

# electron

## Dual



**ECO**  
POWER

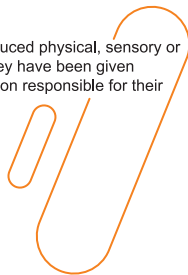


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**NOTICE:** This appliance is not intended for use by persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.



## NOTICE

All instructions, warranties and other collateral documents are subject to change at the sole discretion of EcoPower. Warranties apply only to the original owner and are non-transferable.

## MEANING OF SPECIAL LANGUAGE

**The following terms are used throughout the product literature to indicate various levels of potential harm when operating this product:**

**WARNING:** Procedures, which if not properly followed, create the probability of property damage, collateral damage, and serious injury OR create a high probability of superficial injury.


**CAUTION:** Procedures, which if not properly followed, create the probability of physical property damage AND a possibility of serious injury.

**NOTICE:** Procedures, which if not properly followed, create a possibility of physical property damage AND little or no possibility of injury.


**Age Recommendation: Not for children under 14 years. This is not a toy.**

**WARNING:** Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury.

This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. Do not attempt disassembly, use with incompatible components or alter product in any way without the approval of EcoPower. The package contains manual for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or serious injury.

 **DANGER: To reduce the risk of fire or electric shock, carefully follow these instructions.**

## GENERAL 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.

• **NEVER LEAVE CHARGING BATTERIES UNATTENDED DURING USE.**

• **NEVER CHARGE BATTERIES OVERNIGHT.**

- Never attempt to charge dead, damaged or wet battery packs.
- Never attempt to charge a battery pack containing different types of batteries.
- Never allow children under 14 years of age to charge battery packs.
- Never charge batteries in extremely hot or cold places or place in direct sunlight.
- Never charge a battery if the cable has been pinched or shorted.
- Never connect the charger if the power cable has been pinched or shorted.
- Never connect the charger to an automobile 12V battery while the vehicle is running.
- Never attempt to dismantle the charger or use a damaged charger.
- Never attach your charger to both an AC and a DC power source at the same time.
- Never connect the input jack (DC input) to AC power.
- Always use only rechargeable batteries designed for use with this type of charger in the correct programming mode.
- Always inspect the battery before charging.
- Always keep the battery away from any material that could be affected by heat.
- Always monitor the charging area and have a fire extinguisher available at all times.
- Always end the charging process if the battery becomes hot to the touch or starts to change form (swell) during the charge process.





- 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.
- Always connect the positive red leads (+) and negative black leads (–) correctly.
- Always disconnect the battery after charging, and let the charger cool between charges.
- Always charge in a well-ventilated area.
- Always terminate all processes and contact EcoPower if the product malfunctions.
- Charge only rechargeable batteries. Charging non-rechargeable batteries may cause the batteries to burst, resulting in injury to persons and/or damage to property.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.

**⚠ 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.

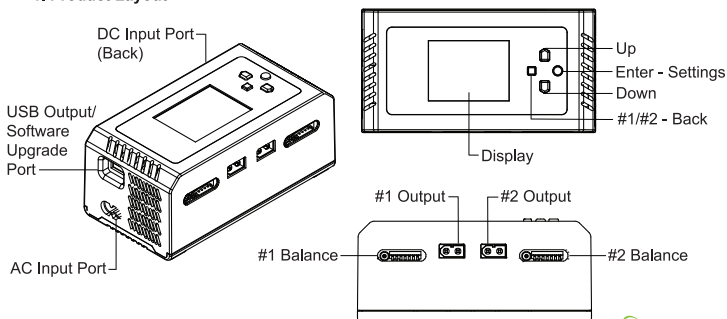
**⚠ CAUTION:** Always ensure the battery you are charging meets the specifications of this charger and that the charger settings are correct. Not doing so can result in excessive heat and other related product malfunctions, which can lead to user injury or property damage. Please contact EcoPower or an authorized retailer with compatibility questions.

