

User's manual

Manual del usuario

Manuel de l'utilisateur

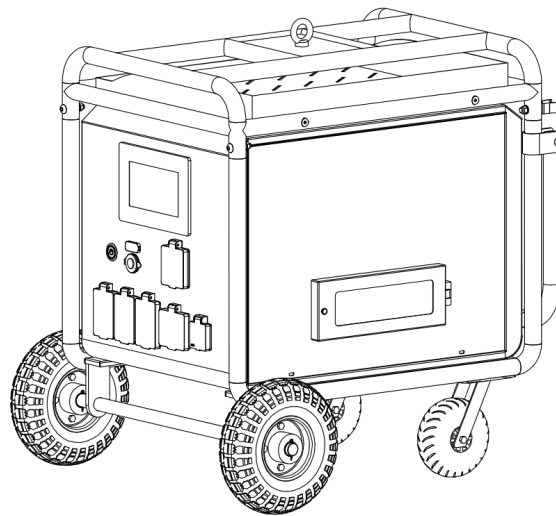
 Customer Service
US: 1-800-645-2986

 Servicio de atención al Cliente
US: 1-800-645-2986

 Service à la clientèle
Canada: 888-645-2986

Portable Power Station

Model: 812541



Read the instructions carefully before use and follow the instructions pertaining to risk of fire, electric shock, or injury to persons. Keep these instructions in a safe location for future reference. For questions, visit globalindustrial.com or contact Customer Service at 1-800-645-2982

⚠ WARNINGS & PRECAUTIONS

- Failure to follow installation instructions will void warranty.
- To reduce the risk of injury, close supervision is necessary when the product is used near children.
- DO NOT put fingers or hands into the product.
- DO NOT use a battery pack or appliance that is damaged or modified. Damaged or modified batteries may exhibit unpredictable behavior resulting in fire, explosion or risk of injury.
- DO NOT operate the power pack with a damaged cord or plug, or a damaged output cable.
- DO NOT disassemble the power pack, take it to a qualified service person when service or repair is required. Incorrect reassembly may result in a risk of fire or electric shock.
- DO NOT expose a power pack to fire or excessive temperature. Exposure to fire or temperature above 130°C may cause explosion. The temperature of 130°C can be replaced by the temperature of 265°F.
- Use of an attachment not recommended or sold by power pack manufacturer may result in a risk of fire, electric shock, or injury to persons.
- To reduce risk of damage to the electric plug and cord, pull the plug rather than the cord when disconnecting the power pack.
- To reduce the risk of electric shock, unplug the power pack from the outlet before attempting any instructed servicing.
- When charging the internal battery, work in a well ventilated area and do not restrict ventilation in any way.
- **RISK OF EXPLOSIVE GASES** To reduce risk of battery explosion, follow these instructions and those published by battery manufacturer and manufacturer of any equipment you intend to use in vicinity of the battery. Review cautionary marking on these products and on engine.
- **RISK OF ELECTRICAL SHOCK** Never use power pack to supply power tools to cut or access to live parts or live wirings, or materials that may contain live parts or live wirings inside, such as building walls, etc.
- Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help. Liquid ejected from the battery may cause irritation or burns.
- Have servicing performed by a qualified repair person using only identical replacement parts. This will ensure that the safety of the product is maintained.
- Be extra cautious to reduce risk of dropping a metal tool onto battery. It might spark or short-circuit battery or other electrical part that may cause explosion.
- Remove personal metal items such as rings, bracelets, necklaces, and watches when working with a lead-acid battery. A lead-acid battery can produce a short circuit current high enough to weld a ring or the like to metal, causing a severe burn.
- NEVER smoke or allow a spark or flame in vicinity of battery or engine.

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⚠ WARNINGS & PRECAUTIONS

- **GROUNDING INSTRUCTIONS** This product must be grounded. If it has malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in **accordance with all local codes ordinances**.
- **WARNING – Improper connection of the equipment grounding conductor is able to result in a risk of electric shock. Check with a qualified electrician if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product – if it will not fit the outlet, have a proper outlet installed by a qualified electrician.**
- Different electrical appliances have different voltage standards. Before use, please carefully check whether the rated voltage range of the product is consistent with the voltage range of the portable power station, otherwise it may lead to dangerous situations.
- After the battery is discharged to the cut-off voltage, continuing to discharge is called over-discharge. It can easily cause serious power loss of the battery, thereby greatly shortening its service life. Therefore, deep discharge should be avoided as much as possible when using the battery.
- The product should be kept away from fire, high temperature environment, humid and rainy environment during use and storage, otherwise it may lead to dangerous situations.
- This product has a built-in high-voltage power supply, and non-professionals should not disassemble it by themselves.
- **DO NOT** discard the product at the end of its service life. Recycle the product according to local laws and regulations.
- This product should be protected from rain, water immersion, and violent vibration during transportation.
- It cannot be used at an altitude exceeding 2000m.
- The product is AC output. Please do not insert your hands or hand-held metal conductors into the AC socket.
- **DO NOT** drop, squeeze or collide with the product, so as not to subject the product to external pressure, which may cause short circuit of the internal circuit of the product and damage to the battery.
- After use, please turn off the machine in time (the no-load power consumption will continue to consume battery power when the machine is on.)
- This product and its accessories may contain some small parts. Please keep the product and its accessories out of the reach of children. Children may accidentally damage the product and its accessories, or swallow small parts, causing suffocation or other dangers, children or people with mental retardation need to use this product accompanied by their guardians.
- Do not use the product during thunderstorms. This may cause product failure or electric shock.
- If the product accidentally falls into water during use, place it in a safe open area and do not turn it on again ;
- When transporting and lifting products, it is necessary to ensure that the lifting rings are tightly and firmly installed, otherwise safety accidents may occur.
- When using the expandable battery, ensure the deviation range of the battery capacity between batteries is within 10%. Batteries of different specifications and manufacturers cannot be used; otherwise, the product may be damaged and security risks may arise.
- Please use the charger, charging cable and photovoltaic charging interface provided with the product to charge the product, otherwise there will be security risks.
- The product must be securely and effectively grounded before use.
- If any fault occurs during the use of the product, it should be stopped immediately, and can be used only after the troubleshooting is complete, otherwise it will cause damage to the product.
- The screen should be protected from collision during the application and delivery.
- All input and output socket covers shall be closed after use.
- **DO NOT** touch any of the socket connections on the product with your hands or metal devices while the device is on. Otherwise there will be a safety hazard resulting in life safety.
- Please select solar panels according to the electrical parameters specified by the manufacturer. If the voltage is above these parameters, it may damage the product.
- Prohibit products from using AC output loads during AC mains charging(The charging socket is 20A and can only withstand charging current). Otherwise, it will cause security risks.

