Power Stream 4

User Manual

Disclaimers

- After reading, keep the user's manual in a safe place for future reference.
- If you do not operate this product accurately, you may cause serious injury to yourself or others, or damage to the product and property damage.
- By using this product, you will be deemed to have understood, acknowledged and accepted the terms and content of this document in its entirety. Users undertake to be responsible for their own actions and all consequences arising therefrom. The company shall not be liable for all losses caused by the user's failure to use the product in accordance with the User Manual.
- Subject to compliance with laws and regulations, the Company has the final right of interpretation of this document and all related documents of this product. As the product information is updated, revised or terminated without notice, please pay attention to the latest product information on the official website.

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1 Product Profile

This product is developed to meet the power supply needs for home or outdoor work, and our company independently owns all software and hardware patents and intellectual property rights under this product.

The product adopts digital design concept, intelligent sine wave output, adapts to various loads and has a rich selection of external output interfaces; excellent output short-circuit protection design, can withstand the impact of high-current starting loads; one-touch intelligent switch design, easy to operate; widely used in household electrical equipment, communication equipment, as well as single-phase power equipment, and even industrial equipment, etc.

2 Product Features

- Intelligent chip control, superior performance
- High robustness, pure sine wave AC output, strong ability to bear different loads
- Strict short circuit protection design, very reliable working
- Simple LCD display, clear display of working status
- Intelligent charging control, extend the service life of the battery
- All-round protection, safe and reliable
- Adapt to a wide range of temperatures and high altitude areas
- Adapt to unstable grid charging environment
- Lightweight and portable, ultimate volume energy density and weight energy density

3 Product Introduction

3.1 Solar System Connection

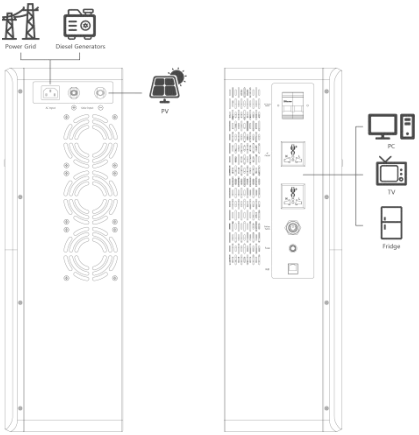


Figure3-1 Solar System Connection Diagram

3.2 Indicator and Ports

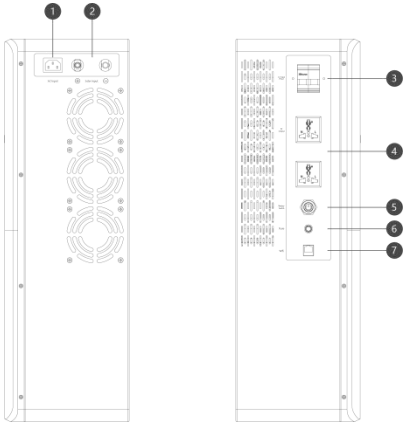


Figure3-2 Indicators and Port Diagram

①	AC Input	②	Solar Input
③	AC Output Protect	④	AC Output
⑤	Switch	⑥	Fuse
⑦	Wifi		

3.3 Technical Data

PS4		
Product Information	Product Capacity	4.02 kWh (12.8V 314Ah)
	Certified	CE / RoHS / SAA / FCC / PSE
	Product Size	620*420*200 mm
	Conversion Efficiency	≥90%
	Design Cycle Life	8000 cycles
	Material	SPCC
AC Output	Rated Output Power	3kVA / 3kW, single-phase
	Nominal Output Voltage	230 Vac
	Nominal Output Current	13 A
AC Input	Rated Input Voltage	230 Vac
	Max. AC Input Current	15 A
	Max. AC Charging Power	3,000 W
Battery Information	Battery Type	Lithium iron phosphate
	Communication Ports	RS-485 (upper computer / BMS), optional Wi-Fi module
	Operating Temperature	-10 ~ 50℃
	Relative Humidity	0–90% RH, non-condensing