## SAFETY INSTRUCTIONS

- Before using this product, please read the following safety instructions. Please follow each instruction to ensure your safety. Improper operation may result in serious injury to the user and/or property damage.
- Do not use the charger unattended, if there's any abnormality, please disconnect the power supply immediately;
- Keep the charger away from a humid environment and heat sources during use; please pay attention to proper ventilation, heat dissipation, and keep away from flammable materials at all times.
- Please set the charge and discharge parameters correctly. The wrong settings may cause accidents;
- Please check the equipment for damage before use. Do not use the device if it is damaged;
- Do not place metal debris in or on any parts of the charger, or it may cause damage to the device or injury to the user.
- This product is not a toy; do not allow children to operate the charger.
- After use, disconnect the power cord;
- Do not try to charge non rechargeable dry batteries;
- Please pay attention to the setting of the battery type when using; wrong settings may lead to serious injury to the user and/or property damage;
- Do not disassemble the product. There are no user serviceable parts inside.

## PRODUCT OVERVIEW

### 1. Product Layout



2. Product Parameters

Charger presets and adjustable ranges based on battery type

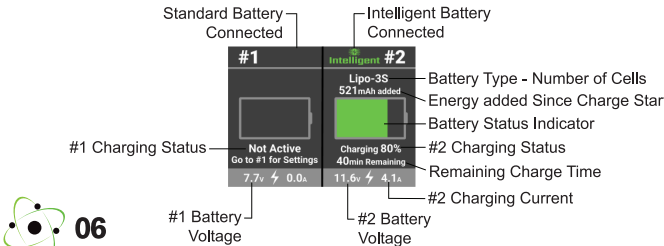
Cell type Assignment parameter	LiHv	LiPo	Li-Ion	LiFe
Rated voltage	3.8V	3.7V	3.6V	3.2V
Full charge voltage	4.35V Adjustable range (4.1-4.4V)	4.2V Adjustable range (4.0-4.25V)	4.1V Adjustable range (3.9-4.15V)	3.65V Adjustable range (3.4-3.7V)
Discharge voltage	3.7V Adjustable range (3.6-4.15V)	3.6V Adjustable range (3.5-4.0V)	3.5V Adjustable range (3.4-3.9V)	3.2V Adjustable range (2.9-3.4V)
Storage voltage	3.85V Adjustable range (3.75-3.95V)	3.8V Adjustable range (3.7-3.9V)	3.7V Adjustable range (3.6-3.8V)	3.3V Adjustable range (3.2-3.4V)
Balancing	3.8V Adjustable range (3.6-4.4V)	3.8V Adjustable range (3.5-4.25V)	3.8V Adjustable range (3.4-4.15V)	3.7V Adjustable range (2.9-3.7V)
ExtDischarge	YES	YES	YES	YES
SyncCharging	4.35V Adjustable range (4.1-4.4V)	4.2V Adjustable range (4-4.25V)	4.1V Adjustable range (3.9-4.15V)	3.65V Adjustable range (3.4-3.7V)
Support serial numbers	1-6S	1-6S	1-6S	1-6S
Maximum charging current	16A	16A	16A	16A
Digital Power	Target Votage: 5-29V    Target Current: 0.1-16V			

Product parameter table

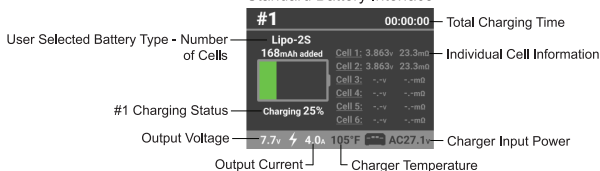
LCD Display	The 2.4 inch IPS screen	Maximum Charging power	AC300W (Smart Allocation) DC 2X350W
Channel	2	Balanced Serial Number	1-6S
Input Voltage	AC100-240V DC7-30V	Battery Type	LiPo/Li-Ion/LiHV/LiFe 1~6S
Output Voltage Range	DC 1~30V	Working Temperature	0~65 ℃
Max. Input Current	DC-34A	Storage Temperature	-20~60 ℃
Charging Current	0.1-16A *2	DC, Input, Interface	XT60PW-M
Balance Current	1.2A/Cell max *2	Output Joggle	XT60PW-M
Voltage Tolerance	Standard ±10mV	Product Size	145x76x62mm
Discharge Current	0.1-3A *2	Net Weight	Approx. 530g
Maximum Discharge Power	15W *2 (Main port 6W * 2, equilibrium port 9W * 2)		

