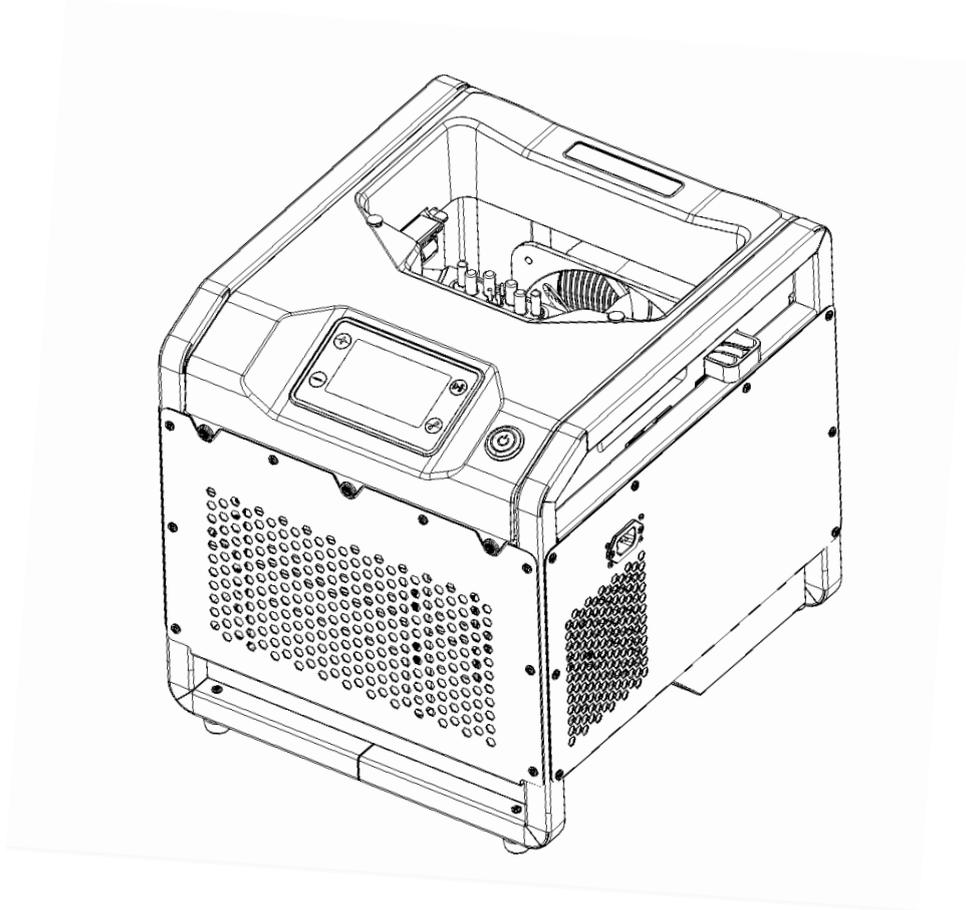


# 18S12000W Intelligent Charger

User Manual (Version 1.1)



Ceres Air LLC

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## **1. Product Overview**

The 18S12000W Intelligent Charger is our new-generation, self-developed universal battery charger, specifically designed for UAVs. It features an upgraded high-power charging module with a rated output power of 12,000W and a rated output current of 170A, providing faster and more stable charging compared to the previous generation. The quick-connect design enables more convenient battery insertion/removal and ensures safer charging. With an integrated battery cooler, it can dissipate heat during charging or operate independently as a standalone battery cooler.

## **2. Disclaimer**

Thank you for purchasing our all-in-one charger designed specifically for unmanned aircraft systems.

Before using this product, please carefully read and strictly follow all electrical safety instructions provided in this document. Failure to do so may result in personal injury, property damage, or damage to this product or surrounding equipment.

By using this product, you acknowledge that you have carefully read, fully understood, and agreed to all terms and conditions set forth in this document and in all other documentation related to this product.

