



## SAKO Headquarter - Shenzhen

- SHENZHEN SAKO SOLAR CO., LTD.
- 608 Building C, He-Xi HuangGangLing Industrial Park, Hangcheng Area, Taoyuan Community, Xixiang Baoan, Shenzhen, China
- +86-755-27493766
- szsako@sako.com.cn
- www.sakopower.com

## SAKO Factory - Dongguan

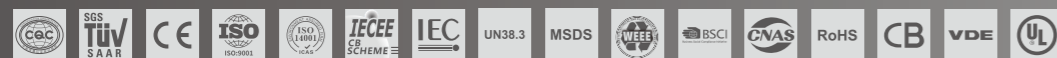
- DONGGUAN TEDEPE NEW ENERGY CO., LTD.
- Room 101, NO.1 on Street2, Shujiu Park, Changping Town, Dongguan, Guangdong, China
- +86-769-83986399
- szsako@sako.com.cn
- www.tedepe.com

## SAKO Factory - Jiangxi

- Jiangxi Sanke Xinneng Technology Co., Ltd.
- Xiangruiyuan Chiwu Garden, Zhizao Town, Ruichang City, Jiujiang City, Jiangxi Province, P.R.China
- +86-755-27493766
- szsako@sako.com.cn
- www.sakopower.com



Are registered by SAKO company, no expiration or simulation is allowed.  
All data, and other information listed here are subject to change without notice. Please kindly understand.



# SAKO SOLAR · 天德普储能 Lighting Global · Powering the World

Top Brand Solar Inverter & Lithium Battery & Energy Storage System Manufacturer

储能逆变器 · 储能锂电池 · 储能系统  
30+ 年专业品牌制造商





**Company Mission: Lighting Global, Powering Global**  
**TRUSTED PARTNERSHIP WITH PROFESSIONAL TALENTS**

# About us

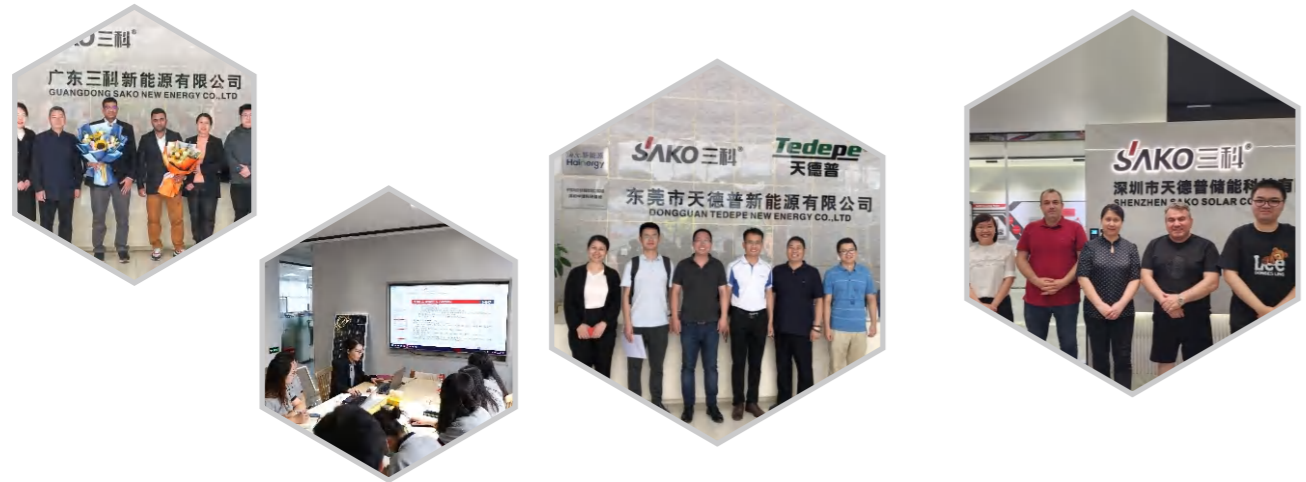
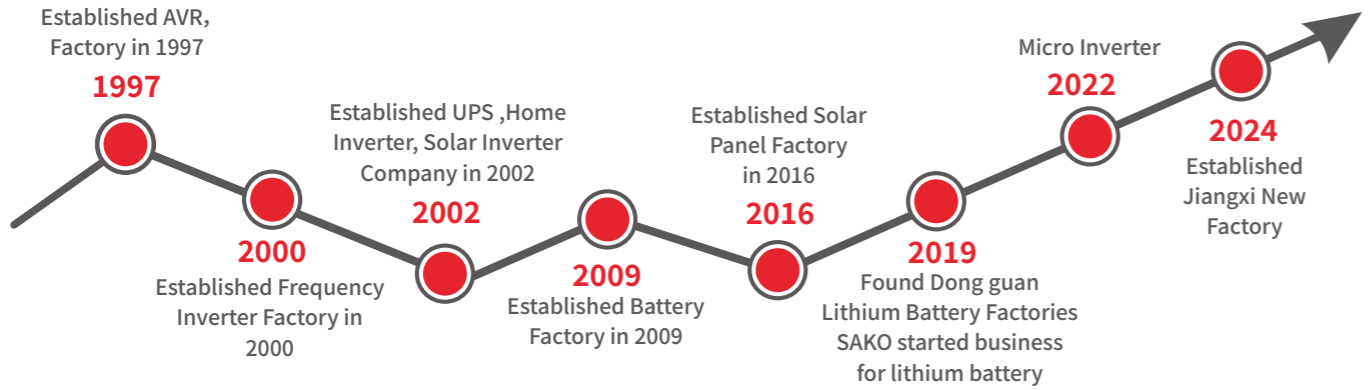
SAKO is a Leading OEM/ODM manufacturer for off grid solar inverter, home inverter, on&off grid inverter, hybrid inverter, micro inverter, pumping inverter, lithium iron battery pack, solar panel, storage solar system.

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: on&off grid inverter, hybrid inverter, micro inverter, 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, OHSAS18001, 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.

## COMPANY DEVELOPMENT ROUTES





# Qualification & Certificates



ISO9001



ISO14001



OHSAS45001



CE FOR INVERTER



CB FOR INVERTER



CB FOR LITHIUM BATTERY



MSDS



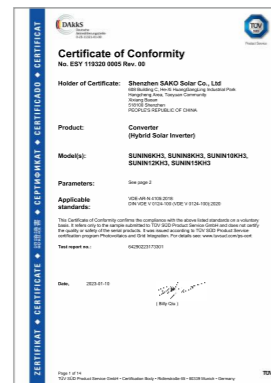
Report for safe transport of goods



CE FOR LITHIUM BATTERY



TUV for Solar Panel

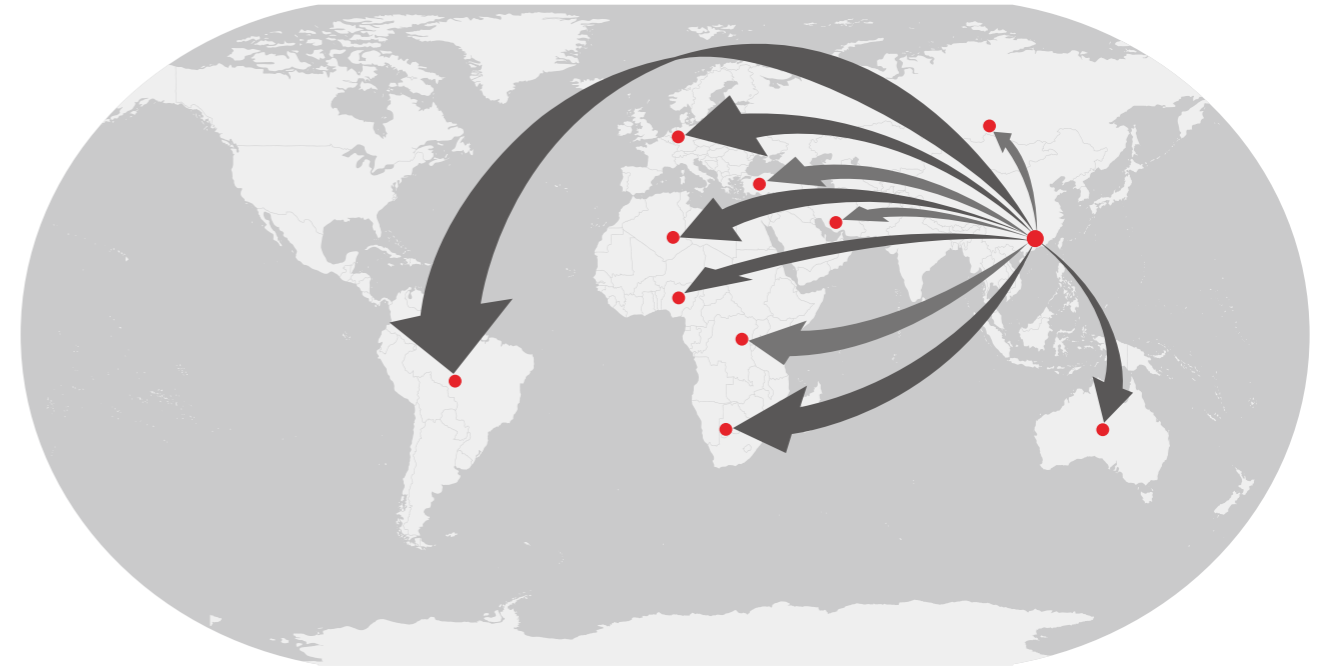


VDE4105



EN50549

# SAKO in the World



50+ SAKO Agents

SAKO Registered in 30+ Countries

Partners in 89+ Countries & Regions

## Partners



SAKO provide global services and support anywhere anytime. Even war can not stop our steps.

# Products Content

## Energy Storage System

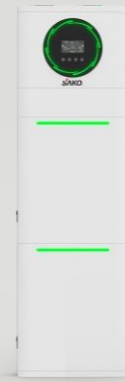
Inverter and Battery All In One



ESS/MESS  
P01-P10



ALPHA  
P11-P12



ESS APOLLO  
P13-P18



ESS PRO  
P19-P24

## Market Popular MPPT Solar Inverter

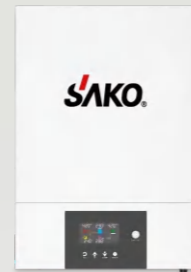
Inverter MPPT Charger All In One



ESUN 1.2K/2K/3K  
P27-P28



SUNON-ECO 4.2K/6.2K  
P29-P30



SUNON-ULTRA 4.5K/6.5K  
P31-P32



SUNON 3K  
P33-P34

## Innovative MPPT Solar Inverter

Twin Output Support BMS WIFI, Working without Battery



SUNON-V 4.5K/6.5K  
P37-P38



SUNON-V 4.5K/6.5K  
P37-P38



SUNON-IV 4.2K/6.2K  
P39-P40

## Hybrid Inverter IP65

Support 48V Battery for 1Phase and 3Phase



SUNIN 5K/8K/10K/12K Single Phase  
P43-P44



SUNIN 5K/8K/10K/12K Three Phase  
P45-P46

# Products Content

## Hot-Sale MPPT Solar Inverter 3.5K/5.5K

5.5KW Upgrade BMS and Parallel



SUNON PRO 3.5KW/5.5KW  
P49-P50



SUNON PLUS 3.5KW/5.5KW  
P49-P50



SUNON-P 5.5KW  
P51-P52



SUNON-V 5.6KW  
P53-P54

## PV 15-150V MPPT Solar Inverter

Low PV Support Less Solar Panels



SUNSEE 1K/3K/5K  
P57-P58



SUNMAX-PRO 1K-10K  
P59-P62



SVP 1K/2K/3K  
P63-P64



SKN-HDS 800W/1600W  
P65-P66

## Higher-Tech MPPT Solar Inverter

Support BMS,WIFI,Parallel,No-Batt Working



SUNPOLO 5KW  
P69-P70



SUNPOLO 6KW  
P71-P72



SUNPOLO 8.2K/11K  
P73-P74



SUNSEE-AMERY-ECO 3.6K/5K/8K/10K  
P75-P76

## Micro Inverter

IP67 European Standard



300-500W Micro Inverter  
P77-P82



600-1000W Micro Inverter  
P77-P82



1200-2000W Micro Inverter  
P77-P82



# SAKO

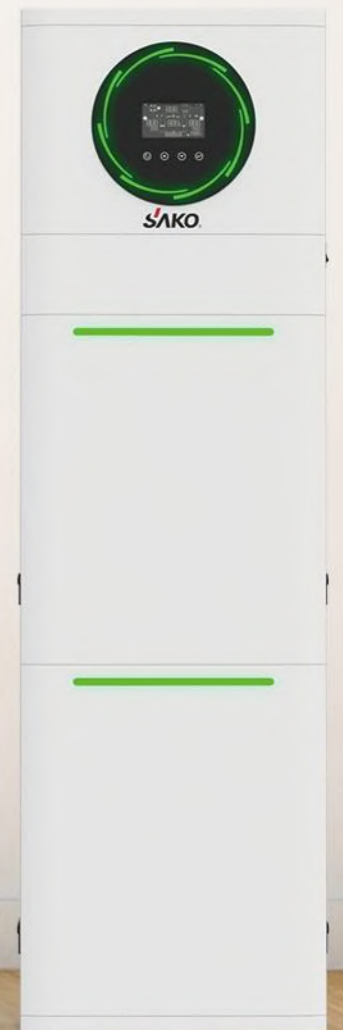
Energy Storage System



ESS/MESS/ALPHA



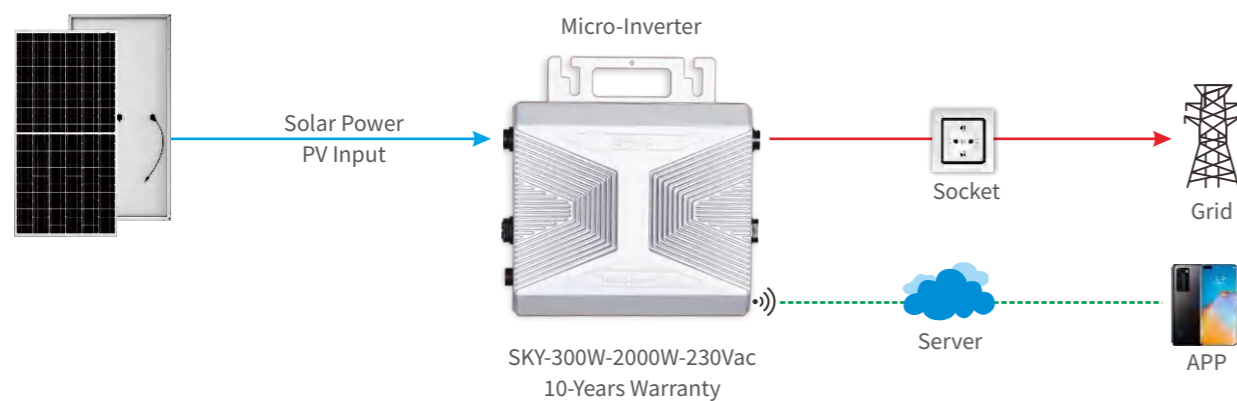
ESS PRO



ESS APOLLO

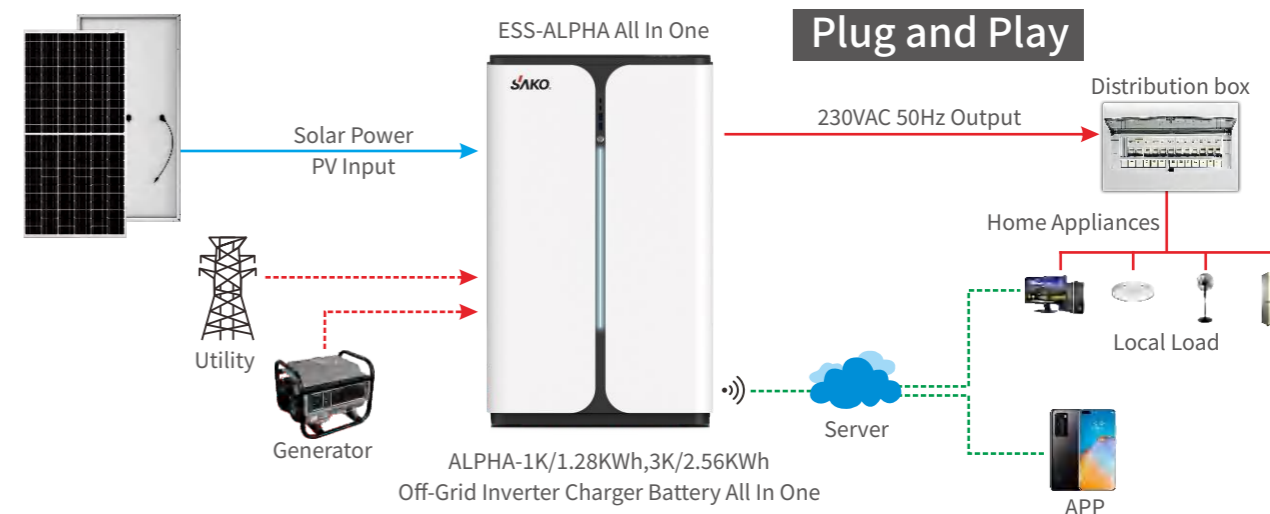


## Micro Inverter Solar System



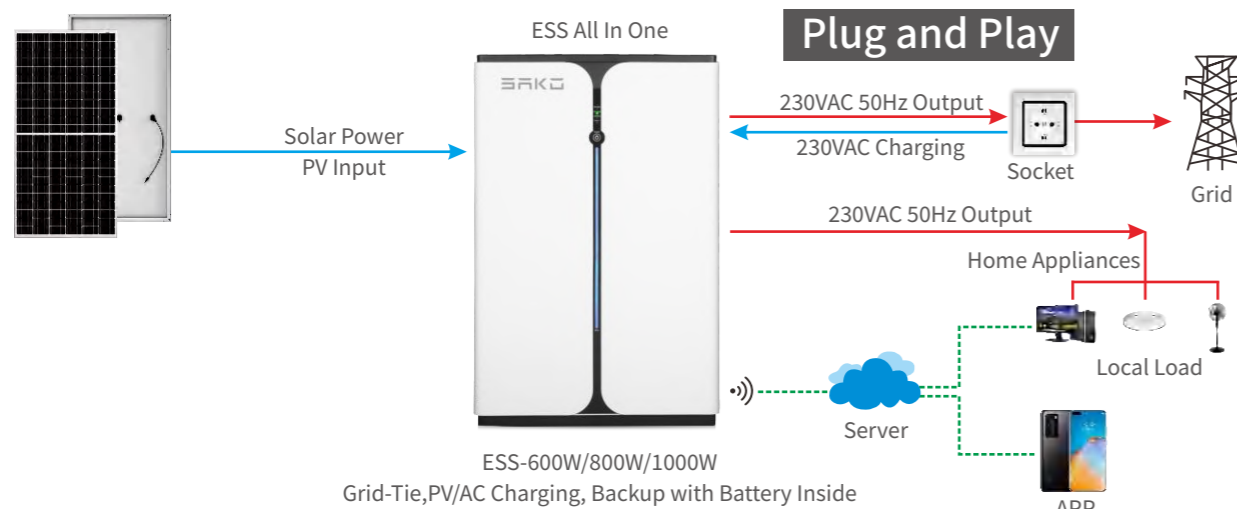
**Certificates:** EN50549, VDE-AR-N4105, VDE-V0124, VDE0126-1-1+VFR, CEI0-21,G98, CE-EMC EN/IEC61000; CE-RED EN300328, EN301489, EN62311; CE-LVD IEC62109, ABNT-NBR-16149&16150

