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LITHIUM BATTERY ENERGY STORAGE SYSTEM

太阳能锂电池储能系统

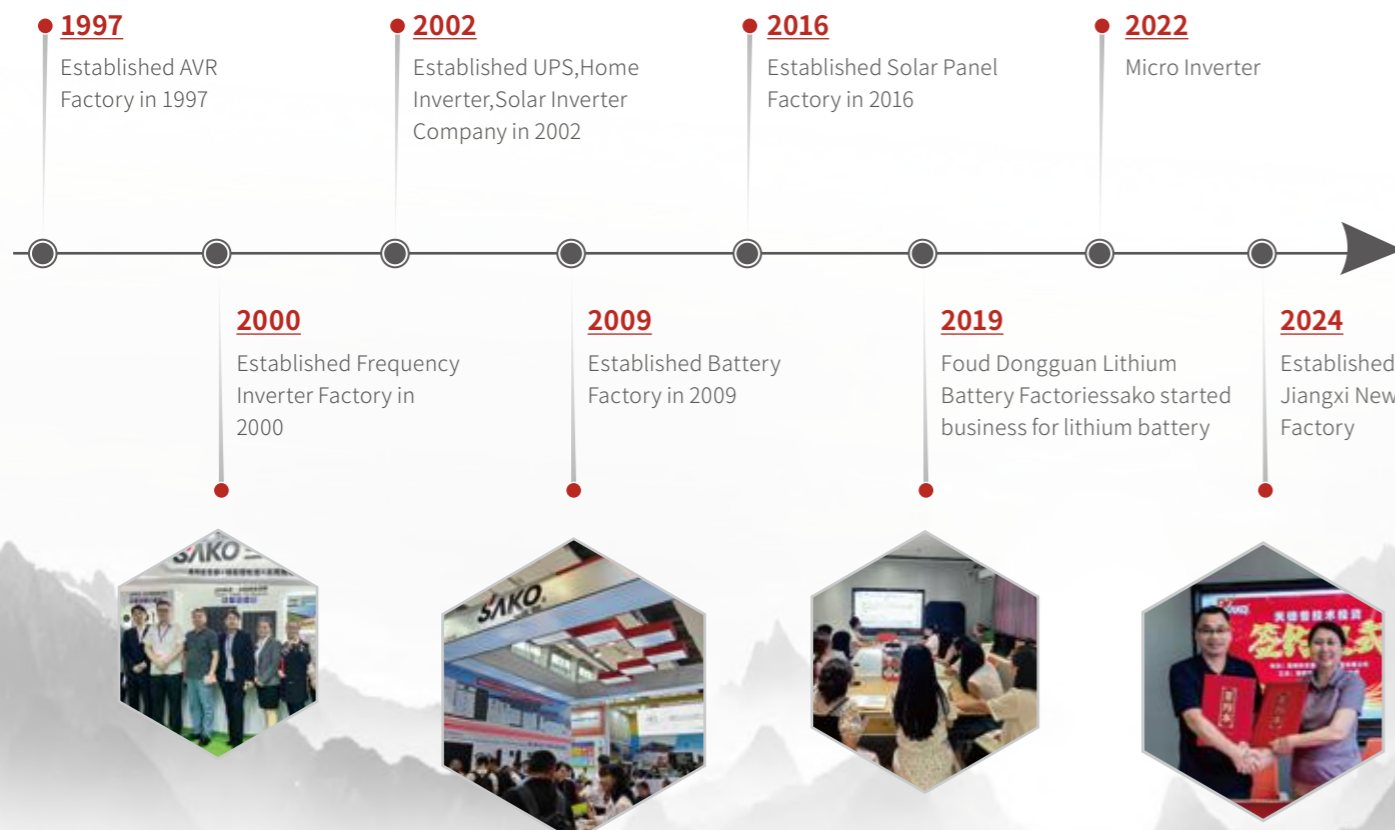


SAKO SOLAR

The World Power Expert Since 1997



COMPANY DEVELOPMENT ROUTES



About SAKO

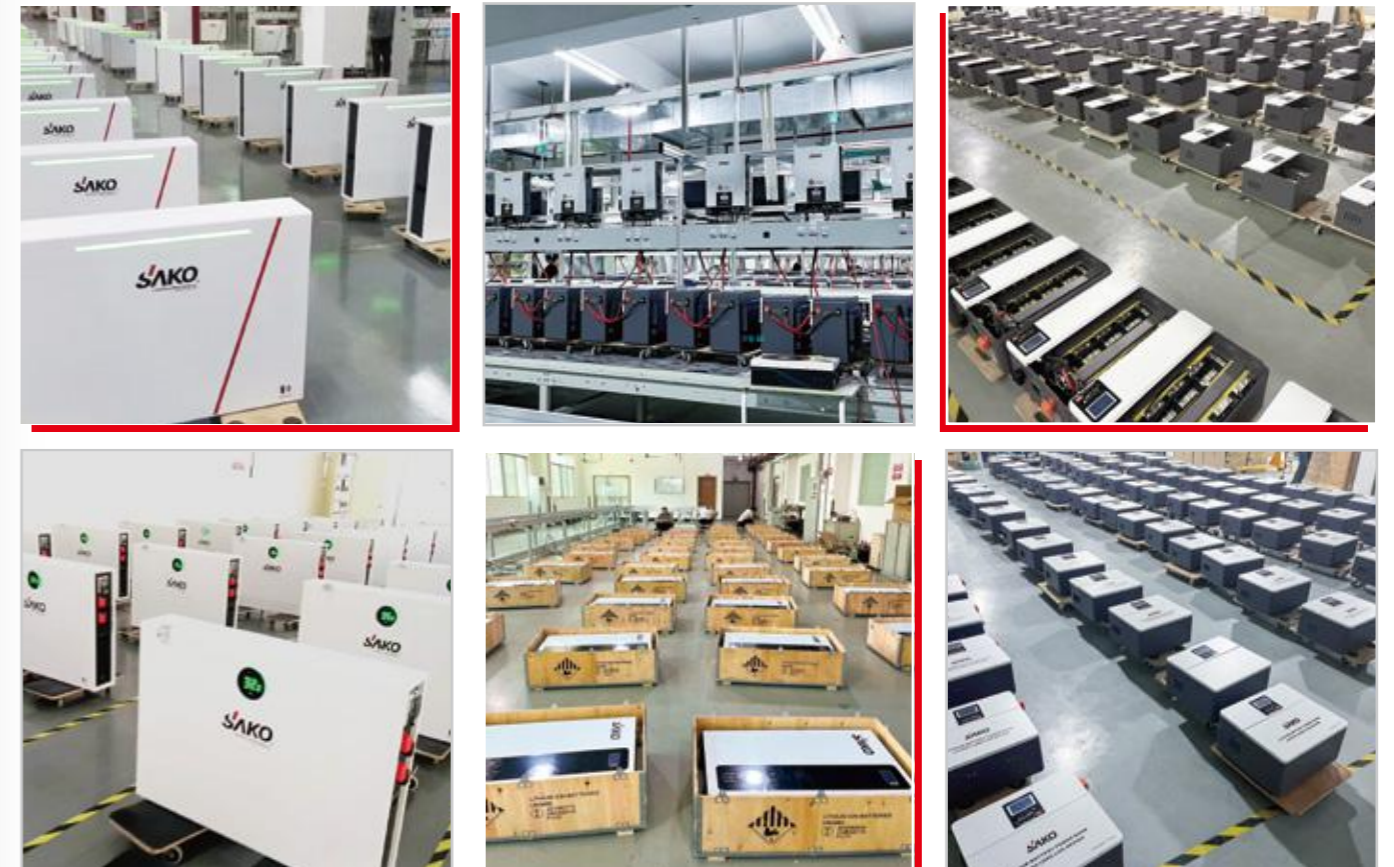
Company Mission: Lighting Global, Powering Global Trusted Partnership With Professional Talents

Established in 1997. SAKO is the professional manufacturer engaged in research, development, sale and service of high quality power and solar products, with main products cover: home inverter, off grid solar inverter, solar panel, lithium iron battery pack and storage solar system. As we SAKO produce all key components of solar system by ourselves, we have the advantage on cost control and quality control. Customer can do one stop shopping from SAKO and we give the warranty to the whole system based on our rich experience.