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Technical Parameters

Item		Parameter
Nominal Power		5KW
Peak Power		10KW
Battery Parameters		LiFePo4 51.2V 100AH
Battery Expansion		Supports parallel expansion of up to 6 battery packs
Grid Connection		No
Product Size		33.07 x 29.52 x 34.33 inch
Product Weight		305.34 lbs
Ambient Temperature Range		14 - 104°F Relative humidity : ≤80% Altitude≤2000 Meter
Transport and Storage Environment		Temperature: 5-131°F Relative humidity: ≤93% (no condensation) Atmospheric pressure : 70kPa ~ 106kPa
Input	PV Charging	120-450V 18A Support MPPT Tracking LP-20 Aviation Sockets
	Mains Charging	110-120V 60HZ 2200W 20A Triangular socket
Output	USB-A*4 Output	Independent 18W Output*4 : 5V3A 9V2A 12V1.5A Support QC3.0/QC2.0/AFC/FCP/BC1.2/APPLE and other fast charging protocols
	USB-C*2 Output	Independent 100W Output*2 : 5V3A 9V3A 12V3A 15V3A 20V5A Support PPS/PD/QC3.0/QC2.0/AFC /FCP/BC1.2/APPLE and other fast charging protocols
	DC Output	5521 interface*2, cigarette lighter socket*1 12V10A
	AC Output	American Standard Socket L5-30*1 30A 125V 60HZ
	AC Output	American Standard Socket TT-30R*1 30A ·125V ·60HZ
	AC Output	American Standard Duplex Socket GFCI 5-20R*3 20A ·125V ·60HZ
Charging Time	PV charging	About 1.6H (4500W)
	Mains charging	About 2.4H (2200W)
Support PV charging while discharging; do not support mains charging while discharging		

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Package Contents:

- Portable power station*1
- Product manual*1
- Diagonal 3mm hex wrench*1
- AC power supply charging cable*1
- TT-30P Plug*1
- Photovoltaic charging connector*1
- L5-30 Plug*1
- 17mm fork wrench*1
- Cigarette lighter to 5521 interface connection cable*1

Application and Function Instruction:

Transform LiFePO₄ DC to AC sine wave by inverter. When the product is out of power, it can be charged by mains and PV. Without Mains, this product can output AC to charge devices with corresponding power such as fridges, electric hammers, induction cookers, rice makers, fans, washing machines, TV, and air-conditioner. This product supports PV charging while discharging. Its structure meets UL2743 standards and can replace the gasoline generator for outdoor emergency work on rainy days. The product supports six expandable external batteries at maximum, reaching 35.84KWH with a more durable loaded application. This product is equipped with two 10-inch foam wheels and two 7-inch universal wheels with brakes, making it to be moved easier. At the top of the product, we designed a hook for safe lifting and handling. Besides, boxes on the top and side allow users to put tools and accessories in outdoor works. The main screen is a 7-inch high-resolution capacitance touch screen with characteristics like anti-glare, high-definition, and high sensitivity. All port covers are plastic. All output AC sockets are not only installed independently with overload and short circuit protectors but also ground fault circuit interrupter (GFCI) to protect users from security issues. Also, the product has protective functions like output overload, short circuits, and leakage. The product has the low-battery warning (when the battery capacity $\leq 20\%$, the battery capacity icon on the display changes to red warning tips).

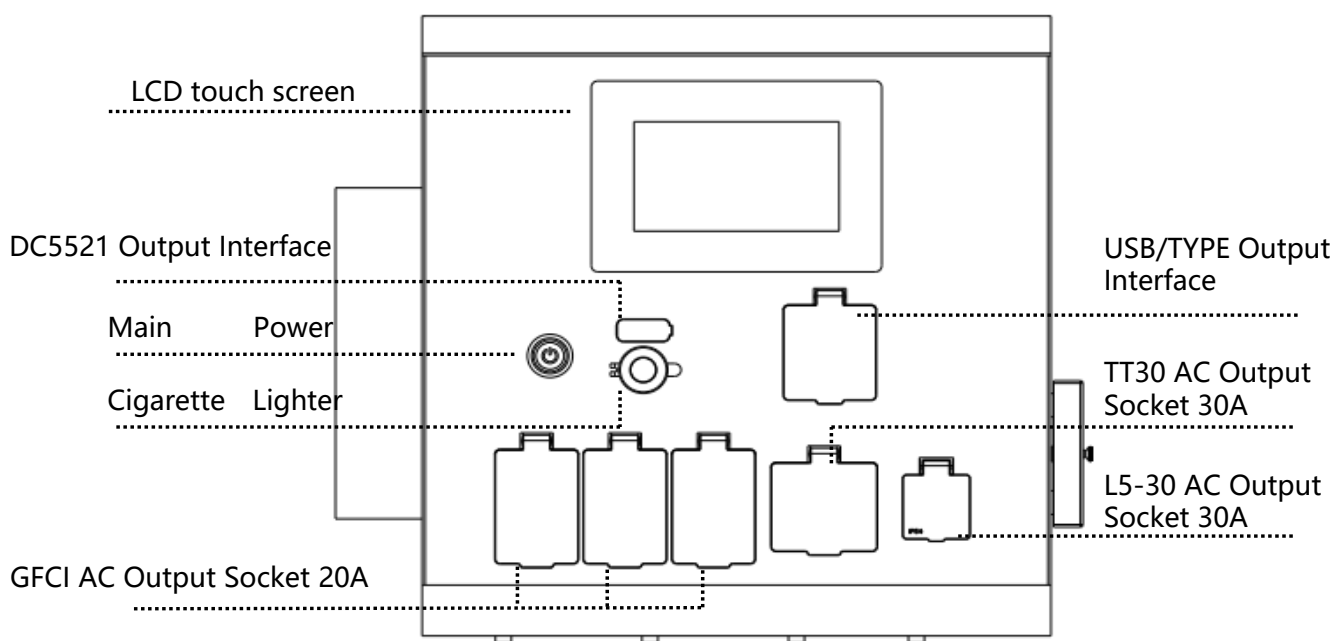
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Product Main Structure Composition

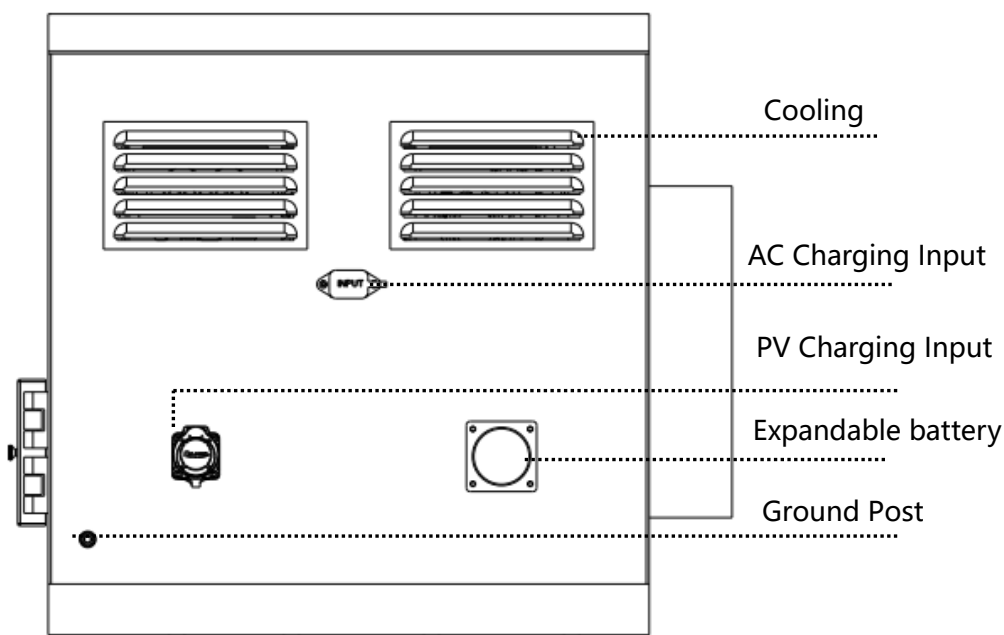
The portable power station is mainly composed of a metal protection frame, metal shell, PV reverse control machine, touch screen, USB/DC panel, LiFePO4 battery, and other main accessories.