## ESS-Alpha Off-Grid Energy Storage System All In One



ALPHA-1K/1.28KWh,3K/2.56KWh  
Off-Grid Inverter Charger Battery All In One

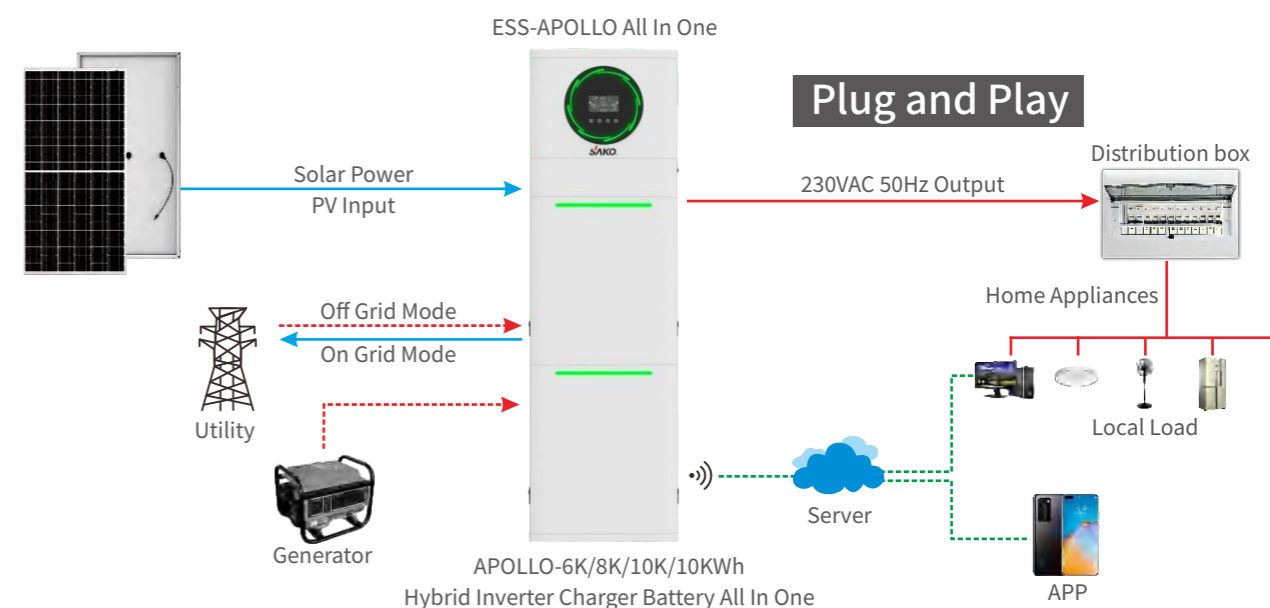
## Balcony Energy Storage System All In One



ESS-600W/800W/1000W  
Grid-Tie,PV/AC Charging, Backup with Battery Inside

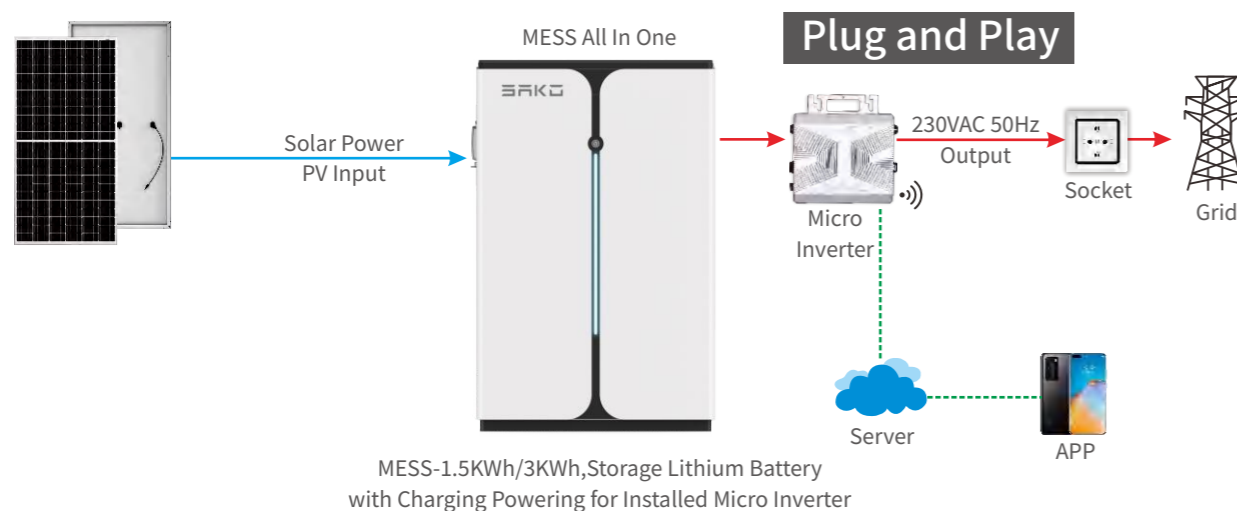
**Certificates:** EN50549-1, CEI021,G98, CE-EMC IEC61000; CE-RED En300328, En300330, EN301489-1, EN301489-3, EN62311, En50665; CE-LVD IEC62109, IEC2619, EN2040, EN62477; VDE-AR-N 4105:2018, VDE-V0124-100:2020, VDE0126-1-1+VFR, CE EN-1090

## ESS-Apollo Hybrid Energy Storage System All In One



APOLLO-6K/8K/10K/10KWh  
Hybrid Inverter Charger Battery All In One

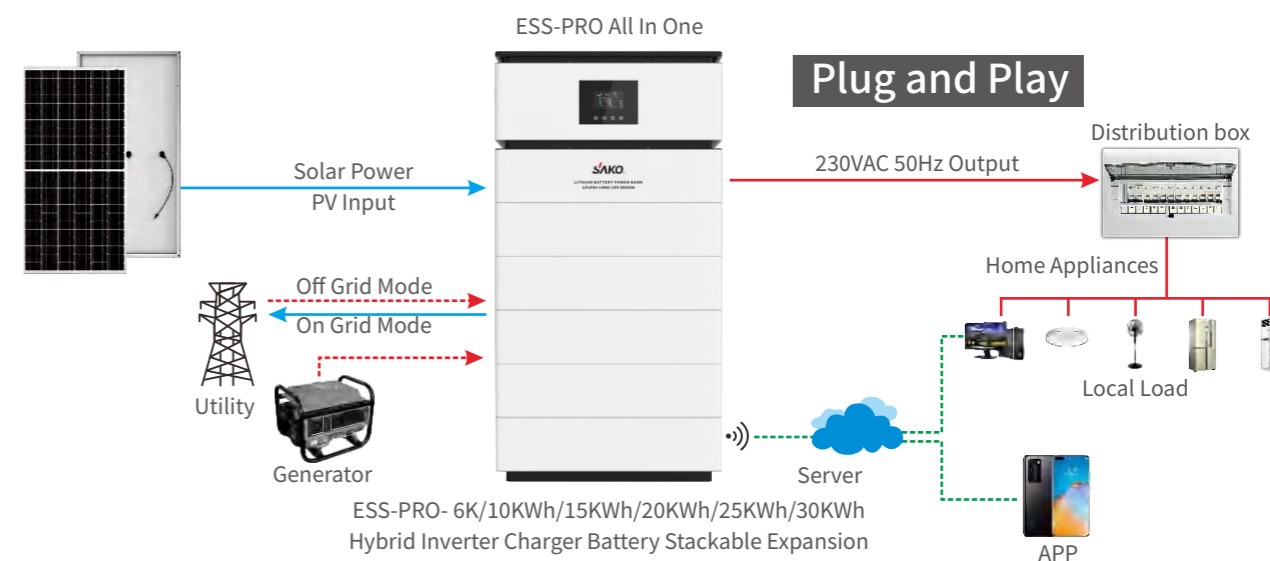
## Balcony Energy Storage System + Micro Inverter



MESS-1.5KWh/3KWh,Storage Lithium Battery  
with Charging Powering for Installed Micro Inverter

**Certificates:** EN50549-1, CEI021,G98, CE-EMC IEC61000; CE-RED EN30032, EN300330, EN301489-1, EN301489-3, EN62311, EN50665; CE-LVD IEC62109, IEC2619, EN2040, EN62477; VDE-AR-N 4105:2018, VDE-V0124-100:2020, VDE0126-1-1+VFR, CE EN-1090

## ESS-PRO Hybrid Energy Storage System All In One



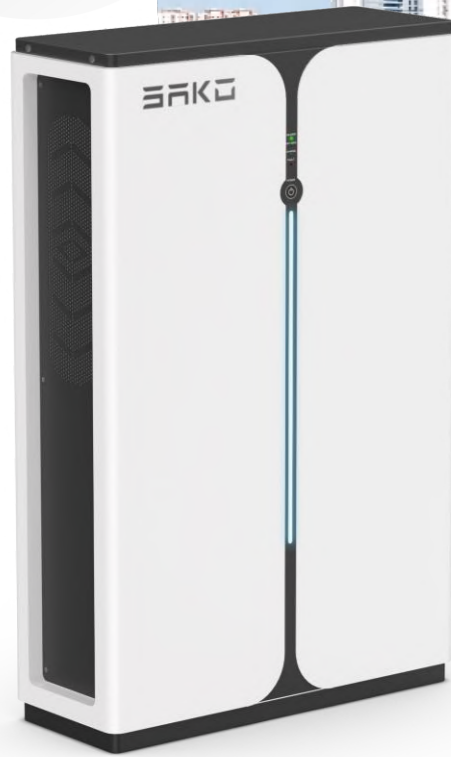
ESS-PRO- 6K/10KWh/15KWh/20KWh/25KWh/30KWh  
Hybrid Inverter Charger Battery Stackable Expansion











**ESS  
MESS  
ALPHA**





## ESS All-in-one Hybrid Balcony Solar System

ESS 1KVA/1.5KWH, ESS 1KVA/2.5KWH

 <p>Free smart WIFI monitor, can be installed within 30S, user friendly.</p>	 <p>Low starting voltage (up to 60Vdc PV input), all around protection protection.</p>	 <p>Supports self consumption and feedback to grid.</p>
 <p>Programmable multiple work mode. Supports 2 periods presetting to the time of charging or discharging.</p>	 <p>All in one system with On/O ffgid inverter and LiFePo4 Battery inside, Support self-consumption and Feed-in to grid.</p>	 <p>Plug-and-play, easy installation and smart control and operation.</p>

## Balcony Solar Products

### TECHNICAL PARAMETER

Technical Specifications			
Model No.	ESS 1KVA/600W	ESS 1KVA/ 800W	ESS 1KVA/1KW
<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		180-265VAC	
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>Off-Grid Output (AC)</b>			
Nominal output Volt		230Vac, Single Phase	
Output frequency		50/60hz	
Nominal output current		4.35A	
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/2688Wh	
Core cycle		≥2000 cycles & 25°C Standard charging and discharging process@80% SOH for 1536Wh ≥6000 cycles & 25°C Standard charging and discharging process@80% SOH for 2688Wh	
<b>General Information</b>			
PV cable		1 piece 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)		729*470*180MM	
Products package, D X W X H (mm)		835*565*312MM	
Product net weight(kgs)		37.6kg/46.9kg	
Product gross weight(kgs)		44.1kg/53.5KG	
<b>Environment</b>			
The noise		50dB Max (1 meter)	
Humidity		5% to 95% Relative Humidity(Non-condensing)	
Operating temperature		1536Wh, 0~50°/2688Wh, 0~45°	
Storage temperature		1536Wh, -10~50°/2688Wh, 0~45°	



## M-ESS Balcony Energy Solar System

### M-ESS 1.5KWh/3.0KWh Energy Storage System

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

## Balcony Solar Products

### TECHNICAL PARAMETER

MODEL	MESS 1.5KWh(ALPHA-MESS 1.5KWh)	MESS 3KWh(ALPHA-MESS 3.0KWh)
<b>SPECIFICATION</b>		
<b>P.V. Input Features</b>		
Commonly used module power	210 to 650W+ (2 Pieces)	210 to 650W+ (2 Pieces)
MPPT voltage range	30~60Vdc	30~60Vdc
Start-up voltage	30Vdc	30Vdc
Maximum input current	26A	26A
Maximum input short circuit current	32A	32A
<b>DC Output Features</b>		
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	
<b>Lithium Battery Features</b>		
Total Energy	1497Wh	2995Wh
Usable Energy(90%DOD)	1347Wh	2695Wh
Normal Battery Voltage	28.8Vdc	28.8Vdc
Typical Capacity	52Ah	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)	
<b>Protection</b>		
Protection	Over charge protection, Over discharge protection, Solar reverse polarity protection, Over temperature protection, Low temperature charging protection	
IP Grade	IP54	
<b>Other Features</b>		
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	
<b>Accessory</b>		
PV cable	With 5M PV MC4 extension cable x 4; With 1M PV MC4 extension cable x 4	
<b>Ambient</b>		
Noise(dB)	< 45dB (1 meter)	
Working Temperature	-10°C~+50°C	
Humidity	0~95% ( no condensation)	
Sea Level(m)	≤4000	
<b>Dimension</b>		
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)	30.3Kg	40.5Kg
Weight(GW Kg)	36.0Kg	46.2Kg



# Alpha All-in-one Off Grid Home Solar System

# Energy Storage 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

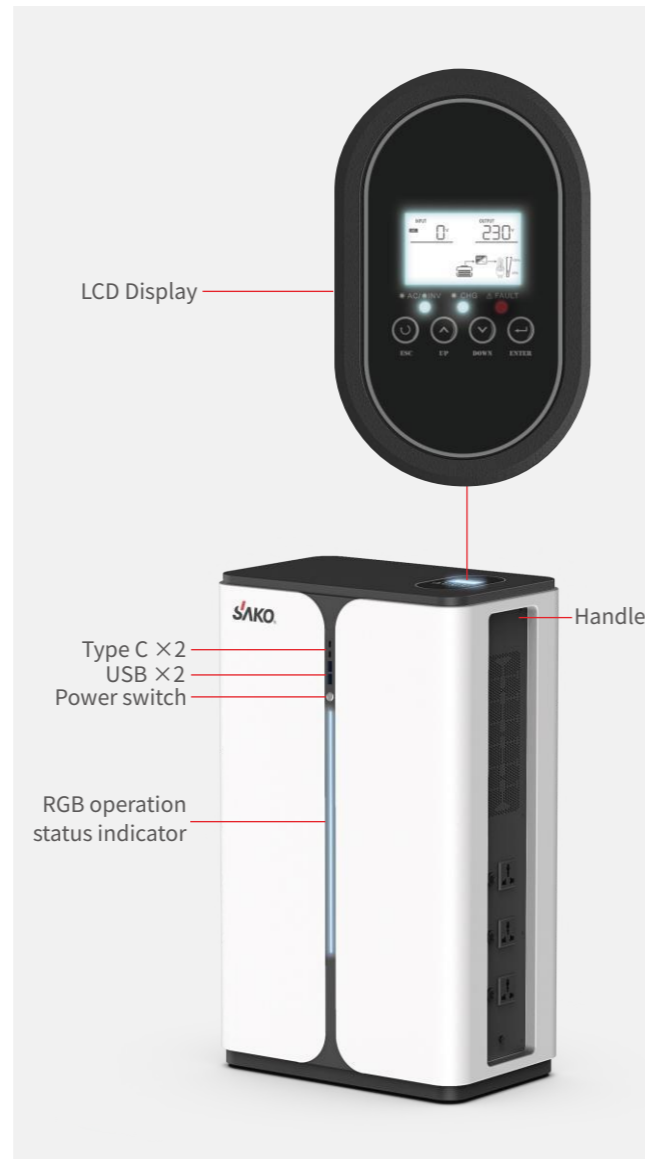
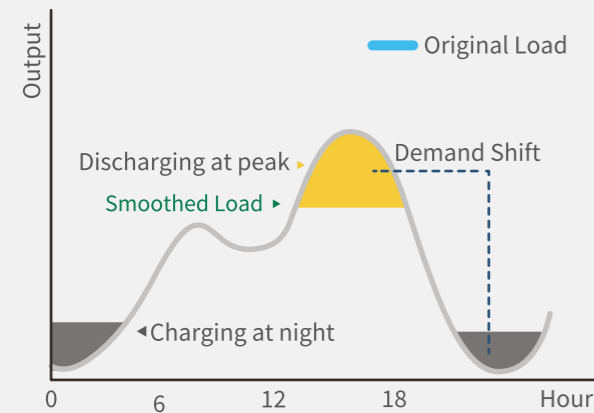
### Highly mobility and Plug & Use

