



# SOLAR CATALOGUE

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A photograph of a worker in a yellow hard hat and a blue and white checkered safety vest, holding a tablet and inspecting a solar panel in a field. The background shows rows of solar panels stretching into the distance under a clear sky. The image has a blue tint and a white grid pattern overlaid on the left side.

*Linett*

PV PANELS

# PV PANELS

SK530-P144-8M SK535-P144-8M SK540-P144-8M  
 SK545-P144-8M SK550-P144-8M

MONO HALF -CELL / 10BB

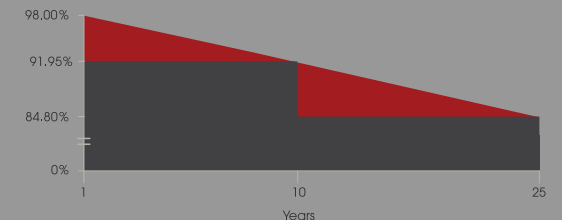
Representation	Product Name	Half-Cell	Solar Cell Type	Wattage	Silicon Type
EXAMPLE	SK-550P8-144M	144 PCS	182 × 182 mm	550W	M:Monocrystalline

## FEATURES

- **High module conversion efficiency**  
Module efficiency up to 21.3%
- **Half-cell Design**  
Less energy loss caused by shading due to new cell string layout and lower cell connection power loss due to half-cell design.
- **Excellent weak light performance**  
More power output in weak light condition such as cloudy, morning and sunset
- **Higher Durability against harsh environment**  
Reliable quality leads to a better sustainability even in harsh environment
- **Lower operating temperature**  
Lower operating temperature and temperature coefficient increases the power output
- **Anti- PID (Potential induced degradation)**  
Excellent Anti-PID performance
- **Lower ICOE**  
2% more power generation, lower LCOE

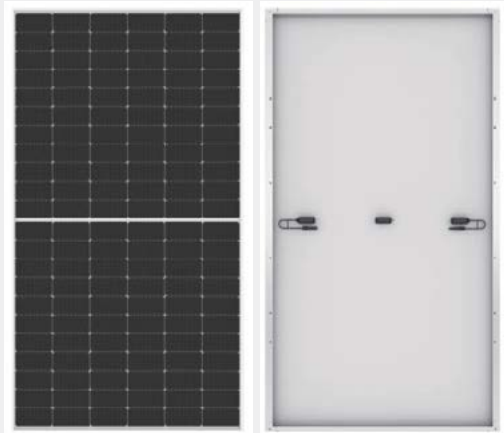


## 25 Years Linear Warranty

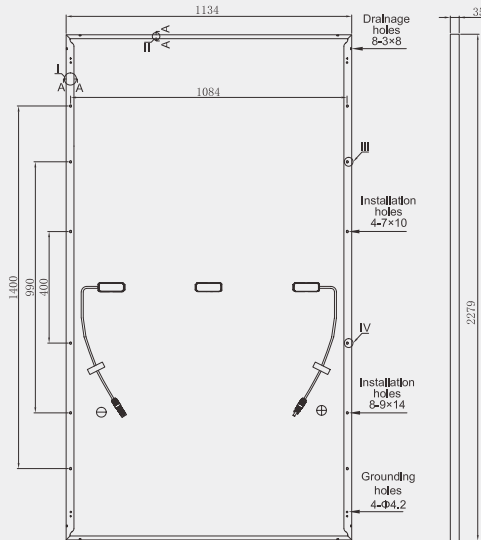


- **25 Years output guarantee**
- **10 Years quality assurance**
- **5-year limited warranty of materials and workmanships.**

# ELECTRICAL PERFORMANCE



Unit: mm



## Electrical Parameters at Standard Test Conditions(STC)

Module Type	SK-530P8-144M	SK-535P8-144M	SKSK-540P8-144M	SK-545P8-144M	SK-550P8-144M
Power Output (Pmax / W)	530W	535W	540W	545W	550W
Power Output Tolerances	±3%	±3%	±3%	±3%	±3%
Module Efficiency (ηm)	20.50%	20.70%	20.89%	21.09%	21.30%
Voltage at Pmax (Vmp / V)	40.8V	41V	41.19V	41.38V	41.57V
Current at Pmax (Imp / A)	12.99A	13.05A	13.11A	13.17A	13.23A
Open-circuit Voltage (Voc / V)	48.81V	49.02V	49.21V	49.43V	49.62V
Short-circuit Current (Isc / A)	13.83A	13.88A	13.93A	13.98A	14.03A

## Electrical parameters at NMOT (Irradiance 800 W/m<sup>2</sup>, ambient temperature 20 °C, AM=1.5, wind speed 1 m)

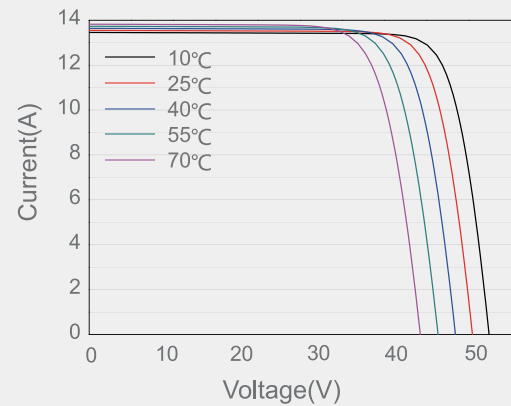
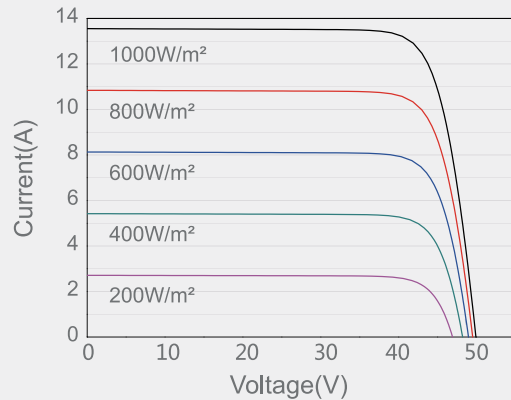
Module Type	SSK-530P8-144M	SK-535P8-144M	SK-540P8-144M	SK-545P8-144M	SK-550P8-144M
Power Output (Pmax / W)	394W	398W	402W	405W	409W
Voltage at Pmax (Vmp / V)	38.5V	38.6V	38.8V	38.9V	39.0V
Current at Pmax (Imp / A)	10.23A	10.3A	10.36A	10.42A	10.48A
Open-circuit Voltage (Voc / V)	46.1V	46.2V	46.4V	46.5V	46.7V
Short-circuit Current (Isc / A)	11.06A	11.12A	11.17A	11.23A	11.29A

