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Version: August 13, 2024, Residential Energy Storage System



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Residential Energy Storage System

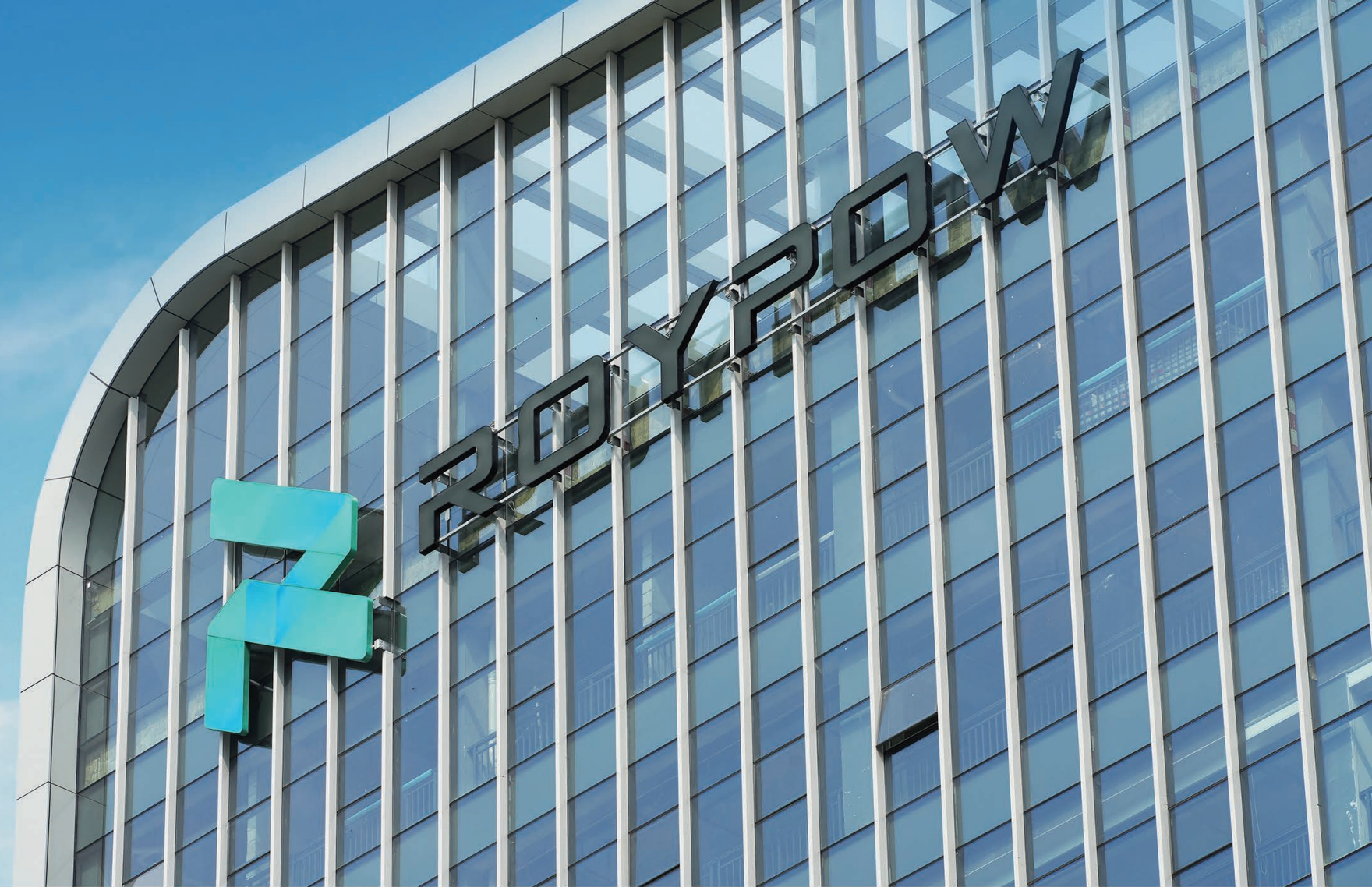
Intelligent Technology Coexisting
with Nature Powers Your Home



