

SP1000 ~SP5000 Initial-P/-M

SP Initial Series

Keep high value with economy, SP Initial Series allow you easily to use solar energy.

User friendly, high-efficiency and reliable

Enjoy the green life



SP1000 Initial-P



SP3000-SP5000 Initial-P/M



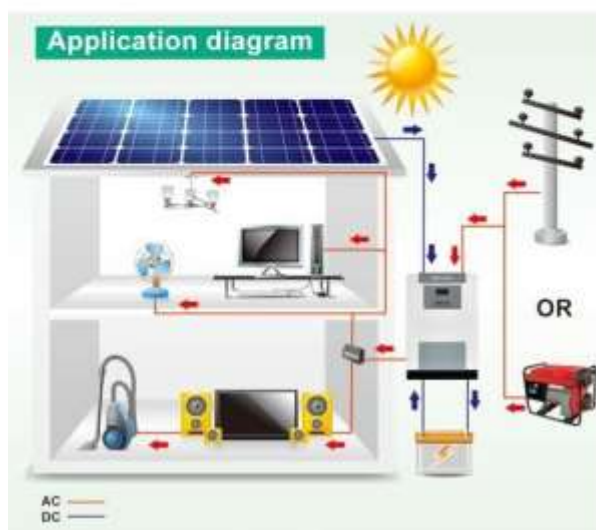
Features

- Pure sine wave inverter with PF0.8
- Selectable high power charging current
- Compatible to mains voltage or generator power
- Smart battery charger design for optimized battery performance
- Built-in solar charge controller
- Overload and short circuit protection
- Smart battery charger design for optimized battery performance
- Cold start function
- USB communication port

Specifications

MODEL	SP 1000 Initial-P	SP 2000 Initial-P	SP 3000 Initial-P	SP 5000 Initial-P	SP 3000 Initial-M	SP 5000 Initial-M
Rated Power	1000VA/ 800W	2000VA/ 1600W	3000VA/ 2400W	5000VA/ 4000W	3000VA/ 2400W	5000VA/ 4000W
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 (Batt. Mode)	230VAC ± 5%					
Surge Power	2000VA	4000VA	4000VA	10000VA	4000VA	10000VA
Peak Efficiency	93%					
Transfer Time	10 ms (For Personal Computers) 20 ms (For Home Appliances)					
Waveform	Pure sine wave					
BATTERY						
Battery Voltage	12 VDC	24 VDC	48 VDC	24 VDC	48 VDC	
Floating Charge Voltage	13.5 VDC	27 VDC	54 VDC	27 VDC	54 VDC	
Overcharge Protection	16 VDC	33 VDC	63 VDC	33 VDC	63 VDC	
SOLAR CHARGER & AC CHARGER						
Maximum PV Array Open Circuit Voltage	50VDC	60VDC	105Vdc	100VDC	145Vdc	
Operation Voltage Range	18~20Vdc	30~32Vdc	60~72Vdc	N/A	N/A	
PV Array MPPT Voltage Range	N/A	N/A	N/A	30~80Vdc	60~115Vdc	
Maximum Solar Charging Current	50A				40A	60A
Maximum AC Charging Current	20A	25A	60A	25A	60A	
Maximum Charging Current	50A	70A	110A	60A	120A	
PHYSICAL						
Dimension (D×W×H)	88×225×315mm	100×285×334mm	100×300×440mm	100×285×334mm	100×300×440mm	
Net Weight	5kgs	5.5kgs	6.5kgs	9kgs	6.3kgs	9.7kgs
OPERATING ENVIRONMENT						
Humidity	5% to 95% Relative Humidity(Non-condensing)					
Operating Temperature	-10°C ~ 55°C					
Storage Temperature	-15°C ~ 60°C					

Specifications are subject to change without notice.



SP2000 ~ SP5000 Brilliant Grid

SP Brilliant Grid

SP Brilliant Grid provide hybrid configuration of PV & Utility.



With grid feed-in function, people can enjoy the extremely flexible power.

Automatically find the most simple and economical operation.

Features

- Pure sine wave output
- Feed-in to the grid function
- Programmable supply priority for PV, Battery or Grid
- Adjustable charging current and voltage
- Programmable multiple operation modes: Grid-tie, off-Grid and Grid-tie with backup
- Monitoring software for real-time status display and control
- Parallel operation up to 6 units (3kva & 5kva model only)
- Built-in 1 or 2 strings of MPPT solar charge controller
- Compatible to mains utility or generator power



SP2000 Brilliant Grid



SP3000 Brilliant Grid



SP5000 Brilliant Grid



Specifications

MODEL	SP2000 Brilliant Grid	SP3000 Brilliant Grid	SP5000 Brilliant Grid
RATED OUTPUT POWER	2000W	3000W	5000W
PV INPUT (DC)			
Max. PV Power	2000W	4000W	6000W
Max. PV Array Open Circuit Voltage	145 VDC	145 VDC	145 VDC
MPPT Range @ Operating Voltage	30 VDC~115 VDC	60 VDC~115 VDC	60 VDC~115 VDC
Number of MPP Tracker	1	1	2
GRID-TIE OPERATION			
GRID OUTPUT (AC)			
Nominal Output Voltage	220/230/240 VAC		
Output Voltage Range	184 - 265 VAC		
Nominal Output Current	8.7A	13A	21.7A
Power Factor Range	>0.99		
Maximum Conversion Efficiency (DC/AC)	90%		
OFF-GRID, HYBRID OPERATION			
GRID INPUT			
Acceptable Input Voltage Range	90 - 280 VAC or 170 - 280 VAC		
Frequency Range	50 Hz/60 Hz (Auto sensing)		
Rating of AC Transfer Relay	30A	40A	
BATTERY MODE OUTPUT (AC)			
Nominal Output Voltage	220/230/240 VAC		
Output Waveform	Pure Sine Wave		
Efficiency (DC/AC)	93%		
BATTERY & CHARGER			
Nominal DC Voltage	24 VDC	48 VDC	48 VDC
Maximum Charging Current (from Grid)	60A		
Maximum Charging Current (from PV)	80A	80A	120A
Maximum Charging Current	140A	140A	180A
GENERAL			
Dimension (D×W×H)	100×300×440 mm	120×295×468 mm	190×295×483 mm
Net Weight	8kgs	11kgs	16kgs
INTERFACE			
Parallel-able	None	Yes	
Communication	USB or RS232/Dry-Contact		
ENVIRONMENT			
Humidity	0 ~ 90% RH (No condensing)		
Operating Temperature	0 to 50°C		

