

RP-SERIES Household inverter

Small and convenient

Rich interfaces

Stable sine wave output

Support multiple power inputs



Comply with IEC/GBT standards

Provided customized manufacture

Whole solutions for design, assembly, test...

Accountable solution for safety and reliability

Wide range offering, easy business and ready to use out of the box



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Zhejiang Rockwill Energy Technology Co., Ltd. is a technology enterprise specializing in providing complete solutions for power automation system and related automation system supporting equipment.

The company has a long-term strategic cooperation with internationally renowned middle and high voltage electrical equipment R & D and manufacturing companies and research institutes, and has jointly developed a series of high-quality automation products,. The company has also married with the provincial intelligent high-voltage switch laboratory to jointly develop a new generation of intelligent synchronous switch measurement and control devices, electronic transformers, voltage sensor processing units, etc., and has achieved some fruitful technical achievements and accumulated a large number of industry professional and technical elites with excellent experience. Solid talent base, advanced production equipment, perfect quality system, strict testing means, is a strong guarantee for the company's product quality alone.

In addition to providing a rich choice of products, we can provide you with technical solution support services, you only need to tell us your needs, our technical staff will be tailored for you to design a complete set of product solutions

The company is renowned at home and abroad for providing high-quality products and services. In addition to the domestic market, the products are currently exported to South America, Central Asia, the Middle East, Central Europe, Southeast Asia, Africa and other places. We always adhere to the belief of growing together with customers, and strive to provide safer, more reliable, more advanced and more humane automation system solutions and equipment.

ROCKWILL[®], China. Provide with best support.

If you have any question please consult below:

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ROCKWILL® Energy strives to bring our customers the latest technology and competitive pricing and best service for distribution automatic.

Household wall-mounted inverters are a key component of modern household energy management systems. It is a power electronic device that converts direct current (DC) into alternating current (AC). Its design is compact and it can be directly installed on the wall.

When the household photovoltaic system generates electricity or the energy storage battery discharges, the wall-mounted inverter receives this direct current energy and, through the internal power semiconductor switch devices and advanced control logic, efficiently converts it into stable alternating current that meets the grid standards or is used by household appliances. At the same time, the inverter also integrates the battery charging function. Together with the lithium battery pack, it forms an integrated home energy storage system (ESS) through the management of battery charging and discharging.

In a household photovoltaic power generation system, it converts the direct current generated by solar panels for use by household loads. As the core of a home energy storage system, it intelligently manages the charging and discharging process of batteries to achieve optimized energy scheduling. This includes charging batteries from the power grid or photovoltaic systems during low electricity prices and discharging them to supply households during peak electricity prices, thereby effectively reducing electricity bills. In addition, when there is an unexpected power outage in the power grid, the wall-mounted energy storage inverter can quickly switch to the backup power mode to ensure the operation of critical household loads

Service environment

Air temperature: Ambient temperature: $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$

Humidity: 0% ~ 95% (Non-congealing cream)

Above sea level: $-100 \sim 2000\text{m}$

About customization

Support interface styles and power supply standards for AC output

1. Efficient power conversion: The cornerstone driving household electricity

The most fundamental and crucial function of an inverter is to efficiently and stably convert the direct current generated by solar panels under sunlight or stored in energy storage batteries into high-quality pure sinusoidal 220V (or regional standards) alternating current that meets the national power grid standards and is suitable for household appliances.

2. Intelligent energy storage management: The core of optimizing energy utilization

Modern household wall inverters are usually closely integrated with energy storage battery systems and play the role of the "energy brain" of the home. It can intelligently manage and schedule the charging and discharging process of energy storage batteries. Specifically:

Intelligent charging and discharging strategy: The inverter will automatically optimize the charging and discharging logic based on the real-time monitored photovoltaic power generation capacity, the size of the household electricity load, and the preferences set by the user.

