Solar **Catalogue**

OPTI-Solar

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OPTI-Solar

INVERTER POWER

OPTI-UPS

Established in 1991

Renowned supplier of Uninterruptible Power Supply (UPS)

OPTI-SOLAR

Established in 2007

Total Solution Provider and Inverter Expert

Contents

Solar Inverter

SP1000 ~ 5000 Initial-M/-M II 6
SP1000 ~ 3000 Power One 7
SP1200 ~ 5000 Handy 8
SP3500 ~ 5500 Handy 9
SP4000 ~ 6000 Handy Plus 10
SP5500 Handy Plus II 11
SP6000 Handy Grid 12
SP6000 Handy Grid II 13
SP6000 ~ 11000 Handy Ultra 14
SP8000 ~ 11000 Handy Ultra II 16
SP8000~ 11000 Handy Max 18
SP5000 Regal ~ SP6000 Regal Ultra 19
SP5000 ~ 8000 IP Plus 20
SP6000 ~ 10000 IP Grid 21
SP5000 Brilliant Ultra 22
SP6000 Brilliant Ultra II 23
SP5000 ~ 15000 Premium 24
SP30000 Premium Plus 26
SP7000 ~ 15000 Revival 28
SP1000 Senior 29
SP300 ~ 600 Junior 30

Solar Charger MPPT

SC-3KW MPPT 31
SC-20 ~ 40 MPPT 32

Solar Charger PWM

SC-10~20SM/SM-Z 33
SC-20 ~ 6048MAX 33

History of a Trustworthy Brand

1991-1996
Member of ViewSonic power supply department

1997
Establishment of **OPTI-UPS** brand in California, USA

1998
Establishment of headquarter in Taiwan

2001
Establishment of the Branch office in California, USA

2004
Set up of logistic operations Netherlands

2005
Set up of Dubai branch office in Jebel Ali Free Zone

2007
Launch of **OPTI-Solar** product line

2011
Set up of European office in the Netherlands

2013
Social projects in Africa

2015
Establishment of **OPTI-SOLAR** Service Center in The Netherlands

2017
Ranks among top 10 Solar inverter & UPS manufacturers in Taiwan

2020
Awarded by NCSIST as one of TW designated manufacturers

ISO 9001 CERTIFICATE

bsi.

Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that: OPTI International Corp.
7F,
No. 152, Lien Chen Road
Chung Ho District
New Taipei City
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Taiwan

Holds Certificate No: FS 40466

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

The promotion of sales and service of uninterruptible power supply (UPS), UPS platform products and photovoltaics (PV) inverters.

For and on behalf of BSI:

Chris Cheung, Head of Compliance & Risk - Asia Pacific

Original Registration Date: 1998-09-10
Latest Revision Date: 2021-07-27

Effective Date: 2021-08-19
Expiry Date: 2024-08-18

Page: 1 of 2

...making excellence a habit.

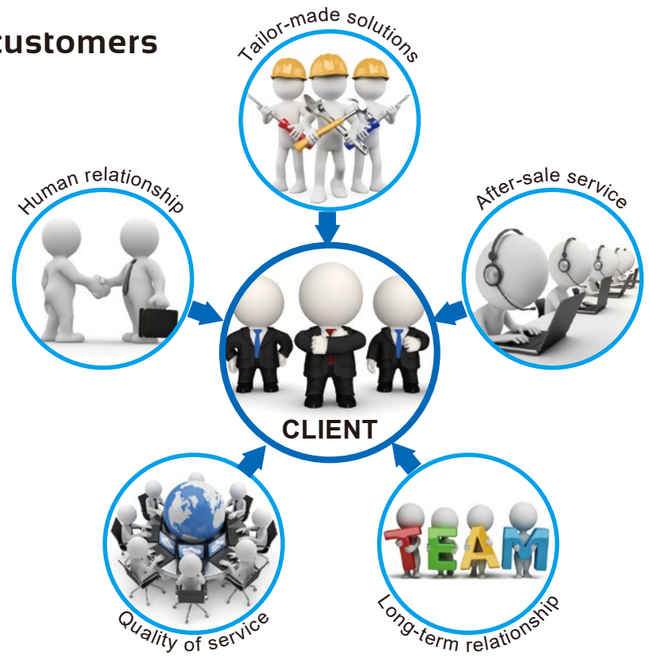
Key values for our partners & customers

Our confidence in superior quality and more than 20 years of solid achievements have satisfied customers worldwide.

Inspections, auto-error detection, correction, and extensive tests are continuously led on our assembly systems.

Prompt services in consultation, configuration, maintenance, and repair.

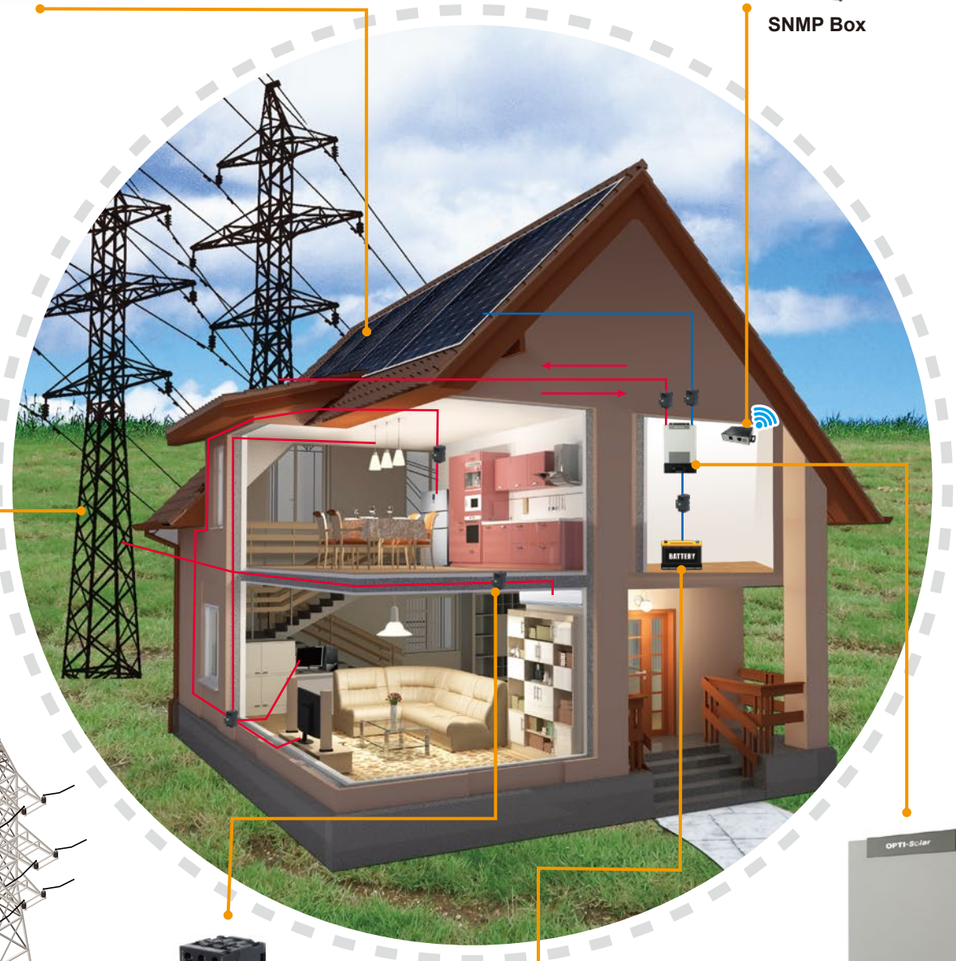
Technical seminars to benefit our partners.

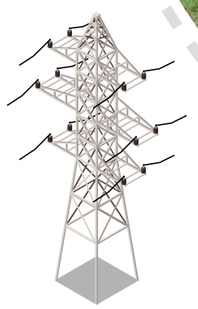


OPTI-Solar Smart Energy Solution Overview

Solar Panel
- Standard anodized black and silver aluminum frame
- Modules with 60 solar cells connection in series
- Strict Power measurement minimizes the power tolerance to +0- 4.99W

SNMP Box





Public Grid

Circuit Breaker
- For PV
- For AC input / AC output
- For inductive loads (E.g. Air-conditioning, Refrigerator)
- For Battery

Battery
- Energy storage

SP5000 Regal Ultra (page 19)
- Design with Zero (0ms) transfer time perfect for Server & ATM
- Optional parallel Operation of up to 9pcs

Lighting/Monitoring System
500W~1000W
SP Initial-M (page 6) **/ SP Handy**(page 9)

Residential System
2000W~3000W
SP Initial-M (page 6) **/ SP Handy** (page 9)

Small Scale PV Generation
500W~1000W
SP1000-2000 Initial-M (page 6)

Small-Medium Scale PV Generation
2000W~3000W
SP3000-5000 Initial-M (page 6) **/**
SP1200-5000 Handy (page 8)

Harsh Environment
5000W~8000W
SP IP Plus(page 20)

Community
5000W~20000W
SP Handy Ultra (page 14) **/ SP Premium** (page 24)

Medium Scale PV Generation
4000W~5000W
SP4000-6000 Handy Plus (page 10) **/**
SP5000 Regal (page 16)

Medium-Large Scale PV Generation
6000W~11000W
SP5000 Brilliant Ultra (page 22) **/**
SP6000-11000 Handy Ultra (page 14) /
SP6000 Brilliant Ultra II (page 23)

Wireless Transmission
Wi-Fi
SP Handy Plus (page 10) **/ SP Handy Ultra** (page 14) **/**
SP Regal (page 19)

Industry
SP Premium Plus (page 26)

Large Scale PV Generation
10000W~
SP10-15K Premium (page 24) **/ SP30K Premium Plus** (page 26)

SP Initial Series

Maintain a high economic value!

SP Initial series allows you to use solar energy in your home at an affordable cost.

Easy to use, highly efficient, and reliable.

Enjoy the green life with our SP Initial Series!

SP3000~SP5000 Initial-M

SP1000~SP2000 Initial-M

High Power Charging Current

USB port

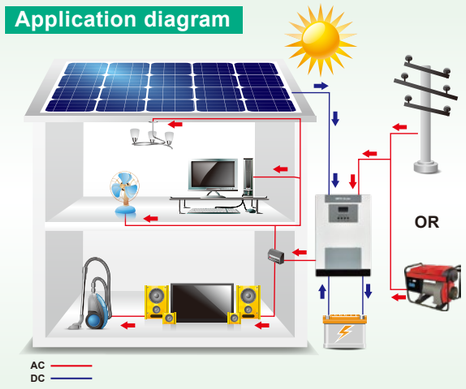
Compatible to power

Smart battery charger design

Features

- Pure sine wave inverter with PF1
- Selectable high power charging current
- Compatible with mains or generator power
- Smart battery charger design for battery performance optimization
- Built-in solar charge controller
- Overload and short circuit protection
- Cold start function
- USB communication port

Application diagram



Specifications

MODEL	SP1000 Initial-M	SP2000 Initial-M	SP3000 Initial-M	SP3000 Initial-M II	SP5000 Initial-M
Rated Power	1000VA/1000W	2000VA/2000W	3000VA/3000W	3000VA/3000W	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	6000VA	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
Floating Charge Voltage	13.5 VDC	27 VDC			54 VDC
Overcharge Protection	16 VDC	33 VDC			63 VDC
SOLAR CHARGER & AC CHARGER					
Maximum PV Array Open Circuit Voltage	102VDC		100VDC	145VDC	
PV Maximum Input power	500W	1000W	1000W	1500W	3000W
Operation Voltage Range	N/A				
PV Array MPPT Voltage Range	15~80VDC	30~80VDC	30~80VDC	30~115VDC	60~115VDC
Maximum Solar Charging Current	40A		40A	60A	
Maximum AC Charging Current	20A		25A	60A	
Maximum Charging Current	60A		60A	120A	
PHYSICAL					
Dimension (D×W×H)	88×225×315 mm		100×285×334 mm	100×300×440 mm	
Net Weight	4.4kgs	5kgs	6.3kgs	9.5kgs	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.