OPERATION DESCRIPTION

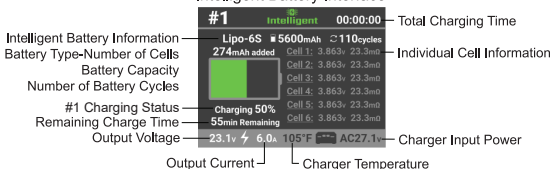
1. Interface Layout



## Standard Battery Interface



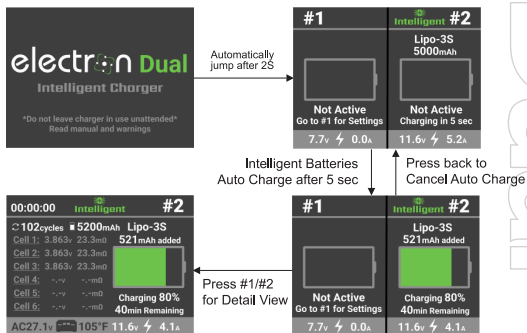
## Intelligent Battery Interface



## 2. Operating Procedures

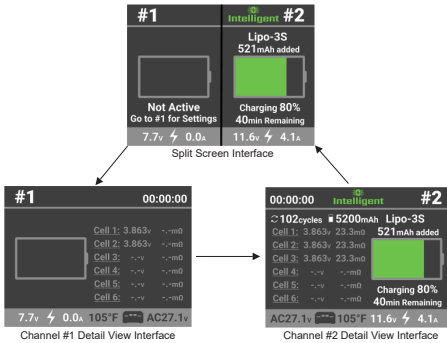
2.1 Connect the charger to the power supply, the product LOGO will display for about 2 seconds and then enter the split-screen display interface. After connecting the battery, the corresponding channel will display the battery information. When connected to a standard battery, only the pack voltage of the battery is displayed, as shown in channel #1. When connected to an Intelligent smart battery, full battery information will be displayed, as shown in channel #2 below.

After an Intelligent smart battery is connected, the charger will automatically obtain battery-related parameters. When it meets the automatic charging conditions, the corresponding channel will count down to indicate that it is about to enter automatic charging. At this time, short press the "Up"/"Down" button to restart the countdown (Unless otherwise specified, the following are short press buttons), the "#1/#2-Back" button cancels automatic charging, and the "Enter" button completes the timing to start charging.

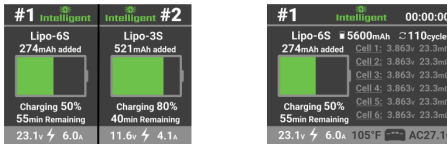


2.2 In the split-screen interface, short press the "#1/#2-Back" key to switch channels in turn; in the corresponding channel interface, short press the "Settings" key to enter the function setting interface;

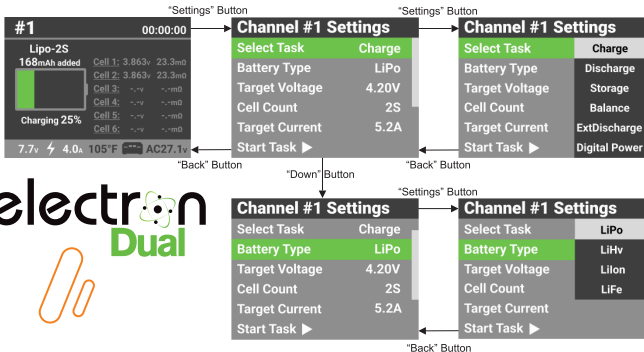
## Cycle from Split Screen View to Detail View Using “#1/#2-Back” Button



2.3 In the Split Screen Interface and the Detail View Interface the Up and Down buttons do not function because all of the available information is displayed.



