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# Household Energy Storage System Compact Design, Flexible Use

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### **About Superpack**

Superpack specializes in the design and manufacture of lithium-ion battery pack, battery system for a wide range of power and stationary application. Founded by Xupai in 2018, our team has nearly ten years of experience in designing integrated power system for global OEMs. Our broad market, application expertise, technology approach and vertical integration enable us to deliver safe, reliable and innovative product to market quickly.







# 5KW All-in-One Energy Storage System (Stacked Style)

- Solar hybrid inverter + MPPT charging controller + 5KWh 51.2V100Ah LiFePO<sub>4</sub> battery module are integrated.
- The capacity can be expanded from 1 to 4 modules to 5KWh,10KWh, 15KWh and 20KWh.
- Output single phase pure sine wave AC power, 230V/120V is available, 50Hz/60Hz (automatically detected).
- Suitable for global markets.
- Diverse working modes, which can be used for solar energy storage, on/off-peak hours electricity application, goverment electricity subsidy.

Item	SP-ESS-5K-5K-A1	SP-ESS-5K-10K-A1	SP-ESS-5K-15K-A1	SP-ESS-5K-20K-A1
BATTERY				
Battery Module Quantity	1pc	2pcs	3pcs	4pcs
Battery Energy	5.12kWh	10.24kWh	15.36kWh	20.48kWh
Battery Capacity	100Ah	200Ah	300Ah	400Ah
Weight	78Kg	127Kg	176Kg	225Kg
Dimension Lx DxH	560×480×420mm	560×480×570mm	560×480×720mm	560×480×870mm
Battery Type		LiF	ePO <sub>4</sub>	
Battery Rated Voltage		5	1.2V	
Battery Working Voltage Range		44.8	~ 57.6V	
Maximum Charging Current		1	00A	
Maximum Discharging Current		1	00A	
Designed Life-span	6000 cycles at 80%DOD			
Parallel Quantity	Maximum 4 modules			
Designed Life-span	10 years			
PV CHARGE				
Solar Charge Type	МРРТ			
Maximum Output Power	5KW			
PV Charging Current Range	0~80A			
PV Operating Voltage Range	120~500V			
MPPT Voltage Range	120~450V			
AC CHARGE				
Maximum Charge Power	3150W			
AC Charging Current Range	0~60A (230V INVERTER); 0~40A (120V INVERTER)			
Rated Input Voltage	220/230Vac (230V INVERTER); 110/120Vac (120V INVERTER)			
Input Voltage Range	170~280Vac (230V INVERTER); 90~140Vac (120V INVERTER)			
AC OUTPUT				
Rated Output Power	5KW			
Rated Output Current	30A (230V INVERTER); 42A(120V INVERTER)			
Output Voltage Range	220V/230V (230V INVERTER); 110V/120V(120V INVERTER); 50Hz/60Hz (Automatically)			
Overload Current	35A (230V INVERTER); 45A(120V INVERTER)			



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# 5KW All-in-One Energy Storage System (Floor Mounted Style)

- Solar hybrid inverter + MPPT charging controller + 5KWh 51.2V100Ah LiFePO<sub>4</sub> battery module are integrated.
- The capacity can be expanded from 1 to 3 modules to 5KWh,10KWh and 15KWh.
- Output: single phase, pure sine, AC , 230V/120V is available, 50Hz/60Hz (automatically detected).
- Suitable for global markets.
- Diverse working modes, which can be used for solar energy storage, on/off-peak hours electricity application, goverment electricity subsidy.