Specifications are subject to change without notice.

SP3000 Power-P / Power-M

SP Power Series

The system is designed for 120V to provide more choices.

Friendly solutions that shall help reduce on the electricity bill.

Built-in AC charger and PV solar charger controllers.

Parallel operation with up to 6 units.

Features

- Pure sine wave inverter
- Built-in PWM or MPPT solar charge controller
- Selectable input voltage range for home appliances and personal computers
- Selectable charging current based on applications
- Configurable AC/Solar input priority via LCD setting
- Compatible to mains voltage or generator power
- Auto restart while AC is recovering
- Overload and short circuit protection
- Smart battery charger design for optimized battery performance
- Cold start function



Specifications

MODEL	SP3000 Power-P	SP3000 Power-M
Rated Power	3000VA/2400W	
INPUT		
Voltage	110/120VAC	
Selectable Voltage Range	95-140 VAC (For Personal Computers) 65-140 VAC (For Home Appliances)	
Frequency Range	50 Hz/60 Hz (Auto sensing)	
OUTPUT		
AC Voltage Regulation (Batt. Mode)	120VAC \pm 5%	
Surge Power	6000VA	
Peak Efficiency	93%	
Transfer Time	10 ms (For Personal Computers) 20 ms (For Home Appliances)	
Waveform	Pure sine wave	
BATTERY		
Battery Voltage	24 VDC	
Floating Charge Voltage	27 VDC	
Low Battery Alarm Voltage (load \geq 50%)	21.2VDC	
Shutdown Voltage (load \geq 50%)	19.2 VDC	
Overcharge Protection	33 VDC	
Maximum Utility Charging Current	60A	
SOLAR CHARGER		
Maximum PV Rated Power	1250W	2000W
Maximum PV Array Open Circuit Voltage	105Vdc	145Vdc
Operation Voltage Range	30~40Vdc	N/A
MPPT Operation Voltage Range	N/A	30~115Vdc
Maximum Charging Current	50A	80A
Standby Power Consumption	2W	
JOINT UTILITY AND SOLAR CHARGING		
Maximum Charging Current	110A	140A
PHYSICAL		
Dimension (D×W×H)	120×295×468 mm	
Net Weight	11kgs	11.5kgs
OPERATING ENVIRONMENT		
Humidity	5% to 95% Relative Humidity(Non-condensing)	
Operating Temperature	0°C - 55°C	
Storage Temperature	-15°C - 60°C	

Specifications are subject to change without notice.

SP1000 ~ SP5000 Efecto

SP Efecto Series

SP Efecto series represent Hybrid/off-grid solar inverters that adapt high-frequency switching technology and offer high efficiency power saving results to customers who seek for environment friendly solutions that shall help reduce on the electricity bill. It integrates AC charger and PV solar charger controllers to allow for batteries up to 500AH to be used.

SP Efecto inverters introduce the parallel inter-connectivity to increase your overall solar installation power rating by simply adding inverters.

Features:

- Pure sine wave inverter with PF1
- Parallel connection capability, totally connected up to 9 inverters (Optional for SP4000 Efecto and SP5000 Efecto)
- Selectable input voltage range for home appliances and personal computers
- Selectable charging current suitable for high AH-rating batteries
- Configurable AC/Solar input priority
- Diesel generator compatible
- Auto restart as AC recovers
- Overload and short circuit protection
- Smart battery charger
- Cold start function



Specifications

MODEL	SP1000 Efecto	SP2000 Efecto	SP3000 Efecto	SP4000 Efecto	SP5000 Efecto
Rated Power	1000VA/ 1000W	2000VA/ 2000W	3000VA/ 3000W	4000VA/ 4000W	5000VA/ 5000W
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 (Batt. Mode)	230VAC ± 5%				
Surge Power	2000VA	4000VA	6000VA	8000VA	10000VA
Peak Efficiency	90%				
Transfer Time	10 ms (For Personal Computers) 20 ms (For Home Appliances)				
Waveform	Pure sine wave				
Overload Capacity	10s for 110%~150% load 5s for ≥150% load				
BATTERY					
Battery Voltage	12 VDC	24 VDC	48 VDC		
Floating Charge Voltage	13.5 VDC	27 VDC	54 VDC		
Low Battery Alarm Voltage	10.5 VDC	21 VDC	42 VDC		
Shutdown Voltage	10 VDC	20 VDC	40 VDC		
Overcharge Protection	15.5 VDC	31 VDC	60 VDC		
Maximum Utility Charging Current	20A	30 A	60 A		
Reverse Polarity Protection	Yes				
SOLAR CHARGER					
Charging current	50A				
Suggested Best Operating Voltage Range	15~18V	30~32V	60~72V		
Suggested Operating Voltage Range	15~30V	30~60V	60~90V		
Maximum PV Array Open Circuit Voltage	40V	78V	100V		
Standby Power Consumption	1W	2W			
Reverse Polarity Protection	Yes				
JOINT UTILITY AND SOLAR CHARGING					
Maximum Charging Current	60A			110A	
PHYSICAL					
Dimension (D×W×H)	95×250×330mm	100×272×367mm	110×300×455mm		
Net Weight	5kgs	6.4kgs	6.9kgs	9.8kgs	
OPERATING ENVIRONMENT					
Humidity	5% to 95% Relative Humidity(Non-condensing)				
Operating Temperature	0°C - 55°C				
Storage Temperature	-15°C - 60°C				

Specifications are subject to change without notice.