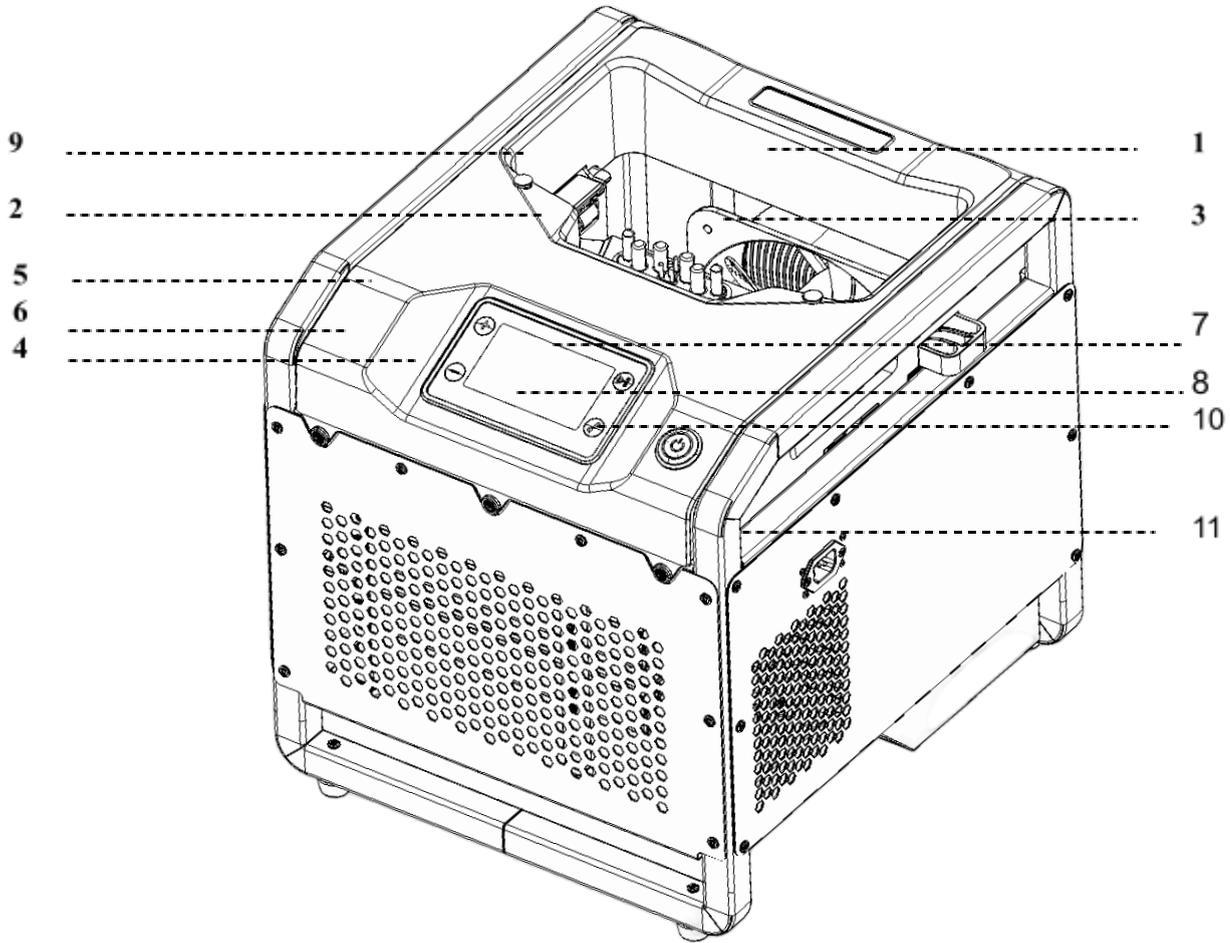
You agree to use this product only for legitimate and lawful purposes.

You acknowledge and agree that you bear full responsibility for the use of this product and for any consequences arising from such use.

Our company shall not be liable for any direct or indirect damage, injury, or legal liability resulting from the use or misuse of this product.

The final right of interpretation of this document and all related product documentation resides with our company.

### 3. Charger Diagram



|                         |                              |
|-------------------------|------------------------------|
| ① Battery compartment   | ② Battery charging connector |
| ③ Cooling fan           | ④ LCD function panel         |
| ⑤ Power increase button | ⑥ Power decrease button      |
| ⑦ Pause/Continue button | ⑧ Debug button               |
| ⑨ Battery tray          | ⑩ Charging Switch Button     |
| ⑪ Power connector       |                              |

#### 4. **Warning/Precautions Before Use:**

Before using the 18S 12000W Intelligent Charger, please carefully read the User Manual. Failure to follow the instructions may result in property damage, personal injury, or even loss of life.

The warnings and precautions described in this manual do not cover all possible situations. Users must apply general product knowledge not explicitly mentioned in this document and maintain a cautious and responsible operating attitude at all times.

Only personnel holding a valid electrician certification are permitted to connect the AC power cable.

Any wiring operation or module replacement must be performed with the input power fully disconnected and no battery connected.

When used with a third-party generator, the 18S 12000W Intelligent Charger must be paired with a generator rated at a minimum output power of 15 kW (18 kW or higher recommended), supporting single-phase or three-phase output.

Note: The charger's cable connection methods for single-phase and three-phase input are not interchangeable. Incorrect wiring may result in module damage, electric shock, or other serious hazards.

This product is not waterproof. Do not use the product during lightning, thunderstorms, or in humid environments.

Operation in high-temperature environments may reduce charging efficiency.

Always operate the 18S 12000W Intelligent Charger within an appropriate ambient temperature range (recommended:  $-10\text{ }^{\circ}\text{C}$  to  $40\text{ }^{\circ}\text{C}$ ).

Keep the product away from heat sources, high-voltage equipment, water, flammable gases, corrosive substances, and other hazardous materials.

During charging, keep the charger and battery away from flammable materials. Do not place the charger or battery on carpets or similar surfaces while charging.

Place the product on a stable, level surface. Tilting or overturning is not permitted.

Ensure sufficient clearance for ventilation at both ends of the unit (recommended  $> 50\text{ cm}$ ) to maintain proper airflow during operation.

Select an open and unobstructed area for charging to allow for rapid personnel evacuation in case of an emergency.

In the event of a fire, use a dry powder fire extinguisher. Using liquid-based fire extinguishers may result in electric shock hazards.

Do not remove the battery or disconnect the charging input cable while charging is in progress. After charging is complete, promptly disconnect the battery.

If foreign objects are found at the charger or battery connectors, clean them immediately. Before cleaning, ensure that the intelligent charger is completely disconnected from external power sources.

The cooling fans must be periodically removed and cleaned to prevent dust accumulation from affecting heat dissipation. The cleaning interval should be determined based on local environmental conditions.

The 18S 12000W Intelligent Charger can be activated and upgraded via a remote controller. Before performing activation or firmware upgrades through the remote controller, ensure that the remote controller firmware has been updated to the latest version.