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ROYPOW
Your Trusted Partner



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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
171 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:

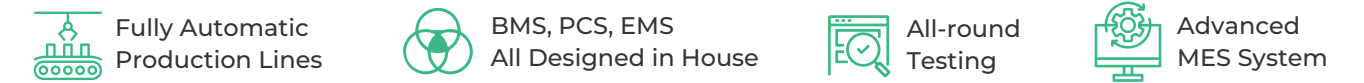
UL 1973, UL 9540A, UL 9540, UL 2580, UL 2271, UL 1741
 IEEE 1547
 IEC 62619
 EN 62477, EN 62040, (EU) 2023/1542, EN 62109-1, EN 62109-2

UL **EMC** **GRID** **Functional Safety** **CB** **Transport** **CE** **RoHS**

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.



Global Sales and Service Network



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.

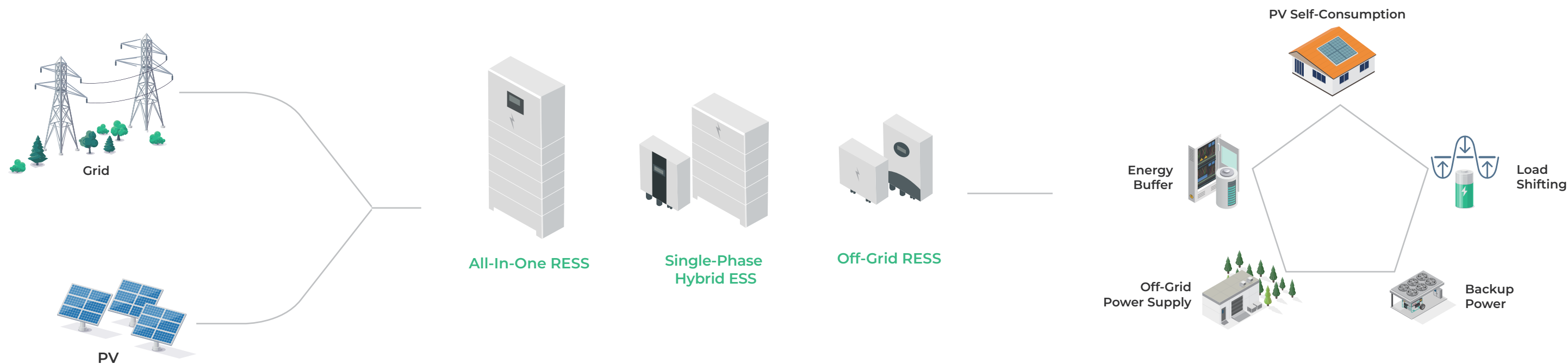
With years of dedication to new energy solutions, we are proud to offer customers professional solutions for:

- Low-speed Vehicle Batteries
- Battery Systems for Off-highway Applications
- Residential Energy Storage Systems
- Mobile Energy Storage Systems
- Industrial Batteries
- Battery Systems for Emerging Applications
- Commercial & Industrial Energy Storage Systems
- 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.



Single-Phase Hybrid ESS

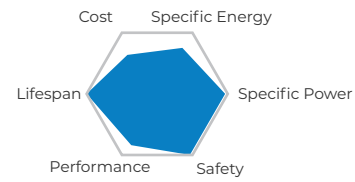
Designed with separate reliable and safe inverters and batteries, this system provides greater flexibility in installation. Whether for daily use or as a backup power solution, this system provides sustainable and green energy, promoting a better quality of life.



Off-Grid RESS

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.

Safety



LiFePO₄ batteries ensure premium electrical characteristics without any safety issues.



Enhanced safety with aerosol fire protection.