Both SAKO company and its products are qualified for exports. SAKO has obtained ISO9001, ISO14001, OHAS18001, TUV, CE, CB, CQC certificates. We can also help customer apply PSI, COC, SONCAP, SASO, SABER, etc.

SAKO products are very popular because of their the stable quality, competitive price and good service. You are most welcome to be our agent in your region. We also welcome OEM/ODM orders.

Whether selecting a current product from our catalog or seeking engineering assistance for your application, you can talk to our team about your sourcing requirements. Based on its rich experience, strong R&D, strict quality control systems, the spirit of creation, trust SAKO can offer you satisfied solar products and service.



Qualification&Certificates



ISO9001



ISO14001



ISO45001



CB FOR INVERTER



CB FOR LITHIUM BATTERY



CE FOR INVERTER



MSDS



Report for safe transport of goods



CE FOR LITHIUM BATTERY



TUV FOR PANEL



VDE4105



VDE50549

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Li-Power 130Ah Power Wall Lithium Battery with BYD Blade Cells 8000 Cycles

51.2V 130Ah



Main Features

- Bluetooth built inside for easy monitor.
- LED with RGB light display.
- 100A smart BMS matched well with solar system.
- 8000 cycles, 10 years warranty, 15+ years life design.
- Original 48V200AH/300AH BYD blade LiFePO4 cells, super safety.
- Integrated with multiple communication protocols for 10+ brands of inverters.

SAKO leading technology:

- Internal battery temperature reaches 1000°C within 10mins, the cover remains at normal temperature.



SPECIFICATION	MODEL	SK-51.2V130Ah Li-Power 51.2V 130AH
Battery Type		LiFePO4
Total Energy		6656Wh
Usable Energy(80%DOD)		5990Wh
Voltage window		44.8 ~ 58.4V
Fast Charge Voltage		57.6V
Folat Charge Voltage		56.0V
Low DC Cut-off Voltage		46.8V
Max.continue discharge current		100A
Max.pulse discharge current		150A 1Sec.
Max.continue charge current		65A
Scalable		1~15 in parallel
Communication		CAN,RS485
Cycle life		>8000 Cycles@(+25°C,0.5C,90%DOD,60%EOL)
Terminal		M8
Storage temperature		0°C~ 30°C
Storage duration		6 months at 25°C
Safety standard		UN38.3,MSDS
IP degree		IP20
PROTECTION		
Protection	Over charge protection, Over discharge protection, Over current protection, Shortcircuit protection, Over temperature protection	
AMBIENT		
working Temperature	-10°C~ +50°C	
Humidity	0~95% (no condensation)	
DIMENSION		
L×W×H (products size) mm	1090*685*120mm	
L×W×H (package size) mm	1150*720*205mm (UN wooden cases)	
Weight(NW Kg)	78.6Kg	
Weight(GW Kg)	97.2Kg	
20FT QTY(UNIT)	140	

Smart BMS supports communication with different brand of hybrid inverter

Li-Pack 25.6V/51.2V Wall Stand Lithium Battery with 6000 Cycles Cells

25.6V200Ah, 51.2V200Ah, 51.2V300Ah



Main Features

- WiFi or Bluetooth integrated for easy monitor.
- Smart BMS matched well with solar system.
- All around protection, excellent safety.
- LED with RGB light display.
- 5 Years warranty, 6000+ cycles, 10+ years life design.
- 51.2V battery integrated with multiple communication protocols for 10+ brands of inverters.

SAKO leading technology:

- Internal battery temperature reaches 100°C within 10mins, the cover remains at normal temperature.



MODEL	SK-25.6V200Ah Li-Pack series	SK-51.2V200Ah Li-Pack series	SK-51.2V300Ah Li-Pack series
Battery Type	LiFePO4	LiFePO4	LiFePO4
Total Energy	5120Wh	10240Wh	15360Wh
Usable Energy(80%DOD)	4096Wh	8192Wh	12288Wh
Voltage window	22.4 ~ 29.2V	44.8 ~ 58.4V	44.8 ~ 58.4V
Fast Charge Voltage	28.8V	57.6V	57.6V
Folat Charge Voltage	28.0V	56.0V	56.0V
Low DC Cut-off Voltage	23.4V	46.8V	46.8V
Max.continue discharge current	150A	150A	200A
Max.pulse discharge current	200A 1Sec.	200A 1Sec.	300A 1Sec.
Max.continue charge current	100A	100A	150A
Scalable	1-15 in parallel	1-15 in parallel	1-15 in parallel
Communication	RS485	CAN,RS485	CAN,RS485
Cycle life	>6000 Cycles@ (+25°C,0.5C,80%DOD,60%EOL)	>6000 Cycles@ (+25°C,0.5C,80%DOD,60%EOL)	>8000 Cycles@ (+25°C,0.5C,80%DOD,60%EOL)
Terminal	double M8		
Storage temperature	0°C~ 30°C		
Storage duration	6 months at 25°C		
Safety standard	UN38.3,MSDS		
IP degree	IP20		
PROTECTION			
Protection	Over charge protection, Over discharge protection, Over current protection Shortcircuit protection, Over temperature protection		
AMBIENT			
Working Temperature	-10°C~ +50°C		
Humidity	0~95% (no condensation)		
DIMENSION			
L×W×H (products size) mm	735*580*190±3mm	1000*730*190±3mm	1010*735*190±3mm
L×W×H (package size) mm	782*620*240±3mm (UN carton)	1060*780*236±3mm (UN wooden cases)	1060*780*236±3mm (UN wooden cases)
Weight(NW Kg)	55.3Kg	103.2Kg	135.4Kg
Weight(GW Kg)	59.4Kg	117.2Kg	148.3Kg
20FT QTY(UNIT)	243PCS	120PCS	120PCS

Smart BMS supports communication with different brand of hybrid inverter

Li-Sun Wall Stand Lithium Battery Pack 100Ah-350Ah With 6000+ Cycles

25.6V200Ah, 25.6V300Ah, 51.2V100Ah, 51.2V200Ah, 51.2V300Ah, 51.2V350Ah



Main Features

- Top brand new LiFePO4 cells, super safety.
- 5 Years warranty, 6000+ cycles, 10+ years life design.
- Supports wall mounted or floor stand installation.
- 100A Smart BMS matches well with solar system.
- All around protection and unattended operation.
- 51.2V battery Integrated with multiple communication protocols for 10+ brands of inverters.

SAKO leading technology:

- Internal battery temperature reaches 1000°C within 10mins, the cover remains at normal temperature.