## 5. Power Input Cable Safety Instructions

The charger is supplied with two AC power input cables:

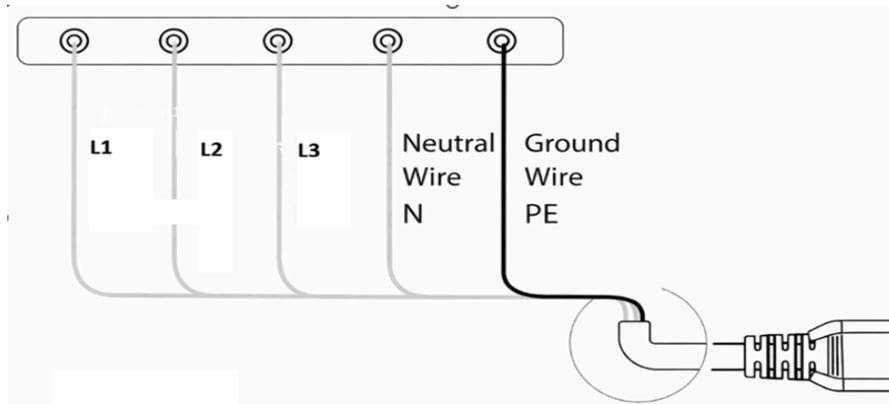
1. **Low-Power Utility Power Cable:** This cable is intended for 110 V or 220 V household use and is equipped with a NEMA 5-15P connector (as shown in Figure 1). When this cable is used, the maximum input power is limited to 2 kW. The charging power can be adjusted by the user via the remote controller App, within the allowable range.



Figure 1

2. **High-Power Generator Cable:** The second cable is a high-power 12 kW power cable designed for generator use. This generator power cable does not include a plug and must be wired by a licensed electrician according to whether the generator provides single-phase or three-phase output. Please refer to the single-phase and three-phase wiring requirements specified in this document for correct connection.

**⚠ Warning:** Incorrect wiring may result in electric shock, equipment damage, or property loss. All wiring operations must be performed by qualified and certified personnel only.



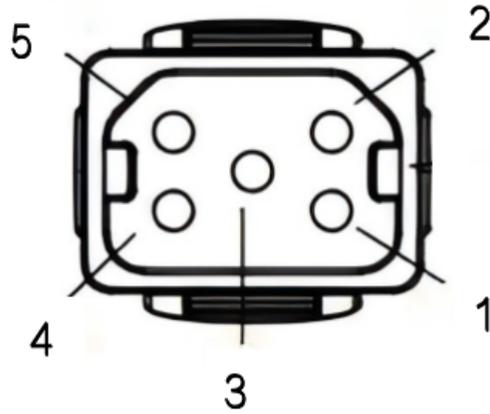
- L1 (Red)** \_\_\_\_\_
- L2 (Red)** \_\_\_\_\_
- L3 (Red)** \_\_\_\_\_
- N (Blue)** \_\_\_\_\_
- PE (Yellow)** \_\_\_\_\_



