

# SD1说明书



Touch screen charge management system

INSTRUCTION MANUAL



website : [www.ev-peak.com](http://www.ev-peak.com)

EV-PEAK ELECTRONIC TECHNOLOGY(HK)CO.,LTD

Model : SD1

INSTRUCTION MANUAL

## Performance Parameter

Input voltage	[DC]	11.0V~32.0V
	[AC]	100~240V
Charge current	[A]	0.1~30.0A
Discharge current	[A]	0.1~30.0A
Charge power	[W]	DC Input:500Wx2 AC Input:300Wx2
Discharge power	[W]	30Wx2 Regeneration discharge:Max.300W
Balance current	[mA]	1A
Balance tolerance	[V]	±0.01V
Charging Capability	NiCd/NiMH	1~15cells
	Li-Po, Li-Ion, Li-Fe	1-6cells
Pb battery voltage	[V]	2~24V
Weight	[g]	2850g
Dimensions	[mm]	213x206x141mm

材质：80G书纸

颜色：单黑双面印刷

折法：风琴四折+对折

料号：B0901-SSD21-01

成品尺寸：104X150mm

		产品部 2016.03.30 张莹莹
核准	确认	平面设计
EV-PEAK 深圳市永航新能源技术有限公司 永航新能源 — 让梦想腾飞		



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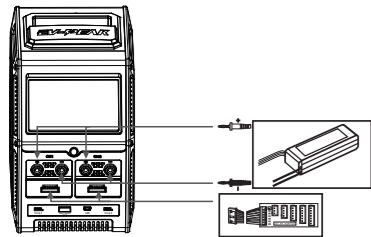
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## Performance Parameter

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## Connection

Connection diagram in the balance charging /storage/discharge mode

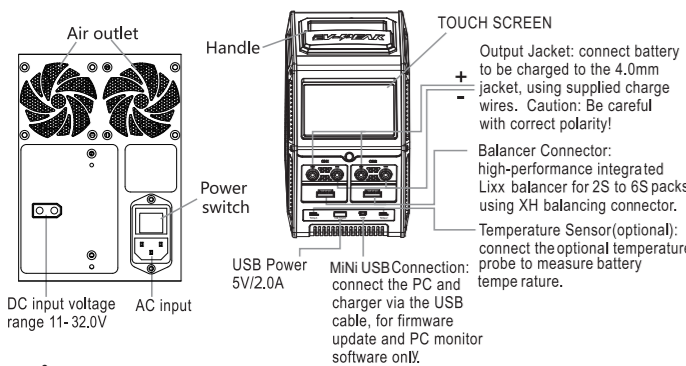


WARNING: Read the ENTIRE instruction manual to become familiar with the features of the product before operating.

WARNING: Never leave charger unattended, exceed maximum charge rate, charge with non-approved batteries or charge batteries in wrong mode. Failure to comply may result in excessive heat, fire and serious injury.

CAUTION: Always ensure the battery you are charging meets the specifications of this charger and that the charger settings are correct. Not doing so can result in excessive heat and other related product malfunctions, which can lead to user injury or property damage.

### Exterior:



CAUTION: Always power on the charger before connecting a battery to the charger, or damage to the charger and the battery can result.

1. Connect charger to power source.
2. Make program selections in the charger for battery charging.
3. Connect balance adapters to charger.
4. Connect battery to charger adapters (connect main charging connectors before connecting cell-balancing connectors)
5. Start battery charging.

## Charging Warnings

WARNING: Failure to exercise caution while using this product and comply with the following warnings could result in product malfunction, electrical issues, excessive heat, FIRE, and ultimately injury and property damage.

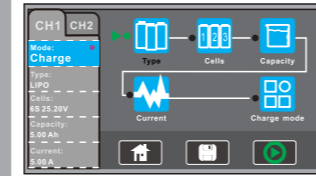
1. Never leave the power supply, charger and battery unattended during use.
2. Never attempt to charge dead, damaged or wet battery packs.
3. Never attempt to charge a battery pack containing different types of batteries.
4. Never allow children under 14 years of age to charge battery packs.
5. Never charge a battery in extremely hot or cold places or place in direct sunlight.
6. Never charge a battery if the cable has been pinched or shorted.
7. Never connect the charger if the power cable has been pinched or shorted.
8. Never connect the charger to an automobile 12V battery while the vehicle is running.
9. Never attempt to dismantle the charger or use a damaged charger.
10. Never connect the input jack(DC input ) to AC power.
11. Always use only rechargeable batteries designed for use with this type of charger.
12. Always inspect the battery before charging.
13. Always keep the battery away from any material that could be affected by heat.
14. Always monitor the charging area and have a fire extinguisher available at all times.
15. Always end the charging process if the battery becomes hot to the touch or starts to change form (swell) during the charge process.
16. Always connect the charge cable to the charger first, Then connect the battery to avoid short circuit between the charge leads. Reverse the sequence when disconnecting.
17. Always connect the positive red leads(+) and negative black leads(-) correctly.
18. Always disconnect the battery after charging, and let the charger cool between charges.
19. Always charge in a well-ventilated area.
20. Always terminate all processes and contact local dealer if the product malfunctions.