## Thermal Characteristics

Normal operating cell temperature	NOCT	°C	45±2
Temperature coefficient of Pmax	γ	%/°C	-0.35
Temperature coefficient of Voc	βvoc	%/°C	-0.27
Temperature coefficient of Isc	αisc	%/°C	0.05
Temperature coefficient of Vmpp	βvmpp	%/°C	-0.42

# ELECTRICAL PERFORMANCE

I-V Curve



## Operating Conditions

Max.system voltage	1500Vdc
Max.series fuse rating	20A
Operating temperature range	-40°C to 85°C
Max.static load, front(e.g., snow)	5400Pa
Max.static load, back(e.g., wind)	2400Pa
Max.hailstone impact(diameter)	25mm/23m/s

## Construction Materials

Front cover(material/thickness)	low-iron tempered glass/3.2mm
Cell(QTY)	144PCS Mono Perc (182MM)
Frame(Materials)	anodized aluminum alloy/silver/clear
Junction box(protection degree)	≥IP65
Cable (length/cross-sectional area)	300mm/4mm <sup>2</sup>

## General Characteristics

Products Dimension(L/W/H)	2279*1134*35mm
Weight	28.5KGS
QTY of per pallet	31pcs per pallet
Packaging box dimensions	2295*1095*1145MM
No. of pallets for 40HQ containers	20 Pallets ( 620PCS, GW.: 940KGS)



# LITHIUM BATTERIES

# 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 3.2V 138A BYD blade LiFePO4 cells, super safety.
- 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-51.2V130Ah 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
<b>PROTECTION</b>		
Protection		Overcharge protection, Overdischarge protection, Overcurrent protection, Shortcircuit protection, Overtemperature protection.
<b>AMBIENT</b>		
working Temperature		-10°C~ +50°C
Humidity		0-95% ( no condensation)
<b>DIMENSION</b>		
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)		160

Smart BMS supports communication with different brand of hybrid inverter

# 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 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 1000°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	100A
Max.pulse discharge current		150A 1Sec.	150A 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		Overcharge protection, Overdischarge protection, Overcurrent protection, Shortcircuit protection, Overtemperature 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	200A	300A	400A
Max.pulse discharge current		150A 1Sec.	300A1Sec.	450A 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)			
<b>PROTECTION</b>					
Protection		Overcharge protection,Overdischarge protection,Overcurrent protection,Shortcircuit protection, Overtemperature protection			
<b>AMBIENT</b>					
working Temperature		-10°C~+50°C			
Humidity		0-95% ( no condensation)			
<b>DIMENSION OF EACH MODULAR</b>					
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 100°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
<b>SPECIFICATION</b>									
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								
<b>PROTECTION</b>									
Protection	Overcharge protection, Overdischarge protection, Overcurrent protection, Shortcircuit protection, Overtemperature protection								
<b>AMBIENT</b>									
working Temperature	-10°C~ +50°C								
Humidity	0~95% ( no condensation)								

Smart BMS supports communication with different brand of hybrid inverter

# Li-Sun Wall Stand Lithium Battery Pack 5KWH-15KWH With 6000 Cycles

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



## Main Features

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



SPECIFICATION	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
Battery Type		LiFePO4	LiFePO4	LiFePO4	LiFePO4	LiFePO4
Total Energy		5120Wh	7680Wh	5120Wh	10240Wh	15360Wh
Usable Energy(90%DOD)		4608Wh	6912Wh	4608Wh	9216Wh	13824Wh
Voltage window		22.4 ~ 29.2V	22.4 ~ 29.2V	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
Foat Charge Voltage		28.0V	28.0V	56.0V	56.0V	56.0V
Low DC Cut-off Voltage		23.4V	23.4V	46.8V	46.8V	46.8V
Max.continue discharge current		100A	100A	100A	100A	100A
Max.pulse discharge current		150A 1Sec.	150A 1Sec.	150A 1Sec.	150A 1Sec.	150A 1Sec.
Max.continue charge current		100A	100A	50A	100A	100A
Scalable		1-15 in parallel				
Communication		RS485		CAN,RS485		
Cycle life		>6000 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		Overcharge protection,Overdischarge protection,Overcurrent protection, Shortcircuit protection, Overtemperature 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
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)
Weight(NW)		44.5	62.0	62.0	86.5	133.0
Weight(GW)		48.0	66.0	66.0	101.5	148.0

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	100A
Max.pulse discharge current	150A 1Sec.	150A 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	
<b>PROTECTION</b>		
Protection	Overcharge protection, Overdischarge protection, Overcurrent protection, Shortcircuit protection, Overtemperature protection	
<b>AMBIENT</b>		
Working Temperature	-10°C~ +50°C	
Humidity	0~95% ( no condensation)	
<b>DIMENSION</b>		
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

# 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.
- 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
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)	>3000 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					
<b>PROTECTION</b>						
Protection	Overcharge protection, Overdischarge protection, Overcurrent protection, Shortcircuit protection, Overtemperature protection					
<b>AMBIENT</b>						
Working Temperature	-10°C ~ +50°C					
Humidity	0-95% ( no condensation)					
Sea Level(m)	≤1500					
<b>DIMENSION</b>						
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

# ESS 1KW Hybrid Energy Storage System

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



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

## Main Features

- Supports self consumption and feedback to grid.
- Free smart WIFI monitor, can be installed within 30S, user friendly.
- Integrated with inverter, MPPT charger, AC charger, LiFePo4 battery inside.
- Plug-and-play, easy installation and smart control and operation.
- Work mode, charging & discharge time and current are programmable.
- 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
<b>Off Grid Operation</b>			
Max. PV input power		1200W	
Rated AC output power		1000W	
Output peak power (W)		2000W(200ms)	
<b>Grid-Tie Operation</b>			
Rated power	600W	800W	1000W
Grid connected power	600W	800W	1000W
Mains charging current		0-40A adjustable	
AC input voltage range		90-265VAC	
Input frequency range		50HZ/60HZ ± 3HZ	
AC input connection type		L/N/PE	
<b>MPPT Solar Charger</b>			
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	
<b>Output (AC)</b>			
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	
<b>Energy Storage Information</b>			
Nominal battery voltage		25.6VDC	
Core material		Lithium iron phosphate battery	
Energy storage capacity		1536wh/2500WH	
Core cycle		≥ 2000cycles@25°C Standard charging and discharging process@80% SOH	
<b>General Information</b>			
PV cable		1 piece 4m <sup>2</sup> *5m double core 4m <sup>2</sup> 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	
<b>Environment</b>			
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 1.6KWH 3.2KWH Balcony Energy Storage System

