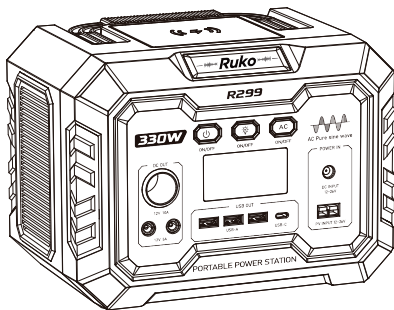


# Ruko<sup>®</sup>

## User Manual



# R299

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v1.0

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# 1 Disclaimer

1. Your safety, legal rights, and responsibilities will be directly influenced by the user manual. Please read it carefully before using the R299 power station to ensure you have a full understanding of the correct usage procedures before operating.
2. Improper use of the power station may result in personal injuries or property loss, and cause damage to the power station.
3. Once you use the power station, it signifies that you have read carefully and understood the disclaimer, and agreed to abide by the terms and conditions of the user manual. You shall take responsibility for the consequences of any operation not specified by the user manual.
4. Ruko shall not take responsibility for any personal injuries, property loss, legal disputes, or any other adverse events resulting from the violation of safety instructions or any other contributing factors.
5. Ruko reserves the right to update this disclaimer and product-related documentation. Please visit [www.rukotoy.com](http://www.rukotoy.com) regularly for the latest version.

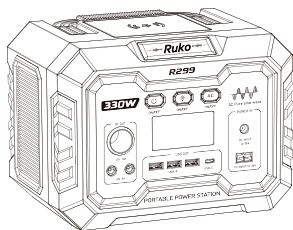
## 2 Product Specification

General Info		
Capacity	288.6Wh	
Net Weight	≈8.38 lbs (3.8 kg)	
Dimensions	9.61×6.73×6.97in (244×171×177mm)	
Output		
AC Output Voltage (×1)	110V (±10%) / 60Hz	
Related Output Power	330W	
Output Waveform	Pure Sine Wave	
Overload Protection Power	360W	When load power exceeds 360W continuously for 3 seconds, overload protection will be triggered.
USB-A (×3)	QC 3.0 / 18W	
USB-C (×1)	PD60W	
Wireless Charger (×1)	10W	
Cigarette Lighter Output (×1)	12V ⚡ 10A (Max)	Total Output: 10A (Max)
DC5525 (×2)	12V ⚡ 5A (Max)	
Input		
Input Voltage	12V - 26V	
Charging Power	55W (Max)	
AC/DC Adapter	AC 100 - 240V (50Hz-60Hz), DC 15V ⚡ 4A	
Car Charger	DC 12V ⚡ 4.6A (Max)	
Solar Charging Input	DC (12V-26V) ⚡ 4.6A (Max)	

Battery Operating Temperature		
Standard Capacity of Batteries	22.2V, 13Ah, 288.6Wh	
Operating Temp	14 °F - 104 °F	
Charging Temp	32 °F - 104 °F	
Storage Temp	14 °F - 113 °F	Optimum 68 °F - 80 °F
Optimum Ambient Temp	68 °F - 80 °F	
Storage Recommend Power	Fully charge and discharge the battery at least once every 3 months to maintain battery health and charge to 50% for storage.	
Other		
Lighting Power	5W	
Lighting Lightness	6000LM	Measured at a distance of 20 cm.
Flashlight Color Temp	3000K	
Flashlight Sleep Mode	3Hrs	After turning on, if any of the DC, USB, and AC functions are not turned on within 3 hours, the flashlight will turn off and enter sleep mode.
Automatic Shut Down	3Hrs	Detected load power $\leq 5W$ , it automatically shuts down after 3 hours.
Runtime Noise	<35db - <70db	<35db without fans, <70db with fans on.

