



HEADQUATER



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Off Grid Solar Inverter



Hybrid Solar Inverter



ESS System



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广东三科新能源有限公司

GUANGDONG SAKO NEW ENERGY CO. , LTD

**Top Off Grid Solar Inverter &
Lithium Battery Storage System Manufacturer**

离网逆变器.太阳能锂电池.储能系统专家



About us

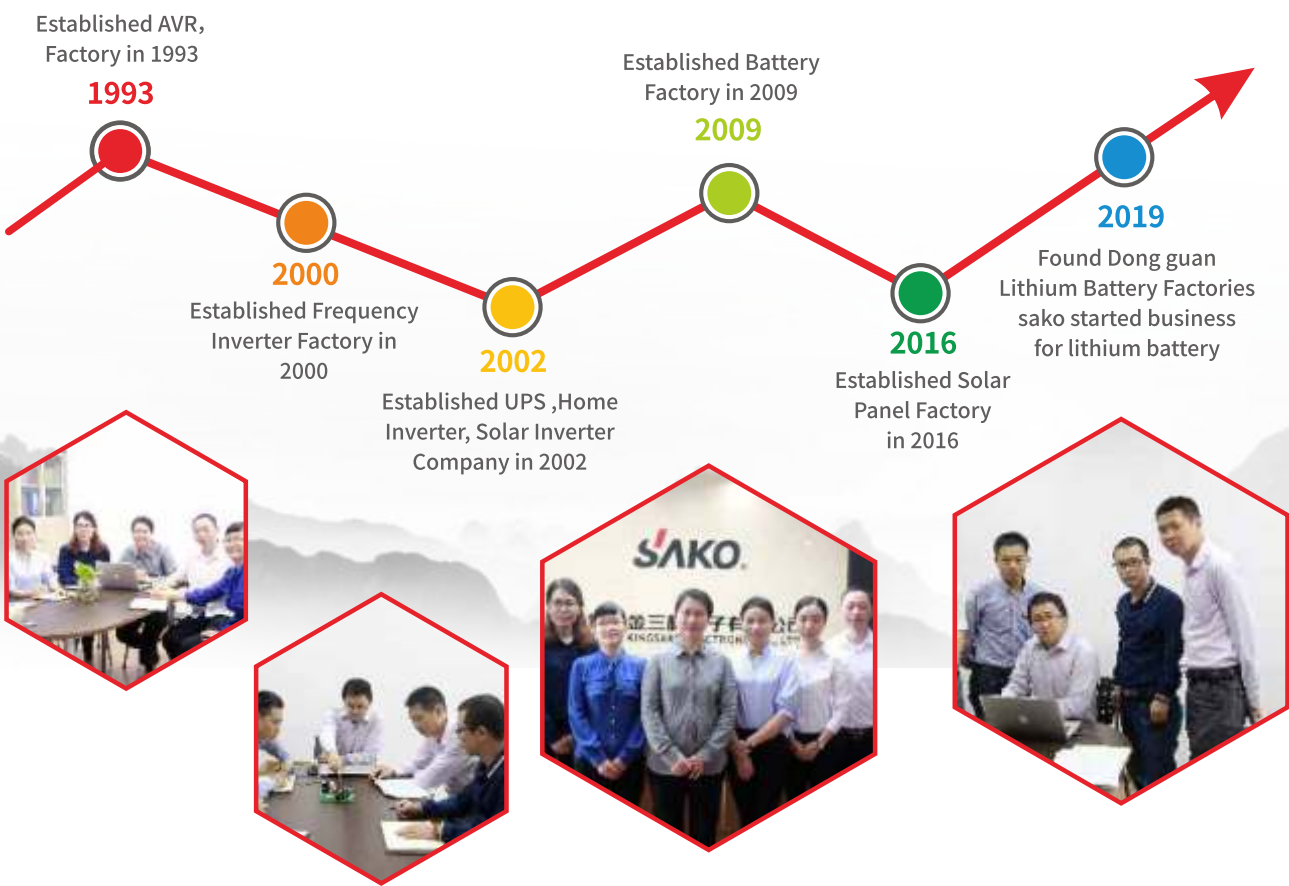
Leading OEM/ODM manufacturer for off grid solar inverter, home inverter, pumping inverter, lithium iron battery pack, solar panel, storage solar system.

Established in 1993, SAKO is the professional manufacturer engaged in research, development, sale and service of high quality power and solar products, with main products cover: home inverter, off grid solar inverter, solar panel, lithium iron battery pack and storage solar system. As we SAKO produce all key components of solar system by ourselves, we have the advantage on cost control and quality control. Customer can do one stop shopping from SAKO and we give the warranty to the whole system based on our rich experience.

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

SAKO products are very popular because of their the stable quality, competitive price and good service. You are most welcome to be our agent in your region. We also welcome OEM / ODM orders. Whether selecting a current product from our catalog or seeking engineering assistance for your application, you can talk to our team about your sourcing requirements. Based on its rich experience, strong R&D, strict quality control systems, the spirit of creation, trust SAKO can offer you satisfied solar products and service.

COMPANY DEVELOPMENT ROUTES



Qualification&Certificates



ISO9001



ISO14001



OHSAS18001



CE FOR INVERTER



CB FOR INVERTER



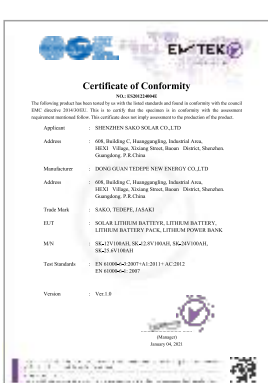
CB FOR LITHIUM BATTERY



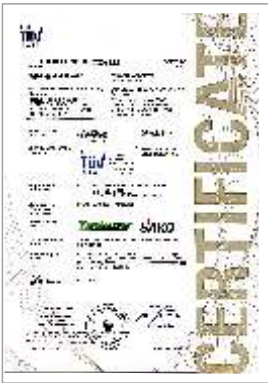
MSDS



Report for safe transport of goods



CE FOR LITHIUM BATTERY



TUV FOR PANEL



VDE4105



EN50549

Partners



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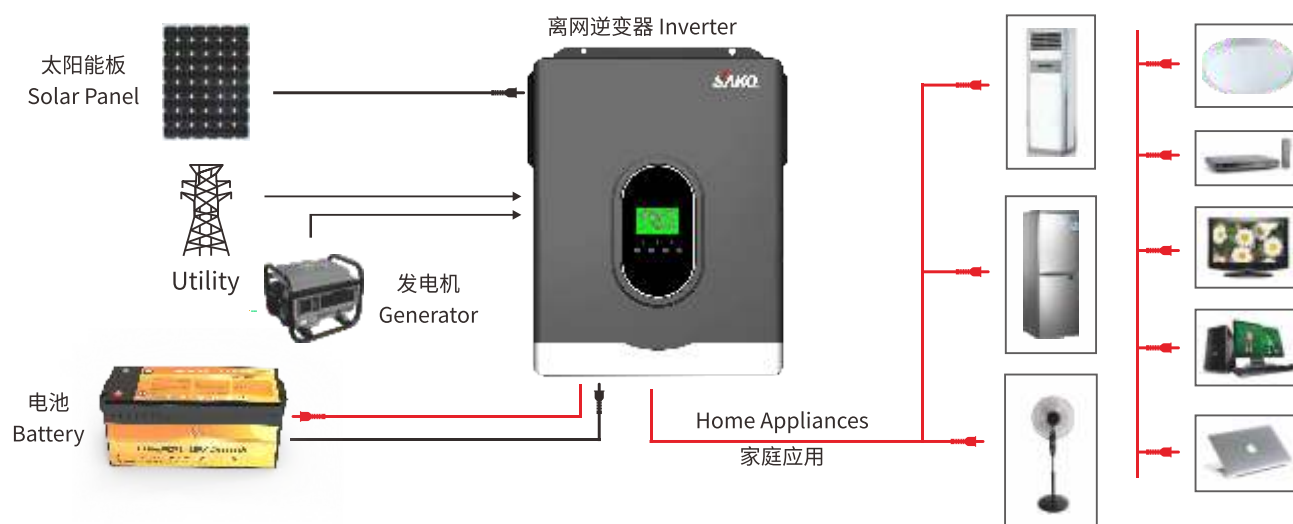
E-SUN 1KVA-3KVA OFF GRID MPPT SOLAR INVERTER