M-ESS 1.6KWh, M-ESS 3.2KWh



## Main Features

- 10+ years life design, 6 000 Cycles.
- Smart WIFI monitor, install within 30S user friendly.
- PV input 25-70Vdc, 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 1.6KWh	M-ESS 3.2KWh
<b>SPECIFICATION</b>		
<b>P.V. Input Features</b>		
Commonly used module power	210 to 650W+ (2 Pieces)	
Maximum input voltage	100V	
MPPT voltage range	25-70Vdc	
Start-up voltage	25Vdc	
Maximum input current	2X20A	
Maximum input short circuit current	2X30A	
<b>DC Output Features</b>		
DC output current	2X20A	
Output voltage range	28-36Vdc	
USB Charging port	DC5V1A* 2 pcs	
Timer setting	Timing function supports user setting to the DC Output time through APP or LCD Display	
<b>Lithium Battery Features</b>		
Total Energy	1600Wh	3200Wh
Usable Energy(90%DOD)	1440Wh	2880Wh
Normal Battery Voltage	32.0Vdc	32.0Vdc
Typical Capacity	50Ah	100Ah
Max.Charge Current	25A	50A
Max.Discharge Current	50A	60A
Operation Voltage Range	28.0-36.0Vdc	28.0-36.0Vdc
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)	
<b>Protection</b>		
Protection	Overcharge protection, Overdischarge protection, Solar reverse polarity protection, Overtemperature protection, Lowtemperature charging protection	
IP Grade	IP54	
<b>Other Features</b>		
Display method	LED+LCD	
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	
<b>Accessory</b>		
PV cable	With 5M PV MC4 extension cable X2; With 1M PV MC4 extension cable X2	
<b>Ambient</b>		
Noise(dB)	< 45dB (1 meter)	
Working Temperature	-10°C~+50°C	
Humidity	0-95% ( no condensation)	
Sea Level(m)	≤1500	
<b>Dimension</b>		
L×W×T (products size) mm	L744*W420*H166mm	L744*W420*H166mm
L×W×T (package size) mm	L799*W490*H275mm	L799*W490*H275mm
Weight(NW Kg)	39Kg	46Kg
Weight(GW Kg)	44Kg	51Kg

STORAGE SOLAR SYSTEM

# Apollo Energy Storage System

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
<b>INVERTER / CHARGER</b>			
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
<b>AC INPUT</b>			
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.
<b>SOLAR INPUT</b>			
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.
<b>LITHIUM IRON BATTERY</b>			
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	
<b>AMBIENT</b>			
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



# INVERTERS



The Linett logo is displayed in a white, italicized, sans-serif font. It is positioned in the upper left quadrant of the image, which features a background of a light-colored brick wall. To the right of the logo, a grey solar inverter is mounted on the wall, with several cables (red, black, and blue) connected to its terminals. Below the inverter, a portion of a solar panel is visible, showing its dark blue cells and white grid lines. A red horizontal bar is partially visible behind the text.

*Linett*

The main title 'OFF GRID SOLAR INVERTERS' is centered in the image. 'OFF GRID' is written in a white, outlined, sans-serif font and is partially overlaid by a red horizontal bar on the left. 'SOLAR INVERTERS' is written in a white, outlined, sans-serif font below it. The background consists of a light-colored brick wall with a grey solar inverter and a portion of a solar panel visible on the right side.

OFF GRID  
SOLAR INVERTERS



# E-SUN 1KVA-3KVA Off Grid MPPT Solar Inverter



## Off Grid MPPT Solar Inverter

### TECHNICAL PARAMETER

TECHNICAL PARAMETER				
Model	SUNON E series	E-SUN 1.2KVA	E-SUN 2KVA	E-SUN 3KVA
The rated power		1200VA/1200W	2000VA/1600W	3000VA/2700W
<b>INPUT</b>				
Voltage		230VAC		230VAC
Selectable Voltage Range		170-280VAC (UPS),90-280VAC (Appliances)		
Frequency Range		50Hz/60Hz (Auto sensing)		
<b>OUTPUT</b>				
AC Voltage Regulation (Batt. Model)		230VAC ± 5%		
Surge Power		2000VA		6000VA
Power factor		0.8		0.9
Efficiency(Peak)		> 90%		> 90%
Transfer Time		10ms (UPS), 20ms (Appliances)		
Wave form		Pure sine wave		
No load current		1.0A		
<b>BATTERY</b>				
Battery voltage		12VDC		24VDC
Low battery alarming voltage		11.0VDC		22.0VDC
Low battery cut off protection voltage		10.5VDC		21VDC
Low battery recovery voltage		11.5VDC		23.0VDC
Floating Charge Voltage		13.5VDC		27VDC
Overcharge Protection		16.0VDC		32VDC
<b>MPPT SOLAR CHARGER &amp; AC CHARGER</b>				
Maximum PV Array Power		2000W		3200W
MPPT Range Operation Vol		30-400VDC		30-430VDC
Maximum PV Array Open Circuit Vol.		400VDC		450VDC
Number of MPPT trackers / Max output current		80A		80A
Maximum AC Charge Current		60A		60A
Maximum Efficiency		98%		98%
<b>BEST PANEL CONFIGURATION</b>				
Maximum PV Array Power		2000W	2000W	3000W
Best Panel configuration		550W 2-3PCS in 1 S	550W 2-4 PCS in 1 S	550W 2-5 PCS in 1 S
<b>PHYSICAL</b>				
Products Dimension, D*W*H(mm)		350mm*270mm*98mm		350mm*270mm*98mm
Packing size, D*W*H(mm)		413mm*350mm*173mm		413mm*350mm*173mm
Net Weight (kgs)		4KG		5KG
G.W. kg		5KG		5.8KG
Communication Interface		RS232/GPRS/ Optional WIFI		
<b>OPERATING ENVIRONMENT</b>				
Humidity		5% to 95% Relative Humidity (Non-condensing)		5% to 95% Relative Humidity (Non-condensing)
Operation Temperature		-10°C-50°C		

### MAIN FEATURES

- MPPT Solar Charge Controller Inside
- Wide PV Input Range 30-400Vdc
- Reliable quality, economic design
- Smart battery protection. Compatible with LiFePo4
- Configurable battery & AC/Solar priority via LCD setting
- Only 1pcs 36V solar panel can start solar inverter