## 3 Product Introduction

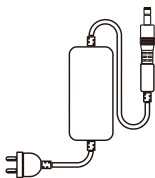
### 3.1 Packing List



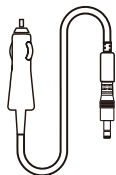
R299 Power Station



User Manual

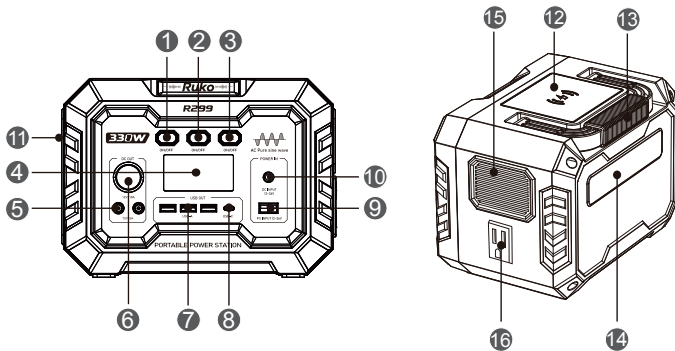


AC 100-240V  
Wall Plug Power Adapter



12V Car  
Charging Cable

## 3.2 Features Introduction

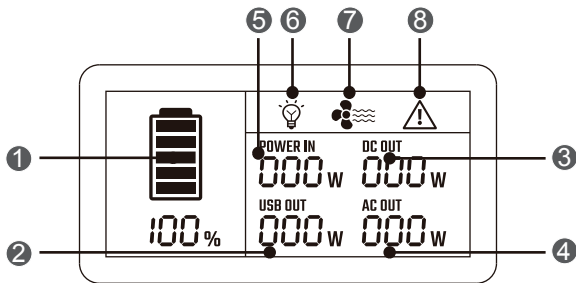


① Power ON/OFF	⑨ Photovoltaic Input Port
② Light ON/OFF	⑩ Direct Current Input Port
③ AC ON/OFF	⑪ Cooling Fan Air Inlet
④ LCD Screen Display	⑫ Wireless Charger
⑤ DC5525 Output Port ×2	⑬ Foldable Handle
⑥ Cigarette Lighter Output Port	⑭ LED Light/SOS Mode
⑦ USB-A Output Port ×3	⑮ Cooling Fan Air Outlet
⑧ USB-C Output Port ×1	⑯ AC Output Port

- When planning to charge your iPhone 15 via the USB-C port, please ensure that your cable is compatible with the iPhone 15. It is recommended to use the original Type-C cable for the iPhone 15.



### 3.3 LCD Screen Display



- ① Battery Indicator
- ④ AC Output Status
- ② USB Output Status
- ⑤ Power Input Status
- ③ DC Output Status

 Note:

The LCD screen will enter sleep mode after 120 seconds of inactivity and can be awakened by plugging in a charging cord or pressing any button.

#### The Battery Pattern of the LCD Display



0%-5%  
Lighting



6-20%  
Lighting






21%-40%  
Lighting



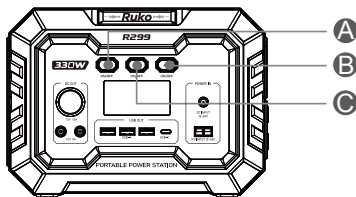
61-80%  
Lighting



>81%  
Lighting

Serial Number	Icon	Icon Name	Description
6		Light	The light bulb icon lights up when the light is on.
7		Cooling Fan	When the battery cells temperature reaches 113 °F or the power exceeds 60% of its rated load, the cooling fan will activate and the cooling fan icon will light up.
8		Temperature Alarm	The icon will light up when the battery cells temperature reaches the set protection value. If the charging temperature protection value is reached, the exclamation mark icon will blink. If the discharging temperature protection value is reached, the exclamation mark icon will stay lit.

## 3.4 How to Use



### Button A: Power OFF/ON

Status	Operation	Display
ON	Short press once	LCD screen displays DC and USB output icons.
OFF		LCD screen goes off.

### Button B: LED lighting

Status	Operation	Display
Lighting Mode		
ON	Short press once	The light stays on.
OFF		The light goes off.
SOS Mode		
ON	Short press twice	The light blinks repeatedly in 3 short, 3 long and 3 short manner.
OFF		Short press once to keep it on; Short press twice to turn it off.

### Button C: AC ON/OFF

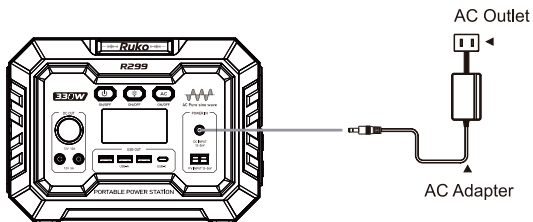
Status	Operation	Display
ON	Short press once	LCD screen displays DC and USB output icons.
OFF		LCD screen disappears AC output power icon.

