

# RAYSTECH

## Solar Power System RT-1KW

### Main Features

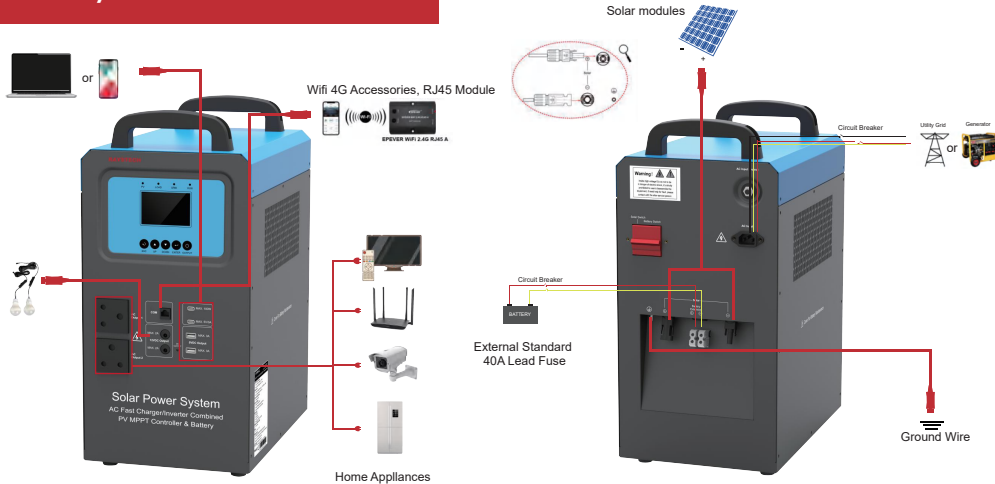
- Full intelligent digital energy storage equipment;
- Work continuously at full power for a long time;
- Multiple DC output ports, two 12V2A, two USB 5V3A, one Type C 5V3A, and one 100W Type C interface(compatible with PD3.0PPS and other protocols);
- Built-in long-life and deep-cycle sealed valve-controlled GEL battery;
- Advanced SPWM technology and pure sine wave output;
- Active PFC is adopted for AC charging, power factor is close to 1, and settable constant voltage current limiting output control;
- Adopt the bidirectional isolation topology;
- Advanced MPPT technology, with efficiency no less than 99.5%;
- Bypass automatic switching function,the equipment has full automatic control and management function;
- Lightning protection circuit for the Utility input terminal;
- AC output electromagnetic compatibility;
- Overload relay at the Utility input terminal to disconnect the inverter/charger when the fault occurs;
- Circuit breaker at the PV input terminal to ensure the PV array safe running;
- Circuit breaker at the Battery output terminal to ensure the battery safe running;
- Large lattice LCD screen;
- Remote temperature compensation feature for batteries;
- Optional 4G, WiFi module to remote control the inverter/charger by the RS485 com. port;
- Three-stage charging method;



### Technical Data

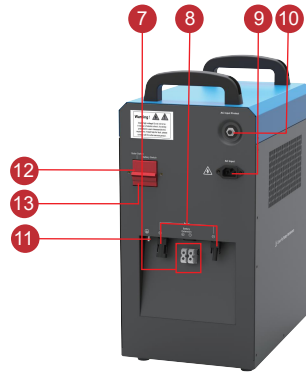
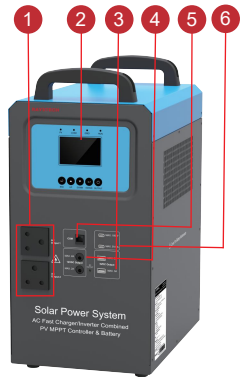
Work Temperature Range	-20°C~55°C(when the environment temperature exceeds 25°C, the charging power and load power will be reduced appropriately; working of full load is not supported.)
Enclosure	IP20
Communication Method	RS485 (4G, Wifi Optional)
LCD	Monochrome LCD, English interface
Warranty	2 years
Dimension (Length x Width x Height)	255X406X541 mm(Include Feet And Handles)
Weight	52.5kg

## Solar System Connection



\*The default output mode is energy-saving mode, and the factory setting of the battery discharge depth is to be determined.