Panel Function Description

- Front Panel



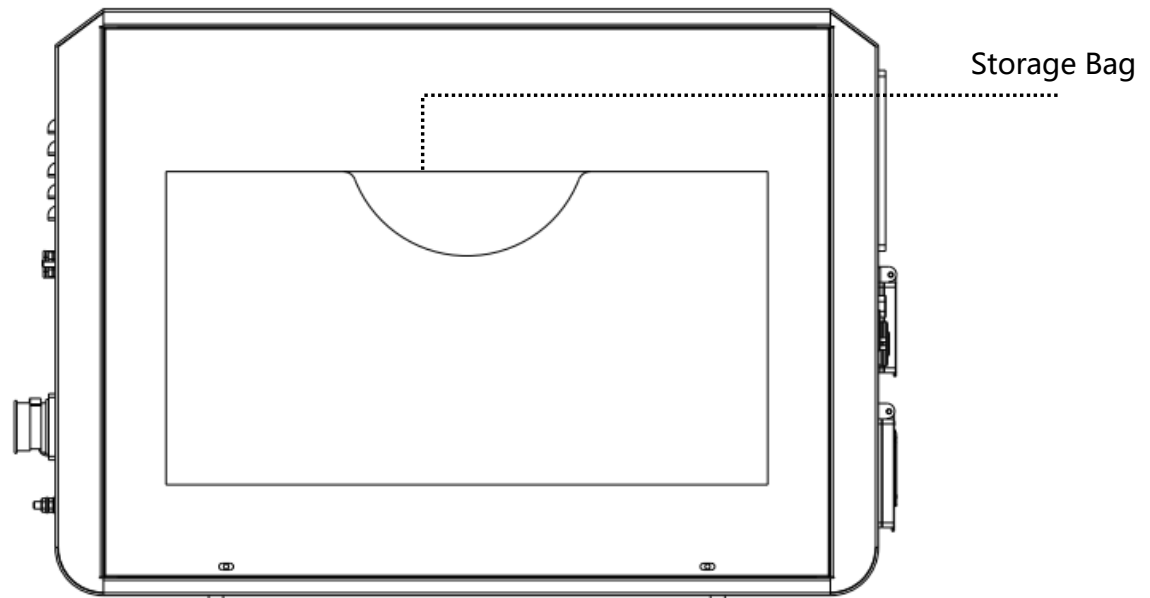
- Rear Panel



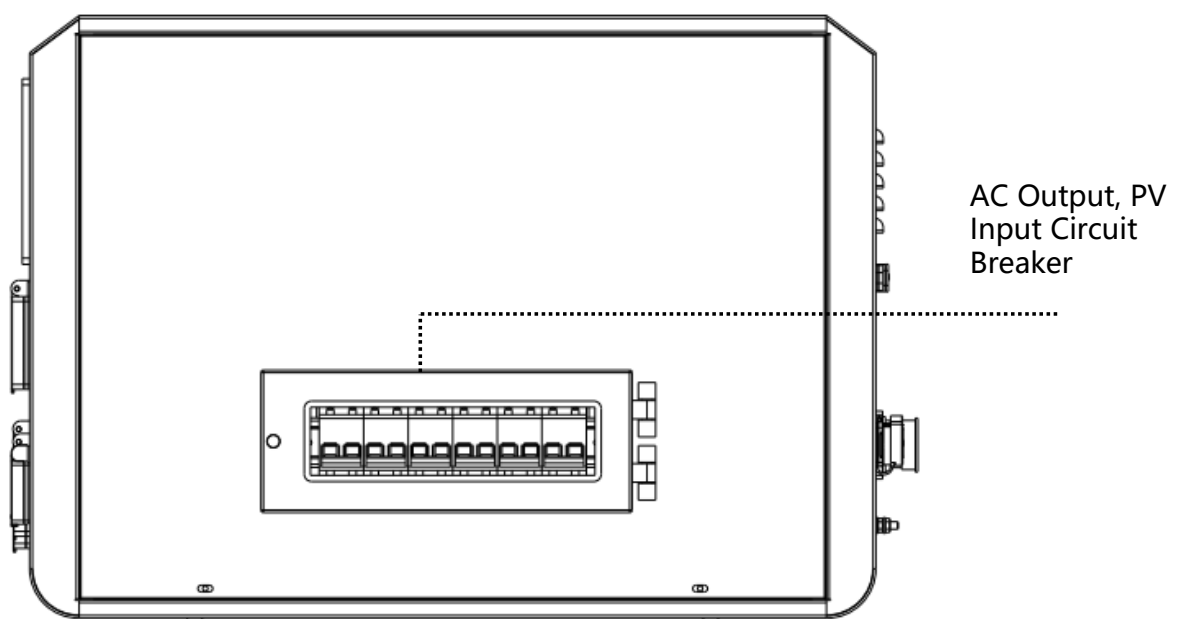
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Panel Function Description