* Either SP4000 Efecto or SP5000 Efecto can be installed in parallel, and total capacity can reach 24KVA or 30KVA (Transfer time is 30ms in parallel operation)

SP3000 Brilliant~ 5000 Brilliant / Plus

SP Brilliant Series

SP Brilliant Series enhances the built-in MPPT solar charger with higher capacity.

With larger solar charger, the maximum charging current will reach 80A or 120A.

Enjoy more solar energy with a simply solution.



SP3000 Brilliant



SP5000 Brilliant



SP5000 Brilliant Plus



Features

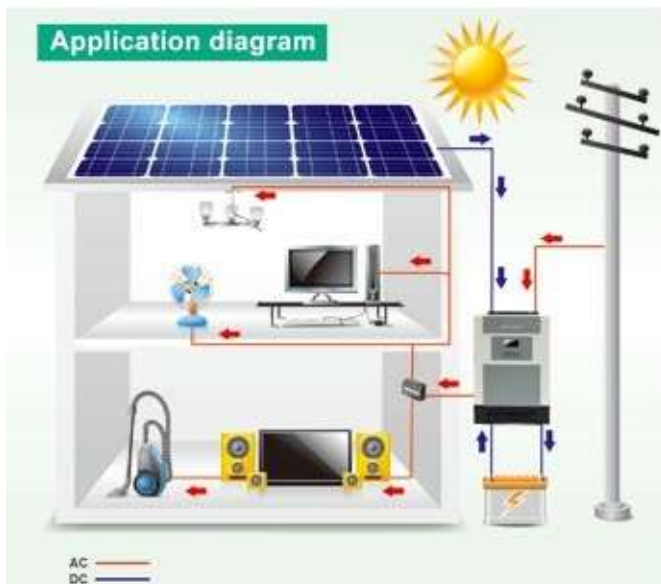
- Pure sine wave inverter with PF1
- Built-in MPPT solar charger
- Selectable input voltage range for home appliances and personal computers
- Selectable charging current based on applications
- Configurable AC/Solar input priority
- Compatible to mains voltage or generator power
- Auto restart as AC recovers
- Overload and short circuit protection
- Smart battery charger design for optimized battery performance
- Cold start function
- Parallel connection capability, totally connected up to 9 inverters (Optional for SP5000 Brilliant & SP5000 Brilliant Plus)

Specifications

MODEL	SP3000 Brilliant	SP5000 Brilliant	SP5000 Brilliant Plus
Rated Power	3000VA/3000W	5000VA/5000W	5000VA/5000W
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 (Batt. Mode)	230VAC ± 5%		
Surge Power	6000VA	10000VA	
Peak Efficiency	90%		
Transfer Time	10 ms (For Personal Computers) 20 ms (For Home Appliances)		
Waveform	Pure sine wave		
Overload Capacity	10s for 110%~150% load 5s for ≥150% load		
BATTERY			
Battery Voltage	48 VDC		
Floating Charge Voltage	54 VDC		
Low Battery Alarm Voltage	42 VDC		
Shutdown Voltage	40 VDC		
Overcharge Protection	60 VDC		
Maximum Utility Charging Current	15 A	60 A	
Reverse Polarity Protection	Yes		
SOLAR CHARGER			
Maximum PV Rated Power	3000W	4000W	6000W
Built-in MPPT Tracker	1pcs	1pcs	2pcs
Maximum PV Array Open Circuit Voltage	145Vdc		
MPPT Operation Voltage Range	60~115Vdc		
Maximum Charging Current	60A	80A	120A
Standby Power Consumption	2W		
Reverse Polarity Protection	Yes		
JOINT UTILITY AND SOLAR CHARGING			
Maximum Charging Current	60A	140A	180A
PHYSICAL			
Dimension (D×W×H)	140 × 295 × 479mm	120 × 295 × 468mm	194 × 295 × 455mm
Net Weight	11.5kgs	12.5kgs	16kgs
OPERATING ENVIRONMENT			
Humidity	5% to 95% Relative Humidity (Non-condensing)		
Operating Temperature	0°C - 55°C		
Storage Temperature	-15°C - 60°C		

Specifications are subject to change without notice.

* SP5000 Brilliant / SP5000 Brilliant Plus can be installed in parallel, and total capacity can reach 30KVA (Transfer time is 30ms in parallel operation)



SP2000 Premium ~ SP10000 Premium

SP Premium Series

True Hybrid Solar Inverter with Energy Storage

SP Premium Series are a universal power supply tool for houses. It utilizes solar power at day time feeding it to your appliances like illumination lamps, TV, stereo and PC equipment, saving the power to the batteries for the night time usage, and selling the power surplus unused by the connected appliances to the grid.

On cloudy days when the solar power is weak, **SP Premium Series** take the lacking power from the grid. At night, the power stored in the batteries are being used for your equipment. With this true hybrid design, we give you the confidence that 100% of your solar power is fully utilized.

