



VOLTA-1600
Portable Power Station
Ver: A

USER MANUAL

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Thank you for choosing our products, please read the instruction manual before using and keep it for future reference.

Warnings

Keep the following precautions in mind to avoid fire and other safety hazards!

- Avoid using batteries in areas where there is fire or heat, as this can lead to risks such as battery overheating and casing rupture.
- Don't allow this product to contact any liquid or place it in a humid place.
- Do not use this product in a strong static or magnetic field environment.
- Do not place this product in an extremely low pressure environment.
- Do not disassemble this product by yourself. Repairs should only be performed by qualified personnel.
- Do not touch the inside of this product with metal or conductive objects.
- Do not puncture the case of this product.
- Do not use or store this product outside the specified temperature range.
- Do not block the heat dissipation duct when using this product.
- Do not place heavy objects on top of this product.
- Do not connect to an AC power source that exceeds the voltage range of the product.
- Keep batteries out of the reach of children!

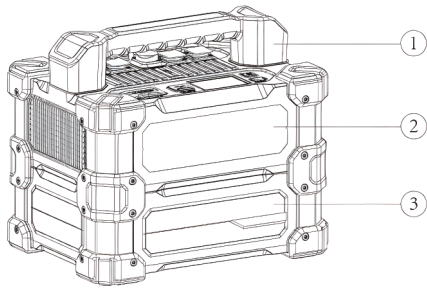
Caution

- Ensure that the electrodes remain clean and prevent any short circuits between them.
- If this product is deformed due to severe external impact, please stop using it immediately.
- Please use the original standard parts or accessories to avoid damaging the device.
- Please place it on a stable surface to prevent it from falling and causing damage to the product.
- Batteries may heat up during charging and discharging, which is normal.
- The power of this product will be naturally consumed during storage. Please place it in a cool and dry place for long-term storage.
- If this product is not used for 10 days, it will enter ultra-low power mode and require pressing the button for recovery.
- Please use this product within the parameters marked on this product.
- The handle has limited load-bearing capacity, and it is not recommended to use equipment to lift the product through the handle.

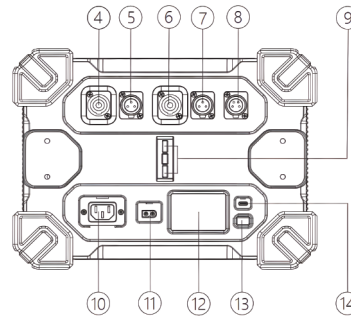
Features

- Versatile Interface Design: USB-C, 12V four-core XLR, 24V three-core XLR and SPEAKON, 48V three-core XLR and SPEAKON; support all interfaces to power supply at the same time to meet the power supply needs of multiple devices at the same time.
- Supports cascading of 1-8 layers of battery packs, with a maximum capacity of 14,400Wh, providing longer endurance.
- Built-in MPPT module, supports charging from solar panels with various voltage levels.
- Utilizes both a digital color screen and high-brightness LED indicators. From a distance, the basic battery status can be viewed via the high-brightness LED, while detailed battery information can be checked up close using the digital color screen.
- The internal bracket securely holds the core group in place, along with a UL94-V0 grade flame-retardant casing, providing enhanced safety protection.
- Utilizing high-quality lithium ternary cells with high energy density, these batteries undergo rigorous screening and pairing processes. Additionally, an internal self-balancing circuit enhances reliability and durability.
- Equipped with a dual-level multi-protection circuit, it provides comprehensive safety protection. The first level comprises temperature, voltage, and current restoration capabilities, while the second level offers non-restorable protection against temperature, voltage, and current, effectively mitigating potential hazards in case of first-level protection failure.
- An ultra-low power mode is automatically activated after ten days of inactivity, preserving battery life. Simply pressing the button or charging the battery resumes normal usage.

Appearance



- ① Handle
- ② Control Unit
- ③ Battery Pack
- ④ 48V SPEAKON output
- ⑤ 48V 3-pin XLR output female connector
- ⑥ 24V SPEAKON output
- ⑦ 24V 3-pin XLR output female connector





- ⑧ 12V 4-pin XLR output female connector
- ⑨ LED indicator
- ⑩ IEC AC charging input
- ⑪ XT60 solar charging input
- ⑫ Digital color screen
- ⑬ Button
- ⑭ USB-C output

Recharge

- Supports AC and solar charging separately or simultaneously. when AC or solar panels are connected, charging begins automatically without any additional action.
- Optimal Charging Temperature: It is recommended to charge the battery within an optimal temperature range of 10°C to 30°C. The battery can be charged within a maximum allowable range of 0°C to 40°C for extended compatibility.

