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Version: February 26, 2025, Residential Energy Storage System



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Euro-standard

Residential Energy Storage System

Experience the Freedom of Energy Independence



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*ROYPOW,
Your Trusted Partner*

Contents

About Us

ROYPOW All-In-One RESS

ROYPOW Off-Grid ESS



ROYPOW

For One-stop New Energy Solutions

- R&D, manufacturing and sales of motive power systems and energy storage systems as one-stop solutions
- Fully automatic production lines, a full range of test equipment and an advanced MES
- Covering Low-Speed Vehicles' Batteries, Industrial Batteries, as well as Residential ESS, Commercial & Industrial ESS, and Mobile ESS
- Self-development of power electronics technologies, including PCS, BMS, and EMS



750+ Employees
190+ R&D People
105,000 m² Headquarters Floor Area
2,500 m² Testing Center
231 Patents

Quality Control Certificates:

- ✓ Environmental Management System: ISO 14001:2015
- ✓ Occupational Health and Safety Management System: ISO 45001:2018
- ✓ Quality Management System: ISO 9001:2015, IATF16949:2016
- ✓ Information Security Management System: ISO/IEC 27001:2022
- ✓ Social Accountability Management System: SA8000:2014
- ✓ Hazardous Substance Process Management: IECQ QC 080000



Product Certifications:

UL 1973, UL 9540A, UL 9540, UL 2580, UL 2271, UL 1741
 IEC 60730, ISO 13849-1
 EN 62477, EN 62040, (EU) 2023/1542, EN 62109-1, EN 62109-2

FCC, IEC/EN 61000-6, BS EN IEC 61000-6
 IEC 60730, ISO 13849-1
 UN 38.3
 RoHS Directive 2011/65/EU & (EU) 2015/863

R&D and Manufacturing Highlights

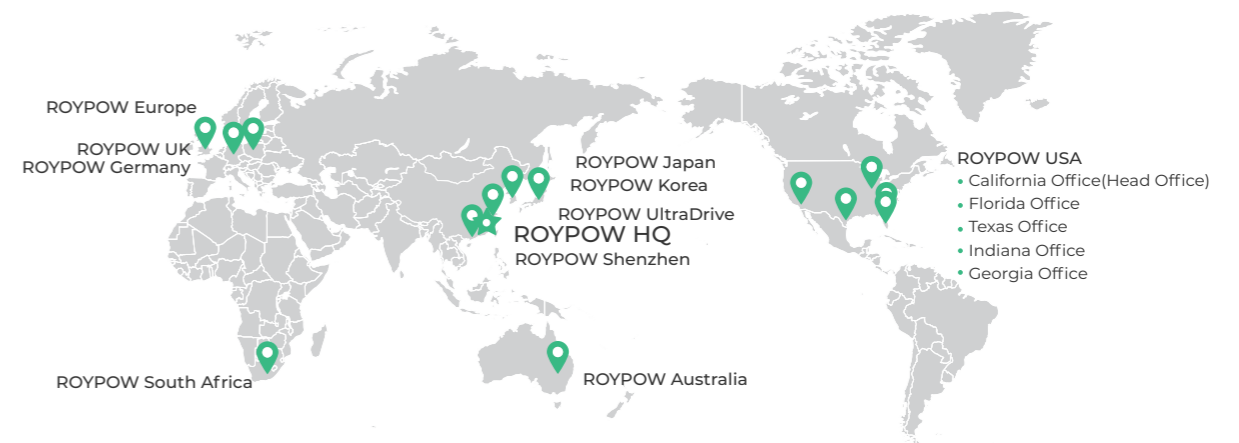
As a result of these investments, ROYPOW is capable of "end-to-end" integrated delivery, making our products out-perform the industry norms.

- Fully Automatic Production Lines
- BMS, PCS, EMS All Designed in House
- All-round Testing
- Advanced MES System

Global Sales and Service Network

- Timely Delivery
- Hassle-free After-sales Service
- Fast Response Technical Support

ROYPOW has comprehensively unfolded its overseas market layout to ensure the localization of R&D, manufacturing, marketing and service, becoming one of your most reliable and valuable partners.



Upgrading to New Technology, with Our Turnkey Solutions.

With years of dedication to new energy solutions, we are proud to offer customers professional solutions for:

- Low-speed Vehicle Batteries
- Industrial Batteries
- Battery Systems for Off-highway Applications
- Battery Systems for Emerging Applications
- Residential Energy Storage Systems
- Commercial & Industrial Energy Storage Systems
- Mobile Energy Storage Systems
- Motors, Controllers and Chargers



ROYPOW Residential Energy Storage Solutions

Meet the high-performance, safe, and intelligent residential energy storage solutions. ROYPOW RESS combines the most advanced battery management system with super power supply capacity to provide uninterrupted, sustainable energy for your working and family usages all day and help reduce reliance on the grid, save electricity costs, and promote a better life.



The solutions include:



All-In-One RESS

Integrate an efficient, reliable inverter with high-safety, long-life LFP batteries into a compact system for continuous power supply. The all-in-one modular system offers both aesthetic appeal and functionality, enhancing home life and providing whole-home backup support.



Off-Grid ESS

Designed to enhance energy resilience and independence. Perfect for remote locations, forest vacation cottages, and areas with unstable grid connections and frequent outages, offering a consistent power supply without reliance on the utility grid.

Sun Series Intelligent Residential Energy Storage System

2
MPPTs

35 dB
Max. Noise

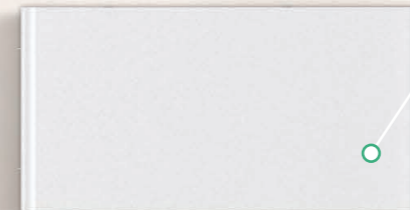
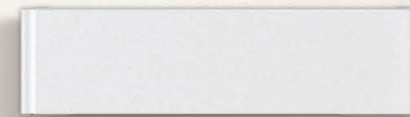
7 kVA
Max. AC Input