- Left Door



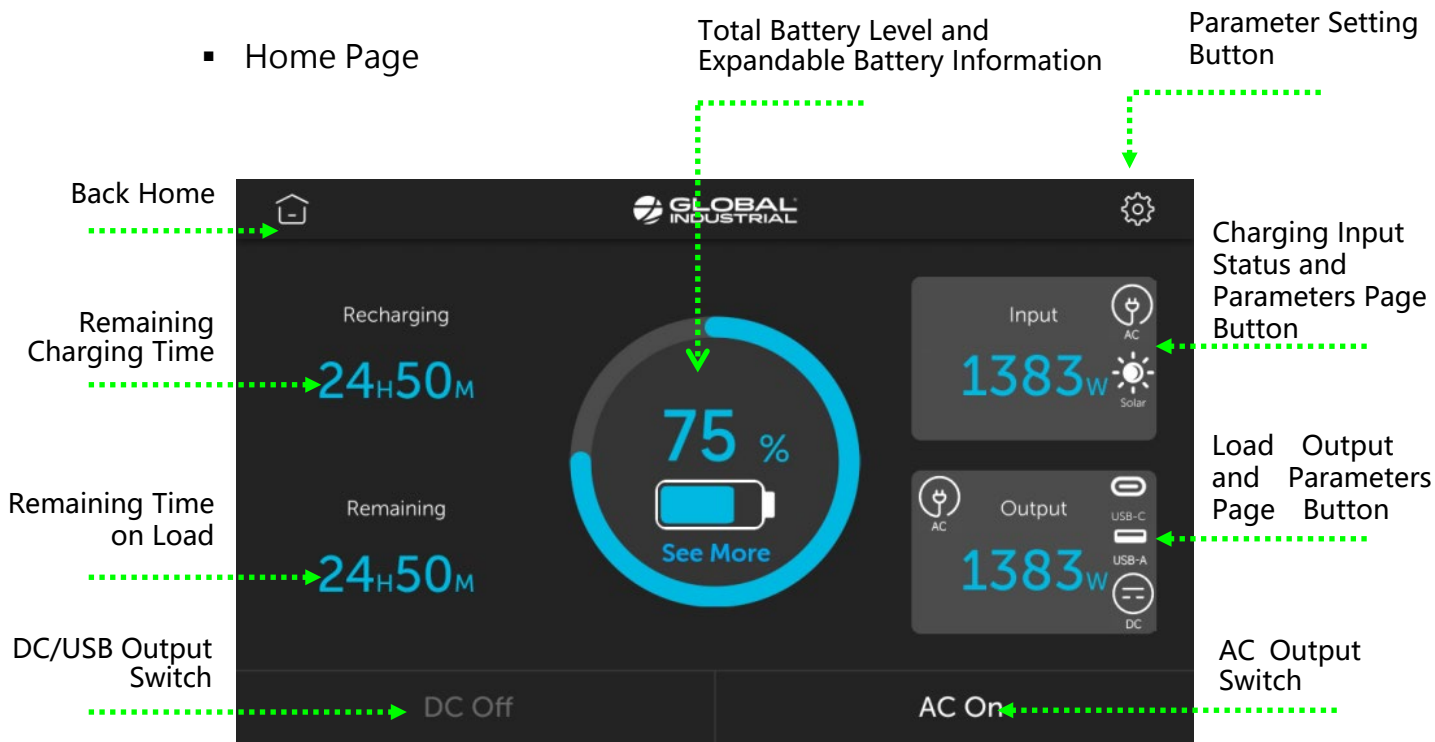
- Right Door



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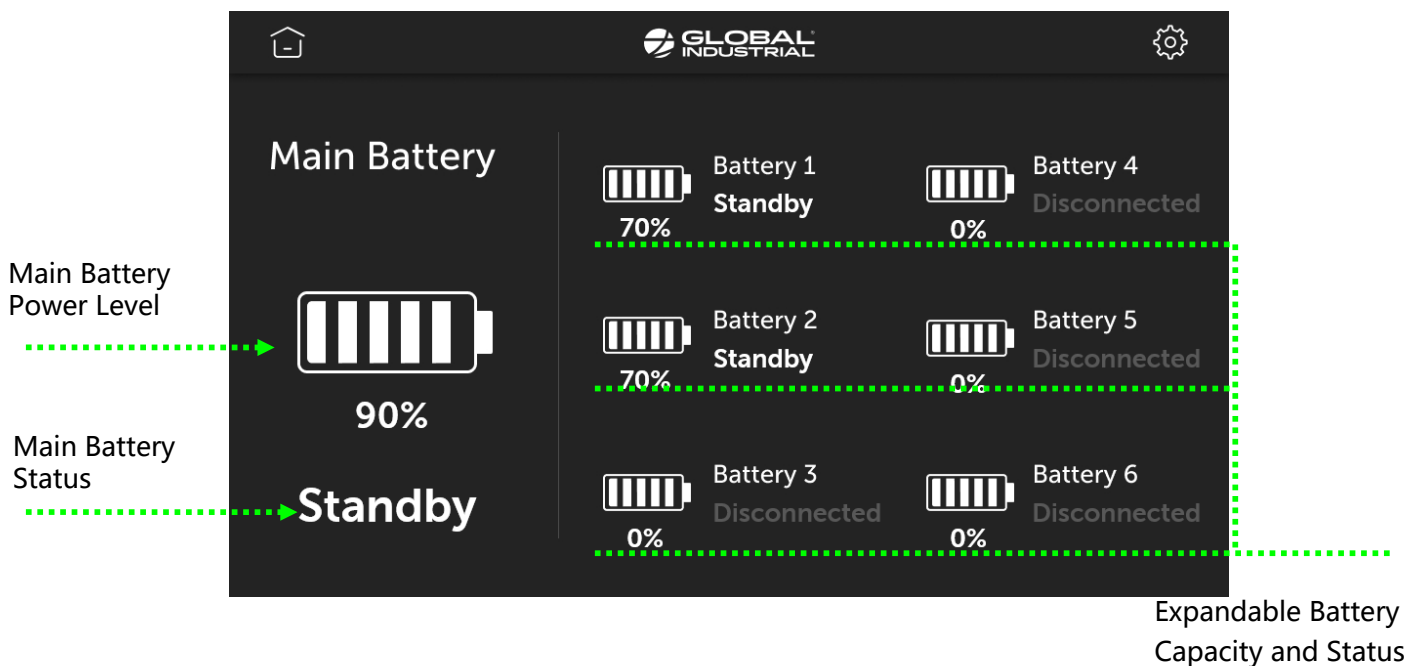
Display Interface Description

- Home Page



- Battery Information Page

The battery includes five status : 1. Disconnected, 2. Standby: the battery is connected and standby, 3. Charging: the battery is connected and charging, 4. Discharge: the battery is connected and discharging, 5. Failure.



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Display Interface Description

- Charging Input Page

The screenshot displays the 'Charging Input Page' with a dark background and cyan text. At the top, there is a home icon, the 'GLOBAL INDUSTRIAL' logo, and a settings gear icon. The page is split into two columns: 'AC Input' on the left and 'Solar Input' on the right. Each column shows three parameters: voltage (100.0 V), current (3.0 A), and power (300 W). A green dashed arrow points from the 'Mains Input Parameter Display' label to the AC Input section, and another points from the 'PV Input Parameter Display' label to the Solar Input section.

Parameter	AC Input	Solar Input
Voltage	100.0 V	100.0 V
Current	3.0 A	3.0 A
Power	300 W	300 W

- Load Output Page

The screenshot displays the 'Load Output Page' with a dark background and cyan text. At the top, there is a home icon, the 'GLOBAL INDUSTRIAL' logo, and a settings gear icon. The page is split into two columns: 'AC Output' on the left and 'DC Output' on the right. Each column shows three parameters: voltage (100.0 V), current (3.0 A), and power (300 W). A green dashed arrow points from the 'AC Load Output Parameters' label to the AC Output section, and another points from the 'USB/DC Load Output Parameters' label to the DC Output section.