Figure 2

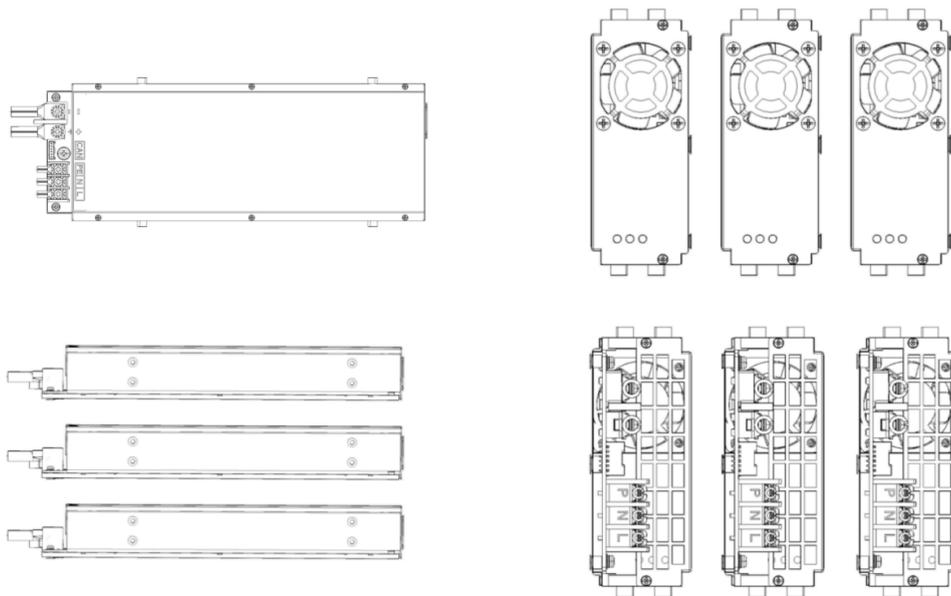
### Three-Phase Power Connection

Charger Power Input Connector Pinout



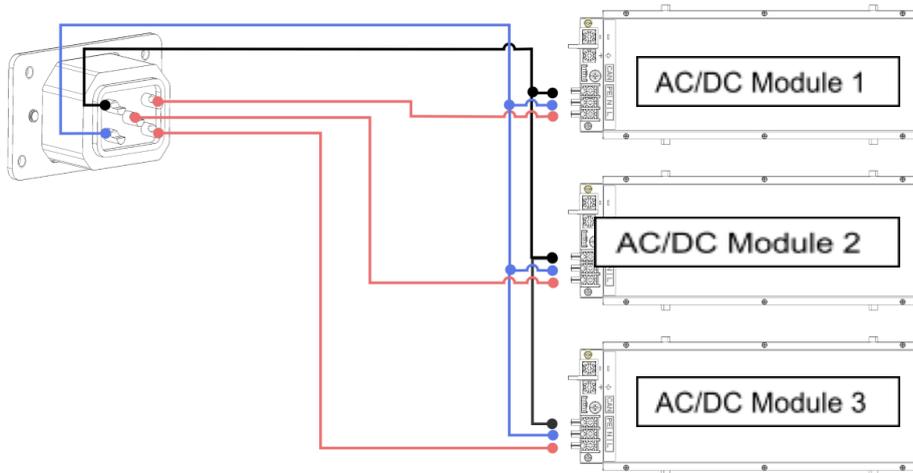
| Pin | Definition     | Remarks             |
|-----|----------------|---------------------|
| 1   | Phase 1 (L1)   |                     |
| 2   | Phase 2 (L2)   |                     |
| 3   | Phase 3 (L3)   |                     |
| 4   | Neutral        | Shared neutral line |
| 5   | Earth (Ground) |                     |

Internal Wiring Diagram of the Three-Module Charger

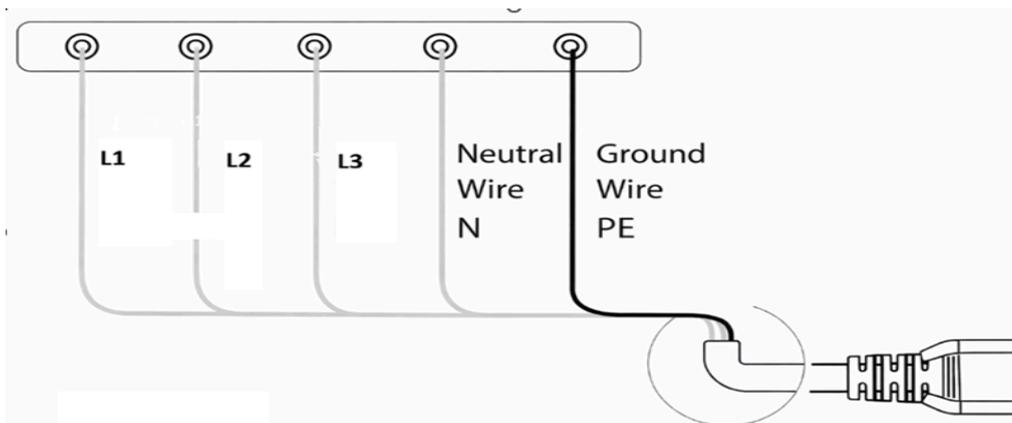


## Three-Phase Charger Internal Wiring Diagram

Each of the three modules is connected to a live wire and a neutral wire (220 V AC).