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

Solar System Connection



TECHNICAL PARAMETER

TECHNICAL PARAMETER					
Model	SUNON E series	E-SUN 1KVA	E-SUN 1.2KVA	E-SUN 2KVA	E-SUN 3KVA
The rated power		1000VA/800W	1200VA/1000W	2000VA/1600W	3000VA/2700W
INPUT					
Voltage		230VAC			230VAC
Selectable Voltage Range		170-280VAC (UPS),90-280VAC (Appliances)			170-280VAC (UPS),90-280VAC (Appliances)
Frequency Range		50Hz/60Hz (Auto sensing)			50Hz/60Hz (Auto sensing)
OUTPUT					
AC Voltage Regulation (Batt. Model)		230VAC ± 5%			230VAC ± 5%
Surge Power		2000VA			6000VA
Power factor		0.8			0.9
Efficiency(Peak)		> 90%			> 90%
Transfer Time		10ms (UPS), 20ms (Appliances)			10ms (UPS), 20ms (Appliances)
Wave form		Pure sine wave			Pure sine wave
No load current		1.0A			1.0A
BATTERY					
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
MPPT SOLAR CHARGER & AC CHARGER					
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
Maxmum AC Charge Current		60A			60A
Maxmum Efficiency		98%			98%
BEST PANEL CONFIGUTATION					
Maximum PV Array Power		2000W	2000W	2000W	3000W
Best Panel configuration		550W 2 PCS in 1 S	550W 2-3PCS in 1 S	550W 2-4 PCS in 1 S	550W 2-5 PCS in 1 S
PHYSICAL					
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			
OPERATING ENVIRONMENT					
Humidity		5% to 95% Relative Humidity (Non-condensing)			5% to 95% Relative Humidity (Non-condensing)
Operation Temperature		-10°C-50°C			-10°C-50°C

SUNON IV 4K/6K

Off grid Solar Inverter



MAIN FEATURES

- 120A Solar Charger+AC Charging current
- Communication: RS232,USB,RS485,WIFI
- Communication port for BMS
- Touch Button and LCD
- 6KW PV input max (18A)
- Wifi Monitor
- Work with or without battery
- USB On-the-go Function
- RGB Light

Solar System Connection



TECHNICAL PARAMETER

MODEL	SUNON IV 4K	SUNON IV 6K
Rated Power	4000VA	6000VA
BATTERY		
Battery Voltage	24 VDC	48 VDC
Floating Charge Voltage	27 VDC	54 VDC
Overcharge Protection	33 VDC	63 VDC
INPUT		
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)	
OUTPUT		
AC Voltage Regulation (Ball. Mode)	230 VAC ± 5%	
Surge Power	8000VA	12000VA
Power Factor	0.95	
Efficiency (Peak)	90% ~ 93%	
Transfer Time	15 ms (For Personal Computers) ; 20 ms (For Home Appliances)	
Waveform	Pure sine wave	
SOLAR CHARGER & AC CHARGER		
Solar Charger Type	MPPT	
Maximum PV Array Power	4000W	6000W
MPPT Range @ Operating Voltage	120 ~ 450 VDC	
Maximum PV Array Open Circuit Voltage	500 VDC	
Maximum Solar Charge Current	120 A	
Maximum AC Charge Current	100 A	
Maximum Charge Current	120 A	
PHYSICAL		
Dimension, D*W*H (mm)	418*300*124mm	
Net Weight (kgs)	9.5	10.5
Communication Interface	USB/RS232/RS485(BMS)/Local WiFi/Dry-contact	
OPERATING ENVIRONMENT		
Humidity	5% to 95% Relative Humidity(Non-condensing)	
Operating Temperature	-10°C to 50°C	
Storage Temperature	-15°C to 60°C	

SUNON IV 4.2KVA/6.2KVA Off grid Solar Inverter

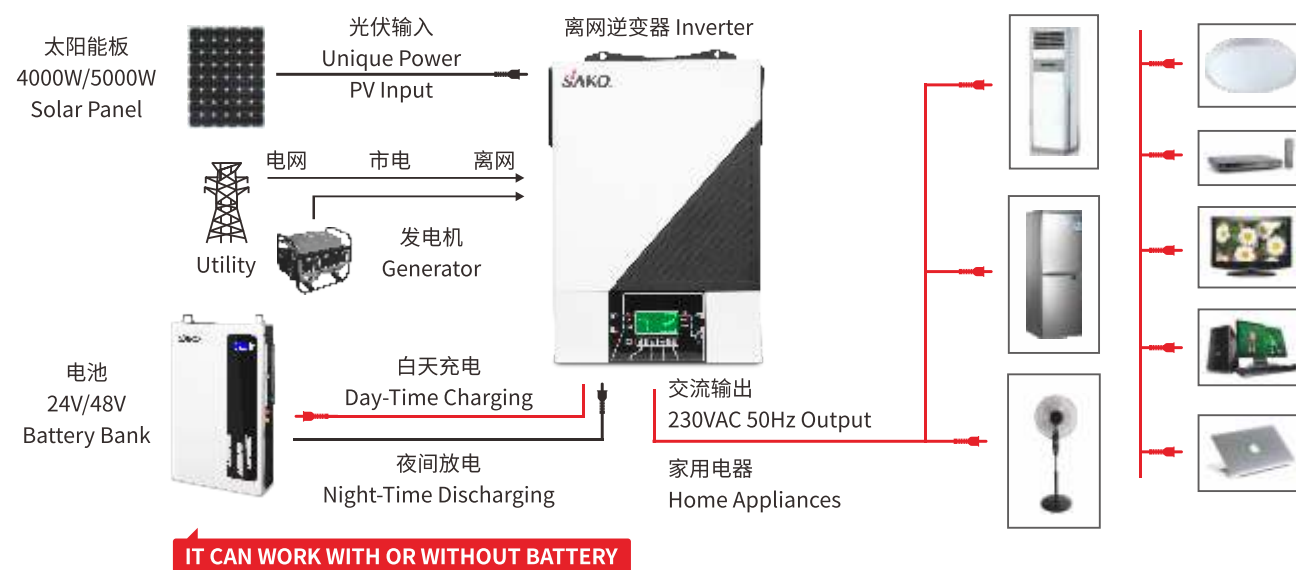
Removable LCD



MAIN FEATURES

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

Solar System Connection



TECHNICAL PARAMETER

MODEL	SUNON IV 4.2KVA	SUNON IV 6.2KVA
The Rated Power	4.2KVA	6.2KVA
BATTERY		
Battery Voltage	24 VDC	48 VDC
Floating Charge Voltage	31.5 VDC	61 VDC
Max DC Input	33 VDC	63 VDC
INPUT		
Voltage	230 VAC	
Selectable Voltage Range	90-280VAC (For Home Appliances), 170-280VAC (For Personal Computers)	
Frequency Range	50 Hz/60 Hz (Auto sensing)	
OUTPUT		
AC Voltage Regulation (Ball. Mode)	230 VAC ± 5%	
Surge Power	8400VA	12400VA
Power Factor	0.9	
Efficiency (Peak)	> 93%	
Transfer Time	15 ms (For Personal Computers) ; 20 ms (For Home Appliances)	
Waveform	Pure sine wave	
MPPT SOLAR CHARGER & AC CHARGER		
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%	
PHYSICAL		
Dimension, D*W*H (mm)	356*471*149	
Packing Size, D*W*H(mm)	535*425*224	
Net Weight (kgs)	N.W.: 13 G.W.: 14	
OPERATING ENVIRONMENT		
Humidity	5% to 95% Relative Humidity(Non-condensing)	
Operating Temperature	0°C-50°C	
Communication Interface	USB/RS232/RS485(BMS)/Local WiFi/Dry-contact	

SUNON IV 8KW/11KW Off grid Solar Inverter



TECHNICAL PARAMETER

MODEL	SUNON IV 8K/48V	SUNON IV 11K/48V
The Rated Power	8000VA/8000W	11KW/11000W
Optional for Parallel Functions	Yes, 6 pcs	Yes, 6 pcs
BATTERY		
Battery Voltage	48 VDC	48 VDC
Floating Charge Voltage	54 VDC	54 VDC
Overcharge Protection	63 VDC	63 VDC
INPUT		
Voltage	230 VAC	
Selectable Voltage Range	90-280VAC (For Home Appliances), 170-280VAC (For Personal Computers)	
Frequency Range	50 Hz/60 Hz (Auto sensing)	
OUTPUT		
AC Voltage Regulation (Ball. Mode)	230 VAC ± 5%	
Surge Power	16000VA	22000VA
Power Factor	1	
Efficiency (Peak)	90% ~ 93%	
Transfer Time	15 ms (For Personal Computers) ; 20 ms (For Home Appliances)	
Waveform	Pure sine wave	
MPPT SOLAR CHARGER & AC CHARGER		
Solar Charger Type	MPPT	
Maximum PV Array Power	4000W*2	5500W*2
MPPT Range @ Operating Voltage	90-450 VDC	
Maximum PV Array Open Circuit Voltage	500 VDC	
Maximum Solar Charge Current	120 A	150 A
Maximum AC Charge Current	120 A	150 A
Maximum Charge Current	120 A	150 A
PHYSICAL		
Packing Dimension, D*W*H (mm)	700*510*232	700*560*240
Net Weight (kgs)	18.4	19.5
Communication Interface	USB/RS232/RS485(BMS)/Local WiFi/Dry-contact	
OPERATING ENVIRONMENT		
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 port (RS485, CAN-USB or RS232) for BMS
- Communication optional: USB/RS232/RS485/Dry-Contact/WIFI
- Dual MPPT tracker inside (2pcs*18A)
- Built-in Local Wifi, Remote WIFI monitor optional
- Dual output L1/L2 for 11K
- Parallel up to 6pcs optional
- Work with or without battery
- Touch button
- RGB
- PV input range: 90V-450Vdc