2.4 Enter the Channel Settings by pressing the “Settings” button when in the Detail View interface of the desired channel. Adjust the charger settings and press Start Task to begin. When an Intelligent battery is connected, the battery type, target voltage and number of battery cells cannot be modified.



2.5 When charging a standard battery, pressing the “Enter-Settings” button gives the option to adjust the current or stop charging. Long pressing the “Enter-Settings” button from the channel detail view will stop the charging function.

#100:00:00

Lipo-2S168mAh added

Cell 1: 3.863v 23.3m0

Cell 2: 3.863v 23.3m0

Cell 3: ~v ~m0

Cell 4: ~v ~m0

Cell 5: ~v ~m0

Cell 6: ~v ~m0

Charging 25%

7.7v 4.0A 105°F AC27.1v

“Settings” Button

“Back” Button

Channel #1 Adjust Task

Adjust Current 5.2A

Stop

Back

#100:00:00

Cell 1: 3.863v 23.3m0

Cell 2: 3.863v 23.3m0

Cell 3: ~v ~m0

Cell 4: ~v ~m0

Cell 5: ~v ~m0

Cell 6: ~v ~m0

7.7v 0.0A 105°F AC27.1v

⚠️WARNING: Always check charging parameters before initiating the charge process. Charging any battery with improper settings, including charging a battery in the wrong mode, can result in property damage and fire.

⚠️WARNING: Always stop the charging cycle or remove power supplied to the charger if you notice any irregularities (like a swollen battery) during charging.

3. Channel Settings List

Channel #1 Settings

Select TaskCharge

Battery TypeLiPo

Target Voltage4.20V

Cell Count2S

Target Current5.2A

Start Task▶

Function setting list

Select task	Charge, Discharge, Storage, Balance, ExtDischarge, Digital Power, SyncCharge
Battery type	LiHV, LiPo, Li-Ion, LiFe
Battery voltage	Set the work completed voltage
Cell count	Set the series of battery
Target current	Set the maximum operating current
Start task	Start the work after the setting parameters are completed

3.1 Charging:

The charger is able to charge batteries with various chemistry. Before charging the battery, please check that the battery cables is correctly connected to the charger. If the cables are not correctly connected to the charger, the charger may not be able to charge. LiPo, LiHV, LiFe, Li-ion batteries must connect the balancing connector to a charger before charging. If the voltage of any cell in the battery pack is lower than 1.5V, the charger will not be able to charge. After the battery is connected to the charger, you need to select the corresponding battery connection channel to perform the relevant settings. The charger can set the type of battery, adjust the parameters such as charging cut-off voltage, charging current, etc. After the parameters are set, the charger will charge the battery to the preset voltage and balance it.

3.2 Discharging:

The charger is able to discharge batteries with various chemistry. Before discharging the battery, please check that the battery cables are correctly connected to the charger. If the cables are not correctly connected to the charger, the charger may not be able to discharge. LiPo, LiHV, LiFe, Li-ion batteries must connect the balancing connector to a charger before discharging. If the voltage of any cell in the battery pack is lower than cut-off voltage, the charger will not be able to discharge. After the battery is connected to the charger, you need to select the corresponding battery connection channel to perform the relevant settings. The charger can set the type of battery, adjust the parameters such as discharging cut-off voltage discharging current, etc. After the parameters are set, the charger will discharge the battery to the preset voltage and balance it.

3.3 Balance feature:

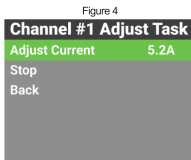
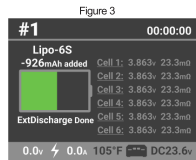
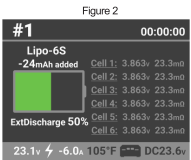
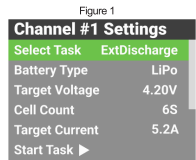
The Balance feature of the charger is used to equalize the voltage between the cells, and can be used to equalize the battery pack with a cell voltage difference greater than 10mV. If any cell of the battery pack is less than 1.5V, the battery will not be able to perform the balancing work. The charger can select the ending cut-off voltage in the interface of the balance mode. If the voltage of the cell is lower than this voltage value, the charger will charge the battery to this voltage and equalize. If the voltage of the cell is higher than this voltage, the charger will discharge the battery to this voltage and equalize.