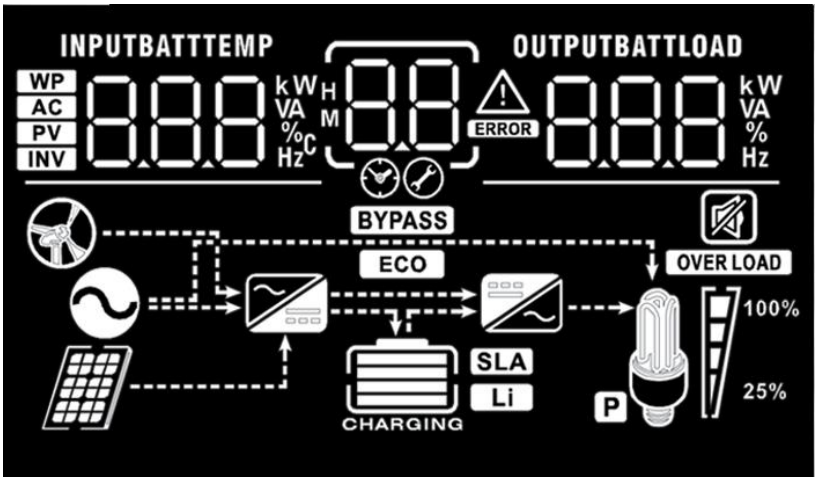
3.4 LED Indicator

LED Indicator			Descriptive
AC INV	Greener	Everlasting brightness	The output is powered by Line (mains).
		Blink	Outputs are powered by batteries or PV in battery mode.
CHG	Greener	Everlasting brightness	Battery is fully charged.
		Blink	The battery is charging.
FAULT	red	Everlasting brightness	Inverter failure.
		Blink	The inverter issues a warning.

3.5 Function Key

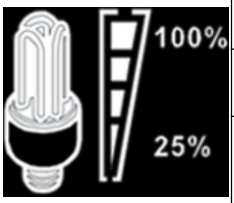
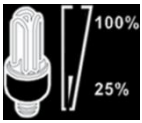
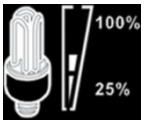
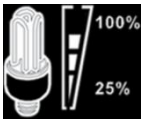
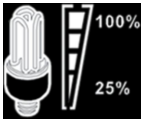
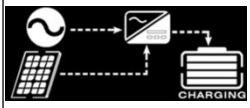
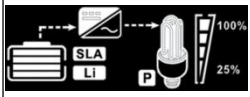
Function Key	Descriptive
ESC	Exit Setup Mode
UP	Go to previous selection
DOWN	Go to next selection
ENTER	Confirming the selection in setup mode or entering setup mode

3.6 LCD Display icons



Icon	Functional Description
Input Source Info	
AC	Indicates the PV input
PV	Indicates the PV input
	Indicates input voltage, input frequency, PV voltage, battery voltage and charger current
Configuration Program And Fault Information	
	Indicates the setup program
	Display alarm code

	Fault code displayed
Output Message	
	Indicates output voltage, output frequency, percent load, VA load, watt load, and discharge current
Battery Information	
	The battery power bar icon has 4 bars, each bar represents 25% of the battery power, the bar is always on when the battery is discharged, and the bar flashes when the battery is charging. There are two ways to get the battery power. 1 If the battery type is set to Li-ion battery and Li-ion battery with BMS communication, you can get it by reading the SOC of Li-ion battery. 2 If the battery type is set to lead-acid battery, you can get the battery power information by calculating, the formula is as follows: Battery power = (battery voltage - battery under voltage protection value) / (battery charging voltage setting value - battery under voltage protection value)

<table>
<tr><th colspan="5">Load Information</th></tr>
<tr><td> 
</td><td colspan="4">Indicates overloading.</td></tr>
<tr><td rowspan="3"> 
</td><td colspan="4">Load icons indicate 0-24%, 25-50%, 50-75% and 75-100% load levels</td></tr>
<tr><td>0%~25%</td><td>25%~50%</td><td>50%~75%</td><td>75%～100%</td></tr>
<tr><td> 
</td><td> 
</td><td> 
</td><td> 
</td></tr>
<tr><th colspan="5">Mode Operation Information</th></tr>
<tr><td>  </td><td colspan="4">Indicates that the unit is connected to the mains.</td></tr>
<tr><td>  </td><td colspan="4">Indicates that the device is connected to a photovoltaic panel.</td></tr>
<tr><td> 
</td><td colspan="4">Indicates that the load is powered by the utility.</td></tr>
<tr><td> 
</td><td colspan="4">Indicates that the inverter is on energy saving mode.</td></tr>
<tr><td> 
</td><td colspan="4">Indicates that the unit is charging the battery</td></tr>
<tr><td> 
</td><td colspan="4">Indicates the battery is discharging.</td></tr>
<tr><th colspan="5">Mute Operation</th></tr>
<tr><td>  </td><td colspan="4">Indicates that the machine alarm is disabled.</td></tr>
</table>

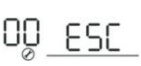
4 Display Information

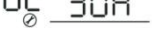
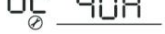
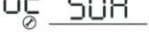
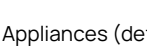
Press the UP or DOWN key, the LCD display information will be switched in sequence. Selectable information is switched in the following order: Input Voltage, Input Frequency, PV Voltage, MPPT Charge Current, MPPT Charge Power, Battery Voltage, Output Voltage, Output Frequency, Load Percentage, VA Load, Watt Load, DC Discharge Current, Main CPU Version.

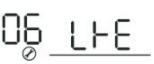
4.1 LCD Settings

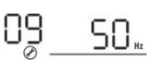
Press and hold the ENTER button for 3 seconds and the unit will enter the setup mode. Press the UP or DOWN button to select the setup program. Then press the "ENTER" button to confirm the selection or press the ESC button to exit.

