P20 双通道
智能充电器

用户手册

P20
SMART CHARGER

感谢您购买ISDT P20 智能平衡充电器。

欢迎您登录至斯特官方网站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&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书配警告。

- 不要在无人值守的情况下使用充电器，如充电器出现任何问题请立即使用并关闭请勿触碰器皿。
- 确保充电器远离太阳、潮湿、雨水指涮、避免阳光直射及强烈振动。
- 请将充电器放置于阶热、不长期及维给的表面、地毯等表面以防止内使用。
- 请确保粉感、易爆作物品远离充电器操作区域。
- 确保您已充分了解所使用电池的放电特性及规格，并在充电前中设置当前的充电参数。
  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。
- 充电器与充电时间的参考来算，充电时间约60分钟/充电需（例如使用1C充电，充电完成时间大约需要60~70分钟），由于电池特殊性的差异，此时间有可能会有所延长。

📋 产品规格

型号：P20
输入电压范围：DC 10~34V
输出电压范围：DC 1~34V
最大输入电流：35A
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
最大放电功率：15W ×2
最大充电电流：500W ×2
直流电源：2~30V/1~5A
支持电池类型&容量：LiFe,LiIon,LiPo 1~8S; LiHv 1~7S; Pb 1~12S; NiMH/Cd 1~16S

并行充电功率&电流：800W/35A
并行放电功率&电流：30W/3A
工作温度：0~40℃
存储温度：-20~60℃
电池充电异常保护：支持
串数设定错误报警：支持
尺寸：105×105×47mm
重量：约350g

🔌 接口 / 按键

CH1电池输出口 — CH1平衡口 — 显示屏 — CH1通道选择及方向键 — CH2平衡口 — CH2电池输出口

USB·CR级口 — 风扇散热口 — 电源输入口
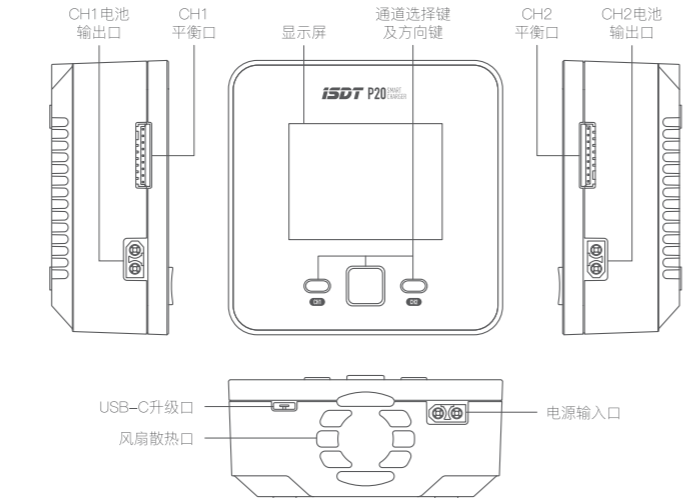
🔘 按键操作说明（待机界面下）

CH1菜单键：短按进入CH1详细参数界面，长按进入CH1任务设置菜单。
CH2菜单键：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菜单键：进入高级设置菜单。

⚡ 如何确定充电流

在充电前必须充了解清楚所用电池电流的最大充电电流。使用过大的电流对电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量变增大、电流危及电池，一般以C数来标记。
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，那么最大充电流是：1000×5=5000mA=5A。也就是最大支持5A充电。不可超过这范围。如果无法确定电池充电能力，为了安全起见请将电池充流设定在不大于1C的值。
充电C数与充电的说参数考来多。充电时间约60分钟/充电次（例如使用1C充电，充电完成时间大约需要60~70分钟），由于电池特殊性的差异，此时间有可能会有所延长。

⚙ 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	✕	1.10V	✕	✓	1~16S	20.0A
Pb	2.00V	2.40V	✕	1.90V	✕	✓	1~12S	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

📝 任务设定

将充电器与电源连接好，待机状态下，长按对应通道菜单键进入任务设定菜单，菜单项如下：

并行任务选择
选择项功能。可将整批最大功率输出电流到同一个电池上。
需使用一条一出二的线材，一端连接电池。
另外两端连接接电电池的电路输出口。
电池平衡口连接在充电器一平衡口即可。
将充电器接通电源后，并按需求接上电池。
在高级设置菜单中选择该项进行任务参数设置。
并行充电流设定范围为20~80A。
并行放电流设定范围为1.5~3A。