3.4 ExtDischarge function introduction:

First, insert the battery that needs to be discharged into the DC input port of the charger. The discharge plug of the battery must be an XT60 plug. Then insert the discharger of the external load into the corresponding channel port. If a resistor is used as a load for discharge, the resistor will generate a lot of heat. Please pay attention to safety to avoid accidents or personal injury.

Work interface description:

- \* Set up at the interface shown in Figure 1:  
a. Select task   b. Battery Type   c. Battery voltage   d. Cell count   e. Target current (Max current)
- \* After starting the task, the working interface of the product is shown in Figure 2;
- \* When the external discharge is working, click the “Settings” button to enter the interface shown in Figure 4 to adjust the working current;
- \* After the discharge is completed, the product will enter the interface shown in Figure 3.

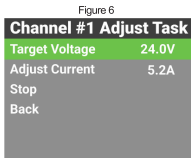
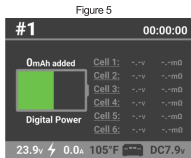


3.5 DigitalPower function introduction:

When the digital power supply function is selected, the entire charger is equivalent to an adjustable power supply, and the voltage and current of the output port can be set. The output port voltage can be set between 5-29V, and the current can be set between 0.1-16A. The output port cannot be short-circuited or overloaded, otherwise it will burn the product.

Work interface description:

After entering the work, the display is shown in Figure 5. Click the “Settings” button to enter the interface in Figure 6 to adjust the power supply voltage and current.



3.6 SyncCharging function introduction

The maximum output power of SyncCharge function is 500W (The power of the external DC input power supply needs to be more than 550W@20V to meet the max power output, but must be below 700W), and the adjustable range of charging current is 0.1A-23A. When charging, it is necessary to correctly connect the battery major connector and the balance connector to the charger.

Note: To use the Synccharging mode, you need to use a parallel charging cable (the charger does not include a parallel charging cable, you may need to purchase it separately), see the diagram below.

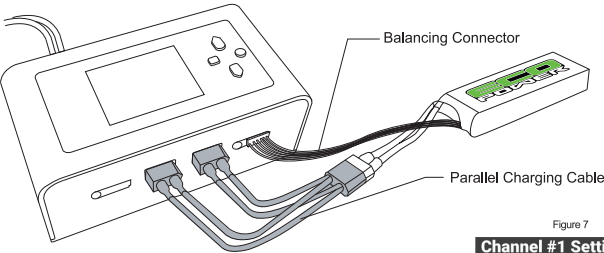


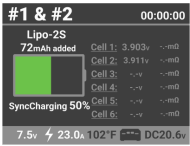
Figure 7

Work interface description:

- \* Set up at the interface shown in Figure 7:
  - a. Select task
  - b. Battery Type
  - c. Target voltage
  - d. Cell count
  - e. Target current (Max current)

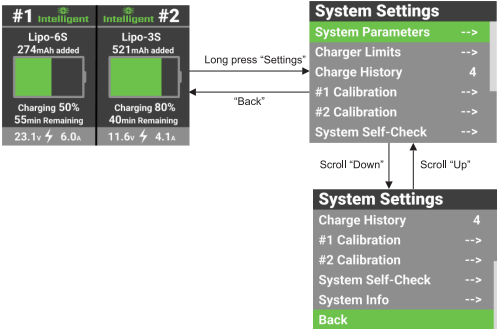
Channel #1 Settings	
Select Task	SyncCharge
Battery Type	LiPo
Target Voltage	4.20V
Cell Count	2S
Target Current	23.0A
Start Task	▶

\* The charging interface is as follows:



4. Device Settings

Long press the "Settings" button from the split screen interface to enter the Sytem settings.