7 kW
Max. PV Input

10 Years
Warranty



Inverter Module



Battery Modules



IP65 Protection



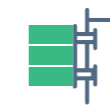
Integrated Multiple Protections



Natural Cooling



Smart Load Function



Modular & Integrated Design



Smart App & Web Management

System Specification

Model	SUN3600S-E/A	SUN4600S-E/A	SUN5000S-E/A
Rated AC Output Power (W)	3600	4600	5000
Nominal Energy (kWh)		5 to 40	
Noise (dB)		<35	
Operating Temperature Range		-20~55°C (>45°C derating)	
Dimensions (WxDxH, mm)		650 x 240 x 750+330*N (N=1 to 8)	
Ingress Rating		IP65	
Mounting Options		Indoor/Outdoor, Floor standing or Wall mounted (optional)	

Hybrid Inverter Specification

Model	SUN3600S-E/I	SUN4600S-E/I	SUN5000S-E/I
Input - DC (PV)			
Max. Input Power (W)	4600	6000	7000
Max. Input Voltage (V)		580	
MPPT Voltage Range (V)		120~550	
MPPT Voltage Range (full load)	180~550	200~550	200~550
Start Voltage (V)		150	
Max. Input Current (A)		13.5 / 13.5	
Max. Short Current (A)		16 / 16	
No. of MPPT		2	
No. of String per MPPT		1	

Input - DC (Battery)			
Battery Type		Lithium-ion	
Nominal Voltage (V)		48	
Operation Voltage Range (V)		40-60	
Max. Charge / Discharge Power (W)	3600 / 3600	4600 / 4600	5000 / 5000
Max. Charge / Discharge Current (A)	75 / 75	95.8 / 95.8	100 / 100
Battery Charge Method		Self-adaption to BMS	

AC (On grid)			
Rated Input Apparent Power (VA)		7000	
Rated Output Power (W)	3600	4600	5000
Max. Output Apparent Power (VA)	3600	4600	5000
Rated Grid Voltage		230 Vac / L+N+PE	
Rated Grid Frequency (Hz)		50 / 60	
Max. Input Current (A)		30	
Max. Output Current (A)	16	20.9	22
THDI(Rated power)		<3%	
Adjustable Power Factor		0.8 leading to 0.8 lagging	

AC (Back Up)			
Rated Output Power (W)	3600	4600	5000
Rated Output Current (A)	15.6	20	22
Rated Output Voltage (V)		230	
Rated Frequency (Hz)		50 / 60	
THDV (@linear load)		< 3%	
Overload Capacity	105%<Load≤125%, 10min. 125%<Load≤150%, 1min. 150%<Load rate,10S		
Back-up Switch time		< 20ms	

Efficiency	
Max.Efficiency (BAT to AC)	93.8%
Max.Efficiency (PV to BAT)	95.2%
Max.Efficiency (PV to AC)	97.0%
Euro.Efficiency	96.2%
Max.MPPT Efficiency	99.9%

Protection	
	DC Switch / GFCI / Anti-islanding Protection / DC Reverse-polarity Protection / Output Over/Under Voltage Protection / Output Over Current Protection / AC Short Circuit Protection / Insulation Resistor Detection
DC/AC Surge Protection	Type III

General Data	
PV Connection	MC4/H4
DC Switch	Integated
Dimensions (WxDxH, mm)	650 x 240 x 620 mm / 25.6 x 9.5 x 24.4 inch
Net Weight (kg)	35
Operating Temperature Range	-25~60°C (-13~140°F), >45°C (113°F) derating
Relative Humidity	0~95%
Max. Altitude(m)	3000
Electronics Protection Degree	IP65
Topology type	Transformer(Bat to AC)
Night Self Consumption (W)	<10
Cooling	Natural
Noise (dB)	<35
Display	Wifi+APP / LCD
Communication	RS485 / CAN / WiFi

Standard Compliance	
Safety / EMC	EN 62109-1, EN 62109-2, EN IEC 61000-6-1, EN IEC 61000-6-3
Grid Connection Standard	NRS 097, EN 50549, G98, G99

Battery Module Specification

Model	RBmax5.1L	2*RBmax5.1L	3*RBmax5.1L	4*RBmax5.1L	5*RBmax5.1L	6*RBmax5.1L	7*RBmax5.1L	8*RBmax5.1L
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Electric Data								
Nominal energy(kWh)	5.12	10.24	15.36	20.48	25.6	30.72	35.84	40.96
Usable energy(kWh)	4.79	9.58	14.37	19.16	23.95	28.74	33.53	38.32
Cell type	Lithium iron phosphate (LFP)							
Nominal voltage (V)	51.2							
Operating voltage range (V)	44.8 ~ 56.8							
Max. continuous charge current (A)	50	100	100	100	100	100	100	100
Max. continuous discharge current (A)	100	100	100	100	100	100	100	100

General Data								
Weight	47.5 kg 99.21 lbs.	92.1 kg 203.04 lbs.	136.7 kg 301.37 lbs.	181.3 kg 399.69 lbs.	228.8 kg 504.41 lbs.	273.4 kg 602.74 lbs.	318 kg 701.06 lbs.	362.6 kg 799.39 lbs.
Dimensions (W × D × H)	Double tower							
	650x240x460 mm 25.6 x 9.5 x 18.1 inch	650x240x790 mm 25.6x9.4x31.1 inch	650x240x1120 mm 25.6x9.4x44.1 inch	650x240x1450 mm 25.6x9.4x57.1 inch	650x240x790+ 650x240x1120 mm 25.6x9.4x31.1 inch+ 25.6x9.4x44.1 inch	650x240x1120+ 650x240x1120 mm 25.6x9.4x44.1 inch+ 25.6x9.4x44.1 inch	650x240x1120+ 650x240x1450 mm 25.6x9.4x44.1 inch+ 25.6x9.4x57.1 inch	650x240x1450+ 650x240x1450 mm 25.6x9.4x57.1 inch+ 25.6x9.4x57.1 inch
Operating temperature ^[1]	Charge: 32 ~ 131°F (0 ~ 55°C), Discharge: 4 ~ 131°F (-20 ~ 55°C)							
Storage temperature	≤1 month: -20 to 45°C (-4 to 113°F), >1 month: 0 to 35°C (32 to 95°F)							
Relative humidity	0 ~ 95%							
Max. altitude (m)	4000 m / 13,123 ft (>2,000 m / >6,561.68 ft derating)							
Ingress rating	IP65							
Mounting options	Indoor/Outdoor, Floor standing or Wall mounted				Communication CAN, RS485			

Certification	
	IEC 62619, UL 1973, EN 61000-6-1, EN 61000-6-3, FCC Part 15, UN38.3