Solar System Connection



IT CAN WORK WITH OR WITHOUT BATTERY

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



IT CAN WORK WITH OR WITHOUT BATTERY

TECHNICAL PARAMETER

MODEL	SUNON PRO/SUNON PLUS 3. 5K	SUNON PRO/SUNON PLUS 5. 5K
The rated power	3500VA/3500W	5500VA/5500W
BATTERY		
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
INPUT		
Voltage	230 VAC	
Selectable Voltage Range	90-280VAC (Appliances), 170-280VAC (UPS)	
Frequency Range	50 Hz/60 Hz (Auto sensing)	
OUTPUT		
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	
MPPT SOLAR CHARGER & AC CHARGER		
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	60 A	
Maximum Charge Current	100 A	
Maximum Efficiency	98%	
BEST PANEL CONFIGUTATION		
Best Panel Configuration	300Wp*9pcs* 36V(2700Wp)*2Parallel	330Wp*9pcs* 36V(2970Wp)*2Parallel
PHYSICAL		
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
OPERATING ENVIRONMENT		
Humidity	5% to 95% Relative Humidity(Non-condensing)	
Operating Temperature	0°C-50°C	



SUNON-P 5.5KW OFF GRID MPPT SOLAR INVERTER



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 with BMS & parallel-able upto 9pcs
- With WIFI Function Optional
- With Touch Button on the LCD Display
- BMS Optional

Solar System Connection



IT CAN WORK WITH OR WITHOUT BATTERY

TECHNICAL PARAMETER

TECHNICAL PARAMETER	
Model	SUNON-P 5.5KW
The rated power	5.5K(Parallel-able)
AC INPUT	
Voltage	230 VAC
Selectable Voltage Range	170-280VAC (UPS Mode) , 90-280VAC (APP Mode)
Frequency Range	50Hz/60Hz (Auto adaptive)
AC OUTPUT	
AC Voltage Regulation (Batt. Model)	230VAC $\pm$ 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
BATTERY	
Battery voltage	48.0VDC
Floating Charge Voltage(Adjustable)	54.0VDC
Constant Charge Voltage(Adjustable)	56.4VDC
Overcharge Protection	60.0VDC
BMS	With BMS
MPPT SOLAR CHARGER & AC CHARGER	
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	80A
BEST SOLAR PANEL CONFIGUTATION	
Max. generated from solar charger	6000W
Best Panel configuration	550Wp/42V*9pcs (4950Wp) 9S 1 String
OTHERS	
WIFI	optional
Parallel card	With Parallel card
PHYSICAL	
Product Dimension	L440mm*W300mm*H110mm
Net Weight	8.5kg
Package Dimension	L536mm*W392mm*H215mm
Gross Weight	10kg
OPERATING ENVIRONMENT	
Humidity	5% to 95% Relative Humidity (Non-condensing)
Operation Temperature	0°C-50°C

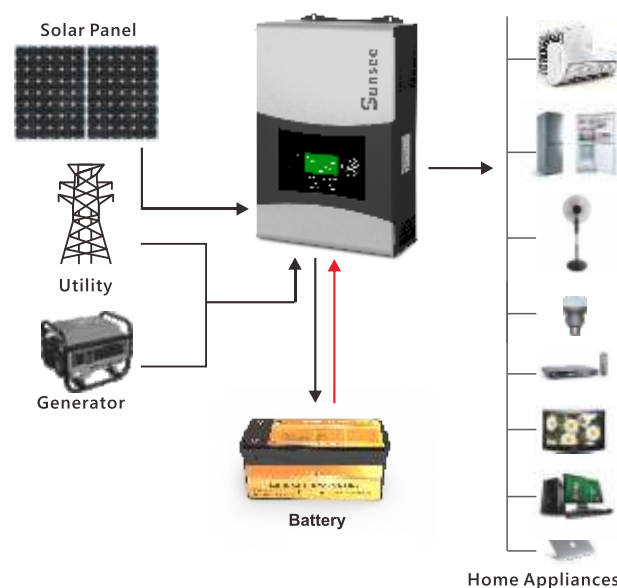
1K-5K OFF GRID LOW VOLTAGE MPPT SOLAR INVERTER (230VAC OUTPUT)



MAIN FEATURES

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

Solar System Connection



ISUN 3KW



ISUN 1K-2K

TECHNICAL PARAMETER

ISUN/SUNSEE SERIES SOLAR INVERTER SPECIFICATION					
Technical Parameter					
Mode No.	ISUN 1K	ISUN 1.5K	ISUN 3K	SUNSEE PRO-3K	SUNSEE 5K
Line Mode Specifications					
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)				
IEfficiency (Line Mode)	>95% (Rated R load, battery full charged)				
Transfer Time	10ms typical (UPS); 20ms typical (Appliances)				
Inverter Mode Specifications					
Rated Output Power	1KVA/1KW	1.5KVA/1.2KW	3KVA/3KW	3KVA/3KW	5KVA/4KW
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	12.0Vdc	24.0Vdc	24.0Vdc	48.0Vdc
High DC Recovery Voltage	16.0Vdc	16.0Vdc	32Vdc	32Vdc	64Vdc
High DC Cut-off Voltage	16.5Vdc	16.5Vdc	33Vdc	33Vdc	66Vdc
Charge Mode Specifications					
Utility Charging Mode					
Charging Algorithm	3 steps				
AC Charging Current (Max)	25Amp (INPUT=230Vac)			60A	60A
Battery Voltage	14.1Vdc	14.1Vdc	28.2Vdc	28.2Vdc	56.4Vdc
Floating Charging Voltage	13.5Vdc	13.5Vdc	27Vdc	27Vdc	54Vdc
MPPT Solar Charging Mode					
Charging Current	40A	50A	50A	60A	80A
System DC Voltage	12Vdc	12Vdc	24Vdc	24Vdc	48Vdc
Operating Voltage Range	15V-115V	15V-115V	30V-115V	30V-115V	60V-145V
Max. PV Array Open Circuit Voltage	100Vdc			145Vdc	150Vdc
Max Charging Current (AC+ solar)	65Amp			120A	120A
Max. solar input power (W)	40Amp,480W	50Amp,600W	50Amp,1200W	60Amp,1500W	80Amp,3840W
General Specifications					
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	447*250*104	447*250*104	450*300*110	471*300*136
Packing Size (mm)	400*320*190	505*320*170	505*320*170	549*394*224	549*394*224
Net Weight, kg	5.35	5.5	7.84	7.2	11
G.W. kg	5.85	6	9.24	8.7	12.5

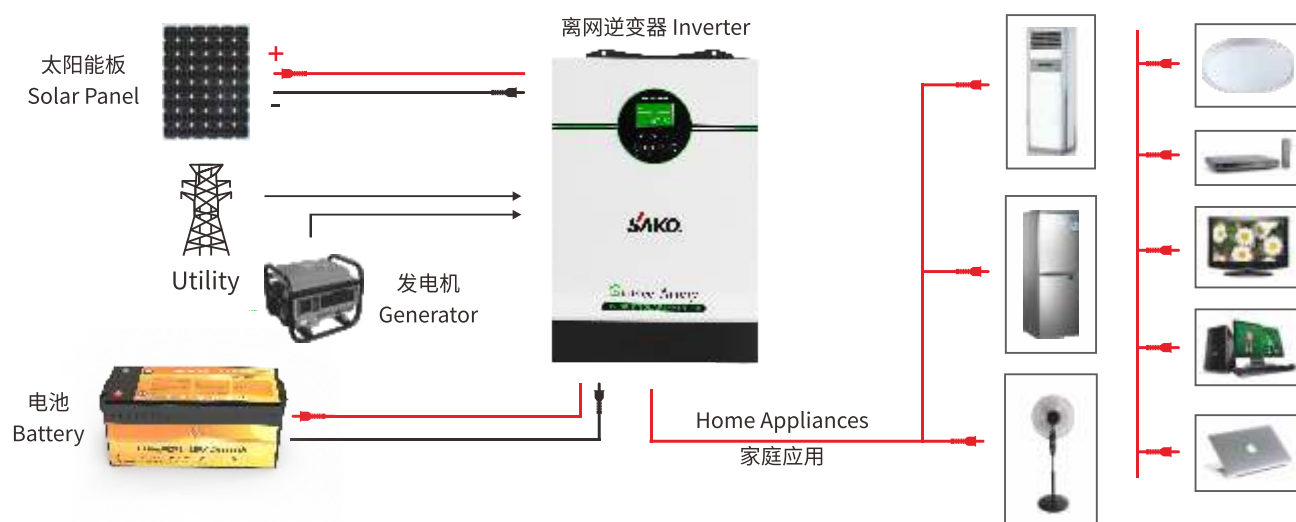
SUNSEE AMERY 1K-5K OFF GRID MPPT SOLAR INVERTER



MAIN FEATURES

- Configurable Input Voltage for Home Appliances and Personal Computers Via LCD Setting
- 3K Output is 120Vac, 5K Output is 120Vac/240Vac Split Phase
- Parallel Operation With up to 6pcs for 3KVA, 3pcs for 5KVA
- Configurable Priority of AC/Solar Charge Via LCD Setting
- Auto Restart While AC is Recovering
- 1pc*80A MPPT for 3K, 2pcs*80A MPPT for 5K
- Local WIFI Built Inside, Optional for Remote Wifi Kits