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

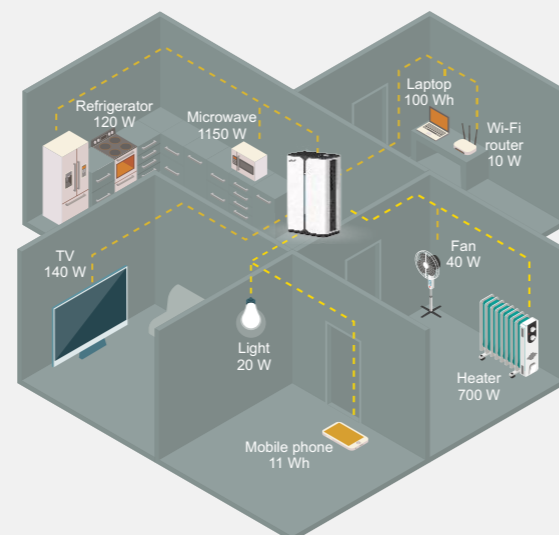


### Peak cut

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



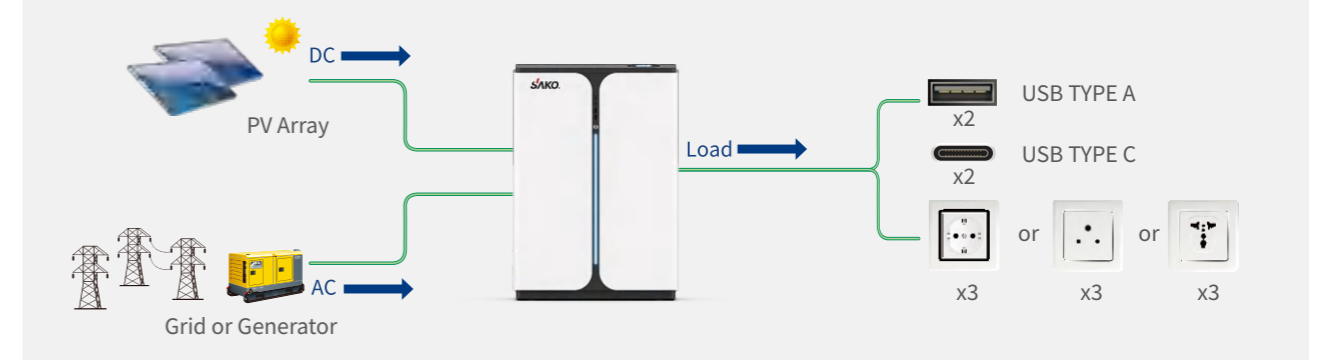
### Power 9 devices at the same time for one hour and more



## TECHNICAL PARAMETER

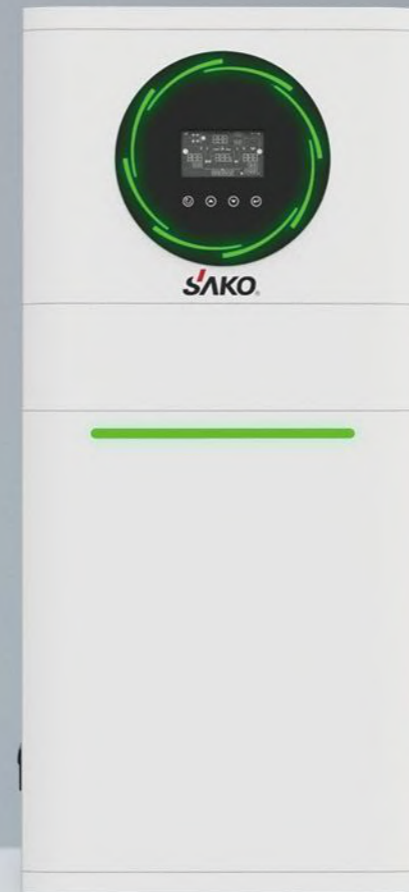
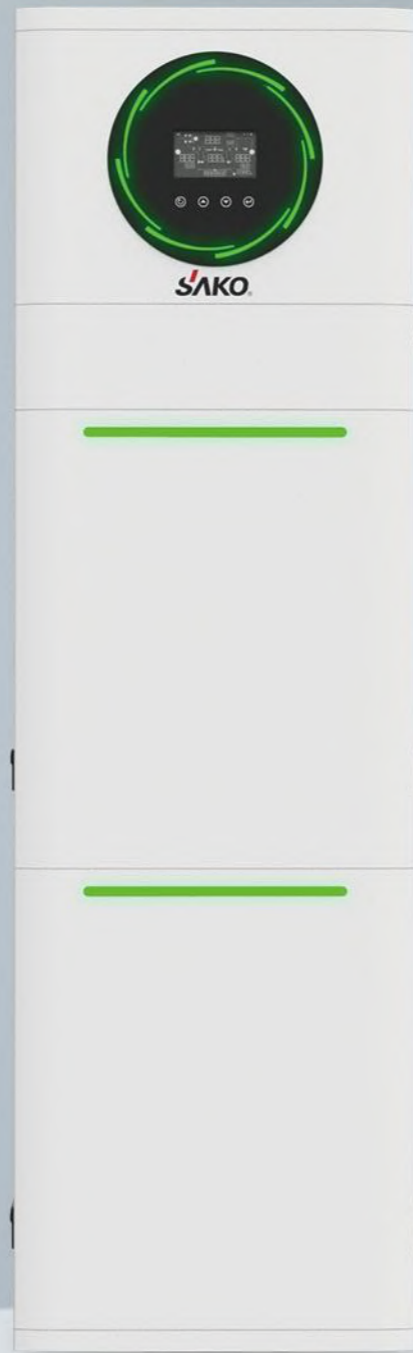
MODEL	ALPHA 1KVA/1.28KWH	ALPHA 3KVA/2.56KWH
<b>SPECIFICATION</b>		
<b>Inverter / Charger</b>		
Inverter Type	1KVA/12V	3KVA/24V
Rated Output Power	1KW	2.7KW
Output Voltage Waveform	Pure Sine Wave	Pure Sine Wave
Output Voltage	230VAC 50HZ	230VAC 50HZ
Charging Current(Utility and solar together)	60AMax.	80AMax.
<b>AC Input</b>		
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	20AMax.	60AMax.
<b>Solar Input</b>		
Nominal PV Voltage	36Vdc	240Vdc
PV Array MPPT Voltage Range	15Vdc~80Vdc	30Vdc~350Vdc
SolarCharging Current	40AMax.	80AMax.
<b>Lithium Iron Battery</b>		
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	
<b>Protection</b>		
Protection	Overcharge/Overdischarge/Overcurrent/ Overtemperature/Shortcircuit 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>Dimension</b>		
L×W×H (products size)	L450*W213*H636mm	L450*W279*H731mm

## System Diagram



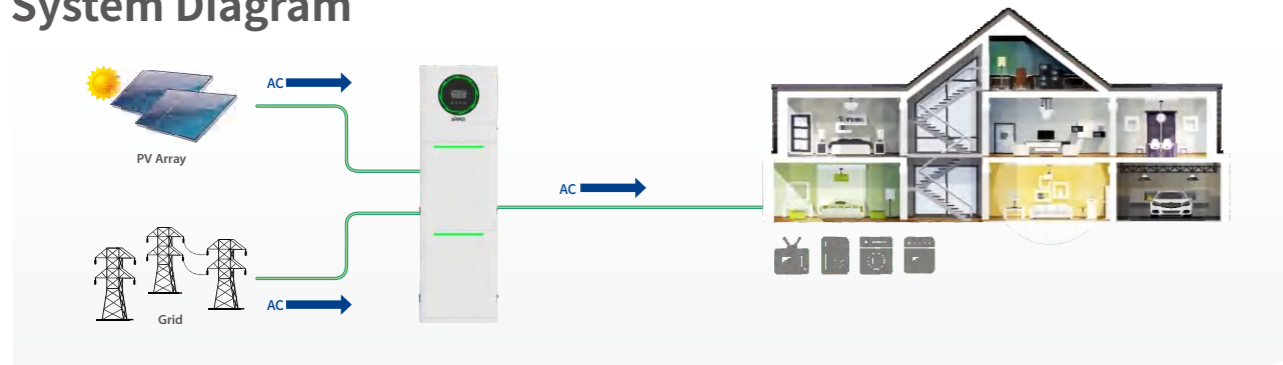


# APOLLO-ESS



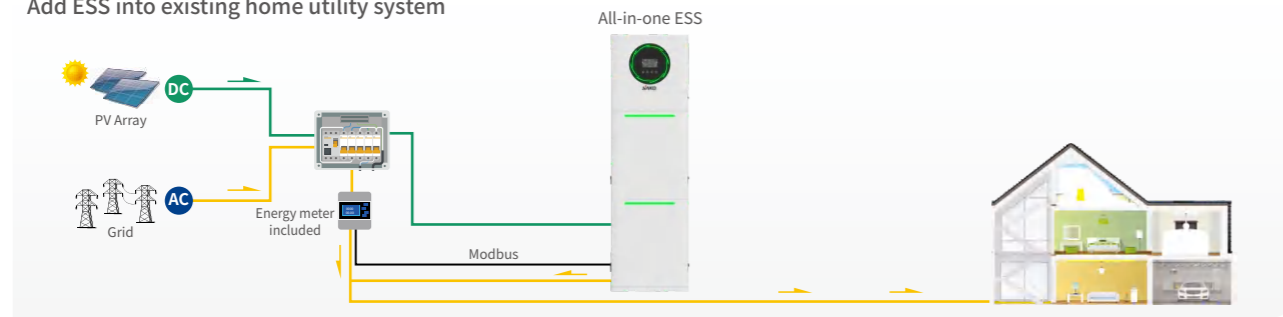


## System Diagram

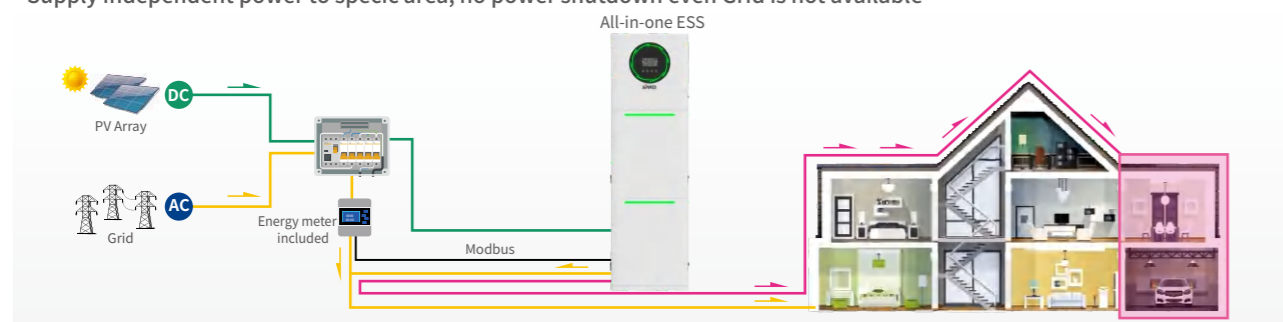


## System Diagram

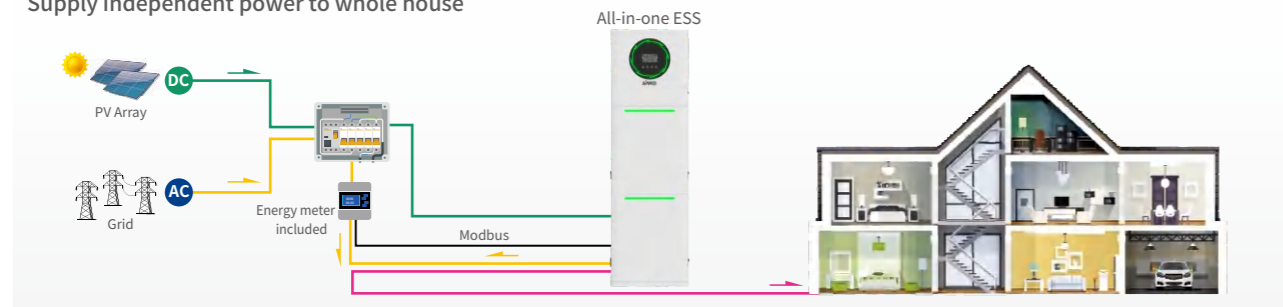
Add ESS into existing home utility system



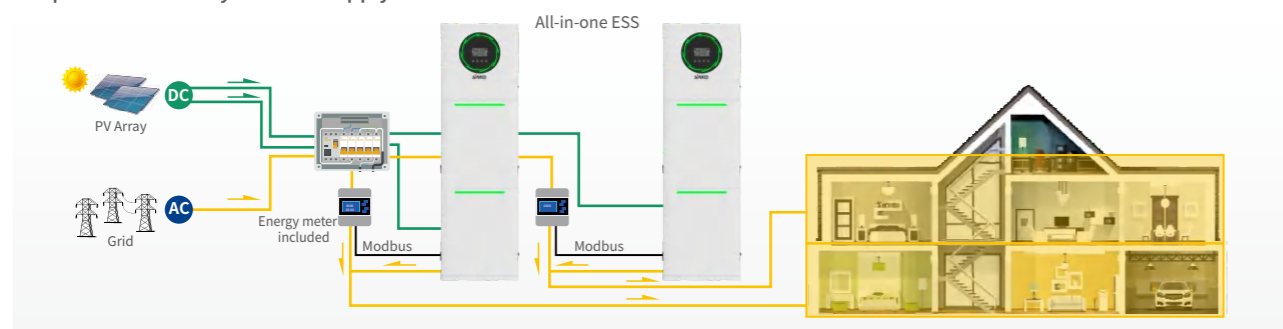
Supply independent power to specific area, no power shutdown even Grid is not available



Supply independent power to whole house



Separate two ESS systems to supply whole house



## System Diagram

Only one ESS



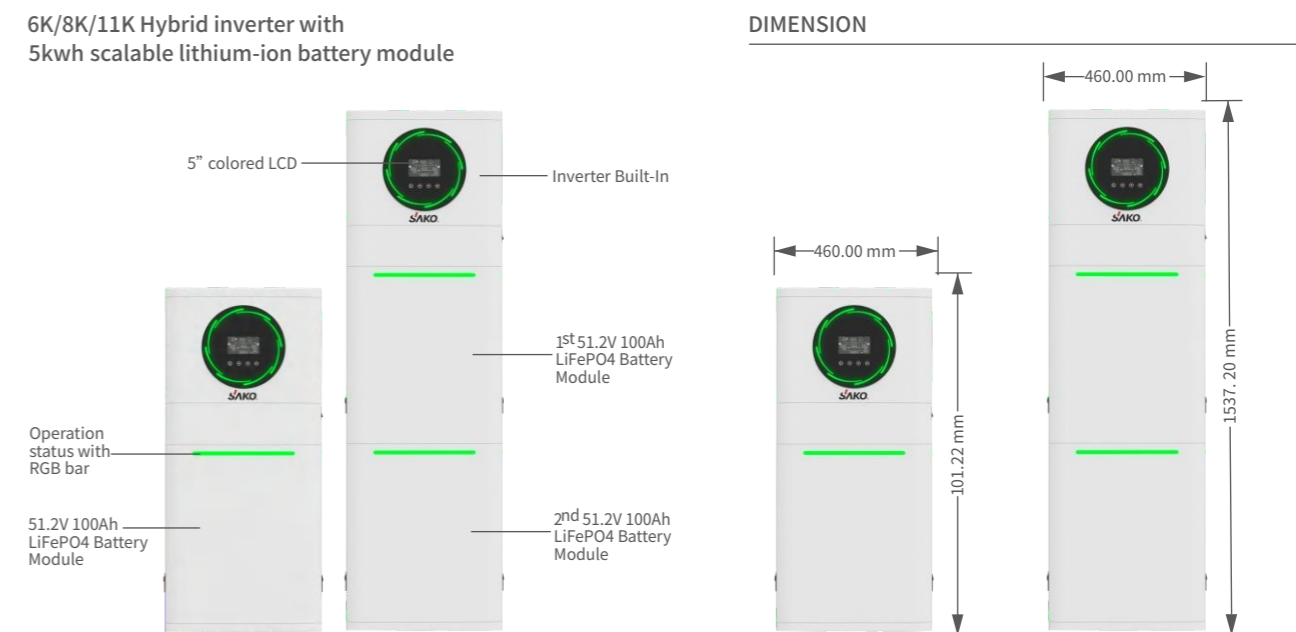
Two ESS systems parallel operation



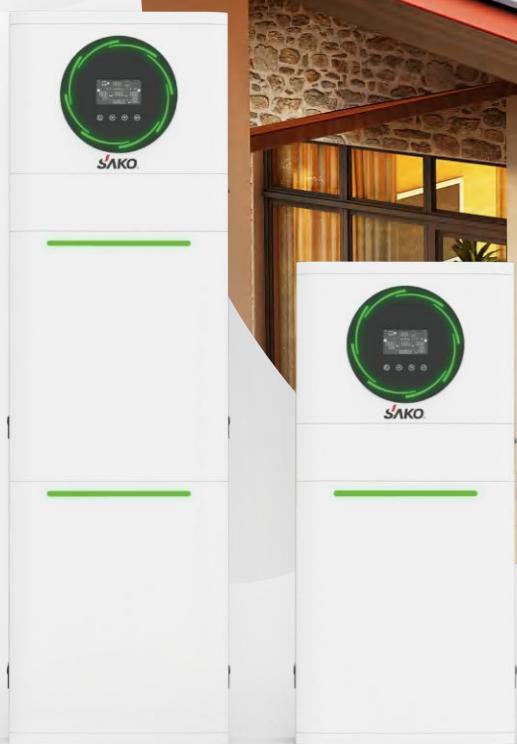
Three phase 18kw Inverter with 30720Wh Lithium Battery



6K/8K/11K Hybrid inverter with 5kwh scalable lithium-ion battery module













## Apollo-ESS Energy Solar System

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

 Smart WIFI monitor, user friendly.	 Integrated with inverter, MPPT charger, AC charger, LiFePo4 battery inside.	 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.