1

ROYPOW All-In-One RESS

5.1 kWh



LIFEPO₄ BATTERY

5.1 kWh

Empowering Sustainable Energy Storage for Homes



Up to **16** Batteries
Flexible Capacity Expansion

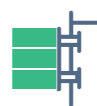
> **6,000** Times
Cycle Life

IP65
Ingress Rating

10 Years
Warranty



Advanced LiFePO₄ Technology
Safe, Cobalt-free Battery Chemistry



Modular and Stacked Design
Easier Installation



Safe Protection
Intelligent BMS & Built-in Fire Extinguishing System



High Compatibility
Compatible with Inverters of Leading Brands

Technical Specifications



Model	1*RBmax5.1L	2*RBmax5.1L2	3*RBmax5.1L2	4*RBmax5.1L2	5*RBmax5.1L2	6*RBmax5.1L2	7*RBmax5.1L2	8*RBmax5.1L2
Nominal Energy (kWh)	5.12	10.24	15.36	20.48	25.6	30.72	35.84	40.96
Usable Energy (kWh)	4.79	9.58	14.37	19.16	23.95	28.74	33.53	38.32
Scalability (kWh)	Max. 16 in parallel, Max. 81kWh							
Nominal Charge/Discharge Current (A)	50 / 50	100 / 100	150 / 150	200 / 200	250 / 250	300 / 300	350 / 350	400 / 400
Max. Charge/Discharge Current(A)	100 / 100	100 / 200	150 / 300	200 / 400	250 / 400	300 / 400	350 / 400	400 / 400
Cell type	Lithium iron phosphate (LFP)							
Nominal voltage (V)	51.2							
Operating voltage range (V)	44.8 ~ 56.8							
General Data								
Weight (Kg / lbs.)	48.5 Kg 106.9 lbs.	94.3 Kg 207.89 lbs.	140 Kg 308.64 lbs.	185.7 Kg 409.39 lbs.	234.3 Kg 516.54 lbs.	280 Kg 617.29 lbs.	325.7 Kg 718.04 lbs.	371.4 Kg 818.79 lbs.
Dimensions (W × D × H mm / inch)	650x240x460 mm 25.6 x 9.5 x 18.1 inch	650x240x790 mm 25.6x9.4x31.1 inch	650x240x1120 mm 25.6x9.4x44.1 inch	650x240x1450 mm 25.6x9.4x57.1 inch	650x240x790 + 650x240x1120 mm 25.6x9.4x31.1 inch+ 25.6x9.4x44.1 inch	650x240x1120 + 650x240x1120 mm 25.6x9.4x44.1 inch+ 25.6x9.4x44.1 inch	650x240x1120 + 650x240x1450 mm 25.6x9.4x44.1 inch+ 25.6x9.4x57.1 inch	650x240x1450 + 650x240x1450 mm 25.6x9.4x57.1 inch+ 25.6x9.4x57.1 inch
Operating temperature (°F/°C) ^[1]	Charge: 32 ~ 131°F (0 ~ 55°C), Discharge: 4 ~ 131°F (-20 ~ 55°C)							
Storage temperature (°F/°C)	≤1 month: -4 ~ 113°F (-20 ~ 45°C), >1 month: 32 ~ 95°F (0 ~ 35°C)							
Installation location	Indoor/Outdoor, Floor standing or Wall mounted							
Communication	CAN, RS485							
Relative humidity	0 ~ 95%							
Max. altitude (m / ft.)	4000 m / 13,123 ft (>2,000 m / >6,561.68 ft derating)							
Ingress rating	IP 65							
Certification	IEC 62619, UL 1973, EN 61000-6-1, EN 61000-6-3, FCC Part 15, UN38.3							

[1] When the ambient temperature is too low or too high, the performance of battery may be limited.

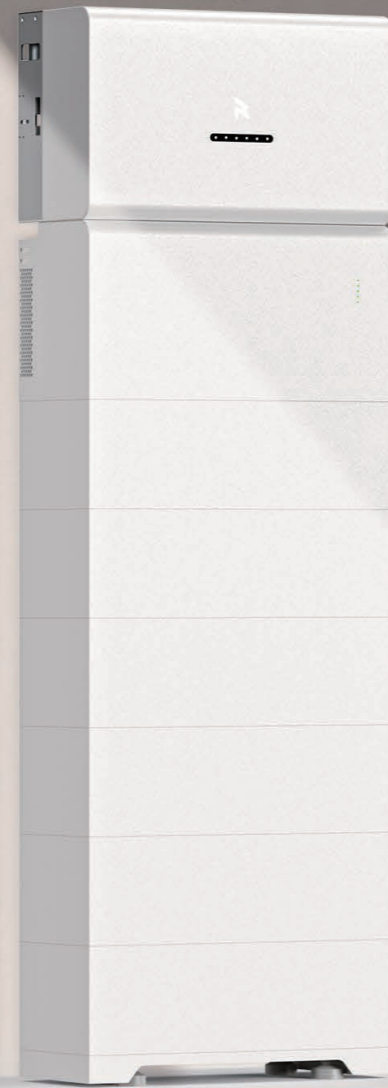
[2] All pictures shown are for reference only and data are based on ROYPOW standard test procedures. Actual performance may vary according to local conditions. Only authorized personnel are allowed to operate or make adjustments to the batteries. We reserve the right to make revisions as well as product alterations and improvements at any time without prior notice.