MODEL	SK-25.6V200Ah Li-Sun series	SK-25.6V300Ah Li-Sun series	SK-51.2V100Ah Li-Sun series	SK-51.2V200Ah Li-Sun series	SK-51.2V300Ah Li-Sun series	SK-51.2V350Ah Li-Sun series
Battery Type	LiFePO4	LiFePO4	LiFePO4	LiFePO4	LiFePO4	LiFePO4
Total Energy	5120Wh	7680Wh	5120Wh	10240Wh	15360Wh	17920Wh
Usable Energy(90%DOD)	4608Wh	6912Wh	4608Wh	9216Wh	13824Wh	16128Wh
Voltage window	22.4 ~ 29.2V	22.4 ~ 29.2V	44.8 ~ 58.4V	44.8 ~ 58.4V	44.8 ~ 58.4V	44.8 ~ 58.4V
Fast Charge Voltage	28.8V	28.8V	57.6V	57.6V	57.6V	57.6V
Folat Charge Voltage	28.0V	28.0V	56.0V	56.0V	56.0V	56.0V
Low DC Cut-off Voltage	23.4V	23.4V	46.8V	46.8V	46.8V	46.8V
Max.continue discharge current	150A	200A	100A	150A	200A	200A
Max.pulse discharge current	200A 1Sec.	300A 1Sec.	150A 1Sec.	200A 1Sec.	300A 1Sec.	300A 1Sec.
Max.continue charge current	100A	150A	50A	100A	150A	150A
Scalable	1-15 in parallel	1-15 in parallel	1-15 in parallel	1-15 in parallel	1-15 in parallel	1-15 in parallel
Communication	RS485	RS485	CAN,RS485	CAN,RS485	CAN,RS485	CAN,RS485
Cycle life	>8000 Cycles for 300Ah >6000 Cycles for 100Ah/200Ah @(+25°C,0.5C,90%DOD,60%EOL)				>8000 Cycles@ (+25°C,0.5C,90%DOD,60%EOL)	
Terminal	double M8					
Storage temperature	0°C~ 30°C					
Storage duration	6 months at 25°C					
Safety standard	UN38.3,MSDS					
IP degree	IP20					
PROTECTION						
Protection	Over charge protection, Over discharge protection, Over current protection, Shortcircuit protection, Over temperature protection					
AMBIENT						
Working Temperature	-10°C~ +50°C					
Humidity	0~95% (no condensation)					
DIMENSION						
L×W×H (products size)MM	641*389*179	691*455*189	641*389*179	850*560*179	900*625*191	850*560*260±3
L×W×H (package size)MM	684*440*240 (UN carton)	734*515*247 (UN carton)	684*440*240 (UN carton)	898*635*265 (UN wooden cases)	948*690*372 (UN wooden cases)	898*635*425±3 (UN wooden cases)
Weight(NW)	44.5	62.0	62.0	86.5	133.0	134.0
Weight(GW)	48.0	66.0	66.0	101.5	148.0	150.7

Smart BMS supports communication with different brand of hybrid inverter

Li-Wall 25.6V/51.2V Wall Mounted Lithium Battery with 5000 Cycles Cells

25.6V100Ah, 25.6V200Ah, 51.2V100Ah, 51.2V200Ah



Main Features

- Supports wall mounted installation.
- New LiFePO4 cells with competitive cost, super safety.
- 100A/150A Smart BMS matched well with solar system.
- 3 Years warranty, 5000+ cycles, 5+ years life design.
- All around protection and unattended operation.
- Optional for multiple communication protocols for other brands of inverters.

STORAGE SOLAR SYSTEM

MODEL	SK- 25.6V100Ah Li-Wall series	SK-25.6V200Ah Li-Wall series	SK-51.2V100Ah Li-Wall series	SK-51.2V200Ah Li-Wall series
Battery Type	LiFePO4	LiFePO4	LiFePO4	LiFePO4
Total Energy	2560Wh	5120Wh	5120Wh	10240Wh
Usable Energy(80%DOD)	2048Wh	4096Wh	4096Wh	8192Wh
Voltage window	22.4 ~ 29.2V	22.4 ~ 29.2V	44.8 ~ 58.4V	44.8 ~ 58.4V
Fast Charge Voltage	28.8V	28.8V	57.6V	57.6V
Folat Charge Voltage	28.0V	28.0V	56.0V	56.0V
Low DC Cut-off Voltage	23.4V	23.4V	46.8V	46.8V
Max.continue discharge current	100A	150A	100A	150A
Max.pulse discharge current	150A 1Sec.	200A 1Sec.	150A 1Sec.	200A 1Sec.
Max.continue charge current	50A	100A	50A	100A
Scalable	1~15 in parallel			
Communication	RS485			
Cycle life	>5000 Cycles@(+25°C,0.2C,90%DOD,60%EOL)			
Terminal	M8			
Storage temperature	0°C~ 30°C			
Storage duration	6 months at 25°C			
Safety standard	UN38.3,MSDS			
IP degree	IP20			
PROTECTION				
Protection	Over charge protection, Over discharge protection, Over current protection, Shortcircuit protection, Over temperature protection			
AMBIENT				
Working Temperature	-10°C~ +50°C			
Humidity	0~95% (no condensation)			
DIMENSION				
L×W×H (products size) mm	414*372*177mm	538*372*177mm	538*372*177mm	690*570*177mm
L×W×H (package size) mm	487*435*208mm (UN carton)	612*422*208mm (UN carton)	612*422*208mm (UN carton)	775*635*220mm (UN wooden cases)
Weight(NW Kg)	24.5Kg	42.5Kg	42.5Kg	83Kg
Weight(GW Kg)	26.3Kg	44.9Kg	44.9Kg	98Kg

STORAGE SOLAR SYSTEM

Li-Super High Quality EU/US Type Wall Mounted Lithium Battery With 6000 Cycles Cells

51.2V100Ah, 51.2V200Ah



Main Features

- Top brand new LiFePO4 cells, super safety.
- Supports wall mounted or floor stand installation.
- 100A/150A Smart BMS matches well with solar system.
- 5 Years warranty, 6000+ cycles, 10+ years life design
- All around protection and unattended operation.
- Integrated with multiple communication protocols for 10+ brands of inverters.

SAKO leading technology:

- Internal battery temperature reaches 100°C within 10mins, the cover remains at normal temperature.



SPECIFICATION	MODEL	SK-51.2V100Ah Li-Super Series	SK-51.2V200Ah Li-Super Series
Battery Type		LiFePO4	LiFePO4
Total Energy		5120Wh	10240Wh
Usable Energy(90%DOD)		4608Wh	9216Wh
Voltage window		44.8 ~ 58.4V	44.8 ~ 58.4V
Fast Charge Voltage		57.6V	57.6V
Folat Charge Voltage		56.0V	56.0V
Low DC Cut-off Voltage		46.8V	46.8V
Max.continue discharge current		100A	150A
Max.pulse discharge current		150A 1Sec.	200A 1Sec.
Max.continue charge current		50A	100A
Scalable		1~15 in parallel	
Communication		CAN,RS485	
Cycle life		>6000 Cycles@(+25°C,0.5C,90%DOD,60%EOL)	
Terminal		double M6	
Storage temperature		0°C~ 30°C	
Storage duration		6 months at 25°C	
Safety standard		UN38.3,MSDS	
IP degree		IP20/IP65	
PROTECTION			
Protection		Over charge protection, Over discharge protection, Over current protection, Shortcircuit protection, Over temperature protection	
AMBIENT			
Working Temperature		-10°C~ +50°C	
Humidity		0~95% (no condensation)	
DIMENSION			
L×W×H (products size) mm		691*485*183mm	904*593*192mm
L×W×H (package size) mm		759*575*278mm(UN wooden cases)	960*691*360mm(UN wooden cases)
Weight(NW Kg)		50.0Kg	92.0Kg
Weight(GW Kg)		55.0Kg	113.5Kg

Smart BMS supports communication with different brand of hybrid inverter

Li-Smart Low Voltage Modular & Stacked Lithium Battery 5KWH-20KWH 6000 Cycles Cells

51.2V 100Ah, 51.2V 200Ah, 51.2V 300Ah, 51.2V 400Ah



Main Features

- Top brand new LiFePO4 cells, super safety.
- 5 Years warranty, 6000+ cycles, 10+ years life design.
- Modular&stacked design for easy extension.
- 100A smart BMS for each modular, matches well with solar system.
- All around protection and unattended operation.
- Integrated with multiple communication protocols for 10+ brands of inverters.