Battery health management and protection: The inverter is built in or works in coordination with an external battery management system (BMS) to provide comprehensive protection for energy storage batteries. This includes preventing abnormal conditions such as overcharging, over-discharging, over-temperature, overcurrent and short circuit of the battery, ensuring that the battery operates within a safe working range, thereby maximizing the battery's service life and guaranteeing system safety.

3. Flexible operation mode: Ensure friendly interaction between power supply and the power grid

To adapt to different electricity demands and external power grid conditions, household wall-mounted inverters usually support multiple operation modes and can achieve intelligent switching:

Grid-connected operation mode: In this mode, the electricity generated by the household photovoltaic system is prioritized for self-use, Excess electricity fed into the power grid is beneficial.

Off-grid/standby power (UPS) mode: When the public power grid experiences a failure, power outage or unstable voltage, the inverter can quickly (usually within milliseconds) switch to off-grid mode, using the stored electricity in the energy storage battery to provide uninterrupted power supply for the critical loads in the household, greatly enhancing the reliability of household electricity usage and emergency response capabilities.

Multiple strategy modes such as photovoltaic priority, energy storage priority, and municipal power priority: Users can set different energy utilization priorities according to their own needs to maximize energy efficiency.

4. Smart monitoring and convenient control: The energy manager at your fingertips

To enable users to clearly understand and conveniently manage their home energy systems, wall-mounted inverters are usually equipped with advanced human-machine interaction functions:

Real-time data monitoring: Through the built-in LCD screen of the inverter software or the mobile phone APP, key information such as photovoltaic power generation capacity, daily/monthly/annual power generation, household electricity load, energy balance (SOC) of energy storage batteries, health status (SOH), and current operating mode can be viewed in real time

Remote control and parameter setting: Through network connection, users can remotely adjust the parameters of the inverter, switch operation modes, upgrade firmware, start and stop control, etc., which greatly enhances the convenience of use and the flexibility of the system.

Fault Diagnosis and Alarm: The inverter is equipped with a self-diagnosis function. Once it detects abnormal system operation or potential faults, it will cut off the power for protection and promptly send an alarm to the user through APP push or indicator lights, etc., to notify the user to troubleshoot and repair in time.

5. System Security and Renewable Energy Optimization

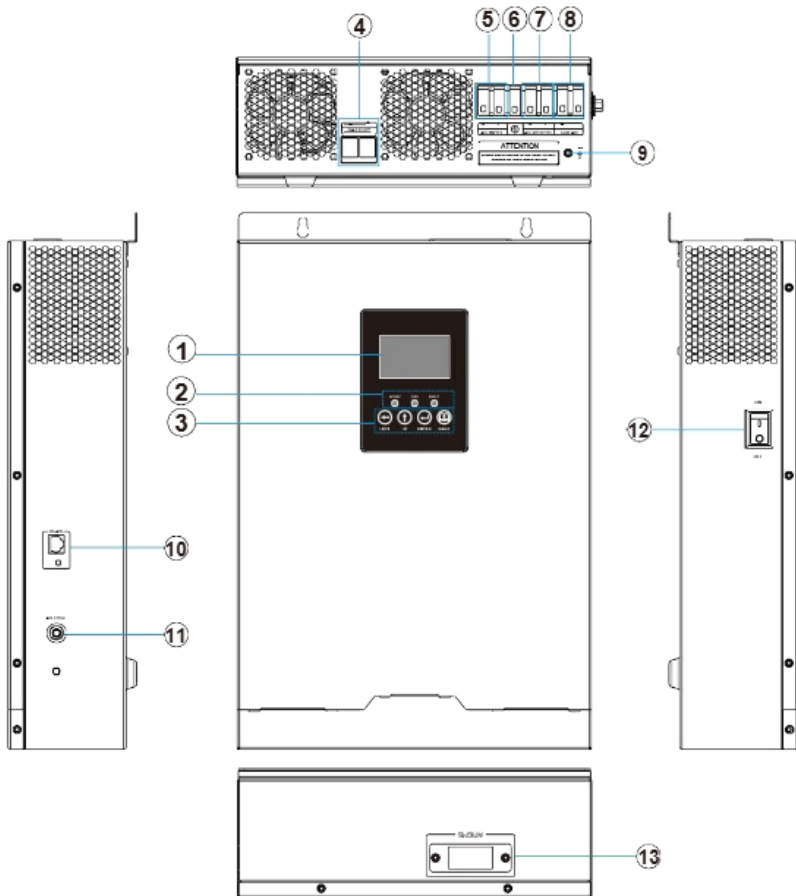
In addition to the above-mentioned core functions, the inverter is also committed to enhancing the safety and energy utilization efficiency of the overall system:

Maximum Power Point Tracking (MPPT) : For photovoltaic systems, the efficient MPPT algorithm built into the inverter can track the optimal operating voltage and current of the solar panels in real time, ensuring the best working condition of the solar panels and maximizing the power generation efficiency.

Comprehensive electrical protection: Equipped with multiple electrical protection functions, such as input overvoltage/undervoltage protection, output overload/short circuit protection, lightning protection, islanding effect protection, etc., to ensure the safe and stable operation of the inverter and the entire household power system.

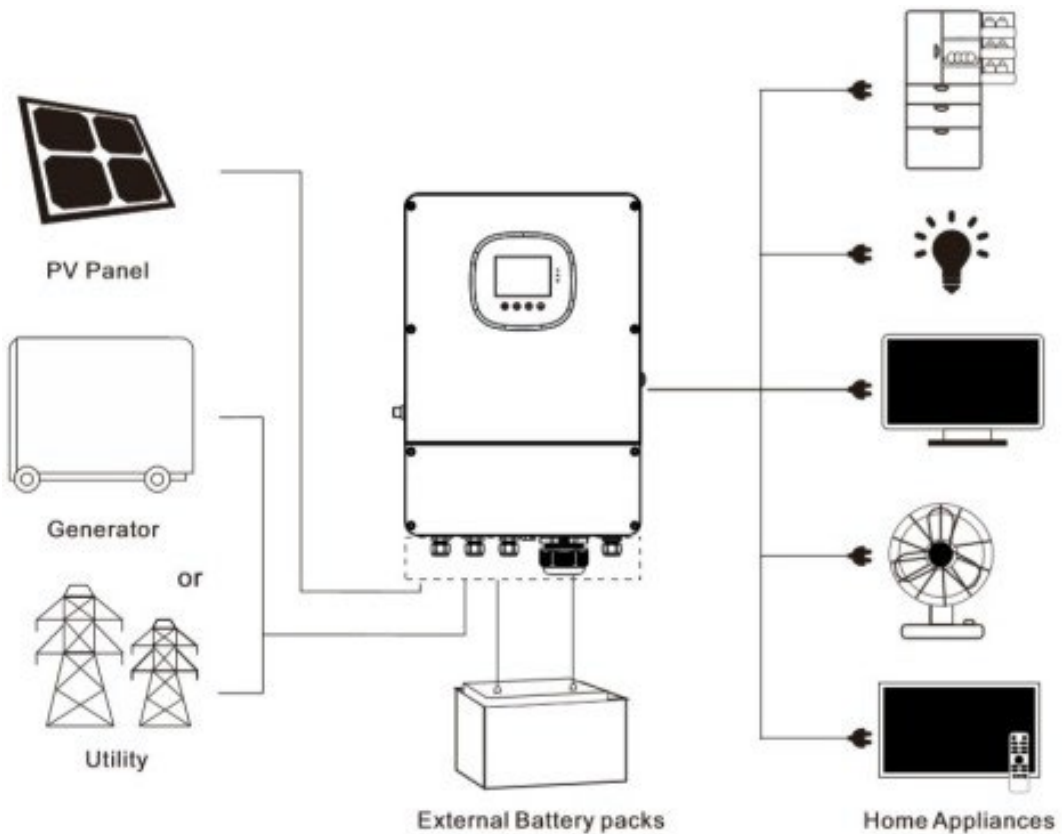
Good compatibility: Compatible with all types of batteries