### Solar System Connection





# SUNON-P 5.5KVA Off Grid MPPT Solar Inverter Paralleling 9 Units



## Off Grid MPPT Solar Inverter

### TECHNICAL PARAMETER

TECHNICAL PARAMETER	
Model	SUNON-P 5.5KVA
The rated power	5500VA
<b>AC INPUT</b>	
Voltage	230 VAC
Selectable Voltage Range	170-280VAC (UPS Mode) , 90-280VAC (APP Mode)
Frequency Range	50Hz/60Hz (Auto adaptive)
<b>AC OUTPUT</b>	
AC Voltage Regulation (Batt. Model)	230VAC ± 5%
Surge Power	10000VA
Power Factor	0.9
Efficiency(Peak)	94%
Transfer Time	Computers (UPS Mode)10ms , Appliance (APP Mode)10ms
Wave form	Pure sine wave
<b>BATTERY</b>	
Battery voltage	48.0VDC
Floating Charge Voltage(Adjustable)	54.0VDC
Constant Charge Voltage(Adjustable)	56.4VDC
Overcharge Protection	60.0VDC
BMS	With BMS
<b>MPPT SOLAR CHARGER &amp; AC CHARGER</b>	
Maximum PV Array Power	6000W
MPPT Range Operation Vol.	120V~430VDC
Maximum PV Array Open Circuit Vol.	500VDC
Standby Power Consumption	67W
Maximum Solar Charge Current	MPPT 100A
Maximum Trace Efficiency	99.5%
Maximum AC Charge Current	80A
Maximum Charge Current	100A
<b>BEST SOLAR PANEL CONFIGURATION</b>	
Max. generated from solar charger	6000W
Best Panel configuration	550Wp/42V*9pcs (4950Wp) 9S 1 String
<b>OTHERS</b>	
WiFi	optional
Parallel card	With Parallel card
<b>PHYSICAL</b>	
Product Dimension	L440mm*W300mm*H110mm
Net Weight	8.5kg
Package Dimension	L536mm*W392mm*H215mm
Gross Weight	10kg
<b>OPERATING ENVIRONMENT</b>	
Humidity	5% to 95% Relative Humidity (Non-condensing)
Operation Temperature	0°C-50°C

### MAIN FEATURES

- With 100A MPPT Solar Charge Controller Built-in
- With WIFI Function Optional
- With High PV Input Voltage Range(120-500VDC)
- With Touch Button on the LCD Display
- Efficiently Work With or Without Battery
- With BMS
- SUNON-P 5.5K parallel up to 9pcs

### Solar System Connection





*LineIT*

HYBRID  
SOLAR INVERTERS



# SUNON-ECO 4.2-10.2KVA On&Off Grid MPPT Solar Inverter IP20



## On&Off Grid MPPT Solar Inverter

### TECHNICAL PARAMETER

NEW MODEL	SUNON-ECO 4.2KVA	SUNON-ECO 6.2KVA	SUNON-ECO 8.2KVA	SUNON-ECO 10.2KVA
Max.PV Power	6200W	6500W	8200W	10200W
Rated Power	4200VA	6200VA	8200VA	10200VA
Max.Charge Current	120A	120A	160A	160A
<b>BATTERY</b>				
Battery Voltage	24VDC	48VDC	48VDC	48VDC
Floating Charge Voltage	27VDC	54VDC	54VDC	54VDC
Overcharge Protection	33VDC	63VDC	63VDC	63VDC
Battery Type	Compatible with GEL, AGM, Lithium Battery			
<b>GRID INPUT</b>				
Voltage	230 VAC			
Selectable Voltage Range	170-280VAC(For Personal Computers);90-280 VAC (For Home Appliances)			
Frequency Range	50 Hz/60 Hz (Auto sensing)			
Efficiency(AC Mode)	98%			
<b>AC OUTPUT</b>				
AC Voltage Regulation (Batt. Mode)	230 VAC ± 5%			
Surge Power	8400VA	12400VA	16400VA	20400VA
Efficiency (Peak)	90%~94%			
Transfer Time	15 ms(For Personal Computers);20 ms (For Home Appliances)			
Waveform	Pure sine wave			
<b>DUAL LOADS AC OUTPUT</b>				
Full Load	4200VA	6200VA	8200VA	10200VA
Maximum Main Load	4200VA	6200VA	8200VA	10200VA
Maximum Second Load (Battery Mode)	1200W	2100W	2800W	3400W
Main Load Cut Off Voltage	22VCD	44VCD	44VCD	44VCD
Main Load Return Voltage	27VCD	54VCD	54VCD	54VCD
<b>SOLAR CHARGER &amp; AC CHARGER</b>				
Solar Charger Type	MPPT			
Maximum PV Array Power	6200W	6500W	4100W*2	5100W*2
Max. input Current	27A	27A	27A	27A
MPPT Range @ Operating Voltage	90~450VDC	90~450VDC	90~450VDC	90~450VDC
Maximum PV Array Open Circuit Voltage	500 VDC			
Maximum Solar Charge Current	120A	120A	160A	160A
Maximum AC Charge Current	100A	100A	140A	140A
Maximum Charge Current	120A	120A	160A	160A
<b>PHYSICAL</b>				
Packing Dimension,DXWXH(mm)	543*394*204	543*394*204	700*510*232	700*510*232
Net Weight (kgs)	9.8	10.5	17.2	19.1
Communication Interface	USB/RS232/WIFI/GPRS			
<b>OPERATING ENVIRONMENT</b>				
Humidity	5% to 95% Relative Humidity(Non-condensing)			
Operating Temperature	-10°C to 50°C			
Storage Temperature	-15°C to 60°C			
Product specifications are subject to change without further notice.				

### MAIN FEATURES

- ⊙ Pure sine wave,Hybrid on&off inverter can feed to grid
- ⊙ Optional Local WIFI&GPRS available for IOS and Andoid
- ⊙ Inverter running with or without battery
- ⊙ Build-in Lithium battery automatic activation
- ⊙ Build-in 120A/160A MPPT solar charge controller
- ⊙ High PV input voltage rang (90~450VDC)
- ⊙ Dual output L1/L2
- ⊙ Battery independent design
- ⊙ User-friendly LCD operation
- ⊙ Enhanced charging power

### Solar System Connection





## MAIN FEATURES

- 120A Solar Charger+AC Charging current
- Communication: RS232,USB,RS485,WIFI
- Real Hybrid Can Feed to Grid
- Parallel up to 9pcs optional
- Dual AC & 12Vdc Output
- Built inside with BMS
- Work with or without battery
- USB On-the-go Function
- Touch Button and LCD
- 6KW PV input (Max. 27A)
- Wifi Monitor
- RGB Light

