



2019
Green Revolution,
Derived From Suoer

Five Star Quality, derived From Suoer Technology!



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MADE IN CHINA



@SuoerGroup



Official Website



Specialized in solar energy photovoltaic product for over 20 years

Solar Pumping Inverter >>
Solar Pumping Controller(VFD) >>
ON/OFF Grid Solar Hybrid Inverter >>
AGM/GEL Battery Charger >>
PWM/MPPT Solar Charge Controller >>
Hybrid Solar Inverter >>

Five Star Quality, derived From Suoer Technology!



In 2016, Suoer Solar Factory officially was identified and certified as High-technology Enterprise



Suoer sticks to the idea of "innovative development and technical refinement", and it has developed series of high-tech product which are popular and approbated by both of domestic and abroad customers. It proves its strength by obtaining several international patents.



Company Introduction

Foshan Suoer Electronic Industry Co., Ltd., located in Dali, Nanhai, Foshan City, Guangdong Province, China, which is a comprehensive joint-stock corporation integrating R&D, production and sales as one of manufacturing enterprises. Our company has established an industrial park covering a land area of 20 thousand square meters, with standard workshop, advanced production equipment, a standard R&D building and world-leading facilities.

Moreover, we have already built more than 10 sales teams to be able to greatly improve the productivity of their customer-service representatives and the satisfaction of their customers. It has been proved that modern factories, outstanding management and advanced sales management team become the best guarantees for our product quality.