SAKO leading technology:

- Internal battery temperature reaches 1000°C within 10mins, the cover remains at normal temperature.



SPECIFICATION	MODEL	SK-51.2V100Ah Li-Smart Series	SK-51.2V200Ah Li-Smart Series	SK-51.2V300Ah Li-Smart Series	SK-51.2V400Ah Li-Smart Series
Battery Type		LiFePO4	LiFePO4	LiFePO4	LiFePO4
Normal Capacity(25°C, 0.2C)		5120Wh*1 set	5120Wh*2set	5120Wh*3 set	5120Wh*4 set
Usable Energy(90%DOD)		4608Wh	9216Wh	13824Wh	18432Wh
Voltage window		44.8 ~ 58.4V	44.8~58.4V	44.8 ~ 58.4V	44.8 ~ 58.4V
Fast Charge Voltage		57.6V	57.6V	57.6V	57.6V
Folat Charge Voltage		56.0V	56.0V	56.0V	56.0V
Low DC Cut-off Voltage		46.8V	46.8V	46.8V	46.8V
Max.continue discharge current		100A	150A	200A	400A
Max.pulse discharge current		150A 1Sec.	200A1Sec.	300A 1Sec.	600A 1Sec.
Max.continue charge current		50A	100A	150A	200A
Scalable		1~15 in parallel			
Communication		CAN,RS485			
Cycle life		>6000 Cycles@(+25°C,0.5C,90%DOD,60%EOL)			
Terminal		double M6			
Storage temperature		0°C~ 30°C			
Storage duration		6 months at 25°C			
Safety standard		UN38.3,MSDS			
IP degree		IP54			
Communication function		RS485/CAN(Communication protocol supported inverter brand: Deye, Growatt, Voltroni, GOODWE, VICTRON, PYLONTEC, SMA, SOFAR)			
PROTECTION					
Protection		Over charge protection, Over discharge protection, Over current protection, Shortcircuit protection, Over temperature protection			
AMBIENT					
working Temperature		-10°C~ +50°C			
Humidity		0~95% (no condensation)			
DIMENSION OF EACH MODULAR					
L×W×H (Case base size) mm		703*490*95mm (7.0Kg)	703*490*95mm (7.0Kg)	703*490*95mm (7.0Kg)	703*490*95mm (7.0Kg)
L×W×H (Case base package size) mm		715*497*107mm (7.5Kg)	715*497*107mm (7.5Kg)	715*497*107mm (7.5Kg)	715*497*107mm (7.5Kg)
L×W×H (products size) mm		703*490*192mm * 1	703*490*192mm * 2	703*490*192mm* 3	703*490*192mm* 4
L×W×H (package size) mm		763*545*296mm* 1	763*545*296mm * 2	763*545*296mm* 3	763*545*296mm* 4
System Weight(NW Kg)		49.4Kg * 1	49.4Kg * 2	49.4Kg * 3	49.4Kg * 4
System Weight(GW Kg)		53.5Kg * 1	53.5Kg * 2	53.5Kg * 3	53.5Kg * 4
20FT QTY(UNIT)		196	98	65	49

Smart BMS supports communication with different brand of hybrid inverter

Li-Smart High Voltage Modular & Stacked Lithium Battery 10KWH-50KWH 6000 Cycles Cells

10.2KWH,15.3KWH,20.4KWH,25.6KWH,35.8KWH,40.9KWH,46.0KWH,51.2KWH



Main Features

- Top brand new LiFePO4 cells, super safety.
- 5 Years warranty, 6000+ cycles, 10+ years life design.
- Modular&stacked design for easy extension.
- 100A smart BMS for each modular, matches well with solar system.
- All around protection and unattended operation.
- High voltage stack with central BMS, compatible with SUNIN 8K-12K inverter.

SAKO leading technology:

- Internal battery temperature reaches 1000°C within 10mins, the cover remains at normal temperature.

MODEL	SK-10.2KWh	SK-15.3KWh	SK-20.4KWh	SK-25.6KWh	SK-30.7KWh	SK-35.8KWh	SK-40.9KWh	SK-46.0KWh	SK-51.2KWh
SPECIFICATION									
System Demo									
Battery cell type	LiFe PO4								
Battery Module	51.2V/100Ah								
No. of Module	2	3	4	5	6	7	8	9	10
Normal Capacity(25°C,0.2C)	10.24KWh	15.36KWh	20.48KWh	25.6KWh	30.72KWh	35.84KWh	40.96KWh	46.08KWh	51.2KWh
Normal Voltage (dc)	102.4V	153.6V	204.8V	256.0V	307.2V	358.4V	409.6V	460.8V	512.0V
Voltage window (dc)	89.6 ~ 116.8V	134.4-175.2V	179.2-233.6V	224.0-292.0V	268.8-350.4V	313.6-408.8V	358.4-467.2V	403.2-525.6V	448.0-584.0V
Dimension(WxDxH MM)	703*490*611	703*490*803	703*490*995	703*490*1187	703*490*1379	703*490*1571	703*490*1763	703*490*1955	703*490*2147
Weight(NW Kg)	123Kg	172Kg	221Kg	266Kg	315Kg	368Kg	417Kg	466Kg	515Kg
Normal charge/ discharge current	50A								
Max.charge/ discharge current	100A								
Cycle life (+25°C 0.2C 90%DOD)	6000								
Terminal	Double M8								
Storage temperature	0°C~ 30°C								
Storage duration	6 months at 25°C								
Safety standard	UN38.3,MSDS,IEC62619,EN62619,EN61000								
IP degree	IP54								
Communication function	RS485,CAN								
PROTECTION									
Protection	Over charge protection, Over discharge protection, Over current protection, Shortcircuit protection, Over temperature protection								
AMBIENT									
working Temperature	-10°C~ +50°C								
Humidity	0~95% (no condensation)								

Smart BMS supports communication with different brand of hybrid inverter

Li-Cube 4U Rack Mounted Lithium Battery with 6000 Cycles Cells

51.2V100Ah, 51.2V200Ah



Main Features



- Flexible expansion.
- 4U rack mounted design.
- 5 Years warranty, 6000 cycles cells, 5+ years life design.
- Integrated with multiple communication protocols for 10+ brands of inverters.



MODEL	SK-51.2V100Ah Li-Cube series	SK-51.2V200Ah Li-Cube series
Battery Type	LiFePO4	
Total Energy	5120Wh	10240Wh
Usable Energy(90%DOD)	4608Wh	9216Wh
Voltage window	44.8 ~ 58.4V	44.8 ~ 58.4V
Fast Charge Voltage	57.6V	57.6V
Folat Charge Voltage	56.0V	56.0V
Low DC Cut-off Voltage	46.8V	46.8V
Max.continue discharge current	100A	150A
Max.pulse discharge current	150A 1Sec.	200A 1Sec.
Max.continue charge current	50A	100A
Scalable	1~15 in parallel	
Communication	CAN,RS485	
Cycle life	>6000 Cycles@(+25°C,0.5C,90%DOD,60%EOL)	
Terminal	double M6	
Storage temperature	0°C~ 30°C	
Storage duration	6 months at 25°C	
Safety standard	UN38.3, MSDS	
IP degree	IP20	
PROTECTION		
Protection	Over charge protection, Over discharge protection, Over current protection, Shortcircuit protection, Over temperature protection	
AMBIENT		
Working Temperature	-10°C~ +50°C	
Humidity	0~95% (no condensation)	
DIMENSION		
L×W×H (products size) mm	565*440*176mm	800*440*176mm
L×W×H (package size) mm	665*530*276mm(UN carton)	905*535*306mm(UN wooden cases)
Weight(NW Kg)	46.0Kg	75.0Kg
Weight(GW Kg)	51.0Kg	86.5Kg

Smart BMS supports communication with different brand of hybrid inverter

Li-Tower 10KWH Wall Stand Lithium Battery with 3000 Cycles Cells

51.2V200Ah



Main Features

- Wall stand design.
- Smart BMS matched well with solar system.
- All around protection and unattended operation.
- Recycle LiFePO4 cells, cost effective.
- 3 Years warranty, 3000+ cycles, 5+ years life design.
- 51.2V optional for multiple communication protocols for other brands of inverters.