All-In-One ESS

Three-phase

8 / 10 / 12 / 15 / 20 / 25 / 30kW

7.6 to 132kWh



Compatible with
AC-coupling

Up to **6**
in parallel

Generator
Energy Storage

Intelligent
Remote Monitoring



System Specification

Model	SUN8000T-E/A	SUN10000T-E/A	SUN12000T-E/A	SUN15000T-E/A
Rated AC Output Power (W)	8000	10000	12000	15000
Nominal Energy (kWh)	7.6 to 132.7			
Noise (dB)	<29			
Operating Temperature Range	-18~50°C, >45°C derating			
Dimensions (WxDxH)	650 x 265 x (780 + 200*N (N=2 to 6)) mm			
Ingress Rating	IP65			
Mounting Options	Indoor/Outdoor, Floor standing or Wall mounted (optional)			

Model	SUN20000T-E/A	SUN25000T-E/A	SUN30000T-E/A
Rated AC Output Power (W)	20000	25000	30000
Nominal Energy (kWh)	44 to 132		
Noise (dB)	<60		
Operating Temperature Range	-18~50°C, >45°C derating		
Dimensions (WxDxH)	650 x 265 x (890+200*N (N=2 to 6, single tower) mm		
Ingress Rating	IP65		
Mounting Options	Indoor/Outdoor, Floor standing or Wall mounted (optional)		

8 / 10 / 12 / 15kW



Hybrid Inverter

Three Phase / 2 MPPTs / Hybrid Inverter / HV

- 200% DC Oversizing
- 200% Overload Capacity
- Up to 6 Units Parallel Working
- 30_A Max. PV Input Current
- 98.3% Max. Efficiency
- <10_{ms} Seamless Switch
- 150% Three-Phase Imbalance Output
- Support Half Wave Load
- Compatible with AC Coupling
- Generator Energy Storage

Lighter, Smaller, Quieter

Hybrid Inverter Specification

Model	SUN8000T-E/I	SUN10000T-E/I	SUN12000T-E/I	SUN15000T-E/I
Input - DC (PV)				
Max. Power (Wp)	20000	20000	30000	30000
Max. DC Voltage (V)		1000		
MPPT Voltage Range (V)		160~950		
MPPT Voltage Range (V, full load)	200~850	240~850	240~850	280~850
Start Voltage (V)		180		
Max. Input Current (A)	30-20	30-20	30-30	30-30
Max. Short Current (A)	40-30	40-30	40-40	40-40
Number of MPPT		2		
Number of String per MPPT	2-1	2-1	2-2	2-2
Input - DC (Battery)				
Compatible Battery	RBmax MH Battery System			
Voltage Range (V)	550-950			
Max. Charge / Discharge Power (W)	11000 / 8800	11000 / 11000	15000 / 13200	15000 / 15000
Max. Charge / Discharge Current (A)	20 / 16	20 / 20	27 / 24	27 / 27
AC (On grid)				
Rated Output Power (W)	8000	10000	12000	15000
Rated Output Apparent Power (VA)	8800	11000	13200	15000
Max. Output Apparent Power (VA)	8800	11000	13200	15000
Max. Output Power (W)	8800	11000	13200	15000
Rated Input Apparent Power (VA)	22500			
Max. Input Current (A)	3*32			
Rated Grid Voltage (V)	220/380, 230/400, 3W+N+PE			
Rated Grid Frequency (Hz)	50 / 60			
Rated Output Current (A)	3*12.8	3*16	3*19.2	3*21.8
Max. Output Current (A)	3*12.8	3*16	3*19.2	3*21.8
THDI(Rated power)	<3%			
Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)			
AC (Back Up)				
Rated Output Power (W)	8000	10000	12000	15000
Rated Output Apparent Power (VA)	8800	11000	13200	15000
Rated Output Current (A)	3*12.8	3*16	3*19.2	3*21.8
Rated Bypass Power (VA)	22500			
Rated Bypass Current (A)	3*32			
Rated Output Voltage (V)	220/380, 230/400, 3W+N+PE			
Rated Frequency (Hz)	50 / 60			
THDV (@linear load)	< 2%			
Overload Capacity	120% for 10 min, 200% for 10 S			
THDV	<2% (R load), <5% (RCD load)			
Scalability	Max. 6 in parallel			
Efficiency				
Max.Efficiency	98.0%	98.0%	98.3%	98.3%
Euro.Efficiency	97.3%	97.3%	97.6%	97.6%
Max. Charge Efficiency (PV to Bus)	99%			
Max. Charge / Discharge Efficiency (Grid to Bus)	98%			
Protection				
GFCI / Anti-islanding Protection / DC Reverse-polarity Protection / AC Over/Under Voltage Protection / AC Over Current Protection / AC Short Circuit Protection / Insulation Resistor Detection				
DC/AC Surge protection Device	Type II / Type III			
AFCI / RSD	Optional			
General Data				
Switch Time	< 10ms	Topology	Transformerless	
Generator Interface	Optional	Noise (dB)	<29	
PV Switch	Integated	Night Self Consumption (W)	<10	
PV Connection	MC4/H4	Cooling	Natural Convection	
AC Connection	Connector	Display	LED + APP (Bluetooth)	
Operating Temperature Range	-25~60°C, >45°C derating	Protection Degree	IP65	
Relative Humidity	0~95%	Dimensions (WxDxH)	650 x 265 x 390mm	
Altitude	4000 m	Net Weight	30 kg	
Communication Interface	RS485 / CAN / USB / (Wi-Fi / GPRS / 4G / Ethernet optional)			
Standard Compliance				
Grid Connection standards	VDE-AR-N 4105, EN 50549, TOR & R 25	Safety/EMC/RED Standards	EN IEC62109-1/-2, EN 61000-6-1/-2/-3/-4, EN301489, EN300328, EN 62479, EN50663, EN62920	

