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## Home Energy Storage Products Solution

New Energy Leader, LiFePO<sub>4</sub> Battery Factory For 11 Years



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# Company Profile

Shenzhen Sunhe Energy co.,Ltd. A stock list company located in Shenzhen founded in 2012. Stock code:873278. Sunhe Energy aims to ensure a complete renewable energy independence that will transform a centralized energy distribution system to a decentralized, distributed, and self-sustainable future.

At Sunhe Energy, we take measures to ensure a complete renewable energy future, strive to provide reliable, sustainable and versatile backup power solutions and energy storage products to millions of families and communities across the world.

 **300**  
Staff member

 **20000m<sup>2</sup>**  
Square meter area

 **2**  
Production base  
Shenzhen & Hubei Xiangyang

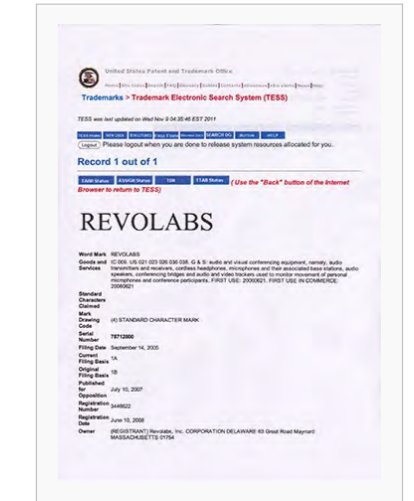
 **25+**  
patent application

 **2**  
R&D Center

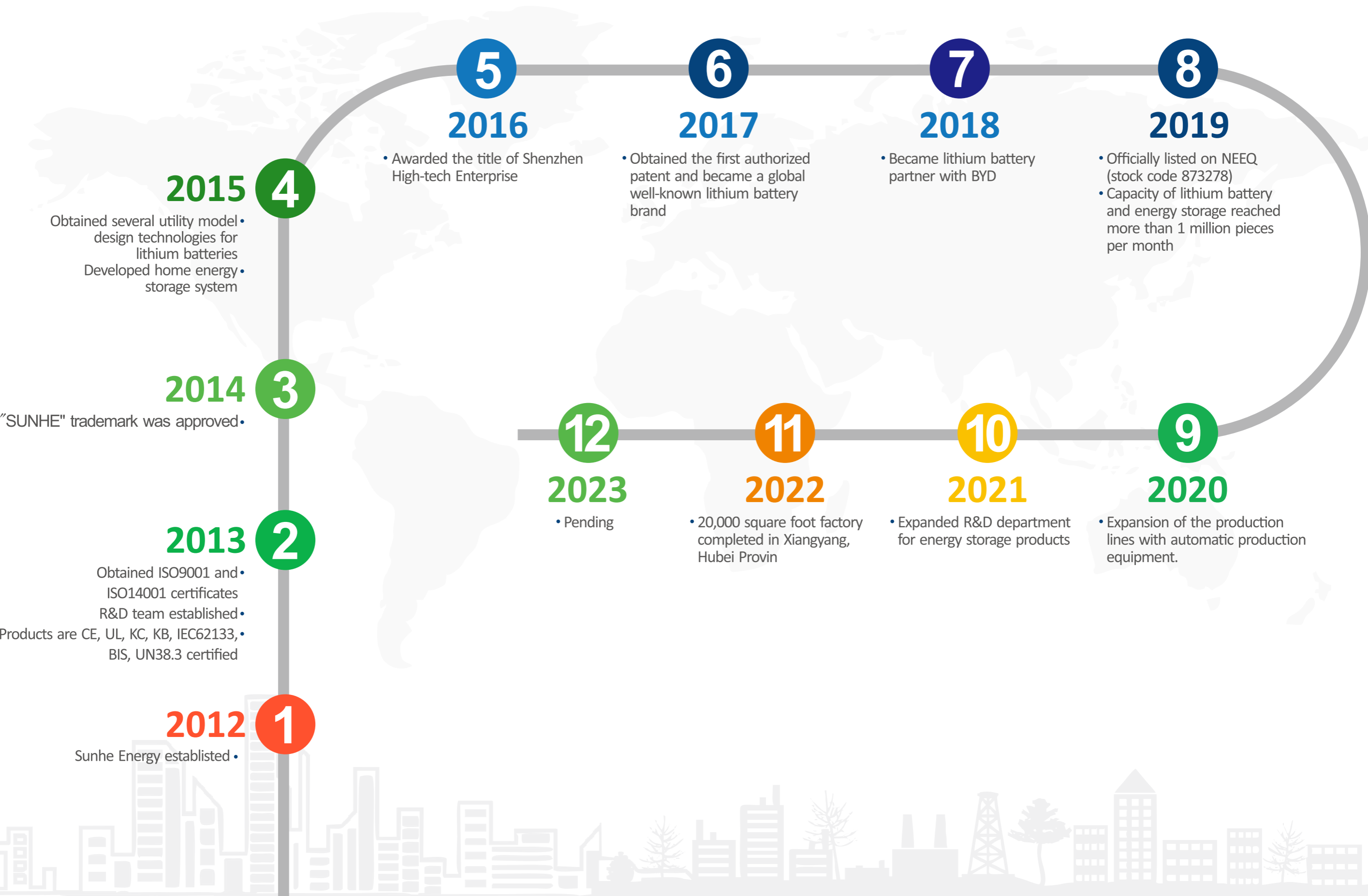
 **30+**  
R&D personnel



# Enterprise Certification



# History and Development



## Global Business Point



### China

Shenzhen Headquarter: B201, Longtian Community, Longtian Street, Pingshan District, Shenzhen

Shenzhen wholly-owned subsidiary: Shenzhen He Ying Xin Energy Electronics Co. Ltd.