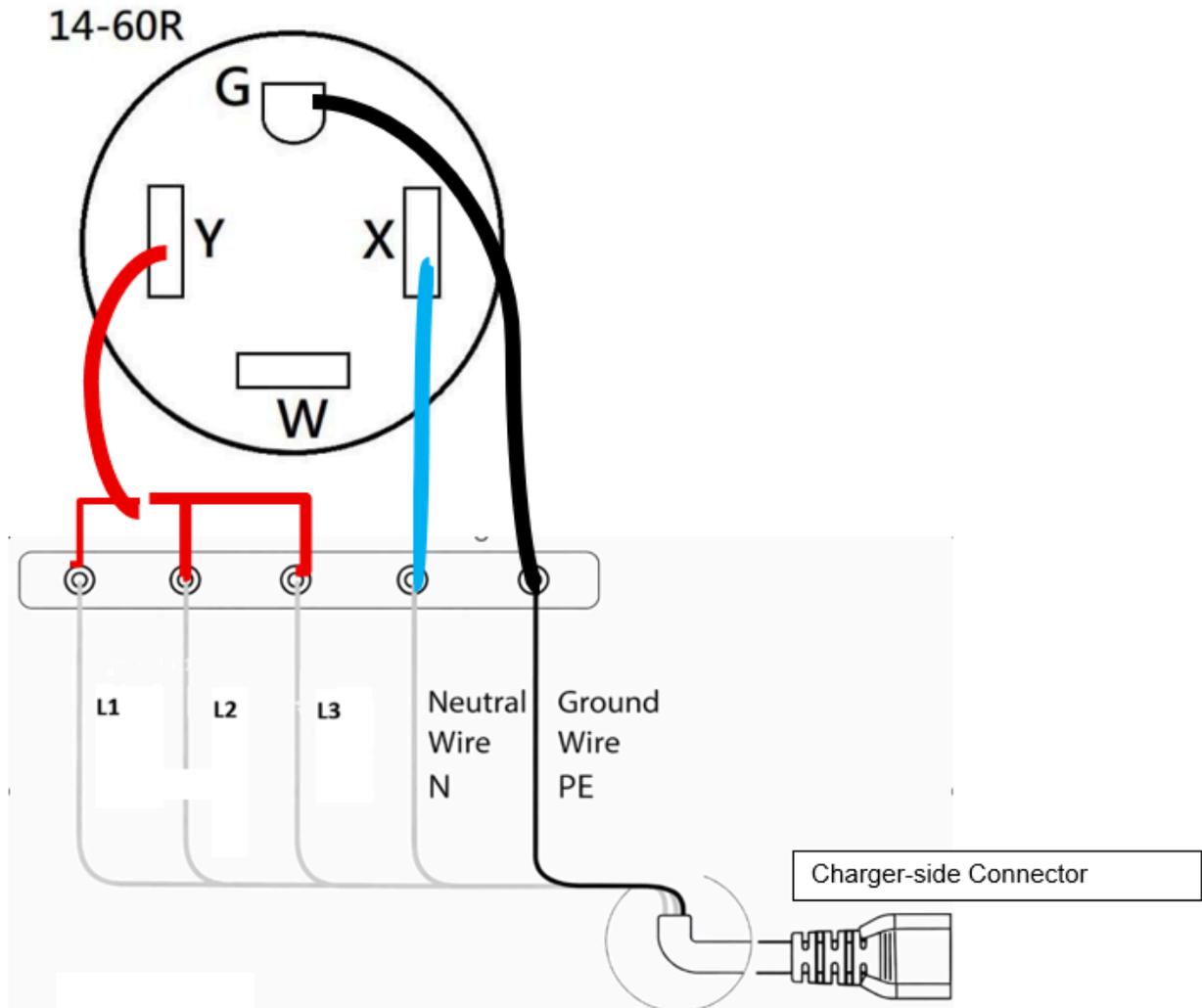


Note: The internal AC/DC modules have an input voltage range of 110 V–292 V AC.



## External Power Wiring Diagram

### Single Phase (220V) Generator Plug Wiring Diagram (Example)



| Pin | Definition     | Remarks             |
|-----|----------------|---------------------|
| 1   | Phase 1 (L1)   |                     |
| 2   | Phase 2 (L2)   |                     |
| 3   | Phase 3 (L3)   |                     |
| 4   | Neutral        | Shared neutral line |
| 5   | Earth (Ground) |                     |

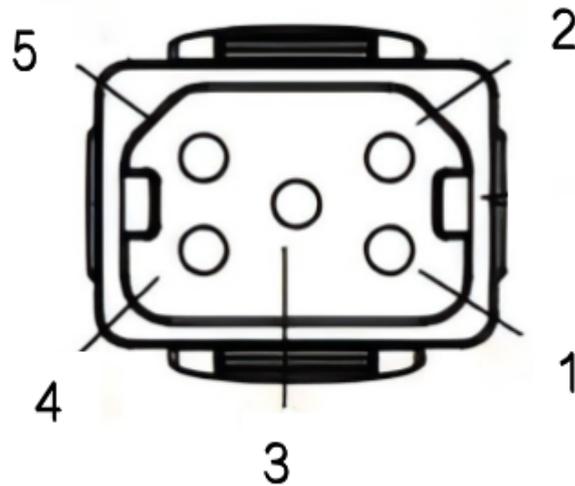
### Voltage Testing

After the wiring is complete, the voltage must be verified with a multimeter before connecting to the charger:

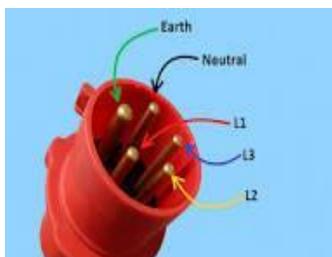
Set the multimeter to AC voltage mode.

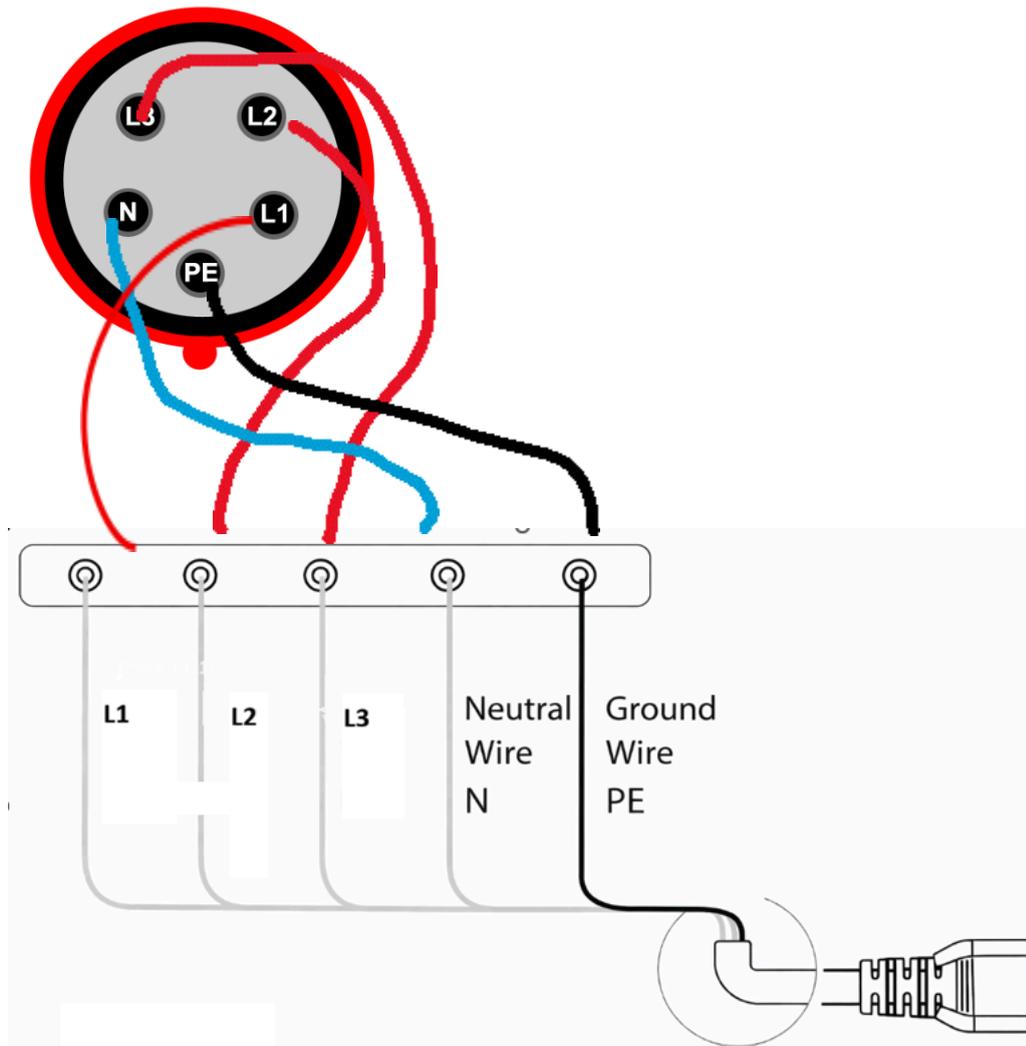
Use a multimeter to probe to measure the voltage between pins 1 and 4, pins 2 and 4, and pins 3 and 4.