20 / 25 / 30kW



Hybrid Inverter

Three Phase / 3 MPPTs / Hybrid Inverter / HV

150%
Overload Capacity

Up to **6** Units
Parallel Working

30_A
Max. PV Input Current

98.8%
Max. Efficiency

<10_{ms}
Seamless Switch

100%
Three-Phase Imbalance Output

Support
Half Wave Load

Compatible with
AC Coupling

Generator
Energy Storage



Reliable, Efficient, Powerful

Hybrid Inverter Specification

Model	SUN20000T-E/I	SUN25000T-E/I	SUN30000T-E/I
Input - DC (PV)			
Max. Power (Wp)	30000	45000	45000
Max. DC Voltage (V)		1000	
MPPT Voltage Range (V)		160-950	
MPPT Voltage Range (V, full load)	340-800	270-800	340-800
Start Voltage (V)		180	
Max. Input Current (A)	30-30	30-30-30	30-30-30
Max. Short Current (A)	40-40	40-40-40	40-40 / 40
Number of MPPT	2	3	3
Number of String per MPPT	2-2	2-2-2	2-2-2
Input - DC (Battery)			
Compatible Battery		RBmax MH Series	
Number of Battery Input		2	
Voltage Range (V)		550-950	
Max. Charge / Discharge Power (W)	22000/22000	27500 / 27500	30000 / 30000
Max. Charge / Discharge Current (A)		50 / 50	
AC (On grid)			
Rated Output Power (W)	20000	25000	30000
Max. Output Apparent Power (VA)	22000	27500	30000
Max. Output Power (W)	22000	27500	30000
Rated Input Apparent Power (VA)		45000	
Max. Input Current (A)		3*65	
Rated Grid Voltage (V)		220/380, 230/400, 3W+N+PE	
Rated Grid Frequency (Hz)		50 / 60	
Max. Output Current (A)	3*28.9	3*36.3	3*43.5
THDI(Rated power)		<3%	
Power Factor		~1 (Adjustable from 0.8 leading to 0.8 lagging)	
AC (Back Up)			
Rated Output Power (W)	20000	25000	30000
Rated Output Current (A)	3*28.9	3*36.3	3*43.5
Rated Bypass Power (VA)		37950	
Rated Bypass Current (A)		3*65	
Rated Output Voltage (V)		220/380, 230/400, 3W+N+PE	
Rated Frequency (Hz)		50 / 60	
THDV (@linear load)		< 2%	
Overload Capacity		120%@10min /150% @200ms	
THDV		<2% (R load), <5% (RCD load)	
Scalability		Max. 6 in parallel	
Efficiency			
Max.Efficiency		98.8%	
Euro.Efficiency	97.2%	97.9%	97.9%
Max. Charge Efficiency (PV to Bus)		98%	
Max. Charge / Discharge Efficiency (Grid to Bus)		98%	
Protection			
GFCI / Anti-islanding Protection / DC Reverse-polarity Protection / AC Over/Under Voltage Protection / AC Over Current Protection / AC Short Circuit Protection / Insulation Resistor Detection			
DC/AC Surge protection Device		Type II / Type III	
AFCI / RSD		Optional	
General Data			
Switch Time	< 10ms	Topology	Transformerless
Generator Interface	Optional	Noise (dB)	<60
PV Switch	Integated	Night Self Consumption (W)	<15
PV Connection	MC4/H4	Cooling	Smart Fan
AC Connection	Connector	Display	LED + APP (Bluetooth)
Operating Temperature Range	-25~60°C, >50°C derating	Protection Degree	IP65
Relative Humidity	0~95%	Dimensions (WxDxH)	650 x 265 x 500mm
Altitude	4000 m	Net Weight	43 kg
Communication Interface	RS485 / CAN / USB / (Wi-Fi / GPRS / 4G / Ethernet optional)		
Standard Compliance			
Safety/EMC/RED Standards	EN 62109-1/-2, EN IEC 61000-6-1/-2/-3/-4, EN301489, EN300328, EN 62479		



Battery System Specification

Model	2*RBmax3.8MH	3*RBmax3.8MH	4*RBmax3.8MH	5*RBmax3.8MH	6*RBmax3.8MH
Battery Module	RBmax3.8H (3.84 kWh, 76.8 V, 40kg)				
Number of Battery Modules	2	3	4	5	6
Nominal Energy (kWh)	7.68	11.52	15.36	19.2	23.04
Usable Energy (kWh)[1]	7.06	10.6	14.13	17.66	21.2
Rated Current (A)	45	45	45	45	45
Nominal Power (kW)	6.9	10.3	13.8	15	15
Peak Output Power (kW)	8 for 10 sec.	12 for 10 sec.	16 for 10 sec.	17 for 10 sec.	17 for 10 sec.
Weight	100.4 kg	140.4 kg	180.4 kg	220.4 kg	260.4 kg

Model	2*RBmax5.5MH	3*RBmax5.5MH	4*RBmax5.5MH	5*RBmax5.5MH	6*RBmax5.5MH
Battery Module	RBmax5.5H (5.5 kWh, 76.8 V, 45 kg)				
Number of Battery Modules	2	3	4	5	6
Nominal Energy (kWh)	11.06	16.59	22.12	27.65	33.18
Usable Energy (kWh)[1]	10.18	15.26	20.35	25.44	30.53
Rated Current (A)	50	50	50	50	50
Nominal Power (kW)	7.6	11.5	15	15	15
Peak Output Power (kW)	8 for 10 sec.	12 for 10 sec.	16 for 10 sec.	17 for 10 sec.	17 for 10 sec.
Weight	110.4 kg	155.4 kg	200.4 kg	245.4 kg	290.4 kg

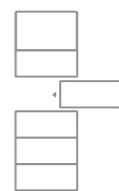
RBmax3.8MH & RBmax5.5MH Series

Operating Voltage Range (V)	550-950				
Dimensions (W x D x H)	650 x 265 x 780 mm	650 x 265 x 980 mm	650 x 265 x 1180 mm	650 x 265 x 1380 mm	650 x 265 x 1580 mm
Battery Nominal Voltage (V)	153.6	230.4	307.2	384	460.8
Battery Operating Voltage Range (V)	124.8~172.8	187.2~259.2	249.6~345.6	312~432	374.4~518.4
Battery Chemistry	Lithium Iron Phosphate (LiFePO ₄)				
Scalability	Max. 4 in parallel				
Operating Temperature	Charge: 0~ 50°C, Discharge: -18~50°C (>45°C derating)				
Storage Temperature	≤1 month: -20~45°C, >1 month: 0~35°C				
Relative Humidity	5~95%				
Max. Altitude (m)	4000 m (>2,000 m derating)				
Protection Degree	IP65				
Cooling Method	Natural Convection				
Mounting Options	Indoor / Outdoor, Floor standing, Wall mounted				
DC Protection	Circuit Breaker, Fuse, DC-DC converter				
Protection Features	Over Voltage / Over Current / Short Circuit / Reverse Polarity				
Certifications	CE, IEC 62619, EN 62477, EN IEC62040, UN38.3				

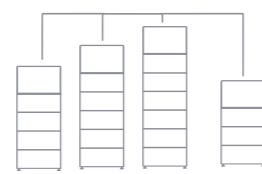
Battery



No Additional
Wiring Required



Modular &
Stackable Design



7.6 ~ 132 kWh
Flexible Capacity Expansion

LFP

Safe, Cobalt-Free Battery

IP65

Ingress Rating

Battery Optimizer

RMH95050

Voltage Range(V)	550-950
Max. Charge / Discharge Current(A)	27
Communication	CAN, RS485
Scalability	Max. 4 in parallel
Dimensions (W x D x H)	650 x 265 x 270mm
Weight	15 kg

App & Web Management

Everything at a glance and under control; the intuitive App / Web allows you to have full visibility into your self-powered home while providing real-time information on solar generation, battery power flow, and household consumption.