Shenzhen wholly-owned subsidiary: ZiXin New Energy (Shenzhen) Co. Ltd.

HuBei Xiangyang manufacturing headquarter: Sancha Road Community Electronic Information Industrial Park, Gucheng Economic Development Zone, Xiangyang City, Hubei Province

Taiwan Office: 16F-2, No. 1-67, Wuquan Road, West District, Taichung, Taiwan

### Japan

日本办事处：名古屋市天白区梅が丘1丁目1120番地

# PV Building System Solution

We create the most reliable, efficient, easy-to-use, powerful, and high-capacity power stations that remain cost-effective. We provide you, the customer, with energy that you truly own. By purchasing a Sunhe Energy Power Station, you can free yourself from the grid, attaining a profound independence. This is our commitment: we provide you with the means to create your own electricity. In our world, this is an invaluable asset.

Our goal is to provide universal and versatile solutions that help power your family and community through emergencies and everyday life. With energy storage and solar generators suitable for a wide variety of unexpected circumstances.

Solar panels



Appliance



Inverter all-in-one



New energy



# Battery Storage Solutions

Most of our batteries, especially high-voltage battery packs, we have dual protection circuits, which means that only BMS management protection system is not enough. For example, many people's houses in America and Europe are made of wood, so only BMS protection system is not so safe.

In addition, there will be some individual differences after the battery is used for several years. The capacity of the battery decreases in different sizes, so we can actively solve the individual differences between batteries by balancing the BMS system, so as to make the battery longer, stable and reliable.

Having batteries in your solar power system gives you more energy self-sufficiency, and helps you achieve your ROI. We offer different types of safe, reliable battery solutions to meet power storage needs depending on a variety of factors – the solar array size, on-grid or off-grid system, backup power requirements, and overnight energy consumption in kWh. Our batteries are modular and scalable to easily build your target load with each usable capacity. IP65 options are available for a weatherproof performance all year round.





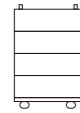
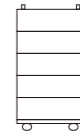
# ALL-IN-ONE

Built in inverter solar energy storage battery

PWHV 10/15/20/25kWh

Low-voltage LFP battery



Technical Data	10KWH	15KWH	20KWH	25KWH
	 2 modules	 3 modules	 4 modules	 5 modules
<b>Performance parameters</b>				
Phase number	Single-Phase			
Output power	3KW/5KW Optional			
Rated voltage	51.2V	51.2V	51.2V	51.2V
Rated capacity	200AH	300AH	400AH	500AH
Continuous discharge current	100A	100A	100A	100A
Peak discharge current	110A/10S	110A/10S	110A/10S	110A/10S
Standard charging current	50A	50A	50A	50A
Fast charge current	100A	100A	100A	100A
Number of expandable batteries	2~15	3~15	4~15	5~15
Optional capacity range	10.24~76.8KWH	15.36~76.8KWH	20.48~76.8KWH	25.6~76.8KWH
Cooling method	Self-Cooling			
Battery type	Lithium Iron Phosphate			
Design lifespan	> 15Years@25°C			
Cycle life	≥6000cycles DOD 85%			
Rated grid frequency	50Hz/60Hz Auto Detect			
Grid voltage range	110V(90VAC-280VAC)±2%, 230V(170VAC~280VAC)±2%			
PV Maximum input power	5000W			
MPPT voltage range	60-115VDC			
Charging and discharging efficiency	>92%			
Battery voltage range	40.0VDC~60VDC ± 0.6VDC (under voltage alarm/shutdown voltage/over voltage alarm/over voltage recovery... LCD screen can be set)			
<b>Compatible parameters</b>				
Warranty	Battery (5 years), Inverter (1 year)			
Battery certification	CE,UN38.3, MSDS, Dangerous Package Shipping Doc.			
<b>Mechanical parameters</b>				
Cell certification	CE,UL,IEC 62109-1&-2, IEC 62477,EN61000,UN38.3			
Inverter size/weight	L602*W403*H139mm/25KG			
Battery size/weight	L602*W403*H200mm/55KG(single layer)			
Chassis size/weight	602*403*124mm/12KG			
Installation method	Stacked			
<b>Environmental parameters</b>				
Charging temperature	0°C~45°C			
Operating temperature	-20°C~60°C			
Recommended operating temperature	25°C			
Waterproof	IP21			

-  Stacking Design
-  Inverter
-  6000 Cycles
-  Pulley Design
-  Easy to install
-  Wifi
-  BMS System
-  Safe and green

1: Test conditions: 25°C, 100% depth of discharge (DOD), 0.2C charge&discharge  
2: Refer to battery warranty letter for conditional application