SP Power One Series

Zero(0ms) Transfer Time

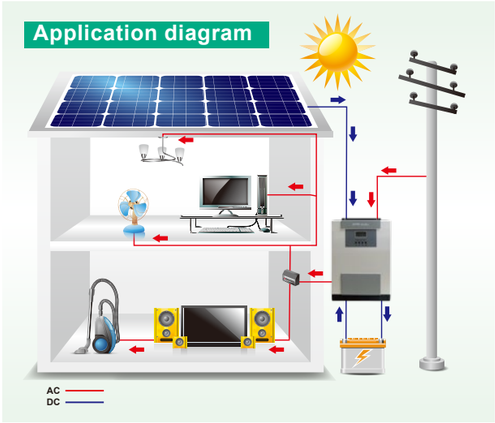
Anti-dust Filter Design

Parallel Operation

Features

- Zero(0ms) transfer time, the best protection for servers, ATM
- Pure sine wave inverter
- Built-in 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 with mains or generator power
- Auto restart while AC is recovering
- Overload and short circuit protection
- Smart battery charger design for battery performance optimization
- Cold start function
- Parallel Operation of up to 9 units

Application diagram



Specifications

MODEL	SP1000 Power One	SP2000 Power One	SP3000 Power One
Rated Power	1000VA/1000W	2000VA/2000W	3000VA/3000W
INPUT			
Voltage	110/120VAC		
Selectable Voltage Range	90-140 VAC (For Personal Computers) 60-140 VAC (For Home Appliances)		
Frequency Range	50 Hz/60 Hz (Auto sensing)		
OUTPUT			
AC Voltage Regulation (Batt. Mode)	110/120VAC ± 3%		
Surge Power	2000VA	4000VA	6000VA
Peak Efficiency	90%		
Transfer Time	Line mode↔Battery mode: 0ms Inverter↔Bypass: 4ms		
Waveform	Pure sine wave		
BATTERY			
Battery Voltage	12 VDC	24 VDC	48VDC
Floating Charge Voltage	13.5 VDC	27 VDC	54VDC
Overcharge Protection	16 VDC	32 VDC	60VDC
SOLAR CHARGER & AC CHARGER			
Maximum PV Array Power	1000W	2000W	4000W
Maximum PV Array Open Circuit Voltage	145Vdc		
PV Array MPPT Voltage Range	15~115Vdc	30~115Vdc	60~115Vdc
Maximum Solar Charging Current	80A		
Maximum AC Charging Current	60A		
Maximum Charging Current	140A		
PHYSICAL			
Dimension (D×W×H)	120×295×468mm		
Net Weight	10.5kgs	11kgs	11.5kgs
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.

SP1200 ~ 5000 Handy

SP Handy Series

Anti-dust Filter Design

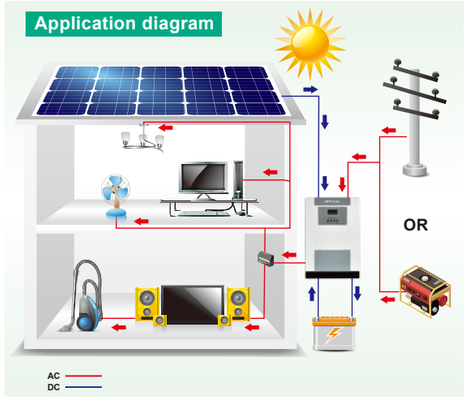
High Power Charging Current

Compatible to power

BMS Function

Features

- High PV input range
- Feasible for without-battery operation
- Pure sine wave inverter with PF1
- Selectable high power charging current
- Compatible with mains or generator power
- Built-in solar charge controller
- Overload and short circuit protection
- Support on Battery Management System (BMS)
- Cold start function
- The Anti-Dust Filter design can increase the lifespan



Specifications

MODEL	SP1200 Handy	SP2500 Handy	SP3000 Handy	SP5000 Handy
Rated Power	1200VA/1200W	2500VA/2500W	3000VA/3000W	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	2400VA	5000VA	6000VA	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	24 VDC	48 VDC
Floating Charge Voltage	13.5 VDC	27 VDC	27 VDC	54 VDC
Overcharge Protection	16 VDC	33 VDC	33 VDC	63 VDC
SOLAR CHARGER & AC CHARGER				
Maximum PV Input Power	2000W	3000W		5000W
Maximum PV Array Open Circuit Voltage	350Vdc	450Vdc		500Vdc
PV Array MPPT Voltage Range	30 ~ 300Vdc	30 ~ 400Vdc		120~450Vdc
	30 ~ 60Vdc with battery connected only			
Maximum Solar Charging Current	100A			100A
Maximum AC Charging Current	80A			100A
Maximum Charging Current	100A			100A
PHYSICAL				
Dimension (D × W × H)	90 x 288 x 357mm		110 x 288 x 390mm	100 x 300 x 440mm
Net Weight	6.5kg	7kg	7.2kg	10kg
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 notices.

SP3500 ~ 5500 Handy

SP Handy Series

Dual AC outlet design that improves power distribution.

Dual AC Output

Anti-dust Filter Design

Touchable Button

Built-in MPPT

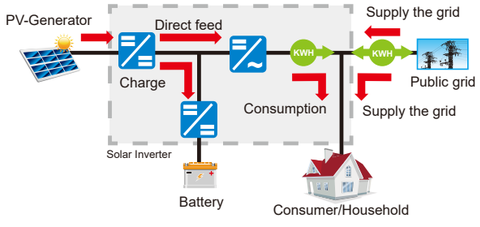
High Power Charging Current

Features

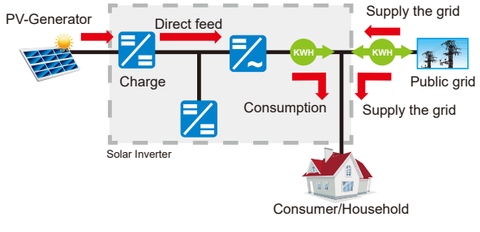
- High PV input range
- Feasible for without-battery operation
- Pure sine wave inverter
- Selectable high power charging current
- Compatible with mains or generator power
- Smart battery charger design for battery performance optimization
- Built-in MPPT solar charge controller
- Overload and short circuit protection
- Cold start function
- Dual AC output design

Operation Diagram:

Operation with battery



Operation without battery



Specifications

MODEL	SP3500 Handy	SP5500 Handy
Rated Power	3500VA/3500W	5500VA/5500W
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	7000VA	11000VA
Peak Efficiency	93%	
Transfer Time	10 ms (For Personal Computers)	
	20 ms (For Home Appliances)	
Waveform	Pure sine wave	
BATTERY		
Battery Voltage	24 VDC	48 VDC
Floating Charge Voltage	27 VDC	54 VDC
Overcharge Protection	32 VDC	63 VDC
SOLAR CHARGER & AC CHARGER		
Maximum PV Array Power	5000W	6000W
Maximum PV Array Open Circuit Voltage	500Vdc	
Maximum PV Array Current	30A	
PV Array MPPT Voltage Range	60~450Vdc	
Maximum Solar Charging Current	100A	
Maximum AC Charging Current	100A	
Maximum Charging Current	100A	
PHYSICAL		
Dimension (D×W×H)	107 × 323 × 420mm	
Net Weight	9kgs	
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 notices.

SP4000 ~ 6000 Handy Plus

SP Handy Plus Series

Detachable LCD screen design with full information.

Easily access the DATA via its Wi-Fi function.

Communication BMS for better battery management.

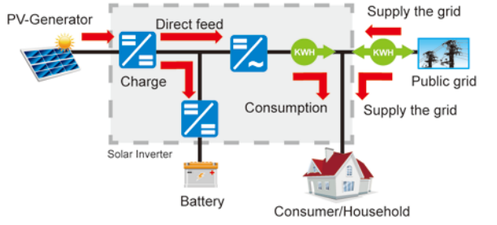
Wi-Fi Function | Detachable LCD Display | High Power Charging Current | Compatible to power | Smart battery charger design

Features

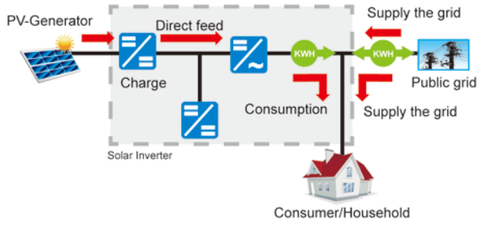
- High PV input range
- Pure sine wave inverter
- Selectable high power charging current
- Compatible with mains or generator power
- Built-in solar charge controller
- Overload and short circuit protection
- Smart battery charger design for battery performance optimization
- Cold start function
- Wi-Fi function
- Detachable LCD display

Operation Diagram:

Operation with battery



Operation without battery



Specifications

MODEL	SP4000 Handy Plus	SP6000 Handy Plus
Rated Power	4000VA/4000W	6000VA/6000W
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	2 rated power for 5 seconds	
Peak Efficiency	93%	
Transfer Time	10 ms (For Personal Computers)	
	20 ms (For Home Appliances)	
Waveform	Pure sine wave	
BATTERY		
Battery Voltage	24 VDC	48 VDC
Floating Charge Voltage	27 VDC	54 VDC
Overcharge Protection	33 VDC	63 VDC
SOLAR CHARGER & AC CHARGER		
Maximum PV Array Power	5000W	6000W
Maximum PV Input Current	18A	
Maximum PV Input Short Circuit Current	30A	
Maximum PV Array Open Circuit Voltage	500Vdc	
PV Array MPPT Voltage Range	60~450Vdc	
Maximum Solar Charging Current	120A	
Maximum AC Charging Current	100A	
Maximum Charging Current	120A	
PHYSICAL		
Dimension (D × W × H)	115 × 300 × 400mm	
Net Weight	9kgs	10kgs
Communication Port	RS232/USB/Dry-contact/BMS/Wi-Fi	
OPERATING ENVIRONMENT		
Humidity	5% to 95% Relative Humidity (Non-condensing)	
Operating Temperature	-10°C ~ 55°C	

Specifications are subject to change without notice.