STORAGE SOLAR SYSTEM

MODEL	SK-51.2V200Ah Li-Tower series
Battery Type	LiFePO4
Total Energy	10240Wh
Usable Energy(80%DOD)	8192Wh
Voltage window	44.8 ~ 58.4V
Fast Charge Voltage	57.6V
Folat Charge Voltage	56.0V
Low DC Cut-off Voltage	46.8V
Max.continue discharge current	150A
Max.pulse discharge current	200A 1Sec.
Max.continue charge current	100A
Scalable	1~15 in parallel
Communication	RS485,CAN(optional)
Cycle life	>3000 Cycles@(+25°C,0.5C,80%DOD,60%EOL)
Terminal	M8
Storage temperature	0°C~ 30°C
Storage duration	6 months at 25°C
Safety standard	UN38.3,MSDS
IP degree	IP20
PROTECTION	
Protection	Over charge protection, Over discharge protection, Over current protection, Shortcircuit protection, Over temperature protection
AMBIENT	
Working Temperature	-10°C~ +50°C
Humidity	0~95% (no condensation)
DIMENSION	
L×W×H (products size) mm	453*356*770mm
L×W×H (package size) mm	530*435*920mm (UN wooden cases)
Weight(NW Kg)	132.5Kg
Weight(GW Kg)	139.5Kg

STORAGE SOLAR SYSTEM

Li-Max 12.8V/25.6V Lithium Battery to Replace Lead Acid Battery

12.8V50Ah,12.8V100Ah,12.8V150Ah

12.8V200Ah,25.6V100Ah,25.6V150Ah



Main Features

- Optional for Bluetooth monitor.
- With hardware BMS & plastic case.
- Support in series or parallel connection to 24V/48V system.
- Ideal choice for lead acid battery replacement.
- 3 Years warranty, 3000+ cycles, 5+ years life design.

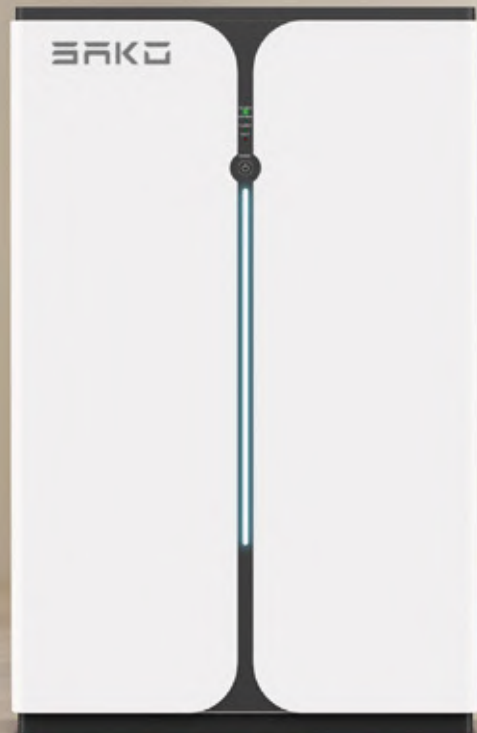
STORAGE SOLAR SYSTEM

MODEL	Li-MAX 12.8V50AH	Li-MAX 12.8V100AH	Li-MAX 12.8V150AH	Li-MAX 12.8V200AH	Li-MAX 25.6V100AH	Li-MAX 25.6V150AH
SPECIFICATION						
Battery Type	LiFePO4	LiFePO4	LiFePO4	LiFePO4	LiFePO4	LiFePO4
Normal Battery Model	12.8V50AH	12.8V100AH	12.8V150AH	12.8V200AH	25.6V100AH	25.6V150AH
Normal Capacity(25°C, 0.2C)	640WH	1280WH	1920WH	2560WH	2560WH	3840WH
Voltage window (Vdc)	11.2 ~ 14.6V	11.2 ~ 14.6V	11.2 ~ 14.6V	11.2 ~ 14.6V	22.4 ~ 29.2V	22.4 ~ 29.2V
Folat Charge Voltage(Vdc)	14.0V	14.0V	14.0V	14.0V	28.0V	28.0V
Max.continue discharge current	50A	100A	100A	200A	100A	150A
Max.pulse discharge current	100A 1Sec.	200A 1Sec.	200A 1Sec.	300A 1Sec.	200A 1Sec.	200A 1Sec.
Max.continue charge current	25A	50A	100A	100A	50A	75A
Cells Brand	Guoxuan	CATL	CATL	CATL	CATL	CATL
Cycle life(+25°C 0.2C 100% DoD)	>5000 Cycles					
Terminal	M6	M8				
Storage temperature	0°C~ 30°C					
Storage duration	6 months at 25°C					
Safety standard	UN38.3,MSDS,CE					
IP degree	IP65					
PROTECTION						
Protection	Over charge protection, Over discharge protection, Over current protection, Shortcircuit protection, Over temperature protection					
AMBIENT						
Working Temperature	-10°C~ +50°C					
Humidity	0~95% (no condensation)					
Sea Level(m)	≤1500					
DIMENSION						
L×W×H (products size) mm	231*145*211	332*172*220	484*170*240	522*218*238	522*218*238	522*218*238
L×W×H (package size) mm	239*154*252	342*181*265	497*180*292	532*252*268	532*252*268	532*252*268
Weight(NW Kg)	5.5kg	12.0kg	15.0kgs	27.0Kg	27.0Kg	30.0Kg
Weight(GW Kg)	6.0kg	13.0kg	16.0kg	28.0Kg	28.0Kg	32.0Kg