## USER PROGRAMMABLE RGB LIGHTING



## On&Off Grid MPPT Solar Inverter



### TECHNICAL PARAMETER

MODEL	SUNPOLO 6KW
<b>BASIC INFORMATION</b>	
Max. PV Input Power	6000W
Rated AC Output Power	6000W
<b>PV INPUT (DC)</b>	
Nominal DC Volt/Max. DC Voltage	360VDC/500VDC
Start-up Voltage/Initial Feeding Voltage	120VDC
MPPT Voltage Range	120-450VDC
No. of MPPT Tracker/Max. Input Current	1/27A
<b>AC INPUT (AC)</b>	
AC Start-up Voltage/Auto Restart Volt.	120VAC-140VAC/180VAC
Acceptable Input Voltage Range	90-280VAC/170-280VAC
Max. AC Input Current	40A
<b>GRID OUTPUT IN GRID-TIE/HYBRID OPERATION (AC)</b>	
Nominal Output Volt	220VAC/ 230VAC/240VAC, Single Phase dual AC output
Output Voltage Range	184V-265VAC or 195-253V (Selectable)
Nominal Output Current	26.0A
Power Factor	1
Max. Conversion Efficiency (DC/AC)	96%
<b>BATTERY MODE OUTPUT (AC)</b>	
Nominal Output Volt	230VAC dual AC output+ 1pc*12VDC/10A max.
Waveform	Pure sine wave
Efficiency(DC to AC)	93%
<b>BATTERY &amp; CHARGER</b>	
Battery Type Supported	Lead Acid /VRLA/AGM/Deep Cycle/Gel/Flooded/Tubular/Lithium-Ion
Nominal Battery Voltage	48VDC
Max. Solar Charge Current	120A
Max. AC Charge Current	120A
Max. Total Charge Current	120A
<b>PHYSICAL</b>	
Dimension, D*W*H(mm)	356*471*149
Packing Size, D*W*H(mm)	535*425*224, 1PC/CTN
Net Weight (kgs)	13.5
Gross Weight (kgs)	15
Parallel Functions Optional	Yes, optional, max. 9pcs
Communication Interface	RS232,USB,RS485,WIFI
<b>OPERATING ENVIRONMENT</b>	
Humidity	5% to 95% Relative Humidity(Non-condensing)
Operating Temperature	-10°C-50°C
Storage Temperature	-15°C-60°C



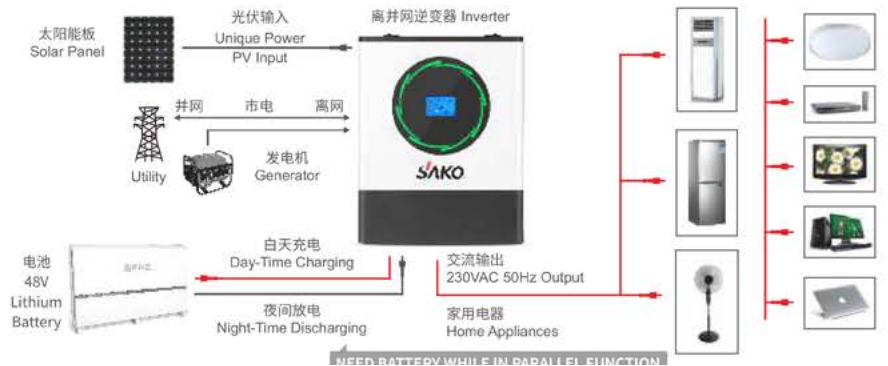
# SUNPOLO 8KW-11KW On&Off Grid MPPT Solar Inverter IP20

Cycling Wheel Chasing

## MAIN FEATURES

- Communication optional: USB/RS232/RS485/Dry-Contact/WIFI
- Dual MPPT tracker inside (2pcs\*18A)
- 3 IN 1: MPPT INVERTER, ON GRID/OFF GRID/HYBRID.
- Smart battery management, can work with LIFPO4
- Real Hybrid Can Feed into Grid
- Dual AC output L1/L2 for 11K
- Work with or without battery
- Parallel up to 6pcs optional
- Touch LCD screen
- RGB Light
- WIFI monitor optional

## Solar System Connection



## On&Off Grid MPPT Solar Inverter



## TECHNICAL PARAMETER

MODEL	SUNPOLO 8KW	SUNPOLO 11KW
<b>Basic information</b>		
Max. PV Input Power	8000W	11000W
Rated AC Output Power	8000W	11000W
<b>Grid-Tie Operation</b>		
PV Input (DC)		
Nominal DC Volt/Max DC Voltage	360VDC/450VDC	
Start-up Voltage/Initial Feeding Voltage	90VDC	
MPPT Voltage Range	90-450VDC	
No. of MPPT Tracker/Max. Input Current	2/18A (4000W*2)	27A *(MAX 40A,5500W*2)
<b>Grid Output (AC)</b>		
AC Voltage Regulation (Ball. Mode)	Nominal Output Volt	
Output Voltage Range	184V-265Vac or 195-253V (Selectable)	
Nominal Output Current	34.8A	47.8A
Power Factor	>0.9	
<b>Efficiency</b>		
Max. Conversion Efficiency (DC/AC)	96%	
<b>Off-Grid Operation</b>		
AC Input (AC)		
AC Start-up Voltage/Auto Restart Volt.	120Vac-140Vac/180Vac	
Acceptable Input Voltage Range	90-280Vac or 170-280Vac	
Max. AC Input Current	63A	
<b>Battery Mode Output (AC)</b>		
Nominal Output Volt	220Vac/230Vac/240Vac	
Waveform	Pure sine wave	
Efficiency(DC to AC)	93%	
<b>Battery &amp; Charger</b>		
Battery Type Supported	Lead Acid/VRLA/AGM/Deep Cycle/Gel/Flooded/Tubular/Lithium-Ion	
Nominal Battery Voltage	48Vdc	
Max Solar Charge Current	120A	150A
Max AC Charge Current	120A	150A
Max Total Charge Current	120A	150A
<b>General</b>		
<b>Physical</b>		
Products Dimension,D X W X H (mm)	552*422*152	552*422*152
Product Net Weight(kgs)	18.4	19.1
Product Gross Weight(kgs)	20.5	21.3
Packing Dimension,D X W X H (mm)	700mm*510*mm*232mm,1PC/CTN	696mm*567mm*243mm,1PC/CTN
Parallel functions Optional	Yes, optional, MAX. 6pcs	Yes, optional, MAX. 6pcs
Communication Interface	RS232,USB,WIFI	RS232,USB,WIFI
<b>Environment</b>		
Humidity	5% to 95% Relative Humidity(Non-condensing)	
Operating Temperature	-10°C to 50°C	
Storage Temperature	-15°C to 60°C	