Discharge

- Long press the button to activate all 12V, 24V, and 48V output ports. The LCD will light up, and long press the button again will turn off all output ports;
- When a device is connected to the USB-C port,  will be displayed on the screen.
-  indicates that the USB-C port is now active and providing output.
- During the discharge process, the LED display screen will alternately show the remaining power and the remaining time.
- This product will automatically shut down all output ports after remaining in standby mode for 12 hours.
- This product is designed to operate within a temperature range of -20°C to 50°C, with optimal performance achieved between -10°C and 40°C. It is recommended to use the batteries within this optimal range to ensure maximum efficiency and safety.

Simultaneous Charging and Discharging

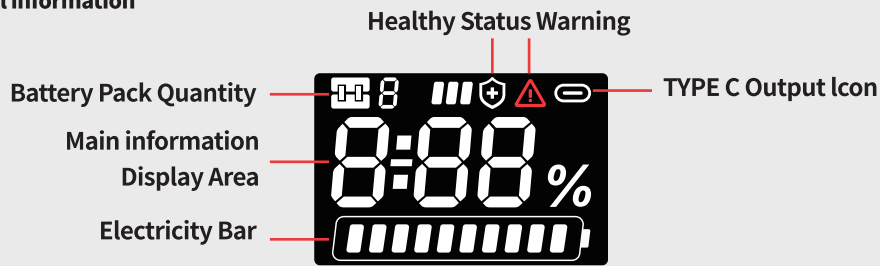
- This product supports simultaneous charging and discharging.
- When the total charging power is greater than the discharging power, the remaining charging power will be used to charge the battery pack.
- When the total charging power is less than the discharging power, the insufficient power will be supplied by the battery pack.

Multi-Layer Battery Pack User Manual

- This product allows the assembly of battery packs with inconsistent battery levels.
- **Charging:**
When battery packs have different battery levels, the system will prioritize charging the packs with lower levels until their voltages are equal. Once the voltages are consistent, all battery packs will charge together until fully charged. After charging is complete, the product will enter a half-hour internal balancing state before going into sleep mode.
- **Discharging:**
When battery packs have different battery levels, the system will prioritize discharging the packs with higher levels until their voltages are equal. Once the voltages are consistent, all battery packs will discharge together until empty. After discharging is complete, the product will turn off the display and enter a half-hour internal balancing state before going into sleep mode.
- **Simultaneous Charging and Discharging:** If the battery packs have different battery levels, the system will prioritize discharging the packs with higher battery levels until all battery packs have equal voltages before initiating simultaneous charging and discharging.
- During the charging and discharging processes, there may be significant discrepancies in the displayed battery levels when battery packs are inconsistent. To enhance the user experience, it is recommended to fully charge the newly assembled portable power station to ensure all battery packs have the same charge level before use.

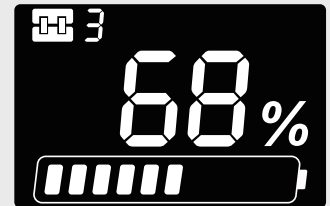
LED Display & Alarms

Digital Presentation Of All information



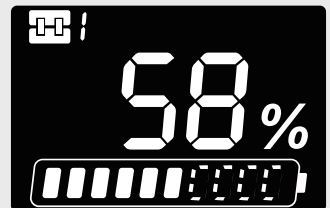
1. Standby mode

Display of the number of battery packs,
Percentage of electricity and electricity bar.



2. Charging

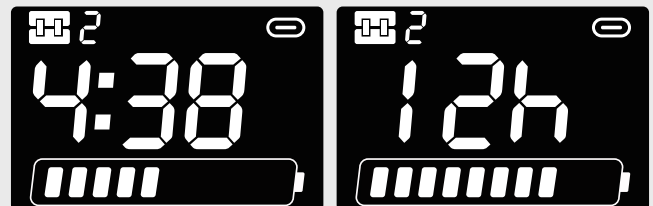
The electricity bar displays an animation from the current
charge level to full charge.



3. Discharging

The remaining battery level and runtime alternate every 3 seconds.
When the USB-C interface is under load, its icon will be displayed.

