



Powerology

700W Smart Power Generator

SKU: PGN700FCA



Table of Contents

Product Description	2
Dimensions	2
Specifications	3
Battery Technical Information	4
Product Discharge Time	5
Product Reliability Testing	5
Product Components	7
Display Screen	9
Disposal	11
Warranty	12
Contact Us	12

Product Description

This manual outlines the features and specifications of the POWERLOGY 700W Smart Power Generator. It serves as the foundation for product design, production, and quality inspection. The system is built around a ternary lithium battery protection board, PD circuit, DC charging circuit, and an MCU control system. It also incorporates a bi-directional inverter circuit and an LCD screen. This device is ideal for a wide range of applications, including camping, emergency communication, medical and fire rescue operations, and more.



Top



Left



Back

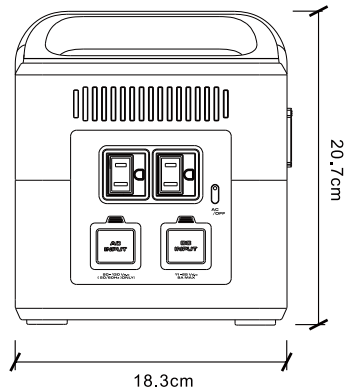
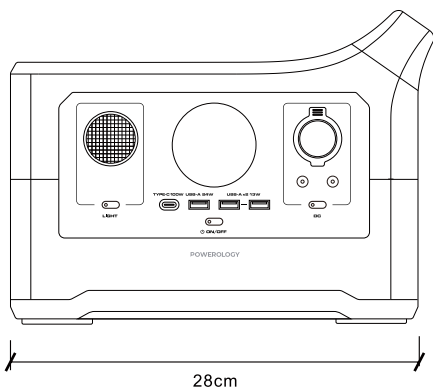


Front



Right

Dimensions



Specifications

Battery Capacity	120000mAh 384Wh
DC Input	10-45V 200W Max
AC Input	E-Speed Charge 600W Max
Car Charger Output	13.6V/10A
DC 2*5521	13.6V/ 3A
AC Output	110V / 220V, 50-60Hz
Rated/Peak Output	700/1400W
Wireless Charging Output	15W
USB-A1* 1 Output	24W 5V/2A, 9V/2A, 12V/2A
USB-A2* 2 Output	13W 5V/2.5A
Type-C Output	100W 5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/5A
Product Dimension	20.7 x 18.3 x 28 cm
Product Weight	5.6KG
Over Temperature Protection	PD 105°C, Inverter 95°C
Over Temperature Recovery	Inverter 80°C
Discharge Temperature	-20°C~ 60°C ± 3°C
Charging Temperature	0°C ~ 45°C± 3°C

Category	Projects	Specifications
USB, TYPE-C, DC Status	Active Status Icon	Switch controlled by keypad
AC IN, AC OUT, Solar Status	Active Status Icon	AC OUT controlled by keypad, AC IN and Solar detected automatically

Remaining Capacity (SOC)	Percentage	10-cell power column (10 %per cell)
Time Remaining	Minimum & Maximum Display	Minimum in minutes, maximum in hours
Warning Messages	Over Temperature, Overload	Alert notifications displayed
Fan Status	Fan Operation	Rotate or stop depending on system status



Battery Technical Information

Function	Symbol	Details	Values
Overcharge Protection	VCU	Overcharge Detection Voltage	3.65V
	VCL	Overcharge Release Voltage	3.55V
Over-discharge Protection Over-current/Overload Protection	VDL	Over-discharge Detection Voltage	2.70V
	VDR	Over-discharge Discharge Voltage	3.0V
	-	Over-current Protection / Overload Protection	53A
	-	Protection Release Conditions	Disconnecting the Load
Over-temperature Protection	-	Charging Over-temperature Protection	50°C
	-	Charge Over-temperature Recovery	45°C
	-	Discharge Over-temperature Protection	60°C
	-	Discharge Over-temperature Recovery	55°C
Short Circuit Protection	-	Short Circuit Protection Conditions	Short Circuit in External Circuit
	-	Short Circuit Protection Release Conditions	Disconnecting Short-circuit Loads
Current Consumption	IDD	Internal Circuit Consumption During Operation	150mA

Product Discharge Time

Digital Camera (16Wh): The power generator can charge your digital camera more than 29 times.

Drones (45Wh): The power generator provides enough power for your drone to fly over 7 times.