Features

- 2KW/3KW/5KW on-grid inverter with energy storage
- Pure sine wave output
- Microprocessor controlled to guarantee stable charging system
- Multiple operations: Grid tie, Off grid, and grid-tie with backup
- Built-in MPPT solar charger
- LCD display panel for comprehensive information
- Multiple communication
- Green substitution for generators
- User-adjustable battery charging current

Below only for SP5000 Premium

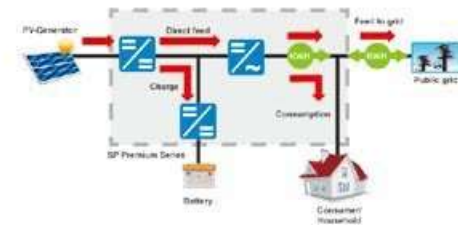
- Built-in parallel function (max 30KW)
- Dual AC input for generator & utility
- Built-in 2 strings of MPPT solar charge controller

Below only for SP10000 Premium

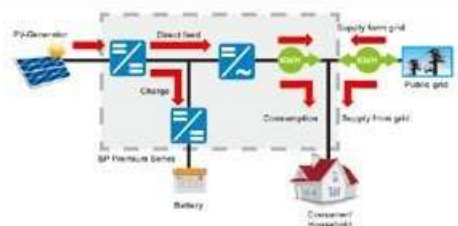
- Parallel connection capability (Maximum up to 6pcs)



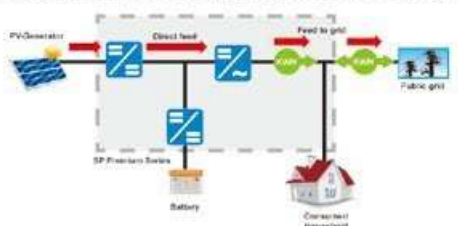
Enough PV Energy Input



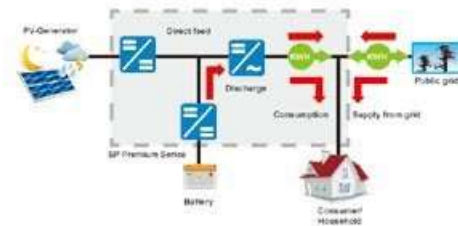
Household's consumption is higher than supply from PV



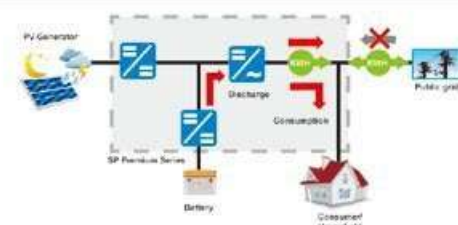
No consumption from household and the battery is fully charged



No PV energy and battery is fully discharged



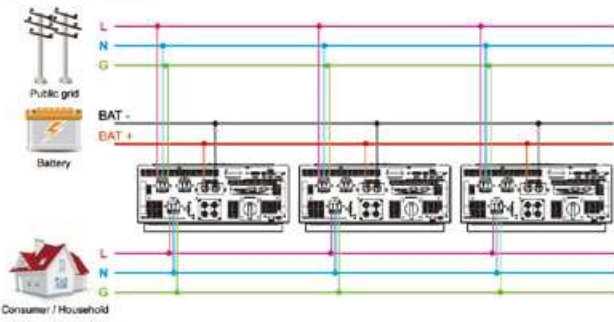
No PV energy and the consumption from household is supplied by battery



Solar Inverter

Three inverters in parallel (only for SP5000 Premium)

Power Connection

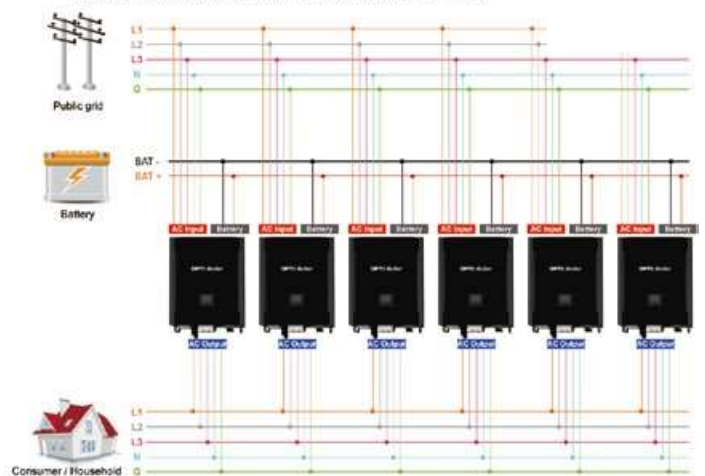


Communication Connection



Three inverters in parallel (only for SP10000 Premium)

Parallel connection capability (Maximum up to 6pcs)



