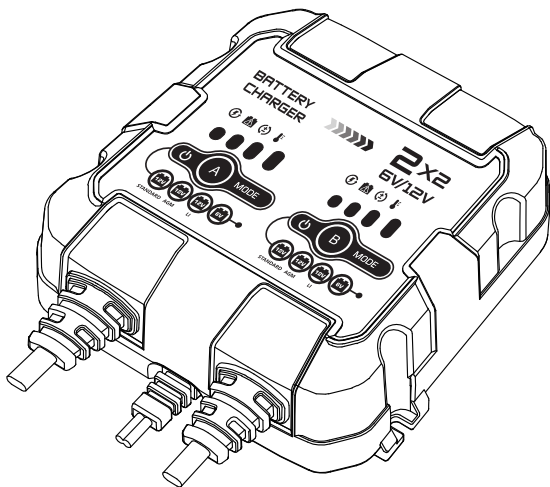


BATTERY CHARGER (2AX2)

USER MANUAL

- F2000X2 -



- 1. Read Carefully:** Please read this instruction manual thoroughly before using the product.
- 2. Keep for Future Reference:** Store this manual in a safe place for future reference.
- 3. Understand Before Use:** Make sure to use the product correctly by fully understanding the content.



IMPORTANT SAFETY INSTRUCTIONS

Please keep this manual for future reference.

This manual contains all safety, installation, and operation instructions for the smart high-frequency charger (hereinafter referred to as the "charger").

- **Check Voltage:** Verify that the power supply voltage matches the voltage indicated on the charger's nameplate.
- **Prevent Short Circuits:** Ensure there are no short circuits before connecting the charger.
- **Disconnect After Use:** Always disconnect the connection cable when cleaning or maintaining the charger.
- **Keep Away from Children:** Store the charger out of reach of children, as they may not understand the dangers associated with electrical equipment.
- **Do Not Disassemble:** Avoid attempting to disassemble or modify any parts not described in this manual. Unauthorized modifications may lead to serious accidents. Internal inspection and maintenance should only be performed by qualified service personnel or the product distributor.
- **Avoid Contact with Conductors:** Do not touch exposed conductors on the DC and AC sides without protective measures.
- **Store in a Dry Place:** Keep the charger in a dry location. Avoid exposure to corrosive, salty, flammable, or explosive gases, as well as rain or humid environments.
- **Ensure Ventilation:** Maintain good ventilation by keeping at least 5cm of space around the charger. During operation, ensure that all high-temperature objects are kept away from the charger.

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I. INSTRUCTIONS FOR USE

1.1 OPERATE STEP

1. Plug the charger's input plug into a power socket with the rated voltage. The Standby indicator light will illuminate.
2. Connect the charger's red clip (marked "+") to the positive terminal of the battery.
3. Connect the charger's black clip (marked "-") to the negative terminal of the battery.
4. The charger defaults to 12V Standard battery mode. To select a different battery mode, press the Mode button(A/B) to cycle through the corresponding battery types; the indicator light for the selected battery type will illuminate. (To select the 6V battery mode: After switching to "battery connected" mode, press and hold the Mode button for 3 seconds to enter the 6V charging mode—the 6V indicator light will turn on.)
5. After selecting the battery type, the charger automatically enters charging mode and saves the setting. To modify the charging mode next time, press the Mode button to reselect.
6. Standby Mode Selection: Press the Mode button to cycle through battery types. After reaching the Lithium battery mode, press the Mode key once more to enter Standby mode; the Standby indicator light will illuminate.

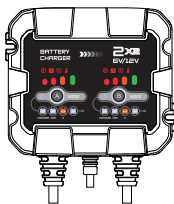
Charging Logic & Mode Switching Operation Notes

- 1) Connect the clips to the battery correctly. The charger enters battery mode selection.
- 2) Select the desired charging mode using the Mode button. **Note: There is a time limit—you can switch modes freely within 10 seconds. Timing does not start during selection.**
- 3) After confirming the battery type, the program counts down 10 seconds and automatically starts charging. **Once charging commences (the Battery level indicator will flash according to the battery voltage, indicating charging has started), the mode is locked.**
- 4) **To change the mode after this point, disconnect the charger from both the battery/ power source and restart the procedure.**

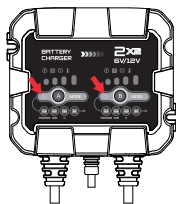
7.1. Checking if the Charger is Operational:

Connect the charger to AC power without connecting a battery. All LED indicators will light up sequentially

for 1S. Then, The Standby indicator will remain steadily lit, while all other indicators will turn off. As below:



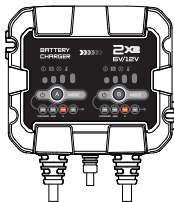
A: All LEDs lit during the check state.