SP6000 Handy Plus II

SP Handy Plus II Series

Large LCD touch screen with easy access to DATA through USB and Wi-Fi function.

Colorful LED light bar indicating the status of the inverter.

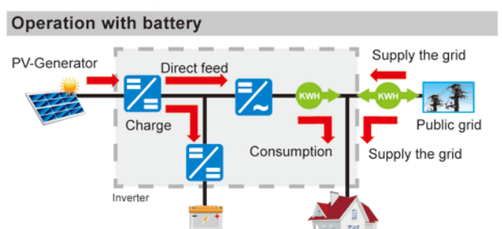
4.3" Color LCD | Wi-Fi | USB port | Anti-dust Filter Design

Features

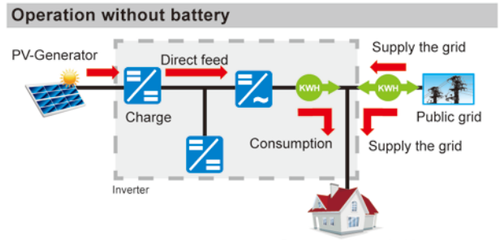
- High PV input range
- Feasible for without-battery operation
- Pure sine wave inverter
- Selectable high power charging current up to 120A
- Compatible with mains or generator power
- Smart battery charger design for battery performance optimization
- Built-in MPPT solar charge controller
- LED ring design with RGB lights
- Built-in Data storage
- Built-in anti-dust Kit
- Wi-Fi function (APP)
- Touchable button with 4.3" colored LCD
- Dual output design

Operation Diagram:

Operation with battery



Operation without battery



Specifications

MODEL	SP6000 Handy Plus II
Rated Power	6000VA/6000W
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	11000VA
Peak Efficiency	93%
Transfer Time	10 ms (For Personal Computers)
	20 ms (For Home Appliances)
Waveform	Pure sine wave
BATTERY	
Battery Voltage	48 VDC
Floating Charge Voltage	54 VDC
Overcharge Protection	63 VDC
SOLAR CHARGER & AC CHARGER	
Maximum PV Array Power	6000W
Maximum PV Input Current	27A
Maximum PV Input Short Circuit Current	30A
Maximum PV Array Open Circuit Voltage	500Vdc
PV Array MPPT Voltage Range	120~450Vdc
Maximum Solar Charging Current	120A
Maximum AC Charging Current	100A
Maximum Charging Current	120A
PHYSICAL	
Dimension (D×W×H)	119 x 314 x 458mm
Net Weight	12kgs
Communication Port	RS232/USB/Dry-contact/Wi-Fi
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 notices.

SP6000 Handy Grid

SP Handy Grid Series

SP Handy Series with Grid-Tie Design.

Increase photovoltaic capacity up to 6KW to benefit the users.

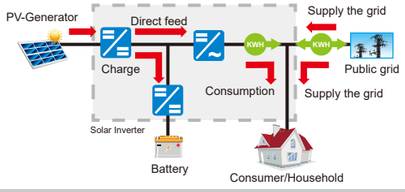
Detachable LCD Display | Wi-Fi Function | Grid-tie | Parallel operation

Features

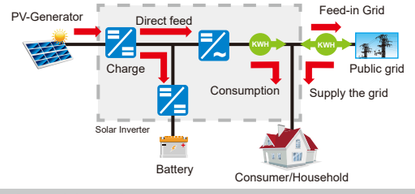
- High PV input range & 6KW PV capacity
- Feasible for without-battery operation
- Pure sine wave inverter
- Selectable high power charging current
- Compatible with mains or generator power
- Smart battery charger design for battery performance optimization
- Built-in MPPT solar charge controller
- Overload and short circuit protection
- Grid-Tie function
- Cold start function
- Wi-Fi function
- Detachable LCD
- Parallel Operation of up to 9pcs

Operation Diagram:

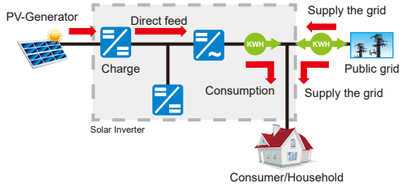
Operation with battery



Operation with battery (Grid-Tie)



Operation without battery



Specifications

MODEL	SP6000 Handy Grid
Rated Power	6000VA6000W
INPUT	
Nominal Voltage	220/230/240 VAC
Selectable Voltage Range	170-280 VAC (For Personal Computers)
	90-280 VAC (For Home Appliances)
Frequency Range	50 Hz/ 60 Hz (Auto sensing)
Maximum AC Input Current	40A
AC OUTPUT	
AC Voltage Regulation (Batt. Mode)	230VAC ± 5%
Surge Power	12000VA
Transfer Time	10 ms (For Personal Computers)
	20 ms (For Home Appliances)
Waveform	Pure sine wave
GRID OUTPUT	
Nominal Voltage	220/230/240 VAC
Voltage Range	184-264.5 VAC or 195.5-253 VAC
Nominal Current	21.7A
Power Factor Range	0.9 lag- 0.9 lead, Default 0.99
EFFICIENCY	
DC to AC	95%
Battery to AC	93%
BATTERY	
Battery Voltage	48 VDC
Floating Charge Voltage	54 VDC
Overcharge Protection	66 VDC
SOLAR CHARGER & AC CHARGER	
Maximum PV Array Power	7000W
Maximum PV Array Open Circuit Voltage	500Vdc
Start-up Voltage / Initial Feeding Voltage	120Vdc / 150Vdc
PV Array MPPT Voltage Range	120~430Vdc
Maximum PV Input Current	27A
Maximum Solar Charging Current	120A
Maximum AC Charging Current	120A
Maximum Charging Current	120A
PHYSICAL	
Dimension (D×W×H)	142×297×455 mm
Net Weight	12kgs
Communication Port	RS232/USB/Dry-contact/Wi-Fi
OPERATING ENVIRONMENT	
Humidity	5% to 95% Relative Humidity (Non-condensing)
Operating Temperature	0°C ~ 50°C
Storage Temperature	-10°C ~ 60°C

Specifications are subject to change without notices.

SP6000 Handy Grid II

SP Handy Grid II Series

Dual AC voltage 110/220V.

SP Handy Series with Grid-Tie design is suitable for any type of installation.

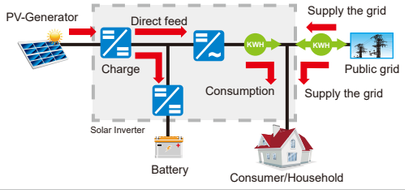
Dual AC Rated Voltage 110/220V | Detachable LCD | Wi-Fi Function | Grid-tie | Anti-dust Filter Design | Parallel Operation

Features

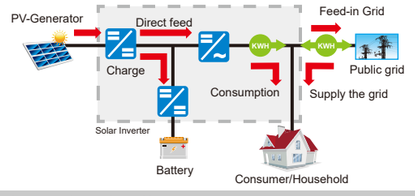
- Dual AC rated voltage 110/220V
- High PV input range & 6KW PV capacity
- Pure sine wave inverter
- Selectable high power charging current
- Compatible with mains or generator power
- Smart battery charger design for battery performance optimization
- Built-in MPPT solar charge controller
- Overload and short circuit protection
- Grid-Tie function
- Cold start function
- Wi-Fi function
- Detachable LCD
- Parallel Operation of up to 9pcs

Operation Diagram:

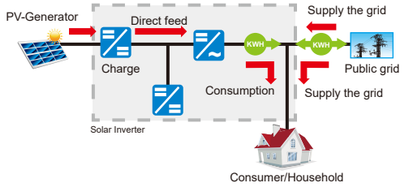
Operation with battery



Operation with battery (Grid-Tie)



Operation without battery



Specifications

MODEL		SP6000 Handy Grid II
Rated Power		6000VA/6000W
AC INPUT		
Nominal Voltage	L-L	220 VAC
	L-N	110 VAC
Acceptible Voltage Range	L-L	130-280 VAC
	L-N	65-140 VAC
Maximum Input Current		40A per phase
Frequency Range		50 Hz/ 60 Hz (Auto-sensing)
AC OUTPUT		
AC Voltage Regulation (Batt. Mode)	L-L	220VAC ± 5%
	L-N	110VAC ± 5%
Surge Power		10000VA
Peak Efficiency		88%
Transfer Time		10 ms (For Personal Computers)
		20 ms (For Home Appliances)
Waveform		Pure sine wave
GRID OUTPUT (Grid-Tie)		
Acceptible Voltage Range	L-L	183-264VAC
	L-N	91.5-132VAC
Nominal Current		27.3A per phase
Power Factor		> 0.99
Max. Conversion Efficiency (DC/AC)		95%
BATTERY		
Battery Voltage		48 VDC
Floating Charge Voltage		54 VDC
Overcharge Protection		66 VDC
SOLAR CHARGER & AC CHARGER		
Maximum PV Array Power		6000W
Maximum PV Array Open Circuit Voltage		450Vdc
PV Array MPPT Voltage Range		120~450Vdc
Maximum PV Input Current		27A
Maximum Charging Capcity		5000W
Maximum Solar Charging Current		100A
Maximum AC Charging Current		100A
Maximum Charging Current		100A
PHYSICAL		
Dimension (D×W×H)		138.4×365×593.6mm
Net Weight		26kgs
Communication Port		RS232/USB/Dry-contact/Wi-Fi
OPERATING ENVIRONMENT		
Humidity		5% to 95% Relative Humidity (Non-condensing)
Operating Temperature		-10°C ~ 50°C

Specifications are subject to change without notice.

SP6000 ~ 11000 Handy Ultra

SP Handy Ultra Series

Dual output design (AC and DC) with high output capacity.

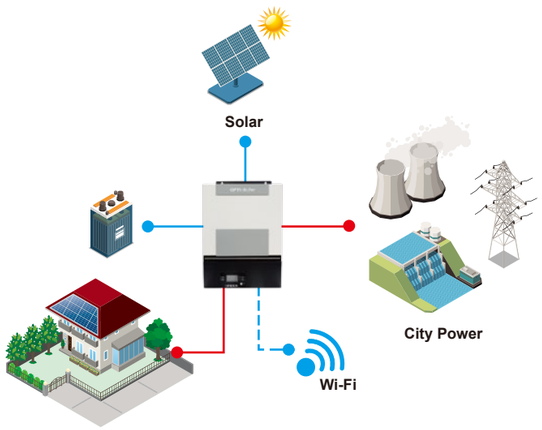
Perfect for inductive loads.