## 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		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		
<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

# ESS PRO













## ESS Pro Energy Solar System

### ESS Pro 6KW Energy Storage System

 Smart WIFI monitor, user friendly.	 Integrated with inverter, MPPT charger, AC charger, LiFePo4 battery inside.	 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.

## Energy Storage System







### TECHNICAL PARAMETER

SPECIFICATION	ESS PRO 6KW/5KWh	ESS PRO 6KW/10KWh	ESS PRO 6KW/15KWh	ESS PRO 6KW/20KWh
<b>INVERTER / CHARGER</b>				
Inverter Type	6KW/48V			
Rated Output Power	6KW			
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			
Total Charging Current(Grid+solar)	120A Max.			
Bulk Charging Voltage	57.6Vdc			
Float Charging Voltage	56.0Vdc			
<b>LITHIUM IR ON BATTERY</b>				
NormalBatteryModular	51.2V100Ah*1	51.2V100Ah*2	51.2V100Ah*3	51.2V100Ah*4
NormalCapacity(25°C, 0.2C)	5120Wh	10.24KWh	15.36KWh	20.48KWh
NominalBatteryVoltage	51.2Vdc	51.2Vdc	51.2Vdc	51.2Vdc
NominalCapacity	100A	200A	300A	400A
Max.ChargeCurrent	150A 1Sec.	300A 1Sec.	450A 1Sec.	600A 1Sec.
Max.DischargeCurrent	50A	100A	150A	200A
OperationVoltageRange	44.8Vdc ~ 58.4Vdc			
OperationTemperature	-10°C ~ +50°C			
<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.			
<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>PROTECTION</b>				
Protection	Over charge protection, Over discharge protection, Over current protection, Shortcircuit protection, Over temperature protection			
<b>AMBIENT</b>				
Noise(dB)	< 30°C < 40dB (1 meter)			
Working Temperature	-10°C ~ +50°C			
Humidity	0~95% ( no condensation)			
Sea Level(m)	≤1500			
<b>OTHERS</b>				
Efficiency	92.0%			
Warranty	5 Years			



## ALPHA ESS Energy Solar System

### ALPHA ESS Energy Storage System

 Smart WIFI monitor, user friendly.	 Integrated with inverter, MPPT charger, AC charger, LiFePo4 battery inside.	 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.

## Energy Storage System

### TECHNICAL PARAMETER

SPECIFICATION	ALPHA ESS 6.2KW/10KWh	ALPHA ESS 8KW/15KWh
<b>INVERTER / CHARGER</b>		
Inverter Type	Hybrid MPPT Inverter	
Rated Output Power	6.2KW	8KW
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	
Total Charging Current(Grid+solar)	120A Max.	
Bulk Charging Voltage	57.6Vdc	
Float Charging Voltage	56.0Vdc	
<b>LITHIUM IR ON BATTERY</b>		
NormalBatteryModular	51.2V200Ah	51.2V300Ah
NormalCapacity(25°C, 0.2C)	10.24KWh	15.36KWh
NominalBatteryVoltage	51.2Vdc	51.2Vdc
NominalCapacity	200A	300A
Max.ChargeCurrent	300A 1Sec.	450A 1Sec.
Max.DischargeCurrent	150A	200A
OperationVoltageRange	44.8Vdc ~ 58.4Vdc	
OperationTemperature	-10°C ~ +50°C	
<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.	
<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>PROTECTION</b>		
Protection	Over charge protection, Over discharge protection, Over current protection, Shortcircuit protection, Over temperature protection	
<b>AMBIENT</b>		
Noise(dB)	< 30°C < 40dB (1 meter)	
Working Temperature	-10°C ~ +50°C	
Humidity	0~95% ( no condensation)	
Sea Level(m)	≤1500	
<b>OTHERS</b>		
Efficiency	92.0%	
Warranty	5 Years	

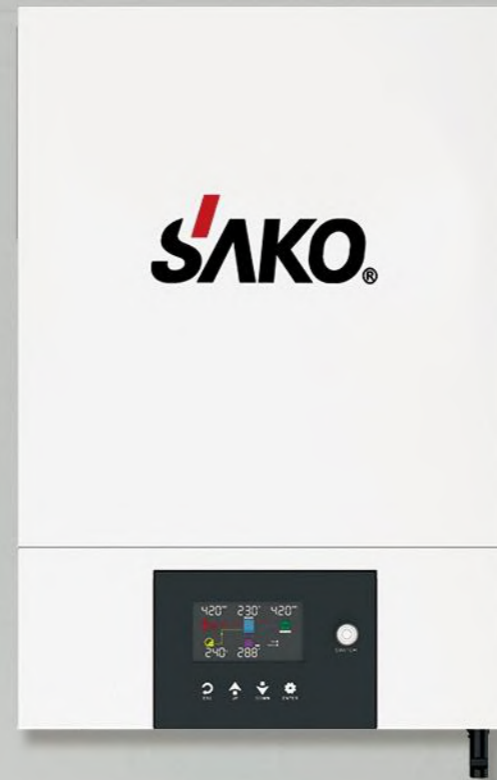




**ESUN**  
1.2K/2K/3K



**SUNON-ECO**  
4.2K/6.2K



**SUNON-ULTRA**  
4.5K/6.5K



**SUNON-E**  
3KVA



# 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		3000W
MPPT Range Operation Vol		30-400VDC		30-400VDC
Best PV range		120-400V		120-400V
Maximum PV Array Open Circuit Vol.		400VDC		400VDC
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
<b>PHYSICAL</b>				
Products Dimension, D*W*H(mm)		400mm*306mm*103mm		400mm*306mm*103mm
Packing size, D*W*H(mm)		460mm*391mm*174mm		460mm*391mm*174mm
Net Weight (kgs)		4.4KG		5.4KG
G.W. kg		5.1KG		6.1KG
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		

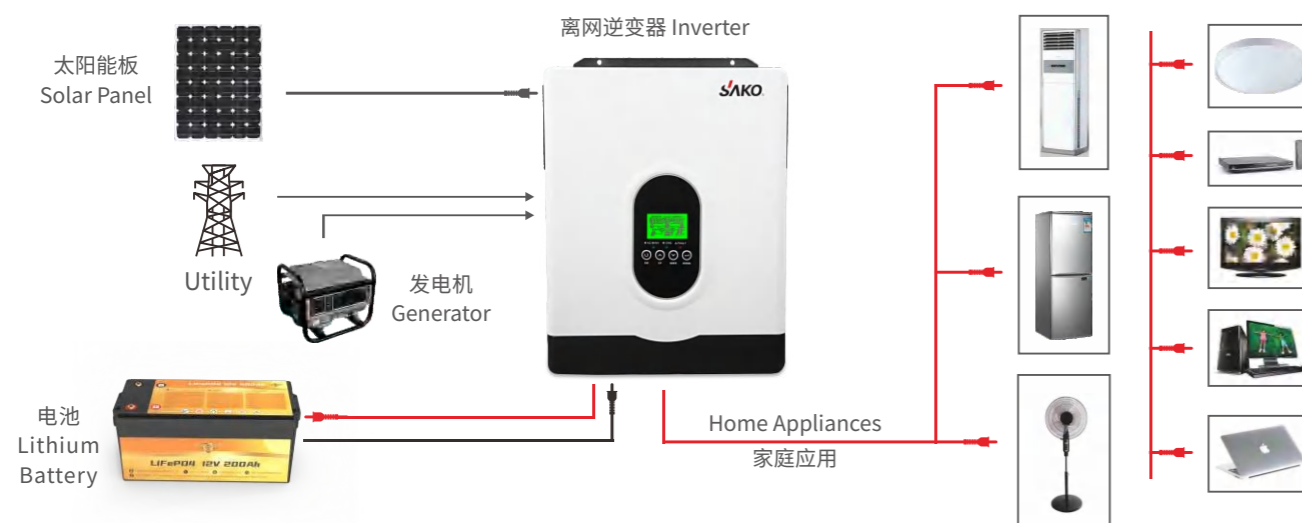
# E-SUN 1KVA-3KVA Off Grid MPPT Solar Inverter



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



## On&Off Grid MPPT Solar Inverter

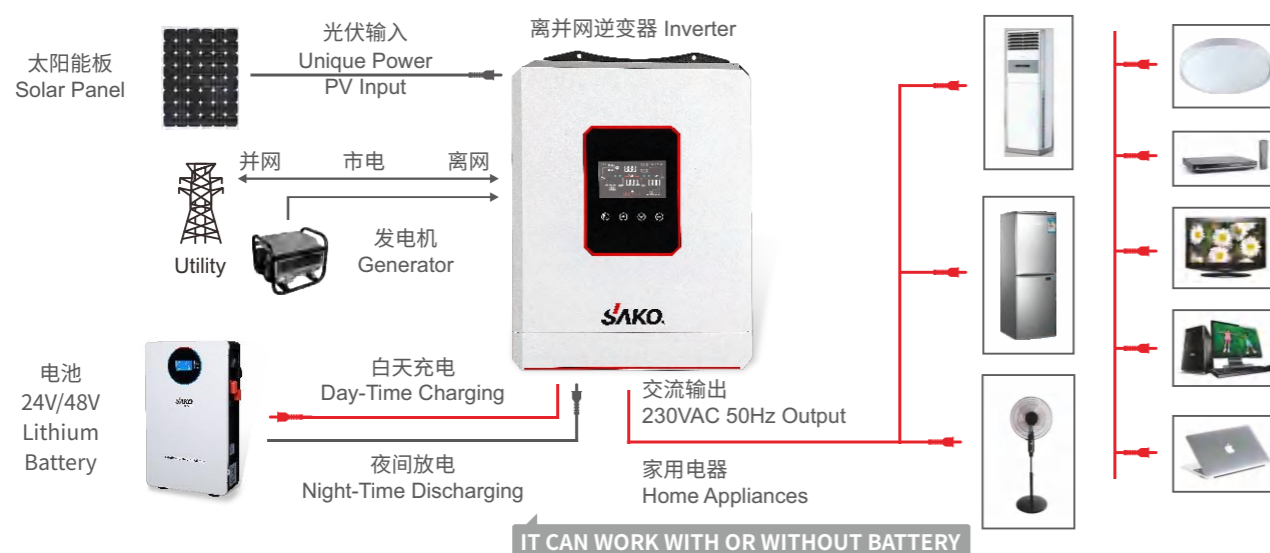
### TECHNICAL PARAMETER

NEW MODEL	SUNON-ECO 4.2KVA	SUNON-ECO 6.2KVA	SUNON-ECO 8.2KVA	SUNON-ECO 10.2KVA
Max.PV Power	5000W	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	10 ms(For Personal Computers);20 ms (For Home Appliances)			
Waveform	Pure sine mave			
<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	5000W	6500W	5400W*2	5400W*2
Max. input Current	27A	27A	18A	18A
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 Curent	100A	100A	140A	140A
Maximum Charge Curent	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







# SUNON-ULTRA 4.5-6.5KVA On&Off Grid MPPT Solar Inverter IP20

**SAKO**

**SAKO**  
SINCE 1997

## On&Off Grid MPPT Solar Inverter

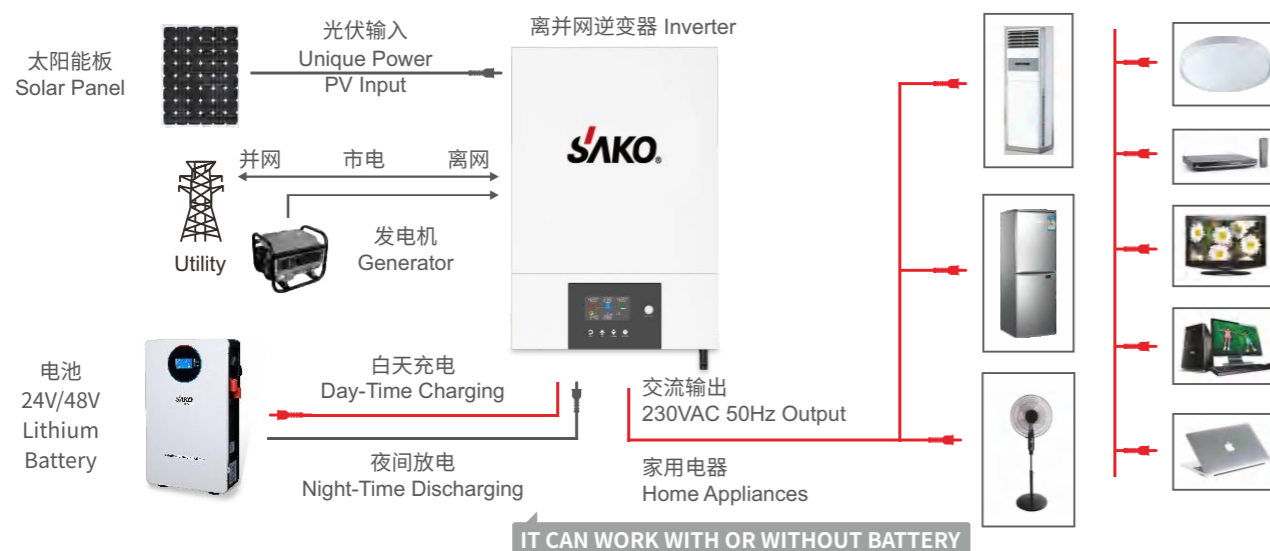
### TECHNICAL PARAMETER

NEW MODEL	SUNON-ULTRA 4.5KVA	SUNON-ULTRA 6.5KVA
Max.PV Power	6200W	6500W
Rated Power	4200W	6200W
Max.Charge Current	140A	120A
<b>BATTERY</b>		
Battery Voltage	24VDC	48VDC
Floating Charge Voltage	27VDC	54VDC
Overcharge Protection	33VDC	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	9000VA	13000VA
Efficiency (Peak)	90%~94%	
Transfer Time	15 ms(For Personal Computers);20 ms (For Home Appliances)	
Waveform	Pure sine mave	
<b>DUAL LOADS AC OUTPUT</b>		
Full Load	4200W	6200W
Maximum Main Load	4200W	6200W
Main Load Cut Off Voltage	22VCD	44VCD
Main Load Return Voltage	27VCD	54VCD
<b>SOLAR CHARGER &amp; AC CHARGER</b>		
Solar Charger Type	MPPT	
Maximum PV Array Power	6200W	6500W
Max. input Current	27A	27A
MPPT Range @ Operating Voltage	90~450VDC	90~450VDC
Maximum PV Array Open Circuit Voltage	500 VDC	
Maximum Solar Charge Current	140A	120A
Maximum AC Charge Curent	100A	100A
Maximum Charge Curent	140A	120A
<b>PHYSICAL</b>		
Packing Dimension,DXWXH(mm)	543*394*204	543*394*204
Net Weight (kgs)	9.8	10.5
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	

### MAIN FEATURES

- Pure sine wave,Hybrid on&off inverter can feed to grid
- Inverter running with or without battery
- Build-in Lithium battery automatic activation
- Build-in 120A/140A MPPT solar charge controller
- High PV input voltage rang (90~450VDC)
- Battery independent design
- User-friendly LCD operation
- Enhanced charging power