# Hybrid Inverter Single Phase IP65

SUNIN 3600TL/4600TL/5600TL



**Multiple operating modes on-grid, off-grid and UPS MPPT charger built in.**

**48V** Compatible with almost all 48V LiFePO4 battery pack

**APP** Integrated smart APP, can remotely diagnose and update

**DC couple and AC couple to retrofit existing solar system**

**16** Frequency droop control, Max. 16 pcs parallel

**One key to reactive the LiFePO4 battery pack**

## Hybrid Solar Inverter



### TECHNICAL PARAMETER

Model	SUNIN 5000TL	SUNIN 4600TL	SUNIN 3600TL
<b>PV Input (DC)</b>			
Max. DC input power (W)	7000W	6600W	5200W
Max PV input voltage (V)		500V	
Starting voltage		150V	
PV input voltage range		150V-500V	
MPPT voltage range		120V-430V	
MPPT quantity		2	
Max string quantity to each MPPT group		1	
Max input current		15A/15A	
<b>Output/Input (AC)</b>			
Rating output power	5000W	4600W	3600W
Maximum output apparent power	5500VA	5000VA	3960VA
Max output current	22.8A	22.8A	18A
Rating grid voltage		230V	
Rating grid frequency		50HZ	
Total current waveform distortion rate		<3% (Rating power)	
DC component		<0.5%In	
Power factor range		>0.99@ Full power (Adjustable range 0.8 lead ~0.8 lag)	
<b>Off grid output</b>			
Max output power	4500W	4500W	3600W
Rating output voltage		230V	
Rating output frequency		50Hz(60Hz Optional)	
UPS switching time		<20 ms	
Total harmonic distortion (linear load)		<3%	
Overload capacity		110%,30S /120%,10/ 150% 80ms	
<b>Battery</b>			
Voltage range		41.6V-58.5V	
Max charging current	95A(PV&AC Hybrid charging)	95A(PV&AC Hybrid charging)	80A(PV&AC Hybrid charging)
Max discharging current	100A	100A	85A
Battery type		Lithium battery / lead-acid battery	
Communication interface		RS485/Can	
<b>Efficiency</b>			
Max efficiency		98%	
European efficiency		97%	
Max discharge efficiency		95%	
MPPT efficiency		99.90%	
<b>System</b>			
IP Inclosure		IP65	
Noise		<35dB	
Ambient temperature		-25°C~ 60°C	
Cooling mode		Natural cooling	
Ambient humidity		0-95% non-condensing	
Altitude		No derating below 2000m	
Shutdown self power consumption		<3W	
Display		LCD	
Communication		RS485/USB/CAN/Wifi(GPRS optional)	
Certificate	IEC62109-1, IEC62109-2, EN61000-6-1, EN61000-1-3, VDE-AR-N4105, EN50549, G99, CEI-021 AS/NZS4777.2, RD1699(UNE 206006 IN.2011/UNE 206007-1 IN.2013/UNE 217002.2020)		
Warranty	5 Years (Standard)		
<b>Mechanical</b>			
Size L*W*H	580mm*350mm*230mm		
Install method	Wall mounted		
Weight	23.5Kg		

OEM and ODM are available , Customized products available , completed energy storage system available.

# Hybrid Inverter Three Phase IP65

SUNIN 8K/10K/12K Basic on High Volt of Lithium Battery Bank



### 1 Friendly & flexible

Support diesel generator access; Support full power discharge, automatic management of battery charge and discharge.

### 2 Economical & practica

It is more economical to support multiple operating modes; Can be as a UPS for the important loads when power off;

### 3 Safe & reliable

Passed IEC/EN 62109-1/-2, IEC/EN 62477-1, IEC/EN 61000-6-1/-6-3, European grid connection: EN50549-1, German grid connection: VDE4105/0124, UK grid connection: G99, South Africa: NRS097-2-1:2017 test certification.

## Hybrid Solar Inverter



### TECHNICAL PARAMETER

Technical specification	SUNIN8KH3	SUNIN10KH3	SUNIN12KH3
<b>Input (PV)</b>			
Max.power(kW)	12	15	18
Max. DC voltage(V)		1000	
MPPT voltage range(V)		180~850	
Max.input current of single MPPT(A)		13	
MPPT tracker/strings	2/1	2/1	2/1
<b>AC output</b>			
Rated output power(kVA)	8	10	12
Max. output current(A)	12.7	15.9	19.1
Grid voltage/range(V)		400/360~440	
Frequency (Hz)		50 /60	
Power factor		0.8lagging-0.8leading	
THDi		<3%	
AC output topology		3W+N+PE	
<b>Battery</b>			
Battery voltage range(V)		125~600	
Max. charging voltage(V)		600	
Full battery voltage(V)	250	300	350
Rated charge/discharge current(A)	40	40	40
Battery type		lithium /Lead-acid	
Communication Interface		CAN/RS485	
<b>EPS output</b>			
Rated power(kVA)	8.8	11	13.2
Rated output voltage(V)		400	
Max. output current(A)	12.7	15.9	19.1
Rated frequency(Hz)		50 /60	
Automatic switching time(ms)		<20	
THDu		<2%	
Overload capacity		110%, 30S/120%, 10S/150%, 0.02S	
<b>General data</b>			
Battery charge /discharge efficiency	96.6%	96.7%	96.8%
DC Max. efficiency	97.9%	98.2%	98.2%
Europe efficienc	97.2%	97.5%	97.5%
MPPTefficiency	99.5%	99.5%	99.5%
Ingress protection		IP65	
Noise emission(dB)		<35	
Operation temperature		-25°C~ 60°C	
Cooling		Natural	
Relative Humidity		0 ~95% (non-condensing)	
Altitude		2,000m (>2,000 Derating)	
DimensionW*D*H(mm)		530*200*600	
Weight(kg)		29	
Isolation transformer		No	
Self-consumption(W)		<3	
<b>Display and communication</b>			
Display		LCD	
Interface:RS485/Wifi/4G/ CAN/DRM		Yes / Opt / Opt / Yes / Yes	
Safety standard		IEC/EN62109-1/-2, IEC/EN62477-1	
EMC		IEC/EN 61000-6-1, IEC/EN 61000-6-3	
On-grid		Europe:EN50549-1, Germany:VDE4105/0124, UK:G99, South Africa:NRS 097-2-1:2017	



*Linett*

MICRO  
INVERTERS

# Micro Inverter



- 
**Smart App**  
 Free smart WiFi monitor, can be installed within 30S.
- 
**Individual MPPT**  
 1-4pcs individual MPPT trackers, max efficiency up to 99%.
- 
**Flexibility**  
 Parallel-able version optional for easy expansion.
- 
**Ip67**  
 IP67 protection optimizes the performance, 10 years warranty.
- 
**Safety**  
 Low starting voltage (up to 60Vdc PV input), relay integrated for better protection.
- 
**DIY**  
 Easy installation, intelligent operation, user friendly.