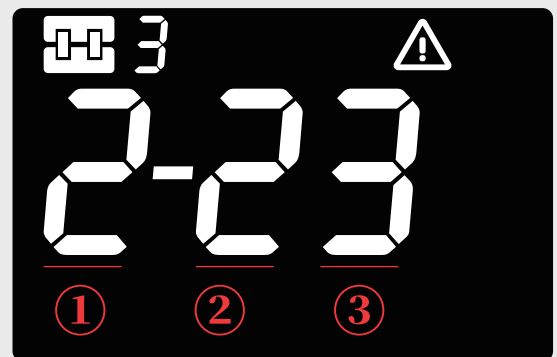
- ① For runtimes up to 10 hours, the display will range from 0:00 to 9:59 along with the battery percentage.
- ② For runtimes exceeding 10 hours, the duration and battery charge percentage will be shown in hourly increments.



4. Alarm Code

The alarm indicator lights up to indicate that a protection feature has
been triggered, during the time touch or press the key to display the
alarm code:

- ① Faulty battery pack
- ② =1: Class 1 protection
=2: Class 2 protection
=3: Class 3 protection
- ③ Fault Codes



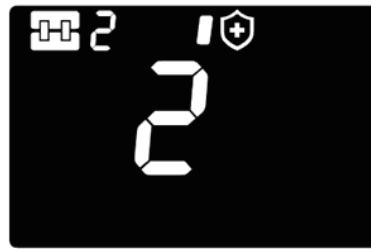
Protection Class	Fault Codes	Abnormal Type	Treatment Method
Class 1	0	Balancing Protection	please leave it at room temperature and wait for its own recovery.
	3	Charging Overcurrent Protection	please unplug the cable and wait for its own recovery.
	4-8	Discharging Overcurrent Protection	please unplug the battery and make sure there is no foreign matter between the electrodes and wait for its own recovery.
	9-C	Temperature Protection	please leave it at room temperature and wait for its own recovery.
	D-F	Overcharge Protection	please unplug the cable and wait for its own recovery.
Class 2	1-J	Secondary Protection	please unplug the battery and make sure there is no foreign matter between the electrodes and wait for its own recovery.
Class 3	1-3	Battery Pack Abnormality	

5. Battery Health

Double-click the button to sequentially display the health status of each battery pack: **▄▄▄** indicates healthy; **▄▄** indicates moderate health; **▄** indicates unhealthy, recommended to replace the battery pack. (As shown in the figure below)



(The first battery pack is healthy)



(The SECOND battery pack is unhealthy)

LED Display Instructions

Status	Battery Level	LED Display
Charging Cable Plugged	0-80%	Red light steady
	80-99%	Red light flashing slowly
	100%	Green light steady
Output turned on	100%-10%	Green light steady
	10%-0% Less than 15 minutes remaining	Green light flashing slowly
	<0%	Off
Simultaneous Charging and Discharging	/	Yellow light steady
Abnormal occurred	/	Red light flashing quickly

Specification

Model			BT-D16	
Capacity (Battery Pack×1)			1600Wh, 44.1Ah	
Charging Parameters	AC Charging	Input Voltage Range and Frequency	100 ~ 240VAC,50/60Hz	
		Maximum Charging Power	450W	
	Solar Charging	Input Voltage Power	11.5~30V --- 10A(MAX)	
			30V~60V --- 400W(MAX)	
Discharging Parameters	12V 4-pin XLR Female Connector		12V--- 10A	
	24V 3-pin XLR Female Connector		24V--- 15A	
	24V SPEAKON Connector			
	48V 3-pin XLR Female Connector		48V--- 15A	48V--- 25A
	48V SPEAKON Connector		48V--- 25A	
	USB-C		65W(Max), 5V/9V/12V/15V/20V(Max)--- 3.25A Supported Protocols: 1.BC1.2,Apple and Samsung phones 2.QC2.0,3.0 3.FCP,SCP 4.PD2.0,3.0	
Total Discharge Power		1700W		
Size & Weight	Control Unit+Single Layer Battery Pack	Size	328 X 247 X 281mm	
		Net weight	440 X 375 X 410mm	
		Net weight	13kg	
		Weight with packaging	16kg	
	Single Layer Battery Pack	Size	311 X 230 X 103mm	
		Size with packing	405 X 325 X 195mm	
		Net weight	8.2kg	
		Weight with packaging	9kg	
Charging temperature			0°C~40°C (suggestion10°C~30°C)	
Discharging temperature			-20°C~50°C (suggestion-10°C~40°C)	
Storage temperature			-20°C~50°C	
Other performance Parameters	EMC		EN55032、EN55035	
	Safety		EN62368、J61233、UN38.8	