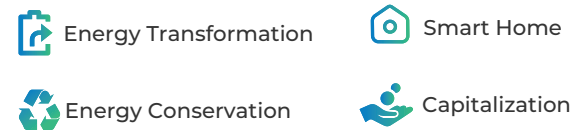
Integrated Arc Fault Circuit Interrupters (AFCI) & Rapid Shut Down (RSD).



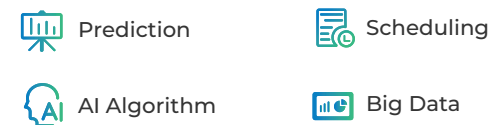
IP65 Rating, safe and reliable while using.

Core Value

Application



Platform



Communication Control



Hardware



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



Multi-terminal Compatibility & Sharing



Backup Function & Data Encryption



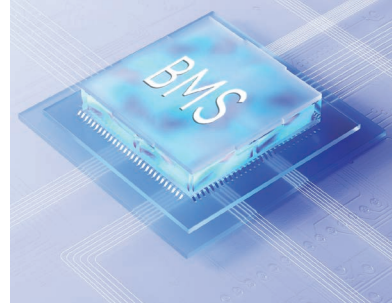
Working Mode Switch & Profit Calculation



Integrated After-sales Service



Battery management system (BMS)



- 
ROYPOW Research Institute
 30+ BMS R&D veteran researchers with 16+ years ESS BMS experiences
- 
High SOC Accuracy
 Our SOC algorithm accuracy reaches 5%
- 
Comprehensive Protection
 3-level software protection, redundant hardware level protection



Intelligent Residential Energy Storage System

Euro-standard

2

MPPTs

35

dB
Max. Noise

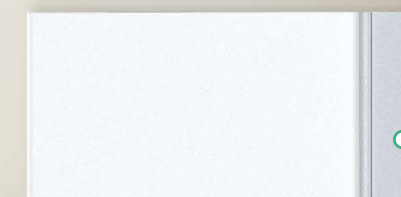
7

kVA
Max. AC Input

7

kW
Max. PV Input

10

Years
WarrantyInverter
ModuleBattery
Modules

IP65

IP65 Protection

Integrated
Multiple Protections

Natural Cooling

Smart Load
FunctionModular &
Integrated DesignSmart 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)		51.2	
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
Net Weight (kg)	35
Operating Temperature Range	-25~60°C (>45°C 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 IEC 62109-1, EN IEC 62109-2, EN IEC 61000-6-1, EN IEC 61000-6-3
Grid Connection Standard	VDE-AR-N 4105, NRS 097, EN 50549, G98, G99, AS 4777.2

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 (lbs / kg)	47.5	92.1	136.7	181.3	228.8	273.4	318	362.6	
Dimensions (W × D × H) (mm)	650 × 240 × 460	650 × 240 × 790	650 × 240 × 1,120	650 × 240 × 1,450	Double tower				
					650 × 240 × 790 + 650 × 240 × 1120	650 × 240 × 1120 + 650 × 240 × 1120	650 × 240 × 1120 + 650 × 240 × 1450	650 × 240 × 1450 + 650 × 240 × 1450	
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)					4,000 (> 2,000 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]

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

Three-Phase All-In-One ESS

Euro-standard

Three Phase

8 - 15 kW / 7.6 - 33 kWh

Expandable to 90 kW / 132 kWh

Note: Parallel function is under development and available from Oct. 2024 versions.