## Micro Inverter



### 300W-500W Micro Inverter 1-1

Technical Specifications						
Model No.	SKY300M1-EU-230		SKY400M1-EU-230		SKY500M1-EU-230	
<b>DC Input Data</b>						
Commonly used module power (W)	210 to 455W (1 Piece)		210 to 550W+ (1 Pieces)		210 to 650W+ (1 Pieces)	
Maximum input voltage (V)			60V			
MPPT voltage range (V)			25-55V			
Start-up voltage (V)			25V			
Maximum input current (A)			13A			
Maximum input short circuit current (A)			19.5A			
Number of MPPT			1			
Number of Inputs per MPPT			1			
<b>AC Output Data</b>						
Rated output power (VA)	300VA		400VA		500VA	
Rated output current (A)	1.4A	1.3A	1.8A	1.7A	2.3A	2.2A
Nominal output voltage/range (V)	220V/ 180-275V	230V/ 180-275V	220V/ 180-275V	230V/ 180-275V	220V/ 180-275V	230V/ 180-275V
Nominal frequency/range (Hz)	50/48-52Hz or 60/58-62Hz					
Power factor	>0.99					
Total harmonic distortion	< 3%					
Maximum units per 13 AWG branch <sup>2</sup>	17pcs		12pcs		10pcs	
<b>Efficiency</b>						
Peak inverter efficiency	96.5%					
CEC weighted efficiency	95%					
Nominal MPPT efficiency	99%					
Night power consumption (mW)	<50mW					
<b>Mechanical Data</b>						
Ambient temperature range (°C)	-40-65°C					
Enclosure rating	IP67					
Cooling	Natural Cooling -No fans					
Product dimensions (W×H×D mm)	190*184*34mm					
Qty per carton (pcs)	1pc per inner box, 8pcs per master carton					
Packing size (W×H×D mm)	Inner box (1pc/ctn): 425*260*68mm; Master carton(8pcs/ctn):440*280*560 mm					
Product weight. (kg, per piece)	Independent type(1pc): 3.2kg; (Parallel-able type(1pc): 2.7kgs					
G.W. per inner box (kgs)	Independent type(1pc/ctn): 3.5kg/ctn; (Parallel-able type(1pc/ctn): 3kgs					
G.W. per master carton (kgs)	Independent type(8pcs/ctn): 30kg/ctn; (Parallel-able type(8pcs/ctn): 25kgs					
QTY per container (pcs)	20FT: 2304pcs (12 pallets); 40HQ: 4608pcs(24 pallets)					
<b>Others</b>						
Communication	WiFi					
Compliance	EN 50549-1: 2019, VDE-AR-N 4105: 2018, IEC62109, CEI021, VDE0126, G98, RED, CE					
Warranty	10 years					

## Micro Inverter

### 600W-1000W Micro Inverter 2-1

Technical Specifications						
Model No.	SKY600M1-EU-230		SKY800M1-EU-230		SKY1000M1-EU-230	
<b>DC Input Data</b>						
Commonly used module power (W)	210 to 455W (2 Piece)		210 to 550W+ (2 Pieces)		210 to 650W+ (2 Pieces)	
Maximum input voltage (V)	60V					
MPPT voltage range (V)	25-55V					
Start-up voltage (V)	25V					
Maximum input current (A)	2×13A					
Maximum input short circuit current (A)	2×19.5A					
Number of MPPT	2					
Number of Inputs per MPPT	1					
<b>AC Output Data</b>						
Rated output power (VA)	600VA		800VA		1000VA	
Rated output current (A)	2.7A	2.6A	3.6A	3.5A	4.5A	4.4A
Nominal output voltage/range (V)	220V/ 180-275V	230V/ 180-275V	220V/ 180-275V	230V/ 180-275V	220V/ 180-275V	230V/ 180-275V
Nominal frequency/range (Hz)	50/48-52Hz or 60/58-62Hz					
Power factor	>0.99					
Total harmonic distortion	< 3%					
Maximum units per 13 AWG branch <sup>2</sup>	8pcs		6pcs		5pcs	
<b>Efficiency</b>						
Peak inverter efficiency	96.5%					
CEC weighted efficiency	95%					
Nominal MPPT efficiency	99%					
Night power consumption (mW)	<50mW					
<b>Mechanical Data</b>						
Ambient temperature range (°C)	-40-65°C					
Enclosure rating	IP67					
Cooling	Natural Cooling -No fans					
Product dimensions (W×H×D mm)	212x230x44.75mm					
Qty per carton (pcs)	1pc per inner box, 5pcs per master carton					
Packing size (W×H×D mm)	Inner box (1pc/ctn): 440*286*68mm; Master carton(5pcs/ctn):455*305*355 mm					
Product weight. (kg, per piece)	Independent type(1pc): 4.0kg; (Parallel-able type(1pc): 3.5kgs					
G.W. per inner box (kgs)	Independent type(1pc/ctn): 4.4kg/ctn; (Parallel-able type(1pc/ctn): 4kgs					
G.W. per master carton (kgs)	Independent type(5pcs/ctn): 23kg/ctn; (Parallel-able type(5pcs/ctn):21kgs					
QTY per container (pcs)	20FT: 2160pcs (12 pallets); 40HQ: 5040pcs(24 pallets)					
<b>Others</b>						
Communication	WiFi					
Compliance	EN 50549-1: 2019, VDE-AR-N 4105:2018, IEC62109, CEI021, VDE0126, G98, RED, CE					
Warranty	10 years					