If all readings are near 220 V and below 290 V, the wiring is correct, and you may proceed to the next step.



### Three Phase (380V or 480 V) Generator Plug Wiring Diagram (Example IEC 60309 Plug)





## 6. Operating Instructions

### 6.1 Charger Activation

The 18S12000W Intelligent Charger must be activated before use; otherwise, the output power will be limited to a maximum of 2,000w.

When the charger is first powered on, the LCD panel of the charger will prompt you to activate the device. At this time, connect to the drone remote control and follow the prompts to complete the charger activation.

**⚠** Using the charger without activation may affect or void the warranty coverage. Please activate the charger immediately before first use.

VER:V1.0.0.3

SN:52800033

### Please activate the device according to the prompts

1. Please use WIFI to connect the remote control device
2. Find the device with the number 52800XXX in the WIFI list of the remote control and click to connect
3. Remote Control APP - Device Management - Peripherals - Charger, click "Activate"



## Smart Charger

Model

Serial number

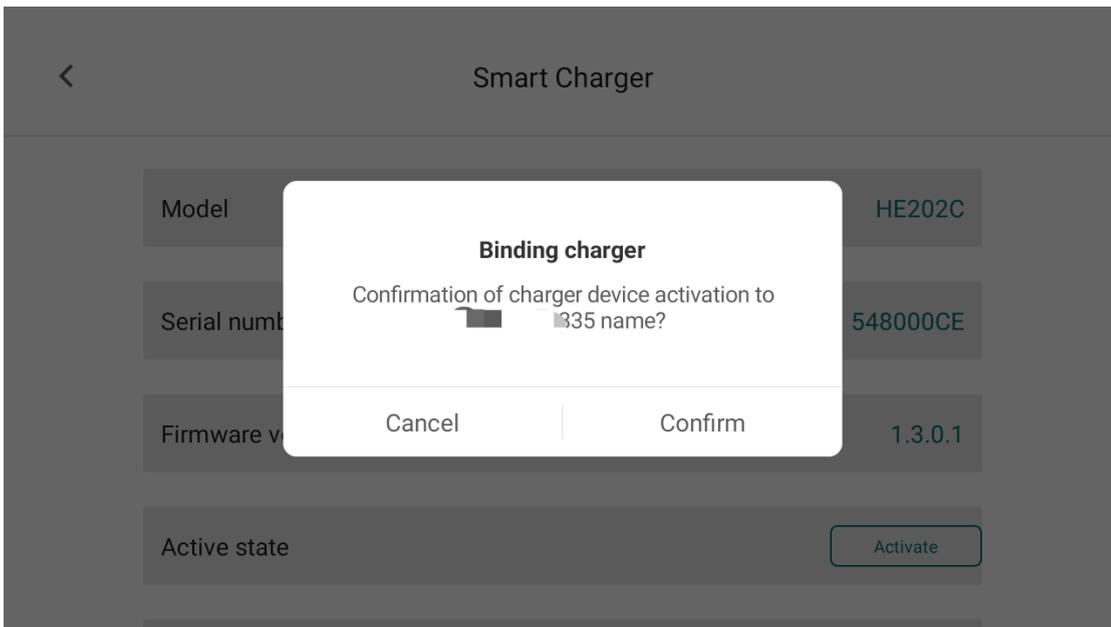
5480004C

Firmware version

1.3.0.1

Active state

Activated



## 6.2 Charging Instructions

Connect the charger, insert the battery to be charged, and turn on the charging switch.