Suoer brand is our registered trademark for our products, which mainly include Solar pumping inverter, High/Low frequency solar hybrid inverter, On/Off grid hybrid photovoltaic inverter, lead acid AGM/GEL deep-cycle battery charger, solar charge controller, power adapter, LCD TV wall bracket and components of home appliance accessories. So far, our company has been specialized in the manufacture and export of home power supply for more than 10 years.



Sufficient Inventory



Multiple Mixing Lines



Excellent R & D Team



Excellent Sales Team

Products Contents



- 01~04 Solar Pumping Inverter/Controller
- 05~06 ON/OFF Grid Solar Hybrid Inverter
- 07~09 High Frequency Hybrid Solar Inverter
- 10~10 Low Frequency Hybrid Inverter
- 11~12 Hybrid Power Inverter
- 13~15 On-grid Photovoltaic Power Inverter
- 16~18 Pure Sine Wave Inverter
- 19~21 Modified Sine Wave Inverter
- 22~23 Power Inverter With Solar Charger
- 24~30 AGM/Gel/Maintenance Free Battery Charger
- 31~36 PWM Solar Charge Controller
- 37~42 MPPT Solar Charge Controller

FEATURES

Solar pump application

- 1.IP65 designed for outdoor solar pumping system.
- 2.With optimized high-tech motor control algorithm.
- 3.Support AC & PV input together, AC bypass function.
- 4.Support single-phase & 3 phase 220V pump.
- 5.Built-in booster module, reduce PV panel cost.
- 6.With full and empty water level control logic.
- 7.Easy installation (quick connector).
- 8.Natural Cooling, maintenance-free design.
- 9.Integrate multiple protection functions to extend service life.



DRINKING WATER



AGRICULTURE IRRIGATION



DESERT CONTROL



ANIMAL HUSBANDRY



AFFORESTATION

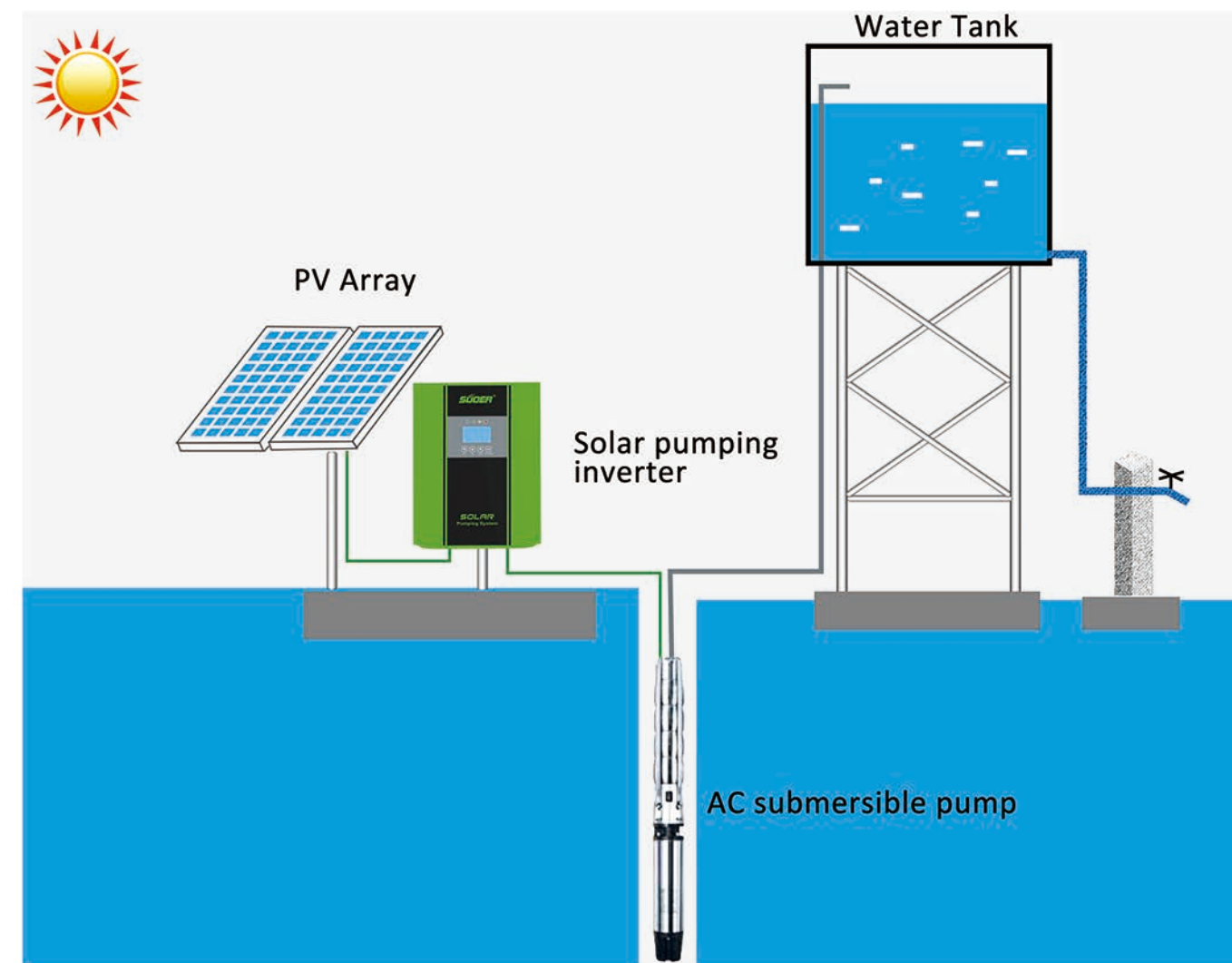
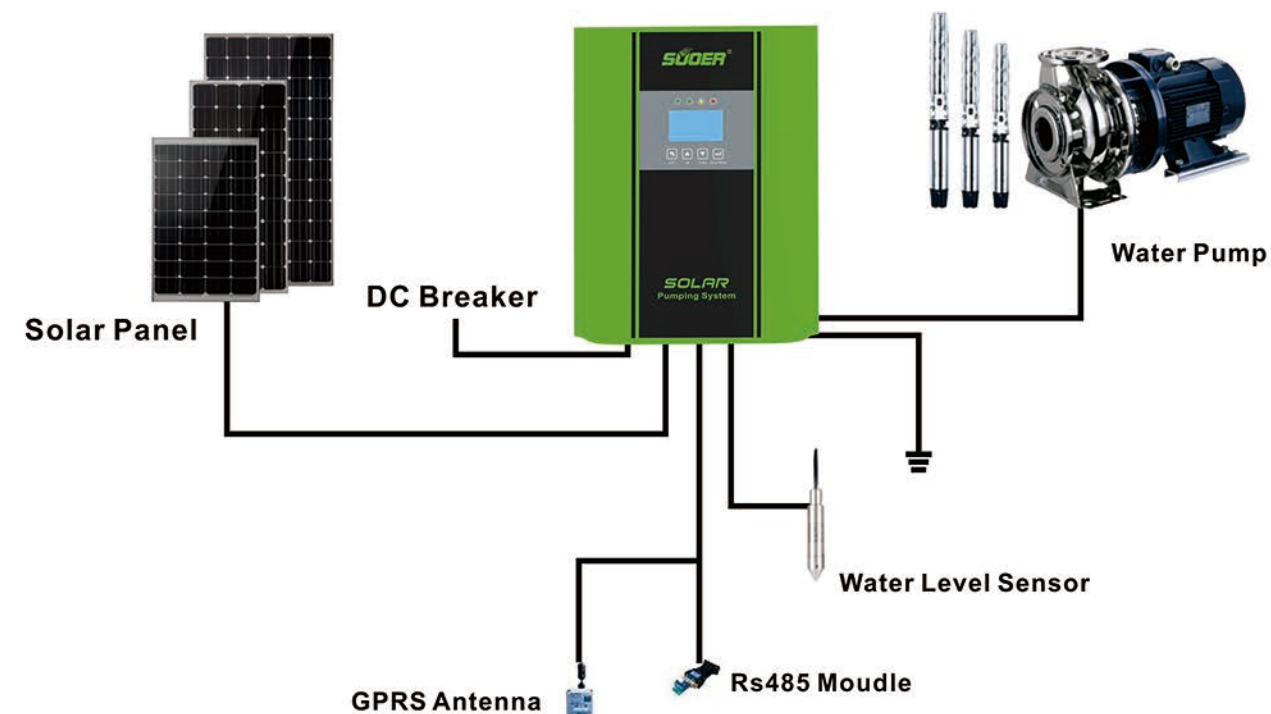


