SP1S-3P-H Series / 3-12kW

Residential Three Phase Hybrid Inverter

The Sunplus SP1S-3P-H series (3.0kW to 12kW three phase storage inverters) are designed to increase energy independence for household users, compatible with high voltage (135-800V) residential batteries from 5kwh to 35kwh.

Energy management is based on time-of-use and demand charge rate structures, significantly reduce the amount of energy purchased from public grid.

Thanks for the UPS function (switch time < 10ms), that enables the crucial loads power on during outages. Additionally, under the backup operation mode, the inverter provides up to 130% peak output overloading.

Flexible Design & Use

- DC 18A current input, compatible with high power PV module;
- Supports application in retrofit scenario;
- UPS Switching time <10ms ;
- Provides 130% power to unbalance loads in backup mode & Grid mode;

Energy Independence

- Fast charging / discharging to meet the demand of higher consumption;
- 110% continuous AC output overloading;
- 130% max. AC output overloading@85s ;
- DRM socket ready;
- Built-in RCMU(RCD), Type-B 300mA

Convenient Installation & Operation

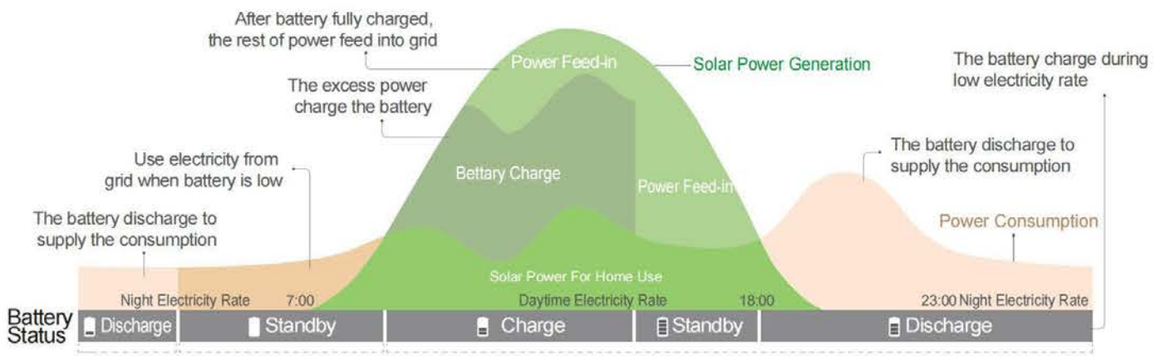
- Unique push-in connectors for time-saving installa - tion;
- Touch free commissioning with smartphone;
- Compact size and elegant appearance ;

Smart Management

- Remote firmware update and customizable settings;
- Free online monitoring to enhance energy manage ment for end user, installer and retailer;
- Programmable supply priority for PV, Battery or Grid ;

Optimizing Self-Consumption Mode

With home energy storage installed, home owners may also be able to change from a flat rate electricity tariff to a time-of-use tariff. For the areas and regions, where peak shaving can be applied.