Solar System Connection



TECHNICAL PARAMETER

MODEL	SUNSEE Amery 1K	SUNSEE Amery 3K	SUNSEE Amery 5K
The Rated Power	1000VA/800W	3000VA/2400W	5000VA/5000W
BATTERY			
Battery Voltage	12 VDC	24 VDC	48 VDC
Low Battery Alarming Voltage	11 VDC	22 VDC	44 VDC
Low Battery Cut off Protection Voltage	10.5 VDC	21 VDC	42 VDC
Low Battery Recovery Voltage	11.5 VDC	23 VDC	46 VDC
Floating Charge Voltage	13.5 VDC	27 VDC	54 VDC
Overcharge Protection	15.5 VDC	31 VDC	60 VDC
INPUT			
Voltage	120 VAC		
Selectable Voltage Range	65-140 VAC (Appliances), 95-140VAC (UPS)		
Frequency Range	50 Hz/60 Hz (Auto sensing)		
OUTPUT			
AC Voltage Regulation (Ball. Mode)	120 VAC $\pm$ 5%		
Surge Power	2000 VA	4000 VA	6000 VA
No Load Current	1.25 A	2.0 A	1.5 A
Power Factor	0.8	0.8	1.0
Efficiency (Peak)	> 90%		
Transfer Time	10 ms (UPS) ; 20 ms (Appliances)		
MPPT SOLAR CHARGER & AC CHARGER			
Maximum PV Array Power	480 W	2000 W	3840 W
MPPT Range at Operation Vol.	15-80 VDC	30-115 VDC	60-115 VDC
Maximum PV Array Open Circuit Vol.	102 VDC	145 VDC	145 VDC
Standby Power Consumption	15 W	48 W	72 W
Number of MPPT Trackers / Max. Output Current	1/1*40 A	1/1*80 A	2/2*80 A
Maximum AC Charge Current	20 A	60 A	60 A
Maximum Charge Current	60 A	140 A	220 A
Maximum Efficiency	95%		
BEST PANEL CONFIGUTATION			
Max. Generated from Solar Charger	40 Amp, 480 W	80 Amp, 2000 W	2*80 Amp, 7680 W
Best Panel Configuration	250Wp*2pcs* 30V (500Wp)	250Wp*9pcs* 30V (2250Wp)	250Wp*15pcs* 30V (3750Wp)*2Route
PARALLEL CONNECTION			
Max. qty for Parallel Connection	/	6 PCS	3 PCS
PHYSICAL			
Dimension, D*W*H(mm)	386*278*108.8	465*303*130	670.5*625*157
Packing Size, D*W*H(mm)	487*390*220	528*376*205	788*710*241
Net Weight (kgs)	7	9.7	26.4
Gross Weight (kgs)	8.1	11	32.75

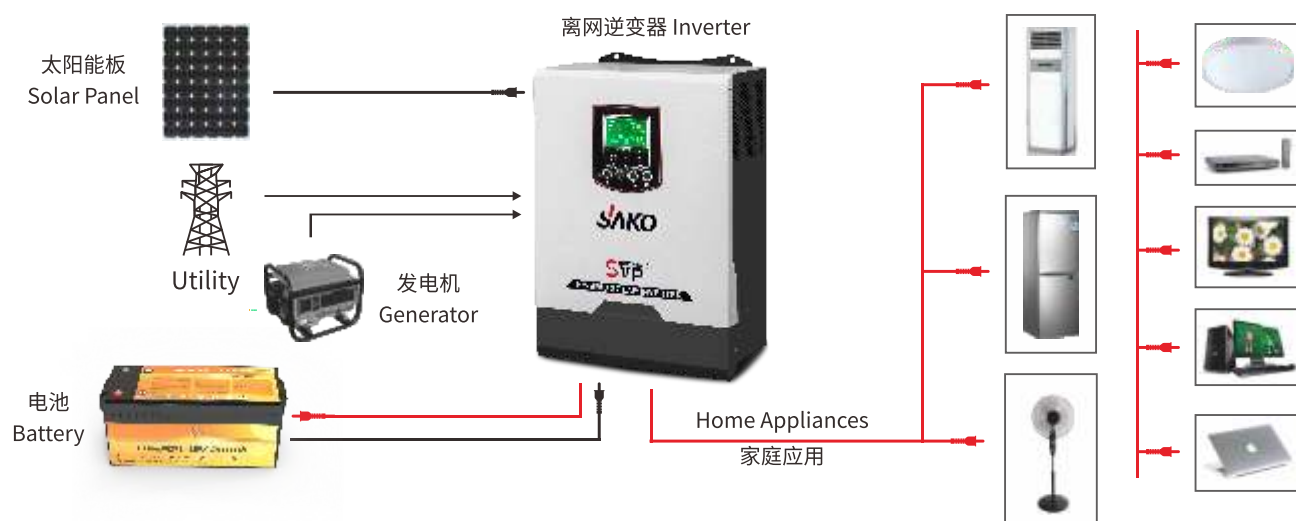
SVP 1KW-3KW OFF GRID PWM SOLAR INVERTER



MAIN FEATURES

- Selectable Input Voltage Range for Home Appliances and Personal Computers
- Solar Charger and AC Charger Built Inside, Compatible 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



TECHNICAL PARAMETER

MODEL	SVP 1K	SVP 2K	SVP 3K
The Rated Power	1KW	2KW	3KW
BATTERY			
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
INPUT			
Voltage	230 VAC		
Selectable Voltage Range	90-280VAC (For Home Appliances), 170-280VAC (For Personal Computers)		
Frequency Range	50 Hz/60 Hz (Auto sensing)		
OUTPUT			
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		
SOLAR CHARGER & AC CHARGER			
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	50 A	70 A	70 A
Maximum Efficiency	98%		
BEST PANEL CONFIGUTATION			
Max. Generated from Solar Charger	600 W	1200 W	1200 W
Best Panel Configuration	150W*18V*4Parallel	330W*36V*4Parallel	330W*36V*4Parallel
PHYSICAL			
Dimension, D*W*H (mm)	400*320*190	400*320*190	420*390*193
Net Weight (kgs)	5.4	6.15	7.8
OPERATING ENVIRONMENT			
Humidity	5% to 95% Relative Humidity(Non-condensing)		
Operating Temperature	0°C-50°C		