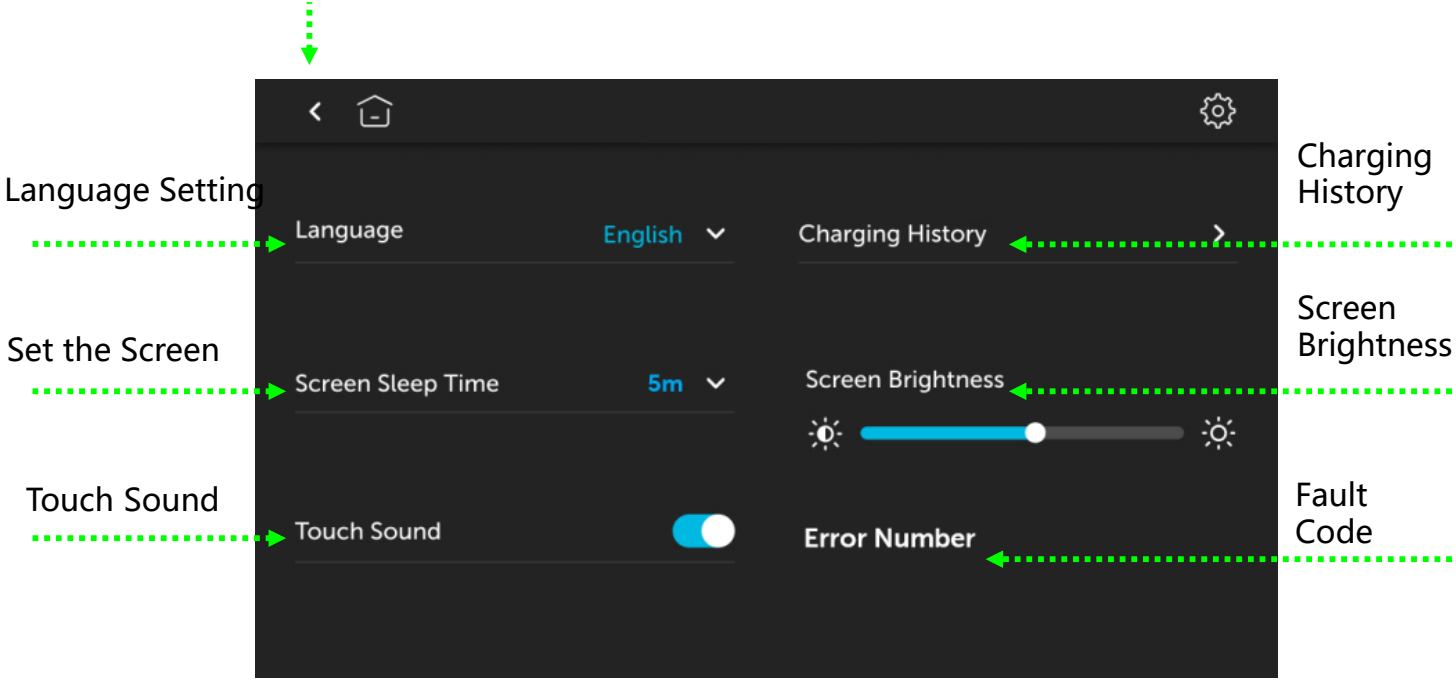
Parameter	AC Output	DC Output
Voltage	100.0 V	100.0 V
Current	3.0 A	3.0 A
Power	300 W	300 W

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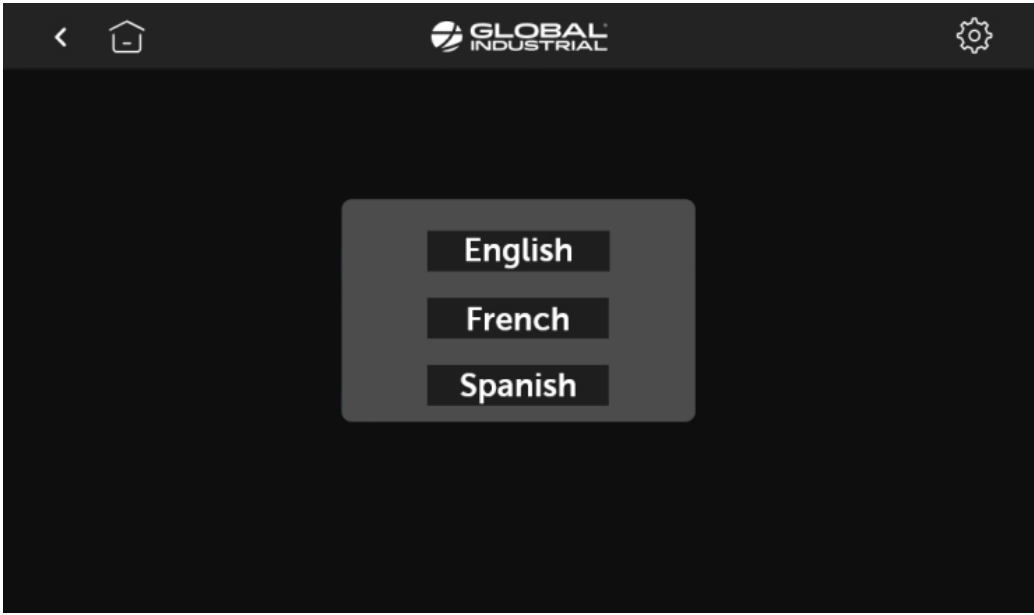
Display Interface Description

- Set Up Page

Return to Previous Page Button



- Language Setting Page
The product supports three language settings: English, French, Spanish (the default setting is English.)

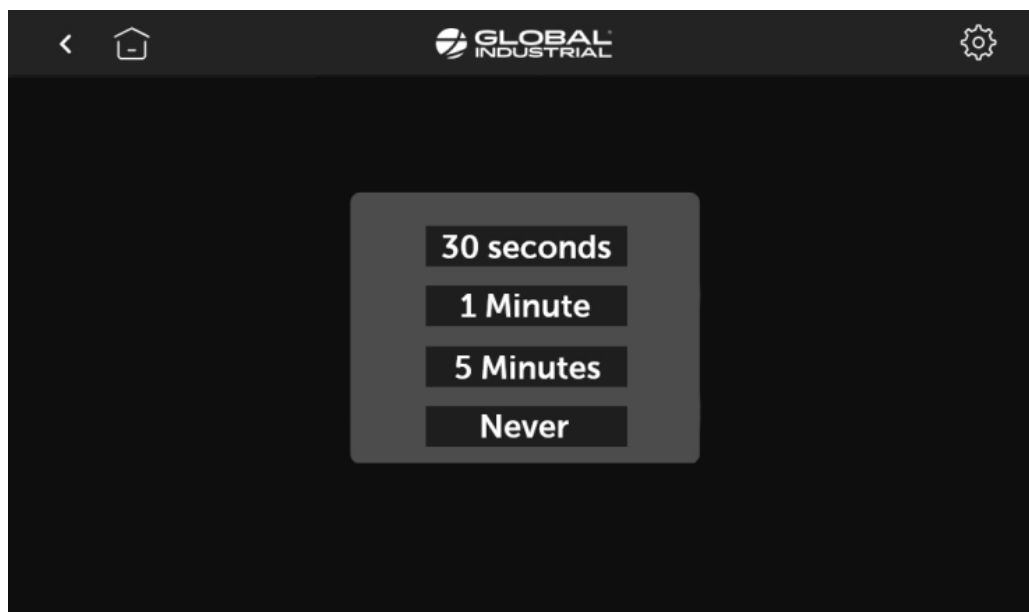


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Display Interface Description