Item	SP-ESS-5K-5K-A2	SP-ESS-5K-10K-A2	SP-ESS-5K-15K-A2
BATTERY			
Battery Module Quantity	1pc	2pcs	3pcs
Battery Energy	5.12kWh	10.24kWh	15.36kWh
Battery Capacity	100Ah	200Ah	300Ah
Weight	83Kg	135Kg	187Kg
Dimension Lx DxH	600×165×920mm	600×165×1340mm	600×165×1760mm
Battery Type		LiFePO <sub>4</sub>	
Battery Rated Voltage		51.2V	
Battery Working Voltage Range		44.8 ~ 57.6V	
Maximum Charging Current		100A	
Maximum Discharging Current		100A	
Designed Life-span		6000 cycles at 80%DOD	
Parallel Quantity		3	
Designed Life-span		10 years	
PV CHARGE			
Solar Charge Type		MPPT	
Maximum Output Power		5KW	
PV Charging Current Range		0~80A	
PV Operating Voltage Range	120~500V		
MPPT Voltage Range	120~450V		
AC CHARGE			
Maximum Charge Power	3150W		
AC Charging Current Range	0~60A (230V INVERTER); 0~40A (120V INVERTER)		
Rated Input Voltage	220/230Vac (230V INVERTER); 110/120Vac 120V INVERTER)		
Input Voltage Range	170~280Vac (230V INVERTER); 90~140Vac(120V INVERTER)		
AC OUTPUT			
Rated Output Power	5KW		
Rated Output Current	30A (230V INVERTER); 42A(120V INVERTER)		
Output Voltage Range	220V/230V (230V INVERTER); 110V/120V(120V INVERTER); 50Hz/60Hz (Automatically)		
Overload Current	35A (230V INVERTER); 45A(120V INVERTER)		



# **5KWh Househould Energy Storage System**

- Built-in: solar inverter + MPPT charging controller + AC charger + LiFePO<sub>4</sub> battery pack.
- Output: single phase, pure sine, AC 230V/120V, 50Hz/60Hz (optional).
- Rated output: from 1.5KW to 5KW (customizable).
- Floor Mounted or Wall-Mounted is optional.
- Suitable for less developed countries and markets.

Item	SP-ESS-1.5K-5K-E1	SP-ESS-5K-5K-E2	
BATTERY			
Cell Chemistry	LiFePO <sub>4</sub>		
Battery Energy	5.5kWh	5.12kWh	
Battery Voltage	25.6V	51.2V	
Nominal Capacity	230Ah	100Ah	
Standard Charging Current	2	20A	
Maximum Charging Current	66A	100A	
Standard Discharge	40A	20A	
Maximum Discharge Current	100A	100A	
Maximum Output Power	2.5KW	5KW	
Charging Cut-off Voltage	≤30.4V (3.8V/cell)	≤60.8V (3.8V/cell)	
Discharge Cut-off Voltage	≥ 20.0V (2.5V/cell)	≥ 40.0V (2.5V/cell)	
Cycle Life	2000cycles (DOD80%)	6000cycles (DOD80%)	
Weight	85kg	60Kg	
PV CHARGE			
Solar Charge Type	Ν	ЛРРТ	
Maximum Output Power	1.1KW	5KW	
PV Charging Current Range	0~40A	0~80A	
PV Operating Voltage Range	30~100V	120~500V	
AC CHARGE			
Rated AC Input Power	600W	≤ 3150W	
AC Charging Voltage Range	90~140Vac	170~280Vac	
DC Output Current	20A (CC)	0~60A	
Max. DC Output Voltage	29.2V (CV)	58.4V (CV)	
NVERTER			
Rated Output Power	1.5KW	5KW	
Output Voltage / Frequency	110Vac/60Hz	220Vac/50Hz	
Peak Output Power	ЗКW	10KW	
DC Input Voltage Range	19.0~30.0V	44.8~58.4V	
Parallel Quantity	Single use	Single use	
Designed Life-span	5years	10years	
Dimensions (L x W x H)	500*300*790mm	500*165*650mm	



### **5KWh Wall Mounted Energy Storage Battery System**

- 5KWh 51.2V100Ah LiFePO4 battery module.
- Maximum output is 5KW.
- The capacity can be expanded up to 15pcs in parallel.
- RS485/CANbus is available, compatible with main brand inverters.
- Easy to install.

Item	SP-ESS-5KWH-B1	
BATTERY		
Cell Chemistry	LiFePO <sub>4</sub>	
Battery Energy	5.12kWh	
Battery Voltage	51.2V	
Nominal Capacity	100Ah	
Operating Voltage Range	44.8~57.6V	
Maximum Output Power	5KW	
Maximum Charging Current	100A	
Maximum Continuous Discharge Current	100A	
Cycle Life	6000 cycles at 80%DOD	
Dimensions (L x W x H)	440x182x600mm	
Weight	54 Kg	
Parallel Quantity	Maximum 15pcs	
Designed Life-span	10 years	
Installation	Wall Mounting	
Communication	RS485/CANbus/Ethernet/WiFi	
Matching with Inverters	MEGAREVO/GOODWE/GRWT/SAM/SUNGROW	
Certification	UL1973, IEC62619, CE61000, UN38.3	
Charging Temperature Range	0~50°C	
Discharge Temperature Range	-20~60°C	
Enclosure Protection	IP54	
Humidity	≤85%	
Altitude	≤2000m	
Application	In door	
Inverter Choosing	On/Off Grid Single/3 phases inverter	
Heat Management	Air cooling	



## **5KWh Rack Mounted Energy Storage Battery**

- 5KWh 51.2V100Ah LiFePO4 battery module, compact design.
- Maximum output is 5KW.
- RS485/CANbus, compatible with main brand inverters.
- Maximum 15pcs in parallel to be larger system.
- Easy to install.
- Suitable for indoor/outdoor solar energy storage.