RGB Light | Detachable LCD | Wi-Fi Function | Anti-dust Filter Design | Parallel Operation

Features

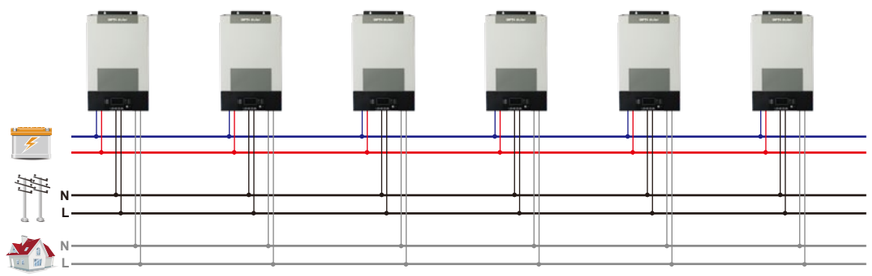
- High PV input range
- Feasible for without-battery operation
- Built-in anti-dust kit
- Selectable high power charging current
- Compatible with mains or generator power
- Replaceable fan design for ease of maintenance
- Overload and short circuit protection
- Smart battery charger design for battery performance optimization
- Cold start function
- Wi-Fi function
- Detachable LCD
- Parallel Operation of up to 6 units

The inverter could simultaneously connect to the city power and solar panels and operate without interference from one another. The inverters can operate normally.



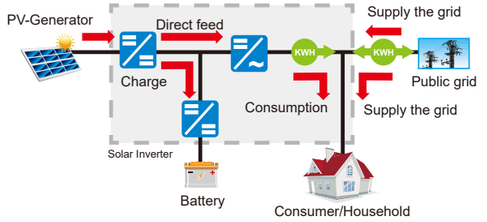
Parallel Operation

Maximum 6 units in parallel

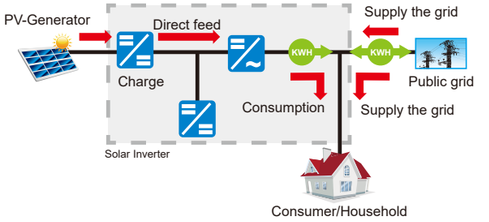


Operation Diagram:

Operation with battery



Operation without battery



Specifications

MODEL	SP6000 Handy Ultra	SP8000 Handy Ultra	SP11000 Handy Ultra
Rated Power	6000VA/6000W	8000VA/8000W	11000VA/11000W
INPUT			
Voltage	120 VAC	230 VAC	
Selectable Voltage Range	90-140 VAC (For Personal Computers)	170-280 VAC (For Personal Computers)	
	80-140 VAC (For Home Appliances)	90-280 VAC (For Home Appliances)	
Frequency Range	50 Hz/ 60 Hz (Auto-sensing)	50 Hz/ 60 Hz (Auto-sensing)	
OUTPUT			
AC Voltage Regulation (Batt. Mode)	120VAC ± 5%	230VAC ± 5%	
Surge Power	12000VA	16000VA	22000VA
Peak Efficiency	93%		
Transfer Time	15 ms (For Personal Computers)		10 ms (For Personal Computers)
	20 ms (For Home Appliances)		
Waveform	Pure sine wave		
BATTERY			
Battery Voltage	48 VDC		
Floating Charge Voltage	54 VDC		
Overcharge Protection	66 VDC		
SOLAR CHARGER & AC CHARGER			
Maximum PV Array Power	8000W (4000W MPPT×2)		11000W (5500W MPPT×2)
Maximum PV Array Open Circuit Voltage	250Vdc	500Vdc	
PV Array MPPT Voltage Range	90~230Vdc	90~430Vdc	90~450Vdc
Maximum Solar Charging Current	120A	120A	150A
Maximum AC Charging Current	120A	120A	150A
Maximum Charging Current	120A	120A	150A
PHYSICAL			
Dimension (D×W×H)	147.5× 432.5×553.5mm		
Net Weight	18.4kgs		
Communication Port	RS232/USB/Dry-contact/Wi-Fi		
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.

SP8000 ~ 11000 Handy Ultra II

SP Handy Ultra II Series

Friendly design for the wide touchable LCD screen.

4.3” Color LCD

Wi-Fi Function

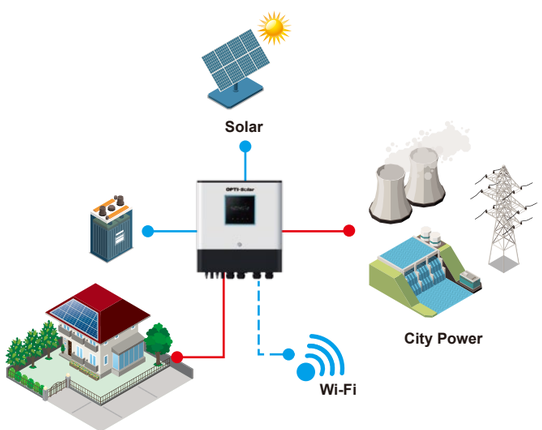
Anti-dust Filter Design

Parallel Operation

Features

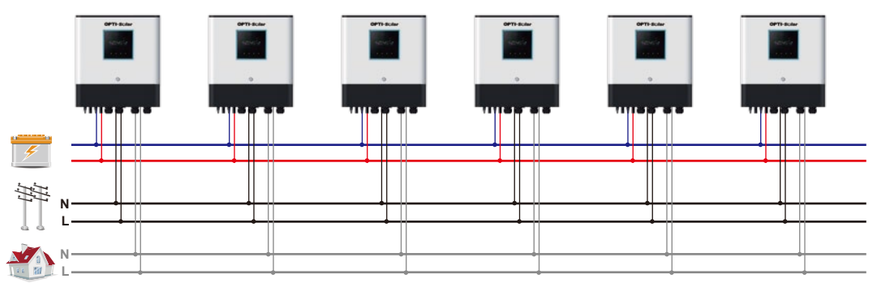
- High PV input range
- Feasible for without-battery operation
- Built-in anti-dust kit
- Selectable high power charging current
- Maximum PV input current 27A
- Overload and short circuit protection
- Smart battery charger design for optimized battery performance
- Cold start function
- Wi-Fi function
- Wide touchable LCD screen
- Two AC input sources for mains voltage or generator power
- Parallel operation up to 6 units

The inverter could simultaneously connect to the city power and solar panels and operate without interference from one another. The inverters can operate normally.



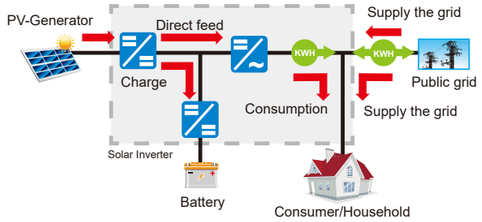
Parallel Operation

Maximum 6 units in parallel

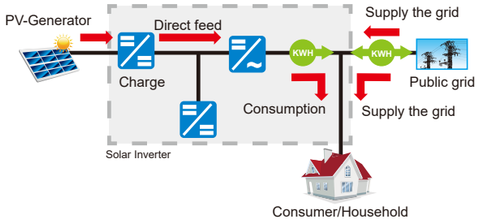


Operation Diagram:

Operation with battery



Operation without battery



Specifications

MODEL	SP8000 Handy Ultra II	SP11000 Handy Ultra II
Rated Power	8000VA/8000W	11000VA/11000W
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	16000VA	22000VA
Peak Efficiency	93%	
Transfer Time	15 ms (For Personal Computers)	10 ms (For Personal Computers)
	20 ms (For Home Appliances)	
Waveform	Pure sine wave	
BATTERY		
Battery Voltage	48 VDC	
Floating Charge Voltage	54 VDC	
Overcharge Protection	66 VDC	
SOLAR CHARGER & AC CHARGER		
Maximum PV Array Power	8000W (4000W MPPT×2)	11000W (5500W MPPT×2)
Maximum PV Array Open Circuit Voltage	500Vdc	
PV Array MPPT Voltage Range	90~430Vdc	90~450Vdc
Maximum Solar Charging Current	120A	150A
Maximum AC Charging Current	120A	150A
Maximum Charging Current	120A	150A
PHYSICAL		
Dimension (D×W×H)	147.5 × 432.5 × 553.5 mm	
Net Weight	18.4kgs	
Communication Port	RS232/USB/Dry-contact/Wi-Fi	
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 notices.

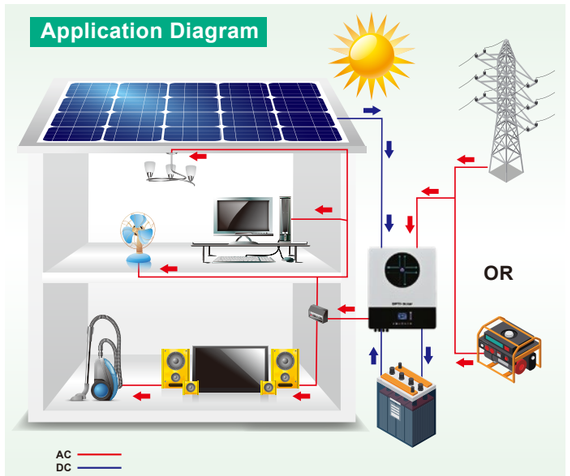
SP Handy Max Series

Advanced user-friendly for the design of Power status lighting indication.

Anti-dust Filter Design | High Power Charging Current | Compatible to power | Wi-Fi | Parallel Operation

Features

- High PV input range
- Feasible for without-battery operation
- Built-in anti-dust kit
- Selectable high power charging current up to 150A
- Dual input compatible with mains voltage & generator
- Dual outputs for smart load management
- Overload and short circuit protection
- Smart battery charger design for optimized battery performance
- Optional DFCI & AFCI detection
- Wi-Fi & BTS function
- 2.8" colored LCD design
- Parallel operation up to 6 units



Specifications

MODEL	SP8000 Handy Max	SP11000 Handy Max
Rated Power	8000VA/8000W	11000VA/11000W
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	16000VA	22000VA
Peak Efficiency	93%	
Transfer Time	10 ms (For Personal Computers)	
	20 ms (For Home Appliances)	
Waveform	Pure sine wave	
BATTERY		
Battery Voltage	48 VDC	
Floating Charge Voltage	54 VDC	
Overcharge Protection	63 VDC	
SOLAR CHARGER & AC CHARGER		
Maximum PV Array Power	10000W (5000W MPPT×2)	12000W (6000W MPPT×2)
Maximum PV Input Current	27A	
Maximum PV Short-Circuit Current	40A	
Maximum PV Array Open Circuit Voltage	500Vdc	
PV Array MPPT Voltage Range	90~450Vdc	
Maximum Solar Charging Current	150A	
Maximum AC Charging Current	120A	150A
Maximum Charging Current	150A	
PHYSICAL		
Dimension (D × W × H)	145 × 438 × 554mm	
Net Weight	18.4kgs	
Communication Port	RS232 / USB / Dry-contact / Wi-Fi	
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.

SP Regal Series

The SP Regal series is with a zero (0ms) transfer time design.

Perfect for servers and ATMs.