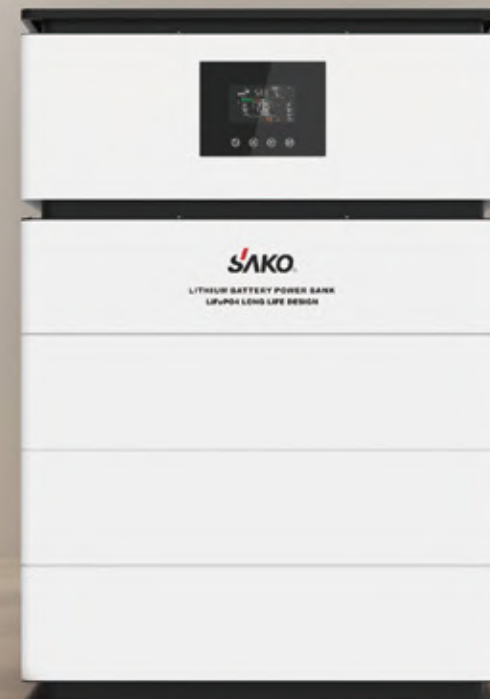
STORAGE SOLAR SYSTEM

SAKO

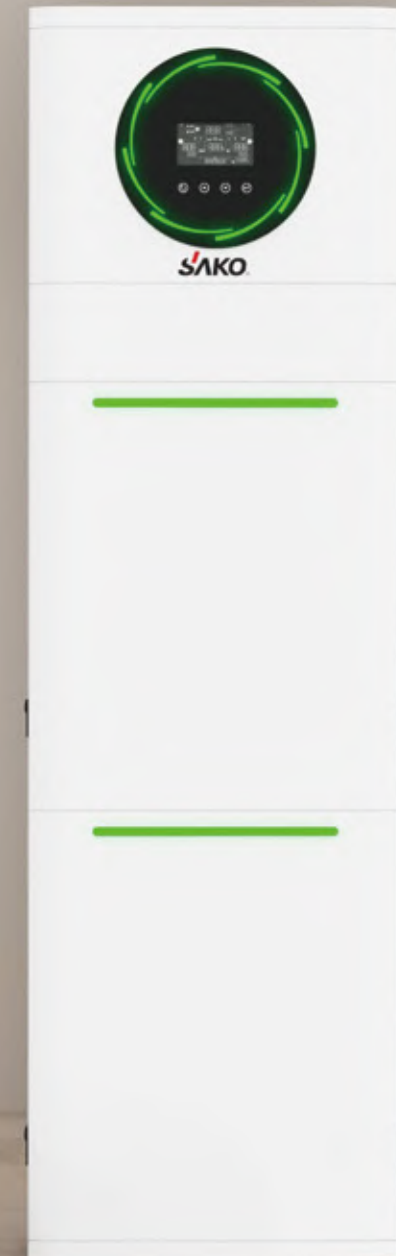
Energy Storage System



ESS/MESS/ALPHA



ESS PRO



ESS APOLLO







ESS Balcony Energy Storage System 600W 800W 1000W

ESS-1KVA-600W, ESS-1KVA-800W, ESS-1KVA-1000W



WE CAN PROVIDE ALL KINDS OF SOLAR SOLUTIONS ACCORDING TO YOUR DEMANDS.

Main Features

-  Supports self consumption and feedback to grid.
-  Plug-and-play, easy installation and smart control and operation.
-  Free smart WIFI monitor, can be installed within 30S, user friendly.
-  Work mode, charging&discharge time and current are programmable.
-  Integrated with inverter, MPPT charger, AC charger, LiFePo4 battery inside.
-  Low starting voltage (up to 60Vdc PV input), all around protection protection.

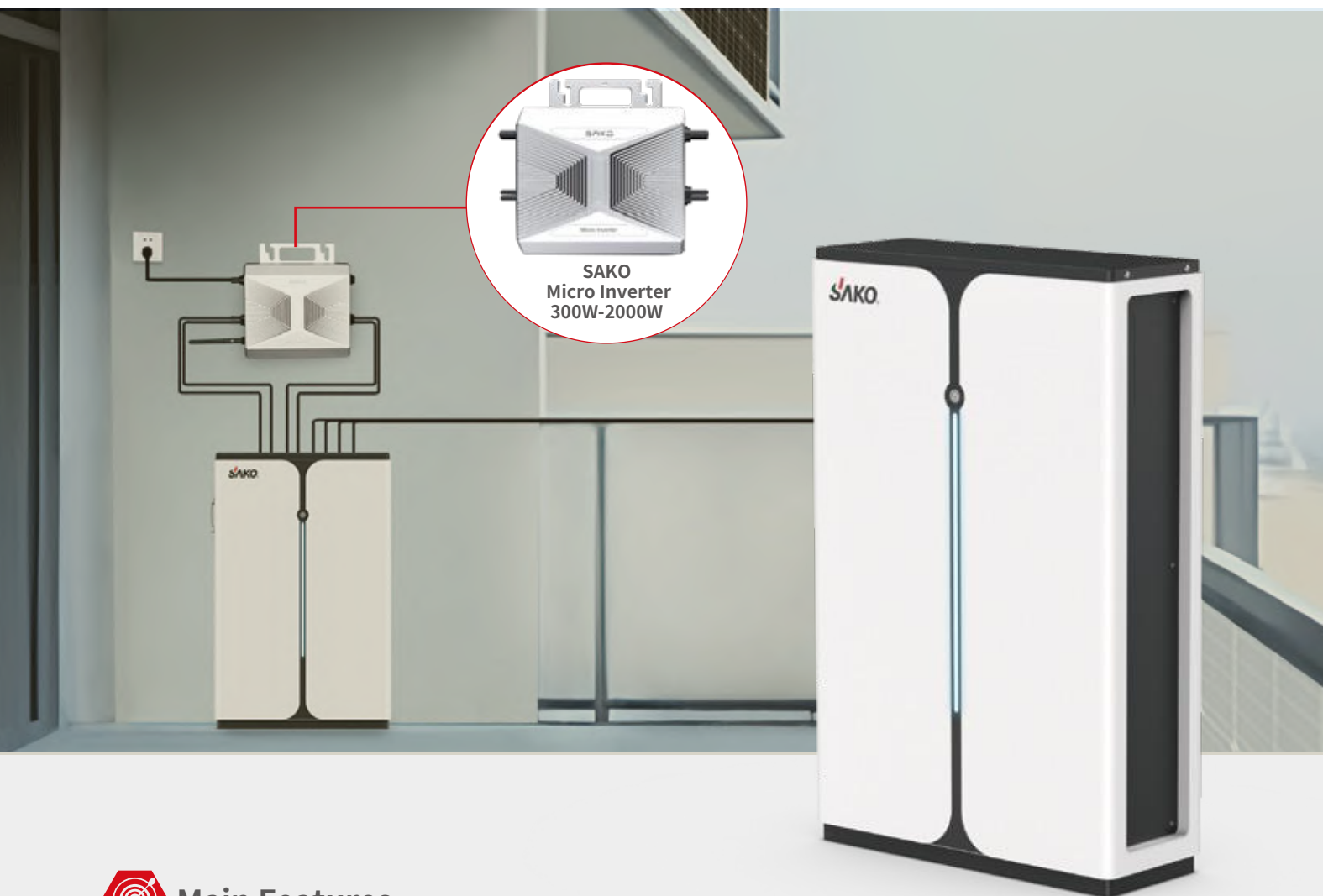
STORAGE SOLAR SYSTEM

Model No.	ESS-1KVA-600W	ESS-1KVA-800W	ESS-1KVA-1000W
Off Grid Operation			
Max. PV input power		1200W	
Rated AC output power		1000W	
Output peak power (W)		2000W(200ms)	
Grid-Tie Operation			
Rated power	600W	800W	1000W
Grid connected power	600W	800W	1000W
Mains charging current	0-40A adjus table		
AC input voltage range	180-265VAC		
Input frequency range	50Hz/60Hz ±3Hz		
AC input connection type	L/N/PE		
MPPT Solar Charger			
Rated battery voltage	25.6V		
Charging current	40A max		
PV input voltage range	36-60VDC		
PV input power	1200W max.		
PV charging power	1000W max.		
Number of PV input tracker	1		
PV input interface	Anderson interface		
Output (AC)			
Nominal output Volt	220Vac, Single Phase		
Output frequency	50/60hz		
Nominal output current	4.5A		
Power factor	1		
Max. conversion efficiency (DC/AC)	91.5%max		
Energy Storage Information			
Nominal battery voltage	25.6VDC		
Core material	Lithium iron phosphata te battery		
Energy storage capacity	1536wh/2688WH		
Core cycle	≥6000cycles&25°C Standard charging and discharging process@80% SOH		
General Infomration			
PV cable	1 piece 4m ² *5m double core 4m ² PV cable		
AC cable	1 European power cord 1.8m		
Products dimension,D X W X H (mm)	744*420*160MM		
Products package,D X W X H (mm)	860*490*265MM		
Product net weight(kgs)	30kg /43KG		
Product gross weight(kgs)	31kg /45KG		
Environment			
The noise	60dB Max (1 meter)		
Humidity	5% to 95% Relative Humidity(Non-condensing)		
Operating temperature	-10°C to 50°C		
Storage temperature	-15°C to 60°C		

STORAGE SOLAR SYSTEM

M-ESS Balcony Energy Storage System 1900Wh 3000Wh

M-ESS 1.9KWh, M-ESS 3.0KWh



Main Features

- 10+ years life design, 6000 Cycles.
- Smart WIFI monitor, install within 30S user friendly.
- PV input 25~60Vdc, fits for different types of solar panels.
- Compatible with different brand of existing micro inverters.
- Workable in harsh environment (-10°C~+50°C). Auto heating system in low temp.(0°C)
- Easy installation, timing function supports user in setting to the charge/discharge time.