# STACKED BATTERY

PWHV 10/15/20/25/30/35/40kWh

High Voltage LFP Battery



## High-performance

- Up to 50A continuous charging and discharging current with high efficiency
- Up to 100% usable energy

## SafeTy

- Lithium iron phosphate Battery
- Multi-stages protection design and extensive safety certification

## Dual Protection Circuits

- BMS management protection
- Leakage protection circuit

## Flexibility



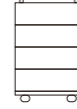

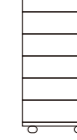

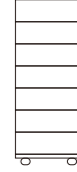
- Extendable during lifetime
- Support 2-8 modules per unit, 9-40kWh

## Easy Installation

- Compact and light, single person installation
- Plug and play, no cables needed between battery modules

## Degree of protection IP54

- protection for indoor and outdoor use, suitable for harsh environments such as high altitude, high temperature, high cold, etc.,

Technical Data	PBHV10.24	PBHV15.36	PBHV20.48	PBHV25.60	PBHV30.72	PBHV35.84	PBHV40.96
							
	2 modules	3 modules	4 modules	5 modules	6 modules	7 modules	8 modules
<b>Performance parameters</b>							
Battery Type	Single-Phase						
Battery Module	3KW/5KW Optional						
Nominal Capacity	50A	50A	100A	100A	100A	100A	100A
Energy (usable)	10.24 kWh	15.36 kWh	20.48 kWh	25.6 kWh	30.72 kWh	35.84 kWh	40.96 kWh
Nominal voltage	204 V	307 V	204 V	256 V	307 V	358 V	409 V
Operating voltage	160 – 230 V	240 – 345 V	160 – 230 V	200 – 290 V	240 – 345 V	280 – 403 V	320– 460 V
Rated DC power	10.2 kW	15.35 kW	10.2 kW	12.8 kW	15.36 kW	17.9 kW	20.45 kW
Max. charge / discharge power	11.5 kW	17.25 kW	11.5 kW	14.5 kW	17.25 kW	20.15 kW	23.00 kW
Max. charging / discharging current: continuous	50A						
Max. charging / discharging current	100 A						
Depth of Discharge	Max.100 % DOD (settable)						
Display	SOC indicator, status indicator						
Communication interface	CAN,RS232,RS485,						
<b>Protection</b>							
Over / under voltage protection	YES						
Over current protection	YES						
Over / under temperature protection	YES						
DC breaker	YES						
<b>General Data</b>							
Dimensions (W*H*D)	602*403*702mm	602*403*902mm	602*403*1102mm	602*403*1302mm	602*403*1502mm	602*403*1702mm	602*403*1902mm
Weight	150 kg	202 kg	253 kg	305 kg	357 kg	409 kg	461 kg
Installation Location	Indoor / Outdoor						
Mounting method	Floor stand						
Operating ambient temperature range	Charge: 0 to 45 °C Discharge: -20 to 60°C						
Degree of protection	IP54						
Allowable relative humidity range	0 % to 95 % no condensing						
Max. operating altitude	Max. 2000 m						
Cooling method	Natural convection						
Certificates	CE, CEC, IEC 62619, IEC 62040, UN38.3, VDE 2510-50						
Warranty	5 Years Battery Warranty/15-20 Years Service time						

1: Test conditions:25 ℃, 100 % depth of discharge (DOD), 0.2C charge&discharge  
2: Refer to battery warranty letter for conditional application

# RACK MOUNT BATTERY


SHRM 2.5/5/7/10kWh


Low-voltage LFP battery




 Safety in use


 Low self discharge rate

 Good high & low temperature performance

 Long cycle life and long service life span

 High energy density and conversion efficiency

 Environmental friendly without heavy metal

 Smart BMS match all branded inverter

 Easy installation plug and play

Technical Data	RM01-50AH	RM01-100AH	RM01-150AH	RM01-200AH
	 2 modules	 3 modules	 4 modules	 5 modules
<b>Performance parameters</b>				
Nominal Voltage	51.2V			
Nominal Capacity	50Ah	100Ah	150Ah	200Ah
Energy	2.56kWh	5.12kWh	7.68kWh	10.24kWh
Internal Resistance	≤20mΩ			
Cycle Life	>6000 cycles			
Months Self Discharge	<3%			
Efficiency of Charge	100% @0.2C			
Efficiency of Discharge	96~99% @1C			
<b>Standard Charge</b>				
Charge Voltage	58.4±0.2V			
Charge Mode	0.2C to 58.4V, then 58.4,charge current 0.02C(CC/CV)			
Charge Current	50A			
Max. Charge Current	75A			
Charge Cut-off Voltage	59.2V±0.2V			
<b>Standard Discharge</b>				
Continuous Current	50A	50A	100A	100A
Max. Pulse Current	100A	100A	200A	200A
Discharge Cut-off Voltage	40V			
Charge Temperature	0 °C to 45 °C (32F to 113F) @60±25% Relative Humidity			
<b>Environmental</b>				
Discharge Temperature	-20°C to 60°C (-4F to 140F) @60±25% Relative Humidity			
Storage Temperature	0 °C to 40 °C (32F to 104F) @60±25% Relative Humidity			
Water Dust Resistant	IP30			
Cell & Method	3.2V100AH-16S1P			
<b>Mechanical</b>				
Case	Iron shell 4U standard case			
Dimensions (in./mm.)	482*400*177MM	482*400*177MM	482*400*177MM	482*500*280MM
Weight (lbs./kg.)	43kg	43kg	43kg	84kg
Terminal	100A through terminal			
Protocol (optional)	RS485/RS232/CAN			
BMS	Smart BMS 16S100A			