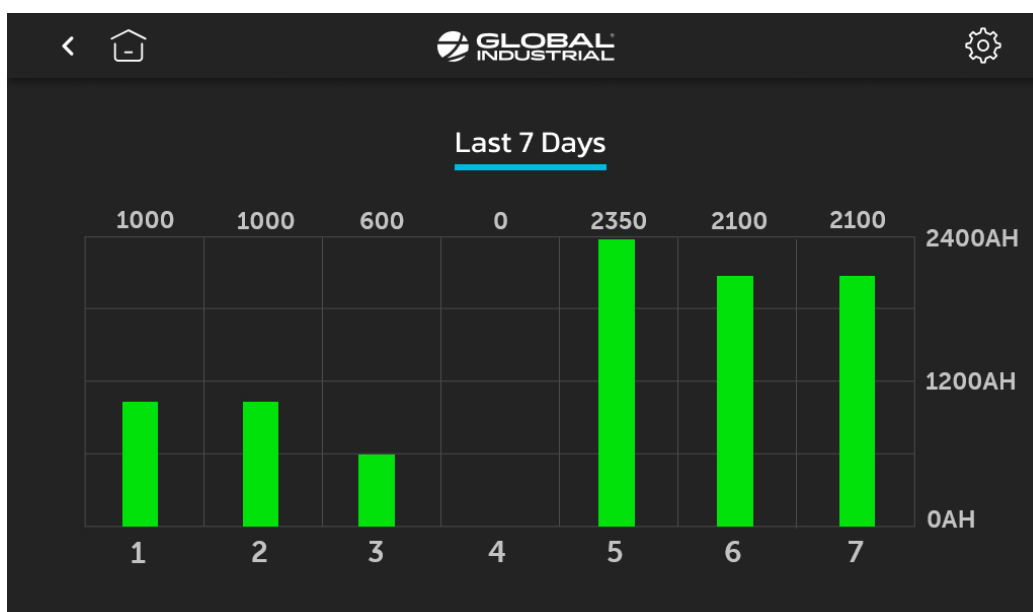
- **Screen Sleep Time Page**

There are four settings for the off time: 30 seconds, 1 minute, 5 minutes, and never (the default setting is 5 minutes.)



- **Charging History Page**

The charging history will save the charging capacity record of the previous seven days, and display the record according to the total charging power (Ah) of each day. In that case, only the data of seven days is displayed.

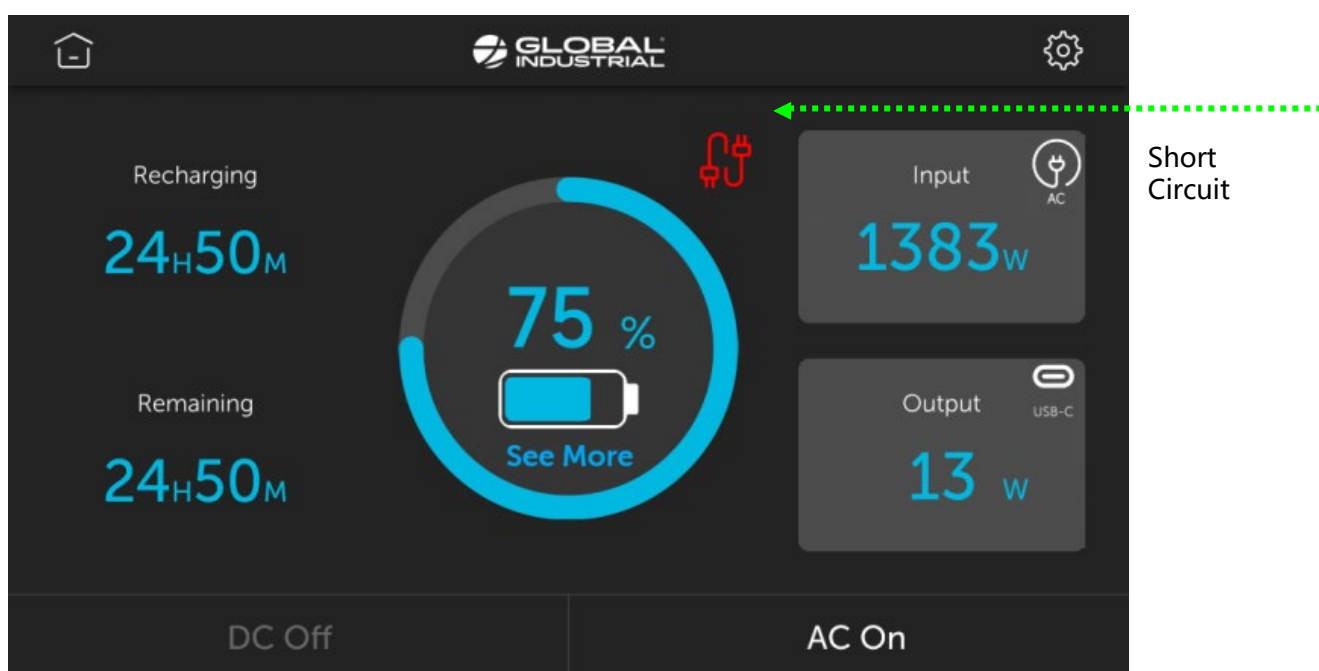
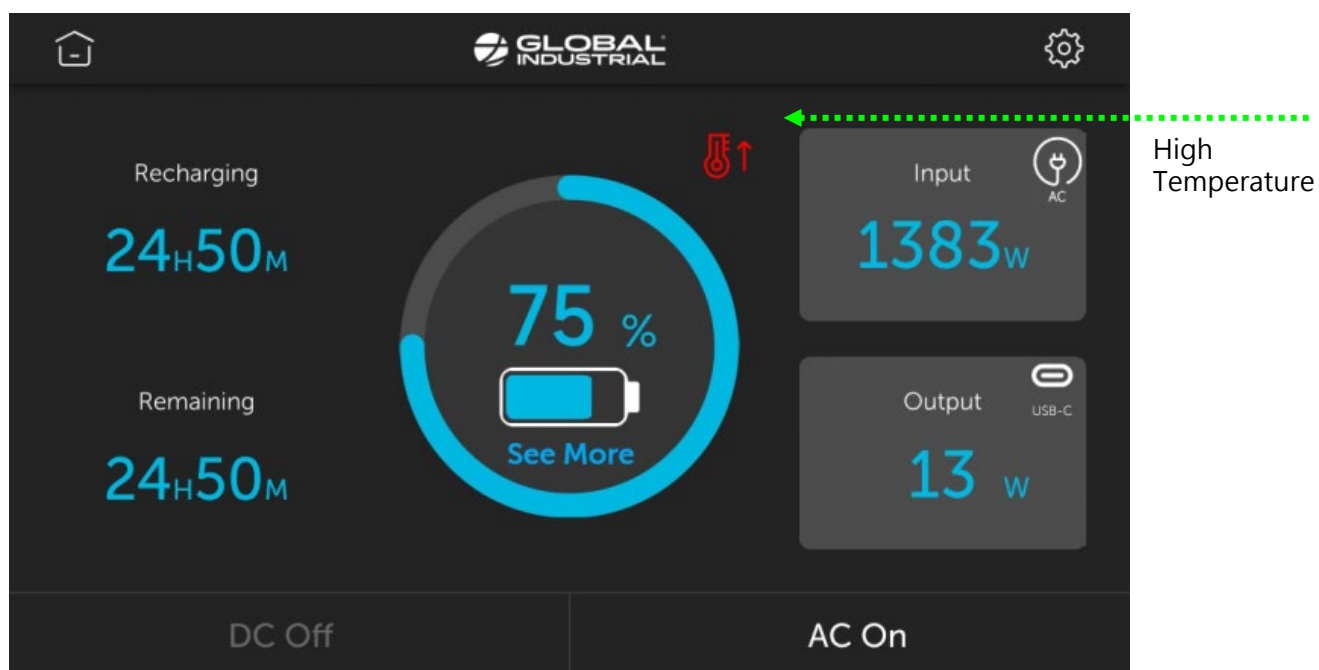


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Display Interface Description