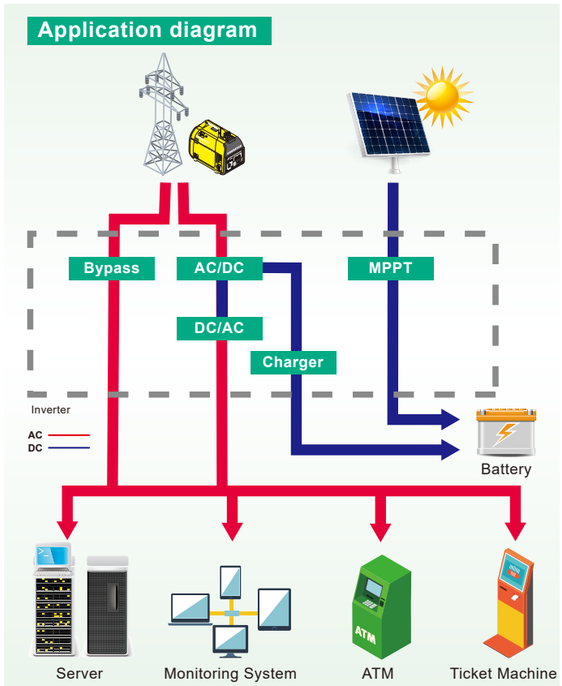
Switch the power source between Solar/Utility without any interruption.

An ideal solution for critical loads.

Zero(0ms) Transfer Time | Wi-Fi Function | Compatible to power | Parallel Operation

Features

- Detachable LCD control Panel
- Built-in Wi-Fi function for APP monitoring
- Zero(0ms) transfer time, the best protection for servers, ATM.
- Pure Sine Wave inverter built-in MPPT solar charger
- Selectable high power charging current
- Configurable AC/Solar input priority via LCD setting
- Auto restart while AC is recovering
- Overload and short circuit protection
- Cold start function
- Optional parallel operation of up to 9pcs



Specifications

MODEL	SP5000 Regal	SP6000 Regal Ultra
Rated Power	5000VA/5000W	6000VA/6000W
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	10000VA	
Peak Efficiency	93%	
Transfer Time	0 ms	
Waveform	Pure sine wave	
BATTERY		
Battery Voltage	48 VDC	
Floating Charge Voltage	54 VDC	
Overcharge Protection	63 VDC	
SOLAR CHARGER & AC CHARGER		
Maximum PV Power	4000W	6000W
Maximum PV Array Open Circuit Voltage	145Vdc	500Vdc
PV Array MPPT Voltage Range	60~115Vdc	120~450Vdc
Maximum Solar Charging Current	80A	120A
Maximum AC Charging Current	60A	120A
Maximum Charging Current	140A	120A
PHYSICAL		
Dimension (D×W×H)	140 × 303 × 525mm	140 × 295 × 468mm
Net Weight	13.5kgs	12kgs
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.

SP5000 ~ 8000 IP Plus

SP IP Plus Series

Outdoor Hybrid Solar Inverter

Grid Feed-in (SP5000 IP Plus only)

IP65 Water & Dustproof

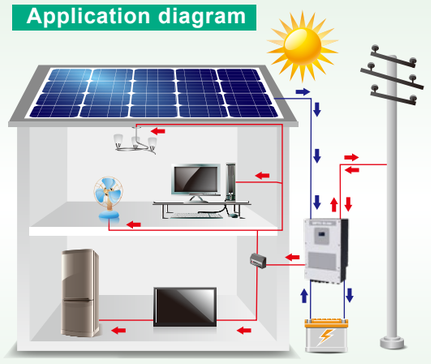
BMS Function

Parallel Operation

Features

- High PV input voltage range
- Feasible for without-battery operation
- Grid feed-in Function (only for SP5000 IP Plus)
- Selectable high power charging current
- Compatible with mains or generator power
- Overload and short circuit protection
- Smart battery charger design for battery performance optimization
- Cold start function
- IP 65 design
- Support parallel operation

Application diagram



Specifications

MODEL		SP5000 IP Plus	SP8000 IP Plus
Rated Power		5000VA/5000W	8000VA/8000W
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		10000VA	16000VA
Peak Efficiency	Battery - DC to AC	93%	93%
	Grid-Tie - DC to AC	96%	N/A
Transfer Time		10 ms (For Personal Computers)	
		20 ms (For Home Appliances)	
Waveform		Pure sine wave	
BATTERY			
Battery Voltage		48 VDC	
Floating Charge Voltage		54 VDC	
Overcharge Protection		63 VDC	66 VDC
SOLAR CHARGER & AC CHARGER			
Maximum PV Array Power		6000W	8000W
Maximum PV Array Open Circuit Voltage		500VDC	500VDC
PV Array MPPT Voltage Range		120~450VDC	90~450VDC
Maximum Solar Input Current		27A	18A × 2
Maximum Solar Charging Current		80A	
Maximum AC Charging Current		80A	
Maximum Charging Current		80A	
PHYSICAL			
Dimension (D × W × H)		200 × 350 × 593mm	
Net Weight		20kgs	18.4kgs
Communication Port		RS232/USB/Dry-contact/BMS	
OPERATING ENVIRONMENT			
Humidity		5% to 95% Relative Humidity (Non-condensing)	
Operating Temperature		-25°C ~ 50°C	-10°C ~ 50°C
Storage Temperature		-25°C ~ 60°C	-15°C ~ 60°C

Specifications are subject to change without notice.

SP6000 ~ 10000 IP Grid

SP IP Grid Series

IP65 waterproof and dustproof design.

Hybrid inverter with Grid-tie function for outdoor installations.

Grid-tie

IP65 Water & Dustproof

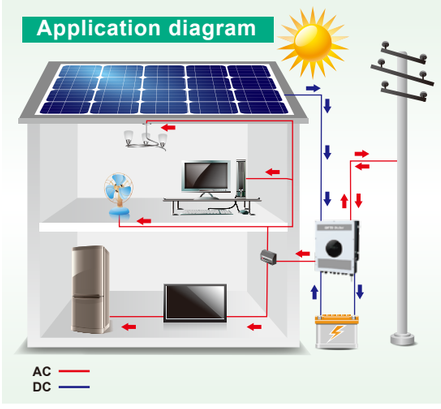
Parallel Operation

BMS Function

Features

- IP65 waterproof and dustproof design
- Grid-tie function with backup
- Dual output selected as either programmable output or generator input
- Built-in alternative port for generator and emergent load
- Optional external CT sensor to guarantee 100% self-consumption.
- Built-in communication port for BMS
- User-adjustable charging current and voltage
- Parallel Operation of up to 6 units

Application diagram



Specifications

MODEL	SP6000 IP Grid	SP10000 IP Grid
RATED POWER	6000 W	10000 W
PV INPUT (DC)		
Maximum DC Power	7500 W	12000 W
Nominal DC Voltage	360 VDC	
Maximum DC Voltage	600 VDC	
Start-up Voltage / Initial Feeding Voltage	125 VDC / 160 VDC	
MPP Voltage Range	120 VDC ~ 550 VDC	
Maximum Input Current	2×15 A	2×18 A
Isc PV (absolute maximum)	21 A	21 A
Max. inverter back feed current to the array	0 A	0 A
GRID OUTPUT (AC)		
Nominal Output Voltage	110 VAC (P-N) / 220 VAC (P-P)	
Output Voltage Range	105.5 - 132 VAC per phase	97 - 132 VAC per phase
Output Frequency Range	47.5 ~ 51.5 Hz or 59.3~ 60.5Hz	
Nominal Output Current	25 A per phase	41.5 A per phase
Inrush Current/Duration	30 A per phase / 20ms	60 A per phase / 20ms
Maximum Output Fault Current/Duration	90 A per phase / 1ms	120 A per phase / 1ms
Maximum output Overcurrent Protection	90A per phase	120A per phase
Power Factor Range	0.9 lead – 0.9 lag	
AC INPUT		
AC Start-up Voltage	85 VAC per phase (P-N) / 170 VAC per phase (P-P)	
Auto Restart Voltage	90 VAC per phase (P-N) / 180 VAC per phase (P-P)	
Acceptable Input Voltage Range	85 - 140 VAC per phase (P-N) / 170 - 280 VAC per phase (P-P)	
Nominal Frequency	50 Hz / 60 Hz	
AC Input Power	6000VA/6000W	10000VA/10000W
Maximum AC Input Current	30 A	40 A
Inrush Input Current	30 A / 1ms	40 A / 1ms
BATTERY MODE OUTPUT (AC)		
Nominal Output Voltage	110 VAC (P-N) / 220 VAC (P-P)	
Output Frequency	50 Hz / 60 Hz (auto sensing)	
Output Waveform	Pure sine wave	
Output Power	6000VA/6000W	10000VA/10000W
EFFICIENCY		
DC to AC	96%	
Battery to AC	91%	
BATTERY & CHARGER		
Nominal DC Voltage	48 VDC	
DC Voltage Range	40 - 62 VDC	
Maximum Battery Discharging Current	150 A	150 A
Maximum Solar Charging Current	120 A	200 A
Maximum Charging Current	120 A	200 A
PHYSICAL		
Dimension (D × W × H)	215.5 × 515 × 700 mm	
Net Weight	41kg	45kg
INTERACE		
Communication Port	RS-232 / USB / BMS	
Intelligent Slot	Optional SNMP, Modbus cards available	
ENVIRONMENT		
Protective Class	I	
Ingress Protection Rating	IP65	
Humidity	0 ~ 90% RH (No condensing)	
Operating Temperature	-25 to 60°C	
Altitude	0 ~ 2000 m*	

* Power derating 1% every 100m when altitude is over 1000m.
Specifications are subject to change without notice.

SP5000 Brilliant Ultra

SP Brilliant Series

SP Brilliant series provides a friendly PV power integration with a PV maximum charging current that reaches up to 80A or 120A.

Enjoy more solar energy with a simple solution.

Configurable AC/Solar Input Priority

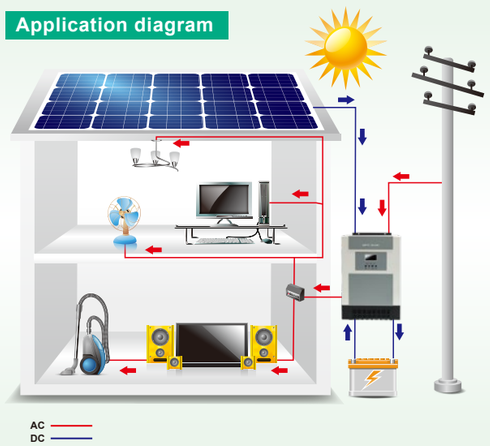
Parallel Operation

Smart battery charger design

Features

- Pure sine wave inverter
- Built-in solar charger: PWM/MPPT
- Selectable input voltage range for home appliances and personal computers
- Selectable charging current based on applications
- Configurable AC/Solar input priority
- Compatible with mains or generator power
- Auto-restart as AC recovers
- Overload and short circuit protection
- Smart battery charger design for battery performance optimization
- Cold start function
- Parallel application (optional)
- Operation without battery

Application diagram



Specifications

MODEL	SP5000 Brilliant Ultra
Rated Power	6000VA/6000W
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	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 (maximum 58Vdc)
Low Battery Alarm Voltage	42 VDC
Shutdown Voltage	40 VDC
Overcharge Protection	60 VDC (maximum 66 VDC)
Reverse Polarity Protection	Yes
SOLAR CHARGER & AC CHARGER	
PV Maximum Input power	6000W
Maximum PV Array Open Circuit Voltage	500Vdc
PV Array MPPT Voltage Range	120~430Vdc
Maximum Solar Charging Current	120A
Maximum AC Charging Current	120A
Maximum Charging Current	120A
PHYSICAL	
Dimension (D×W×H)	120×295×468mm
Net Weight	11kgs
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 Ultra can be installed in parallel with maximum up to 9 units, and total capacity can reach 45KVA (Transfer time is 30ms in parallel operation)

SP6000 Brilliant Ultra II

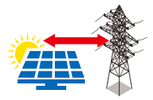
SP Brilliant Ultra II Series

SP6000 Brilliant Ultra II provide the integration of MPPT solar charger & utility charger.