PV (DC)	SP1S-3P3K-H	SP1S-3P4K-H	SP1S-3P5K-H	SP1S-3P6K-H
Recommended Max. PV Input Power	4500 W	6000 W	7500 W	9000 W
Max. Input Voltage*	1000 V			
Start-up Voltage	135 V			
Rated Input Voltage	600 V			
MPPT Input Voltage Range*	135-900 V			
MPPT Max. Input Current	16 A / 16 A			
MPPT Short-circuit Current	20 A / 20 A			
No. of MPPT	2			
No. of Strings per MPPT	1 / 1			
Grid (AC)				
Max. Input Apparent Power**	6000 VA	8000 VA	10000 VA	12000 VA
Rated Output Power	3000 W	4000 W	5000 W	6000 W
Max. Output Apparent Power	3300 VA	4400 VA	5500 VA	6600 VA
Rated AC Voltage	3L/N/PE, 220/380 V, 230/400 V			
Input/Output Voltage Range	180-300 V/312-519 V; 200-253 V/347-438 V			
Rated Output Voltage Frequency	50 / 60 Hz			
Input/Output Voltage Frequency Range	(45-55) ; (55-65) Hz			
Rated Output Current	4.35 A	5.8 A	7.2 A	8.7 A
Max. Input/Output Current	9.1 A / 5.9 A	12.12 A / 7.88 A	15.2 A / 9.8 A	18.2 A / 11.8 A
Power Factor (Rated)	>0.99			
Power Factor (Adjustable)	0.8 leading ... 0.8 lagging			
Total Harmonic Distortion	<3% (Rated Power)			
Grid Connection Mode	3L/N/PE			
AC Load Output (Off-grid)				
Rated Output Power	3000 W	4000 W	5000 W	6000 W
Max. Output Apparent Power	3300 VA	4400 VA	5500 VA	6600 VA
Rated AC Voltage	3L/N/PE, 220/380 V, 230/400 V			
Output Voltage Range	200-253V/347-438V			
Rated Output Frequency	50/60 Hz			
Rated Output Current	4.35 A	5.8 A	7.2 A	8.7 A
Max. Output Current	5.9 A	7.88 A	9.8 A	11.8 A
Total Harmonic Distortion	＜3% (R Load)			
On-grid/Off-grid Switching Time	＜10 ms			
Battery (DC)				
Rated Output Power	3000 W	4000 W	5000 W	6000 W
Max.Charge/Discharge Power	12500 W / 3300 W	12500 W / 4400 W	12500 W / 5500 W	12500 W / 6600 W
Rated Voltage	200 V	200 V	200 V	240 V
Battery Voltage Range	135-800 V			
Max. Charge/Discharge Current	25 A / 25 A	25 A / 25 A	25 A / 25 A	25 A / 25 A
Communication Port	CAN / RS485			
Efficiency				
Max. Efficiency	97.6%			
Max. MPPT Efficiency	99.9%			
Max. Euro Efficiency	97.0%			
Protection				
Integrated Protection	Anti-flow Protection, PV DC Reverse Protection, DC Circuit Breaker, Insulation Resistor Detection, Leakage Current Monitoring, AC Output Short Circuit Protection, Output Over Current Protection, Grid Monitoring, Anti-islanding Protection, Residual Current Monitoring, Battery Reverse Polarity Protection, Off-grid Overload Protection.			
Surge Protection	DC Type II, AC Type II			
General Data				
Dimensions (WxHxD)	516x442x222 mm			
Weight	24 kg			
Operating Temperature Range	-30~60 °C			
Noise	<30 dB			
Cooling	Smart fan			
Protection Rating	IP66			
Communication	Yes: RS485 / USB , Optional: 4G / WiFi			
Warranty	5 Years (10 Years Optional)			
Standards Compliance				
Grid Connection	NB/T 32004, EN 50549-1, CEL 0-21, VDE-ARN 4105, NTS Type A&B, C10/11, RD 1699/661/413/647/244/2019, PSE TypeA+NC RfG+PTPiREE, UNE 206006/206007/217001/217002, G98/G99 AS 4777.2 PEA, MEA, NRS 097-2-1 (Ed 2.1), IEC 61727/62116.			
Safety Regulation	EN/IEC 62109-1/2			
Others	EN/IEC 61000-6-1/2/3/4			

* Max. DC input voltage is 1000V without battery, 850V with battery. If the voltage is greater than the maximum, the inverter is in standby state.

** Max. grid input power refers to the max. power drawn from the grid, including the supply of off-grid load and battery charging.