1: Test conditions:25 °C, 100 % depth of discharge (DOD), 0.2C charge&discharge  
2: Refer to battery warranty letter for conditional application

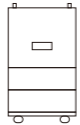



# ALL-IN-ONE

Built in inverter solar energy storage battery  
PWHV 10/15/20/25kWh

Low -voltage LFP battery



-  Stacking Design
-  Inverter
-  6000 Cycles
-  Pulley Design
-  Easy to install
-  Wifi
-  BMS System
-  Safe and green

Technical Data	10KWH	15KWH	20KWH	25KWH
	 2 modules	 3 modules	 4 modules	 5 modules
<b>Performance parameters</b>				
Phase number	Split Phase			
Output power	5KW/6KW/ 8KW/ 10KW/ 12KW Optional			
Rated voltage	51.2V	51.2V	51.2V	51.2V
Rated capacity	200AH	300AH	400AH	500AH
Continuous discharge current	100A	100A	100A	100A
Peak discharge current	110A/10S	110A/10S	110A/10S	110A/10S
Standard charging current	50A	50A	50A	50A
Fast charge current	100A	100A	100A	100A
Number of expandable batteries	2~15	2~15	4~15	2~15
Optional capacity range	10.24~76.8KWH	15.36~76.8KWH	20.48~76.8KWH	25.6~76.8KWH
Cooling method	Self-Cooling			
Battery type	Lithium Iron Phosphate			
Design lifespan	> 15 Years@25°C			
Cycle life	≥6000 cycles DOD 85%			
Rated grid frequency	50Hz/60Hz Auto Detect			
Grid voltage range	104V-110V-U5V-120Vac, 208V-220V-230V-240Vac) ±10% RMS			
PV Maximum input power	5000W			
MPPT voltage range	60-115VDC			
Charging and discharging efficiency	>98%			
Battery voltage range	Default@load<20%: 42.0V;@20%<load<50%:40.8V; @load.50%: 38.4V (Based on program 21,40Vdc-48Vdc settable)			
Warranty	Battery (5 years), Inverter (2year)			
<b>Compatible parameters</b>				
Battery certification	CE,UN38.3, MSDS, Dangerous Package Shipping Doc.			
Cell certification	CE,UL,IEC 62109-1&-2, IEC 62477,EN61000,UN38.3			
<b>Mechanical parameters</b>				
Inverter size/weight	602*403*650mm/76KG	602*403*650mm/76KG	602*403*650mm/76KG	602*403*650mm/76KG
Battery size/weight	L602*W403*H200mm/55KG(single layer)			
Chassis size/weight	602*403*124mm/12KG			
Installation method	Stacked			
<b>Environmental parameters</b>				
Chargingtemperature	0°C~45°C			
Operating temperature	-20°C~60°C			
Recommended operating temperature	25°C			
Waterproof	IP21			

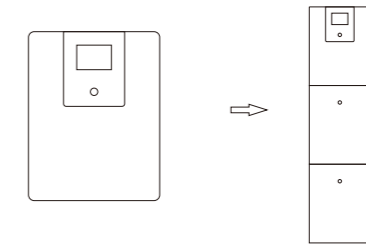
1: Test conditions:25 ℃, 100 % depth of discharge (DOD), 0.2C charge&discharge  
2: Refer to battery warranty letter for conditional application

# ALL-IN-ONE 10KWH stackable home energy storage batteries

LiFePO4 51.2V 200Ah



## Technical Data PB02-200AH



Performance parameters	
Phase Number	Specification
Output Power	3KW-5KW Optional
Rated voltage	51.2V
Rated Capacity	200AH
Continuous Discharge Current	100A
Peak Discharge Current	110A/10S
Standard Charging Current	50A
Fast Charge Current	100A
Number Of Expandable Batteries	2~15
Optional Capacity Range	10.24~76.8KWH
Cooling Method	Self-Cooling
Battery Type	Lithium Iron Phosphate
Use Period	> 15 Years@25°C
Cycle Life	≈6000 times
Rated Grid Frequency	50HZ/60HZ Auto Detect
Grid Voltage Range	230V(170Vac~280Vac) ±2% 110V(90Vac-280Vac)±2%
PV maximum Input Power	4200W
MPPT Voltage Range	60-115Vdc
The charging and discharging efficiency of the whole machine	>92%
Battery Voltage Range	40.0Vdc~60Vdc ± 0.6Vdc (under voltage alarm/ shutdown voltage / over voltage alarm / over voltage recovery... LCD screen can be set)
Warranty	Battery (5 years)   Inverter (1 year)
Compatible parameters	
Battery certification	CE, UN38.3, MSDS, Shipping, Dangerous Package
Mechanical parameters	
Inverter size/weight	420*180*550mm/19KG
Battery size/weight	420*180*510mm/50KG(single layer)
Chassis size/weight	420*180*30mm/2KG
Installation method	Stacked
Environmental parameters	
Storage Humidity Range	≤85%RH
Operating Temperature	20°C~55°C
Recommended Operating Temperature	25°C
Waterproof	IP21