## Notice

<b>Button A</b>	<ul style="list-style-type: none"> <li>• DC/USB/Wireless Charger functions can be used when pressing Button A.</li> <li>• Power station will automatically shut off after 3 hours if detecting load power <math>\leq 5W</math>.</li> </ul>
<b>Button B</b>	<ul style="list-style-type: none"> <li>• LED lighting activates without using the Button A.</li> <li>• After turning it on, if DC/USB/AC functions are inactive within 3 hours, the light will turn off and the power station enters sleep mode.</li> </ul>
<b>Button C</b>	<ul style="list-style-type: none"> <li>• Requires Button A activation before using Button C.</li> <li>• Ensure devices fall within the power support range of the power station.</li> </ul>

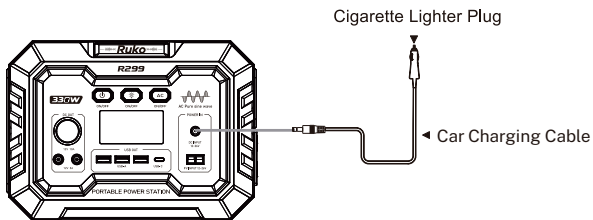
### 3.5 AC Adapter Charging

- When you need to use two or more solar panels simultaneously, there are two wiring methods you can choose from: Series and Parallel.



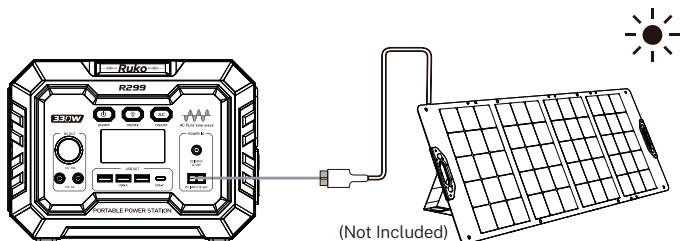
### 3.6 12V Car Charging

- When using car charging cable that we provided to charge the power station, it will take about 7-9 hours to fully charge the power station.



### 3.7 Solar Panel Charging

- Don't charge the power station with a solar panel that operates voltage exceeding DC 12-26V.
- Place solar panels in direct exposure to the sunlight as much as possible.
- Support 60W/100W/120W maximum solar panels (not included), the charging time depends on the intensity of solar light.



## 4 Safety Guidelines

### 4.1 Usage

1. Don't use the power station in the rain and any humid environment (e.g. bathroom, kitchen sink).
2. Don't immerse the power station in water or use it after it's wet.
3. Don't use the power station if it's been ruptured or deformed by violent impact or dropping.
4. Don't use the power station near open flames or high-temperature equipments.
5. Don't disassemble or assemble the power station in any way.
6. Don't stack other heavy objects on top of the power station.
7. Don't forcibly block the internal operating fan during use.
8. Don't use the power station in small confined spaces that are unventilated and dusty.
9. Don't use the power station in an environment with strong static and magnetic field.
10. Don't touch the power interface with any metal objects or parts of your body to avoid the risk of short circuit or other hazards.
11. It is prohibited to short-circuit the power station by any abnormal operations, as it may cause risks.
12. Adhere to the specified ambient temperature range of the user manual when using the power station. High temperature may lead to overheating and potential fire hazards, while low temperatures may affect performance and usability.

## 4.2 Notice

1. Don't use the non-original parts or accessories.
2. Use a dry cloth to wipe them clean when the ports need to be cleaned.
3. Don't use non-specialized chargers to charge the power station.
4. If the power station is on fire, put out the fire in the following order: water or water spray, sand, fire blanket, dry powder, carbon dioxide fire extinguisher.
5. When using the power station on muddy or dusty surface, it is recommended to clean the area or use isolation devices to prevent dust adsorption from the vents.
6. When using the power station in wet environments (e.g. wet grass or ground), it is recommended to use a moisture-proof bag to prevent water immersion.
7. The power station inevitably emits electromagnetic fields during use. It is not recommended to use it for powering precision medical equipment susceptible to electromagnetic interference, especially those related to human safety. If used for general medical equipment, please ensure that the power output is adequate, and the battery capacity is sufficient.

## 4.3 Storage and Transportation

### 4.3.1 Storage

1. Store the power station in a dry and well-ventilated place.
2. Ensure that power station is stored out the reach of children and pets.
3. For a long period of not using, maintain the power level at approximately 50% for storage.
4. For long-term storage without use, it is recommended to charge and discharge the power station every 3 months, with a maximum interval of 6 months.