Product interface




1.LCD display
2.LED
3.Function key
4.Battery input interface
5.AC power input interface
6.AC power supply ground
7.AC power output interface
8.Photovoltaic input interface
9.Ground
10.communication port
11.fuse
12.power switch button
13. Data interface (operate)

system structure:



Product model	RP-PW3200	RP-PW5500	RP-PW8000	RP-PW11000
Rated power	3.2kW	5.5kW	8kW	11kW
Standard battery unit voltage	24VDC	48VDC		
Standard Voltage range	21-30VDC	42-60VDC		
Rated PV charging voltage	360VDC			
MPPT tracking range	120-450V			
MPPT track number	1			
Grid input voltage(phase voltage)	170~280V(UPS)/120~280V(INV)			
Input frequency	45~65Hz			
Maximum grid input current	60A single		120A single	
Maximum PV input current	100A single		225A single	
Maximum PV input Power	4kW	5.5kW	5.5kW+5.5kW double	
Ac access mode	L+N+PE			
Inverter	Rated output voltage	230V+N	The output electric energy standard is applicable to most countries or regions such as Chinese mainland, Hong-Kong, Macao, North Korea, Australia, South Asia, the Middle East, Europe, Africa, South America, etc., and customers in non-above regions can customize according to the customer's local electric energy standard.	
	Rated output frequency	48~52HZ (58~62HZ)		
	System efficiency	86~94%		
AC following	Rated output voltage	Follow the grid		
	Rated output frequency	Follow the grid		
	System efficiency	99%		
Battery no load loss	≤1%			
Power grid no load loss	≤0.5%			
Cooling mode	Forced air cooling			
Operating environment	Temperature: -10~40°C Humidity: 20~95RH%			
Maximum working altitude	2000m(> 2000m load reduction required)			
Protection	Battery under (over) voltage protection/overload protection/over temperature protection/short circuit protection			
Class of protection	IP20			
Operation mode	Mains priority/PV priority/battery priority			
Size(mm)				
	L420*W290 *H110	L460*W304 *H110	L520*W450 *H200	L560*W450 *H200

Product model		RP-PI5500	
Rated power		5.5kW	
Standard battery unit voltage		48VDC	
Standard Voltage range		42-60VDC	
Rated PV charging voltage		360VDC	
MPPT tracking range		120-450V	
MPPT track number		1	
Grid input voltage(phase voltage)		170~280V(UPS)/120~280V(INV)	
Input frequency		45~65Hz	
Maximum grid input current		60A single	
Maximum PV input current		100A single	
Maximum PV input Power		6kW	
Ac access mode		L+N+PE	
Inverter	Rated output voltage	230V+N	The output electric energy standard is applicable to most countries or regions such as Chinese mainland, Hong-Kong, Macao, North Korea, Australia, South Asia, the Middle East, Europe, Africa, South America, etc., and customers in non-above regions can customize according to the customer's local electric energy standard.
	Rated output frequency	48~52HZ (58~62HZ)	
	System efficiency	86~90%	
AC following	Rated output voltage	Follow the grid	
	Rated output frequency	Follow the grid	
	System efficiency	99%	
Battery no load loss		≤1%	
Power grid no load loss		≤0.5%	
Cooling mode		Forced air cooling	
Operating environment		Temperature: -10~40°C Humidity: 20~95RH%	
Maximum working altitude		2000m(> 2000m load reduction required)	
Protection		Battery under (over) voltage protection/overload protection/over temperature protection/short circuit protection	
Class of protection		IP20	
Operation mode		Mains priority/PV priority/battery priority	
Size(mm)			
	L556*W345*H182		



Field service operation and warranty issues:

ROCKWILL® can provide competent, well trained field service representatives to provide technical guidance and advisory assistance for the installation, overhaul, repair and maintenance of ROCKWILL® equipment, processes and systems.

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