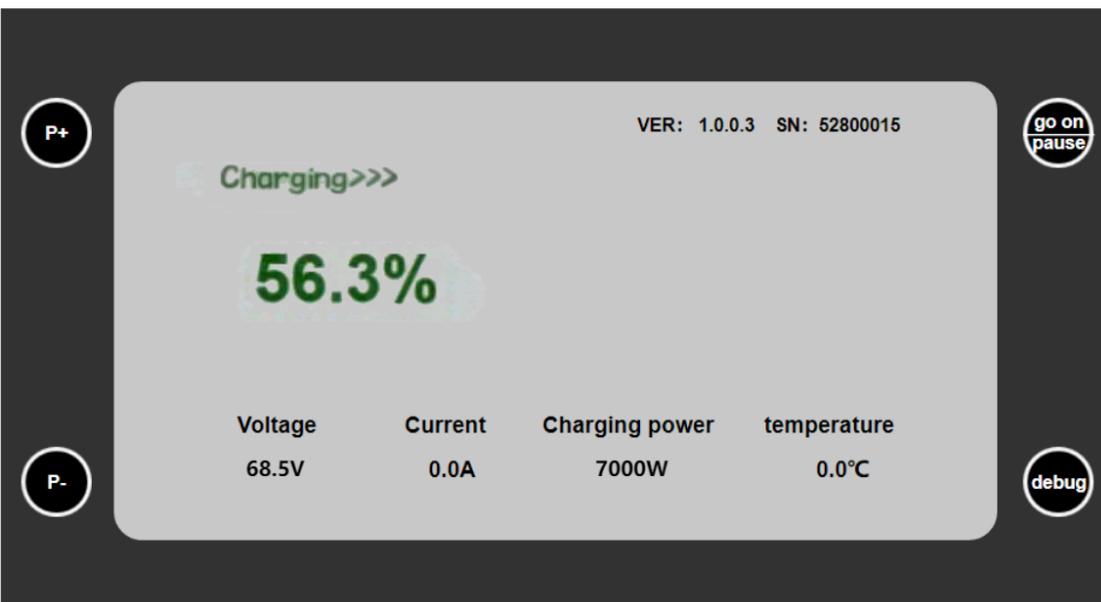
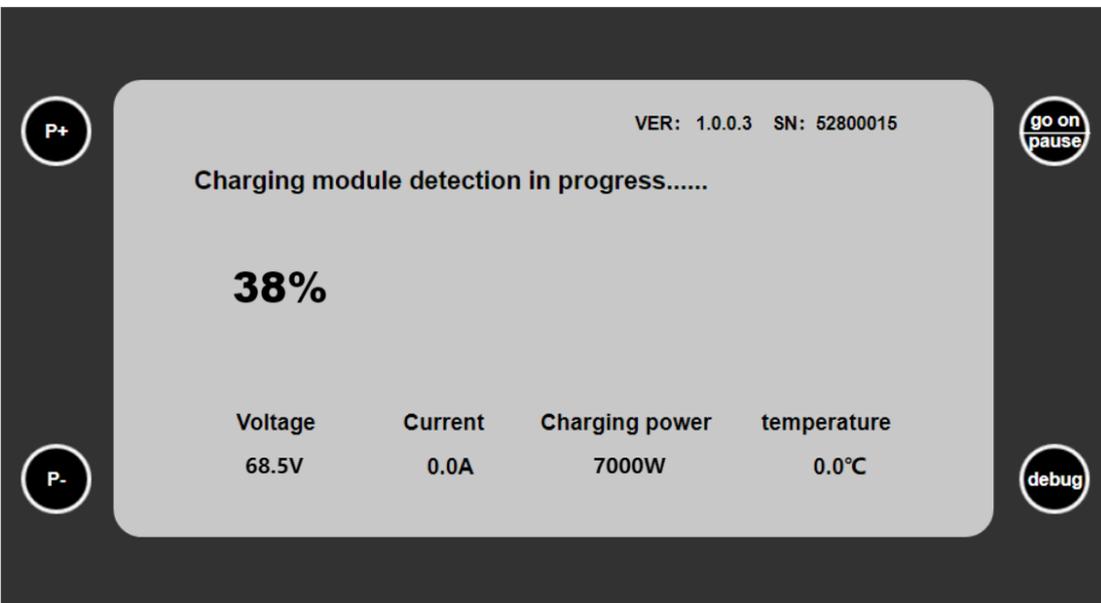
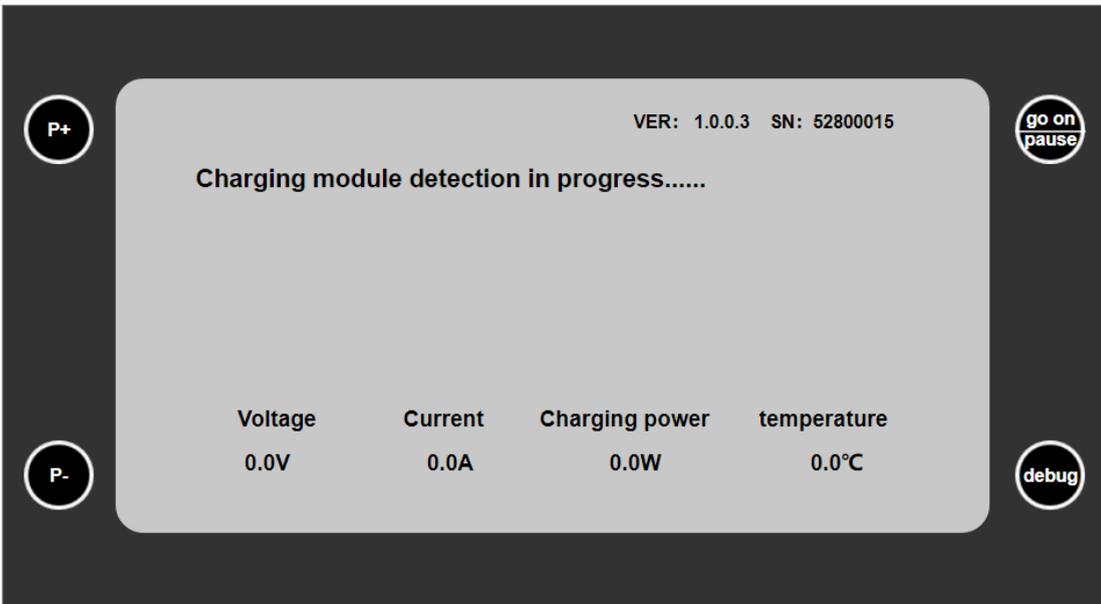
At this point, the charger will first check the type of power harness, then check the charging module, and finally check the battery status. If all tests are normal, the charger will begin charging.