### Solar System Connection







# SUNON-E 3KVA Off Grid MPPT Solar Inverter



## Off Grid MPPT Solar Inverter

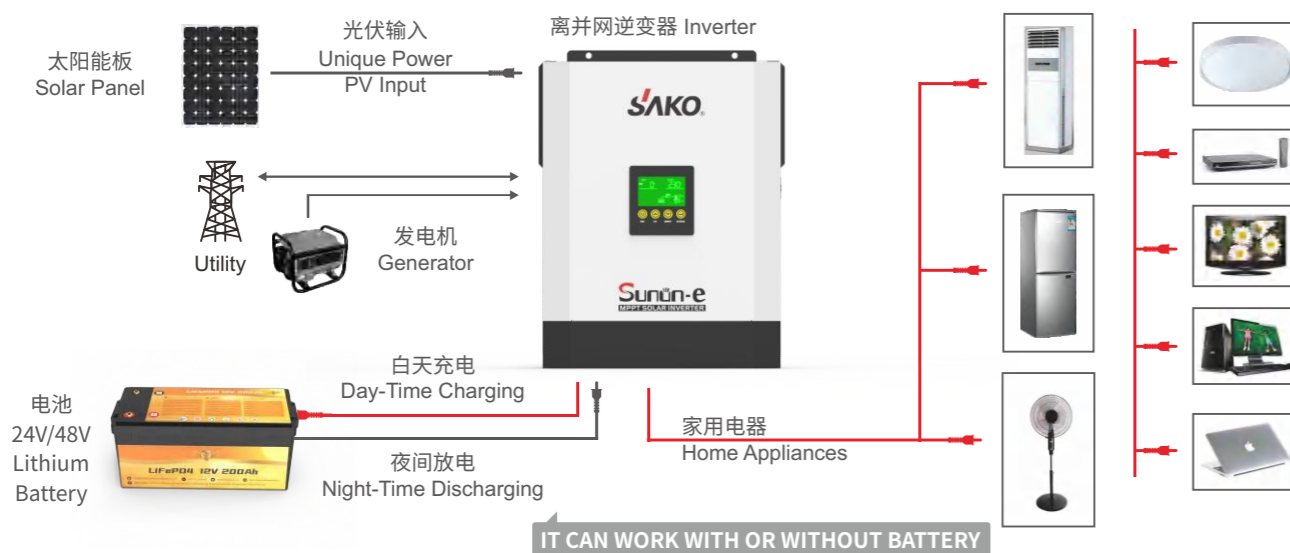
### TECHNICAL PARAMETER

TECHNICAL PARAMETER	
Model SUNON E series	SUNON-E 3KVA
The rated power	3000VA/2400W
<b>INPUT</b>	
Voltage	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	6000VA
Power factor	0.8
Efficiency(Peak)	> 90%
Transfer Time	10ms (UPS), 20ms (Appliances)
Wave form	Pure sine wave
No load current	1.0A
<b>BATTERY</b>	
Battery voltage	24VDC
Low battery alarming voltage	22.0VDC
Low battery cut off protection voltage	21VDC
Low battery recovery voltage	23.0VDC
Floating Charge Voltage	27VDC
Overcharge Protection	32VDC
<b>MPPT SOLAR CHARGER &amp; AC CHARGER</b>	
Maximum PV Array Power	3000W
MPPT Range Operation Vol	150V-430V
Maximum PV Array Open Circuit Vol.	450VDC
Number of MPPT trackers / Max output current	80A
Maximum AC Charge Current	60A
Maximum Efficiency	98%
<b>BEST PANEL CONFIGURATION</b>	
Maximum PV Array Power	3000W
Best Panel configuration	550W 2-5 PCS in 1S
<b>PHYSICAL</b>	
Products Dimension, D*W*H(mm)	350mm*270mm*98mm
Packing size, D*W*H(mm)	413mm*350mm*173mm
Net Weight (kgs)	5KG
G.W. kg	5.8KG
Communication Interface	RS232/GPRS/ Optional WIFI
<b>OPERATING ENVIRONMENT</b>	
Humidity	5% to 95% Relative Humidity (Non-condensing)
Operation Temperature	-10°C-50°C

### MAIN FEATURES

- MPPT Solar Charge Controller Inside
- Wide PV Input Range 90-450Vdc
- Reliable quality, economic design
- Smart battery protection. Compatible with LiFePo4
- Configurable battery & AC/Solar priority via LCD setting

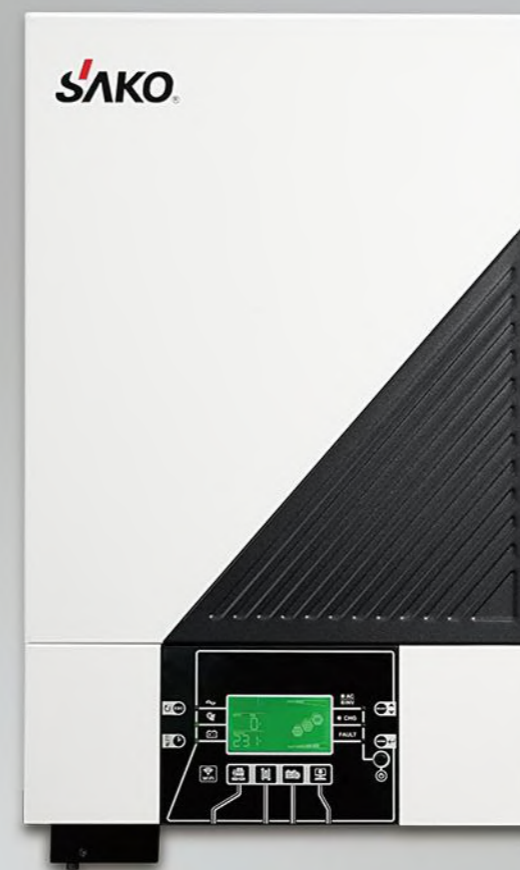
### Solar System Connection







SUNON-IV  
4.2K/6.2K



SUNON-V  
4.5K/6.5K



SUNON-V  
4.5K/6.5K



# On&Off Grid MPPT Solar Inverter

## TECHNICAL PARAMETER

MODEL	SUNON V 4.5KVA/24V	SUNON V 6.5KVA/48V
Rated Power	4500VA/4200W	6500VA/6200W
<b>BATTERY</b>		
Battery Voltage	24 VDC	48 VDC
Floating Charge Voltage	27 VDC	54 VDC
Overcharge Protection	33 VDC	63 VDC
<b>INPUT</b>		
Voltage	230 VAC	
Selectable Voltage Range	170-280 VAC (For Personal Computers) ; 90-280 VAC (For Home Appliances)	
Frequency Range	50 Hz/60 Hz (Auto sensing)	
<b>OUTPUT</b>		
AC Voltage Regulation (Batt. Mode)	230 VAC ± 5%	
Surge Power	8400VA	12400VA
Efficiency (Peak)	90% ~ 93%	
Transfer Time	10 ms (For Personal Computers) ; 20 ms (For Home Appliances)	
Waveform	Pure sine wave	
<b>SOLAR CHARGER &amp; AC CHARGER</b>		
Solar Charger Type	MPPT	
Maximum PV Array Power	5000W	6000W
Max. Input Current	27A	27A
MPPT Range @ Operating Voltage	60-450V	60-450V
Maximum PV Array Open Circuit Voltage	500 VDC	
Maximum Solar Charge Current	120 A	120 A
Maximum AC Charge Current	100 A	100 A
Maximum Charge Current	120 A	120 A
<b>PHYSICAL</b>		
Packing Dimension, D X W X H (mm)	505mm*388mm*214mm	505mm*388mm*214mm
Net Weight (kgs)	9.6	10.4
Communication Interface	USB/RS232/RS485(BMS)/Local WiFi/Dry-contact	
<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	

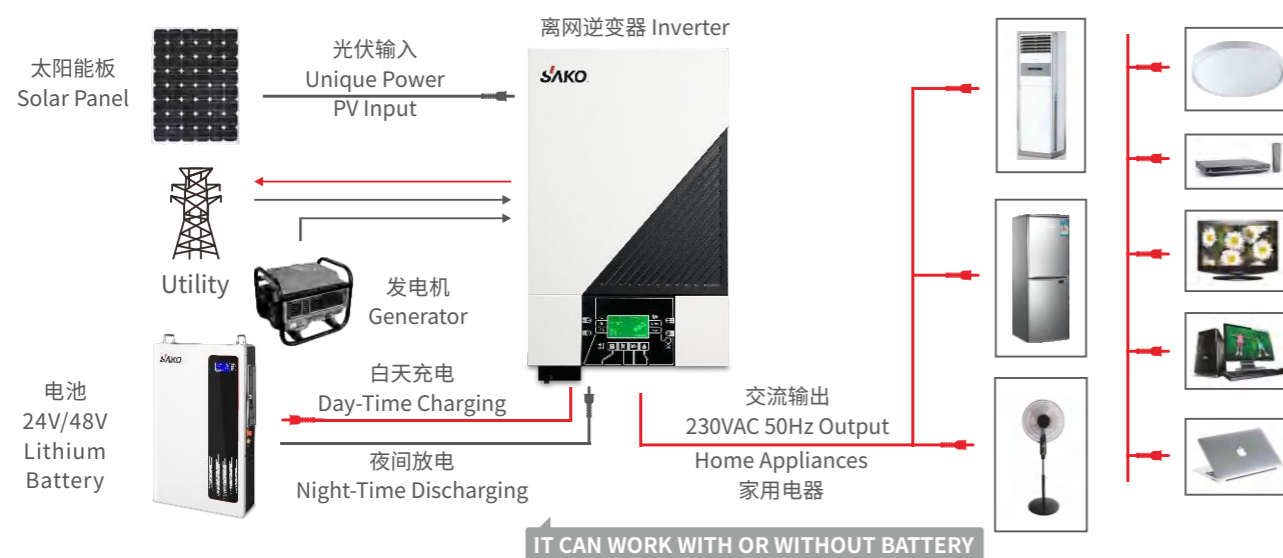
# SUNON V 4.5KVA 6.5KVA Hybrid MPPT Solar Inverter



## MAIN FEATURES

- Built-in Local Wifi for mobile monitoring (App is available)
- With OTG function, supports data events stored
- Optional for RGB or movable LCD case design
- Reserved communication port (RS485, CAN-BUS or RS232) for BMS
- Battery independent design
- Battery equalization extends lifecycle
- Dual(Twin) AC Output
- Enhanced charging power
- Built-in anti-dust kit
- Hybrid can work as off grid or on grid inverter

## Solar System Connection







# SUNON IV 4.2KVA/6.2KVA Off Grid MPPT Solar Inverter

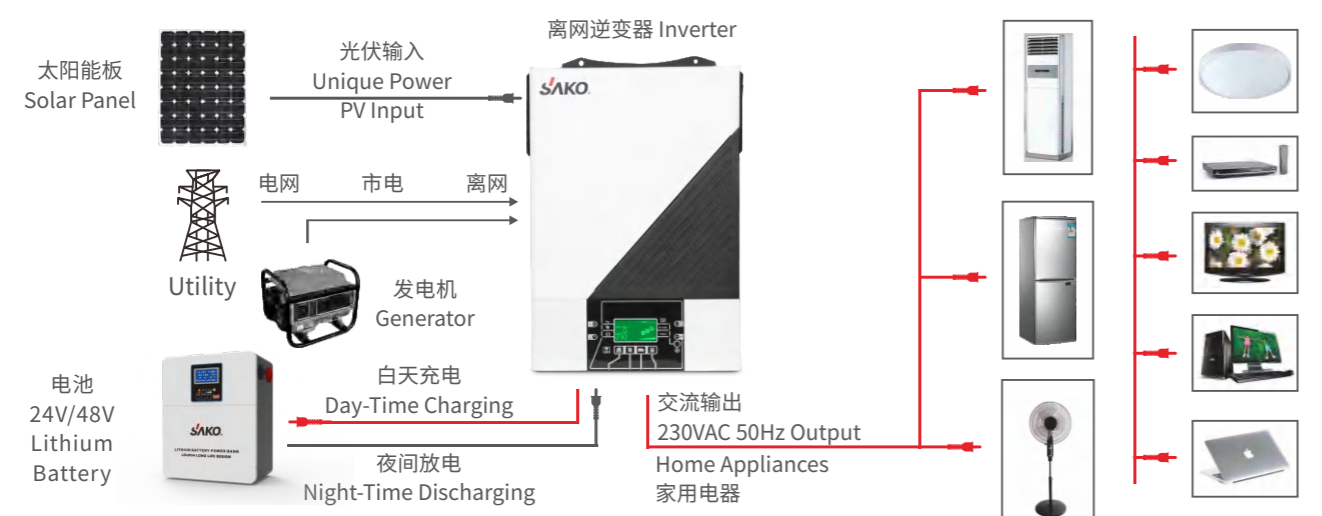
Removable LCD



## MAIN FEATURES

- 120A Solar Charger+AC Charging current
- Wifi Monitor
- Communication: RS232,USB,RS485,WIFI
- Work with or without battery
- Communication port for BMS
- USB On-the-go Function
- Touch Button and LCD
- 6KW PV input (Max. 27A)
- Wide PV Input Range: 60-500Vdc
- Dual Output L1/L2

## Solar System Connection



IT CAN WORK WITH OR WITHOUT BATTERY

## Off Grid MPPT Solar Inverter



### TECHNICAL PARAMETER

MODEL	SUNON IV 4.2KVA	SUNON IV 6.2KVA
The Rated Power	4200VA	6200VA
<b>BATTERY</b>		
Battery Voltage	24 VDC	48 VDC
Floating Charge Voltage	31.5 VDC	61 VDC
Max DC Input	33 VDC	63 VDC
<b>INPUT</b>		
Voltage	230 VAC	
Selectable Voltage Range	90-280VAC (For Home Appliances), 170-280VAC (For Personal Computers)	
Frequency Range	50 Hz/60 Hz (Auto sensing)	
<b>OUTPUT</b>		
AC Voltage Regulation (Ball. Mode)	230 VAC ± 5%	
Surge Power	8400VA	12400VA
Power Factor	0.9	
Efficiency (Peak)	> 93%	
Transfer Time	10 ms (For Personal Computers) ; 20 ms (For Home Appliances)	
Waveform	Pure sine wave	
<b>MPPT SOLAR CHARGER &amp; AC CHARGER</b>		
Maximum PV Array Power	5000W	6000W
MPPT Range	60-450 VDC	
Maximum PV Input	500 VDC	
Max PV Input Current	27 A	
Maximum Solar Charge Current	120 A	
Maximum AC Charge Current	100 A	
Maximum Charge Current	120 A	
Maximum Efficiency	98%	
<b>PHYSICAL</b>		
Dimension, D*W*H (mm)	481*300*130	
Packing Size, D*W*H(mm)	553*388*214	
Net Weight (kgs)	N.W.: 13 G.W.: 14	
<b>OPERATING ENVIRONMENT</b>		
Humidity	5% to 95% Relative Humidity(Non-condensing)	
Operating Temperature	0°C-50°C	
Communication Interface	USB/RS232/RS485(BMS)/Local WiFi/Dry-contact	







**SUNIN**  
5K/8K/10K/12K  
Single Phase



**SUNIN**  
5K/8K/10K/12K  
Three Phase





# Single Phase Hybrid Inverter

SUNIN-5/6/8/10/12K-L1P1-EU



## MAIN FEATURES

<p>Colorful touch LCD, IP65 protection degree</p>	<p>AC couple to retrofit existing solar system</p>	<p>Max. 16 pcs parallel for on-grid and off-grid operation; Support multiple batteries parallel</p>
<p>Max. charging/discharging current of 250A</p>	<p>6 time periods for battery charging/discharging</p>	<p>Support storing energy from diesel generator</p>

# On&Off Grid MPPT Solar Inverter



## TECHNICAL PARAMETER

MODEL	SUNIN-5KM2-L1P1-EU	SUNIN-6KM2-L1P1-EU	SUNIN-8KM4-L1P1-EU	SUNIN-10KM6-L1P1-EU	SUNIN-12KM6-L1P1-EU
<b>Battery Input Data</b>					
Battery Type	Lead-acid or Lithium-ion				
Battery Voltage Range (V)	40-60				
Max. Charging Current (A)	120	135	190	220	250
Max. Discharging Current (A)	120	135	190	220	250
External Temperature Sensor	Yes				
Charging Curve	3 Stages / Equalization				
Charging Strategy for Li-Ion Battery	Self-adaption to BMS				
<b>PV String Input Data</b>					
Max. DC Input Power (W)	6500	7800	10400	13000	15600
Rated PV Input Voltage (V)	370 (125-500)				
Start-up Voltage (V)	125				
MPPT Voltage Range (V)	150-425				
Full Load DC Voltage Range (V)	300-425	200-425			
PV Input Current (A)	13+13	26+13	26+26	26+26+26	26+26+26
Max. PV Isc (A)	22+22	44+22	44+44	44+44+44	44+44+44
No. of MPP Trackers	2		3		
No. of Strings per MPP Tracker	1+1	2+1	2+2	2+2+2	2+2+2
<b>AC Output Data</b>					
Rated AC Output Active Power (W)	5000	6000	8000	10000	12000
Max AC Output Active Power (W)	5500	6600	8800	11000	13200
AC Output Rated Current (A)	22.8/21.8	27.3/26.1	36.4/34.8	45.5/43.5	54.6/52.2
Max. AC Output Current (A)	25/24	30/28.7	40/38.3	50/47.9	60/57.4
Max. Continuous AC Passthrough (A)	35	40	50	70	70
Peak Power (off grid)	2 time of rated power, 10 S				
Power Factor Adjustment Range	0.8 leading to 0.8 lagging				
Power Factor	1				
Output Frequency and Voltage	50 / 60Hz; L/N/PE 220/230Vac				
Grid Type	Split Phase; 2/3 phase; Single Phase				
Total Harmonics Current Distortion (THDi)	<3% (of nominal power)				
DC Current Injection	<0.5% In				
<b>Efficiency</b>					
Max. Efficiency	97.60%				
Euro Efficiency	97.00%				
MPPT Efficiency	99.90%				
<b>Protection</b>					
Integrated	Anti-islanding Protection, PV String Input Reverse Polarity Protection, Insulation Resistor Detection, Residual Current Monitoring Unit, Output Over Current Protection, Output Shorted Protection, Surge Protection				
Over Voltage Category	DC Type II/AC Type III				
<b>Certifications and Standards</b>					
Grid Regulation	VDE4105, IEC61727/62116, VDE0126, AS4777.2, CEI 0 21, EN50549-1, G98, G99, C10-11, UNE217002, NBR16149/NBR16150				
Safety EMC / Standard	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2				
<b>General Data</b>					
Operating Temperature Range (°C)	-40-60°C, >45°C Derating				
Cooling	Smart Cooling				
Noise (dB)	≤30 dB				
Communication with BMS	RS485; CAN				
Weight (kg)	32				
Cabinet Size (WxHxD mm)	420×670×233 (Excluding Connectors and Brackets)				
Protection Degree	IP65				
Installation Style	Wall-mounted				
Warranty	5 Years (10 Years Optional)				