Mobile Phone Charging (10Wh): Charge your mobile phone up to 35 times with this power generator.

Refrigerator (60W): The generator can power a refrigerator for up to 7 hours.

Camping Light (10W): Enjoy continuous lighting for over 45 hours with the camping light.

Ventilator (40W): The generator powers a ventilator for 6 hours.

Product Reliability Testing

No	Items	Inspection Standards	Test Results
1	Constant Temperature and Humidity Testing	Place the fully charged power supply in a temperature-controlled box at $40^{\circ}\text{C} \pm 5^{\circ}\text{C}$ with 90%-95 %relative humidity for 12 hours. After removal, place it at $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 2 hours and test its performance.	OK
2	High Temperature Test (Discharge)	Place the fully charged power supply in a high-temperature chamber at $55^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 2 hours. Then, move it to an ambient temperature of $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 2 hours before testing the performance.	OK
3	Low Temperature Test (Discharge)	Place the fully charged power supply in an experimental temperature of $-10^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 2 hours. Then, move it to an ambient temperature of $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 2 hours and test the performance.	OK
4	High Temperature Test (Charging)	Place the discharged power supply in a high-temperature chamber at $40^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 2 hours. After removal, place it in an ambient temperature of $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 2 hours and measure the performance.	OK
5	Low Temperature Test (Charging)	Place the discharged power supply in an experimental temperature of $-10^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 2 hours. Then, move it to an ambient temperature of $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 2 hours and test the performance.	OK
6	Vibration Testing	Subject the product to harmonic vibrations at a frequency of 100Hz for no less than 10 minutes. Afterward, evaluate the product's performance.	OK
7	Drop Test (Box)	Drop the product from a height of 0.5m onto a hardwood board with a thickness of 20-18mm in the X, Y, and Z directions. After the drop, check for any cracks and evaluate the product's performance.	OK
8	ESD Testing	Perform a contact discharge of 3kV for 10 seconds, followed by 1-second intervals for 10 seconds, then evaluate the product's performance after the test.	OK



B



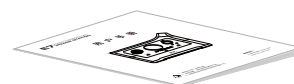
A



C



D



E



F



G



H

No	Item
A	Portable Power Station
B	Package
C	1.0 m AC charging cable (input)
D	1.0 m car charger input cable (input)
E	User manuals
F	(to Anderson port input MC4) Solar charging cable
G	Car battery charging cable (output)
H	Solar panels