## Micro Inverter

### 1200W-2000W Micro Inverter 4-1



Technical Specifications						
Model No.	SKY1200M1-EU-230		SKY1600M1-EU-230		SKY2000M1-EU-230	
<b>DC Input Data</b>						
Commonly used module power (W)	210 to 455W (4 Piece)		210 to 550W+ (4 Pieces)		210 to 650W+ (4 Pieces)	
Maximum input voltage (V)	60V					
MPPT voltage range (V)	25-55V					
Start-up voltage (V)	25V					
Maximum input current (A)	4×13A					
Maximum input short circuit current (A)	4×19.5A					
Number of MPPT	4					
Number of Inputs per MPPT	1					
<b>AC Output Data</b>						
Rated output power (VA)	1200VA		1600VA		2000VA	
Rated output current (A)	5.4A	5.2A	7.3A	7A	9.1A	8.7A
Nominal output voltage/range (V)	220V/ 180-275V	230V/ 180-275V	220V/ 180-275V	230V/ 180-275V	220V/ 180-275V	230V/ 180-275V
Nominal frequency/range (Hz)	50/48-52Hz or 60/58-62Hz					
Power factor	>0.99					
Total harmonic distortion	< 3%					
Maximum units per 13 AWG branch <sup>2</sup>	4pcs		4pcs		3pcs	
<b>Efficiency</b>						
Peak inverter efficiency	96.5%					
CEC weighted efficiency	95%					
Nominal MPPT efficiency	99%					
Night power consumption (mW)	<50mW					
<b>Mechanical Data</b>						
Ambient temperature range (°C)	-40-65°C					
Enclosure rating	IP67					
Cooling	Natural Cooling -No fans					
Product dimensions (W×H×D mm)	267*300*42mm					
Qty per carton (pcs)	1pc					
Packing size (W×H×D mm)	480*400*68 mm					
Product N.W. (kg, per piece)	Independent type(1pc):6.1kg; (Parallel-able type(1pc): 5.6kgs					
G.W. per master carton (kgs)	Independent type(1pcs/ctn): 6.6kg/ctn; (Parallel-able type(1pcs/ctn):6kgs					
QTY per container (pcs)	20FT: 1584pcs (12 pallets); 40HQ: 3168pcs(24 pallets)					
<b>Others</b>						
Communication	WiFi					
Compliance	EN 50549-1: 2019, VDE-AR-N 4105: 2018, IEC62109, CEI021, VDE0126, G98, RED, CE					
Warranty	10 years					

# M-ESS Balcony Energy Storage System

M-ESS 1.6KWh/3.2KWh



## Energy Storage System



### TECHNICAL PARAMETER

MODEL	M-ESS 1.6KWh	M-ESS 3.2KWh
<b>SPECIFICATION</b>		
<b>P.V. Input Features</b>		
Commonly used module power	210 to 650W+ (2 Pieces)	210 to 650W+ (2 Pieces)
Maximum input voltage	100V	100V
MPPT voltage range	25-60Vdc	25-60Vdc
Start-up voltage	25Vdc	25Vdc
Maximum input current	2 x 20A	2 x 20A
Maximum input short circuit current	2 x 30A	2 x 30A
<b>DC Output Features</b>		
DC output current	2 x 20A	2 x 20A
Output voltage range	28-36Vdc	28-36Vdc
USB Charging port	DC5V1A * 2 pcs	DC5V1A * 2 pcs
Timer setting	Timing function supports user setting to the DC Output time through APP or LCD Display	
<b>Lithium Battery Features</b>		
Total Energy	1600Wh	3200Wh
Usable Energy(90%DOD)	1440Wh	2880Wh
Normal Battery Voltage	32.0Vdc	32.0Vdc
Typical Capacity	50Ah	100Ah
Max.Charge Current	25A	50A
Max.Discharge Current	50A	60A
Operation Voltage Range	28.0~36.0Vdc	28.0~36.0Vdc
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)	
<b>Protection</b>		
Protection	Overcharge protection, Overdischarge protection, Solar reverse polarity protection, Overtemperature protection, Lowtemperature charging protection	
IP Grade	IP54	
<b>Other Features</b>		
Display method	LED+LCD	
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	
<b>Accessory</b>		
PV cable	With 5M PV MC4 extension cable x 2; With 1M PV MC4 extension cable x 2	
<b>Ambient</b>		
Noise(dB)	< 45dB (1 meter)	
Working Temperature	-10°C~+50°C	
Humidity	0-95% ( no condensation)	
Sea Level(m)	≤1500	
<b>Dimension</b>		
L x W x T (products size) mm	L744*W420*H166mm	L744*W420*H166mm
L x W x T (package size) mm	L799*W490*H275mm	L799*W490*H275mm
Weight(NW Kg)	39Kg	46Kg
Weight(GW Kg)	44Kg	51Kg

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ALL-IN-ONE ENERGY  
STORAGE SYSTEMS

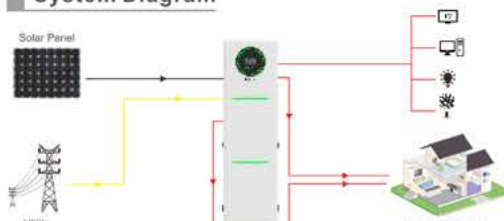
# Apollo-ESS Energy Storage System

Apollo-ESS 6KW/8KW/11KW



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

## System Diagram



## Energy Storage System



## TECHNICAL PARAMETER

SPECIFICATION	MODEL	Apollo-ESS 6KW	Apollo-ESS 8KW	Apollo-ESS 11KW
<b>Inverter / Charger</b>				
Inverter Type		6KW/48V Hybrid	8KW/48V Hybrid	11KW/48V Hybrid
Rated Output Power		6KW	8KW	11KW
Output Voltage Waveform			Pure Sine Wave	
Output Voltage			230VAC 50HZ	
Low DC Warning Voltage			45.8Vdc	
Low DC Cut-off Voltage			44.8Vdc	
Low DC Warning Return Voltage			46.8Vdc	
Charging Current (Utility and solar together)			120A Max.	
Bulk Charging Voltage			57.6Vdc	
Float Charging Voltage			56.0Vdc	
<b>AC Input</b>				
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.	120A Max.	150A Max.
<b>Solar Input</b>				
Nominal PV Voltage			360Vdc	
PV Array MPPT Voltage Range			120Vdc~450Vdc	
Max. PV Array Open Circuit Voltage			500Vdc	
Solar Charging Current			120A Max.	
<b>Lithium Iron Battery</b>				
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	
<b>Protection</b>				
Protection		Overcharge protection, Overdischarge protection, Overcurrent protection, Shortcircuit protection, Overtemperature protection		
<b>Ambient</b>				
Noise(dB)		< 40dB (1 meter)		
working Temperature		-10°C~+50°C		
Humidity		0~95% ( no condensation)		
Sea Level(m)		≤1500		
<b>Inverter Dimension</b>				
L × W × H (products size)		L682*W460*H160mm	L682*W460*H160mm	L682*W460*H160mm
<b>Single Battery Pack Dimension</b>				
L × W × H (products size)		L525*W460*H160mm	L525*W460*H160mm	L525*W460*H160mm

# CONTACT US

## CONTACT US

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