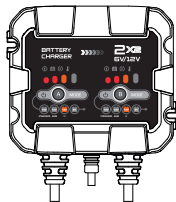
B: AC power connected, no battery connected - Standby indicator is steadily lit.

7.2. 12V Battery Mode Selection:

Connect the charger to AC power and correctly attach the output clamps to the battery terminals (positive and negative). The standby indicator will turn off, and the battery mode indicator will light up. Within 10 seconds of this state, briefly press the MODE button to select the 12V battery type. The charger will automatically begin charging after a 10-second countdown once the battery type is confirmed. (The battery type cannot be changed via the MODE button during the charging process.) As below:



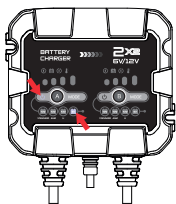
A: Battery connected - Battery mode indicator is steadily lit.



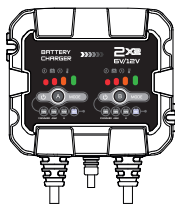
B: Charging in progress - Corresponding battery mode indicator is steadily lit, and Battery level indicators are flashing.

7.3. Selecting 6V Battery Mode:

With AC power connected and the output clamps correctly attached to the battery terminals, enter the 6V charging mode by pressing and holding the MODE button for 3 seconds while in "battery connected" mode. When the 6V battery is fully charged, both the 6V mode indicator and the battery level indicators will remain steadily lit. This is shown in the figure below:



A: Battery connected, enter 6V mode by long-pressing the MODE button for 3 seconds - 6V mode indicator lights up.



B: Fully charged state: Battery mode indicator + Battery level indicators are steadily lit.

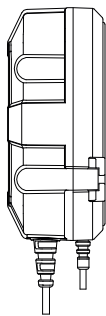
8. Force Charge Mode Operation:

This function is primarily intended for lithium batteries whose voltage has dropped below 1V due to protection circuit activation. After correctly connecting the battery, press and hold the MODE button for 5 seconds to activate Force Charge mode. This is indicated by all four battery level indicators flashing and the LI indicator being lit. In this mode, after charging the connected battery for 5 minutes, the charger will automatically switch to the standard charging mode. If the battery is not a lithium battery, press the MODE button to reselect the correct battery type.

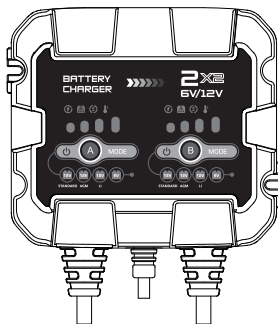
9. After Charging Completion:

First, unplug the charger from the AC power outlet and disconnect the power source. Then, remove the clamps from the battery terminals.

1.2 MULTIPLE VIEWS



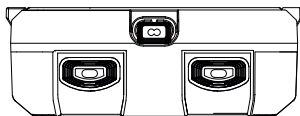
LEFT



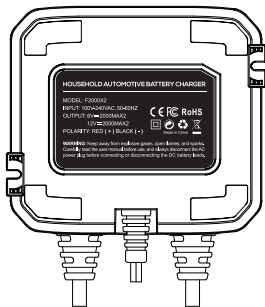
FRONT



RIGHT



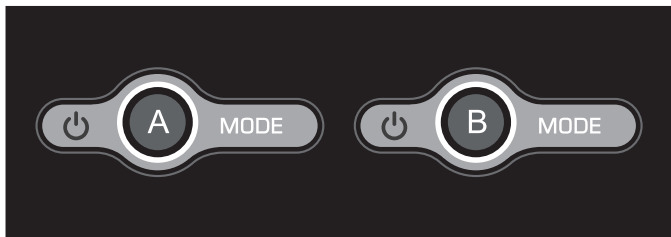
BOTTOM



BACK

1.3 PART NAME AND FUNCTION

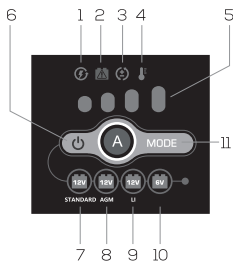
① MODE BUTTON



USED TO SET THE CHARGING PARAMETERS

② THE LED DISPLAY FUNCTION

1. Battery voltage error indicator
2. Bad battery indicator
3. Reverse connection indicator
4. Over temperature protection indicator
5. Battery level indicator
6. Standby indicator (power supply)
7. 12V standard battery indicator
8. 12V AGM indicator
9. 12V lithium battery indicator
10. 6V battery indicator
11. Mode setting



The LED indicator light displays battery power, battery type, working status, and other information during charging. If an abnormal condition occurs, it will indicate the error type.