Compatible with
AC-coupling

200%
DC Oversizing

98.3%
Efficiency

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)		<30		
Operating Temperature Range		-18~50 C, >45 C derating		
Dimensions (WxDxH, mm)		650 x 265 x (780+200*N (N=2 to 6)		
Ingress Rating		IP65		
Mounting Options		Indoor/Outdoor, Floor standing or Wall mounted (optional)		

Hybrid Inverter

Lighter, Smaller, Quieter

200%
DC Oversizing

200%
Overload Capacity

98.3%
Max. Efficiency

<10ms
Seamless Switch

30A
Max. PV
Input Current

150%
Three-Phase
Imbalance Output

Up to **6 Units**
Parallel Working

Support
Half Wave Load



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
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)	32			
Rated Grid Voltage (V)	380/400, 3W+N			
Rated Grid Frequency (Hz)	50 / 60			
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 Current (A)	3*12.8	3*16	3*19.2	3*21.8
Rated Bypass Power (VA)	22500			
Rated Bypass Current (A)	32			
Rated Output Voltage (V)	380/400, 3W+N			
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)	99%			

Protection				
DC Switch / GFCI / Anti-islanding Protection / DC Reverse-polarity Protection / AC Over/Under Voltage Protection / AC Over Current Protection / AC Short Circuit Protection / Insulation Resistor Detection / GFCI				
DC/AC Surge protection Device	Type II / Type III			
AFCI / RSD	Optional			

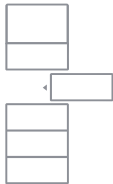
General Data					
Switch Time		< 10ms	Topology	Transformerless	
Generator Interface		Optional	Noise (dB)	<30	
PV Switch		Integated	Night Self Consumption (W)	<10	
PV Connection		MC4/H4	Cooling	Natural Convection	
AC Connection		Connector	Display	LED + APP (Bluetooth)	
Operating Temperature Range		-25~60°C (-13~140°F), >50°C (122°F) derating		Protection Degree	IP65
Relative Humidity		0~95%		Dimensions (WxDxH, mm)	650 x 265 x 390
Altitude (m)		4000		Net Weight (kg)	28
Communication Interface		RS485 / CAN / USB / (Wi-Fi / GPRS / 4G / Ethernet optional)			

Standard Compliance				
Grid Connection standards	VDE-AR-N 4105, EN 50549, AS4777.2, CEC, RCM	Safety	EN IEC62109-1/-2, EN 61000-6-1/-2/-3/-4, EN IEC 62040	

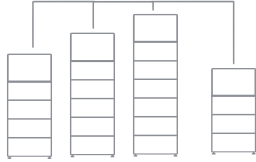
Battery Module



No Additional Wiring Required



Modular & Stackable Design



7.6 ~ 132 kWh Flexible Capacity Expansion

Note: [1] Parallel function is under development and available from Oct. 2024 versions.

LFP

Safe, Cobalt-Free Battery

IP65

Ingress Rating

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				
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 (kg)	100.4	140.4	180.4	220.4	260.4

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				
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 (kg)	110.4	155.4	200.4	245.4	290.4

RBmax3.8MH & RBmax5.5MH Series					
Operating Voltage Range (V)	550-950				
Dimensions (W x D x H, mm)	650 x 265 x 780	650 x 265 x 980	650 x 265 x 1180	650 x 265 x 1380	650 x 265 x 1580
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 (32~122°F), Discharge: -20~50°C (-4~122°F) (>45°C(113°F) derating)				
Storage Temperature	≤1 month: -20~45°C (-4~113°F), >1 month: 0~35°C (32~95°F)				
Relative Humidity	5~95%				
Max. Altitude (m)	4000 (>2000m derating)				
Protection Degree	IP65				
Cooling Method	Natural Cooling				
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, VDE-AR-E 2510-50, EN IEC 62619, EN IEC 62477, EN IEC62040, RCM, CEC, UN38.3				

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, mm)	650 x 265 x 270	
Weight (Kg)	15	