Solar pumping system consists of four parts: solar panels, solar pumping inverter, three phase AC pump and water storage device. The solar pumping inverter converts DC power produced by solar panels to AC power which drives AC pump to pump water from borehole, river, lake etc, to the storage device. The inverter applies high efficiency MPPT algorithm to maximize power harvested from solar panels. It will make the system to maximize efficiency to get the water as much as possible. The solar pumping system fulfills concept of low carbon, energy conservation, environmental protection to improve the living standard in water-deficient area.

Technical Parameter

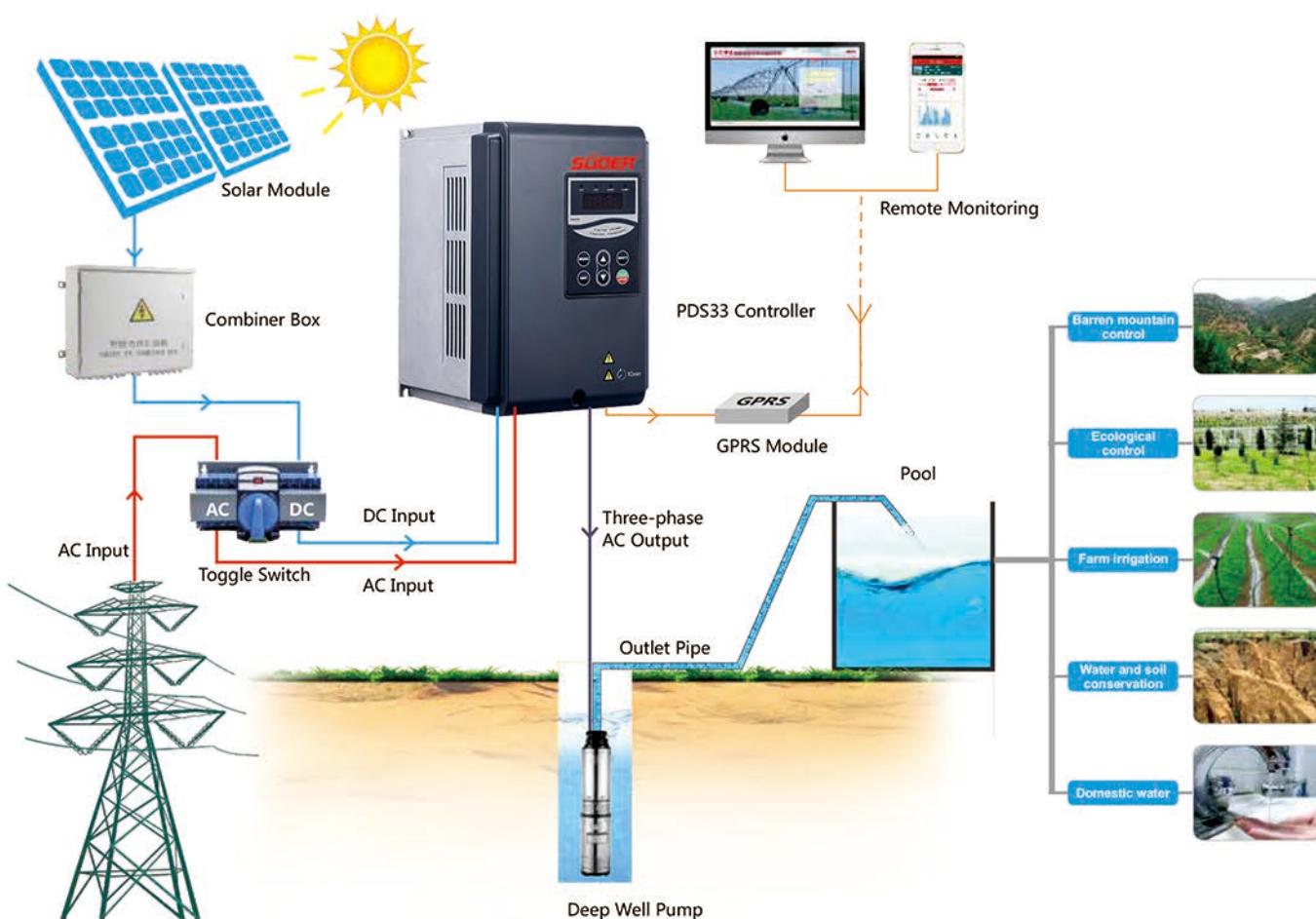
SOP-series

Model	SOP-750LS	SOP-1KSL	SOP-2K2L	SOP-5K5H	SOP-7K5H	SOP-8K5H	SOP-11KH	SOP-22KH
d.c. Input								
d.c. Max. Input Voltage	450Vdc		880Vdc					
Recommended MPPT Voltage	120~400Vdc	150~400Vdc	460~850Vdc					
d.c. Max. Input Current	7.5A	8.8A	5A	12A	16.3A		24.4A	49A
Max. MPPT Efficiency	>99%							
Number of String	1		2		3		1	
a.c. Output								
Max. Motor Output Power	750W	1500W	2.2KW	5.5KW	7.5KW	8.5KW	11KW	22KW
Rated Output Voltage	220V , single phase		380~460Vac,three phase					
Output Frequency Range	0~50/60Hz							
Rated Output Current	7.2A	10A	6A	13A	18A		21A	42A
Other Parameters								
Weight	9.5kg		13.9kg				19.9kg	31.5kg
Dimension(L*W*H) (MM)	280*363*136		350*453*136		420*310*229		360*500*176	460*580*251
Protection Class	IP65							
Protection Level	-25℃~+60℃; above 60℃ need derate operating							
Operating Temperature	-25℃~+60℃		-25℃~+60℃; above 60℃ need derate operating					
Cooling Way			Natural Cooling				Force Cooling	
Display	LCD							
Communication	RS485/GPRS							
Altitude	3000m;above 3000m need derate operating							
Noise Emission	<60dB		< 50dB					
Compliance	EN50178;IEC/EN62109-1							





**Solar Pumping Controller
Solar Variable-frequency Drive, VFD**



FEATURES

Smartness

1. Self-adaptive power point tracking technology with up to 99% efficiency
2. Automatic regulation of pump flow
3. Self-adaptation to the drive used in the installation

Cost effectiveness

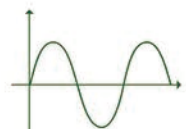
1. Plug-and-play system design
2. Embedded pump functions
3. Battery-free for most applications
4. Effortless maintenance

Technical Parameter

PV100-series

Model	PV100-2K2P1	PV100-2K2P3	PV100-4K P3	PV100-5K5P3	PV100-7K5P3	PV100-11KP3	PV100-15KP3	PV100-18K5P3
Input Data								
PV Source								
Max Input Voltage(Voc) [V]	450V DC	800V DC						
Recommended voltage, at MPPT	280~360V DC	500V DC~700V DC						
Recommended PV array power [kW]	2.7~3.5	2.7~3.5	4.8~6.4	6.6~8.8	9~12	13.2~17.6	18.0~24	22.2~29.6
Alternate AC Generator								
Input voltage	220 VAC Single Phase	380V AC(±15%), Three Phase						
MaxAmps(RMS)[A]	23	5.8	10.5	14.6	20.5	26	35	38.5
Power and capability [k\A]	4	4	5.9	8.9	11	17	21	24
Output Data								
Output Power, rated [kW]	2.2	2.2	4	5.5	7.5	11	15	18.5
Output Voltage, rated	220 VAC Three Phase	380V AC(±15%), Three Phase						
MaxAmps(RMS)[A]	9.6	5.1	9	13	17	25	32	37
Output Freque ncy	0-50Hz/60Hz							
Protection								
Surge protecti on	Integrated							
Overvoltage protection	Integrated							
Undervoltage protection	Integrated							
Locked pump protection	Integrated							
Open circuit protection	Integrated							
Short circuit protection	Integrated							
Overheated protection	Integrated							
Dry run protection	Integrated							
Communication								
Communication port	Standard isolater RS-485, Modbus protocol							
General Data								
Ambient Temperature Range	-20°C~60°C, >45°C, Derating as required							
Cooling Method	Fan Cooling							
Ambient Humidity	< 95%RH							
Dimensions(H*W*D)[mm]	186*130*154.8	241*162*180.2	360.5*182*195.4	385.5*219*196.9				
Gross Weight [kg]	2.8	4.2	9	10.8	11			
Standard Warranty [month]	18							
Certificates	IEC/EN 61800-5-1,IEC/EN 61800-2:2004,IEC/EN 61800-3:2004,CE							

Note: 1. According to the light conditions, in different regions, the PV array power can be 1.2-1.6 times to the pump power. 2. Use the deep well pump or the output power wire for a long occasion, the controller needs to enlarge one step.



Mode 1
Energy produced by the PV system is preferred for local load.
The excess energy is used for battery charging in advance, then feeding to the grid.

Mode 2
If there is no PV input, battery energy is used for local first, the grid also can supply when the battery capacity is not enough.