STORAGE SOLAR SYSTEM

MODEL	M-ESS 1.9KWh	M-ESS 3.0KWh
SPECIFICATION		
P.V. Input Features		
Commonly used module power	210 to 650W+ (2 Pieces)	210 to 650W+ (2 Pieces)
MPPT voltage range	30~60Vdc	30~60Vdc
Start-up voltage	25Vdc	25Vdc
Maximum input current	26A	26A
Maximum input short circuit current	32A	32A
DC Output Features		
DC output current	32A	32A
Output voltage range	26.1~32.4Vdc	26.1~32.4Vdc
Timer setting	the Timer DC Output time can be set through the mobile APP	
Lithium Battery Features		
Total Energy	1929Wh	2995Wh
Usable Energy(90%DOD)	1736Wh	2695Wh
Normal Battery Voltage	28.8Vdc	28.8Vdc
Typical Capacity	67Ah	104Ah
Max.Charge Current	26A	52A
Max.Discharge Current	32A	60A
Operation Voltage Range	26.1~32.4Vdc	26.1~32.4Vdc
Operation Temperature	-10°C~+50°C	-10°C~+50°C
Charging Heating Function	when Temp. lower than 0°C, Low temperature charging heating function will start , battery pack will running between 0~5°C (optional)	
Protection		
Protection	Over charge protection, Over discharge protection, Solar reverse polarity protection, Over temperature protection, Low temperature charging protection	
IP Grade	IP54	
Other Features		
Display method	LED RGB	
Display substance	PV status, Battery status, DC Output status, Alarm status	
WiFi substance	PV status, Battery status, DC Output status, Alarm status, Timing setting Function	
Accessory		
PV cable	With 5M PV MC4 extension cable X 4; With 1M PV MC4 extension cable X 4	
Ambient		
Noise(dB)	< 45dB (1 meter)	
Working Temperature	-10°C~+50°C	
Humidity	0~95% (no condensation)	
Sea Level(m)	≤4000	
Dimension		
L×W×T (products size) mm	L744*W420*H160mm	L744*W420*H160mm
L×W×T (package size) mm	L799*W490*H275mm(UN carton)	L799*W490*H275mm(UN carton)
Weight(NW Kg)	33.3Kg	40.5Kg
Weight(GW Kg)	39.0Kg	46.2Kg

STORAGE SOLAR SYSTEM

Alpha All-in-one Home Solar System

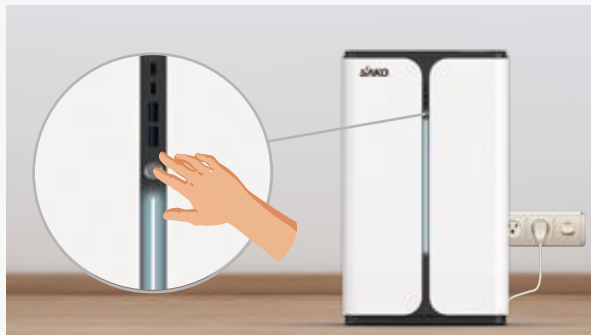
ALPHA Series

- Portable Power Station, high capacity in compact size
- Pure sinewave AC output with Lithium-ion battery bank
- Power 99% of your home appliances
- Scalable output power from 1K to 3K
- 60A-80A built-in AC and Solar charger
- Super-fast recharge, 0-90% in one hour
- 3 AC outlets, 4 DC outputs, terminal block for 1K/3K
- Dual inputs, grid and solar
- Built-in battery management system (BMS)

System Diagram

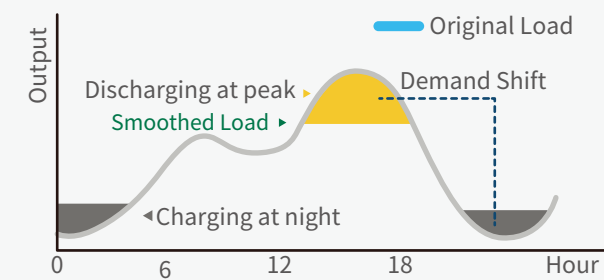
Highly mobility and Plug & Use

If you need to relocate the energy bank, simply unplug it and move it anywhere.

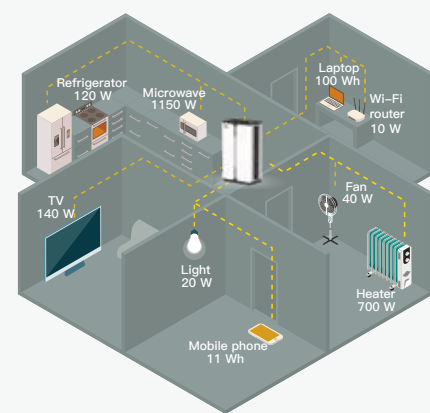


Peak cut

Store the power at night when the utility is generally cheaper and more available and discharge power when needed.



Power 9 devices at the same time for one hour and more



STORAGE SOLAR SYSTEM

MODEL	ALPHA ESS 1KVA/1.28KWH	ALPHA ESS 3KVA/2.56KWH
SPECIFICATION		
Inverter / Charger		
Inverter Type	1KVA/12V	3KVA/24V
Rated Output Power	1KW	2.7KW
Output Voltage Waveform	Pure Sine Wave	Pure Sine Wave
Output Voltage	230VAC 50HZ	230VAC 50HZ
Charging Current(Utility and solar together)	60A Max.	80A Max.
AC Input		
Nominal Input Voltage	230Vac	230Vac
Voltage Range	170-280Vac(UPS), 90-280Vac (Appliances)	170-280Vac(UPS), 90-280Vac (Appliances)
Nominal Input Frequency	50HZ / 60HZ(Auto detection)	50HZ / 60HZ(Auto detection)
AC Charging Current	20A Max.	60A Max.
Solar Input		
Nominal PV Voltage	36Vdc	240Vdc
PV Array MPPT Voltage Range	15Vdc~80Vdc	30Vdc~350Vdc
Solar Charging Current	40A Max.	80A Max.
Lithium Iron Battery		
Capacity	1280Wh	2560Wh
Nominal Battery Voltage	12.8Vdc	25.6Vdc
Typical Capacity	100Ah	100Ah
Max.Charge Current	50A	50A
Max.Discharge Current	100A	100A
Operation Temperature	-10°C~+50°C	
Protection		
Protection	Overcharge/Overdischarge/Overcurrent/ Overtemperature/Shortcircuit protection	
Ambient		
Noise(dB)	< 40dB (1 meter)	
working Temperature	-10°C ~ +50 °C	
Humidity	0~95% (no condensation)	
Sea Level(m)	≤1500	
Dimension		
L×W×H (products size)	L450*W213*H636mm	L450*W279*H731mm

System Diagram



STORAGE SOLAR SYSTEM

Apollo-ESS Energy Storage System 6KW 8KW 11KW

Apollo-ESS 6KW, Apollo-ESS 8KW, Apollo-ESS 11KW



Main Features

- Smart WIFI monitor, user friendly.
- 6000 Cycles LiFePo4 cells, 10+ years life design.
- Smart BMS for communication and all around protection.
- Modular & stacked design for easy expansion and installation.
- Easy installation, configurable of work mode and charge current.
- Integrated with inverter, MPPT charger, AC charger, LiFePo4 battery inside