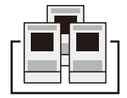
The Hybrid operation allows it smoothly transferred between Solar & Utility power source.

To effectively gain the solar in safety & friendly way.

RGB Light



Configurable AC/Solar Input Priority

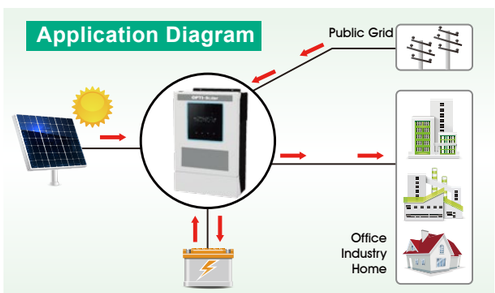


Parallel application

Features

- Pure sine wave inverter
- Built-in MPPT solar charger
- Selectable input voltage range for home appliances and person al computers
- Selectable charging current based on applications
- Configurable AC/Solar charging priority
- Compatible to mains voltage or generator power
- Touchable Button with 4.3" colorful LCD
- Overload and short circuit protection
- Smart battery charger design for battery performance optimization
- Dual Output Design
- Built-in Parallel application
- No-battery operation

Application Diagram



Specifications

MODEL	SP6000 Brilliant Ultra II
Rated Power	6000VA/6000W
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	12000VA
Peak Efficiency	93%
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 (maximum 58Vdc)
Low Battery Alarm Voltage	42 VDC
Shutdown Voltage	40 VDC
Overcharge Protection	66 VDC
Reverse Polarity Protection	Yes
SOLAR CHARGER & AC CHARGER	
Maximum PV Array Open Circuit Voltage	500Vdc
PV Max. Input Power	6000W
PV Max. Input Current	27A
PV Array MPPT Voltage Range	120~430Vdc
Maximum Solar Charging Current	120A
Maximum AC Charging Current	120A
Maximum Charging Current	120A
PHYSICAL	
Dimension (D×W×H)	120 × 295 × 468mm
Net Weight	12kgs
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 notices.

SP Premium Series

True Hybrid Solar Inverter with Energy Storage

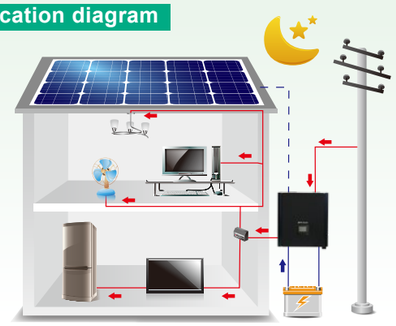
SP Premium Series is a universal power supply tool for houses. It utilizes solar power in the daytime feeding it to your appliances like illumination lamps, TV, stereo, and PC equipment, saving extra power to the batteries for nighttime usage, and selling the power surplus unused by the connected appliances to the grid.

On cloudy days when the solar power is weak, **SP Premium Series** will take the lacking power from the grid. At night, the batteries will provide energy to your home. With this true hybrid design, we give you the confidence that 100% of your solar power is fully utilized.

Features

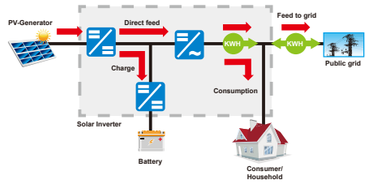
- 5/10/15KW on-grid inverter with energy storage
- Pure sine wave output
- To guarantee stable charging system
- Multiple operations: Grid-tie, Off-grid, and grid-tie with backup
- Built-in MPPT solar charger
- LCD panel for comprehensive information
- Multiple communication
- Green substitution for generators
- User-adjustable battery charging current
- Parallel connection capability (Maximum up to 6pcs)

Application diagram

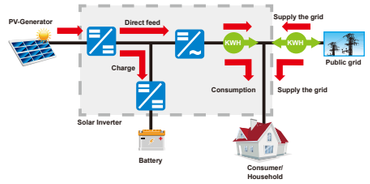


Operation Diagram:

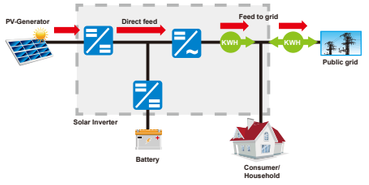
Enough PV Energy Input



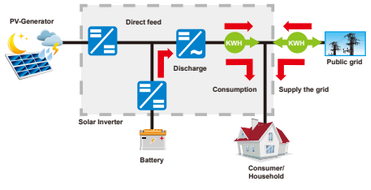
Household consumption is higher than supply from PV



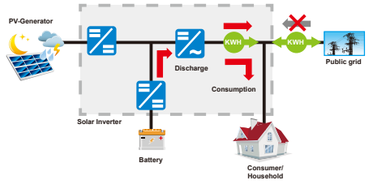
No consumption from household and the battery is fully charged



No PV energy and battery is fully discharged

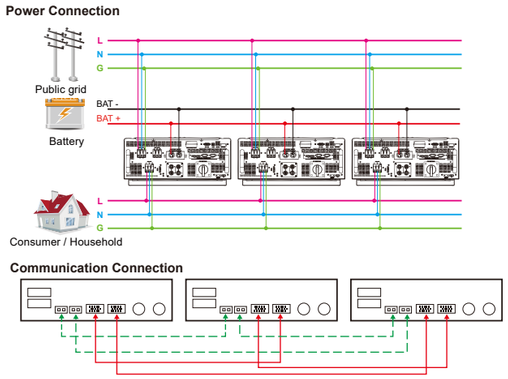


No PV energy and the consumption from household is supplied by the battery

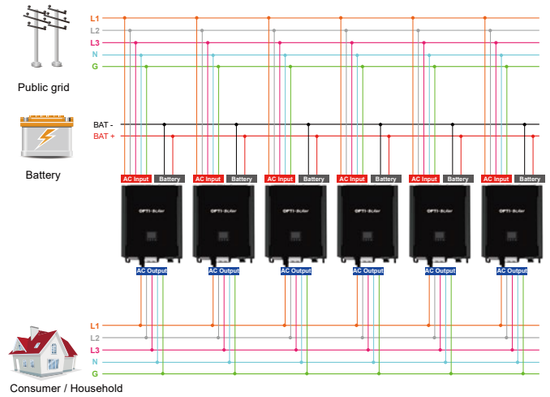


Parallel Operation (Maximum up to 6pcs)

for 1-phase application (SP5000 Premium)



for 3-phase application (SP10000/15000 Premium)



Specifications

MODEL	SP5000 Premium	SP10000 Premium	SP15000 Premium
RATED POWER	5000 W	10000 W	15000 W
PV INPUT (DC)			
Maximum DC Power	10000 W	14850 W	22500 W
Nominal DC Voltage	720 VDC	720 VDC	720 VDC
Maximum DC Voltage	900 VDC	900 VDC	900 VDC
Start-up Voltage / Initial Feeding Voltage	225 VDC / 250 VDC	320 VDC / 350 VDC	320 VDC / 350 VDC
MPP Voltage Range	250 VDC ~ 850 VDC	400 VDC ~ 800 VDC	400 VDC ~ 800 VDC
Maximum Input Current	2×10 A	2×18.6 A	PV1: 37.2A; PV2: 18.6A
Isc PV (absolute maximum)	25 A	25 A	50 A
Max. inverter back feed current to the array	0 A	0 A	0 A
GRID OUTPUT (AC)			
Nominal Output Voltage	230 VAC	230 VAC (P-N) / 400 VAC (P-P)	230 VAC (P-N) / 400 VAC (P-P)
Output Voltage Range	184 - 265 VAC	184 - 265 VAC per phase	184 - 265 VAC per phase
Output Frequency Range		47.5 ~ 51.5 Hz or 59.3~ 60.5Hz	
Nominal Output Current	21 A	13A per phase	21.7A per phase
Inrush Current/Duration	21 A / 20ms	17A per phase / 20ms	28A per phase / 20ms
Maximum Output Fault Current/Duration	52 A / 1ms	51A per phase / 1ms	65A per phase / 1ms
Maximum output Overcurrent Protection	52A	51A per phase	65A per phase
Power Factor Range		0.9 lead – 0.9 lag	
AC INPUT			
AC Start-up Voltage	120-140 VAC	120-140 VAC per phase	120-140 VAC per phase
Auto Restart Voltage	180 VAC	180 VAC per phase	180 VAC per phase
Acceptable Input Voltage Range	170 - 280 VAC	170 - 280 VAC per phase	170 - 280 VAC per phase
Nominal Frequency	50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz
AC Input Power	5000VA/5000W	10000VA/10000W	15000VA/15000W
Maximum AC Input Current	40 A	25 A	40 A
Inrush Input Current	40 A	25 A	40 A
BATTERY MODE OUTPUT (AC)			
Nominal Output Voltage	230 VAC	230 VAC (P-N) / 400 VAC (P-P)	230 VAC (P-N) / 400 VAC (P-P)
Output Frequency		50 Hz / 60 Hz (auto sensing)	
Output Waveform		Pure sine wave	
Output Power	5000VA/5000W	10000VA/10000W	15000VA/15000W
Output Current	21A	13A per phase	21.7A per phase
Efficiency (DC to AC)	93%	91%	
BATTERY & CHARGER			
Nominal DC Voltage		48 VDC	
Maximum Battery Discharging Current	150 A	250 A	375 A
Maximum Charging Current	100 A	200 A	300 A
PHYSICAL			
Dimension (D×W×H/mm)	204.2 × 460 × 600	622 × 500 × 167.2	210 × 650 × 820
Net Weight (kgs)	29	45	62
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	-10 to 55°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.

SP Premium Plus Series

SP Premium Plus is the advanced model with outdoor design.
It can be operated in a harsh environmental condition for high humidity / high temperature (up to 60°C).
Long life span and less maintenance.

