

## SP Premium Series

### True Hybrid Solar Inverter with Energy Storage

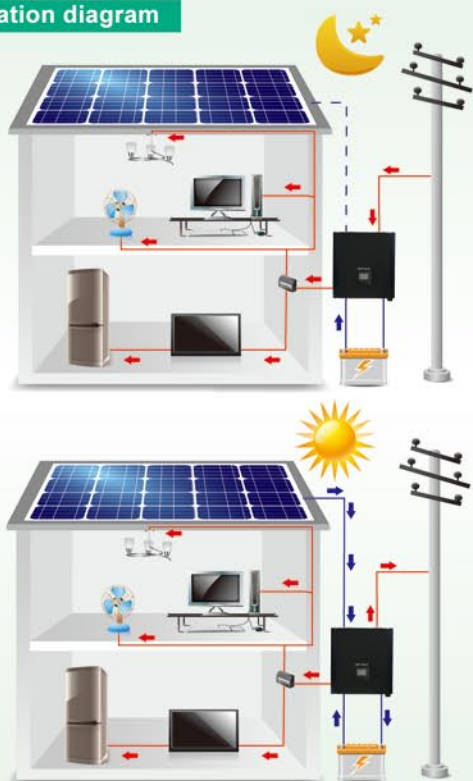
**SP Premium Series** are a universal power supply tool for houses. It utilizes solar power at day time feeding it to your appliances like illumination lamps, TV, stereo and PC equipment, saving the power to the batteries for the night time usage, and selling the power surplus unused by the connected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

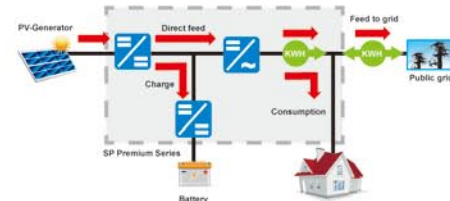
- 4KW/10KW on-grid inverter with energy storage
- Pure sine wave output
- Microprocessor controlled to guarantee stable charging system
- Multiple operations: Grid tie, Off grid, and grid-tie with backup
- Built-in MPPT solar charger
- LCD display panel for comprehensive information
- Multiple communication
- Green substitution for generators
- User-adjustable battery charging current
- Parallel connection capability (Maximum up to 6pcs)

#### Application diagram

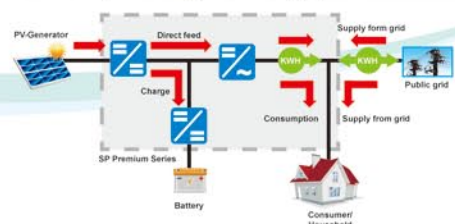


#### Operation Diagram:

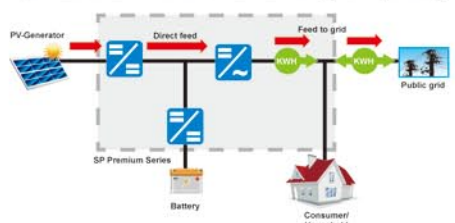
##### Enough PV Energy Input



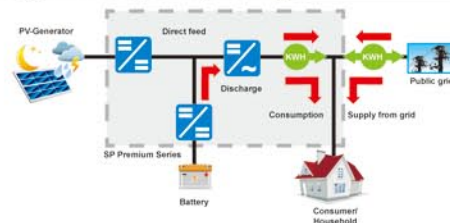
##### Household's consumption is higher than supply from PV



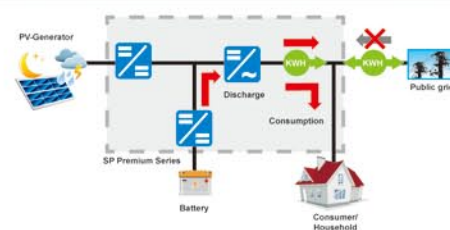
##### No consumption from household and the battery is fully charged



##### No PV energy and battery is fully discharged



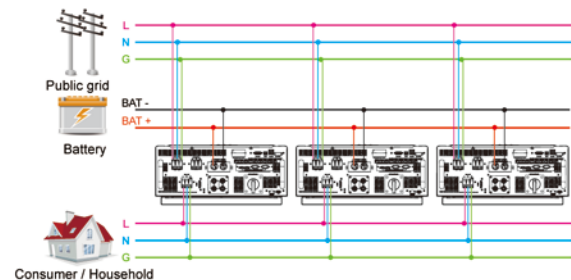
##### No PV energy and the consumption from household is supplied by battery



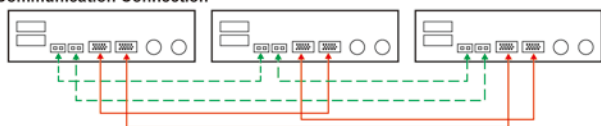
### Parallel operation for 1-phase application (SP4000 Premium)