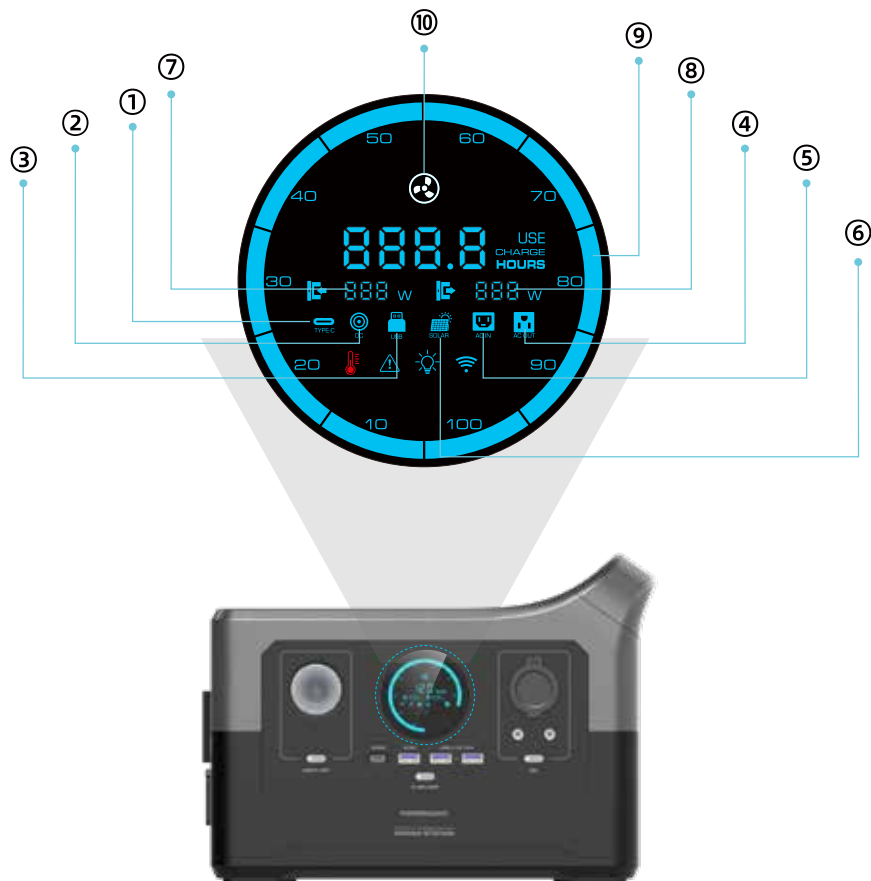
Product Components

No	Buttons	Description
1	Power Switch	Activate the mobile power station by flipping the switch. When the power is on, the display lights up. To turn the device off, press and hold the power button for 2 seconds. This button also controls the USB, Type-C, and wireless charging functions.
2	Illuminated Light / IOT Control Switches	When pressed, the light illuminates in cool white. Pressing it again causes the light to flash with "SOS frequency," and the IOT icon lights up. Pressing it once more turns the light off (OFF), and the IOT function stops. When held down, the IOT feature activates, enabling connection to the Power Generator.
3	USB-A Port (Standard)	Provides standalone support with 5V/2.5A output, up to a maximum of 13W.
4	USB-A Port (Quick Charge)	Supports QC3.0 fast charging protocol. It offers 5V/3A, 9V/2A, 12V/1.5A for standalone use and can deliver up to 24W of output.
5	USB-C Port (PD Protocol) LED Lighting	Supports the PD protocol with outputs of 5V/3A, 9V/3A, 12V/3A, 15V/3A, and 20V/3A, with a maximum output of 100W.
6	Car Charger with DC 5521	Offers three lighting modes: Warm White, Cool White, and SOS (5W).
7	Interface and Output Control Switch	When activated (ON), the indicator lights up, showing the total output power in real-time. When deactivated (OFF), the indicator light goes out, and the output power stops. It automatically displays the power when a device is connected.
8	DC5521 Interface	Supports output of 13.6V/3A.
9	Car Charger Interface	Supports output of 13.6V/10A.
10	Wireless Charging	Supports fast wireless charging with up to 15W output.