# Three Phase Hybrid Inverter

SUNIN-5/6/8/10/12KM2-L1P3-EU



## MAIN FEATURES

<p><b>100</b></p> <p>100% unbalanced output, each phase; Max. output up to 50% rated power</p>	<p></p> <p>AC couple to retrofit existing solar system</p>	<p></p> <p>Max. 10 pcs parallel for on-grid and off-grid operation; Support multiple batteries parallel</p>	
<p><b>240</b></p> <p>Max. charging/discharging current of 240A</p>	<p></p> <p>48V low voltage battery, transformer isolation design</p>	<p><b>6</b></p> <p>6 time periods for battery charging/discharging</p>	<p></p> <p>Support storing energy from diesel generator</p>

# On&Off Grid MPPT Solar Inverter



## TECHNICAL PARAMETER

MODEL	SUNIN-5KM2-L1P3-EU	SUNIN-6KM2-L1P3-EU	SUNIN-8KM2-L1P3-EU	SUNIN-10KM2-L1P3-EU	SUNIN-12KM2-L1P3-EU
<b>Battery Input Data</b>					
Battery Type	Lead-acid or Lithium-ion				
Battery Voltage Range (V)	40-60				
Max. Charging Current (A)	120	150	190	210	240
Max. Discharging Current (A)	120	150	190	210	240
External Temperature Sensor	Yes				
Charging Curve	3 Stages / Equalization				
Charging Strategy for Li-Ion Battery	Self-adaption to BMS				
<b>PV String Input Data</b>					
Max. DC Input Power (W)	6500	7800	10400	13000	15600
Rated PV Input Voltage (V)	550 (160-800)				
Start-up Voltage (V)	160				
MPPT Voltage Range (V)	200-650				
Full Load DC Voltage Range (V)	350-650				
PV Input Current (A)	13+13		26+13		
Max. PV Isc (A)	17+17		34+17		
No. of MPP Trackers	1+1		2		2+1
No. of Strings per MPP Tracker	1+1		2		2+1
<b>AC Output Data</b>					
Rated AC Output Active Power (W)	5000	6000	8000	10000	12000
Max. AC Output Active Power (W)	5500	6600	8800	11000	13200
AC Output Rated Current (A)	7.6/7.2	9.1/8.7	12.1/11.6	15.2/14.5	18.2/17.4
Max. AC Output Current (A)	8.4/8	10/9.6	13.4/12.8	16.7/15.9	20/19.1
Max. Three-phase Unbalanced Output Current(A)	11.4/10.9	13.6/13	18.2/17.4	22.7/21.7	27.3/26.1
Max Output short circuit current (A)	75				
Max. Continuous AC Passthrough (A)	45				
Peak Power (off grid)	2 time of rated power, 10 S				
Power Factor	0.8 leading to 0.8 lagging				
Output Frequency and Voltage	50/60Hz; 3L/N/PE 220/380, 230/400Vac				
Grid Type	Three Phase				
Total Harmonics Current Distortion (THDi)	<3% (of nominal power)				
DC Current Injection	<0.5% In				
<b>Efficiency</b>					
Max. Efficiency	97.60%				
Euro Efficiency	97.00%				
MPPT Efficiency	99.90%				
<b>Protection</b>					
Integrated	Anti-islanding Protection, PV String Input Reverse Polarity Protection, Insulation Resistor Detection, Residual Current Monitoring Unit, Output Over Current Protection, Output Shorted Protection				
Surge Protection	DC Type III / AC Type III				
Over Voltage Category	DC Type II/AC Type III				
<b>Certifications and Standards</b>					
Grid Regulation	IEC 61727, IEC 62116, CEI 0-21, EN 50549, NRS 097, RD 140, UNE 217002, OVE-Richtlinie R25, G99, VDE-AR-N 4105				
Safety EMC / Standard	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2				
<b>General Data</b>					
Operating Temperature Range (°C)	-40-60°C, >45°C Derating				
Cooling	Smart Cooling				
Noise (dB)	≤45 dB				
Communication with BMS	RS485; CAN				
Weight (kg)	33.6				
Cabinet Size (WxHxD mm)	422×702×281 (Excluding Connectors and Brackets)				
Protection Degree	Ip65				
Installation Style	Wall-mounted				
Warranty	5 Years (10 Years Optional)				



# SAKO 3.5KW 5.5KW Series MPPT Solar Inverter



**SUNON PRO**  
3.5KW/5.5KW



**SUNON PLUS**  
3.5KW/5.5KW



**SUNON-P**  
5.5KW



**SUNON-V**  
5.6KW







# SUNON PRO/SUNON PLUS 3.5KW 5.5KW Off Grid MPPT Solar Inverter

Removable LCD

SUNON PLUS

## MAIN FEATURES

- With 100A MPPT Solar Charge Controller Built-in
- With High PV Input Voltage Range(120-500VDC)
- Efficiently Work With or Without Battery
- With WIFI Function Optional
- With Touch Button on the LCD Display
- Optional for SUNON PLUS 3.5K/5.5K with local wifi and removable LCD

## Solar System Connection



## Off Grid MPPT Solar Inverter



## TECHNICAL PARAMETER

MODEL	SUNON PRO/SUNON PLUS 3. 5K	SUNON PRO/SUNON PLUS 5. 5K
The rated power	3500VA/3500W	5500VA/5500W
<b>BATTERY</b>		
Battery Voltage	24 VDC	48 VDC
Low Battery Alarming Voltage	22 VDC	44 VDC
Low Battery Cut off Protection Voltage	21 VDC	42 VDC
Low Battery Recovery Voltage	23 VDC	46 VDC
Floating Charge Voltage	27 VDC	54 VDC
Overcharge Protection	32 VDC	64 VDC
<b>INPUT</b>		
Voltage	230 VAC	
Selectable Voltage Range	90-280VAC (Appliances), 170-280VAC (UPS)	
Frequency Range	50 Hz/60 Hz (Auto sensing)	
<b>OUTPUT</b>		
AC Voltage Regulation (Ball. Mode)	230 VAC ± 5%	
Surge Power	7000VA	11000VA
No Load Current	1.0A	1.1A
Efficiency (Peak)	> 90%	
Transfer Time	10 ms (UPS) ; 20 ms (Appliances)	
Waveform	Pure sine wave	
<b>MPPT SOLAR CHARGER &amp; AC CHARGER</b>		
Maximum PV Array Power	5000W	6000W
MPPT Range at Operation Vol.	120-450 VDC	
Maximum PV Array Open Circuit Vol.	500 VDC	
Number of MPPT Trackers / Max Output Current	100 A	
Maximum AC Charge Current	80 A	
Maximum Charge Current	100 A	
Maximum Efficiency	98%	
<b>BEST PANEL CONFIGUTATION</b>		
Best Panel Configuration	300Wp*9pcs* 36V(2700Wp)*2Parallel	330Wp*9pcs* 36V(2970Wp)*2Parallel
<b>PHYSICAL</b>		
Dimension, D*W*H (mm)	481*313*117	
Packing Size, D*W*H(mm)	543*394*204	
Net Weight (kgs)	9.8	10.5
Gross Weight (kgs)	11	11.7
<b>OPERATING ENVIRONMENT</b>		
Humidity	5% to 95% Relative Humidity(Non-condensing)	
Operating Temperature	0°C-50°C	





# 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
Maxmum Solar Charge Current	MPPT 100A
Maxmum Trace Efficiency	99.5%
Maxmum AC Charge Current	80A
Maxmum Charge Current	100A
<b>BEST SOLAR PANEL CONFIGUTATION</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

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



## MAIN FEATURES

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

## Solar System Connection





# Off Grid MPPT Solar Inverter

## TECHNICAL PARAMETER

TECHNICAL PARAMETER	
Model	SUNON-V 5.6KW
The rated power	5600W
<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	11200VA
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

# SUNON-V 5.6KVA Off Grid MPPT Solar Inverter with BMS



## MAIN FEATURES

- With 100A MPPT Solar Charge Controller Built-in
- With High PV Input Voltage Range(120-500VDC)
- Efficiently Work With or Without Battery
- With WIFI Function Optional
- SUNON-V 5.6K Support BMS
- With BMS

## Solar System Connection



## SAKO 15-150V MPPT Solar Inverter



**SUNLINK**  
1K/3K/5K



**SUNMAX PRO**  
1K-10K



**SVP**  
1K/2K/3K



**SKN-HDS**  
800W/1600W



**SUNMAX 1K-10K**



# Off Grid MPPT Solar Inverter

## TECHNICAL PARAMETER

TECHNICAL PARAMETER			
MODEL	SUNSEE 1KVA	SUNSEE 3KVA	SUNSEE 5KW
<b>LINE MODE SPECIFICATIONS</b>			
Input Voltage Waveform	Sinusoidal (Utility or generator)		
Nominal Input Voltage	230Vac		
AC Input Range	170Vac-280V (Computer); 90Vac-280Vac (Home Appliances)		
Nominal Input Frequency	50Hz/60Hz (Auto detection)		
Efficiency (Line Mode)	>95% (Rated R load, battery full charged)		
Transfer Time	10ms typical (UPS); 20ms typical (Appliances)		
<b>INVERTER MODE SPECIFICATIONS</b>			
Rated Output Power	1KVA/1KW	3KVA/3KW	5KVA/5KW
Output Voltage Waveform	Pure sine wave		
Output Voltage Regulation	230Vac ± 5%		
Output Frequency	50Hz/60Hz		
Peak Efficiency	93%		
Overload Protection	5s@=150% load; 10s@105%~150% load		
Surge Capacity	2*rated power for 5 seconds		
Nominal Battery Input Voltage	12.0Vdc	24.0Vdc	48.0Vdc
High DC Recovery Voltage	16.0Vdc	32Vdc	64Vdc
High DC Cut-off Voltage	16.5Vdc	33Vdc	66Vdc
No Load Power Consumption	<15W	<25W	50W
<b>CHARGE MODE SPECIFICATIONS</b>			
<b>Utility Charging Mode</b>			
Charging Algorithm	3 steps		
AC Charging Current (Max)	25Amp (INPUT=230vac)		60A
Battery Voltage	14.1Vdc	28.2Vdc	56.4Vdc
Floating Charging Voltage	13.5Vdc	27Vdc	54Vdc
<b>MPPT SOLAR CHARGING MADE</b>			
Charging Current	40A	50A	80A
System DC Voltage	12Vdc	24Vdc	48Vdc
Operating Voltage Range	15V-80V	30V-80V	60V-115V
Max.PV Array Open Circuit Voltage	115Vdc		145Vdc
DC Voltage Accuracy	±0.3%		
Max Charging Current (AC+ Solar)	60A		120A
Max.Solar Input Power (W)	40Amp, 480W	50Amp, 1200W	80Amp, 3840W
<b>GENERAL SPECIFICATIONS</b>			
Safety Certification	CE		
Operating Temperature Range	0°C-50°C		
Storage Temperature	-15°C-60°C		
Humidity	5% to 95% Relative Humidity (Non-condensing)		
Product Dimension(D*W*H),mm	343*250*122	473*297*107	470.5*300*136
Packing Size (mm)	400*320*190	537*390*193	549*394*224
Net Weight, kg	5.35	7.84	10.81
G.W. kg	5.85	9.24	12.86

# SUNSEE 1-5K Off Grid Low Voltage MPPT Solar Inverter (230Vac Ooutput)



## MAIN FEATURES

- With MPPT Solar Charge Controller Inbuilt
- Parallel Operation With up to 6 Units Only Available for 5KW
- Configurable Priority of AC/Solar Charge Via LCD Setting
- Auto Restart While AC is Recovering
- Selectable Input Voltage Range for Home Appliances and Personal Computers

## Solar System Connection



# Off Grid MPPT Solar Inverter

## TECHNICAL PARAMETER

# SUNMAX-PRO 1-10K Low Frequency Low Volt Off Grid MPPT Solar Inverter (230Vac Output)



### MAIN FEATURES

- With MPPT Solar Charge Controller Inbuilt
- Auto Restart While AC is Recovering
- Parallel Operation With up to 9 Units for 5/6KVA, 6 Units for 10KVA
- Wall Mount Design, Easy Installation
- Configurable Priority of AC/Solar Charge Via LCD Setting
- With LCD and RGB display
- Support BMS for 5KVA
- Automatically Active Lithium Battery
- Selectable Input Voltage Range for Home Appliances and Personal Computers
- Low Frequency Transformer Technology, Durable and Affordable

### Solar System Connection



TECHNICAL PARAMETER	SUNMAX-PRO Series					
MODEL	1KVA 12V	2KVA 24V	3KVA 24V/48V	5KVA 24V/48V	6KVA 48V	10KVA 48V
<b>LINE MODE SPECIFICATIONS</b>						
Input Voltage Waveform	Sinusoidal (Utility or generator)					
Nominal Input Voltage	230Vac					
AC Input Range	170Vac-280V (Computer); 90Vac-280Vac (Home Appliances)					
Nominal Input Frequency	50Hz/60Hz (Auto detection)					
Efficiency (Line Mode)	>95% (Rated R load, battery full charged)					
Transfer Time	10ms typical (UPS); 20ms typical (Appliances)					
<b>INVERTER MODE SPECIFICATIONS</b>						
Rated Output Power	800W	1600W	2400W	4KW	5KW	8KW
Output Voltage Waveform	Pure sine wave					
Output Voltage Regulation	230Vac±5%					
Output Frequency	50Hz/60Hz					
Peak Efficiency	90%					
Overload Protection	5s@=150% load; 10s@105%~150% load					
Surge Capacity	2*rated power for 5 seconds					
Nominal Battery Input Voltage	12.0Vdc	24.0Vdc			48.0Vdc	
High DC Recovery Voltage	16.0Vdc	32Vdc			64Vdc	
High DC Cut-off Voltage	16.5Vdc	33Vdc			66Vdc	
No Load Power Consumption	<15W	<25W			50W	
<b>CHARGE MODE SPECIFICATIONS</b>						
<b>Utility Charging Mode</b>						
Charging Algorithm	3 steps					
AC Charging Current (Max)	15A		40A		80A	
Battery Voltage	14.1Vdc	28.2Vdc			56.4Vdc	
Floating Charging Voltage	13.5Vdc	27Vdc			54Vdc	
<b>MPPT SOLAR CHARGING MADE</b>						
Charging Current	40A		60A		120A	
System DC Voltage	12/24Vdc		24/48Vdc		48Vdc	
Operating Voltage Range	15V/30V-100V		30V/60V-150V		60V-190V	
Max.PV Array Open Circuit Voltage	100Vdc				250Vdc	
DC Voltage Accuracy	±0.3%					
Max Charging Current (AC+ Solar)	55A		100A		200A	
Max.Solar Input Power (W)	600W	1200W	1800W	3600W	3600W	10KW
BMS Communication	6K Support Lithium Battery BMS Communication					
Parallel Option	6K Parallel 9 Units, 10K Parallel 6 Units					
Compatible Lithium Battery	1-10K Support Compatible and Active Lithium Battery					
<b>GENERAL SPECIFICATIONGS</b>						
Safety Certification	CE					
Operating Temperature Range	0°C-50°C					
Storage Temperature	-15°C-60°C					
Humidity	5% to 95% Relative Humidity (Non-condensing)					
Product Dimension(D*W*H),mm	L520*W280*H150		L560*W345*H150		L600*W450*H220	
Packing Size (mm)	L620*W360*H250		L660*W430*H250		L700*W530*H350	
Net Weight, kg	32		42		55	
G.W. kg	35		45		62	