**Light weight**  
Compact size easy Installation

**Wall mount design**  
No longer worry about limited floor space usage

**Smart display**  
The battery usage and status can be seen intuitively

**≥ 6000 Cycles**  
Longer cycle life

**BMS system**  
Built in BMS system ensures battery safety

**Easy to install**  
Easy installation plug and play fuse protection

1: Test conditions: 25°C, 100% depth of discharge (DOD), 0.2C charge&discharge  
2: Refer to battery warranty letter for conditional application

# WALL MOUNT BATTERY

## PW01 51.2V 100/150/200Ah

Lithium Iron Phosphate LiFePO4 Battery



Technical Data	PW01-100AH	PW02-100AH	PW03-150AH	PW03-200AH
<b>Performance parameters</b>				
Nominal Voltage	51.2V	51.2V	48V	48V
Nominal Capacity	100Ah	100Ah	150Ah	200Ah
Energy	5.12kWh	5.12kWh	7.68kWh	10.24kWh
Internal Resistance	≤50mΩ			
Cycle Life	>6000 cycles			
Months Self Discharge	<3%			
Efficiency of Charge	100% @0.2C			
Efficiency of Discharge	96~99% @1C			
<b>Standard Charge</b>				
Charge Voltage	54V			
Charge Mode	0.2C to 58.4V, then 58.4,charge current 0.02C(CC/CV)			
Charge Current	50A		100A	
Discharge Current	100A		200A	
Charge Cut-off Voltage	59.2V±0.2V			
<b>Standard Discharge</b>				
Continuous Current	50A	50A	100A	100A
Max. Pulse Current	100A	100A	200A	200A
Discharge Cut-off Voltage	40V			
<b>Environmental</b>				
Charge Temperature	0 °C to 45 °C (32F to 113F) @60±25% Relative Humidity			
Discharge Temperature	-20°C to 60°C (-4F to 140F) @60±25% Relative Humidity			
Storage Temperature	10 °C to 35 °C @60±25% Relative Humidity less than 6 months			
Water Dust Resistant	IP54		IP21	
<b>Mechanical</b>				
Cell & Method	3.2V-100AH-16S1P			
Dimensions (in./mm.)	435*160*588MM		360*140*570MM	
Weight (lbs./kg.)	49.5kg	49.5kg	75kg	95kg
Terminal	100A through terminal			
Protocol (optional)	RS485/RS232/CAN			
Support Inverter Brands	Goodwe , Growatt , Victron , LXP , Sofar , Deye , Sarmatec , SREN , TBB,SMA,Jinlang , Wheatfield, Riyueyuan, Suzhou Jiaxun Natong			

**Light weight**  
Compact size easy Installation

**Wall mount design**  
No longer worry about limited floor space usage

**Smart display**  
The battery usage and status can be seen intuitively

**≥ 6000 Cycles**  
Longer cycle life

**BMS system**  
Built in BMS system ensures battery safety

**Easy to install**  
Easy installation plug and play fuse protection

1: Test conditions:25 °C, 100 % depth of discharge (DOD), 0.2C charge&discharge  
2: Refer to battery warranty letter for conditional application