Specifications

MODEL	SP2000 Premium	SP3000 Premium	SP5000 Premium
RATED POWER	2000 W	3000 W	5000 W
Maximum PV Input Power	2250W	4500W	10000 W
Maximum Charging Power	1200 W		4800 W
GRID-TIE OPERATION			
PV INPUT (DC)			
Nominal DC Voltage / Maximum DC Voltage	300 VDC / 350 VDC	360 VDC / 500 VDC	720 VDC / 900 VDC
Start-up Voltage / Initial Feeding Voltage	80 VDC / 120 VDC	116 VDC / 150 VDC	250 VDC / 300 VDC
MPP Voltage Range	150 VDC ~ 320 VDC	250 VDC ~ 450 VDC	250 VDC ~ 850 VDC
Number of MPP Trackers / Maximum Input	1x15 A	1x18 A	2 x 10 A
GRID OUTPUT (AC)			
Nominal Output Voltage	101/110/120/127 VAC	208/220/230/240 VAC	
Output Voltage Range	88 - 127 VAC*	184 - 264.5 VAC*	
Nominal Output Current	18 A	13.1 A	21.8A
Power Factor	> 0.99		
EFFICIENCY			
Maximum Conversion Efficiency (DC/AC)	95%	96%	96%
OFF-GRID OPERATION			
AC INPUT			
AC Start-up Voltage/Auto Restart Voltage	60 - 70 VAC / 85 VAC	120 - 140 VAC / 180 VAC	
Acceptable Input Voltage Range	85 - 130 VAC*	170 - 280 VAC	
Max. AC Input Current	30 A	25 A	40 A
PV INPUT (DC)			
Maximum DC Voltage	350 VDC	500 VDC	900 VDC
MPP Voltage Range	150 VDC ~ 320 VDC	250 VDC ~ 450 VDC	250 VDC ~ 850 VDC
Number of MPP Trackers / Max. Input Current	1 x 15 A	1x 18 A	2 x 10 A
BATTERY MODE OUTPUT (AC)			
Nominal Output Voltage	101/110/120/127 VAC	208/220/230/240 VAC	
Output Waveform	Pure Sinewave		
Efficiency (DC to AC)	90%	93%	91%
HYBRID OPERATION			
PV INPUT (DC)			
Nominal DC Voltage / Maximum DC Voltage	300 VDC / 350 VDC	360 VDC / 500 VDC	720 VDC / 900 VDC
Start-up Voltage / Initial Feeding Voltage	80 VDC / 120 VDC	116 VDC / 150 VDC	250 VDC / 300 VDC
MPP Voltage Range	150 VDC ~ 320 VDC	250 VDC ~ 450 VDC	250 VDC ~ 850 VDC
Number of MPP Trackers / Max. Input Current	1 x 15 A	1x 18 A	2 x 10 A
GRID OUTPUT (AC)			
Nominal Output Voltage	101/110/120/127 VAC	208/220/230/240 VAC	
Output Voltage Range	88-127 VAC	184 - 264.5 VAC	
Nominal Output Current	18 A	13.1 A	21.8A
AC INPUT			
AC Start-up Voltage / Auto Restart Voltage	60 - 70 VAC / 85 VAC	120 - 140 VAC / 180 VAC	
Acceptable Input Voltage Range	80 - 130 VAC*	170 - 280 VAC	
Maximum AC Input Current	30 A	25 A	40 A
BATTERY MODE OUTPUT (AC)			
Nominal Output Voltage	101/110/120/127 VAC	208/220/230/240 VAC	
Efficiency (DC to AC)	90%	93%	91%
BATTERY & CHARGER			
Nominal DC Voltage	48 VDC		
Maximum Charging Current	25A	100A	
GENERAL			
PHYSICAL			
Dimension (D×W×H)	117×438×480mm		204.2×460×600 mm
Net Weight	15.57 kgs		29 kgs
INTERFACE			
Communication Port	RS-232/USB		
Intelligent Slot	SNMP/Modbus/AS-400 cards(Optional)		
ENVIRONMENT			
Humidity	0 ~ 90% RH (No condensing)		
Operating Temperature	0 to 40°C		-10 to 50°C
Altitude	Max. 1000m**		

Product specifications are subject to change without further notice.

*These figures are based on VDE-4105 standard. All figures may vary depending on different AC voltage and country requirements.

**Power derating 1% every 100m when altitude is over 1000m.

MODEL	SP10000 Premium
RATED POWER	10000 W
PV INPUT (DC)	
Maximum DC Power	14850 W
Nominal DC Voltage	720 VDC
Maximum DC Voltage	900 VDC
Start-up Voltage / Initial Feeding Voltage	320 VDC / 350 VDC
MPP Voltage Range	400 VDC ~ 800 VDC
Maximum Input Current	2*18.6 A
GRID OUTPUT (AC)	
Nominal Output Voltage	230 VAC (P-N) / 400 VAC (P-P)
Output Voltage Range	184 - 265 VAC per phase
Nominal Output Current	13 A per phase
Inrush Current/Duration	17 A per phase / 20ms
Maximum Output Fault Current/Duration	51 A per phase / 1ms
Maximum output Overcurrent Protection	51 A per phase
Power Factor	>0.99
EFFICIENCY	
Maximum Conversion Efficiency (DC/AC)	96%
European Efficiency@Vnominal	95%
AC INPUT	
AC Start-up Voltage	120-140 VAC per phase
Auto Restart Voltage	180 VAC per phase
Acceptable Input Voltage Range	170 - 280 VAC per phase
Nominal Frequency	50 Hz / 60 Hz
AC Input Power	10000VA/10000W
Maximum AC Input Current	25 A
Inrush Input Current	25 A
BATTERY MODE OUTPUT (AC)	
Nominal Output Voltage	230 VAC (P-N) / 400 VAC (P-P)
Output Frequency	50 Hz / 60 Hz (auto sensing)
Output Waveform	Pure sine wave
Output Power	10000VA/10000W
Output Current	13 A per phase
Efficiency (DC to AC)	91%
BATTERY & CHARGER	
Nominal DC Voltage	48 VDC
Maximum Battery Discharging Current	250 A
Maximum Charging Current	200 A
PHYSICAL	
Dimension (D×W×H)	622×500×167.2mm
Net Weight	45kgs
INTERACE	
Communication Port	RS-232/USB
Intelligent Slot	Optional SNMP, Modbus and AS-400 cards available
ENVIRONMENT	
Protective Class	I
Ingress Protection Rating	IP20
Humidity	0 ~ 90% RH (No condensing)
Operating Temperature	0 to 40°C
Altitude	0 ~ 1000 m*

Product specifications are subject to change without further notice.