WARNING: Never leave charger unattended, exceed maximum charge rate, charge with non-approved batteries or charge batteries in the wrong mode. Failure to comply may result in excessive heat, fire and serious injury.

CAUTION: Always ensure the battery you are charging meets and specifications of this charger and that the charger settings are correct. Not doing so can result in excessive heat and other related product malfunctions, which can lead to user injury to property damage.

## Charging a battery

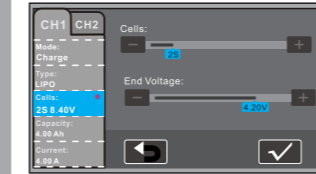
Make sure that the battery is properly connected to the charger, charge leads and balancing connector(if available) and that the parameters are compatible with your battery



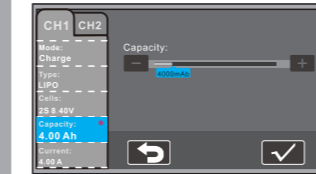
Press the "Charge" button in the main screen



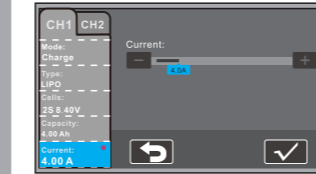
Choose the battery type



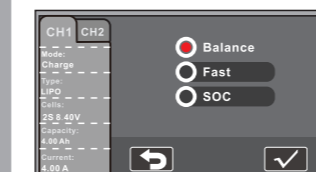
Set the battery cell count



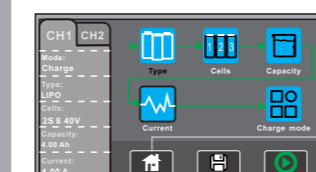
Set the battery capacity



Set the charge current the maximum possible charge current is calculated using various factors such as battery type, power supply and parameters in advanced settings. The default maximum charge power is 300W



Set the charge mode There are 3 charging modes: balance, fast and SOC. "Balance" means balance charging, "Fast" means non-balance charging, "SOC" means smart overcharge function, for 2S and 4S LiPo battery only, for 2S LiPo battery, it will overcharge to total voltage of 8.5V and then discharge to 8.4V, for 4S LiPo battery, it will overcharge to total voltage of 17V and then discharge to 16.8V.



Press the " " button to start charging Press it to back to the main screen Press it to save the settings for battery memory

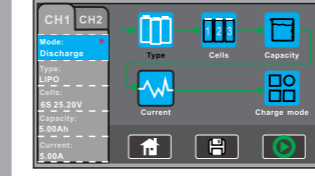


Charging screen If no problems are detected, the charge screen will appear, indicating the current status of the battery

- V:24.76V Total voltage
- A:2.39A Charge/discharge current
- Cap:180mAh Capacity
- InTemp:33C Inner temperature
- ExtTemp:9C External temperature
- Average:4.18V Average cell voltage
- MaxDiff:16mV Voltage difference
- TimeLeft:278m Time left to finish
- Press this " " button to stop the process
- Press the + button to enlarge the curve view
- Press the - button to zoom the curve view
- 100% Shows how many percent of capacity it has charged/discharged
- Press here to check the cell voltage or cell internal resistant

## Discharging a battery

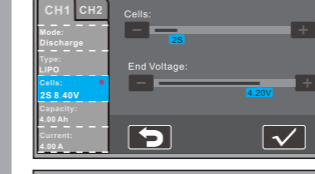
Make sure that the battery is properly connected to the charger, charge leads and balancing connector(if available) and that the parameters are compatible with your battery



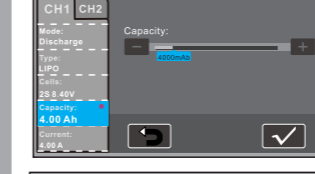
Press the "Discharge" button in the main screen



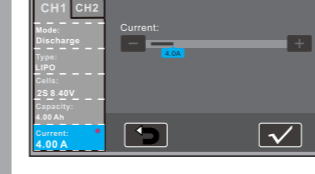
Choose the battery type



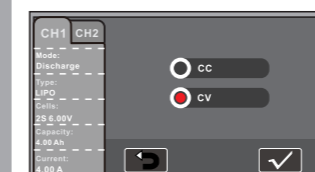
Set the battery cell count



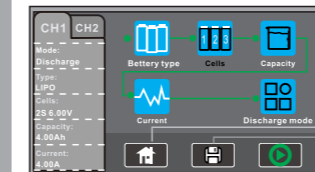
Set the battery capacity



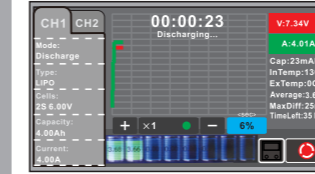
Set the discharge current the maximum possible discharge current is calculated using various factors such as battery type, power supply and parameters in advanced settings. The default maximum discharge power is 30W Press the " " button to start discharging