Intelligent Residential Energy Storage System

US-standard

98%
Max. Efficiency

4
MPPTs

35 dB
Max. Noise

6 Max.
Systems in Parallel

27 A
Max. Current
(Per MPPT)

20 kVA
Max. AC Input

10 Years
Warranty

Up to **90** kW
Parallel Working



Inverter Module

Battery Modules



Split Phase
Output

Type
4X

Type 4X
Protection



PV Systems
Compatible



Integrated RSD
& AFCI



Natural
Cooling



Smart Load
Function



Modular &
Integrated Design



Smart App &
Web Management

System Specification

Model	SUN10000S-U/A	SUN12000S-U/A	SUN15000S-U/A
Rated AC Output Power (W)	10000	12000	15000
Nominal Energy (kWh)	5 to 40		
Noise（dB）	<35		
Operating Temperature Range	-20~55℃ (>45℃ derating)		
Dimensions (WxDxH, mm)	845 x 200 x (815+270*N (N=2 to 8))		
Ingress Rating	IP65		
Mounting Options	Indoor/Outdoor, Floor standing or Wall mounted (optional)		
Compliance & Certificates			
UL9540, UL9540A, UL1973, FCC, UN38.3, IEEE 1547, IEEE 1547.1, UL1741, UL1741 CRD, UL1741SB, UL1699B, UL991, IEEE 2030.5, HECO SRD-V2.0, CSA22.2, CEC, FCC Part 15, ICES-003 Issue 7			

Hybrid Inverter Specification

Model	SUN10000S-U	SUN12000S-U	SUN15000S-U
Input - DC (PV)			
Max. Power (Wp)	14400	20000	24000
Max. DC Voltage (V)		550	
MPPT Voltage Range (V)		120~550	
MPPT Voltage Range (V, full load)	235~550	200~550	225~550
Start Voltage (V)		150	
Max. Input Current per MPPT (Imp, A)	15.5	27	27
Max. Short Circuit Current per MPPT (Isc, A)	20	40	40
Number of MPPT		4	
Number of PV String per MPPT	1	2	2
Input - DC (Battery)			
Compatible Battery		RBmax5.1H Series	
Voltage Range (V)		75-480	
Max. Charge / Discharge Power (W)	10000 / 10000	12000 / 12000	15000 / 15000
Max. Charge / Discharge Current (A)		75 / 75	
Input - AC (GEN)			
Max. AC Power (W)		19000	
Max. AC Current (A)		79.2	
Rated Voltage (V) / Frequency (Hz)		240, (L1/L2) / 60Hz	
AC (On grid)			
Rated Output Power @240V (W)	10000	12000	15000
Max. Output Apparent Power @240V (VA)	10000	12000	15000
Rated Output Current (A)	41.6	50	62.5
Rated Input Power @240V(W)		20000	
Rated Input Apparent Power @240V(VA)		20000	
Max. Input Current (A)		83.3	
Rated Grid Voltage (V)		120/240, (L1/L2/N)	
Rated Grid Frequency (Hz)		60	
THDI		<3%	
Power Factor		0.8 leading to 0.8 lagging	
Efficiency			
Max.Efficiency (PV to Grid)		98.0%	
CEC Efficiency (PV to Grid)		97.2%	

AC (Back Up)			
Rated Output Power (W)	8000	10000	12000
Rated Output Current (A)	79.2		
Rated Output Voltage	120/240V, L1/L2/N		
Rated Frequency (Hz)	60		
Back-up Switch Time	<10ms		
THDV	<3%		
Overload Capacity	105%<Load≤125%, 10 min. 125%<Load≤150%, 1 min. 125%≤Load, 10 sec.		
Protections			
PV Switch / PV Rapid Shutdown / Arc Fault Circuit Interrupter (AFCI) / GFCI/Anti-islanding Protection /DC Reverse-polarity Protection / AC Over / Under Voltage Protection / AC Over Current Protection / AC Short Circuit ProtectionInsulation Resistor Detection			
DC/AC Surge Protection Device	TYPE 4		
Environmental			
Operating Temperature	-30 ~ 60°C(-22 ~ 140°F), derating above 45°C(113°F)		
Operating Humidity	0~95% RH		
Storage Conditions	-30~60°C(-22 ~ 140°F), 0~95% non-condensing		
Enclosure Type	NEMA Type 4X		
Max Elevation	3000m (>2000m derating)		
Noise (dB)	<35		
General Data			
Mounting Option	Wall Mount, indoor or outdoor		
Coupling	DC-Coupling		
Topology	Transformerless		
Cooling	Natural Convection		
Display	LCD + APP (WiFi)		
Communication Interface	RS485 / CAN / WiFi		
Dimensions (WxDxH)	850 x 200 x 550mm (33.46 x 7.9 x 21.7 in)		
Weight	55kg (121.3 lbs)		