*Power derating 1% every 100 m when altitude is over 1000m.

SP5000 ~ 8000-SW

SP-SW Series

Strong DC/AC transformer design with higher efficiency, enjoy the stability and reliability all the time.

Features

- Compatible with both linear and non-linear load
- Controllable & Removable panel with LCD
- DC start and automatic self-diagnostic function
- Designed to operate under harsh environment
- Heat dissipation design
- 3U 19" Rack-Mounted Design or Wall-Mounted Design
- Pre-settable Parameters
- 24hrs operation under inverter mode
- THD less than 3%
- DC/AC transformer design



Specifications

MODEL	SP5000-SW	SP6000-SW	SP8000-SW
Capacity	5KVA/4000W	6KVA/6000W	8KVA/8000W
AC INPUT (FROM ARRAY)			
Nominal Voltage	120 Vac or 230 Vac		230 Vac
Voltage Range	Acceptable Voltage Range	60~135 Vac or 120~270 Vac	120~270 Vac
	Low Voltage Transfer	60 Vac $\pm 2\%$; 120 Vac $\pm 3\%$	120 Vac $\pm 2\%$
	Low Voltage Return	65 Vac $\pm 2\%$; 130 Vac $\pm 3\%$	130 Vac $\pm 2\%$
	High Voltage Transfer	135 Vac $\pm 2\%$; 270 Vac $\pm 3\%$	270 Vac $\pm 2\%$
	High Voltage Return	130 Vac $\pm 2\%$; 260 Vac $\pm 3\%$	260 Vac $\pm 2\%$
Frequency	50Hz or 60Hz		
DC INPUT (FROM ARRAY)			
Nominal Voltage	24V	48V	
Charger Voltage	27.6V	55.2V	
Solar Maximum Peak Voltage	50V	100V	
Start-up Voltage	24V	44V	
Polarity Protect	Yes		
Backflow Protect	Yes		
Maximum Charge Current	40A		
OUTPUT			
Voltage	110/115/120Vac		220/230/240Vac
	220/230/240Vac		
Voltage Regulation(Battery Mode)	<3% RMS for entire battery voltage range		
Frequency Regulation	Line Mode	Synchronized to AC Main	
	Battery Mode	50Hz or 60Hz ± 0.1 Hz	
Power Factor	0.8	1	
Wave Form	Pure Sine Wave		
Overload Protection	Line Mode	>110%, then buzzer alarms and amber LED blinks continuously	
	Battery Mode	110%~150% for 30 sec ; >150% for 200ms	
Short Circuit Protection	Line Mode	Circuit Breaker	
	Battery Mode	Electronic Circuit	
TRANSFER TIME			
Typical	< 8 ms.		
Battery Voltage	24Vdc	48Vdc	
Backup Time	Depends on system load and battery capacity (Base on the batteries connected)		
Selectable Charging Current	Yes		
DISPLAY			
LCD	UPS status, I/P&O/P Voltage Frequency, Load Level, Battery Voltage & Level, Temperature, Model		
LED	Normal (Green), Warning (Amber), Fault (Red)		
AUDIBLE ALARM			
Battery Mode	Beeping every 4 seconds		
Low Battery	Beeping every second		
UPS Fault	Beeping continuously		
Overload	Beeping twice per second		
ENVIRONMENT			
Operation Temperature	0-40°C ; 32-104°F		
Relative Humidity	0-95% non-condensing		
Audible Noise	Less than 55dBA (at 1M)		
PHYSICAL			
Weight (Net / Gross)	49.2kgs / 63kgs	51.4kgs / 66.6kgs	53.6kgs / 67.7kgs
Dimensions (W×H×D)	415×600×260mm	415×600×260mm	415×600×260mm
ACCESSORY			
RS232 or SNMP	Optional		

Specifications are subject to change without notice.



SP1600 ~ SP4000 AVR

SP AVR Series

Built-in AVR function.

Wide range of grid input for unstable electricity

Features

- Adjustable voltage-transfer points & charging voltage
- Automatic restart of load after inverter shutdown
- Smart AVR function (Two buck / boost modes)
- Dual AC input for main & Generator
- Wide input range 110V~360V
- Dry contact signal to trigger auto-start generator
- Cold-start capable
- Battery Temperature Sensor
- Full-functional of LCD display with Audible alarms
- Intelligent double-stage charging control; Adjustable charging current by DIP switches for different battery types
- Thermal control cooling fan
- DC/AC Isolation



Specifications

MODEL	SP1600 AVR	SP2400 AVR	SP3200 AVR	SP4000 AVR
Rated Power	1600VA / 1200W	2400VA / 1800W	3200VA / 2400W	4000VA / 3200W
INPUT				
Voltage	100V/110V/115V/120V or 200V/220V/230V/240V Selectable			200V/220V/230V/240V Selectable
Voltage Range	70V ~ 155V or 140V ~ 310V			140V ~ 310V
Regulation Range	Enhanced Buck	+28% of selected nominal voltage		
	Buck mode	+10% of selected nominal voltage		
	Boost mode	-10% of selected nominal voltage		
	Enhanced Boost	-25% of selected nominal voltage		
Frequency Range	50 Hz/ 60 Hz (Auto sensing)			
Surge Protection	1X0V	1824 Joules		
	2X0V	1940 Joules		
OUTPUT				
AC Voltage Regulation (Batt. Mode)	± 3%			
Crest Factor	3:1			
Efficiency (Normal mode)	97%			
Transfer Time	3 ms			
Over current protection	Yes			
Waveform	Pure sine wave			
BATTERY				
Battery Voltage	24 VDC	36 VDC	48 VDC	
Floating Charge Voltage	27 VDC	40.5 VDC	54 VDC	
Low Battery Alarm Voltage	21 VDC	31.5 VDC	42 VDC	
Shutdown Voltage	20 VDC	30 VDC	40 VDC	
Overcharge Protection	30 VDC			
Maximum Utility Charging Current	25 A	35 A	30 A	
SOLAR CHARGER (OPTIONAL)				
Maximum Power Rating	675W		1000W	
Maximum solar charge current	25A			20A
Suggested operating Voltage Range	30~40 VDC		40 ~ 63 VDC	60 ~ 84 VDC
Polarity Protection	Yes			
PHYSICAL				
Dimension (D×W×H)	510×200×180mm			
Net Weight	15kgs	26kgs	34kgs	41kgs
OPERATING ENVIRONMENT				
Operating Altitude	0 ~ 3000 meters			
Humidity	5% to 95% Relative Humidity (Non-condensing)			
Operating Temperature	0°C - 40°C			
Storage Temperature	-15°C - 55°C			