Maximum up to 6pcs

#### Power Connection

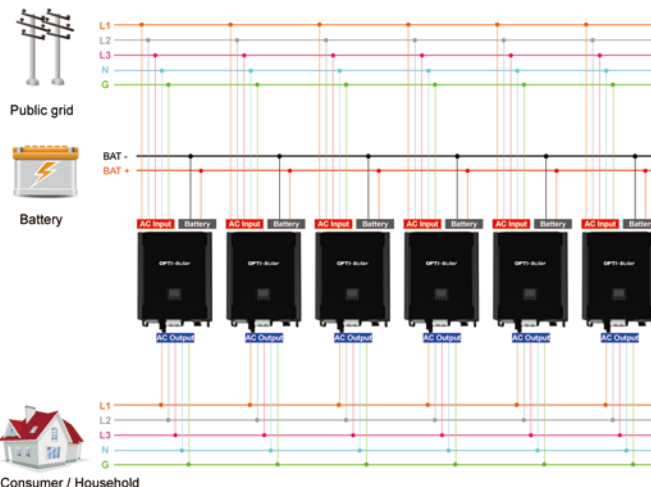


#### Communication Connection



### Parallel operation for 3-phase application (SP10000 Premium)

Maximum up to 6pcs



### Specifications

MODEL	SP4000 Premium
<b>RATED POWER</b>	4000W
<b>PV INPUT (DC)</b>	
Maximum DC Power	5000 W
Nominal DC Voltage	360 VDC
Maximum DC Voltage	580 VDC
Start-up Voltage / Initial Feeding Voltage	116 VDC / 150 VDC
MPP Voltage Range	120 VDC ~ 500 VDC
Maximum Input Current	18 A
Isc PV (absolute maximum)	25 A
Max. inverter back feed current to the array	0 A
<b>GRID OUTPUT (AC)</b>	
Nominal Output Voltage	230 VAC
Output Voltage Range	184 - 264.5 VAC*
Output Frequency Range	47.5 ~ 51.5 Hz or 59.3~ 60.5Hz
Nominal Output Current	17.4 A
Inrush Current/Duration	17.4 A / 20ms
Maximum Output Fault Current/Duration	52 A / 1ms
Maximum output Overcurrent Protection	52 A
Power Factor Range	0.9 lead - 0.9 lag
<b>AC INPUT</b>	
AC Start-up Voltage	120-140 VAC
Auto Restart Voltage	180 VAC
Acceptable Input Voltage Range	170 - 280 VAC
Nominal Frequency	50 Hz / 60 Hz
AC Input Power	4000VA/4000W
Maximum AC Input Current	40 A
Inrush Input Current	40 A / 1ms
<b>BATTERY MODE OUTPUT (AC)</b>	
Nominal Output Voltage	230 VAC
Output Frequency	50 Hz / 60 Hz (auto sensing)
Output Waveform	Pure sine wave
Output Power	4000VA/4000W
Output Current	17.4A
Efficiency (DC to AC)	91%
<b>BATTERY &amp; CHARGER</b>	
PV Maximum Input power	5000W
Nominal DC Voltage	48 VDC
Maximum Battery Discharging Current	110A
Maximum Charging Current	80 A
<b>PHYSICAL</b>	
Dimension (D×W×H)	117×438×535mm
Net Weight	16.2kgs
<b>INTERACE</b>	
Communication Port	USB/ Dry contact
Intelligent Slot	Optional SNMP, Modbus and AS-400 cards available
<b>ENVIRONMENT</b>	
Protective Class	I
Ingress Protection Rating	IP20
Humidity	0 ~ 90% RH (No condensing)
Operating Temperature	-10 to 55°C
Altitude	MAX. 2000 m*

MODEL	SP10000 Premium
<b>RATED POWER</b>	10000 W
<b>PV INPUT (DC)</b>	
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
<b>GRID OUTPUT (AC)</b>	
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
<b>EFFICIENCY</b>	
Maximum Conversion Efficiency (DC/AC)	96%
European Efficiency@Vnominal	95%
<b>AC INPUT</b>	
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
<b>BATTERY MODE OUTPUT (AC)</b>	
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%
<b>BATTERY &amp; CHARGER</b>	
PV Maximum Input power	14850W
Nominal DC Voltage	48 VDC
Maximum Battery Discharging Current	250 A
Maximum Charging Current	200 A
<b>PHYSICAL</b>	
Dimension (D×W×H)	622×500×167.2mm
Net Weight	45kgs
<b>INTERACE</b>	
Communication Port	RS-232/USB
Intelligent Slot	Optional SNMP, Modbus and AS-400 cards available
<b>ENVIRONMENT</b>	
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.

\*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.

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