STORAGE SOLAR SYSTEM

MODEL	Apollo-ESS 6KW	Apollo-ESS 8KW	Apollo-ESS 11KW
SPECIFICATION			
Inverter / Charger			
Inverter Type	6KW/48V Hybrid	8KW/48V Hybrid	11KW/48V Hybrid
Rated Output Power	6KW	8KW	11KW
Output Voltage Waveform	Pure Sine Wave	Pure Sine Wave	Pure Sine Wave
Output Voltage	230VAC 50HZ	230VAC 50HZ	230VAC 50HZ
Low DC Warning Voltage	45.8Vdc	45.8Vdc	45.8Vdc
Low DC Cut-off Voltage	44.8Vdc	44.8Vdc	44.8Vdc
Low DC Warning Return Voltage	46.8Vdc	46.8Vdc	46.8Vdc
Charging Current (Utility and solar together)	120A Max.	120A Max.	150A Max.
Bulk Charging Voltage	57.6Vdc	57.6Vdc	57.6Vdc
Float Charging Voltage	56.0Vdc	56.0Vdc	56.0Vdc
AC Input			
Nominal Input Voltage	230Vac	230Vac	230Vac
Low Loss Voltage	170Vac ± 7(UPS), 90Vac ± 7(Appliances)	170Vac ± 7(UPS), 90Vac ± 7(Appliances)	170Vac ± 7(UPS), 90Vac ± 7(Appliances)
Low Loss Return Voltage	180Vac ± 7(UPS), 100Vac ± 7(Appliances)	180Vac ± 7(UPS), 100Vac ± 7(Appliances)	180Vac ± 7(UPS), 100Vac ± 7(Appliances)
High Loss Voltage	280Vac ± 7	280Vac ± 7	280Vac ± 7
High Loss Return Voltage	270Vac ± 7	270Vac ± 7	270Vac ± 7
Max. AC Input Voltage	300Vac	300Vac	300Vac
Nominal Input Frequency	50HZ / 60HZ(Auto detection)	50HZ / 60HZ(Auto detection)	50HZ / 60HZ(Auto detection)
AC Charging Current	120A Max.	120A Max.	150A Max.
Solar Input			
Nominal PV Voltage	360Vdc	360Vdc	360Vdc
PV Array MPPT Voltage Range	120Vdc~450Vdc	120Vdc~450Vdc	120Vdc~450Vdc
Max. PV Array Open Circuit Voltage	500Vdc	500Vdc	500Vdc
Solar Charging Current	120A Max.	120A Max.	120A Max.
Lithium Iron Battery			
Capacity	5120Wh * N		
Nominal Battery Voltage	51.2Vdc		
Typical Capacity	100Ah * N set		
Max.Charge Current	50A * N		
Max.Discharge Current	100A * N		
Operation Voltage Range	44.8Vdc~58.4Vdc		
Operation Temperature	-10°C~+50°C		
Protection	Over charge protection, Over discharge protection, Over current protection, Shortcircuit protection, Over temperature protection		
Ambient			
Noise(dB)	< 40dB (1 meter)		
Working Temperature	-10°C~+50°C		
Humidity	0~95% (no condensation)		
Sea Level(m)	≤1500		
Inverter Dimension L×W×H (MM)	L682*W460*H160mm	L682*W460*H160mm	L682*W460*H160mm
Single Battery Pack Dimension (MM)	L525*W460*H160mm	L525*W460*H160mm	L525*W460*H160mm







STORAGE SOLAR SYSTEM

ESS-Pro Energy Storage System 5KWh-20KWh

6KW/5KWH, 6KWH/10KWH, 6KW/15KWH, 6KW/20KWH



Main Features

-  Smart WIFI monitor, user friendly.
-  6000 Cycles LiFePo4 cells, 10+ years life design.
-  Smart BMS for communication and all around protection.
-  Modular & stacked design for easy expansion and installation.
-  Easy installation, configurable of work mode and charge current.
-  Integrated with inverter, MPPT charger, AC charger, LiFePo4 battery inside

STORAGE SOLAR SYSTEM

SPECIFICATION	ESS PRO 6KW/5KWH	ESS PRO 6KW/10KWH	ESS PRO 6KW/15KWH	ESS PRO 6KW/20KWH
INVERTER / CHARGER				
Inverter Type	6KW/48V Hy brid	6KW/48V Hy brid	6KW/48V Hy brid	6KW/48V Hybrid
Rated Output Power	6KW	6KW	6KW	6KW
Output Voltage Waveform	Pure Sine Wave	Pure Sine Wave	Pure Sine Wave	Pure Sine Wave
Output Voltage	230VAC 50HZ	230VAC 50HZ	230VAC 50HZ	230VAC 50HZ
Low DC Warning Voltage	45.8Vdc	45.8Vdc	45.8Vdc	45.8Vdc
Low DC Cut-off Voltage	44.8Vdc	44.8Vdc	44.8Vdc	44.8Vdc
Low DC Warning Return Voltage	46.8Vdc	46.8Vdc	46.8Vdc	46.8Vdc
Total Charging Current(Grid+solar)	120A Max.	120A Max.	120A Max.	120A Max.
Bulk Charging Voltage	57.6Vdc	57.6Vdc	57.6Vdc	57.6Vdc
Float Charging Voltage	56.0Vdc	56.0Vdc	56.0Vdc	56.0Vdc
LITHIUM IRON BATTERY				
Normal Battery Modular	51.2V100Ah*1	51.2V100Ah*2	51.2V100Ah*3	51.2V100Ah*4
Normal Capacity(25°C, 0.2C)	5.12KWh	10.24KWh	15.36KWh	20.48KWh
Nominal Battery Voltage	51.2Vdc	51.2Vdc	51.2Vdc	51.2Vdc
Nominal Capacity	100AH	200AH	300AH	400AH
Max.Charge Current	150A 1Sec.	300A 1Sec.	450A 1Sec.	600A 1Sec.
Max.Discharge Current	50A	100A	150A	200A
Operation Voltage Range	44.8Vdc ~ 58.4Vdc	44.8Vdc ~ 58.4Vdc	44.8Vdc ~ 58.4Vdc	44.8Vdc ~ 58.4Vdc
Operation Temperature	-10°C~ +50°C	-10°C~ +50°C	-10°C~ +50°C	-10°C~ +50°C
AC INPUT				
Nominal Input Voltage	230Vac			
Low Loss Voltage	170Vac ± 7(UPS),90Vac ± 7(Appliances)			
Low Loss Return Voltage	180Vac ± 7(UPS),100Vac ± 7(Appliances)			
High Loss Voltage	280Vac ± 7			
High Loss Return Voltage	270Vac ± 7			
Max. AC Input Voltage	300Vac			
Nominal Input Frequency	50HZ / 60HZ(Auto detection)			
AC Charging Current	120A Max.			
SOLAR INPUT				
Nominal PV Voltage	360Vdc			
PV Array MPPT Voltage Range	120Vdc~450Vdc			
Max. PV Array Open Circuit Voltage	500Vdc			
Solar Charging Current	120A Max.			
PROTECTION				
Protection	Over charge protection, Over discharge protection, Over current protection, Shortcircuit protection, Over temperature protection			
AMBIENT				
Noise(dB)	< 30°C < 40dB (1 meter)			
Working Temperature	-10°C~ +50°C			
Humidity	0~95% (no condensation)			
Sea Level(m)	≤1500			
OTHERS				
Efficiency	92.0%			
Warranty	5 Years			

STORAGE SOLAR SYSTEM

Lithium Battery Factory



STORAGE SOLAR SYSTEM

PROJECT CASES



STORAGE SOLAR SYSTEM