Battery Module Specification

Model	2*RBmax5.1H	3*RBmax5.1H	4*RBmax5.1H	5*RBmax5.1H	6*RBmax5.1H	7*RBmax5.1H	8*RBmax5.1H	
Electric Data								
Nominal Energy (kWh)	10.24	15.36	20.48	25.6	30.72	35.84	40.96	
Usable Energy (kWh)	9.58	14.37	19.16	23.95	28.74	33.53	38.32	
Nominal Voltage (V)	102.4	153.6	204.8	256	307.2	358.4	409.6	
Operating Voltage Range (V)	89.6~113.6	134.4~170.4	179.2~227.2	224~284	268.8~340.8	313.6~397.6	358.4~454.4	
Max. charge/discharge Current (A)	50 / 75							
General Data								
Battery Chemistry	LFP (LiFePO ₄)							
Weight (Kg)	106	153	200	251	298	345	392	
Dimensions (W×D×H) (mm)	845×200×805	845×200×1075	845×200×1345	Double tower				
				845×200×1075, 845×200×685	845×200×1075, 845×200×955	845×200×1345, 845×200×955	845×200×1345, 845×200×1345	
Operating Temperature							Charge: 0 to 55°C (32 to 131°F), -20 to 55°C (-4 to 131°F)	
Storage temperature							≤1 month: -20 to 45°C (-4 to 113°F), >1 month: 0 to 35°C (32 to 95°F)	
Relative Humidity							5~95%	
Max. Altitude							4000 (>2000m derating)	
Protection Degree							IP 65 (NEMA Type 4X)	
Installation Location							Indoor/Outdoor, Floor standing, Wall mounted	
Communication							CAN, RS485	



Single-Phase Hybrid Inverter

3.6 - 24 kW

Efficient and Reliable, Power Your Home with Ease

97.6%
Max. Efficiency (PV to AC)