Item	SPF48V100-SM	SPF24V200-SM	
BATTERY			
Cell Chemistry	LiFePO <sub>4</sub>		
Battery Energy	5.12	2KWh	
Battery Voltage	51.2V	25.6V	
Nominal Capacity	100Ah	200Ah	
Operating Voltage Range	44.8~57.6V	22.4~28.8V	
Maximum Output Power	54	ŚŴ	
Maximum Charging Current	10	0A	
Maximum Continuous Discharge Current	100A		
Cycle Life	6000 cycles at 80% DOD		
Dimensions (L x W x H)	482x370x175mm	482.6x432.2x220mm	
Weight	42Kg	48Kg	
Parallel Quantity	Maximum 15pcs		
Designed Life-span	10 years		
Installation	Standard 19" power cabinet or rack		
Communication	RS485/CANbus/Ethernet/WiFi		
Matching with Inverters	MEGAREVO/GOODWE/GRWT/SAM/SUNGROW		
Certification	UL1973, IEC62619, CE61000, UN38.3		
Charging Temperature Range	0~50°C		
Discharge Temperature Range	-20~60°C		
Enclosure Protection	IP20		
Humidity	≤85%		
Altitude	≤2000m		
Application	In door / Out door		
Inverter Choosing	On/Off Grid Single/3 phases inverter		
Heat Management	Air Cooling		

# 204V High Voltage Battery System (Stacked Style)

- Maximum output is 10KW or 20KW.
- 10KWh is suitable for 10KW and 20KWh for 20KW; Single

phase or 3 phases on/off hybrid inverter.

- RS485/CANbus, compatible with main brand inverters.
- Easy to install.





Item	SPF204V50-HV	SPF204V100-HV
BATTERY		
Cell Chemistry	LiFePO <sub>4</sub>	
Battery Energy	10.24KWh	20.48KWh
Nominal Voltage	204.8V	204.8V
Nominal Capacity	50Ah	100Ah
Maximum Charging Current	50A	100A
Maximum Continuous Discharge Current	50A	100A
Maximum Output Power	10KW	20KW
HV Controller	1рс	1рс
Weight	108Kg	216Kg
Dimension Lx DxH	560 x 270 x 850mm	560 x 540 x 850mm
Operating Voltage Range	179.2 ~230.4V	
Cycle Life	6000 cycles at 80% DOD	
Designed Life-span	10 years	
Installation	Floor-mounting (Horizonal and stacking)	
Communication	RS485/CANbus/Ethernet/WiFi	
Charging Temperature Range	0~50°C	
Discharge Temperature Range	-20~60°C	
Enclosure Protection	IP54	
Humidity	≤85%	
Altitude	≤2000m	
Application	In door	
Inverter Choosing	On/Off single or 3 phases inverter	
Heat Management	Air cooling	

# **512V High Voltage Battery System**

- 10pcs 51.2V LiFePO<sub>4</sub> battery module in series + 1pc HV controller, compact design.
- RS485/CANbus, compatible with main brand inverters.
- Easy to install.
- Suitable for 3 phases on/off grid solar energy storage.