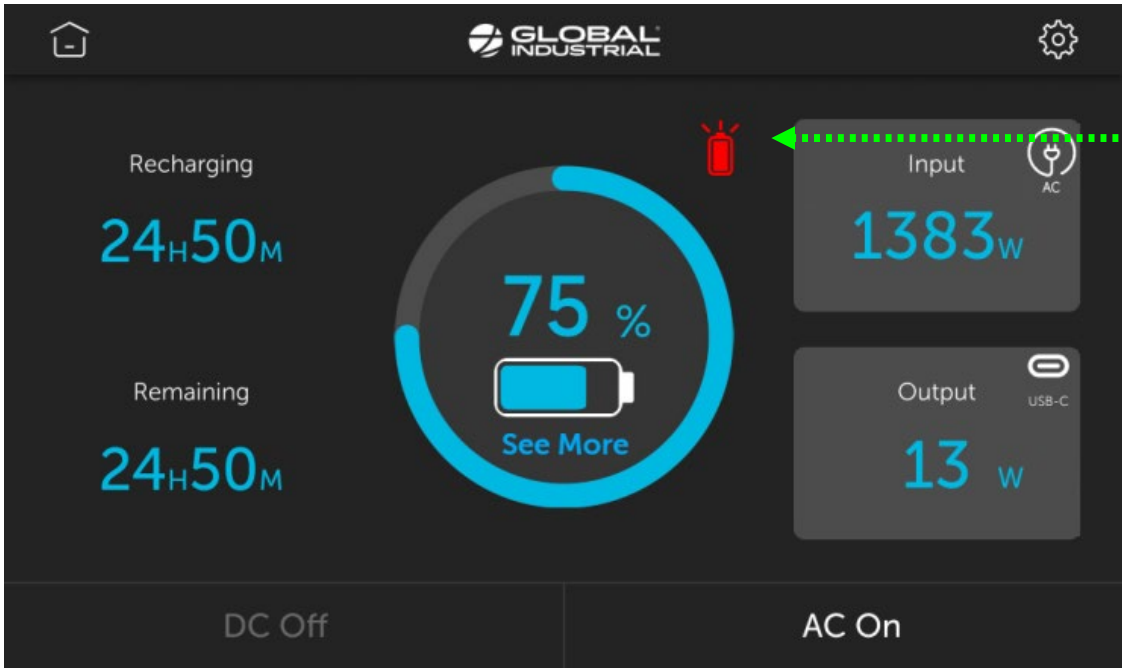
- The Fault Icon Instructions

Fault icons are divided into three types, high temperature, short circuit and overload. If the product is in abnormal state, the corresponding fault icon and troubleshooting prompt will appear on the screen.



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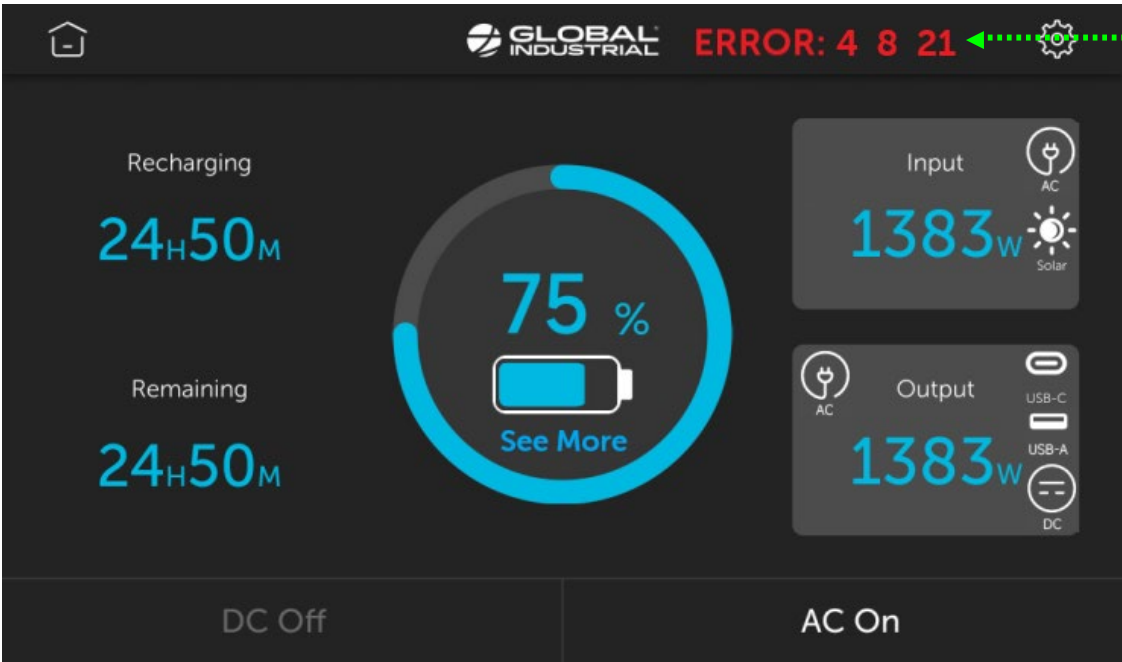
Display Interface Description



Output Overload Icon

- **Fault Code Display**

The fault code can display four fault numbers at the same time, increasing from left to right. See Chapter 5 (Failure Code Description Table) for details about the meaning of the code.



Fault Code

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Display Interface Description

- Fault History

Error History		Error Code >	
Number	Error Code	Number	Error Code
01	17	09	0
02	2	10	0
03	17	11	0
04	19	12	0
05	0	13	0
06	0	14	0
07	0	15	0
08	0	16	0

The red record indicates the current most recent fault

- Fault Code Query and Troubleshooting

Error Code	Description	Troubleshooting Method
01	Battery Undervoltage Alarm	Stop Using and Charge Immediately
02	Software Protection on Overcurrent Battery Average Discharging	Reduce Load Power Usage
03	Battery not Connected Alarm	Contact After-sales Maintenance Team
04	Stop Discharging Alarm on Undervoltage Battery	Stop Using and Charge Immediately
05	Battery Overcurrent Hardware Protection	Reduce Load Power Usage

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Operation and Usage

1. Steps for the First Start of Portable Power Station

- Turn on all circuit breaker switches at the side door.
- Check whether there is any visible damage to the appearance of the station, and whether the output interfaces are loose or damaged (If abnormal conditions occur, stop using)
- Fix the grounding post on the back of the station to the ground.
- Press the "POWER" button on the front panel, and if the green light comes on, it indicates that the startup has been successful. Observe the screen to see whether the battery is fully charged. When the battery level is below 30%, it is recommended to fully charge it before use. When the product is powered on, the AC output defaults to on, and the DC/USB output defaults to off.

2. Charging Steps

- AC charging : First, confirm whether the mains grid voltage and frequency are within the range of mains charging input parameters of this product. Second, confirm that there is no load on the AC output socket, and plug one end of the AC charging cable in the accessory into the charging socket on the back of the power station, and another one end to the mains power socket. Then, check whether the charging power and remaining charging time on the screen correspond to the product parameters. During the charging process, the AC switch on the screen must be in the "ON" state, otherwise it cannot be charged.
- Solar photovoltaic charging : Please check the photovoltaic input voltage range before charging. After confirming that the positive and negative poles of the input interface correspond correctly to the positive and negative poles on the product socket, insert the input interface into the photovoltaic charging socket at the bottom left corner of the power station. Then, turn on the POWER switch on the front panel and check if the photovoltaic charging power and remaining charging time displayed on the screen correspond to the product parameters. During the charging process, the POWER switch must be turned on, otherwise the product cannot be charged (Ensure that there is sufficient sunlight when using photovoltaic charging).