HDS 1K-2K MODIFIED 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



TECHNICAL PARAMETER

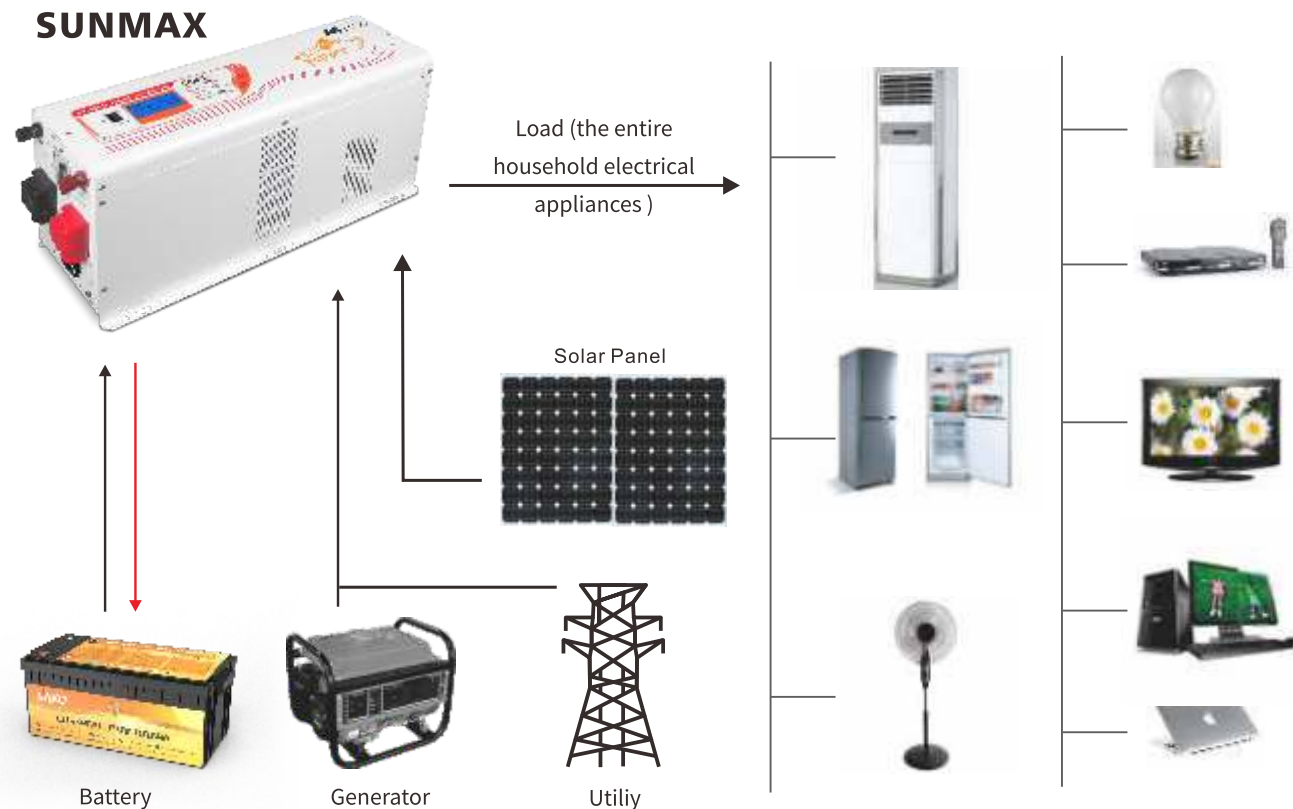
INVERTER MODEL	SKN-HDS 800W	SKN-HDS 1000W	SKN-HDS 1600W	SKN-HDS 1800W
Capacity	800W	1000W	1600W	1800W
DC INPUT				
Input Voltage(VDC)	12 VDC		24 VDC	
DC Input Voltage Range(VDC)	10-15 VDC		20-30 VDC	
PWM CONTROL LER				
PV Input Voltage(VDC)	18-25 V		36-50 V	
PV Charge Current(A)	50 A			
AC BYPASS(THE SWITCH AT ON MODE)				
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			
AC OUTPUT(BATTERY MODE)				
Capacity(VA)	800VA	1000VA	1600VA	1800VA
Output Capacity(W)	800W	1000W	1600W	1800W
Output Voltage(VAC)	230VAC			
Output Frequency(HZ)	50Hz/60Hz			
Output Current(A)	3.48A	4.35A	6.95A	7.83A
Output Voltage range(VAC)	230V±10%			
Output Frequency Range(HZ)	50Hz/60Hz±0.1Hz			
Output Wave Form	Modified Sine Wave			
Power Factor	1			
Efficiency	> 85%			
Bypass transfer time(ms)	≤ 8ms			
Overload	Over load≥110%, after 60s off			
PROTECTION				
Protection	Over temperature/Over load/ Short circuit protection			
	Over charge, discharge protection			
ENVIRONMENT				
Noise(dB)	≤40(1 meter)			
Temperature	-20~45 degree			
Humidity	5% to 95% (no condensation)			
Altitude(m)	≤1500			
PACKING				
Product Dimension (D*W*H), mm	360*135*355			
Net Weight (kgs)	/			

SUNMAX 1KW-6KW LF OFF GRID MPPT SOLAR INVERTER



Solar System Connection

SUNMAX



TECHNICAL PARAMETER

MODEL	SUNMAX 1KW	SUNMAX 2KW	SUNMAX 3KW	SUNMAX 4KW	SUNMAX 5KW	SUNMAX 6KW
DC INPUT						
Input Voltage(Vdc)	12V/24V			24V/48V		
Min DC Start Voltage(Vdc)	10V/20V			20V/40V		
AC BYPASS						
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)					
MPPT CHARGE CONTROLLER BUILT INSIDE						
Solar Charge Controller(Optional)	MPPT 30A	MPPT 60A	MPPT 60A	MPPT 60A	MPPT 60A	MPPT 60A
Max. PV Input Voltage(Vdc)	≤ 150Vdc					
The Battery Voltage(Vdc)	12V/24V/48V Auto identify and adaptive					
CHARGER						
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					
INVERTER						
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					

SUNON-ECO 4.2-10.2K Hybrid grid Solar Inverter IP20



MAIN FEATURES

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

Solar System Connection



TECHNICAL PARAMETER

NEW MODEL	SUNON-ECO 4.2K/24V	SUNON-ECO 6.2K/48V	SUNON-ECO 8.2K/48V	SUNON-ECO 10.2K/48V
Max.PV Power	6200W	6500W	8200W	10200W
Rated Power	4200VA/4200W	6200VA/6200W	8200VA/8200W	10200VA/10200W
Max.Charge Current	120A	120A	160A	160A
BATTERY				
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, Lllithium Battery			
GRID INPUT				
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%			
AC OUTPUT				
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 mave			
DUAL LOADS AC OUTPUT				
Full Load	4200W	6200W	8200W	10200W
Maximum Main Load	4200W	6200W	8200W	10200W
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
SOLAR CHARGER &AC CHARGER				
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 Curent	100A	100A	140A	140A
Maximum Charge Curent	120A	120A	160A	160A
PHYSICAL				
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			
OPERATING ENVIRONMENT				
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.				

SUNPOLO 5K HYBRID INVERTER IP20



MAIN FEATURES

- Max.Can Be 9PCS in Parallel With Optional Kit
- 80A MPPT Solar Charge Controller up to 5000W Solar panel
- Built-in WIFI for Mobile Monitoring(Requires APP)
- 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



IT CAN WORK WITH OR WITHOUT BATTERY

TECHNICAL PARAMETER

MODEL	SUNPOLO 3K	SUNPOLO 5K
Rated Power	3KW	5KW
BATTERY		
Battery Voltage	24 VDC	48 VDC
Floating Charge Voltage	27 VDC	54 VDC
Overcharge Protection	32 VDC	64 VDC
INPUT		
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)	
OUTPUT		
AC Voltage Regulation (Ball. Mode)	230 VAC ± 3%	
Surge Power	6400VA for 5 sec.	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	
SOLAR CHARGER & AC CHARGER		
Solar Charger Type	MPPT	
Maximum PV Array Power	4000W	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	
PHYSICAL		
Dimension, D*W*H (mm)	492*303*129	456*303*147
Net Weight (kgs)	9.5	11.97
Communication Interface	Removable OTG USB/RS232/RS458/BLE/Dry-contact, BMS interface,9pcs in parallel (only 5KVA)	
OPERATING ENVIRONMENT		
Humidity	5% to 95% Relative Humidity(Non-condensing)	
Operating Temperature	-10°C to 50°C	
Storage Temperature	-15°C to 60°C	

SUNPOLO 6K HYBRID INVERTER IP20



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 (27A)
- Wifi Monitor
- RGB Light

USER PROGRAMMABLE RGB LIGHTING



Pink Green Sky Blue Purple Orange Blue

TECHNICAL PARAMETER

MODEL	SUNPOLO 6KW
BASIC INFORMATION	
Max. PV Input Power	6000W
Rated AC Output Power	6000W
PV INPUT (DC)	
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
AC INPUT (AC)	
AC Start-up Voltage/Auto Restart Volt.	120VAC-140VAC/180VAC
Acceptable Input Voltage Range	90-280VAC/170-280VAC
Max. AC Input Current	40A
GRID OUTPUT IN GRID-TIE/HYBRID OPERATION (AC)	
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%
BATTERY MODE OUTPUT (AC)	
Nominal Output Volt	230VAC dual AC output+ 1pc*12VDC/10A max.
Waveform	Pure sine wave
Efficiency(DC to AC)	93%
BATTERY & CHARGER	
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
PHYSICAL	
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
OPERATING ENVIRONMENT	
Humidity	5% to 95% Relative Humidity(Non-condensing)
Operating Temperature	-10°C-50°C
Storage Temperature	-15°C-60°C