### 4.3.2 Transportation

1. Securely fasten the power station during transportation to prevent vibration and impact.
2. Don't place any objects on top of the power station during transportation.
3. Avoid exposing the power station in the rain or high temperature, be sure to take necessary precautions.
4. When transportation is required, please confirm if the power station can be transported by airplane, high-speed train, and subway and comply with local laws and regulations.



## 4.4 Maintenance

1. It is recommended to use or store the power station within a temperature range of 68 °F ~ 86 °F and please keep it away from water, heat sources, and other metal objects.
2. For long term storage, please charge and discharge the power station every 3 months (e.g. discharge the power station to around 30% capacity and then recharge it to about 50% capacity).
3. For safety reasons, please don't store the power station in an environment above 113 °F or below 14 °F for a long time.
4. In order to prolong the service life of the battery, it is recommended to use the power station in an environment of 68 °F ~ 86 °F.
5. For long-term storage, please ensure the power station is at 50% battery capacity before storing it. Prolonged inactivity with critically low battery levels can lead to irreversible damage to the battery cells and ultimately reduce their service life.

## 4.5 Disposal

1. In the event of severe damage, water exposure or submersion of the product, power it off immediately and discontinue using it. Place the battery in an open area, keep away from flammable materials and people, and follow the local legal requirements for disposal.
2. If conditions permit, be sure to completely discharge the power station's battery before depositing it into the designated battery recycling container. The power station contains batteries, which are considered hazardous materials and strictly prohibited from being disposed of in regular trash bins. Please follow the local battery recycling and disposal regulations for specific details.
3. Storing the power station with less than 5% battery level for a long period of time or subjecting it to excessive discharge may result in the power station being unable to start. It is advisable to dispose of it as discarded item.

## 5 FAQ

### **Q1: Can the R299 power station charge both the adapter and the solar panel at the same time?**

No, you can only choose either the DC or PV output for charging. Two ports cannot be connected to the charging power supply simultaneously.

### **Q2: Can the R299 power station support charging and discharging at the same time?**

No, during the charging of the power station, it only supports DC, USB, and wireless charging outputs and does not allow AC output.

### **Q3: How can I determine if my device is compatible with the R299 power station?**

The AC output port of the power station can supply power to the devices within the rated power. We recommend that you check the power of the device before use, and make sure the total power of all loaded devices is lower than the rated power.

### **Q4: How do I check the power supply duration and battery power of the R299 power station?**

The LCD screen on the power station displays the battery power. You can estimate the usage time according to the battery power of devices with stable power consumption.

### **Q5: Can the R299 power station charge the devices with more than 330W power?**






No, overload protection will be activated if the rated power is exceeded.

### **Q6: Does R299 power station have any self-protection features?**

Yes, it includes overload protection, short-circuit protection, and over-current protection.

## 6 Trouble Shooting

- This warning icon will appear when the following exceptions occur.

Warning Icon	Exception Type	Exception Handling Methods
	Over-Temperature Alarm	Wait for the battery to cool and the icon will disappear, then the R299 power station will automatically restore to normal operation.
	Charging Over-Temperature Protection	Charging will be paused, and it will resume automatically after the battery cools down.
	Charging Low-Temperature Protection	Charging will be paused until the power station surface temperature reaches 41 °F.
	Discharge Over-Temperature Protection	Discharge will be paused and it can be resumed to discharge by pressing the power button after the battery cools down.
	Discharge Low-Temperature Protection	Discharge will be paused. Place the power station in a warmer place and wait for the surface temperature reaches 14 °F, then press the power button to resume to discharge.

- This warning icon will not appear when the following exceptions occur.

Exception Type	Exception Handling Methods
AC Overload Protection	1. When the AC load power exceeds 360W continuously for 3 seconds, overload protection will be triggered. Stop AC output and press the power button to resume. 2. When the total load power of DC, USB, and AC exceeds 360W, overload protection will be triggered. Stop AC output, retain the DC/USB output, and press the power button to resume.
AC Output Short-Circuit Protection	Remove the charging device first, and then press the power button to resume.
Inverter Over-Temperature Protection	Stop using the AC output, and then press the power button to resume.
DC Output Over-Current Protection	Remove the charging device first, and then press the power button to resume.
DC Output Short-Circuit Protection	Remove the charging device first, and then press the power button to resume.
USB-A Output Short-Circuit Protection	Remove the charging device for automatic resumption.
USB-C Output Over-Current Protection	Remove the charging device for automatic resumption.
USB-C Output Short-Circuit Protection	Remove the charging device for automatic resumption.
Wireless Charging Over-Temperature Protection	Remove the charging device for automatic resumption.

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