Set the discharge mode



Press it to back to the main screen Press it to save the settings for battery memory Press the " " button to start charging



Discharging screen If no problems are detected, the charge screen will appear, indicating the current status of the battery

- V:24.76V Total voltage
- A:2.39A Charge/discharge current
- Cap:180mAh Capacity
- InTemp:33C Inner temperature
- ExtTemp:9C External temperature
- Average:4.18V Average cell voltage
- MaxDiff:16mV Voltage difference
- TimeLeft:278m Time left to finish
- Press this " " button to stop the process
- Press the + button to enlarge the curve view
- Press the - button to zoom the curve view
- 10% Shows how many percent of capacity it has charged/discharged
- Press here to check the cell voltage or cell internal resistant

## Cycling a battery

Battery cycling will make a charge/discharge cycles to your battery, this is useful to restore its performance after long periods of storage for example. The cycling function uses the same parameters as those that have been setup for charge or discharge

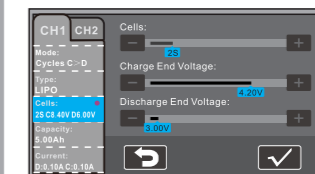
1) Connect the battery



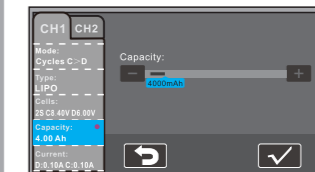
Make sure that the battery is properly connected to the charger, charge leads and balancing connector(if available) and that the parameters are compatible with your battery

2) Press the CYCLE button in main screen

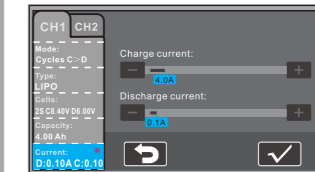
3) Set the battery type



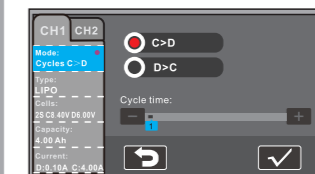
4) Set the battery cell count, charge end voltage and discharge end voltage



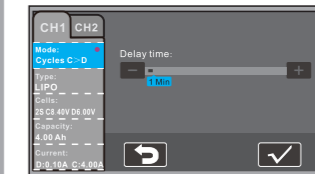
5) Set the battery capacity



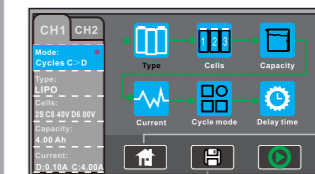
6) Set the charge current and discharge current



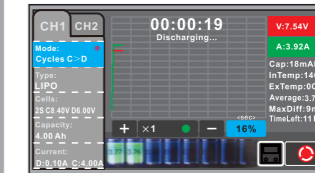
7) Set the cycle mode and cycle numbers



8) Set the delay time



9) Press the " " button to start cycling Press it to back to the main screen Press it to save the settings for battery memory



10) Cycling screen

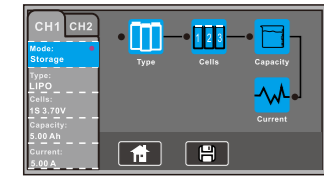
- V:24.76V Total voltage
- A:2.39A Charge/discharge current
- Cap:180mAh Capacity
- InTemp:33C Inner temperature
- ExtTemp:9C External temperature
- Average:4.18V Average cell voltage
- MaxDiff:16mV Voltage difference
- TimeLeft:278m Time left to finish
- Press this " " button to stop the process
- Press the + button to enlarge the curve view
- Press the - button to zoom the curve view
- 10% Shows how many percent of capacity it has charged/discharged
- Press here to check the cell voltage or cell internal resistant

## Battery Storage

This function will charge or discharge the battery to an optimal level to limit potential damage to the battery due to storage. it will either charge or discharge the battery.