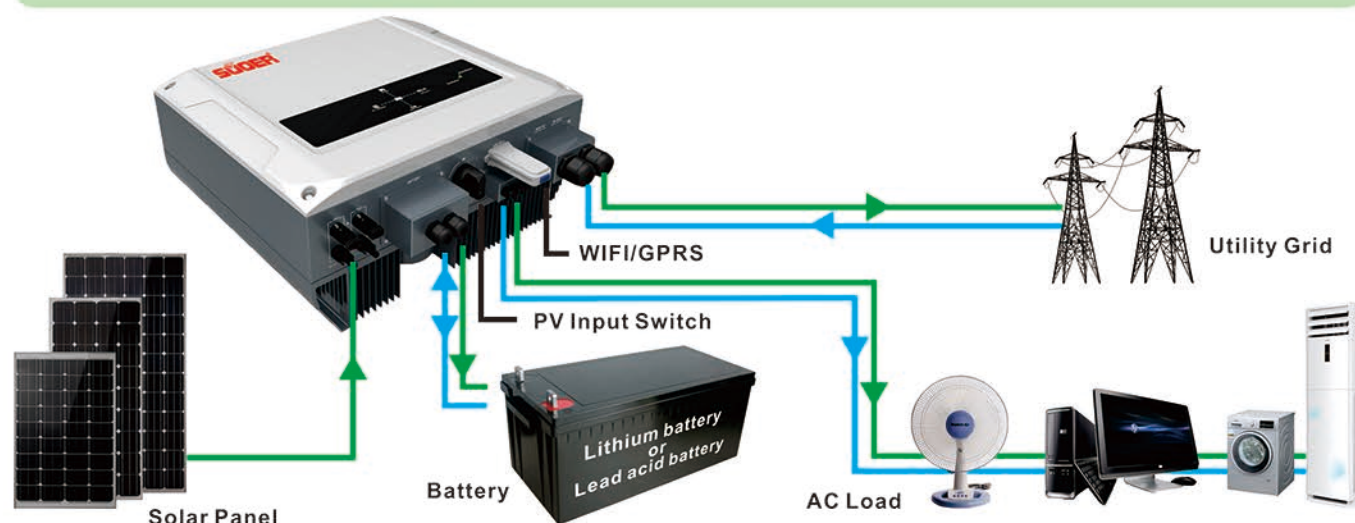
Mode 3
If the grid is faulty or there is no grid, the system can still work properly, PV and battery still supply energy for local load.

Mode 4
The battery can be charged by the grid, time and power of battery charging can be set up flexibly.

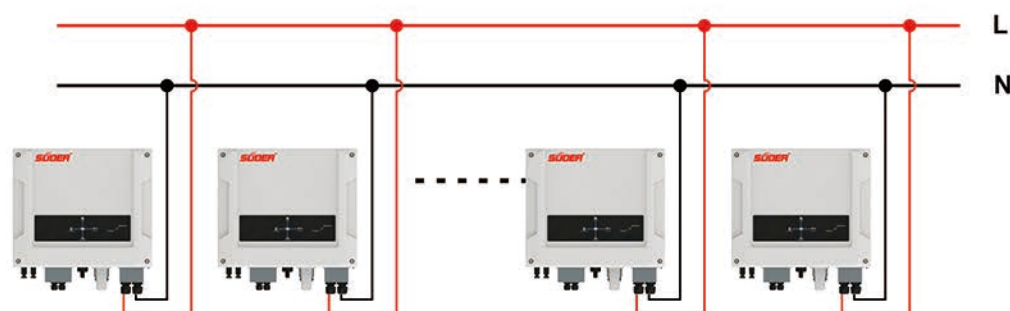


FEATURES

1. Li-ion /Lead-acid battery
2. Operation: On-grid(5kW), Backup(3kW)
3. Apply high frequency inverter technology(Off-grid)
4. Charging and discharging(3kW)
5. Zero export to grid
6. U-disk for software updating
7. Without LCD, no risk of dust or water
8. Separate APP setting/monitoring
9. Wi-Fi/GPRS
10. Flexible local monitoring through APP, Pad or PC
11. UPS function

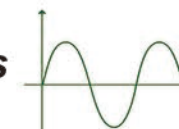


On-grid Parallel Operation



Technical Parameter

HSI-series

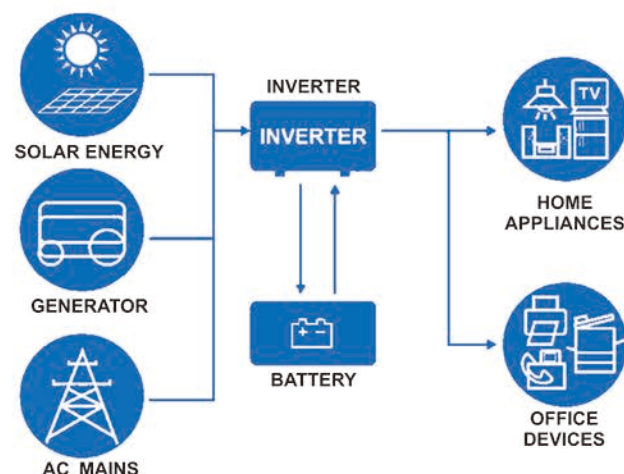


Specifications	Model	HSI-3600	HSI-4600	HSI-5000(HOT)
Input Data (DC)				
Max. DC power		3800W	5000W	5400W
Max. DC voltage		600V		
Start voltage		100V		
DC nominal voltage		360V		
PV voltage range		100V-600V		
MPPT voltage range		120V-550V		
Max. input current per string of tracker A/tracker B		11A/11A		
Number of independent MPPT inputs		2		
Output Data (AC)				
Nominal AC output power		3600W	4600W	5000W
Max. AC apparent power		3600VA	4600VA	5000VA
Max. output current		16.4A	21.0A	22.8A
AC nominal voltage; range		220V/230V/240V; 180Vac-280Vac		
AC grid frequency; range		50,60Hz;±5 Hz		
Power factor at rate power		1		
Power factor		0.8leading...0.8lagging		
THDi		<3%		
AC connection		Single phase		
Battery				
Battery type		Li-ion or Lead-acid		
Norminal voltage		51.2V		
Battery capacity		≥100Ah(depending requirement)		
Energy		5.0kWh		
Max. discharging /charging power		2500W / 2500W		
Charging curve		3-stage adaptive with maintenance		
Operating voltage range		46-57V		
Max. charging/discharging current		50A / 50A		
Backup Output				
Output rate power		2500W		
Output voltage		230Vac ±2%, 50Hz (60Hz Optional)±0.2%, THDv<3%(linear load)		
Efficiency				
Max. efficiency		97%	97.10%	97.10%
Euro - eta		96.50%	96.50%	96.50%
MPPT efficiency		99.50%	99.50%	99.50%
Protection Devices				
DC reverse polarity protection		Yes		
DC switch rating for each MPPT		Yes		
Output over current protection		Yes		
Output overvoltage protection-varistor		Yes		
Ground fault monitoring		Yes		
Grid monitoring		Yes		
Integrated all - pole sensitive leakage current monitoring unit		Yes		
General Data				
Dimensions (W / H / D)		495*420*165mm		



FEATURES

1. Equipped with PWM solar charge controller to maximize and regulate DC power from the solar array for charging the battery bank.
2. Transformerless design provides reliable power conversion in compact size
3. Besides, it's worry-free to start up motor-type loads such as refrigerators, motors, pumps, compressors and laser printers as well as electronic loads like TVs, Computers, power tool and battery chargers