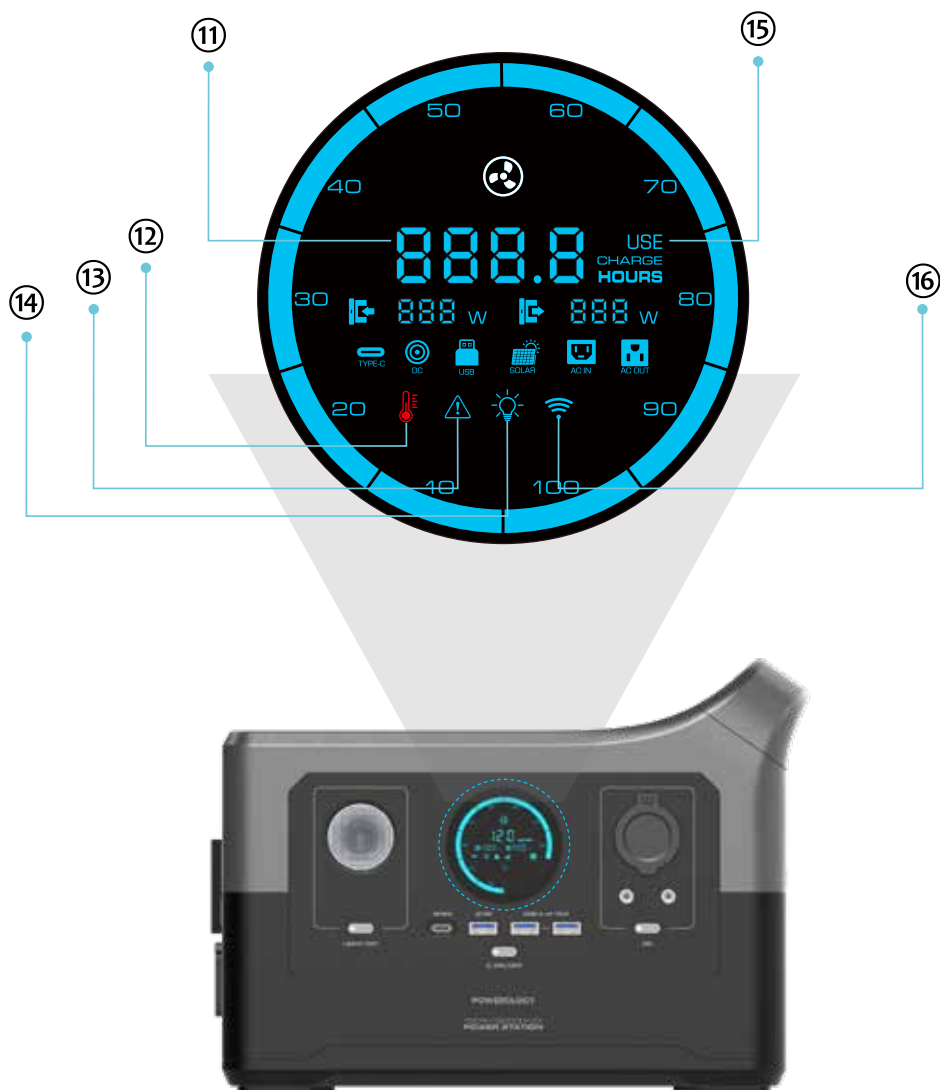


No	Interface Buttons	
I	AC Output Control Switch	When the AC output control switch is turned ON, the indicator light illuminates, and the AC icon appears. When the device is connected, the total output power is displayed in real time. When the switch is turned OFF, the indicator light goes out, and the AC output is disabled. The total output power is shown when the device is connected.
II	AC110V*2 Output Interface	This interface provides a rated output of 700W.
III	Anderson Interface	The Anderson interface supports DC charging with a voltage range of 10-45V, providing a maximum of 200W.
IV	AC Charging Port	The AC charging port connects to the grid via the included AC connection cable and supports 120-100V/60Hz with a maximum charging capacity of 300W.

Display Screen



No	Display Panels	Details
1	Power Switch	The switch is controlled via key number 2.
2	Illuminated Light / IOT Control Switches	The switch is controlled via key number 6.
3	USB-A Port (Standard)	The switch is controlled via key number 6.
4	USB-A Port (Quick Charge)	The switch is controlled via key number 1.
5	USB-C Port (PD Protocol)	The indicator lights up when the AC input (IV) is connected to electricity and turns off when disconnected.
6	LED Lighting	When the Anderson interface (III) is powered, the icon illuminates, and the total charging power is displayed.
7	Car Charger with DC 5521 Interface and Output Control Switch	The real-time power display shows the total input power when the Power Generator is charging.
8	DC5521 Interface	The display indicates the total output power being used.
9	Car Charger Interface	The ring power indicator is shaped like a ring with 10 cells; each cell represents 10 %of the battery's charge level.
10	Wireless Charging	The icon illuminates when the fan is o



NO	Display Panels	Details
11	Percentage of Power Display	Each cell represents 10 %of the battery's charge level.
12	Temperature Alarm	The icon flashes for 10 seconds when an over-temperature condition is triggered, turning off all outputs. Once the temperature returns to normal, the output resumes.
13	Overload Warning Icon	The icon illuminates when the connected device exceeds the generator's power capacity or is short-circuited.
14	LED Lighting Icon	The icon lights up when the generator's LED illumination is switched on.
15	Remaining Time and Usage Status Display	The displayed digit indicates the remaining time for full charge or discharge. During charging, the time is shown in hours and minutes, and during discharging, the time left to discharge is shown in minutes. The maximum display unit is in hours.
16	ITO Icon	The IOT function activates when the switch is pressed and held down (key 6), illuminating the icon and enabling the phone to connect to the Power Generator.

Disposal

This product must not be disposed of as unsorted household waste. It is important to separate such waste for proper treatment and recycling, in compliance with local waste management regulations.



Warranty

Products that you buy directly from our **Powerology** website or shop come with a 24-month warranty.

The 24-month warranty applies to products purchased directly from our **Powerology** website or store. If **Powerology** products are bought from any of our verified retailers, then the product is eligible for only a 12-month warranty. To extend your product's warranty, visit our website **powerology.me/warranty** and fill in your details in the provided form along with an uploaded picture of the product to process your request. Once approved, you will receive a confirmation email of the extended product warranty. Upload the required information within 48 hours of purchase to be eligible for a 24-month warranty period.

For more info, please check:
powerology.me/warranty

Contact Us

If you have any questions about this Privacy Policy, please contact us at: **hey@powerology.me**

Website: **powerology.me**

Instagram: **powerology_official**

Facebook: **powerology.ME**