PV (DC)	SP1S-3P8K-H	SP1S-3P10K-H	SP1S-3P12K-H
Recommended Max. PV Input Power	10000 W	15000 W	18000 W
Max. Input Voltage*	1000 V		
Start-up Voltage	135 V		
Rated Input Voltage	600 V		
MPPT Input Voltage Range*	135-900 V		
MPPT Max. Input Current	18A/36A		
MPPT Short-circuit Current	20 A / 40 A		
No. of MPPT	2		
No. of Strings per MPPT	1 / 1	1 / 2	
Grid (AC)			
Max. Input Apparent Power**	16000 VA	20000 VA	24000 VA
Rated Output Power	8000 W	10000 W	12000 W
Max. Output Apparent Power	8800 VA	11000 VA	13200 VA
Rated AC Voltage	3L/N/PE, 220/380 V, 230/400 V		
Input/Output Voltage Range	180-300 V/312-519 V; 200-253 V/347-438 V		
Rated Output Voltage Frequency	50 / 60 Hz		
Input/Output Voltage Frequency Range	(45-55) ; (55-65) Hz		
Rated Output Current	11.6 A	14.5 A	17.4 A
Max. Input/Output Current	24.2 A / 15.8 A	30.3 A / 19.7 A	36.4 A / 23.6 A
Power Factor (Rated)	>0.99		
Power Factor (Adjustable)	0.8 leading ... 0.8 lagging		
Total Harmonic Distortion	<3% (Rated Power)		
Grid Connection Mode	3L/N/PE		
AC Load Output (Off-grid)			
Rated Output Power	8000 W	10000 W	12000 W
Max. Output Apparent Power	8800 VA	11000 VA	13200 VA
Rated Output Voltage	3L/N/PE, 220/380 V, 230/400 V		
Output Voltage Range	200-253V/347-438V		
Rated Output Frequency	50/60 Hz		
Rated Output Current	11.6 A	14.5 A	17.4 A
Max. Output Current	15.8 A	19.7 A	23.6 A
Total Harmonic Distortion	＜3% (R Load)		
On-grid/Off-grid Switching Time	＜10 ms		
Battery (DC)			
Rated Output Power	8000 W	10000 W	12000 W
Max.Charge/Discharge Power	12500 W / 8800 W	12500 W / 11000 W	12500 W / 13200 W
Rated Voltage	320 V	400 V	480 V
Battery Voltage Range	135-800 V		
Max. Charge/Discharge Current	25 A / 25 A	25 A / 25 A	25 A / 25 A
Communication Port	CAN / RS485		
Efficiency			
Max. Efficiency	97.6%		
Max. MPPT Efficiency	99.9%		
Max. Euro Efficiency	97.0%		
Protection			
Integrated Protection	Anti-flow Protection, PV DC Reverse Protection, DC Circuit Breaker, Insulation Resistor Detection, Leakage Current Monitoring, AC Output Short Circuit Protection, Output Over Current Protection, Grid Monitoring, Anti-islanding Protection, Residual Current Monitoring, Battery Reverse Polarity Protection, Off-grid Overload Protection.		
Surge Protection	DC Type II, AC Type II		
General Data			
Dimensions (WxHxD)	516x442x222 mm		
Weight	24 kg		
Operating Temperature Range	-30~60 °C		
Noise	<30 dB		
Cooling	Smart fan		
Protection Rating	IP66		
Communication	Yes: RS485 / USB , Optional: 4G / WiFi		
Warranty	5 Years (10 Years Optional)		
Standards Compliance			
Grid Connection	NB/T 32004, EN 50549-1, CEL 0-21, VDE-ARN 4105, NTS Type A&B, C10/11, RD 1699/661/413/647/244/2019, PSE TypeA+NC RfG+PTPiREE, UNE 206006/206007/217001/217002, G98/G99 AS 4777.2 PEA, MEA, NRS 097-2-1 (Ed 2.1), IEC 61727/62116.		
Safety Regulation	EN/IEC 62109-1/2		
Others	EN/IEC 61000-6-1/2/3/4		

* Max. DC input voltage is 1000V without battery, 850V with battery. If the voltage is greater than the maximum, the inverter is in standby state.

** Max. grid input power refers to the max. power drawn from the grid, including the supply of off-grid load and battery charging.