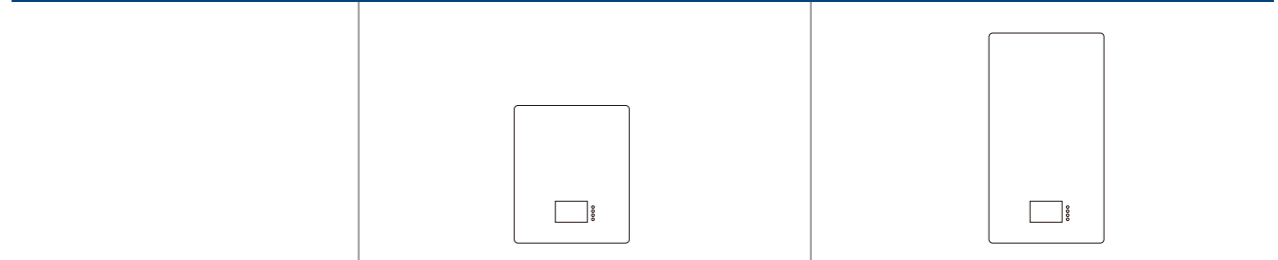
# WALL MOUNT BATTERY

## PW03 WALL MOUNTED Battery Series

LiFePO4 51.2V 200Ah



### Technical Data PW04-200AH



Performance parameters	
Nominal Voltage	51.2V
Nominal Capacity	100Ah / 200Ah
Energy	51.2kWh / 10.24kWh
Internal Resistance	≤50mΩ
Cycle Life	>6000 cycles
Months Self Discharge	<3%
Efficiency of Charge	100% @0.2C
Efficiency of Discharge	96~99% @1C
Standard Charge	
Charge Voltage	54V
Charge Mode	0.2C to 58.4V, then 58.4,charge current 0.02C(CC/CV)
Charge Current	50A
Discharge Current	100A
Charge Cut-off Voltage	58.4V±0.2V
Standard Discharge	
Continuous Current	100A
Max. Pulse Current	100A / 200A
Discharge Cut-off Voltage	40V
Environmental	
Charge Temperature	0 °C to 45 °C (32F to 113F) @60±25% Relative Humidity
Discharge Temperature	-20°C to 60°C (-4F to 140F) @60±25% Relative Humidity
Storage Temperature	10 °C to 35 °C @60±25% Relative Humidity less than 6 months
Water Dust Resistant	IP54
Mechanical	
Cell & Method	3.2V-100AH-16S1P / 3.2V-100AH-16S2P
Dimensions (in./mm.)	880*492*145mm
Weight (lbs./kg.)	52kg / 80kg
Protocol (optional)	RS485/RS232/CAN
Support Inverter Brands	Goodwe , Growatt , Victron , LXP , Sofar , Deye , Sarmatec , SREN , TBB,SMA , Jinlang , Wheatfield , Riyueyuan , Suzhou Jiaxun Natong

- Light weight**  
Compact size easy installation
- Wall mount design**  
No longer worry about limited floor space usage
- Smart display**  
The battery usage and status can be seen intuitively
- ≥ 6000 Cycles**  
Longer cycle life
- BMS system**  
Built in BMS system ensures battery safety
- Easy to install**  
Easy installation plug and play fuse protection

1: Test conditions:25 °C, 100 % depth of discharge (DOD), 0.2C charge&discharge  
2: Refer to battery warranty letter for conditional application

# PORTABLE POWER STATION All-IN-ONE

## PPSA 3000W/5000W (LiFePO4 51.2V 100Ah 5.12kWh)

Lithium Iron Phosphate LiFePO4 Battery



Technical Data	PPSA3000W	PPSA5000W
Grid module	Specification	
Rated input voltage	110/120Vac	220/230Vac
Input voltage range	(170Vac~280Vac) ±2%	(90Vac-280Vac)±2%
Frequency	50Hz/ 60Hz (Auto Detect)	
Frequency range	47±0.3Hz ~ 55±0.3Hz (50Hz)	57±0.3Hz ~ 65±0.3Hz (60Hz)
Overload/short circuit protection	breaker	
Efficiency	>95%	
Transfer time (bypass and inverter)	10ms (typical value)	
AC backfill protection	YES	
Maximum bypass overload current	30A	40A
Output voltage waveform	pure sine wave	
Inverter module		
Rated output power	3000 (VA)	5000 (VA)
Power Factor	1	
Rated output voltage	120Vac	230Vac
Output voltage error	±5%	±5%
Output frequency range	50Hz ± 0.3Hz	60Hz ± 0.3Hz
Efficiency	>91% >92%	>92%
Overload protection	"(102%< load <125%) ± 10%: report an error and shut down the output after 5 minutes; (125%< load <150%) ± 10%: report an error and shut down the output after 10 seconds; Load >150% ±10%: report an error and shut down the output after 5 seconds;"	
Peak power	6000VA	10000VA
On-load motor capacity	2HP	3HP
Output short circuit protection	Breaker	
Bypass Breaker Specifications	30A	40A
Rated battery input voltage	48V ( minimum-starting voltage 44V)	
Battery capacity	5120Wh	
Battery voltage range	40.0Vdc~60Vdc ± 0.6Vdc (Under-voltage alarm / shutdown voltage / the over-voltage alarm/over-voltage renew...LCD Screen can be set)	
Power saving mode	load≤50W	
Grid charging		
Maximum-charging current (can be set)	40A	60A
Charging current error	± 5A <sub>dc</sub>	
charging voltage range	40-58V <sub>dc</sub>	
Short circuit protection	Circuit breakers and blown fuses	
Circuit Breaker Specifications	40A	
Overcharge protection	Alarm and turn off charging after 1 minute	
Solar charge		
Maximum PV ,Open circuit voltage	145V <sub>dc</sub>	
PV Operating voltage range	60-145V <sub>dc</sub>	
MPPT voltage range	60-115V <sub>dc</sub>	
Battery voltage range	40-60V <sub>dc</sub>	
Maximum input power	3400W	4000W
Solar charging current range (can be set)	0-60A	0-80A
Charging short circuit protection	Blow fuse	
Wiring protection	Reverse polarity protection	
Maximum Hybrid Charge Current( PV+AC)		
Maximum hybrid charge Current (can be set)	0-120A / 0-100A-140A / 0-140A	
Other Specification		
Range of working temperature range	-15°C to 55°C	
Storage temperature range	-25°C ~ 60°C	
Humidity range	5% to 95% (Three anti-paint protection)	
Noise	≤60dB	
Heat dissipation	Forced air cooling, adjustable wind speed	
Communication interface	USB/RS485(WiFi/GPRS)/Dry Node Control	
System Protection	Over-temperature, Over-voltage, Over-current, Over-charge, Over-discharge, Over load and Short-circuit protection.	
Applications	Backup Power, Camping, Fishing, Emergency, Picnic, Mobile Office, Car Charging, Livestreaming.	