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Operation and Usage

3. AC Output On-load Usage

AC on load: Before use, please check that the power range and voltage range of the on-load electrical equipment should match the output parameters of the station. Press and turn on the RESET button on the GFCI5-20R socket ; Check whether the breakers at the side doors are all open. Insert the power plug of the loaded product into the output socket at the front of the station, and turn on the AC switch on the front. The load should work normally. Check the output on-load power parameters on the display screen.

4. DC/USB Output On-load Usage

Before using the power station, please check that the voltage and the corresponding parameter range of the on-load electrical device are consistent with the power station. Insert the interface plug of the on-load electrical device into the corresponding interface in the front, and turn on the DC switch on the screen. The load should work normally. Check the output on-load power parameters on the screen.

5. Expandable Battery Usage

Ensure that the specifications of the expandable battery are the same as those of the main battery. When the main and the expandable battery are off, insert one end of the expandable battery cable into the battery expansion port on the rear panel of the station and the other end into the socket in the expandable battery. Then turn on the portable power station and expandable battery switch in turn. Check whether the battery status in the main display is in the normal status, and the capacity deviation range between the two batteries should be within 10% before expansion (otherwise, the battery life will be reduced and other battery failures will occur during use). The expandable battery can be charged independently by the charger equipped with the machine, or can be simultaneously charged by the mains and photovoltaic with the main battery.

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Fault Code Comparison Table

Fault Codes	Meaning	Description	Troubleshooting Methods
1	BatVoltLow	Battery under-voltage alarm	Stop Using and Charge Immediately
2	BatOverCurrSw	Battery discharge average current overcurrent software protection	Reduce the Loaded Power
3	BatOpen	Battery not connected alarm	Contact After-sales Service
4	BatLowEod	Battery under-voltage stop discharge alarm	Stop Using and Charge Immediately
5	BatOverCurrHw	Battery overcurrent hardware protection	Reduce the Loaded Power
6	BatOverVolt	Charge overvoltage protection	Stop Charging
7	BusOverVoltHw	Bus overvoltage hardware protection	Contact After-sales Service
8	BusOverVoltSw	Bus overvoltage software protection	Contact After-sales Service
9	PvVoltHigh	PV overvoltage protection	Stop Charging and Check PV Voltage
10	PvBoostOCSw	Boost overcurrent software protection	Contact After-sales Service
11	PvBoostOCHw	Boost overcurrent hardware protection	Contact After-sales Service
12	SpiCommErr	SPI communication failure between master and slave chips	Contact After-sales Service
13	OverLoadBypass	Bypass overload protection	Reduce the Loaded Power
14	OverLoadInverter	Inverter overload protection	Reduce the Loaded Power
15	AcOverCurrHw	Inverter overcurrent hardware protection	Reduce the Loaded Power
16	AuxDspReqOffPWM	Slave chip requests shutdown fault	Contact After-sales Service
17	InvShort	Inverter short-circuit protection	Turn off all Power and Check the Output Load and Socket
19	OverTemperMppt	PV radiator over temperature protection	Reduce Load or Turn Power off and Allow to Cool Naturally
20	OverTemperInv	Over temperature protection of inverter heat sink	Reduce Load or Turn Power off and Allow to Cool Naturally
21	FanFail	Fan failure	Contact After-sales Service
22	EEPROM	Memory failure	Contact After-sales Service
23	ModeNumErr	Model setting error	Contact After-sales Service
24	Busduff	Positive and negative bus voltage imbalance	Contact After-sales Service
25	BusShort	Bus short circuit	Contact After-sales Service
26	RlyShort	Inverted AC output backflow to bypass AC output	Contact After-sales Service
28	LinePhaseErr	Mains input phase error	Check Mains Charging Input Voltage
29	BusVoltLow	Bus voltage low protection	Check Mains Charging Input Voltage
30	BatCapacityLow1	Battery capacity rate below 15% alarm	Turn off, Stop Using and Charge Immediately

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Fault Code Comparison Table

31	BatCapacityLow2	Battery capacity rate below 5% alarm	Turn off, Stop Using and Charge Immediately
32	BatCapacityLowStop	Battery low capacity shutdown	Turn off, Stop Using and Charge Immediately
58	BMSComErr	BMS communication failure	Contact After-sales Service
59	BMSErr	BMS error	Contact After-sales Service
60	BMSUnderTem	BMS low temperature alarm	Stop Using and Check the Ambient Temperature
61	BMSVoerTem	BMS over temperature alarm	Stop Using and Check
62	BMSOverCur	BMS overcurrent alarm	Reduce the Loaded Power
63	BMSUnderVolt	BMS under-voltage alarm	Turn off, Stop Using and Charge Immediately
64	BMSOverVolt	BMS overvoltage alarm	Stop Charging and loading to Cancel the Fault

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Trouble Shooting

Issue	Suggested Action
Unable to Perform Mains Charging	<ul style="list-style-type: none"> • If the mains input voltage range and frequency exceed the parameter range of the power station, it cannot be charged. • The AC switch on the screen should be in the open status. If the AC switch is closed, it cannot be charged. • Check whether the specifications of the charging cable are consistent with those equipped with this power station and check whether there is an open circuit. • When charging, the AC output socket should not be plugged into the load, otherwise it cannot start charging.
Unable to Perform Photovoltaic Charging	<ul style="list-style-type: none"> • Check whether the voltage range and current of the photovoltaic panel are within the parameter range of the power station. • Make sure to use it in sufficient light. • Before PV charging, the POWER switch should be turned on so that the power station can be charged under the startup status. • Check whether the photovoltaic circuit breaker out of the side door is on. • Check whether the positive and negative poles of the photovoltaic panel connection line correspond to those on the product socket, and the plug and socket should match. • Check whether the photovoltaic panel connection line is broken or on open circuit phenomenon
Unable to Perform Photovoltaic Charging	<ul style="list-style-type: none"> • Check whether the AC icon button in the display is open. • The circuit breakers at the side door of the product should all be turned on. • The RESET button on the GFCI5-20R socket should be on and a green flashing light should indicate it. • Confirm whether the power of the load appliance is within the normal load range of the power station.
USB/DC No-output	<ul style="list-style-type: none"> • Check whether the DC icon button on the display is open. • Check whether the load connection line is on open circuit phenomenon. • Check if the output interface is fully inserted and firmly connected.
After turning on the main power switch of the power station, the product cannot start normally and the display screen doesn't work	<p>In this case, it should be considered that the product battery may be out of power, the internal reverse controller cannot be started, and the battery enters a state of power loss sleep. You can first access the mains to charge the product and activate it. When the battery is fully-charged, it can be used.</p>
Unable to Connect the Expandable Battery	<ul style="list-style-type: none"> • The power switch of the expandable battery should be on. • The specifications, models and parameters of the expandable battery must be consistent with the host battery. • Check whether the plug of the expansion connection line is completely inserted into the expansion socket. • Measure and exclude whether the expansion line has an open circuit phenomenon.
Why does the output shut off when the battery power is 10%?	<p>The product is set to turn off the output when the battery power is $\leq 10\%$. This is to protect the battery cell from over-discharge. When this situation occurs, the battery should be charged immediately</p>