## Product Overview



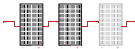
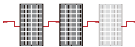
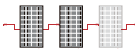
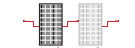
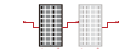
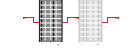

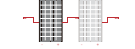

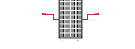
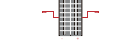
- 1 AC Outlet 1/2
- 2 LCD
- 3 5V/3A Output Port
- 4 12V/2A Output Port
- 5 RS485 Com. Port
- 6 Type C 100W+Type C 30W
- 7 Battery Extension Terminal
- 8 PV Input Terminals
- 9 AC Input Port
- 10 AC Input Overload Relay (7A/250VAC)
- 11 Grounding Terminal
- 12 Battery Output Circuit Breaker (125A/60VDC)
- 13 PV Input Circuit Breaker (32A/220VDC)

## Technical Data

Model	RT102422
<b>Utility Input</b>	
Rated Utility Work Voltage	220V
Utility Work Voltage Range	176V~285Vac
Utility Input Frequency Range	45Hz-65Hz
Max. Utility Input Current (Charging + Bypass)	Current for charging 2.2A+bypass load current 4.5A@220Vac
Utility Transfer Time (Bypass To Inverter)	Utility Transfer Time(Bypass to Inverter): < 10ms Utility Transfer Time(Inverter to Bypass): 0ms
AC Input Overload Relay	YES
<b>Inverter Output</b>	
Continuous Output Power(@25°C)	1000W
Surge Output Power(5s)	1500W
Rated Output Voltage	220V±3%
Rated Output Frequency	Default 50Hz/60Hz settable, error ± 0.2%
Output Wave	Pure Sine Wave
Output Distortion THD	THD≤3%(Resistive Load)
Output Soft Start	YES
<b>Solar Controller</b>	
Max. PV Input Withstand Voltage	30V~95V
Solar Controller Type	MPPT
MPPT Efficiency	> 99.5%
MPPT Voltage Range	30V~80V
MPPT Ways	One way
Max. PV Output Charging Current	16.5A
<b>Battery</b>	
Battery Type	GEL
Rated Battery Voltage	24VDC
Battery Work Voltage Range	21VDC-32VDC
Battery Work Temperature Range	Discharging Mode:-20°C~55°C    Charging Mode:0°C~40°C
Rated Battery Capacity	12V·55Ah*2
<b>DC Output</b>	
DC 12V Port	12V2A* 2pcs
USB Port	5V3A* 2pcs
TYPE C Port	Type C-100W * 1pcs (support PD3.0 and multiple protocols) Type C-5V/3A * 1pcs
DC Output Switch	YES

\*Note: In any case, if PV input voltage exceeds 95V, the equipment will be damaged, which is not within the scope of warranty.







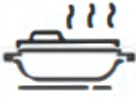

## Recommended Component Configuration table

Specifications	Size	Efficiency	Recommended Components	PV Voltage Access Range	Recommended PV access
Poly	1470x670x28mm	165~170W		30V~95V	2 In Series 45V 3 In Series 68V
Mono	1580x710x28mm	220~235W		30V~95V	2 In Series 53V 3 In Series 80V
Mono	1570x765x28mm	250~260W		30V~95V	2 In Series 53V 3 In Series 80V
Poly	1640x992x30mm	270~280W		30V~95V	1 In Series 38V 2 In Series 76V
Poly	1956x992x30mm	330~350W		30V~95V	1 In Series 45V 2 In Series 90V
Mono	1755x1038x30mm	370~380W		30V~95V	1 In Series 45V 2 In Series 90V
Mono	2094x1038x30mm	450~470W		30V~95V	1 In Series 53V
Mono	1722x1134x28mm	400~415W		30V~95V	1 In Series 40V 2 In Series 80V
Mono	2279x1134x30mm	540~555W		30V~95V	1 In Series 53V
Mono	2204x1303x35mm	590~600W		30V~95V	1 In Series 53V
Mono	2384x1303x35mm	650~670W		30V~95V	1 In Series 53V

\*This meter shall be checked according to the limit open circuit voltage at the lowest temperature, and shall not exceed 95V under any conditions.

## Portable Power Station



 <b>Macbook 13</b> 7105mAh ≈ <b>42+</b> times	 <b>iphone XR</b> 2942mAh ≈ <b>105+</b> times
 <b>Coffee Machine</b> 900W ≈ <b>1.1+</b> hours	 <b>Percussive Electric Drill</b> 1100W ≈ <b>0.9+</b> hours
 <b>Rice Cooker</b> 600W ≈ <b>1.6+</b> hours	 <b>Television</b> 100W ≈ <b>10+</b> hours
 <b>Electric Oven</b> 800W ≈ <b>1.3</b> hours	 <b>Car Refrigerator</b> 62W ≈ <b>16+</b> hours

Notes

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RAYSTECH

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