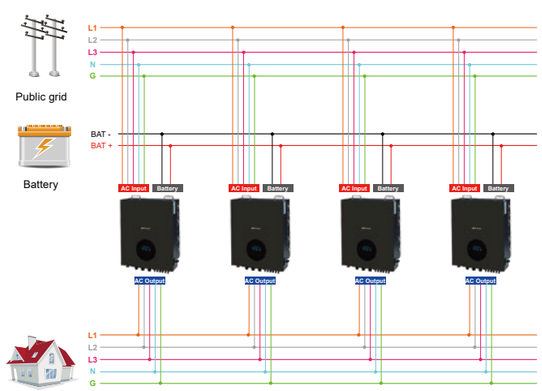
IP65 Water & Dustproof | Parallel Operation | BMS Function | Wi-Fi Function

Features

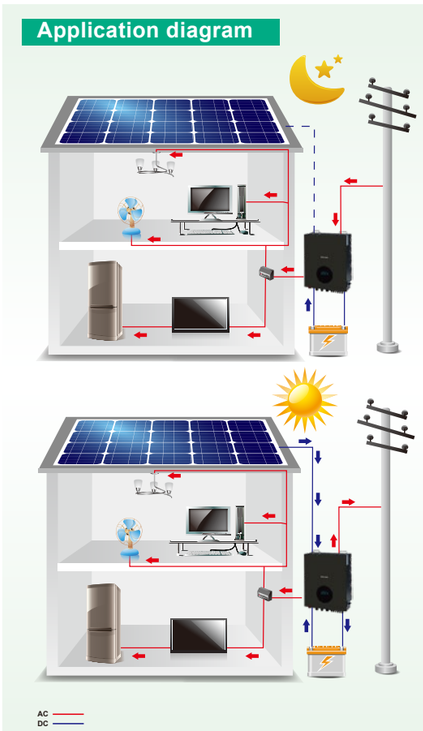
- IP65 outdoor design
- 150% unbalanced load support
- Dual output selected as programmable output or Generator input
- Programmable multiple operation modes: Grid-tie, off-grid and grid-tie with backup
- Built-in WIFI for the APP monitoring
- Built-in BMS Function
- Maximum charging up to 80A adjustable
- Parallel operation up to 4 units

Parallel Operation

Maximum up to 4pcs

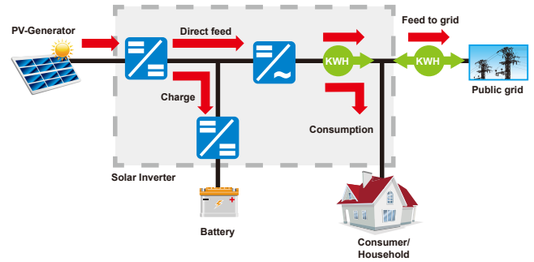


Application diagram

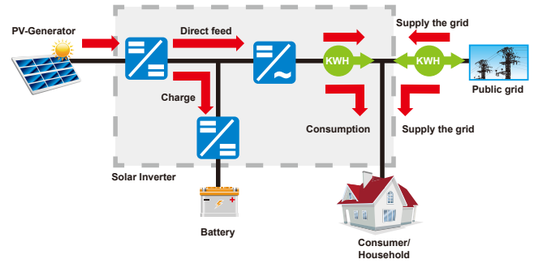


Operation Diagram:

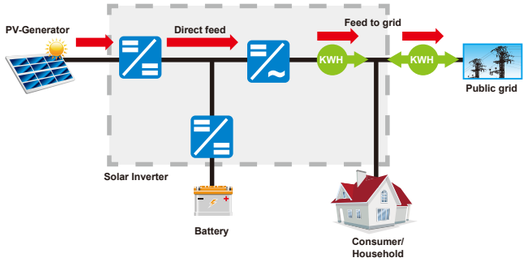
Enough PV Energy Input



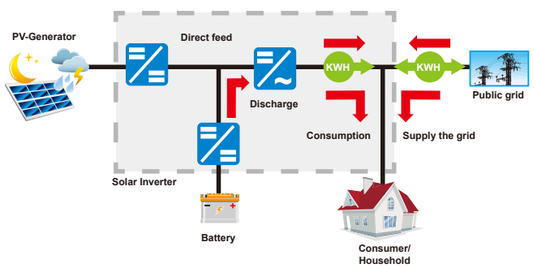
Household's consumption is higher than supply from PV



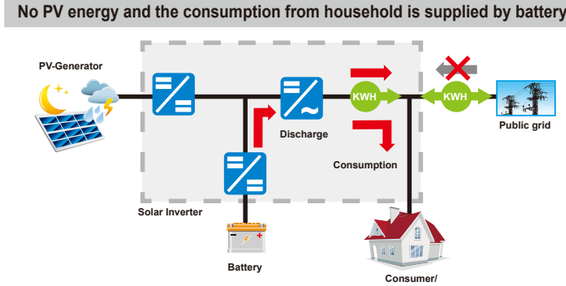
No consumption from household and the battery is fully charged



No PV energy and battery is fully discharged



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



Specifications

MODEL	SP30KW Premium Plus
Rated Output Power	30KW
Maximum Charging Power	30KW
PV INPUT (DC)	
Maximum DC Power	40KW
Nominal DC Voltage/ Maximum DC Voltage	720 VDC / 1000 VDC
Start-up Voltage / Initial Feeding Voltage	320 VDC / 350 VDC
MPP Voltage Range	350 VDC ~ 900 VDC
Number of MPP Trackers / Maximum Input Current	3 / 26A
GRID OUTPUT (AC)	
Nominal Output Voltage	230VAC* (P/N) / 400 VAC (P-P)
Output Voltage Range	184-265 VAC per phase
Output Frequncy Range	47.5 ~ 51.5 Hz or 59.3 ~ 60.5 Hz
Nominal Output Current	43.5 A per phase
Power Factor	0.9 lag to 0.9 lead
EFFICIENCY	
Maximum Conversion Effiency (DC/AC)	96.5%
AC INPUT	
AC Start-up Voltage / Auto Restart Voltage	120-140 VAC per phase / 180 VAC per phase
Acceptable Input Voltage Range	170-280 VAC per phase
Maximum AC Input Curent	50 A per phase
BATTERY MODE OUTPUT (AC)	
Nominal Output Voltage	230VAC* (P/N) / 400 VAC (P-P)
Effieciency (DC to AC)	>96%
BATTERY & CHARGER	
Nominal DC Voltage	300 VDC ~ 950 VDC (adjustable)
Maximum Charging Current	80A
PHYSICAL	
Dimension (D×W×H)	255 × 660 × 750 mm
Net Weight	73 Kgs
INTERFACE	
Communication Port	RS-232/USB
Intelligence Slot	Optional SNMP, GPRS, WIFI, Modbus cards available
ENVIRONMENT	
Humidity	0 ~ 90% RH (Non-Condensing)
Operating Temperature	-10°C to 55°C
Altitude	0 ~ 1000 m**

** Power derating 1% every 100m when altitude is over 1000m.
Specifications are subject to change without notice.

SP7000-15000 Revival

SP Revival Series

Installing water pumps has been a challenge in areas that lack AC electrical power, making irrigation and water supply difficult in remote regions.

SP Revival Series supplies AC power to any conventional pump from the solar panels.

Zero operating cost and maintenance-free make it the best solar option for orchard, garden, and farm irrigation.

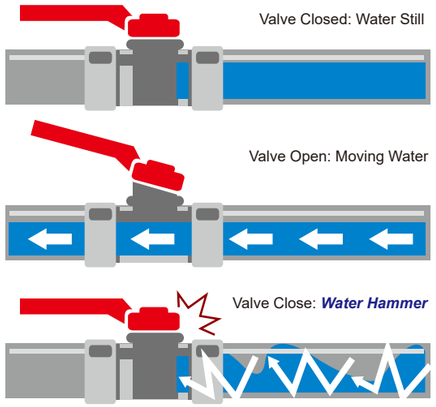
SP15000 Revival

SP7000-10000 Revival

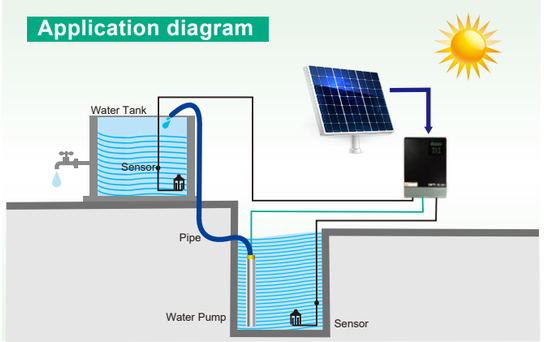
Features

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

Water Hammer Diagram



Application diagram



Specifications

MODEL	SP7000 Revival	SP10000 Revival	SP15000 Revival
Rated Power	7500W	11000W	15000W
Recommended Pump Capacity	3~9HP	10~14HP	10~20HP
AC OUTPUT			
AC Voltage Regulation (Batt. Mode)	3 × 380/400/415/440vac		
Efficiency	>97%		
Maximum Output Current	15A	22A	29A
Motor Type	Three-phase asynchronous motor		
Frequency Accuracy	± 0.2%		
PV INPUT			
Maximum PV Array Power	12000W	17600W	24000W
Maximum DC Voltage	800 VDC		
Start-up Voltage	250 VDC		
MPPT Voltage Range	250 ~ 780 VDC		
Number of MPPT Controller	1		
Maximum Input Current	14.5 A	22A	29A
Protection			
Protection	Over-voltage / under-voltage / over-current / surge / over - Temperature / short circuit protection		
PHYSICAL			
Dimension (D × W× H)	110 × 230 × 342 mm		205 × 218 × 320 mm
Net Weight	6kg	6.5kg	6kg
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 Series

Small, light, and flexible.

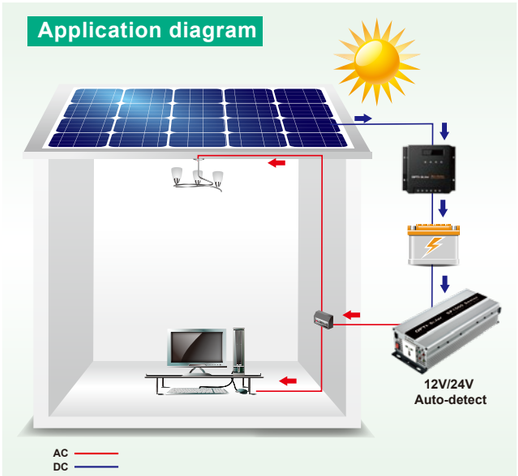
An economic inverter for a simple solution.

12VDC/ 24VDC Auto-Detect

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

Application diagram



Specifications

MODEL	SP1000 Senior	
Rated Battery Voltage	12V	24V
Rated Power	800W	1000W
Surge Protection	2000W	2400W
OUTPUT		
AC Voltage Regulation (Batt. Mode)	230VAC ± 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 ± 0.5V	21V ± 0.5V
Shutdown Voltage	9.5V ± 0.5V	20V ± 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.