SUNPOLO 8K-11K HYBRID INVERTER IP20

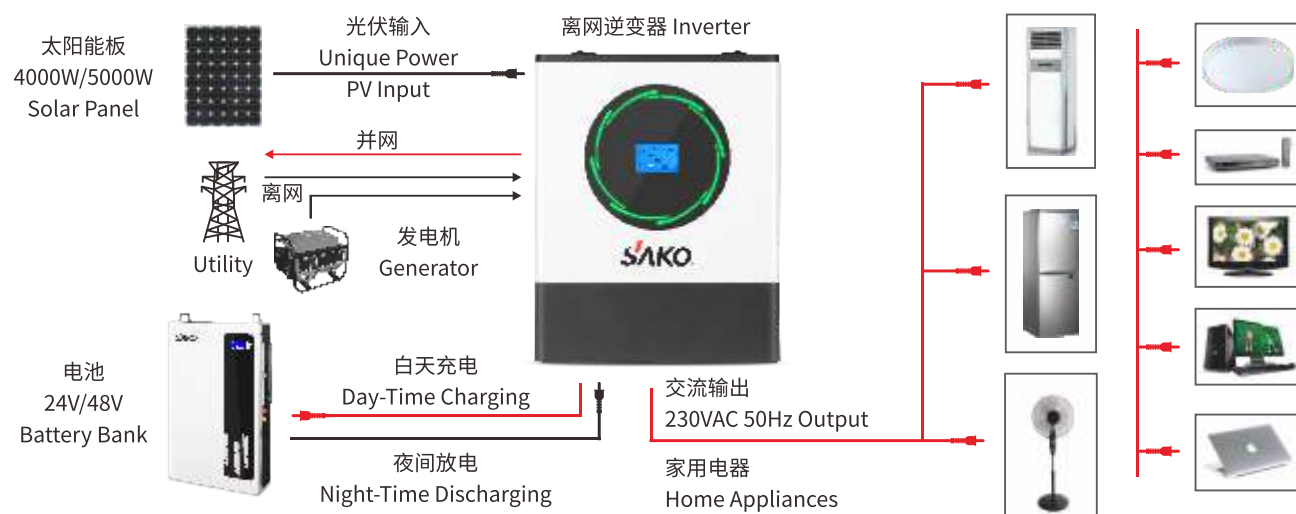
Cycling Wheel Chasing



MAIN FEATURES

- Communication optional: USB/RS232/RS485/Dry-Contact/WIFI
- Dual MPPT tracker inside (2pcs*18A), max PV input 8000W
- 3 IN 1: MPPT INVERTER, ON GRID/OFF GRID/HYBRID.
- Smart battery management, can work with LiFePO4
- 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



IT CAN WORK WITH OR WITHOUT BATTERY

TECHNICAL PARAMETER

MODEL	SUNPOLO 8KVA	SUNPOLO 11KVA
Basical information		
Max. PV Input Power	8000W	11000W
Rated AC Output Power	8000W	11000W
Grid-Tie Operation		
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 *2(MAX 40A,5500W*2)
Grid Output (AC)		
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	
Efficiency		
Max. Conversion Efficiency (DC/AC)	96%	
Off-Grid Operation		
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	
Battery Mode Output (AC)		
Nominal Output Volt	220Vac/230Vac/240Vac	
Waveform	Pure sine wave	
Efficiency(DC to AC)	93%	
Battery & Charger		
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
General		
Physical		
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
Environment		
Humidity	5% to 95% Relative Humidity(Non-condensing)	
Operating Temperature	-10°C to 50°C	
Storage Temperature	-15°C to 60°C	



Hybrid Inverter 1 Phase

SUNIN 3600TL/4600TL/5000TL



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

48V

Compatible with almost all
48V LiFePO4 battery pack



Integrated smart APP, can
remotely diagnose and update



DC couple and AC couple to
retrofit existing solar system

16

Frequency droop control,
Max. 16pcs parallel



One key to reactive the
LiFePO4 battery pack

TECHNICAL PARAMETER

Model	SUNIN 5000TL	SUNIN 4600TL	SUNIN 3600TL
PV Input（DC）			
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	
Output/Input（AC）			
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)	
Off grid output			
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	
Battery			
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	
Efficiency			
Max efficiency		98%	
European efficiency		97%	
Max discharge efficiency		95%	
MPPT efficiency		99.90%	
System			
IP inclosure		IP65	
Noise		<35dB	
Ambient temperature		-25℃～60℃	
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）	
Mechanical			
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 Solar Inverter

*SUNIN8K/SUNIN10K/SUNIN12K Three Phase
in High Battery Voltage.*

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;

TECHNICAL PARAMETER

Technical specification	SUNIN8KH3	SUNIN10KH3	SUNIN12KH3
Input (PV)			
Max.power(kW)	12	15	18
Max. DC voltage(V)		1,000	
MPPT voltage range(V)		180~850	
Max.input current of single MPPT(A)		13	
MPPT tracker/strings	2/1	2/1	2/1
AC output			
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	
Battery			
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	
EPS output			
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	
General data			
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	
Display and communication			
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		



Micro Inverter

 Cost-effective easy operation	 Remote WIFI monitor	 Individual MPPT tracking
 IP67 10 years warranty	 High reliability and efficiency up to 96.5%	 Support parallel operation



600W-1000W MICRO SOLAR INVERTER

Technical Specifications						
Model	SKY600M1-EU-230		SKY800M1-EU-230		SKY10 00M1-EU-230	
Input Data (DC)						
Commonly used module power (W)	210 to 455W (2 Piece)		210 to 550W+ (2 Pieces)		210 to 600W+ (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 MPPTs	2					
Number of Inputs per MPPT	1					
Output Data (AC)						
Rated output power (VA)	600W		800W		1000W	
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 12 AWG branch²	8		6		5	
Efficiency						
CEC peak efficiency	96.50%					
Nominal MPPT efficiency	99%					
Night power consumption (mW)	<50mW					
Mechanical Data						
Ambient temperature range (°C)	-40~65°C					
Enclosure rating	IP67					
Cooling	Cooling Natural convection-No fans					
Features						
Communication	WiFi					
Compliance	"EN 50549-1: 2019, VDE-AR-N 4105: 2018, IEC/EN 62109-1/-2,					
	IEC/EN 61000-6-1/-2/-3/-4, IEC/EN 61000-3-2/-3"					
Warranty	10 years					
Product Size	212x230x44.75 mm					
Products Weight	N.W. Per PC: 3.6KG G.W. Per PC: 4KG					
Packing Size	Inner box: 440x286x68 mm (1pc/ctn), Master Carton: 455x305x355 mm (5pc/ctn)					
QTY for 20’ GP	2160pcs, 9226kgs (G.W.), total 10 pallets (8 pallets*48pcs/pallet+2 pallets*24pcs/Pallet					
QTY for 40’ HQ	5040pcs, 21,456kgs (G.W.), total 18 pallets (56pcs/pallet, each pallets sizes:1.2x1x2.59 m)					

300W-500W MICRO SOLAR INVERTER

Technical Specifications						
Model	SKY300M1-EU-230		SKY400M1-EU-230		SKY500M1-EU-230	
Input Data (DC)						
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 MPPTs	1					
Number of Inputs per MPPT	1					
Output Data (AC)						
Rated output power (VA)	300W		400W		500W	
Rated output current (A)	1.4A	1.3A	1.8A	1.7A	2.3A	2.2A
Nominal output voltage/range (V)	"220V/	"230V/	"220V/	"230V/	"220V/	"230V/
	180-275V"	180-275V"	180-275V"	180-275V"	180-275V"	180-275V"
Nominal frequency/range (Hz)	50/48~52Hz or 60/58~62Hz					
Power factor	>0.99					
Total harmonic distortion	< 3%					
Maximum units per 12 AWG branch²	17		12		10	
Efficiency						
CEC peak efficiency	96.50%					
Nominal MPPT efficiency	99%					
Night power consumption (mW)	<50mW					
Mechanical Data						
Ambient temperature range (°C)	-40~65°C					
Enclosure rating	IP67					
Cooling	Cooling Natural convection-No fans					
Features						
Communication	WiFi					
Compliance	"EN 50549-1: 2019, VDE-AR-N 4105: 2018, IEC/EN 62109-1/-2,					
	IEC/EN 61000-6-1/-2/-3/-4, IEC/EN 61000-3-2/-3"					
Warranty	10 years					

