认键：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。

显示屏

USB-C升级/输出口　USB-C输出口

AC电源输入口

DC电源输入口

CH1通道键　　方向以及确认键　　CH2通道键

CH1电池输出口

CH1平衡口

CH2电池输出口

CH2平衡口

充电器预设电池类型及任务参数

	额定电压	满充电压	存储电压	放电电压	平衡充	非平衡充	支持串数	最大充电电流
NiCd/MH	1.20V	1.40V	✗	0.90V	✗	✓	1~18S	20.0A
Pb	2.00V	2.40V	✗	1.90V	✗	✓	1~14S	20.0A
LiFe	3.20V	3.65V	3.30V	2.90V	✓	✓	1~8S	20.0A
LiIon	3.60V	4.10V	3.70V	3.20V	✓	✓	1~8S	20.0A
LiPo	3.70V	4.20V	3.80V	3.30V	✓	✓	1~8S	20.0A
LiHv	3.80V	4.35V	3.85V	3.40V	✓	✓	1~7S	20.0A
ULiHv	3.90V	4.45V	3.90V	3.50V	✓	✓	1~7S	20.0A

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:1000×5=5000mA=5A,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≧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,长按相应通道的中间菜单确认键进入任务设定菜单,菜单项如下:

任务	充电,放电,存储,销毁电池
电池类型	LiHv、LiPo、LiIon、LiFe、Pb、NiMh/Cd、ULiHv
电池串数	LiFe, LiIon, LiPo(1~8S); LiHv, ULiHv(1~7S); Pb (1~14S) ; NiMH/Cd (1~18S)
电流设置	0.2~20.0A

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0.2A~20.0A。当连接BattAir电池时,电池类型、串数以及充电电流根据BattAir信息自动设定。

放电

电流设定范围为0.2A~1.5A。当连接BattAir电池时,电池类型、串数以及放电电流根据BattAir信息自动设定。

销毁电池

连接需要报废的电池，在任务选项中选择报废功能，可将电池放电至0V。

电流设定范围为0.2A~1.5A。当连接BattAir电池时，电池类型和串数根据BattAir信息自动设定。

存储

电流设定范围为0.2A~20.0A。当连接BattAir电池时，电池类型、串数以及存储电流根据BattAir信息自动设定。

工作参数显示

工作中可以通过按键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、BattAir信息、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。

连接BattAir电池才会显示BattAir信息，且不用连接平衡口也可以显示各电芯电压。存储电流根据BattAir信息自动设定。

高级设定

待机界面下，同时长按左右两边两通道菜单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/放电/存储。

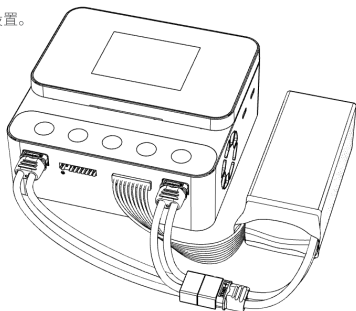将充电器接通电源并接上电池，在高级设置菜单中选择该项进行双通道任务参数设置。

直流电源

选择该项，充电器的CH1或CH2将成为一个直流电源。

输出电压为2~30V可调，电流为1.0~5.0A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。

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

该项可设置最低输入电压限制值。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任务并提示输入电压过低。设定范围10~31V。

最大输入功率

该项可设置最大输入功率限制值。当连接的输入电源达不到充电器的最大工作功率(1000W)要求时,为了保护输入电源以及使充电器稳定工作,需根据电源的实际输出能力设定此参数。设定范围为100~1200W。

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。

持续涓流

该项可选择充电完成后是否继续进行涓流充电,涓流充电功能开启可以维持锂电池电压处于满充状态本功能默认开启。

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。

CH1/CH2电压校准

选择该项,可校准充电器的输入电压,输出电压和平衡口电压。

无线连接

打开"ISD Link"App,点击右上角"+"进行搜索,在列表中选择对应的设备,根据提示在充电器上操作成功并进行无线连接。

与移动端建立无线连接后,可通过移动端查看详细参数或设置任务。

ISD
Link
App下载