4 x up to **24 kW**

Fanless Design
Quiet and Comfortable



Seamless Switching
20 ms UPS

Model	SUN3600S-E	SUN4600S-E	SUN5000S-E	SUN6000S-E
DC Input				
Max. input power (W)	4600	6000	7000	7000
Max. input voltage (V)		550		
Nominal DC operating voltage (V)		360		
MPPT voltage range (V)		125 ~ 500		
MPPT voltage range@full load (V)		150 ~ 500		
Max. DC input current (A)		2 x 14		
Max. DC input short current (A)		2 x 17.5		
Start input voltage (V)		125		
MPPT number / number of strings per MPPT		2 / 1		
PV terminal type		MC4		
DC switch		Integrated		
Battery				
Battery type	Lithium-ion battery			
Nominal battery voltage (V)	48			
Battery voltage range (V)	40 ~ 58			
Charging method for li-Ion battery	Self-adaption to BMS			
Max. charging / discharging power (W)	3600	4600	5000	6000
Max. charging / discharging current (A)	95 / 76.6	95 / 95.8	95 / 104.2	95 / 110
AC (Grid Side)				
Rated power (W / VA)	3600 / 3600	4600 / 4600	5000 / 5000	6000 / 6000
Max. input power (VA)	3600	4600	5000	6000
Max. output current (A)	16	17.4	21.7	26
Max. input current (A)	16	17.4	21.7	26
Grid connection	Single phase	THDI (rated power)		<3%
Rated voltage (V)	230 (176 ~ 270)	PF		-0.8 ~ +0.8
Rated grid frequency (Hz)	50 / 60	Switch time		<20 ms
AC (Back Up)				
Max. active power (W)	3600	4600	5000	6000
Max. output current (A)	16	17.4	21.7	26
Rated voltage (V)	230	THDV (100%R load)		< 2%
Rated grid frequency (Hz)	50 / 60	Output parallel (Pcs)		4
Over load	105%<Load≤110%, 30 S, 110%<Load≤120%, 10 S, 120%<Load≤150%, 0.02 S			
Efficiency				
Battery charge / discharge efficiency	95.0%	European efficiency		97.0%
Max. efficiency (PV to AC)	97.6%	Max. MPPT efficiency		99.9%
Protection				
GFCI	Yes	Output over current protection		Yes
Anti-islanding protection	Yes	Output short protection		Yes
PV string input reverse polarity protection	Yes	Insulation resistor detection		Yes
Output over voltage protection	Yes	DC/AC surge protection		Type 3
General Data				
Dimensions (W x D x H, mm)	550 x 200 x 520			
Net weight (kg)	25			
Operating temperature range (C)	-25 ~ 60 (derating at 45)			
Relative humidity	0 ~ 95% (non-condensing)			
Max. altitude (m)	>2,000 Derating			
Ingress rating	IP65			
Topology type	Non-isolated			
Night self consumption (W)	< 3			
Cooling	Natural			
Noise (dB)	< 40			
HMI	APP / LCD			
Communication	RS485 / CAN / WiFi / 4G (Optional)			
Grid connection standard	VDE-AR-N 4105 / G98 / G99 / EN 50549-1 / NRS 097-2-1 / CEI 0-21			
Safety / EMC standard	EN IEC 61000-6-1 / EN IEC 61000-6-3 / IEC 62109-1 / IEC 62109-2			

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.



Advanced LiFePO₄ Battery Module

5 kW / Module

Max. Continuous Discharge Power

5.12 kWh ~ 40.96 kWh

Flexible Capacity

5/10 Years

Optional Warranty



Easy Installation with Modular and Stacked Design



Safety Standards Like CE, UL, FCC, IEC62619



Excellent Safety of Cobalt Free LiFePO₄ Battery



Built-in BMS with Intelligent Monitoring & Multiple Protections

Model

RBmax5.1L 2*RBmax5.1L 3*RBmax5.1L 4*RBmax5.1L 5*RBmax5.1L 6*RBmax5.1L 7*RBmax5.1L 8*RBmax5.1L

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 ^[1]	100 ^[1]	100 ^[1]	100 ^[1]	100 ^[1]
Max. continuous discharge current (A)	100	100 ^[1]	100 ^[1]	100 ^[1]	100 ^[1]	100 ^[1]	100 ^[1]	100 ^[1]

General Data

Weight (kg)	47.5	92.1	136.7	181.3	228.8	273.4	318	362.6
Dimensions (W × D × H) (mm)	650 × 240 × 460	650 × 240 × 790	650 × 240 × 1,120	650 × 240 × 1,450	Double tower			
					650 × 240 × 790 + 650 × 240 × 1120	650 × 240 × 1120 + 650 × 240 × 1120	650 × 240 × 1120 + 650 × 240 × 1450	650 × 240 × 1450 + 650 × 240 × 1450
Operating temperature ^[2]	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)	4,000 (> 2,000 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] Optional continuous current 200 A version.