Technical Parameter

PS-series

Rated Power	PS-1K-12		PS-3K-24	PS-5K-48
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	6000VA	10000VA	
Efficiency(Peak)	90%	93%		
Transfer Time	10 ms (For Personal Computers) 20 ms (For Home Appliances)			
Waveform	Pure sine wave			
BATTERY & AC CHARGER				
Battery Voltage	12VDC	24 VDC	48 VDC	
Floating Charge Voltage	13.5 VDC	27 VDC	54 VDC	
Overcharge Protection	15VDC	30 VDC	60 VDC	
Maximum Charge Current	10Aor20A	20Aor30A	10A/20A/30A/40A/50A/60A	
SOLAR CHARGER(OPTION)				
Charging Current	50A			
Maximum PV Array Open Circuit Voltage	40 VDC	80 VDC	105VDC	
PV Range @ Operating Voltage	15~18VDC	30~32VDC	60~72VDC	
Standby Power Consumption	1 W	2W	2W	
PHYSICAL				
Dimension, DxWxH (mm)	305*300*110	305*272*100	413*295*120	
Net Weight (kgs)	4.5	6.9	9.8	
OPERATING ENVIRONMENT				
Humidity	5% to 95% Relative Humidity(Non-condensing)			
Operating Temperature	0° C-55° C			
Storage Temperature	-15° C-60° C			

* There are charging current selection only available for 230VAC system.
Product specifications are subject to change without further notice.

FEATURES

1. Pure sine wave inverter
2. Cold start function
3. Selectable input voltage range for home appliances and personal computers
4. Selectable charging current based on applications
5. Configurable AC/Solar input priority via LCD setting
6. Compatible to mains voltage or generator power
7. Auto restart while AC is recovering
8. Overload and short circuit circuit protection
9. Smart battery charger design for optimized battery performance
10. Built-in MPPT solar charge controller
11. Parallel operation with up to 9 units onits available for MKS 4K/5K

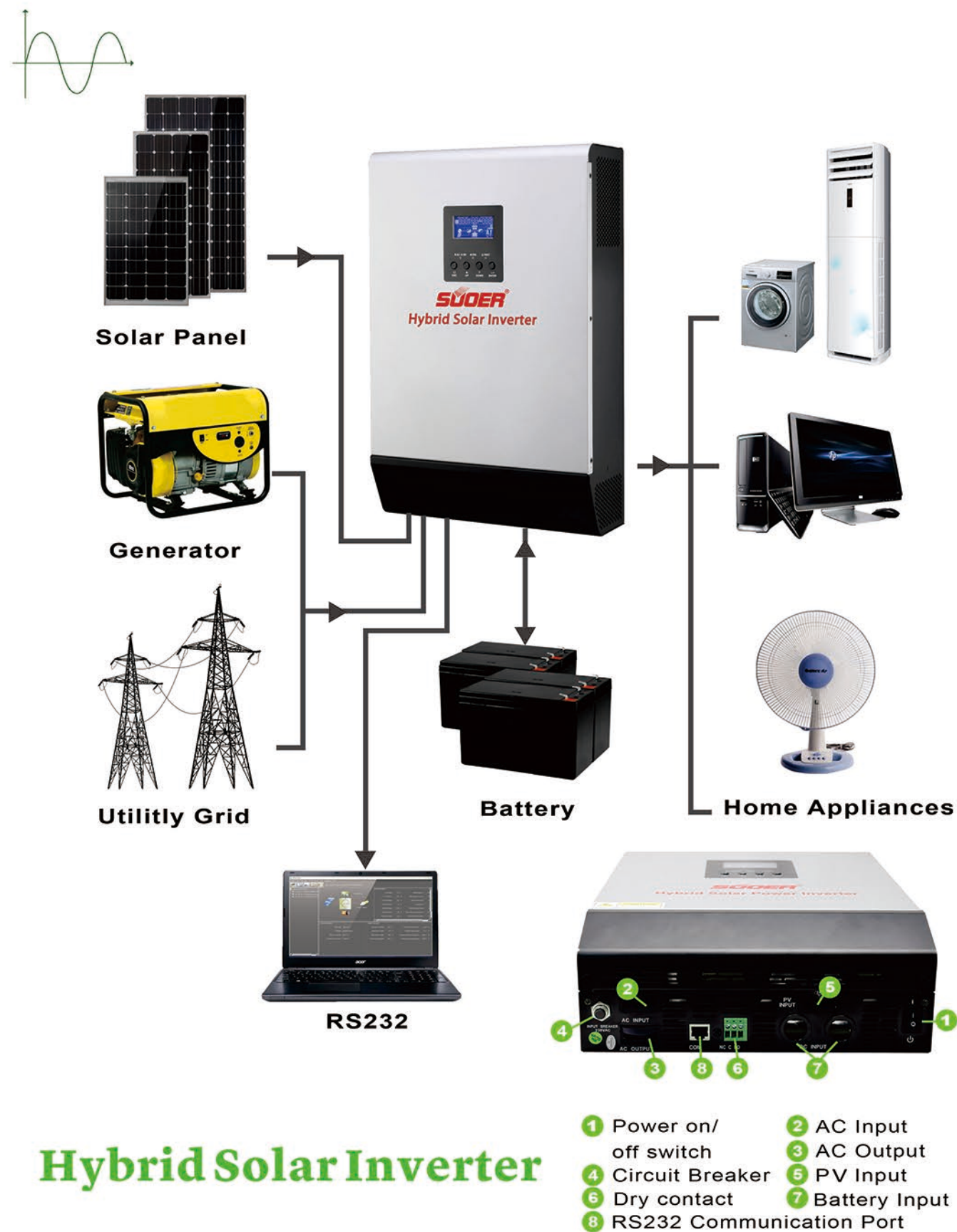


Technical Parameter

MPS-series

MODEL	MPS-1K-24	MPS-3K-24	MPS-5K	
Rated Power	1000VA/800W	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	6000VA	10000VA	
Efficiency(Peak)	90%-93%	93%		
TransferTime	10 ms (For Personal Computers) 20 ms (For Home Appliances)			
Waveform	Pure sine wave			
BATTERY & AC CHARGER				
Battery Voltage	24 VDC	24 VDC	48 VDC	
Floating Charge Voltage	27VDC	27 VDC	54 VDC	
Overcharge Protection	31 VDC	31 VDC	60 VDC	
Maximum Charge Current	10A/20A	20Aor30A	10A/20A/30A/40A/50A/60A	
SOLARCHARGER				
Maximum PV Array Power	600 W	600W	1500W	3000 W
MPPT Range @ Operating Voltage	30VDC~ 66VDC	30VDC~ 66VDC	30VDC~115VDC	60VDC ~ 115VDC
Maximum PV Array Open Circuit Voltage	75 VDC	75 VDC	145 VDC	145VDC
Maximum Charging Current	25A	25A	60A	60A/80A
Maximum Efficiency	98%			
Standby Power Consumption	2W			
PHYSICAL				
Dimension, DxWxH (mm)	128x272x355		140x295x540	
Net Weight (kgs)	7.4	8	10	11.05/13.5
OPERATING ENVIRONMENT				
Humidity	5% to 95% Relative Humidity(Non-condensing)			
Operating Temperature	0° C-55° C			
Storage Temperature	-15° C-60° C			
Product specifications are subject to change without further notice.				
MODEL	MPS-1K-24	MPS-3K-24	MPS-5K	
In verter Power	800W	2400W	4000W	
Pmax. generated from solar charger	25Amp 600W	25Amp 600W	60Amp 1500W	60A/80Amp 3000W/4000W
Best Panel Configuration	500Wp (250Wpx2pcs)	500Wp (250Wpx2pcs)	1500Wp (250Wpx6pcs)	3000Wp (250Wpx16pcs)

* There are charging current selection only available for 230VAC system.
Product specifications are subject to change without further notice.