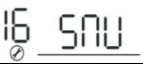
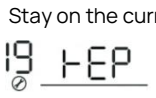
4.2 Setup program

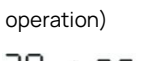
Setting	Description	Options	
00	Exiting Setup Mode	Abort 	
01	Output source is prioritized: Setting load supply priority	Solar energy first: 	Solar prioritizes supplying power to loads If solar cannot effectively supply all loads connected, batteries will supply power to loads at the same time . The utility will only power the loads under one of the following conditions. -Solar energy is not available. -Battery voltage falls below the battery low voltage alarm point set in item 12.

<table>
<tr><td></td><td></td><td>SBU Preferred：
  </td><td>Solar power is prioritized for loads If the solar power is not effective in supplying all connected loads, the batteries will supply power to the loads at the same time.
The utility will only supply power to the loads if the battery voltage falls below the battery low voltage alarm point set in item 12.</td></tr>
<tr><td rowspan="6">02</td><td rowspan="6">Setting The Max Charging Current：Sum of mains charging current and solar charging current</td><td colspan="2">Default values
  </td></tr>
<tr><td colspan="2">Short press the confirmation key to enter the charging current setting and then press UP or DOWN key to select the setting items, setting range: 20A-150A</td></tr>
<tr><td>20A
  </td><td>30A
  </td></tr>
<tr><td>40A
  </td><td>50A
  </td></tr>
<tr><td>60A
  </td><td>70A
  </td></tr>
<tr><td>80A
  </td><td>90A
  </td></tr>
<tr><td>03</td><td>AC Input Voltage Ranges</td><td>Appliances (default)
  </td><td>If selected, the acceptable AC voltage
Input range : 90-264 VAC.</td></tr>
</table>

		UPS 	If selected, acceptable AC voltage input range: 170-264VAC.
04	Power save mode on/off	Power save mode off (default) 	If this item is selected, the inverter will not enter power saving mode regardless of the number of connected loads.
		Power saving mode on 	If this item is selected, when the inverter output load is less than 10W, it enters the power saving mode to shut down the inverter output. When the inverter output load is greater than 10W, the output will be restored automatically.
05	Automatic restart on overload	No restart (default) 	Manual reboot required to recover from output overloads
		Reboot 	Output overload protection is automatically recovered after 30 seconds, after 4consecutive failures, it will no longer be automatically recovered and requires a manual reboot to recover.

<table>
<tr><td>06</td><td>Automatic restoration of settings when the inverter output voltage is over-temperature</td><td>Default 230 V OUTPUT</td><td>Press the confirmation key and then press the UP or DOWN key to select the OUTPUT setting range 100-240V.</td></tr>
<tr><td>07</td><td>Output frequency</td><td>50Hz (default)
  </td><td>60Hz
  </td></tr>
<tr><td rowspan="5">08</td><td rowspan="5">Setting maximum mains charging current</td><td colspan="2">Range 10-80A, turn up the buttons to increase by 10A each time, turn down the buttons to decrease by 10A each time.</td></tr>
<tr><td>10A
  </td><td>20A (default)
  </td></tr>
<tr><td>30A
  </td><td>40A
  </td></tr>
<tr><td>50A
  </td><td>60A (default)
  </td></tr>
<tr><td>70A
  </td><td>80A
  </td></tr>
<tr><td>09</td><td>Setting the battery re-charge voltage</td><td colspan="2">This is used at the end of charging when the battery voltage is lower than this setting</td></tr>
<tr><td colspan="2">46.0V (default)
  </td><td>12V：10-14.7V</td></tr>
</table>

<table>
<tr><td rowspan="4">10</td><td rowspan="4">Setting the charging energy priority</td><td colspan="2">There are three options:
1. SNU indicates that PV and utility have the same priority, and PV utility charge the battery at the same time.
2.CSO indicates that PV is prioritized for charging and the utility charges the battery when there is no PV.
3.OSO can charge the battery only with PV.</td></tr>
<tr><td>Default: SNU
  </td><td>CSO
  </td></tr>
<tr><td>OSO
  </td><td></td></tr>
<tr><td rowspan="2">11</td><td rowspan="2">Display main menu auto return</td><td>Return to the default page
  </td><td>If selected, the screen will always automatically return to the default display (Input Voltage / Output Voltage), regardless of how the user flips the screen, after 1 minute of not adjusting the screen display buttons.</td></tr>
<tr><td>Stay on the current page
  </td><td>If selected, the display holds the last user-activated display</td></tr>
</table>

12	Setting the display to always be on	Background light on (default) 	Background light off (screen rests after 1 minute of operation) 
13	Setting the buzzer alert when PV solar or utility power is turned on or off	Alarm On (default) 	warning pass 
14	Record Fault Codes	(Default) Recording fault codes 	Fault codes not recorded