Note: When a battery is inserted for the first time, it may not be detected automatically. In this case, press the battery power button once to initiate detection.

After the initial detection, subsequent battery connections will be automatically detected and charged.



Warning: When using the utility power cable, the charging power will be limited to 2000 W, and the input voltage range is 110–220 V AC.



## 6.2.1 Precautions during charging

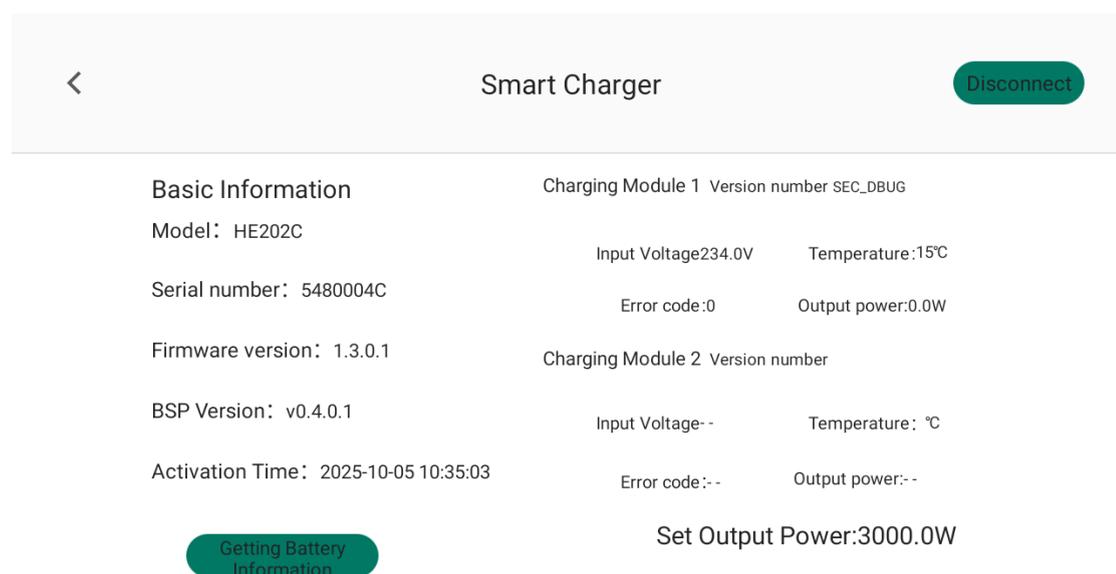
During charging, the charging power can be adjusted using the "Power +" and "Power –" buttons.

Pressing the "Pause/Resume" button will pause the charging; pressing it again will resume charging.

Pressing the "Debug" button will enter the charger into the debug interface.

**Warning**  Do not remove the battery during charging. Always pause charging or turn off the charging switch before removing the battery.

## 6.2.2 Charger Information on Remote Screen



The screenshot shows a "Smart Charger" interface with a "Disconnect" button in the top right. The main content is divided into two columns of information for "Charging Module 1" and "Charging Module 2".

| Basic Information                    | Charging Module 1     | Version number     | SEC_DEBUG |
|--------------------------------------|-----------------------|--------------------|-----------|
| Model: HE202C                        | Input Voltage: 234.0V | Temperature: 15°C  |           |
| Serial number: 5480004C              | Error code: 0         | Output power: 0.0W |           |
| Firmware version: 1.3.0.1            | Charging Module 2     |                    |           |
| BSP Version: v0.4.0.1                | Input Voltage: -      | Temperature: °C    |           |
| Activation Time: 2025-10-05 10:35:03 | Error code: -         | Output power: -    |           |

At the bottom left, there is a "Getting Battery Information" button, and at the bottom right, it says "Set Output Power: 3000.0W".

## 7. Intelligent Charger – Specifications

Charger Name 18S12000W Intelligent Charger  
Model 18S12000W  
Input Voltage (One Phase) 110Vac~220Vac or (three Phase) 380Vac~480Vac  
Input Frequency: 47Hz~63Hz  
Output Power: 12,000 W (Maximum) / 2,000 W (the utility power cable)  
Output Channels 1  
Protection Functions Over-temperature, over-voltage, under-voltage, short-circuit protection  
Operating Temperature: -13F~104F  
Weight: 51lb (23KG)  
Dimensions: (L x W x H) 16.4 x 15.4 x 15.4 in (416 x 390 x 391 mm)  
Rated Output Current: 170A  
Communication Frequency: Wi-Fi 2.4G&5G (B1&4) & BT 4.2

 Warning: The allowable input power range depends on the cable wiring configuration. Incorrect wiring may result in electric shock or property damage

## 8. Packing List

18S12000W Intelligent Charger ×1  
Charger Cable with Plug (Low Power, 2,000w) ×1  
Charger Cable without Plug (High Power, 12,000w) ×1  
Charger Outer Packaging ×1  
User Manual ×1

## 9. Generator Recommendations:

The 18S12000W Intelligent Charger is compatible with generators providing single-phase 220 V or three-phase 380v / 480v output.

The power cable wiring method must strictly follow the instructions in this manual. Incorrect wiring may result in electric shock or property damage. Damage to the charger caused by incorrect wiring is not covered under warranty.

For both single-phase and three-phase generators, the minimum continuous rated output power must be 15 kW, with 18 kW or higher recommended.

Although the charger's maximum charging power is 12,000w, generators typically require a 30–40% power margin for stable long-term operation.

If one generator is used to power two chargers, the generator's minimum rated power must not be less than 30 kW, with 40 kW or higher recommended for optimal performance.