Hybrid Solar Inverter



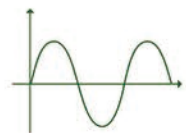
FEATURES

1. 64-bits DSP Intelligent control chipset.
2. LED and LCD display with multi-function, Real-time display of dynamic values.
3. Built-in PWM/MPPT solar charging controller, maximize the solar energy.
4. Built-in automatic AC charger and automatic AC mains switcher. Switch time $\leq 5\text{ms}$.
5. High Transfer efficiency is above 90%.
6. Continuous stable pure sine wave output with built-in AVR stablizer.
7. 3 times surge power, excellent loading capability.

Technical Parameter

PL-series

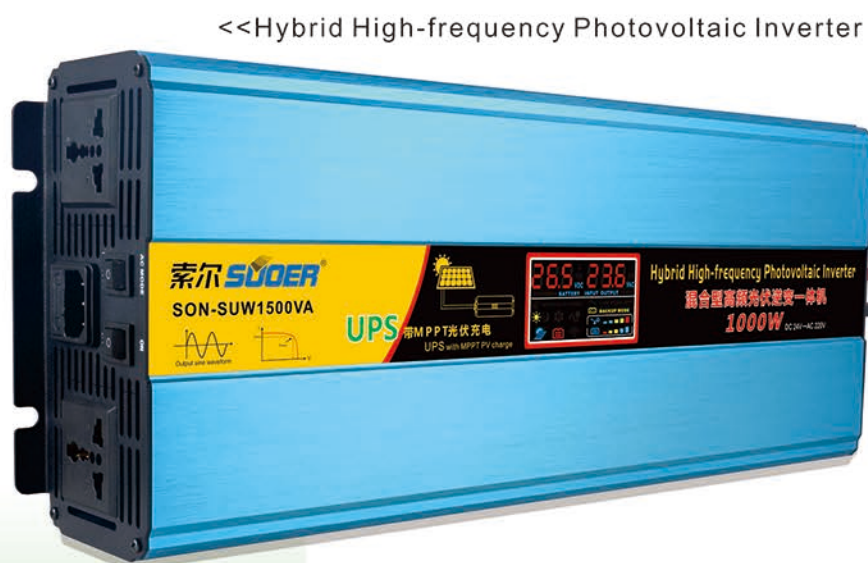
Model		PL-1KVA	PL-2KVA	PL-3KVA	PL-4KVA	PL-5KVA	PL-6KVA
Rated capacity		1000W	2000VA (1600W)	3000VA (2400W)	4000VA (3200W)	5000VA (4000W)	6000VA (4800W)
Input	Voltage	(145-275)VAC	(170-275)VAC				
	Frequency	(50Hz/60Hz±5Hz)Auto					
Output	Voltage	AC220V±5% (battery mode)					
	Frequency	50/60Hz±1% (battery mode)					
Output waveform		Sine wave					
Efficiency		≥90%					
Solar input voltage		24V(PWM) < 55VDC 12V(PWM) < 30VDC	(MPPT) < 150VDC / 48V(PWM) < 100VDC / 24V(PWM) < 55VDC				
Solar charge current		30A	60A		80A		
Battery		Optional					
Battery rated voltage		12/24VDC	24/48VDC		24/48VDC		48VDC
Max AC charge current		5~15A	5~50A		5~50A		
Protect		Overload,short,circuit,battery high and low voltage and AC input high and low voltage protection					
Conversion way		Interactive					
Capacity of overload		110%~120% turn to bypass after 30secs,160% maintain 300ms and then shut down					
Operating enviroment	Temperature	-20- +75℃					
	Humidity	10%-90%					
Size:L*W*H(mm)		280×130×290	397X154X474		456X161X513		
G.W(kg)		18(2pcs)	20.5(1pc)	23(1pc)	25.9(1pc)	27.4(1pc)	29.5(1pc)



UPS With MPPT PV charge

FEATURES

- 1.LCD screen display
- 2.Built-in 20A MPPT charge controller
- 3.Built-in 15AAC charger
- 4.Rated power 1000W,Peak power 2000W
- 5.Built-in electric relay of bypass AC, True uninterruptable power supply
- 6.True sine waveform output, Input and output are completely independent
- 7.Conversion efficiency is up to 88% with power saving mode
- 8.Most competitive price ever
- 9.Multiple protections of Input reverse polarity/undervoltage/overvoltage/ short circuit/overload/over temperature



<<Hybrid High-frequency Photovoltaic Inverter

Technical Parameter

Model		SON-SUW1500VA
Built-in solar controller		500W Buck Type Control
Solar Panel SPECS		30V~120V 500W (Max)
External battery		24V 100Ah~150Ah
Capacity		1500VA
AC Input	Voltage	AC180~240V
	Frequency	50Hz±10%
DC Entered	Voltage	DC24V
	Low Voltage	DC20V
	Over Voltage	DC29V
AC Output	Voltage	AC220V±5% (DC) 190-240V (AC)
	Power	1000W
	Frequency	50±0.5Hz (DC) Synchronization Mains (AC)
	waveform	Sine Wave
	Efficiency	88% (DC TO AC)
Charging Time	Charging	Maximum charging current 15A
	Charging	8~15 Hours 90%
Conversion Time		≤6ms
Protection		Overload Protection, Short Circuit Protection, High Voltage Protection and low Voltage Protection
Alarm		When the battery voltage close to the critical point, the alarm changed
Environment	Noise	≤45dB
	Temperature	0°C±40°C
	Humidity	10%±90%
Dimensions		475.5*178*83.5mm