Real-time Monitoring & Comprehensive Visualization



Dynamic Power Flow & Generation Report



Backup Function & Data Encryption



Working Mode Switch & Profit Calculation



Multi-terminal Compatibility & Sharing



Integrated After-sales Service



Versatile Off-Grid System

Ideal for powering homes, remote cabins, resorts, rural areas, and businesses in regions where the grid access is limited or unavailable. Go off the grid with peace of mind.





LIFEPO₄ BATTERY

5.1 kWh

Reliable Power for Off-Grid Living

Up to **5** kW / Module
Maximum Continuous
Discharge Power

Up to **16** Units
Flexible Capacity Expansion

> 6,000 Times
Cycle Life

10 Years
Warranty



Safe

✓ Advanced Cobalt-free LiFePO₄ Battery Technology

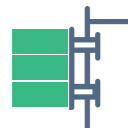
✓ Intelligent BMS with Multiple Protections



Reliable

✓ Long Design Life

✓ Zero Maintenance and No Frequent Swapping



Convenient

✓ Modular and Stacked Design for Easy Installation

✓ Ground-mounted or Wall-mounted Installation

System Specification

RBmax5.1L-F



Electric Data

Nominal Energy (kWh)	5.12
Usable Energy (kWh)	4.79
Cell Type	LFP (LiFePO ₄)
Nominal Voltage (V)	51.2
Operating Voltage Range (V)	44.8 ~ 56.8
Max. Continuous Charge Current (A)	100
Max. Continuous Discharge Current (A)	100

General Data

Weight (Kg / lbs.)	48 Kg / 105.8 lbs.
Dimensions (W × D × H) (mm / inch)	500 x 167 x 490 mm / 19.69 x 6.57 x 19.29 inch
Operating Temperature (°C)	0 ~ 55°C (32 ~ 131°F) (Charge), -20 ~ 55°C (4 ~ 131°F) (Discharge)
Storage Temperature (°C) Delivery SOC State (20~40%)	>1 Month: 0 ~ 35°C (32 ~ 95°F); ≤1 Month: -20 ~ 45°C (-4 ~ 113°F)
Relative Humidity	≤ 95%
Max. Altitude (m)	4000 m / 13,123 ft (>2,000 m / >6,561.68 ft derating)
Protection Degree	IP 20
Installation Location	Ground-Mounted; Wall-Mounted
Communication	CAN, RS485

Warranty

Warranty (Years)	10 Years
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Model	1*RBmax5.1L-F/FA	2*RBmax5.1L-F/FA	3*RBmax5.1L-F/FA	4*RBmax5.1L-F/FA	5*RBmax5.1L-F/FA	6*RBmax5.1L-F/FA	7*RBmax5.1L-F/FA	8*RBmax5.1L-F/FA
Nominal Energy (kWh)	5.12	10.24	15.36	20.48	25.6	30.72	35.84	40.96
Usable Energy (kWh)	4.79	9.58	14.37	19.16	23.95	28.74	33.53	38.32
Scalability (kWh)	Max. 16 in parallel, Max. 81kWh							
Nominal Voltage (V)	51.2							
Operating Voltage Range (V)	44.8-56.8							
Nominal Charge/Discharge Current (A)	50 / 50	100 / 100	150 / 150	200 / 200	250 / 250	300 / 300	350 / 350	400 / 400
Max. Charge/Discharge Current(A)	100 / 100	100 / 200	150 / 300	200 / 400	250 / 400	300 / 400	350 / 400	400 / 400

2

ROYPOW Off-Grid ESS

5.1 kWh



System Specification



Model	RBmax5.1L-FX
Electric Data	
Nominal Energy (kWh)	5.12
Usable Energy (kWh)	4.79
Cell Type	LFP (LiFePO4)
Nominal Voltage (V)	51.2
Operating Voltage Range (V)	44.8~56.8
Max. Continuous Charge Current (A)	100
Max. Continuous Discharge Current (A)	100
General Data	
Weight (Kg / lbs.)	45 Kg / 99.2 lbs.
Dimensions (W × D × H) (mm / inch)	442 x 560 x 173 mm / 17.4 x 22.05 x 6.81 inch
Operating Temperature (°C)	0 ~ 55°C (32 ~ 131°F) (Charge), -20 ~ 55°C (4 ~ 131°F) (Discharge)
Storage Temperature (°C) Delivery SOC State (20~40%)	>1 Month: 0 ~ 35°C (32 ~ 95°F); ≤1 Month: -20 ~ 45°C (-4 ~ 113°F)
Relative Humidity	≤ 95%
Max. Altitude (m)	4000 m / 13,123 ft (>2,000 m / >6,561.68 ft derating)
Protection Degree	IP 20
Installation Location	Ground-Mounted or Wall-Mounted
Communication	CAN, RS485
Warranty	
Warranty (Years)	10 years



LIFEPO₄ BATTERY

5.1 kWh

Long-Lasting, Reliable Power Storage Solution

Up to **16** Units
Flexible Capacity Expansion

> **6,000** Times
Cycle Life

10 Years
Warranty

Advanced LiFePO₄ Technology
Safe Battery Cells from Global Top 3 Brands

Intelligent BMS
Intelligent Monitoring & Multiple Protections

High Compatibility
Compatible with Many Brands of Inverter Protocols

Easy Installation
Stackable with Flexible Brackets

APP Support
Remote Monitoring of Battery Status

Wake-up Function
Reactivate and Recharge Asleep Batteries

Model	1*RBmax5.1L-FX	2*RBmax5.1L-FX	3*RBmax5.1L-FX	4*RBmax5.1L-FX	5*RBmax5.1L-FX	6*RBmax5.1L-FX	7*RBmax5.1L-FX	8*RBmax5.1L-FX
Nominal Energy (kWh)	5.12	10.24	15.36	20.48	25.6	30.72	35.84	40.96
Usable Energy (kWh)	4.79	9.58	14.37	19.16	23.95	28.74	33.53	38.32
Scalability (kWh)	Max. 16 in parallel, Max. 81kWh							
Nominal Voltage (V)	51.2							
Operating Voltage Range (V)	44.8-56.8							
Nominal Charge/Discharge Current (A)	50 / 50	100 / 100	150 / 150	200 / 200	250 / 250	300 / 300	350 / 350	400 / 400
Max. Charge/Discharge Current(A)	100 / 100	100 / 200	150 / 300	200 / 400	250 / 400	300 / 400	350 / 400	400 / 400