1.4 FAULT DISPLAY

TYPE OF PROTECTION	DISPLAYS CONTENT	FAILURE ANALYSIS	SOLUTION
Bad battery	Bad battery indicator light is on	The internal resistance of the battery becomes larger	Replace the battery
Battery reverse connection	Reverse connection indicator light is on	The charger clip is connected to the battery's positive and negative poles incorrectly	Re-clamp the correct battery positive and negative poles
Overtemperature protection	Overtemperature indicator light is on	<ol style="list-style-type: none">1. The ambient temperature of the charger is too high2. The temperature inside the machine is too high	<ol style="list-style-type: none">1. Put into the standard charging environment according to the charger instructions2. Remove blocked objects3. If the fan is stuck or malfunctioning, please replace it.
Battery voltage error	Battery error indicator light is on	Battery voltage selection error	If the battery voltage is wrong, please reselect the correct battery

II. PRODUCT FUNCTION

2.1 VIOLENT CHARGING

- 1) When connected to a power supply, the standby indicator lights on. With the battery clips disconnected, press and hold the "MODE" button for 5 seconds (the battery level indicator will flash, and the lithium battery indicator will illuminate).
- 2) Connect the charger clips to a battery with a voltage below 1V (or other DC power source), and the charger will enter voltage charging mode. After 5 minutes of charging, the charger will automatically switch to normal charging mode.
- 3) This function is primarily used to activate lithium battery BMS. If used for other battery types, after 5 minutes, press the "MODE" button to select the corresponding battery type.

2.2 REVERSE CONNECTION PROTECTION

When the charger is in the standby state, if the output clip is reversely connected, the charger will be protected against reverse connection. During this process, it will not have any adverse effects on the performance of the charger.

2.3 SHORT CIRCUIT PROTECTION

When the charger is in the standby state, if the output clip is short-circuited, the charger will be protected against short circuits. During this process, it will not have any adverse effects on the performance of the charger.

2.4 OVER-TEMPERATURE PROTECTION

When the internal temperature of the charger reaches the temperature protection point, it will enter the protection state and the output is turned off. Wait for the internal temperature of the charger to naturally decrease, and the output can be restored before cooling to the ambient temperature.

2.5 BATTERY VOLTAGE ERROR PROTECTION

After the charger is correctly connected to the battery, when the battery voltage (or external supply voltage) is detected to be different from the selected charging mode voltage, the charger will turn off, and the battery voltage error indicator light will illuminate simultaneously. To resume operation, you need to unplug the mains input and then reselect the charging mode.

2.6 BAD BATTERY DETECTION

After the charger is connected to the battery when the charger detects that the charging voltage rises rapidly, and there is no charging current, or there is no charging current during a long time of charging. At this time, the charger determines that the battery is bad, and the bad battery indicator light is on at the same time.

2.7 WINTER MODE

After the charger is connected to the battery, press the mode button to set the current type to the AGM type, which can also be charged in the winter mode.

2.8 CHARGING MODE

The charger supports 6V and 12V battery charging and can charge two batteries simultaneously. Sections A and B operate independently, so there's no need for an additional charger. The charging process is indicated by the charging indicator, with power levels displayed as 25%, 50%, 75%, and 100% from left to right, reaching 100% when fully charged.

III. PRODUCT PARAMETER

Input voltage	100-240VAC; 50-60Hz
Input power	75W(MAX)
Output voltage	DC6V /12V (optional)
Charging current	DC6V: 2A*2 DC12V: 2A*2
Charging mode	Lithium battery three-stage charging; Lead-Acid battery eight-stage charging
Battery type	Standard lead-acid (including WET/ GEL/MF/ CA/EFB), AGM, lithium battery (Lithium battery with BMS system only)
Efficiency	85% (MAX)
Operating temperature	32°F-104°F(0°C-40°C)
Cooling method	Natural cooling
Product size	5.24 X 4.61 X 1.93 inch
Product net weight	0.67kg
Waterproof level	IP65