SON-SUW1500VA



SON-1400VA



SON-1400MPPT



FPC-T1800CA



Led + LCD colorful display

Technical Parameter

Model		SON - 1400VA	MPPT-1400VA	FPC-T1800CA
Capacity	VA/W	1400VA/800W	1400VA/800w	1800VA/900w
Battery	VDC	12VDC		
	Voltage	230VAC		
Input	Nominal Voltage	230V		
	Voltage Range	170-280VAC(Narrow Range) 90-280VAC(Wide Range)		
Output	Voltage Regulation (Bat.Mode)	+10%~~18%		
	Frequency	50HZ or 60 HZ		
	Frequency Regulation (Bat.Mode)	+/-1HZ		
	Output waveform	Modified sine wave		Pure Sine Wave
Battery&charger	charger current	15Amp or 20Amp Selectable ±2A	/	20A
	Solar controller	PWM 30A	MPPT 30A	PWM 30A
	Overvoltage protection	15V		
Transfertime	Typical	<15ms		
Protection	Full protection	Discharge,overcharge,overload, over temperature		
Efficiency	AC TO AC	>95%		
	DC TO AC	>80%		
Display indicator	AC Mode	Display output power,output voltage		
	Battery Mode	The mark will flicker every 1 second		
	Battery charging Mode	Display the battery capacity		
	Fault	Display fault		
Audible alarm	Low battery at battery mode	Sounding every 2 seconds		
	Overload	Sounding every 0.5 seconds		
	Fault	Continuously sounding	Display fault	
Environment	operationg environment	0-50°C,5%-90% relative humidity(non-condensing)		
	storage environment	-15 to55,5% to 95% humidity(non-condensing)		
	Noise Level	Less than 50dB		
Protection	Full protection	Discharge,overcharge, overload,over temperature		
Physical	Dimension(mm)	277*64.3*91.5mm	542×200×420mm	
	Weight(KG)	2.4 kg	7kg	

FEATURES

- 1.Auto switch to inverter output/mains supply acc to the AC voltage range (<15ms)
- 2.Input voltage range of mains: 170V-280V or 90V-280V
- 3.Auto identification of output frequency:50Hz or 60Hz
- 4.LCD+LED screen display(Output power, Output voltage, battery capacity)
- 5.Overcharge protection, Overload protection, Over-voltage protection, Short circuit protection, Low battery protection

Range of application



PC



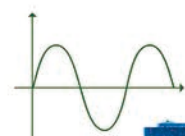
TV



Light



Electric fan

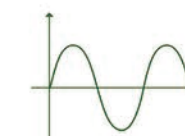


USB Interface

Technical Parameter

GTI-F300BT

Model	GTI-F300BT
Output power	MAX: 250W
Specs of solar panel	Vmp:35-39V ; Voc:42-45V
Power of solar panel	300W
MPPT voltage range	30-40V
AC voltage range	190~260V/110~120V
Mains voltage frequency range	50Hz±1% /60Hz
Power factor	>97.5%
MPPT efficiency	>99%
THD (total harmonic distortion)	<5%
Phase shift	<2%
Conversion efficiency	>87%
Maximum efficiency	>90%
Protective functions	Mains over-voltage protection, low-voltage protection, High input voltage protection, High temperature protection, Anti-islanding protection, frequency protection.
Display properties	PC display mode via communication protocol
Operating temperature	-20℃~45℃
Waterproof level	Ip67
Stand-by power consumption	2~3W

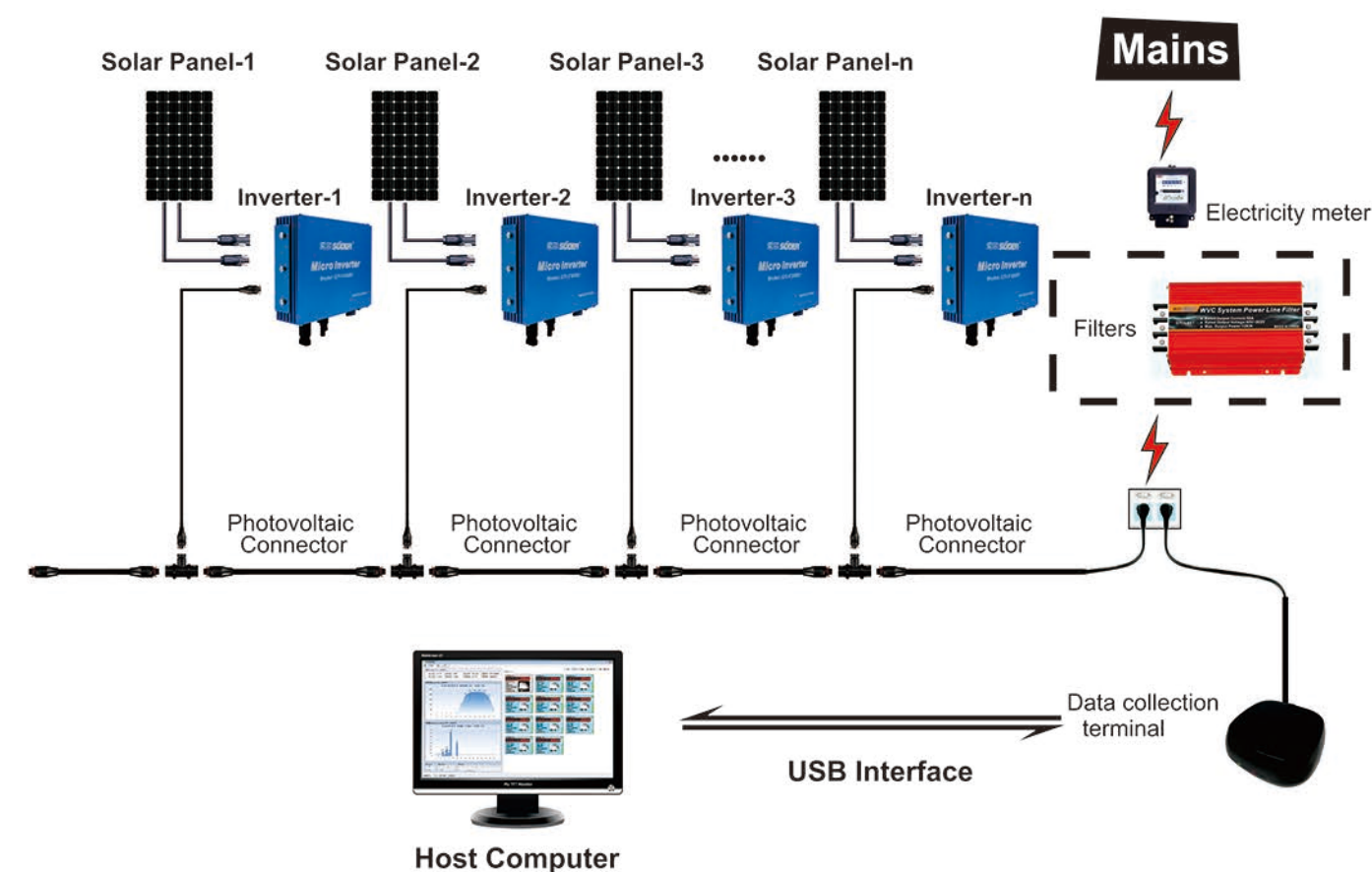


FEATURES

1. Grid-connected photovoltaic power generation technology, Green and environmental protection.
2. Micro inverter technology, independent component, MPPT control technology, efficient power generation.
3. PLC power carrier wave communication module, real-time data acquisition.
5. Compact size and light weight, can directly connected to the mains.
5. Multiple protection: Mains over-voltage protection, low-voltage protection, High input voltage protection, High temperature protection, Anti-islanding protection, frequency protection