**Advanced SPWM technology**  
Adopt fully digital voltage and current double closed-loop control

**Two output modes**  
Two output modes of grid bypass and inverter output, and has the function of uninterrupted power supply

**Four charging modes**  
Grid priority, solar priority and hybrid charging

**LCD screen design**  
dynamic display of system data and operating status.

**360° protection**  
With multiple protection functions, 360° all-round protection.

**BMS protection**  
Smart BMS has complete short-circuit protection

1: Test conditions: 25 °C, 100 % depth of discharge (DOD), 0.2C charge&discharge  
2: Refer to battery warranty letter for conditional application

# PORTABLE POWER STATION 300W/500W/1000W

Lithium Iron Battery



Safety in use



Charged by solar energy, car charger, generator and AC



Power supply for various digital devices of mobile phone, tablet, camera, computer



Power supply for household lighting system, electric fan, TV, electric blanket, etc



Power supply for car, car battery, car air pump and vacuum cleaner



Mobile phone wireless charging.



Emergency LED light, 3 brightness mode adjustable

Technical Data	PPS-300W	PPS-500W	PPS-1000W
<b>Performance parameters</b>			
Nominal Voltage	22.2V	22.2V	22.2V
Nominal Capacity	15600mAh	23400mAh	46800mAh
Energy	346Wh	519Wh	1039Wh
Output Power	300W	500W	1000W
Peak Power	500W	1000W	2000W
Battery Type	Li-ion Battery		
Cycle Life	>2000 cycles at DOD 70%	>1000 cycles at DOD 70%	
Output Waveform	Pure Sine Wave		Pure Sine Wave
<b>Standard Charge</b>			
LED light	10W		
AC Output Voltage	AC 110V@60Hz or 220V@50Hz		
DC Output Voltage/Current	12V/10A*1, DC2.1 12V/5A*2		
USB Output Voltage/Current	5V/2A*2 (support PD 3.0 Fast charge 50W)		
Type-C Output Voltage/Current	2A*1 (support PD 3.0 Fast charge 50W)		
<b>Standard Discharge</b>			
Wireless Charging	15W*1		
Charge Voltage	25.2V/5A		
Charging Model	Solar, Car, AC		
<b>Environmental</b>			
Charging time	Wall Outlets 4~5 hours	Wall Outlets 5~6 hours	
Working temperature Range	-20°C~65°C		
Storage Temperature Range	-10°C~45°C		
Over / under voltage protection	YES		
<b>Mechanical</b>			
Over current protection	YES		
Over / under temperature protection	YES		
DC breaker	YES		
Dimensions	250*170*162mm	281*220*257mm	281*220*257mm
Color	Jewel Blue, Army Green, Jewel Red		
Weight (lbs./kg.)	4.3kg	6.75kg	12kg
Backup Power, Camping, Fishing, Emergency, Picnic, Mobile Office, Car Charging, Livestreaming.			

1: Test conditions: 25°C, 100% depth of discharge (DOD), 0.2C charge&discharge  
2: Refer to battery warranty letter for conditional application



# AUTO START BATTERY

## SH4s1p-12V 100Ah LFP battery

Lithium Iron Phosphate LiFePO4 Battery



12.8V 100Ah

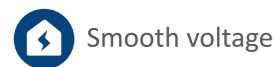
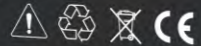


**Lithium iron phosphate  
starter battery**

Strong battery life for 10 years

Nominal voltage: 12.8V Rated capacity: 100Ah Charging voltage: 14.6V  
Product weight: 10KG Operating temperature: -40-80°C

- It is strictly forbidden to immerse the battery in seawater or water, and when stored out of use, it should be placed in a cool and dry environment.
- It is strictly forbidden to use or place the battery at high temperatures, such as fire, heaters, etc., as this may cause the battery to overheat.
- It is strictly forbidden to use the battery with the positive and negative terminals reversed.
- It is strictly forbidden to plug the positive and negative ends of the battery directly into the main socket.
- Short-circuiting the battery is strictly forbidden, it can cause serious damage to the battery.
- Do not transport or store batteries with metal, such as hairpins, needles, etc.
- Knocking, throwing, stepping, dropping, impacting batteries etc. are strictly prohibited.