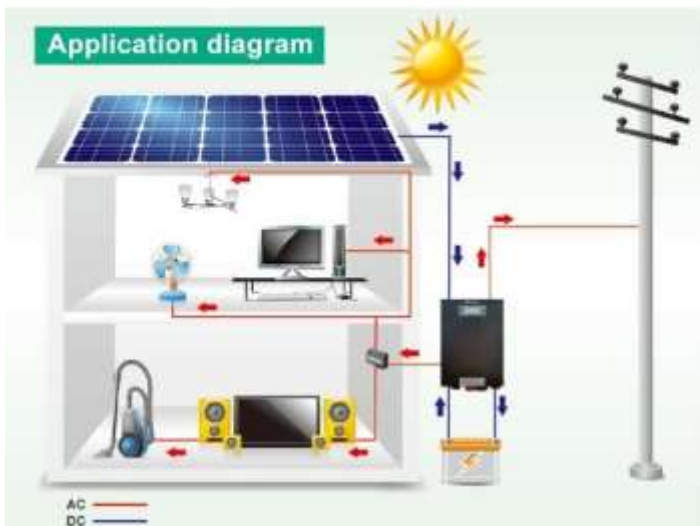
Specifications are subject to change without notice.

Diagram on how AVR works ...



AVR keeps electricity at a safe range by correcting the under and over voltages that are harmful to your equipment. AVR also allows the life of the battery to be extended.

Application diagram



SP5000 Vitality

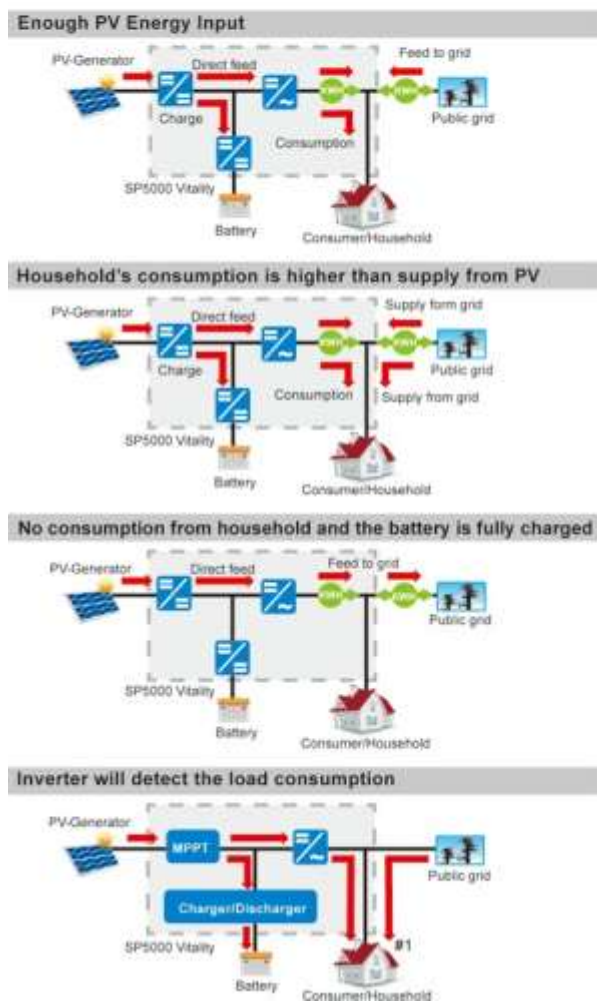
SP Vitality

Features

- On-Grid inverter with energy storage
- 6KW Maximum PV input
- PV direct-supply Function
- Pure sine wave output
- Microprocessor Controlled to Guarantee Stable Charging System
- Maximum Efficiency Up to 96.5%
- Built-In Dual MPPT Solar Chargers
- Maximum Charging 100A
- LCD Display Panel For Comprehensive Information
- Generator Compatible
- Surge Protection
- Six inverters in parallel



Operation Diagram:



Specifications

MODEL	SP5000 Vitality
Rated Power	5000W
INPUT	
Rated Voltage	230 VAC
Voltage Range	190-300 VAC
Frequency Range	50 Hz/60 Hz (Auto sensing)
OUTPUT	
AC Voltage Regulation (Batt. Mode)	230VAC \pm 5%
Overload Capacity	60 seconds for 100% \leq load \leq 110% 30 seconds for 110% < load \leq 150% 10 seconds for 150% < load \leq 200%
Peak Efficiency	96.5%
Transfer Time	20ms
Waveform Pure sine wave	
BATTERY	
Battery Voltage	48 VDC
Voltage Range	40VDC~56VDC
Low Battery Alarm Voltage	42 VDC
Maximum discharge Current	150A
Maximum Utility Charging Current	50 A
SOLAR CHARGER	
Maximum PV Rated Power	6000W
Maximum PV Array Open Circuit Voltage	500VDC
MPPT Operation Voltage Range	150~450VDC
Start-up Voltage	150VDC
Maximum input Current	10A \times 2
Maximum Charging Current	100A
Standby Power Consumption	60W
JOINT UTILITY AND SOLAR CHARGING	
Maximum Charging Current	100A
PHYSICAL	
Dimension (D\timesW\timesH)	580 \times 408 \times 168mm
Net Weight	24.2kgs
Humidity	0% to 95%(Non-condensing)
Operating Temperature	0 $^{\circ}$ C - 40 $^{\circ}$ C
Storage Temperature	-20 $^{\circ}$ C - 40 $^{\circ}$ C

Specifications are subject to change without notice.

Self-use function:

Inverter will detect the load consumption.

To supply the load, it will take power from Solar and take power from public grid simultaneously. (#1: Public grid will be accepted to the load if Solar is insufficient)

SP7000 Revival

SP Revival Series

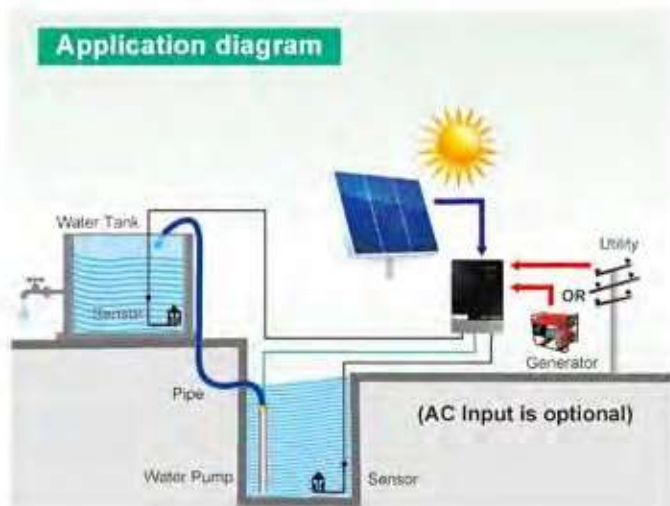
Water Pumps installation has been a challenge in areas lacking AC utility power. Thus hindering irrigation and water supply project in remote regions.

Opti inverters supply AC power to any conventional pump directly from Solar Panels.

Zero operating cost and maintenance free operation makes it the best solar option for Irrigation for orchards, gardens and farms.

Features

- Built-in MPPT solar controller
- Design for three-phase motors
- Multiple protections and self Diagnosis
- Soft start Function prevent water hammer effect
- Comprehensive LCD Display & LED indicators
- Remote Monitoring by RS-485 communication interface



Specifications

MODEL	SP7000 Revival
Rated Power	7500W
INPUT (Optional)	
Voltage	3×380/400/415/440vac
Maximum Current	20.5A
AC OUTPUT	
AC Voltage Regulation (Batt. Mode)	3×380/400/415/440vac
Efficiency	>97%
Maximum Output Current	17A
Motor Type	Three-phase asynchronous motor
Frequency Accuracy	± 0.2%
PV INPUT	
Maximum DC Voltage	800 VDC
Start-up Voltage	350 VDC
MPPT Operation Voltage Range	500 ~ 600 VDC
MPPT Voltage Range	500 ~ 600 VDC
Number of MPPT Controller	1
Maximum Input Current	14.5 A
PROTECTION	
Protection	Over-voltage / under-voltage / over-current / surge / over - Temperature / short circuit protection
PHYSICAL	
Dimension (D×W×H)	110×230×330 mm
Net Weight	6 kgs
Ingress Protection Rating	IP20
INTERFACE	
Communication Port	RS232 / RS485
OPERATING ENVIRONMENT	
Humidity	<95% Relative Humidity (Non-condensing)
Operating Temperature	Full load: - 20°C - 45°C Power derating: 46°C - 60°C

Specifications are subject to change without notice.

SP1000 Senior

SP Senior

Small, light and flexible solution.

Simple life, simple inverter



Features

- Dual output for 1pcs AC socket & 1pcs 5V 2.1A USB
- Green energy saving
- LED indicator design
- 12Vdc and 24Vdc Auto-Detect
- Reverse-polarity protection
- Output short circuit protection

Specifications

MODEL	SP1000 Senior	
Rated Battery Voltage	12V	24V
Rated Power	800W	1000W
Surge Protection	2000W	2400W
OUTPUT		
AC Voltage Regulation (Batt. Mode)	230VAC \pm 5%	
Frequency	50 / 60Hz	
USB Port	5Vdc @ 2100mA	
Outlet Socket	1pcs	
Peak Efficiency	> 85%	
Waveform	Modified Sine Wave	
Circuit Protection	Yes	
BATTERY		
Battery Voltage (Auto-detect)	12V	24V
Low Battery Alarm Voltage	10.5V \pm 0.5V	21V \pm 0.5V
Shutdown Voltage	9.5V \pm 0.5V	20V \pm 0.5V
Overload Protection	900W	1200W
Battery Polarity Reverse	By Fuse	
PHYSICAL		
Dimension (D×W×H)	345×137×79mm	
Net Weight	2.2Kg	
OPERATING ENVIRONMENT		
Humidity	5% to 95% Relative Humidity(Non-condensing)	
Operating Temperature	0°C - 55°C	
Storage Temperature	-15°C - 60°C	

Specifications are subject to change without notice.