## System Setting Menu

System Parameters	Max Input Power, Min Input Voltage, BackLight, Volume, Complete Tone, Factory Reset
Charger Limits	Safety Timer, Capacity Limit
#1 Calibration	
#2 Calibration	
System SelfCheck	Start the device self-test, Do not Connect Battery
System Info	Check device information
Return	Return to the home screen

## 5. Firmware Upgrade

1. If you need to upgrade the firmware of the product, please use the USB cable in the box to connect the charger to the computer. During the operation, you may need to connect to the Internet to automatically install the USB driver software; run EcoPower firmware update software on computer.
2. Long press the "Channel/Exit" button of the charger, then connect the charger to the power supply until the charger emits a "beep" sound, then release the button. Click "Update" as shown in Figure 1. When the upgrade starts, the charger screen will go black until the upgrade is complete. During the upgrade process, if the USB is unplugged, the power is cut off, etc., the upgrade will fail (the original version of the software has been cleared at this time). As shown in Figure 2, you can repeat steps 1 and 2 above to restart the upgrade.



Figure1: The interface of the upgrade

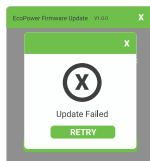


Figure 2: Upgrade failed

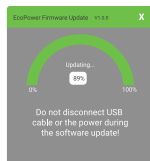


Figure3: The upgrade is in progress



After the upgrade is successful, the charger will automatically restart

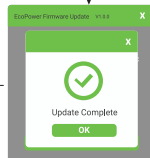


Figure 4: After the progress is displayed to 100%, if the verification is successful, the upgrade is successful, and this interface will pop up.

Notice: This upgrade firmware only supports win7/win10 system

## CHARGER ERRORS

1. Self-inspection error process: The charger will automatically execute the self-test program when it is connected to the power supply. At this time, if the battery is connected, it will cause the self-test to report an error.
2. Battery connection abnormal error reporting processing: Re-plug the battery and ensure that all connections are in reliable contact. If the error message appears repeatedly, check whether the metal parts of the battery interface are oxidized and burned to affect the possibility of contact.
3. If the charger displays an error, follow the on-screen prompts to remedy the error. If necessary, disconnect the battery from the output and balance ports, disconnect the power supply, and restart the charger.





## WARRANTY

**Thank you for purchasing this product. If you have any problems with this charger. Please discontinue any further use and contact us or your local distributor immediately.**

### **What is not covered by the warranty**

1. Failure to use correct input voltage(100-240V AC)
2. Failure to follow instruction manual
3. Mechanical damage due to external causes
4. Disassembly,modification by the user(modifying original connectors,wires,components,etc.)
5. Use in improper conditions(damage or rust from rain,humidity,etc.)
6. Normal wear and tear surface shell,dents and scratches Gens Ace is not responsible for the abuse or misuse of this product.
7. We reserve the sole right to modify this manual at any time without notice

EcoPower guarantees this item to be free of defects in materials and workmanship for 90 days after original purchase date. The warranty only applies to material or operational defects that are present at the time of purchase; EcoPower reserves the right to repair or replace the item. Warranty will not cover items that have been modified, disassembled, or otherwise misused according to the item's instructions. Proof of purchase is required to submit a warranty claim. EcoPower is not responsible for bodily injury and/or property damage that may occur from the use of, or caused by, this item.

# ECO POWER

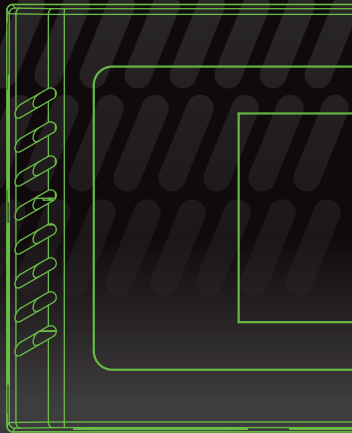
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