# SUNMAX 1KW-6KW LF Off Grid MPPT Solar Inverter

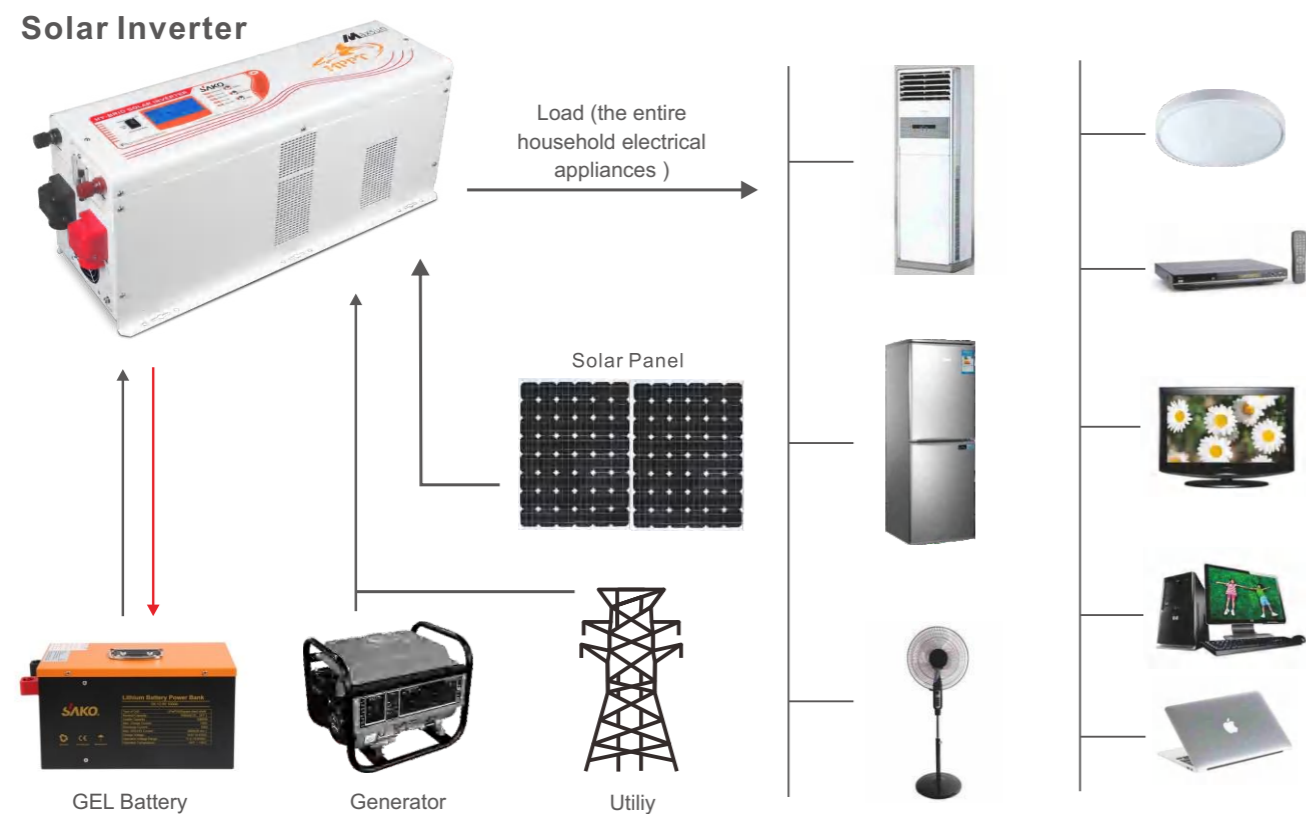
## Off Grid MPPT Solar Inverter

### TECHNICAL PARAMETER

MODEL	SUNMAX 1KW	SUNMAX 2KW	SUNMAX 3KW	SUNMAX 4KW	SUNMAX 5KW	SUNMAX 6KW
<b>DC INPUT</b>						
Input Voltage(Vdc)	12V/24V			24V/48V		
Min DC Start Voltage(Vdc)	10V/20V			20V/40V		
<b>AC BYPASS</b>						
Nominal Input Voltage	110V or 230Vac (Waveform: Sine wave or as generator)			230 Vac		
Input AC Range(Vac)	90Vac±4%-135Vac±4% or 184Vac±4%-253Vac±4%			184Vac±4%-253Vac±4 %		
Frequency Range(Hz)	57Hz or 60Hz (47Hz-53Hz for 50Hz, 57Hz-63Hz for 60Hz)					
Input Frequency(Hz)	50Hz/60Hz (Auto detection)					
Bypass Output Voltage(Vac)	Same as input voltage					
Bypass Output Frequency(Hz)	Same as input frequency					
Max Bypass Overload Current	10A	30A	40A			
AC Efficiency	> 95%					
Transfer Time(ms)	20ms (typical)					
<b>MPPT CHARGE CONTROLLER BUILT INSIDE</b>						
Solar Charge Controller(Optional)	MPPT 60A	MPPT 60A	MPPT 60A	MPPT 60A	MPPT 60A	MPPT 60A
Max. PV Input Voltage( Vdc)	≤ 150Vdc					
The Battery Voltage (Vdc)	12V/24V/48V According to Inverter Model					
<b>CHARGER</b>						
Charge mode Input Voltage Range	80~145Vac or 95~255Vac			100~255Vac		
Automatic Charge mode	Three stage charge mode: Boost CC (constant current stage)→ Boost CV (constant voltage stage)→Float (constant voltage stage)					
Nominal Charge Voltage	According to the battery type setup					
Charge Current(A)	17.5A/35A/70A					
Charger Short Circuit Protection	Circuit breaker					
<b>INVERTER</b>						
Capacity(VA)	1000	2000	3000	4000	5000	6000
Output Power(W)	1000	2000	3000	4000	5000	6000
Power Factor(PF)	1					
Output Voltage	120V or 230Vac (Sine wave)			230Vac (Sine wave)		
Output Frequency	50/60±0.3Hz(auto tracking main first power connection)					
Waveform	pure sine wave					
Inversion Efficiency	> 88%					
Over load Capacity	(110%<load<125%)±10%: Fault (shutdown output) after 15 minutes;					
Low Battery Alarm	10.5Vdc±0.3Vdc for 12V battery, 21 .0Vdc±0.6Vdc for 24V battery, 42.0Vdc±1.2Vdc for 48V battery					
Power Saver Load	≤ 25W					

### Solar System Connection

#### Solar Inverter





# Off Grid PWM Solar Inverter

## TECHNICAL PARAMETER

MODEL	SVP 1KW	SVP 2KW	SVP 3KW
The Rated Power	1000W	2000W	3000W
<b>BATTERY</b>			
Battery Voltage	12 VDC	24 VDC	24 VDC
Floating Charge Voltage	13.5 VDC	27 VDC	27 VDC
Overcharge Protection	16 VDC	32 VDC	32 VDC
<b>INPUT</b>			
Voltage	230 VAC		
Selectable Voltage Range	90-280VAC (For Home Appliances), 170-280VAC (For Personal Computers)		
Frequency Range	50 Hz/60 Hz (Auto sensing)		
<b>OUTPUT</b>			
AC Voltage Regulation (Ball. Mode)	230 VAC ± 5%		
Surge Power	2000VA	4000VA	6000VA
Efficiency (Peak)	90%	93%	93%
Transfer Time	10 ms (For Personal Computers) ; 20 ms (For Home Appliances)		
Waveform	Pure sine wave		
<b>SOLAR CHARGER &amp; AC CHARGER</b>			
Maximum PV Array Power	600 W	1200 W	1200 W
PWM Range Operation Vol.	16-22 VDC	32-44 VDC	32-44 VDC
Maximum PV Array Open Circuit Vol.	40 VDC	60 VDC	60 VDC
Standby Power Consumption	2 W		
Maximum Solar Charge Current	PWM 50 A		
Maximum AC Charge Current	20 A	20 A	25 A
Maximum Charge Current	70 A	70 A	70 A
Maximum Efficiency	98%		
<b>BEST PANEL CONFIGUTATION</b>			
Max. Generated from Solar Charger	600 W	1200 W	1200 W
Best Panel Configuration	150W*18V*4Parallel	330W*36V*4Parallel	330W*36V*4Parallel
<b>PHYSICAL</b>			
Dimension, D*W*H (mm)	355*250*122	355*250*122	363*297*107
Packing Size, D*W*H(mm)	400*320*190	400*320*190	424*390*193
Net Weight (kgs)	5.4	6.15	7.8
<b>OPERATING ENVIRONMENT</b>			
Humidity	5% to 95% Relative Humidity(Non-condensing)		
Operating Temperature	0°C-50°C		



# SVP 1KW-3KW Off Grid PWM Solar Inverter

## MAIN FEATURES

- Selectable Input Voltage Range for Home Appliances and Personal Computers
- Solar Charger and AC Charger Built Inside, Compitable to Grid Power or Generator Power
- Configurable Priority of AC/Solar Charge Via LCD Setting
- Auto Restart While AC is Recovering, Auto Charge and Switch, Unattended Operation
- Smart Battery Charger and Management for Optimized Battery Performance

## Solar System Connection





# Off Grid PWM Solar Inverter

## TECHNICAL PARAMETER

INVERTER MODEL	SKN-HDS 1KVA	SKN-HDS 2KVA
Capacity	800W	1600W
<b>DC INPUT</b>		
Input Voltage(VDC)	12 VDC	24 VDC
DC Input Voltage Range(VDC)	10-15 VDC	20-30 VDC
<b>PWM CONTROL LER</b>		
PV Input Voltage(VDC)	18-30 V	36-60 V
PV Charge Current(A)	50 A	
<b>AC BYPASS(THE SWITCH AT ON MODE)</b>		
AC Input Voltage Range(VAC)	220/230/240 VAC	
	170-280V ( Narrow Range) / 90-280VAC (Wide Range)	
Input Frequency(HZ)	50Hz/60Hz	
Output Voltage Range(VAC)	SAME AS INPUT	
Output Frequency(HZ)	SAME AS INPUT	
Charge Current(A)	15-20 A	10-15 A
Floating Voltage(V)	13.75±0.2 V	27.5±0.4 V
Overcharge Voltage(V)	15.0±0.4 V	30.0±0.8 V
AC Efficiency	> 97%	
Transfer Time(ms)	15ms	
<b>AC OUTPUT(BATTERY MODE)</b>		
Capacity(VA)	1000VA	1600VA
Output Capacity(W)	800W	1600W
Output Voltage(VAC)	230VAC	
Output Frequency(HZ)	50Hz/60Hz	
Output Current(A)	3.48A	6.95A
Output Voltage range(VAC)	230V±10%	
Output Frequency Range(HZ)	50Hz/60Hz±0.1Hz	
Output Wave Form	Modified Sine Wave	
Power Factor	0.8	
Efficiency	> 85%	
Bypass transfer time(ms)	≤ 20ms	
Overload	Over load≥110%, after 60s off	
<b>PROTECTION</b>		
Protection	Over temperature/Over load/ Short circuit protection Over charge, discharge protection	
<b>ENVIRONMENT</b>		
Noise(dB)	≤40(1 meter)	
Temperature	-20~45 degree	
Humidity	5% to 95% (no condensation)	
Altitude(m)	≤1500	
<b>PACKING</b>		
Product Dimension (D*W*H), mm	360*135*355	
Net Weight (kgs)	4kgs	

# SKN-HDS 1KVA/2KVA Modify Sine Wave Off Grid PWM Solar Inverter



## MAIN FEATURES

- Solar charge controller and AC charger built inside, solar/battery/grid power complementary.
- User can select the work mode as solar priority or solar/AC together
- Support wide AC input range(90-280Vac)
- Solar charger/AC charger/Inverter/ AVR/UPS 5 functions into 1
- Application: Fan, light, TV and office Appliances

## Solar System Connection

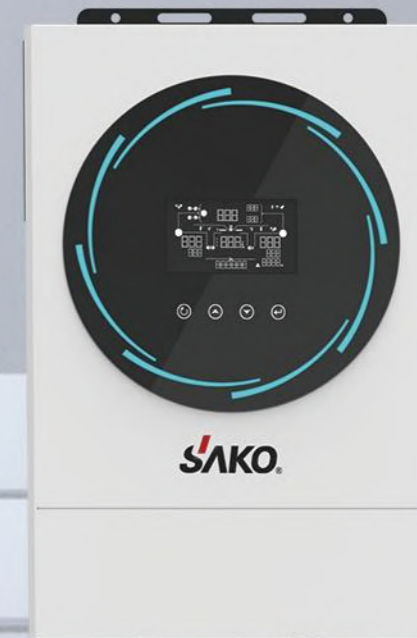




SUNPOLO  
5KW



SUNPOLO  
6KW



SUNPOLO  
8.2K/11K



SUNSEE-AMERY-ECO  
3.6K/5K/8K/10K





# SUNPOLO 5KW On&Off Grid MPPT Solar Inverter IP20



## On&Off Grid MPPT Solar Inverter

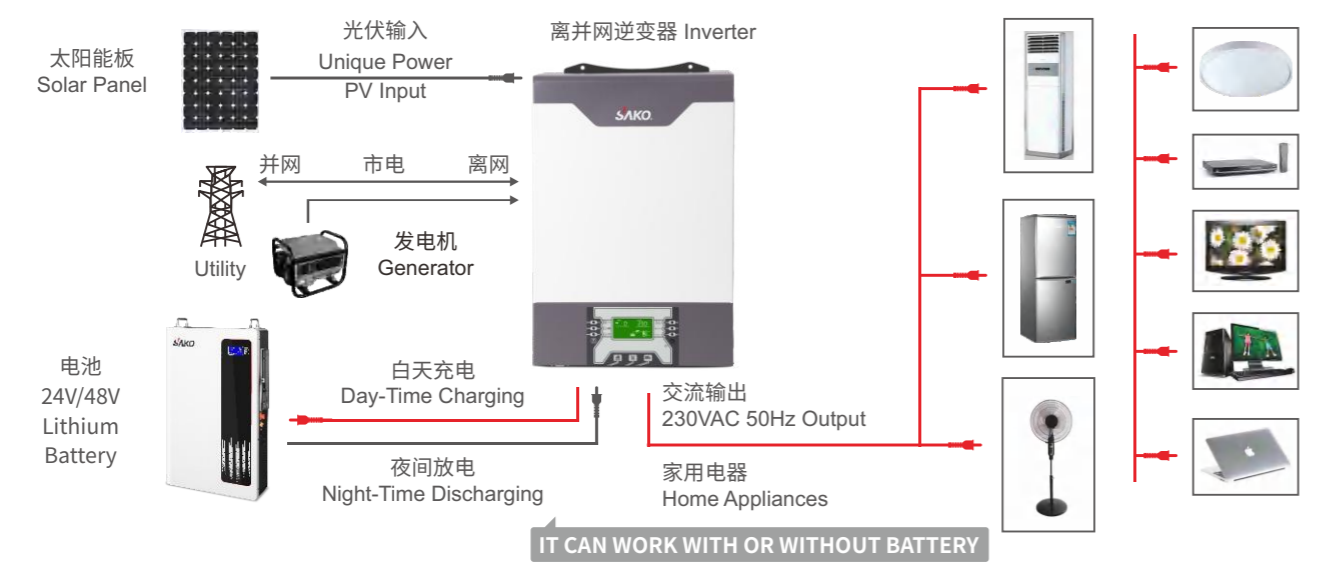
### TECHNICAL PARAMETER

MODEL	SUNPOLO 5KW
Rated Power	5000W
<b>BATTERY</b>	
Battery Voltage	48 VDC
Floating Charge Voltage	54 VDC
Overcharge Protection	64 VDC
<b>INPUT</b>	
Voltage	230 VAC
Selectable Voltage Range	176-280 VAC at 100% load; 110-280 VAC at 50% load
Frequency Range	50 Hz/60 Hz (Auto sensing)
<b>OUTPUT</b>	
AC Voltage Regulation (Ball. Mode)	230 VAC ± 3%
Surge Power	10400VA for 5 sec.
Efficiency (Peak)	> 95% (Rated R load, Battery Full Charged)
Transfer Time	10 ms (For Personal Computers) ; 20 ms (For Home Appliances)
Waveform	Pure sine wave
<b>SOLAR CHARGER &amp; AC CHARGER</b>	
Solar Charger Type	MPPT
Maximum PV Array Power	5000W
MPPT Range @ Operating Voltage	120 ~ 430 VDC
Maximum PV Array Open Circuit Voltage	450 VDC
Maximum Solar Charge Current	80 A
Maximum AC Charge Current	80 A
<b>PHYSICAL</b>	
Dimension, D*W*H (mm)	471*303*147
Packing Size, D*W*H(mm)	530*377*217
Net Weight (kgs)	11.97
Communication Interface	Removable OTG USB/RS232/RS458/BLE/Dry-contact, 9pcs in parallel ( only 5KVA )
<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

### MAIN FEATURES

- Optional Parallel 9 units Max.
- 80A MPPT Solar Charge Controller up to 5000W Solar panel
- Built-in Local WIFI for Mobile Monitoring(Extral WIFI Optional)
- 5KW is Real Hybrid Can Work as Off Grid and On Grid Solar Inverters
- Efficiently Work With or Without Battery
- With Touch Button on the LCD Display
- Compatible With Lithium Battery
- 5KW Can Be off Grid and on Grid

### Solar System Connection





# 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 6KW On&Off Grid MPPT Solar Inverter IP20

Cycling Wheel Chasing

## 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



Pink Green Sky Blue Purple Orange Blue





## On&Off Grid MPPT Solar Inverter



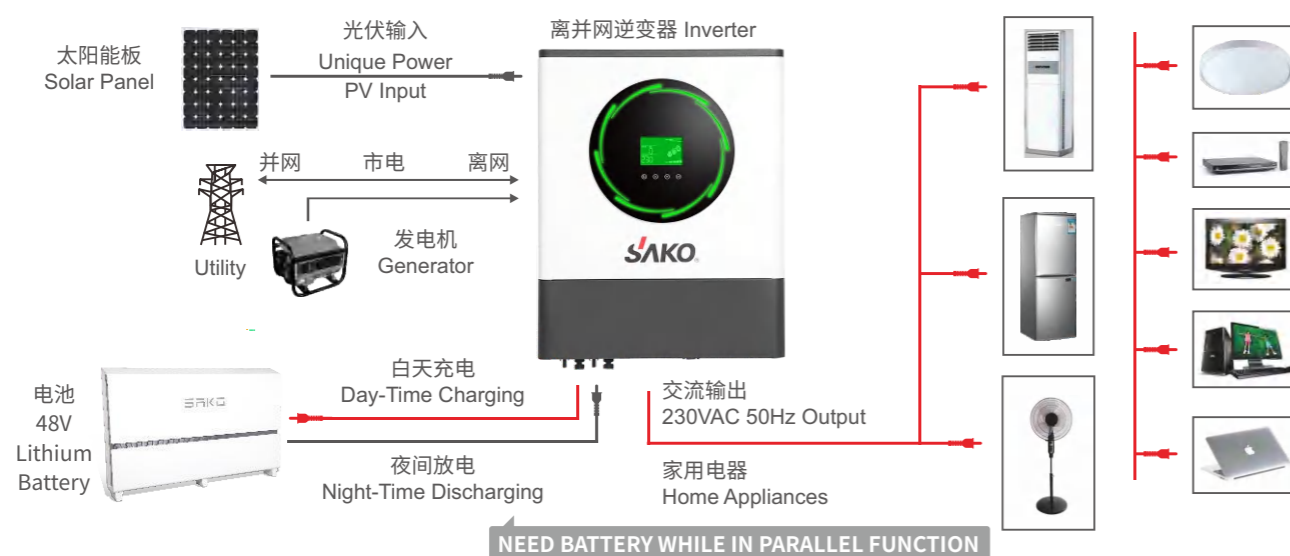
### TECHNICAL PARAMETER

MODEL	SUNPOLO 8.2KW	SUNPOLO 11KW
<b>Basical information</b>		
Rated AC Output Power	8200W	11000W
<b>Grid-Tie Operation</b>		
<b>PV Input (DC)</b>		
Nominal DC Volt/Max DC Voltage	360VDC/450VDC	
Start-up Voltage/Initial Feeding Voltage	80VDC	120VDC
MPPT Voltage Range	90-450VDC	
No. of MPPT Tracker/Max. Input Current	27A *2(MAX 40A)	
Max. PV Input Power	12000W(6000W*2)	11000W(5500W*2)
<b>Grid Output (AC)</b>		
Nominal Output Volt	220Vac/230Vac/240Vac, Single Phase	
Output Voltage Range	184V-265Vac or 195-253V (Selectable)	
Nominal Output Current	40A(Max. 2nd Output Current)	47.8A
Power Factor	>0.9	
<b>Efficiency</b>		
Max. Conversion Efficiency (DC/AC)	96%	
<b>Off-Grid Operation</b>		
<b>AC Input (AC)</b>		
AC Start-up Voltage/Auto Restart Volt.	120Vac-140Vac/180Vac	
Acceptable Input Voltage Range	90-280Vac or 170-280Vac	
Max. AC Input Current	60A	60A
<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	150A	150A
Max AC Charge Current	150A	150A
Max Total Charge Current	150A	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)	18.8	19.1
Product Gross Weight(kgs)	20.9	21.3
Packing Dimension,D X W X H (mm)	700mm*510*mm*232mm,1PC/CTN	696mm*567mm*243mm,1PC/CTN
Parallel functions	Yes, MAX. 6pcs	Yes, 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	