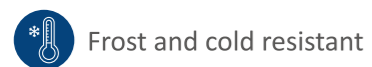
Smooth voltage



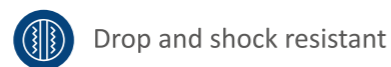
Security



Service life



Frost and cold resistant



Drop and shock resistant



Powerful start

Technical Data	SH4s1p-100Ah (Japanese series)	SH4s1p-100Ah (European series)
<b>Performance parameters</b>	Specification	
Nominal Voltage	12.8V	12.8V
Nominal Capacity	100Ah	100Ah
Energy	1280Wh	1280Wh
Internal Resistance	≤30mΩ	≤30mΩ
Cycle Life	≥4000 cycles @1C 100%DOD	≥4000 cycles @1C 100%DOD
Months Self Discharge	<3%	<3%
Efficiency of Charge	100% @0.5C	100% @0.5C
Efficiency of Discharge	96~99% @1C	96~99% @1C
<b>Standard Charge</b>		
Charge Voltage	14.6±0.2V	14.6±0.2V
Charge Mode	0.2C to 14.6V, then 14.6V,charge current to 0.02C (CC/CV)	0.2C to 14.6V, then 14.6V,charge current to 0.02C (CC/CV)
Charge Current	20A	20A
Battery Charging Time	about 3h	about 3h
<b>Standard Discharge</b>		
Charge Cut-off voltage	10V±0.2V	10V±0.2V
Max Continuous discharge Current	100A	100A
Max. Cranking Amps	1000A	1000A
<b>Environmental</b>		
High cold cranking Amps	1000 CCA (-20 °C)	1000 CCA (-20 °C)
Charge Temperature	0 °C to 45 °C (32F to 113F) @60±25% Relative Humidity	
Discharge Temperature	-20°C to 60°C (-4F to 140F) @60±25% Relative Humidity	
Storage Temperature	0 °C to 40 °C (32F to 104F) @60±25% Relative Humidity	
<b>Mechanical</b>		
Water Dust Resistant	IP65	IP30
Cell & Method	3.2V100AH-4S1P	3.2V100AH-4S1P
Plastic Case	ABS	Plastic case
Dimensions (in./mm.)	230*175*162/215mm	355*175*190mm
Weight (lbs./kg.)	12kg	12kg
BMS	Smart BMS 4S100A	

1: Test conditions: 25 °C, 100 % depth of discharge (DOD), 0.2C charge&discharge  
2: Refer to battery warranty letter for conditional application


# SINGLE CRYSTAL POWER GENERATION BOARD


MSD100-150-200-330-390-450-500W


Power Generation Rate Is As High As 23%





Model	RS-100M	RS-150M	RS-200M	RS-300M	RS-339M	RS-450M	RS-500M
Peak power - Pmax(WP)	100W	150W	200W	330W	390W	450W	500W
Working voltage - VMP(v)	17.9V	18.1V	35.92V	33.35V	37.88V	41.90V	42.88V
Working current - imp(a)	5.58A	8.28A	5.56A	9.89A	10.73A	11.28A	11.66A
Open circuit voltage - voc(v)	21.55V	21.6V	44.86V	37.18V	45.6V	46.9V	48.9V
Short circuit current - IsC (a)	5.75A	8.51A	5.75A	10.11A	11.28A	11.68A	11.98A
Cell efficiency-( %)	21.70%	21.70%	21.70%	21.90%	22%	22.30%	22.60%
Module efficiency ( %)	20%	20%	20%	20.10%	20.20%	22.30%	22.40%
Number of cells	36(4x9)	36(4x9)	36(4x9)	60(4x9)	72(4x9)	144(12x12)	144(12x12)
Module size	760*670*25	1180*670*30	1480*670*30	1640*992*35	1950*992*35	2108*1052*35	2108*1052*35
weight	8KG	14KG	18KG	20KG	22KG	24KG	25KG
Glass	3.2mm tempered glass						
frame	Anodized aluminium alloy						
Junction box	waterproof type						
Connector	Plug and socket						
Output wire	PV 4.0mm2,0.9m						
Applicable temperature	-40 to 85°C						
Maximum system voltage	DC1000-1500v						
Maximum safe current	15A						
Power deviation range	0~+3%						
Cell type	Mono156.75*156.75 mm or poly 156.75*156.75mm						
	STC: Irradiance 1000w/mi, Modules Temperature 25°C, AM=1.5						
Temperature coefficient of P max	-0.47%/°C						
Temperature coefficient of VOC	-0.346%/°C						
Temperature coefficient of ISC	0.036%/°C						


 Guaranteed high-quality silicon wafers, high-power module output, and excellent cost-effective advantages, it is an ideal choice for large-scale power stations.

 Pass the weather resistance test of dust, smog, ammonia, etc., and adapt to the harsh outdoor environment.

 Optimum packaging materials and strict process plan to ensure the anti-PID ability of components

 Reinforced frame design, more excellent component load capacity.

 High transparent self-cleaning tempered glass is used to increase light absorption and effectively reduce power loss caused by dust.

 Can withstand 1500V highest system voltage, effectively reducing the BOS cost.

Remarks:  
1. Specifications are subject to change without prior notice;  
2. Special voltage and power requirements can be customized according to the actual situation of users.

# User Photovoltaic Power Station



Large roof area  
Large installation capacity



Well-lighting  
High power generation efficiency



The cooling effect is good  
Reduce energy consumption



Energy-saving



## Professional service

### Some advantages you can get from Sunhe:

- 1 Competitive prices and reasonable credit for payment --- Help you improve capital turnover, ensure more profits, and thus expand your market share.
- 2 Mature supply chain --- Help you save delivery costs and time.
- 4 Our products are completely self-developed and designed, guided by market and customer needs, to better meet the needs of end consumers.
- 5 Professional customer service team, from inquiry to after-sales service, is responsible for one-stop follow-up of your order throughout the process, so as to dispel the concerns of your order not responding.  
Solar power storage - use solar power day and night