LIFEPO₄ BATTERY

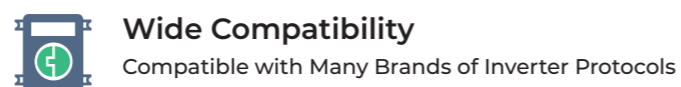
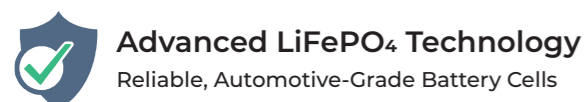
16 kWh

Reliable Backup, Endless Power

Up to **16** Units
Flexible Capacity Expansion

> **6,000** Times
Cycle Life

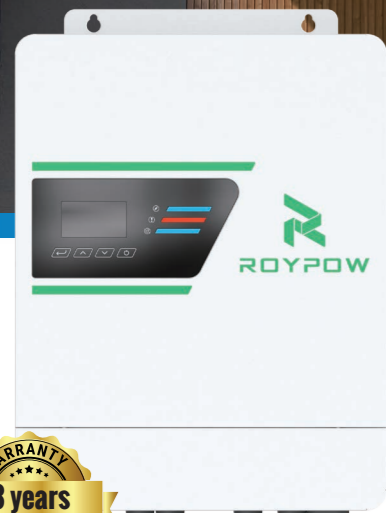
10 Years
Long Lifespan



System Specification



Model	RBmax16L-FA
Electric Data	
Nominal Energy (kWh)	16.07
Usable Energy (kWh)	15.27
Depth Of Discharge	95%
Cell Type	LFP (LiFePO ₄)
Nominal Voltage (V)	51.2
Operating Voltage Range (V)	44.8~58.4
Max. Continuous Charge Current (A)	150
Max. Continuous Charge Current when Parallel (A)	400 (Parallel when 3 packs or more)
Max. Continuous Discharge Current (A)	150
Max. Continuous Discharge Current when Parallel (A)	400 (Parallel when 3 packs or more)
General Data	
Weight (kg)	124
Dimensions (W × D × H) (mm)	530x240x805
Scalability	Up to 16 in parallel
Operating Temperature (°C)	0~ 55°C (Charge) -20~55°C (Discharge)
Storage Temperature (°C)	>1 Month: 0~35°C
Delivery SOC State (20~40%)	≤1 Month: -20~45°C
Relative Humidity	≤ 95%
Max. Altitude (m)	3000
Protection Degree	IP20
Installation Location	Indoor
Communication	CAN, RS485
Display	LED