### MAIN FEATURES

- Communication optional: USB/RS232/RS485/Dry-Contact/WIFI
- Work with or without battery
- Dual MPPT tracker inside (2pcs\*27A)
- Parallel up to 6pcs optional
- 3 IN 1: MPPT INVERTER, ON GRID/OFF GRID/HYBRID.
- Touch LCD screen
- Real Hybrid Can Feed into Grid
- RGB Light
- Dual AC output L1/L2
- WIFI monitor(local wifi+remote wifi)
- With BMS (Smart battery management), can communicate with LiFePO4

### Solar System Connection





# On&Off Grid MPPT Solar Inverter

## TECHNICAL PARAMETER

MODEL	SUNSEE AMERY ECO 3.6KW	SUNSEE AMERY ECO 5KW	SUNSEE AMERY 8KW	SUNSEE AMERY 10KW
<b>INVERTER OUTPUT</b>				
Rated Output Power	3600W	5000W	8000W	10000W
Max.Peak Power	3600VA	10000VA	16000W	20000W
Rated Output Voltage	120Vac(L/N/PE single-phase)		120/240Vac(split phase/single phase)	
Load Capacity of Motors	2HP	4HP	5HP	6HP
Rated AC Frequency	50/60Hz			
Waveform	Pure sine wave			
Switch Time	10ms(typical)			
Parallel Capacity	/	1-6 units(single/split/three phase)	/	/
<b>BATTERY</b>				
Battery Type	Li-ion / Lead-acid / user-define			
Rated Battery Voltage	48Vdc			
Voltage Range	40~60Vdc			
Max.MPPT Charging Current	60A	100A	200A	
Max.Mains/Generator Charging Current	40A	40A	100A	120A
Max.Hybrid Charging Current	60A	100A	180A	200A
<b>PV INPUT</b>				
Num.of MPP Trackers	1		2	
Max. PV array power	4000W	5500W	5500W+5500W	
Max.input current	13A	22A	22A+22A	
Max.Voltage of Open Circuit	450Vdc	500Vdc	500Vdc+500Vdc	
MPPT Voltage Range	120~400Vdc	125~450Vdc	125~425Vdc	
<b>MAINS/GENERATOR INPUT</b>				
Input Voltage Range	90~140Vac			
Frequency Range	50/60Hz			
Bypass Overload Current	40A	63A		
<b>EFFICENCY</b>				
MPPT Tracking Efficiency	>95%	99.9%		
Max. Battery Inverter Efficiency	>92%			
<b>GENERAL</b>				
Dimensions	415*280*100mm	446.9*350*133mm	620*445*130mm(2.03*1.45*0.42ft)	
Weight	7.8kg	13kg	27kg(59.52lb)	
Protection Degree	IP20, indoor only			
Operating Temperature Range	- 15~55°C		- 10~55°C, >45°C derated	
Noise	<60dB			
Cooling Method	Intelligent fan			
Warranty	1 year			
<b>COMMUNICATION</b>				
Embedded Interfaces	RS485/CAN/USB/dry contact			
External Modules (Optional)	Wi-Fi/GPRS			

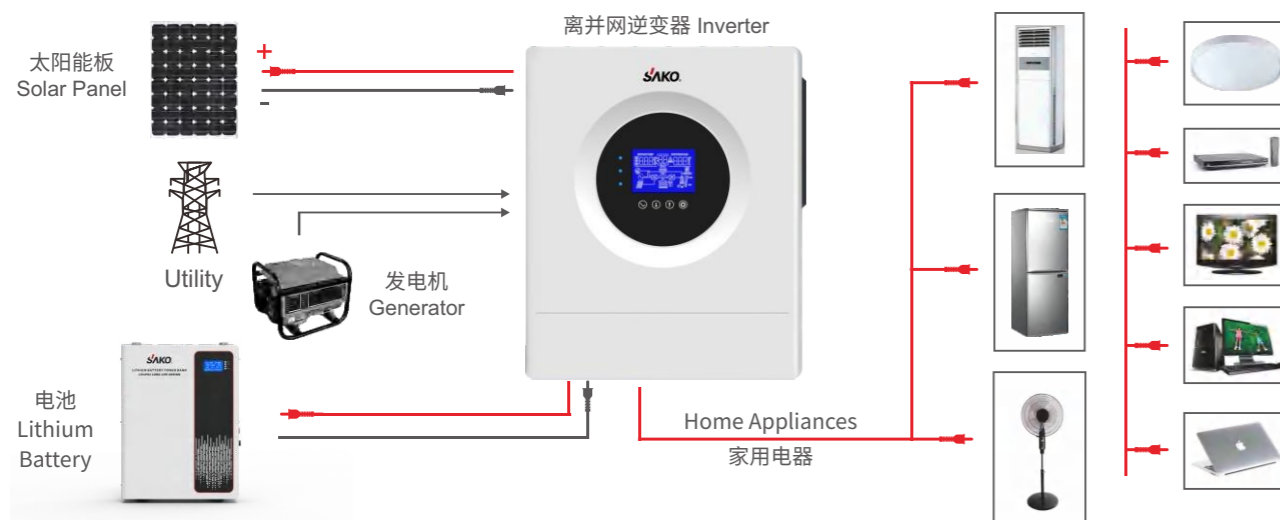
# SUNSEE -Amery 3.6KW 5KW 8KW 10KW On&Off Grid MPPT Solar Inverter Split Phase 120V/240V



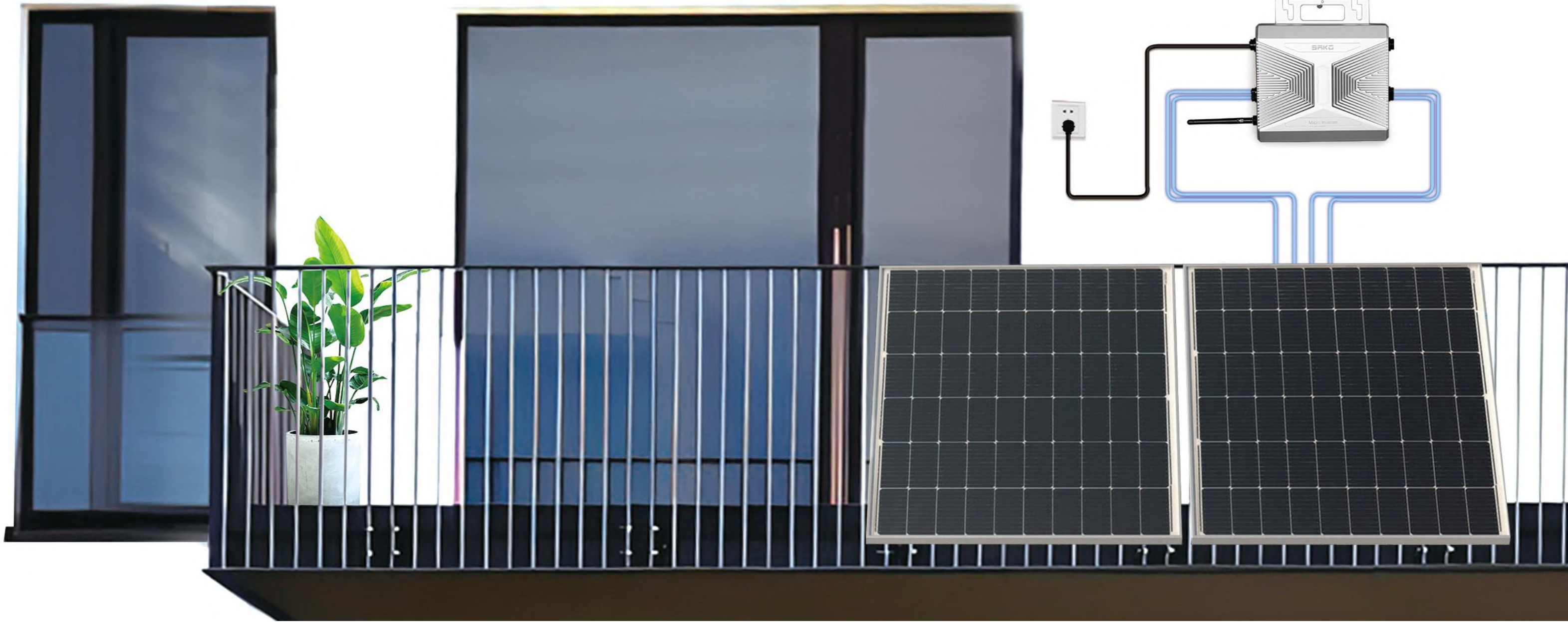
## MAIN FEATURES

- Configurable Input Voltage for Home Appliances and Personal Computers Via LCD Setting
- 5KW Output 120Vac, 8KW&10KW Output 120Vac/240Vac Split Phase
- Auto Restart While AC is Recovering
- Parallel up to 6pcs for 5KW
- 1\*100A MPPT for 5K, 2\*200A MPPT for 10K
- Configurable Priority of AC/Solar Charge Via LCD Setting
- Local WIFI Built Inside, Optional for Remote Wifi

## Solar System Connection







**300-500W  
Micro Inverter**



**1200-2000W  
Micro Inverter**









**600-1000W  
Micro Inverter**







## MICRO INVERTER

 <p>Free smart WIFI monitor, can be installed within 30S.</p>	 <p>1-4pcs MPPT trackers efficiency up to 99%.</p>	 <p>Parallel-able version optional for easy expansion.</p>
 <p>IP67 protection, optimizes the performance, 10 years warranty.</p>	 <p>Low starting voltage (up to 60Vdc PV input), relay integrated for better protection.</p>	 <p>Easy installation, intelligent operation, user friendly.</p>

## Balcony Solar Products

### 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					



## 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					

## 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					

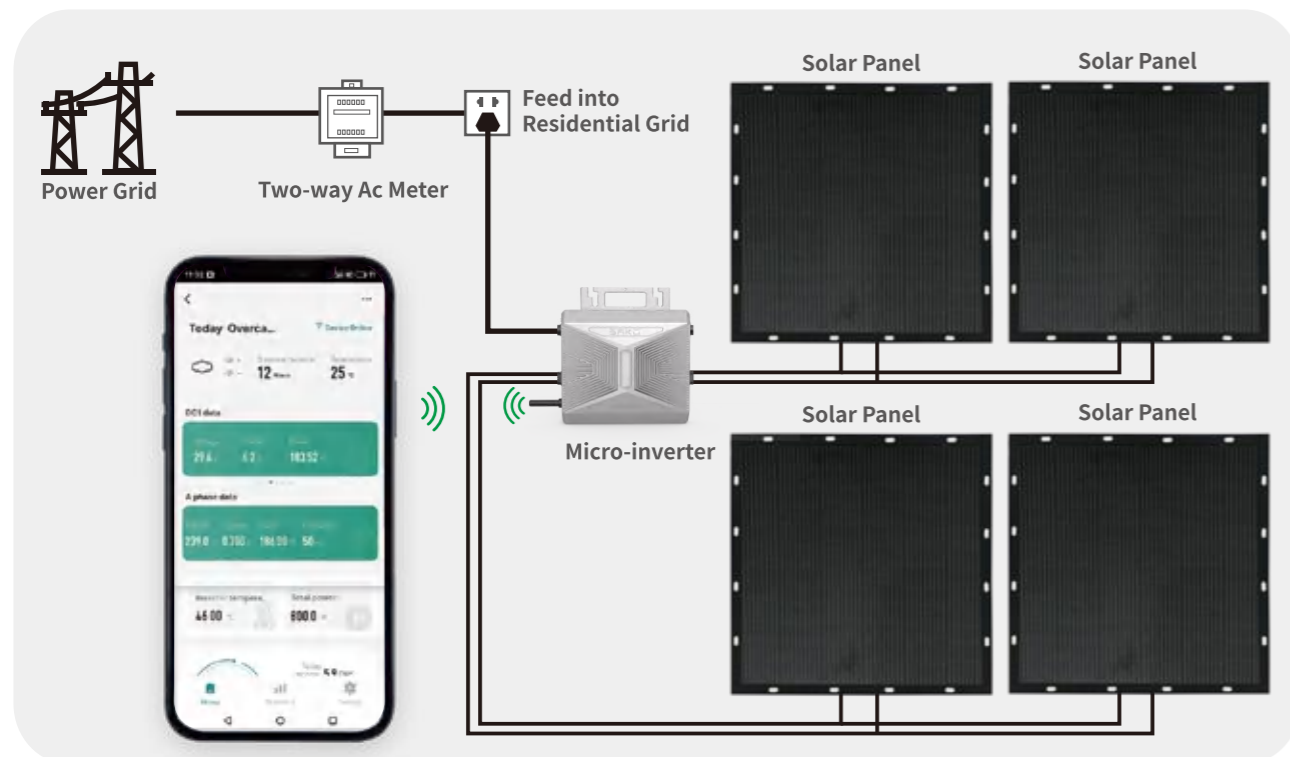




## 600W/800W BALCONY SOLAR SYSTEM

### PACKAGE INCLUDES

Micro Inverter: 600W/800W \*1pc  
Solar Panel: 215W \*4pcs  
AC cable with plug: 5mm<sup>2</sup>\*1pcs  
Industrial Zip Ties\*2set



## Balcony Solar System with 215W Flexible Panel

### TECHNICAL PARAMETER

SPECIFICATION	MODEL	600W Micro System with 215W Flexible PV Module	800W Micro System with 215W Flexible PV Module
<b>Micro Inverter Key Data</b>			
Micro Inverter qty for each system (pc)		1pc	1pc
Rated output power (VA)		600VA	800VA
Rated output current (A)		2.7A(220Vac)/2.6A(230Vac)	3.6A(220Vac)/3.5A(230Vac)
Maximum input voltage (V)		60V	60V
MPPT Voltage Range(V)		25-55V	25-55V
Maximum input current (A)		2×13A	2×13A
Maximum input short circuit current (A)		2×19.5A	2×19.5A
Nominal frequency/range (Hz)		50/60Hz	50/60Hz
Power factor		>0.99	>0.99
Total harmonic distortion		< 3%	< 3%
Peak inverter efficiency		96.5%	96.5%
IP Level		IP67	IP67
Communication		WIFI	WIFI
<b>Solar Panel Key Data</b>			
Solar Panel Type		215W Flexible PV Module	215W Flexible PV Module
Solar panel qty for each system(pc)		4pcs	4pcs
Power output (Pmax / W)		215W	215W
Power output Tolerances		±3%	±3%
Open-circuit voltage (Voc / V)		41.52V	41.52V
Short-circuit current (Isc / A)		6.156A	6.156A
Voltage at Pmax (Vmp / V)		35.46V	35.46V
Current at Pmax (Imp / A)		6.797A	6.797A
Module Efficiency		23%	23%
Attached PV cables		2M*1 Pair	2M*1 Pair
Solar cells		182mm cell	182 cell
Solar panel Size		1159*1066*3mm	1159*1066*3mm
N.W each piece		3.8kgs	3.8kgs
<b>Accessories (Not included into the standard system, optional by user)</b>			
Panel Zip Ties		Industrial zip ties to fix panel*40pc	Industrial zip ties to fix panel*40pc
2-1 Mc4 connector		2 Pairs	2 Pairs
AC output Cables (Optional)		3*1.5mm3* 5M*1pc	3*1.5mm3* 5M*1pc
Extension PV Cable (Optional 1)		1M PV cable*2 sets(4pcs)	1M PV cable*2 sets (4pcs)
<b>Packing information</b>			
Inner box size(f1 complete set system)		1395*1130*70mm(1 set per carton)	1395*1130*70mm(1 set per carton)
Master carton Size ( without bracket)		1400*1270*1150mm(16 sets per pallet)	1400*1270*1150mm(16 sets per pallet)
QTY for 20HQ		323 sets in 8P (16sets/ Pallet+13sets/Pallet)	323 sets in 8P (16sets/ Pallet+13sets/Pallet)
QTY for 40HQ		512sets in 32 pallets (32 pallets)	512sets in 32 pallets (32 pallets)