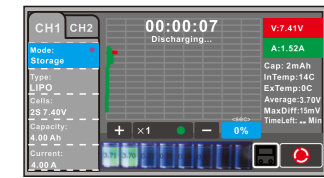
1) Connect the battery

Make sure that the battery is properly connected to the charger, charge leads and balancing connector(if available) and that the parameters are compatible with your battery



2) Press the STORAGE button in the main screen

3) Set the battery type, cell count, capacity and charge/discharge current in this screen



4) Press the "Start" button to start  
5) Storage screen

- V: 34.76V Total voltage
- A: 2.38A Charge/discharge current
- Cap: 180mAh Capacity
- InTemp: 33C Inner temperature
- ExtTemp: 9C External temperature
- Average: 4.12V Average cell voltage
- MaxDiff: 16mV Voltage difference
- TimeLeft: 270min Time left to finish
- Press this "Stop" button to stop the process
- Press the + button to enlarge the curve view
- Press the - button to zoom the curve view
- Shows how many percent of capacity it has charged/discharged
- Press here to check the cell voltage or cell internal resistant

## Battery Meter

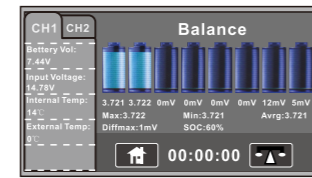
This function is meant for LiPo, LiFe or LiIon batteries. You can use this function to check the current charge status of your batteries. If the battery is unbalanced the charger will equalize the cell's voltage

1) Connect the battery

Make sure that the battery is properly connected to the charger, charge leads and balancing connector(if available) and that the parameters are compatible with your battery

2) Press the METER button in main screen

Charger will detect the voltage of each cells



Press the "Start" button to start balancing

Press the "Home" button to back to the main screen

The highest cell voltage

The lowest cell voltage

Average cell voltage

Voltage difference

Capacity

## Warning and error messages

The SD1 is protected against faults and operator errors by the Multi-Protection-System. Faults/Errors are displayed on the LCD screen and they interrupt the active process to protect the unit and the battery.



No errors!

Battery polarity reverse!

Not connected!

Output short!

Low input voltage!

High input voltage!

Total voltage too low!

Total voltage too high!

Single cell voltage too low!

Single cell voltage too high!

Balance port not connection!

Battery type not support the balance!

The battery cells do not correspond with the set cells

Balance order connection error!

Inside temperature is too high!  
Inside temperature is so hot!

External temperature is too high!  
External temperature is so hot!

Out voltage is too high!  
Out voltage too high!

Out voltage is too low!  
Out voltage too low!

Overload!

Calibrations fails!

Input battery connection error!

Communication failure!

No history data!

when check to the other channel is running, then Regenerative discharge could not work

Can't connect the battery in power supply mode

## Forming Charge

This function is meant for NiMH/NiCd batteries. For long time not used NiMH/NiCd batteries, you can use this function to activate or restore their capacity to be closed to the normal capacity value

1) Connect the battery

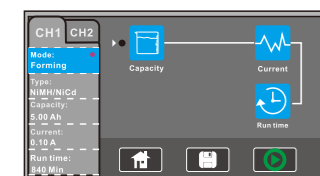
Make sure that the battery is properly connected to the charger, charge leads and balancing connector(if available) and that the parameters are compatible with your battery

2) Set the capacity, current and run time in this screen

3) Press the "Start" button to start

back home

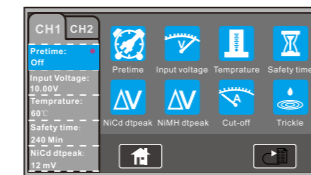
save the data



Press it to back to the main screen

Press it to save the settings for battery memory

## Setting Menu



1. Pretime: this is a function for slightly over-discharged batteries only. the charger can provide a short time charge with quite small current, to activate the battery.

2. Set the input cut-off voltage

3. Set the cut-off temperature, and the temperature unit

4. Set the safety timer

5. Set the delta peak for NiCd battery

6. Set the delta peak for NiMH battery

7. Set the charge termination current

8. Set the trickle current



1. Regenerative discharge

2. Set the melody

3. Set the back light of the screen

4. Set the user name

5. Set the language

6. Factory reset

7. Set the time and date

## After-sale service and guarantee

Thank you for purchasing this balance charger. We will do our best to provide you with a comprehensive after-sale service and protect your rights and interests.

We warrant this product for a period of one year from the date of purchase, if it has a quality problem itself, all guarantee will be free; In case customers can not provide an effective certificate of purchase, we will refer the date of machine's internal. If it is over one year since the purchase date, an appropriate cost will be charged, users need to bear the transportation cost back and forth. User disassembly, alteration, or damage caused by improper use, they should bear the maintenance and transport costs.

### COMPLIANCE INFORMATION FOR THE EUROPEAN UNION

Declaration of Conformity



Product(s):  
Item Numer(s):

Battery balance charger  
SD1

The object of declaration described above is in conformity with the requirements of the specifications listed below, following the provisions of the European EMC Directive 2004/108/EC

EN 55014-1:2006  
EN 55014-2:1997+A1:2001  
EN 61000-3-2:2006  
EN 61000-3-3:2008

### Instructions for disposal of WEEE by users in the European Union



This product must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of their waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.

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