任务	充电、放电、平衡、锁存电流
电池类型	LiHv、LiPo、LiIon、LiFe、Pb、NiMH/Cd
电池串数	LiFe,LiIon,LiPo (1~8S); LiHv (1~7S); Pb (1~12S); NiMH/Cd (1~16S)
电池设置	0.2~20A

🔋 充电

对于锂电池，强烈建议用户基端口C充电充电，以确保充电器能准确定测每个电池的电压，并对不一致的电芯进行单独修补。如使用非平衡模式连接电池充电U只有充时，充电器在充任务即会有相应的报警提示。
电流设定范围为0.2~20A。当连接BattGo电池时，电池类型、串数以及充电流根据BattGo信息自动设定。

放电

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

存储

电流设定范围为0.2~20A。当连接BattGo电池时，电池类型、串数以及存储电流根据BattGo信息自动设定。

锁回电池

连接需要活回的电池，在任务选择中选择接项功能，可将电池放至放置Vx。
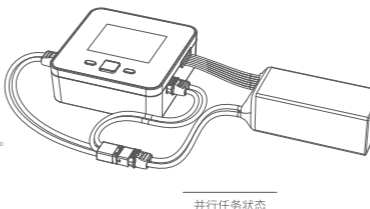电流设定范围为0.2~20A。当连接BattGo电池时，电池类型和串数根据BattGo信息自动设定。

工作参数显示

工作中用力方便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、BattGo信息、SmartPower信息、工作参数。其中电芯电压为当前所选择的单个电芯电压，内阻只在连接平衡口时显示。连接BattGo电池才会显示BattGo信息，且在连接非平衡口的情况下也可显示各电芯电压。

🔧 高级设定

待机界面下，同时长按左右两边通道菜单键进入高级设置菜单，菜单项如下：

并行任务选择

并行任务状态

🔋 双通道任务选择

选择项状，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，将充电器连通电源并接上电池，在高级设置菜单中选择该项任务进行双通道任务参数设置。

直流电源

选择该项，充电器的输出DC1将作为一个直流电源，输出电压为2~30V可调，电流为1.0~5.0A可调。

🔍 系统自检

选择此项，充电器自行检测硬件，输出电压和平衡口电压。

系统自检

在标准DC1及CH2所有电池连接好，选择该项进行系统自检操作。

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。

📋 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。当使用电动作为输入电源时，此项设置可以保护电池不会过放电。当充电器检测到输入电压低于设定值，将立即停止所有任务切保护输入端电压。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。设置设定最大输出流来匹配所输入的工作功率（800W）要求时。为了保护输入电流以及使充电器稳定工作，将根据充电的实际输出能力设定此参数。设定范围为100~1100W。

BattGo
当打开BattGo（CH1输出、CH2输出、电源端入）连接BattGo电池时，可通过此项查询及传取BattGo电池参数。

主题
选择该项，可设置有颜色为明亮/暗淡。

持续清流
该项可选择在电或成后是否继续进行满流充电，满流充电功能开启可以维持锂电池充电况于于满充状态。
本功能默认开启。

音量
音量设置有高、中、低及关闭四个选项。当设定为"关"时，将关闭提作提示声，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自动切换至双通道（分屏）参数界面。而可选择"关"，将自动分屏功能关闭。

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www.isdt.co

P20 DUAL CHANNEL SMART CHARGER

USER GUIDE

Thanks for purchasing the ISDT P20 Smart Charger.

Please visit: 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.
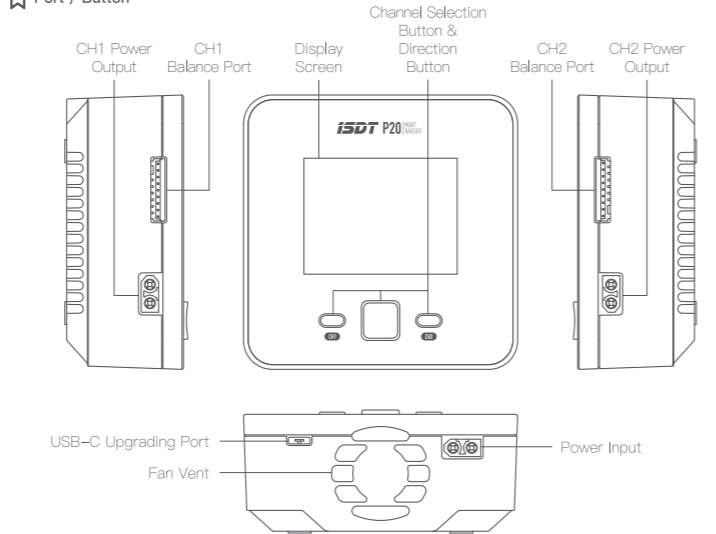
- Never use the charger without supervision, please stop using the charger and refer to the manual for reasons if any functional abnormity.
- Keep the charger away from dust, humidity, rain and high temperature, as well as avoid direct exposure to the sunlight and intense vibration.
- Place the charger 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.