Item	SPF512V50-HV	SPF512V150-HV
Cell Chemistry	LiFeF	PO4
Battery Module	SPF48V52Ah-3U (10pcs in series)	SPF48V150Ah (10pcs in series)
Battery Energy	26.6KWh	76.8KWh
Nominal Voltage	512V	512V
Nominal Capacity	52Ah	150Ah
Maximum Charging Current	50A	150A
Maximum Continuous Discharge Current	50A	150A
Maximum Output Power	25KW	76KW
HV Controller	1pc	1pc
Module Dimensions (L x W x H)	482 x 451 x 132mm	614 x 500x 186mm
Module Weight	28.5 Kg (10pcs) + 9.7Kg (1pc HV DC controller)	60Kg(10pcs)+10Kg (1pc HV DC controller)
Operating Voltage Range	448 ~576V	
Cycle Life	6000 cycles at 80% DOD	
Designed Life-span	10 years	
Installation	Standard 19" power cabinet Stacking mounted power cabinet	
Communication	RS485/CANbus/Ethernet/WiFi	
Charging Temperature Range	0~50°C	
Discharge Temperature Range	-20~60°C	
Enclosure Protection	IP20	
Humidity	≤85%	
Altitude	≤2000m	
Application	In door / Out door	
Inverter Choosing	On/Off Grid 3 phases inverter	
Heat Management	Air cooling	

# **Multifunctional Solar Home System**

- The integrated design solution reflects the portability, aesthetics and practicality.
- The smart built-in BMS improves the product stability.
- Solar power is free of charge.
- Built-in 5V USB 12V output ports can power the mobile phones and DC appliances.
- Multiple protection included, such as over-charging, over-discharging, short circuit

and reverse connecting, no need to replace the fuse.

• Multiple output ports can fully meet the various needs of users.



Item	SPF 100WB40-A1	SPF 200WB100-A1	
Solar Panels	18V/100W*1PC	18V/200W*1PC	
Solar Panel Size	1016*670*32mm	1200*880*35mm	
Solar Panel Weight	4.8Kg	7.7Kg	
Power Supply Rated Battery Power	500W	1200W	
Power Supply Battery Capacity	40Ah/12.8Vdc	100Ah/12.8Vdc	
Rated Capacity	512Wh	1280Wh	
Battery Cell	LiFePO	4 Battery	
USB Output	USB ( QC3.0*2); USB ( 5V/2.4A*2); USB QC3.0&Type-C PD	USB ports 5V/2.1A, 5V/1A	
DC Output Port	12.8V Anderson plug (20A*4) 12.8V Terminal ports (Pos + & Neg -; 40A)	12.8V Anderson plug (50A*2) & DC ports12V10A*2 12.8V Terminal ports (Pos + & Neg -; 100A)	
AC Output	N/A	500W (110V/60Hz or 220V/50Hz)	
Led Indicator	solar charging indicator, battery le	evel indicator, load status indicator	
Protective Function	overcharge protection, overdischarge protection, overcurrent protection, short circuit protection, PV reverse polarity protection		
DC Input Port	14.4V Anderson plug (20A*1) 14.4V Terminal ports (Pos + & Neg -; 40A)	14.4V Anderson plug (50A*2) 14.4V Terminal ports (Pos + & Neg -; 100A)	
Circuit Breaker Switch On/Off	N/A	16A breaker	
Limited Charger Voltage(Vdc)	14.4±0.2	14.4±0.2	
Over Discharge Protection Voltage (Vdc)	10.0±0.2	10.0±0.2	
Over Discharge Recovery Voltage (Vdc)	11.2±0.2	11.2±0.2	
Overvoltage Protection (Vdc)	15.6±0.2	15.6±0.2	
Overvoltage Recovery (Vdc)	14.4±0.2	14.4±0.2	
Dimensions (mm)	350*180*250	330*190*230	
Power Supply Net Weight (Kg)	5.3	12	
Power Supply Gross Weight (Kg)	6.8	13.5	
Power Supply Work Time	LED bulb 3W*4+5W*1 25H	LED bulb 3W*4 +5W*1 64H	
Optional Accessories	Desk fan,floor fan,19-inch TV,22-inch TV		
Attachment Details	<ul> <li>8m PV panel cable*1,</li> <li>LED bulb 5W/480lm*1,</li> <li>LED bulb 3W/310lm*4,</li> <li>LED bulb cable 8m*5,</li> <li>5-in-1 USB charging cable*1</li> </ul>	<ul> <li>8m PV panel cable*1,</li> <li>LED bulb 5W/480lm*1,</li> <li>LED bulb 3W/310lm*4,</li> <li>LED bulb cable 8m*5,</li> <li>5-in-1 USB charging cable*1</li> </ul>	
	CQC,MSDS UN38.3,CE,RoHS,Lighting Global		

# **Battery Solution for More Applications**



Medical Carts Battery



Portable Power Station



**RV** Battery



Marine Battery



AGV Battery



Forklift Battery



Trolling Motor Battery



Golf Cart GC2 Battery





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