1200W-2000W MICRO SOLAR INVERTER

Technical Specifications						
Model	SKY1200M1-EU-230		SKY1600M1-EU-230		SKY2000M1-EU-230	
Input Data (DC)						
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 MPPTs	4					
Number of Inputs per MPPT	1					
Output Data (AC)						
Rated output power (VA)	1200W		1600W		2000W	
Rated output current (A)	5.4A	5.2A	7.3A	7A	9.1A	8.7A
Nominal output voltage/range (V)	"220V/	"230V/	"220V/	"230V/	"220V/	"230V/
	180-275V"	180-275V"	180-275V"	180-275V"	180-275V"	180-275V"
Nominal frequency/range (Hz)	50/48~52Hz or 60/58~62Hz					
Power factor	>0.99					
Total harmonic distortion	< 3%					
Maximum units per 12 AWG branch²	4		4		3	
Efficiency						
CEC peak efficiency	96.50%					
Nominal MPPT efficiency	99%					
Night power consumption (mW)	<50mW					
Mechanical Data						
Ambient temperature range (°C)	-40~65°C					
Enclosure rating	IP67					
Cooling	Cooling Natural convection-No fans					
Features						
Communication	WiFi					
Compliance	"EN 50549-1: 2019, VDE-AR-N 4105: 2018, IEC/EN 62109-1/-2,					
	IEC/EN 61000-6-1/-2/-3/-4, IEC/EN 61000-3-2/-3"					
Warranty	10 years					



ESS 1KW Hybrid Energy Storage System

Main Features

- LED display
- IP level: IP32
- Remote Wifi optional
- Wide PV input range (Up to 100Vdc).
- On/off grid system, support self-consumption and feed into the grid.
- Inverter/MPPT solar charger/Ac charger/LiFePo4 4 in one kits,easy installation and operation
- All around protection : Over temperature/overload/low-voltage /over-voltage/Anti-island protection,etc.
- 3 Years warranty



TECHNICAL PARAMETER

Model No.	ESS-1KW
Basical information	
Max. PV Input Power	1200W
Rated AC Output Power	1000W
Output peak power (W)	2000W(200ms)
Grid-Tie Operation	
Rated power	720W
Grid connected power	600W MAX
Mains charging current	0-40A adjustable
AC input voltage range	90-265VAC
Input frequency range	50HZ/60HZ ±3HZ
THDI	3%
Rectification efficiency	91.2% Max.
AC input connection type	L/N/PE
Solar controller parameters	
Controller type	MPPT controller
Rated battery voltage	25.6V
Charging current	30A max
PV input voltage range	36-100VDC
PV input power	1200W max.
PV charging power	800W max.
Conversion efficiency	96%max
Number of PV input channels	1
PV input interface	Anderson interface
Output (AC)	
Nominal Output Volt	220Vac, Single Phase
output frequency	50/60hz
Output waveform	Pure sine wave
Nominal Output Current	4.5A
Power Factor	1
Efficiency	
Max. Conversion Efficiency (DC/AC)	91.5%max
Energy storage information	
Nominal battery voltage	25.6VDC
Core material	Lithium iron phosphate battery
Energy storage capacity	1536wh
Core cycle	≥2000cycles&25 °C Standard charging and discharging process@80%SOH
Spare parts information	
PV cable	One 5m double core 4m² PV cable
Power cord	1 European power cord 1.8m
General	
Physical	
Products Dimension,D X W X H (mm)	790*395*160mm
Product Net Weight(kgs)	30kg
Environment	
The noise	60dB Max (1 meter)
Humidity	5% to 95% Relative Humidity(Non-condensing)
Operating Temperature	-10°C to 50°C
Storage Temperature	-15°C to 60°C
Altitude	Below 1,500 meters above sea level. When the altitude is higher than 1500 m, derating is required.



1K-2K Off Grid Energy Storage System

Main Features

- Built-in 12V lithium battery module
- Built-in 1KVA or 2KVA Solar Inverter
- Built in intelligent BMS management system
- Up to 4000 times charge/discharge cycles life
- With Solar charging and AC Charging function
- With the overcharge and overdischarge protection function
- With the overcurrent and shortcircuit protection function
- With the overtemperature protection function
- Application for solar power system



TECHNICAL PARAMETER

SPECIFICATION	MODEL	ESS-E1K	ESS-E2K
Inverter / Charger			
Inverter Type		E SUN 1KVA	E SUN 2KVA
Rated Output Power		800W	1600W
Output Voltage Waveform		Pure Sine Wave	
Output Voltage		230VAC 50HZ	
Low DC Warning Voltage		11.0Vdc	
Low DC Cut-off Voltage		10.5Vdc	
Low DC Warning Return Voltage		11.5Vdc	
Charging Current(Utility and solar together)		80A Max.	
Bulk Charging Voltage		14.2Vdc	
Float Charging Voltage		14.0Vdc	
AC Input			
Nominal Input Voltage		230Vac	
Low Loss Voltage		170Vac ± 7(UPS),90Vac ± 7(Appliances)	
Low Loss Return Voltage		180Vac ± 7(UPS),100Vac ± 7(Appliances)	
High Loss Voltage		280Vac ± 7	
High Loss Return Voltage		270Vac ± 7	
Max. AC Input Voltage		300Vac	
Nominal Input Frequency		50HZ / 60HZ(Auto detection)	
AC Charging Current		60A Max.	
Solar Input			
Nominal PV Voltage		300Vdc	
PV Array MPPT Voltage Range		30Vdc~400Vdc	
Max. PV Array Open Circuit Voltage		400Vdc	
Solar Charging Current		80A Max.	
Lithium Battery Pack			
Nominal Battery Voltage		12.8Vdc	12.8Vdc
Nominal Capacity		100Ah	200Ah
Nominal Charge Current		50A	100A
Nominal Discharge Current		100A	150A
Operation Voltage Range		11.2Vdc~14.6Vdc	11.2Vdc~14.6Vdc
Operation Temperature		-10°C~+50°C	
Protection			
Protection		Overcharge protection、Overdischarge protection、Overcurrent protection、Shortcircuit protection、Overtemperature protection	
Ambient			
working Temperature		-10°C~+50°C	
Humidity		0~95% (no condensation)	
Sea Level(m)		≤1500	



ESS PRO 6KW Energy Storage System

Main Features

- All in one system, built inside with 48V lithium battery module, 6kw Off grid solar inverter, Solar/AC Charger
- Modular & Stacked Design for easy installation and expansion
- Smart BMS built inside, with communication protocol
- LiFePO4 cells cycle time Up to 6000 times charge/discharge cycles life
- With 120A mppt Solar charging and AC Charging function
- With all around protection
- DOD 80%, warranty 5 years, 10+ years life design



TECHNICAL PARAMETER

SPECIFICATION	ESS PRO 6KW/5KWH	ESS PRO 6KW/10KWH	ESS PRO 6KW/15KWH	ESS PRO 6KW/20KWH
INVERTER / CHARGER				
Inverter Type	6KW/48V Off grid	6KW/48V Off grid	6KW/48V Off grid	6KW/48V Off grid
Rated Output Power	6KW	6KW	6KW	6KW
Output Voltage Waveform	Pure Sine Wave	Pure Sine Wave	Pure Sine Wave	Pure Sine Wave
Output Voltage	230VAC 50HZ	230VAC 50HZ	230VAC 50HZ	230VAC 50HZ
Low DC Warning Voltage	45.8Vdc	45.8Vdc	45.8Vdc	45.8Vdc
Low DC Cut-off Voltage	44.8Vdc	44.8Vdc	44.8Vdc	44.8Vdc
Low DC Warning Return Voltage	46.8Vdc	46.8Vdc	46.8Vdc	46.8Vdc
Total Charging Current(Grid+solar)	120A Max.	120A Max.	120A Max.	120A Max.
Bulk Charging Voltage	57.6Vdc	57.6Vdc	57.6Vdc	57.6Vdc
Float Charging Voltage	56.0Vdc	56.0Vdc	56.0Vdc	56.0Vdc
LITHIUM IR ON BATTERY				
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	44.8Vdc ~ 58.4Vdc	44.8Vdc ~ 58.4Vdc	44.8Vdc ~ 58.4Vdc
OperationTemperature	-10°C ~ +50°C	-10°C ~ +50°C	-10°C ~ +50°C	-10°C ~ +50°C
AC INPUT				
Nominal Input Voltage	230Vac			
Low Loss Voltage	170Vac ± 7(UPS),90Vac ± 7(Appliances)			
Low Loss Return Voltage	180Vac ± 7(UPS),100Vac ± 7(Appliances)			
High Loss Voltage	280Vac ± 7			
High Loss Return Voltage	270Vac ± 7			
Max. AC Input Voltage	300Vac			
Nominal Input Frequency	50HZ / 60HZ(Auto detection)			
AC Charging Current	120A Max.			
SOLAR INPUT				
Nominal PV Voltage	360Vdc			
PV Array MPPT Voltage Range	120Vdc~450Vdc			
Max. PV Array Open Circuit Voltage	500Vdc			
Solar Charging Current	120A Max.			
PROTECTION				
Protection	Overcharge protection、Overdischarge protection、Overcurrent protection、Shortcircuit protection、Overtemperature protection			
AMBIENT				
Noise(dB)	< 30°C < 40dB (1 meter)			
Working Temperature	-10°C ~ +50°C			
Humidity	0~95% (no condensation)			
Sea Level(m)	≤1500			
OTHERS				
Efficiency	92.0%			
Warranty	5 Years			