🛈 Specifications

Model No: P20	Parallel charging power/current: 800W/35A
Input voltage: DC 10–34V	Parallel discharging power/current: 30W/3A
Output voltage: DC 1–34V	Working temperature: 0–40℃
Max. input current: 35A	Storage temperature: –20–60℃
Charging current: 0.2–20A ×2	Abnormal voltage alarm: Support
Discharging current: 0.2–1.5A ×2	Incorrect cell count setting alarm: Support
Balance current: 1.5A/Cell Max	Dimension: 105x105x47mm
Max. discharging power: 15W ×2	Weight: About 350g
Max. charging power: 500W ×2	
DC power supply: 2–30V/1–5A	
Supported battery types and cell count: LiFe,LiIon,LiPo 1–8S; LiHv 1–7S; Pb 1–12S; NiMH/Cd 1–16S	

🛈 Port / Button

- CH1 Power Output
- CH1 Balance Port
- Display Screen
- Channel Selection Button & Direction Button
- CH2 Balance Port
- CH2 Power Output

- USB–C Upgrading Port
- Fan Vent
- Power Input

🛈 Key operation instructions (under standby interface)

CH1 Channel selection button: Short press to enter the CH1 detailed parameter interface, Long press to enter the CH1 task setting menu.

CH2 Channel selection button: Short press to enter the CH2 detailed parameter interface, Long press to enter the CH2 task setting menu.

Long press the CH1 and CH2 button at the same time: Enter the advanced settings menu.

🛈 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 1000 mAh battery with a charging capacity of 5C, the maximum charging current would be 1000*5= 5000mA; 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 >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.

🛈 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	✕	1.10V	✕	✓	1–16S	20.0A
Pb	2.00V	2.40V	✕	1.90V	✕	✓	1–12S	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

🛈 Operating the Charger

Power on smart charger, connect the battery, and long press the corresponding channel selection button to enter the task setting menu as follows:

Task	Charge, Discharge, Destroy, DC power supply, Storage
Battery	LiHv、LiPo、LiIon、LiFe、Pb、NiMH/Cd
Battery and cell count	LiFe,LiIon,LiPo (1–8S)；LiHv (1–7S)；Pb (1–12S)；NiMH/Cd (1–16S)
Current	0.2–20A

🛈 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 will before start charging lipo if in non–balance mode (no connecting with balance port). Current setting range: 0.2–20A. The battery type, cell count and charging current are auto set accordingly when connecting with BattGo battery.

🛈 Discharge

Current setting range: 0.2–1.5A. The battery type, cell count and discharging current are auto set accordingly when connecting with BattGo battery.

🛈 Storage

Current setting range: 0.2–20A. The battery type, cell count and storage current are auto set accordingly when connecting with BattGo battery.

🛈 Destroy

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

🛈 Charging Screen

Press the direction button to shift the charging information, as cell voltage, cell internal resistance, BattGo information, working parameter. The cell voltage and internal resistance are only on display in balancing charging mode.The BattGo information will be displayed only when connected to the BattGo battery, and the cell voltage is able to be displayed without connected to the balance port.
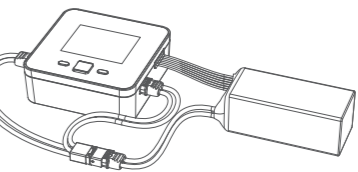
🛈 Advanced Settings

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.

Parallel 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.

Parallel charging

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 setting 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: 100–1100W

If the input power is smaller than the max working power(800W), 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.

BattGo

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

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.

Theme

Select this option to set the background color to bright/dark.

Continuous 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.

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.