SOLAR INVERTER

6 kW

Compact and Light, Designed for Efficient Energy Production



98%
Peak Efficiency

Up to **12** Units
Parallel Working

10 ms UPS
Seamless Switch

Three-Phase
Connection via
Parallel Connection

5 Years
Additional Cost
for Extended Warranty



Pure Sine Wave Output



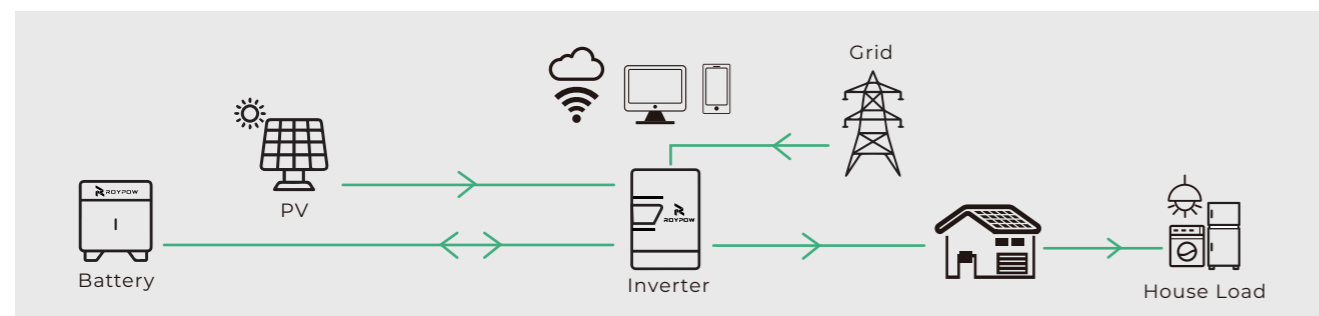
Wide MPPT Operating Range



Built-in BMS Communication



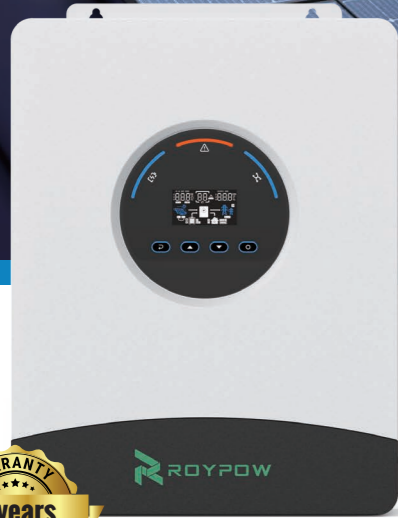
Multiple Safe Protections



System Specification



Model	R6000S-EU
PV (DC Input)	
Recommended Max. PV Input Power (W)	6000
Max. Input Voltage (VOC) (V)	500
MPPT Operating Voltage Range (V)	85 V - 450 V (@75V Start up)
Number of MPPT	1
Max. Number of Input Strings per MPPT	1
Max. Input Current per MPPT (A)	27
Max. Short-circuit Current per MPPT (A)	35
Grid (AC Input)	
Max. Input Power (W)	11500
Max. Input Current (A)	50
Rated Grid Voltage (Vac)	220 / 230 / 240
Rated Grid Frequency (Hz)	50 / 60
Acceptable Range	170 - 280 Vac (For UPS); 90 - 280 Vac (For Home Appliances)
Battery (Bi-direction)	
Battery Type	LiFePO ₄ / Lead-acid
Battery Voltage Range (Vdc)	40-60
Rated Battery Voltage (Vdc)	48
Max. Charge / Discharge Current (A)	120 / 130
BMS Communication Mode	RS485
Backup Output (AC Output)	
Rated Output Power	6000W / 6000VA
Rated Output Current (A)	27.3
Rated Output Voltage / Frequency	220 / 230 / 240Vac 50 / 60Hz
Parallel Capacity	Max. 12 Units
Surge Power	12000 VA 5 s
THDv (@ Linear Load)	<3%
Switch Time	10ms Typical (For UPS), 20ms Typical (For Home Appliances)
Efficiency	
Peak Efficiency	98%
Max. MPPT Efficiency	99.90%
Protection	
Inner Protection	Output Short-circuit Protection, Output Overvoltage Protection
Surge Protection	PV: Type III, AC: Type III
IP Rating	IP54
General Specifications	
Operating Temperature Range	-10°C ~ 55°C
Relative Humidity Range	5% ~ 95%
Max. Operating Altitude	>2,000 m / >6,561.68 ft derating
Standby Self-consumption (W)	<10
Installation Type	Wall-mounted
Cooling Mode	Fan Cooling
Communication	RS232/RS485/Dry Contact/Wi-Fi
Display	LCD
Mechanical Specifications	
Inverter Dimension (L x W x H) (mm / inch)	346.6 x 120 x 444.7 mm / 13.65 x 4.72 x 17.51 inch
Net Weight (kg)	12.4 Kg / 27.33 lbs.
Shipping Dimension (mm)	560 x 465 x 240 mm / 22.05 x 18.31 x 9.45 inch
Gross Weight (kg)	14.6 Kg / 32.19 lbs.
Warranty Period	3 years / 5 years (optional)



SOLAR INVERTER

12 kW

Efficient, Safe, Reliable for Home Backup



98% Max. MPPT Tracking Efficiency

Up to **6** Units Parallel Working

Three-Phase Connection via Parallel Connection

10 Years Long Lifespan

Up to **72** kW High Power

5 Years Additional Cost for Extended Warranty



Pure Sine Wave AC Power



Easy Installation and Setup



Wide MPPT Operating Range



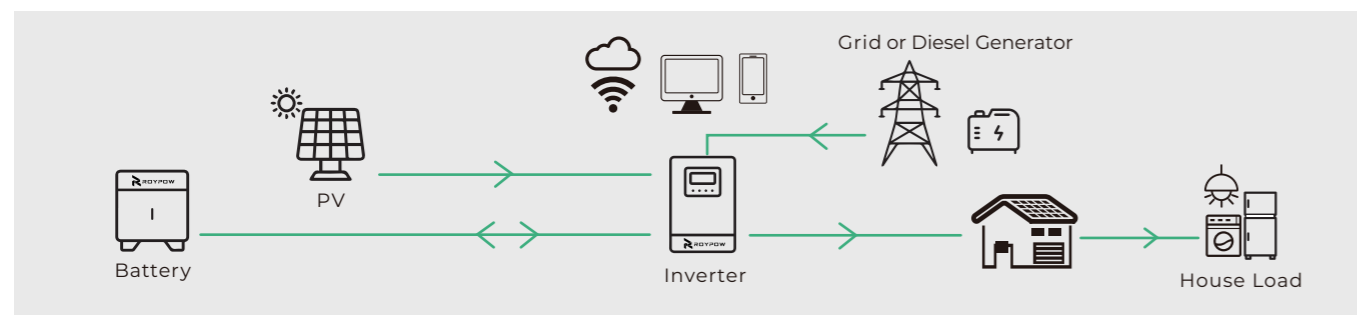
Intelligent Management via LCD Display and Wi-Fi



Comprehensive Safety Protections



Built-in Li-ion Battery BMS Communication



System Specification



Model	R12000S-E
PV Input	
Max. PV Input Power (W)	16000
Max. DC Voltage (V)	500
MPPT Voltage Range (V)	85 - 450
Rated Voltage (V)	300
Startup Voltage (V)	75
Max. DC Current (A)	27 / 27
Number of MPPT	2
Number of String per MPPT	1
DC Terminal Type	TBD
Battery	
Battery Type	Lead-acid / LFP
Rated Voltage (V)	48
Voltage Range (V)	40 - 60
Max. Charge / Discharge Power (W)	12000
Max. Charge Current	210A (MPPT: 210A; Grid: 210A)
Max. Discharge Current (A)	230
Max. Charge Voltage (V)	60
Temperature Compensation	Yes (Lithium Battery)
Current / Voltage Monitoring	Yes
AC Input	
Max. Input Power (W)	20700
Max. Input Current (A)	90
Rated Input Voltage (V)	220 / 230 / 240
Rated Input Frequency (Hz)	50 / 60
THDi	<3% (Linear Load)
Power Factor	1
AC Output	
Max. Output Power (W)	12000
Rated Frequency (Hz)	50 / 60
Frequency Accuracy	±2%
Voltage Class (V)	220 / 230 / 240
Max. Output Current (A)	52.2
Voltage Stabilization Accuracy	±1%
THDV (Full Load)	<3% (Linear Load)
Overload Capacity	105% < Load ≤ 150%, Alarm and Shutdown after 10.5 s; Load ≥ 150%, Alarm and Shutdown after 5.5 s
Efficiency	
Max. Efficiency (Grid)	95%
Max. Efficiency (Battery)	93%
Protection	
Protection	Over-/Under-Voltage Protection, Output Over-Current Protection, Output Short-Circuit Protection, Over-Temperature Protection
General Specifications	
Dimension (L x W x H)	125 x 535 x 630 mm / 4.92 x 21.06 x 24.80 inch
Weight	25 kg / 55.11 lbs.
Installation	Wall-Mounted
Environmental Temperature Range	-10~55°C, >40°C Derated (14~131°F, >104°F Derated)
Relative Humidity	5-95%
Max. Altitude	>2,000 m / >6,561.68 ft derating
Ingress Rating	IP54
Standby Self-Consumption	<10 W
Cooling Mode	Forced Air Cooling
Noise	<60 dB
Display Type	LCD Display
Communication	RS232 / Dry Contact / Wi-Fi / RS485
Warranty	3 years / 5 years (optional)
Parallel Units	6