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



Off-Grid Inverter

6 ~ 72 kW

Compact and Light, Designed for Efficient Energy Production

98%

Peak Efficiency

Up to **12** Units
Parallel Working

10ms

UPS
Seamless Switch

IP54

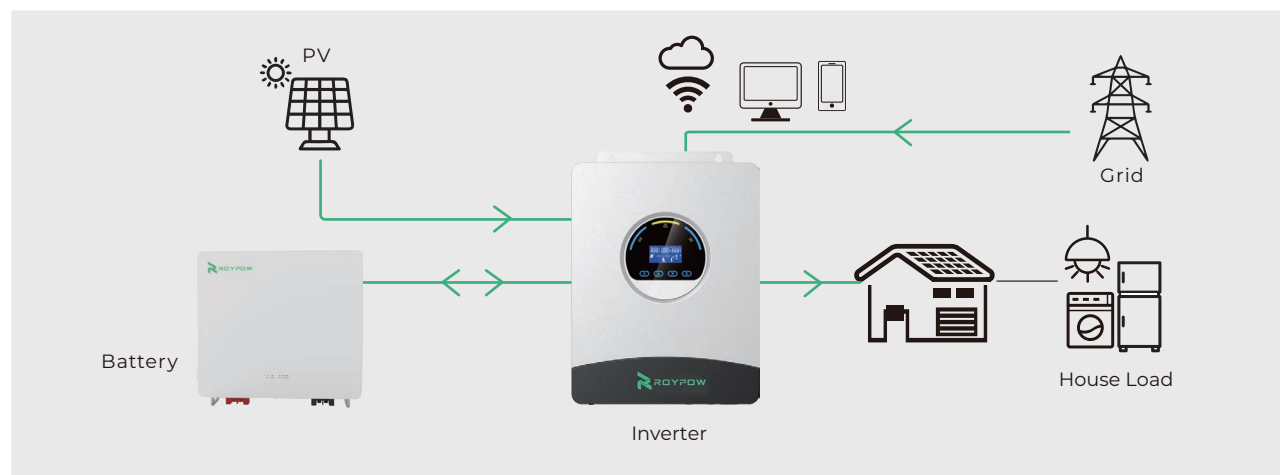
Ingress Rating

3

Years
Warranty

- ✓ Pure Sine Wave Output
- ✓ Wide MPPT Operating Range

- ✓ Built-in BMS Communication
- ✓ Multiple Safe Protections



System Specification

Model

R6000S-E

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. Output Power (W)	11500
Max. Output 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)	120A / 130
BMS Communication Mode	RS485

Backup Output (AC Output)

Rated Output Power (VA)	6000W / 6000VA
Rated Output Current (A)	27.3
Rated Output Voltage / Frequency	220 / 230 / 240Vac 50 / 60Hz
Parallel Capacity	Max. 12 Units
Surge Power	12000VA 5s
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	>2000 m 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)	444.7 x 346.6 x 120	Shipping Dimension (mm)	560 x 465 x 240
Net Weight (kg)	12.4	Gross Weight (kg)	14.6
Warranty Period	3 Years		



3

ROYPOW Off-Grid RESS

5.1 - 40.8 kWh



LiFePO₄ Battery

5.1 ~ 40.8 kWh

Reliable Power for Off-Grid Living

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

Up to **8** Units
Flexible Capacity Expansion

> **6,000** Times
Cycle Life

5 Years
Warranty



Safe

✓ Advanced Cobalt-free LiFePO₄
Battery Technology

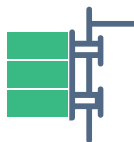
✓ Intelligent BMS with
Multiple Protections



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

Model	RBmax5.1-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)	50
Max. Continuous Discharge Current (A)	100
General Data	
Weight (KG)	48
Dimensions (W × D × H) (mm)	500 * 167 * 485
Operating Temperature (°C)	0 ~ 55°C (Charge), -20 ~ 55°C (Discharge)
Storage Temperature (°C) Delivery SOC State (20~40%)	>1 Month: 0 ~ 35°C; ≤1 Month: -20 ~ 45°C
Relative Humidity	≤ 95%
Max. Altitude (m)	4000 (>2000 m Derating)
Protection Degree	IP 20
Installation Location	Ground-Mounted; Wall-Mounted
Communication	CAN, RS485
Certification	
EMC	CE
Transportation	UN38.3
Warranty	
Warranty (Years)	5 Years

CE UN38.3