Modified Sine Wave Home Inverter



TECHNICAL PARAMETER

MODEL	FIBEST 800W	FIBEST 1000W	FIBEST 1600W	FIBEST 1800W
Capacity	800W	1000W	1600W	1800W
DC INPUT				
Input Voltage(VDC)	12 VDC		24 VDC	
DC Input Voltage Range(VDC)	10-15 VDC		20-30 VDC	
AC BYPASS(THE SWITCH AT ON MODE)				
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±0.4 V		30.0±0.8 V	
AC Efficiency	> 97%			
Transfer Time(ms)	15ms			
AC OUTPUT(BATTERY MODE)				
Capacity(VA)	800VA	1000VA	1600VA	1800VA
Output Capacity(W)	800W	1000W	1600W	1800W
Output Voltage(VAC)	230VAC			
Output Frequency(HZ)	50Hz/60Hz			
Output Current(A)	3.48A	4.35A	6.95A	7.83A
Output Voltage range(VAC)	230V±10%			
Output Frequency Range(HZ)	50Hz/60Hz±0.1Hz			
Output Wave Form	Modified Sine Wave			
Power Factor	1			
Efficiency	> 85%			
Bypass transfer time(ms)	≤ 8ms			
Overload	Over load≥110%, after 60s off			
PROTECTION				
Protection	Over temperature/Over load/Short circuit protection			
	Over charge, discharge protection			



Pure Sine Wave Home Inverter



TECHNICAL PARAMETER

INVERTER MODEL	SKN-MA 500VA	SKN-MA 800VA	SKN-MA 1000VA	SKN-MA 1500VA
DC INPUT				
Input Voltage (VDC)	12			
Input Current (A)	25A Max.	41.7A Max.	66.6A Max.	83.3A Max.
Input DC Range (VDC)	10~14			
AC BYPASS				
Input AC Range(VAC)	110VAC~270VAC			
Input Frequency Range(HZ)	Same As The City Power			
Input Current(A)	2.7	4.5	7.27	9.09
Charge Current(A)	10±2A (Big) / 20±2A (Small) Optional			
Transfer Time(ms)	UPS Setting:<= 10 ms / Inverter Setting:<= 20ms			
Inversion Efficiency	≥ 95%			
AC OUTPUT				
Capacity(VA)	500	800	1000	1500
Output Power(W)	300	500	800	1000
Output Voltage(VAC)	220VAC±5% (In Inverter Model)			
Output Frequency(HZ)	50Hz/60Hz			
Output Current(A)	1.36	2.28	3.63	4.55
Voltage Precision (VAC)	220VAC±3%			
Frequency Precision(HZ)	50±1% / 60±1% (In Inverter Model)			
Wave Distortion (TCKJ)	<= 5%			
Power Factor(PF)	0.6-0.66			
Overload Capacity	105%~110%, 60s, 110%~125%, 15s, >125%, 3s			
Inversion Efficiency	≥82%			
Bypass Transfer Time (ms)	≤10ms (UPS) or ≤20ms (Inverter) Optional			
PROTECTION				
Protection	Over temperature/over load/over voltage/low battery/low voltage/input low/ high voltage/short current Protection			



1KW-6KW LF home Inverter



MAIN FEATURES

- Pure sine wave, big transformer built inside with isolate output, safe and reliable
- Slectable for battery charge current and battery type
- With big AC charger built inside, smart charge and auto switch
- All around protection function: Over Load, Short Circuit/Low or high Battery/ Over charge Protection
- Full Multi-Function,LED + LCD Display
- Intelligent Variable Speed Fan Operation
- The Desirable Long Backup Power Solution For Home& Office Appliances like Fan, Ligh, TV, AC, freezer



TECHNICAL PARAMETER

MODEL	SKN-S 1KW	SKN-S 2KW	SKN-S 3KW	SKN-S 4KW	SKN-S 5KW	SKN-S 6KW
DC INPUT						
Input Voltage(Vdc)	12V/24V/48V			24V/48V		
Min DC Start Voltage(Vdc)	10V/20V			20V/40V		
AC BYPASS						
Nominal Input Voltage	110V or 230V			230 V		
Input AC Range(Vac)	110V:80-140V or 220V:165V-265V(Wide)/185-265V(Narrow) or 90-265V(1-3KW)			165V-265V(Wide)/185-265V(Narrow)		
Frequency Range(Hz)	50Hz 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					
Pass through without Battery	Yes					
Max Bypass Overload Current	10A	30A		40A		
AC Efficiency	> 95%					
Transfer Time(ms)	20ms (typical)					
CHARGER						
Charge mode Input Voltage Range	85-135V or 175-255V(wide)/195-255V(narrow)			175-255V(wide)/195-255V(narrow)		
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)	70A(max)					
INVERTER						
Capacity(VA)	1000	2000	3000	4000	5000	6000
Output Power(W)	1000	2000	3000	4000	5000	6000
Power Factor(PF)	1					
Output Voltage	120VAC or 230VAC (Pure Sine Wave)					
Output Frequency	50/60±0.3Hz(auto tracking main first power connection)					
Wavefrom	pure sine wave					
Inversion Efficiency	> 88%					
Over load Capacity	(110%<load<125%)±10%: Fault (shutdown output) after 15 minutes; (125% <load<150%) ±10% : Fault (shutdown output) after 60s;Load>150%±1					
Saver	Load≤25W (Enabled on "P/S auto" setting of Remote control)					

AC SOLAR POWER SYSTEM PROJECT IN NIGERIA



50,000SETS SAKO SOLAR CONTROL INVERTERS INTEGRATED MACHINE TO LIGHT THE TIBET RESIDENTS.



DC SOLAR POWER SYSTEM PROJECT IN PAKISTAN



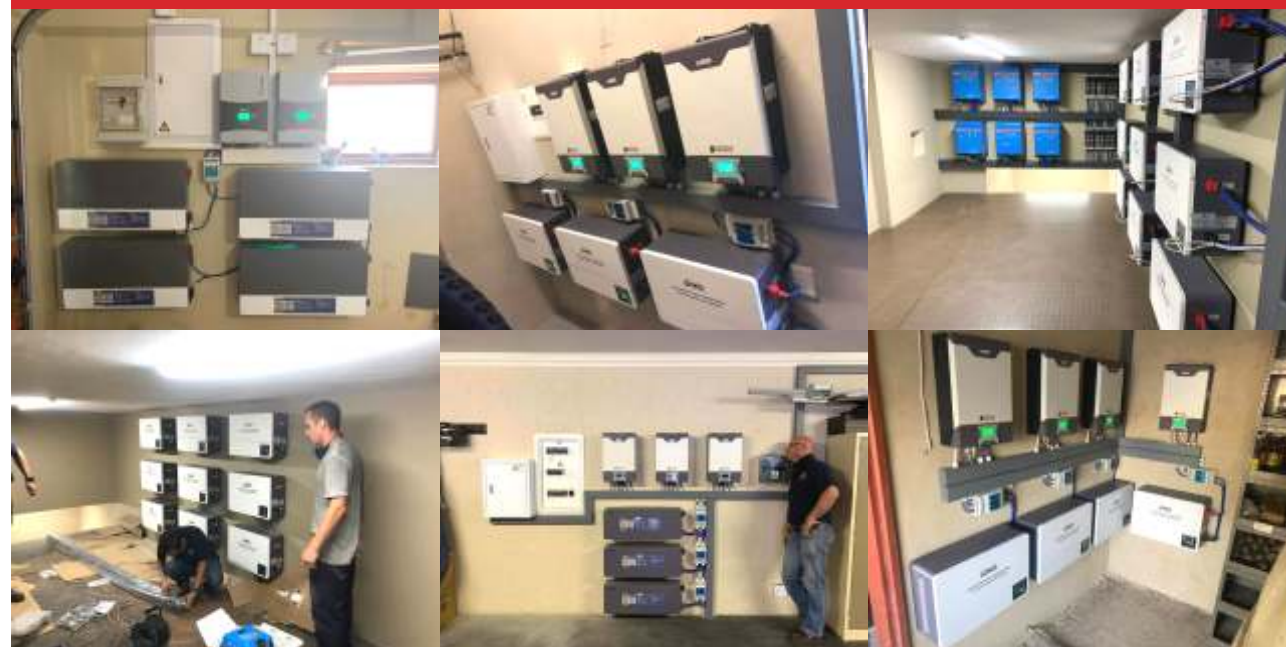
SAKO SOLAR ENERGY SYSTEM INSTALLATION



2015-2017, 30KW SOLAR PUMPING SYSTEM IN YEMEN



Lithium Battery Storage Solar System in South Africa



HOME SOLAR SYSTEM INSTALLATION IN MIDDLE EAST



THE SOLAR POWER SYSTEM FOR HOME USE IN ARGENTINA