SP Junior Series

Features

- Simulated sine wave AC output
- 12Vdc and 24Vdc models available
- Protection from connecting the wrong voltage battery
- Output short circuit protection
- Battery low, battery depleted, overheating alarms
- High efficiency

Application diagram

Accessories

For SP300 Junior

For SP600 Junior

Specifications

Model	SP300 Junior		SP600 Junior	
DC System	DC 12V	DC 24V	DC 12V	DC 24V
Output Power	Continuous Power 300W		Continuous Power 600W	
Surge Power	900W		1500W	
Standby Current	< 0.5A	< 0.4A	< 0.5A	< 0.3A
Input Voltage	10VDC~15VDC	20VDC~30VDC	10VDC~15VDC	20VDC~30VDC
Output Voltage	AC 100V, 110V, 120V, 220V, 230V, 240V		AC 100V, 110V, 120V, 220V, 230V, 240V	
Output Waveform	Simulated Sine Wave		Simulated Sine Wave	
Efficiency	> 90%		> 85%	
Initial Checking	Auto-Detecting Wrong Battery Cont. ex. 12V / 24V			
Output Regulation	+5/-8% Intelligent AVR		± 5% Intelligent AVR	
Output Frequency	50Hz , 55Hz , 60Hz Crystal Controlled			
Cooling Control	AUTO-OPERATION FAN			
Output Short	Output Short Circuit Protection			
Low Battery	< 10.5V ± 0.5V PRE-ALARM, < 9.5V ± 0.5V Shut Down & Alarm	< 21V ± 1V PRE-ALARM, < 20V ± 1V Shut Down & Alarm	< 10.5V ± 0.5V PRE-ALARM, < 9.5V ± 0.5V Shut Down & Alarm	< 21V ± 0.5V PRE-ALARM, < 20V ± 0.5V Shut Down & Alarm
Over Heating	> 60°C Pre-Alarm, > 65°C Shut Down & Alarm			
Over Load	>330W Pre-Alarm, >360W Shut Down & Alarm		>630W Pre-Alarm >660W Shut Down & Alarm	
Battery Polarity Reverse	By Fuse			
Fuse	35A×1PC	20A×1PC	25A×3PCS	15A×3PCS
AC Outlet	2 AC Outlets, EUROPEAN TYPE: 1 AC Outlet		2 AC Outlets, EUROPEAN TYPE: 1 AC Outlet	
Dimension (L×W×H)	120×73×73mm		215×113×62mm	
Net Weight	0.6Kg		1.5Kg	

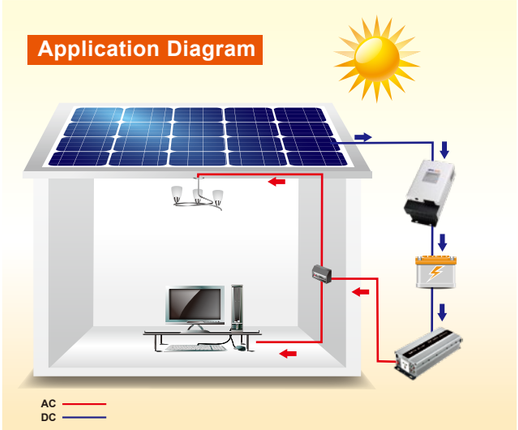
Specifications are subject to change without notice.

Solar Charger MPPT

Features

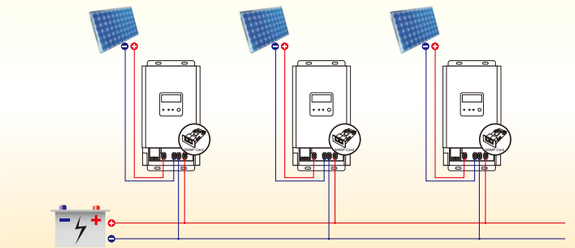
- Intelligent Maximum Power Point Tracking technology increases efficiency 25%~30%
- Compatible for PV systems in 12V, 24V or 48V
- Three-stage charging optimizes battery performance
- Equalization charging for extension of battery life span
- Maximum charging current up to 60A
- Maximum efficiency up to 98%
- Battery temperature sensor (BTS) automatically provides temperature compensation
- Automatic battery voltage detection
- Support a wide range of lead-acid batteries including wet, AGM, and gel batteries
- Integrated intelligent slot compatible with the SNMP/MODBUS communication
- Parallel charging function

Application Diagram



Parallel charging function

Users can assign chargers to charge the same battery group.



Specifications

MODEL	SC-3KW MPPT		
PV INPUT			
MPPT Range	60VDC~115VDC		
Maximum PV Array Open Circuit Voltage	145VDC		
Maximum PV Array Power	800W	1600W	3200W
Maximum Input Current	50A		
BATTERY			
Nominal Battery Voltage	12V	24V	48V
Connected Battery Type	Sealed lead acid, AGM, or Gel		
Maximum Charge Current	60A		
Maximum Efficiency	98%		
Charging Method	Three stages: bulk, absorption, floating		
PHYSICAL			
Dimension (D×W×H)	315×165×128 mm		
Net Weight	4.5kgs		
Type of Mechanical Protection	IP 31		
COMMUNICATION			
Humidity	5 ~ 95% RH (Non condensing)		
Operating Temperature	0ºC to 55ºC		
Storage Temperature	-15ºC to 60ºC		

Specifications are subject to change without notice.

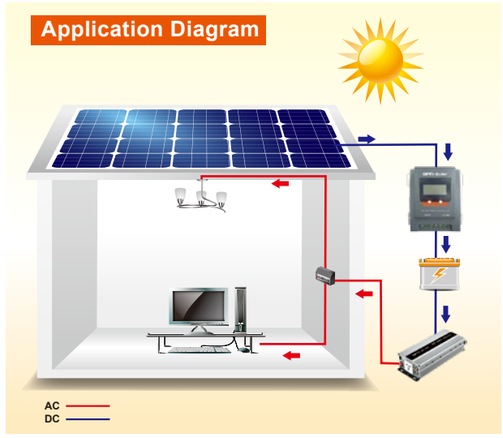
Solar Charger MPPT

The SC-20 MPPT/ SC-40 MPPT Solar Charger Controller improves tracking efficiency up to 99.9%.

Its RS485 interface helps the users to simply monitor the operation, and its BTS function is perfect for temperature compensation.

Features

- Innovative MPPT technology, tracking effciency 99.9%, conversion efficiency up to 90%
- Real-time display the operation data and working status of the controller in digital, graphic and textual forms by a large LCD
- AGM, Liquid and Gel battery for the selection
- Two navigation buttons, easy to implement various operation
- 12V/24V automatic recognition, temperature compensation, perfect EMC design
- Four stage charge way: MPPT, boost, equalization, float
- Full automatic electronic protect function

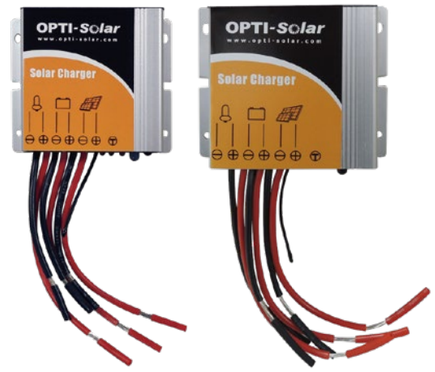


Specifications

Model name	SC-20MPPT	SC-40MPPT
System voltage	12V/24V automatic recognition	24V/48V automatic recognition
Max solar current or load current	20A	40A(charging)/30(output)
Max MPPT efficiency	>99.9%	>99.9%
Max PV input power	260/520W	1000/2000W
Float voltage (25°C)	13.7V/27.4V	27.4V/54.8V
Boost voltage (25°C)	14.5V/29.0V	29.0V/58.0V
Equal voltage	14.8V/29.6V (Liquid,AGM)	29.6V/59.2V (Liquid,AGM)
Day/Night threshold	8.0V/16.0V	16.0V/32.0V
Load disconnect voltage	10.8~11.8V/21.6~23.6V	21.6~23.6V/43.2~47.2V
Load reconnect voltage	11.6~12.8V/23.2~25.6V	23.2~25.6V/46.4~51.2V
Battery type	Liquid, Gel	
Work mode	Standard, D2D(DUSK to Dawn),Street lamp , User mode	
Temperature compensation	-4.17 mV / K per cell (Boost and Equal charge)	
	-3.33 mV / K per cell (Float charge)	
Max solar voltage	100V	150V
Max battery voltage	40V	65V
Dimension	189×182×64mm	189×255×89mm
Weight	1.3Kg	2.5Kg
Max power consumption	8mA(12V);12mA(24V)	8mA
Temp. Range during operation	- 20°C ~ + 55°C	
Storage temperature	- 25°C ~ + 80°C	
Ambient humidity	0%~100% RH	
Case protection	IP32	

Specifications are subject to change without notices.

Solar Charger PWM



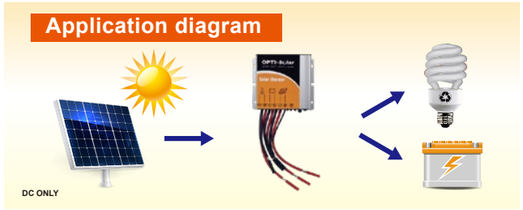
SC-SM Series has a built-in PV sensor that outputs power based on the photovoltaic power levels.

SC-SM-Z Series outputs power continuously, whether the photovoltaic power exists or not.

Features

- 12V/24V automatic recognition
- Automatic temperature compensation
- Three-stage charge method
- Electronic protections
- IP68 enclosure

IP68 Dustproof & Waterproof



Specifications

Model	SC-10SM/SM-Z	SC-20SM/SM-Z
Nominal voltage	12 V / 24 V automatic recognition	
Max solar current or load current	10A	20A
Boost voltage	14.5 / 29 V (25ºC)	
Equalization voltage	14.8 / 29.6 V (25ºC)	
Float voltage	13.7 / 27.4 V (25ºC)	
Battery type	Flooded, Sealed	
Max solar voltage	55V	
Max battery voltage	40V	
Cable length	120mm / 80mm	
Over voltage protection	15.5 V / 31.0 V	
Dimensions	85 × 70 × 20 mm	85 × 85 × 20mm
Weight	200g	210g
Wire cross-section	2.5 mm^2	4 mm^2
Typical power consumption	Lower than 13mA / 15mA	
Working temperature	-40°C ~ 60°C	
Case protection	IP68	
Max altitude	4000 m	

Specifications are subject to change without notice.

SC-20 ~ 6048MAX

Features

- LCD display for status and settings
- 12V/24V automatic recognition
- Two USB interfaces (SC-20/30/40MAX)
- Multiple battery choices
- Four-stage charge method
- Electronic protections
- RS-485 standard Modbus protocol with RJ11 interface (SC-60MAX)

Specifications

Model	SC-20MAX	SC-30MAX	SC-40MAX	SC-60MAX	SC-6048MAX
Nominal Voltage	12V / 24V automatic recognition				12V/24V/36V/48V
Max Solar Charger Current	20A	30A	40A	60A	60A
Max Output Load Current	20A	30A	40A	30A	30A
USB Interface	5V, 2A			Nona	
Temperature Compensation	-4.17mV/K per cell (Boost and Equalization charge); -3.33mV/K per cell (Float charge)				
Max Solar Voltage	55V				100V
Max Battery Voltage	35V				65V
Dimensions	189 × 96 × 53 mm			187.5 × 138 × 62.5 mm	187.5 × 138 × 88.5 mm
Weight	420g			720g	1.1kg
Max. Wire Size	8 AWG			6 AWG	
Typical Power Consumption	5 mA			10 mA	
Working Temperature	-20°C ~ 50°C				
Storage Temperature	-25°C ~ 80°C				
Ambient Humidity	0 ~ 100%RH				
Case Protection	IP32				

Specifications are subject to change without notice.