<<Waterproof Ip67/green Energy>>

Installation instruction of GTI series products





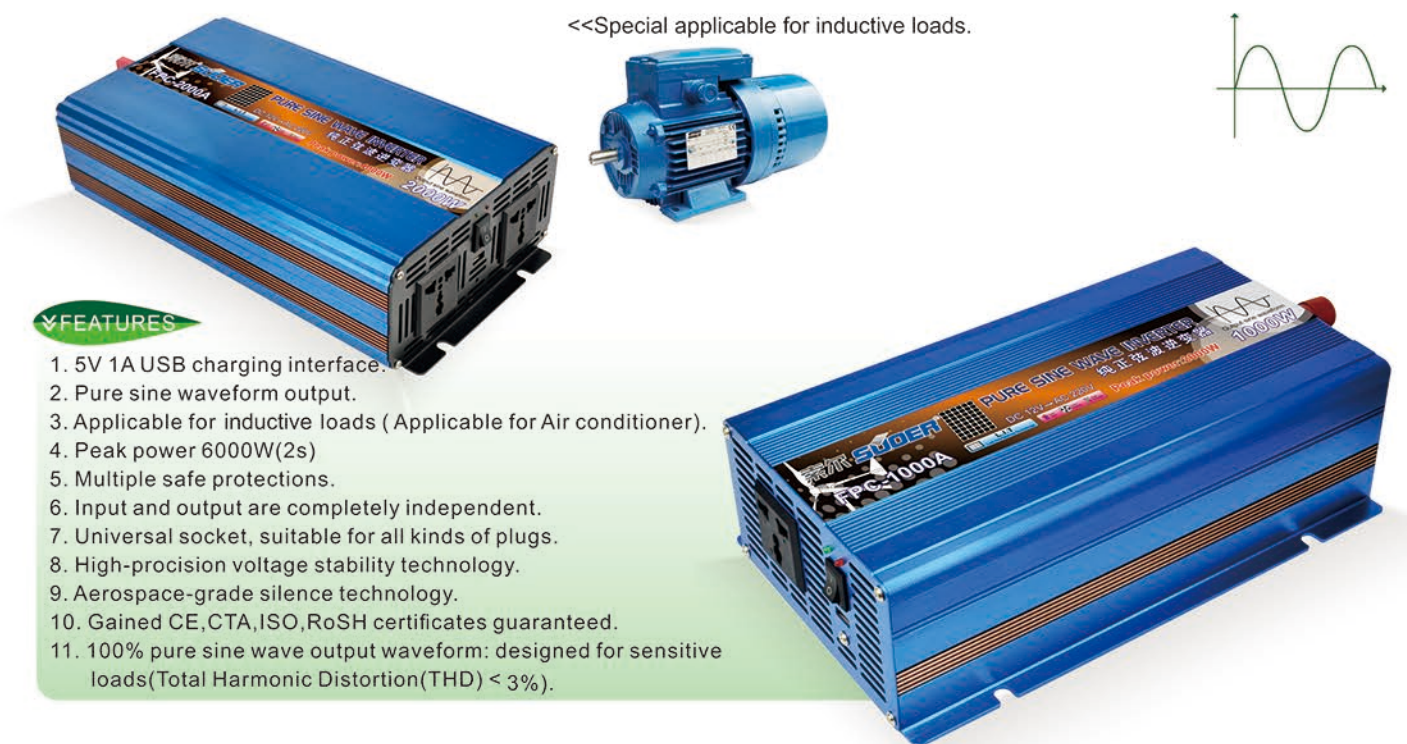
FEATURES

1. Compatible with Multi-parallel inverters
2. Anti-islanding protection, frequency protection
3. Adopt specialized wiring terminal, greatly improve reliability and safety performance
4. Small power grid-tie inverter can be paralleled to obtain large power output
5. Low standby power consumption, high conversion efficiency
6. Cooling fan is controlled and regulated by load power and temperature.
7. Intelligent MPPT charge technology
8. Multiple inverters are compatible in the circuit in parallel, small power inverters can provide high power output.

Technical Parameter

GTI-D-series

Model	GTI-D1000B	GTI-D600B	GTI-D300B
Output Power	1000W	600W	300W
Solar Panel	Vmp:35-39V, Voc:42-45V		
MPPT Voltage Range	30-40V		
AC Voltage Range	190-260V		
Voltage Frequency	50HZ±1%		
Power factor	>97.5%		
MPPT Efficiency	>99%		
Total Harmonic	<5%		
Phase Shift	<2%		
Conversion Efficiency	>85%	>86%	>87%
Maximum Efficiency	>89%	>89%	>90%
Operating	-20°C-45°C		
Waterproof Rate	Interior Design		
Cooling Mode	Intelligent design of the electric fan control system		
Standby Power Loss	2-3W		
Product Size	257*195*88.5mm	210*195*88.5mm	180*195*88.5mm



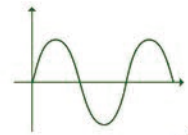
FEATURES

1. 5V 1A USB charging interface.
2. Pure sine waveform output.
3. Applicable for inductive loads (Applicable for Air conditioner).
4. Peak power 6000W(2s)
5. Multiple safe protections.
6. Input and output are completely independent.
7. Universal socket, suitable for all kinds of plugs.
8. High-precision voltage stability technology.
9. Aerospace-grade silence technology.
10. Gained CE,CTA,ISO,RoSH certificates guaranteed.
11. 100% pure sine wave output waveform: designed for sensitive loads(Total Harmonic Distortion(THD) < 3%).

Technical Parameter

FPC-series

Model	FPC-300A	FPC-500A	FPC-1000A	FPC-1500A	FPC-2500A	FPC-2500B	FPC-3000A	FPC-3000B
Peak power	600W(1S)	1000W(1S)	2000W(1S)	2000W(1S)	5000W(1S)			
Rated power	300W	500W	1000W	1500W	2500W			
Output waveform	Pure sine wave		Pure sine wave		Pure sine wave			
Output voltage	220V/230±5V		220V/230±5V		220V/230±5V			
Harmonic distortion	<3%(Impedance load)		<3%(Impedance load)		<3%(Impedance load)			
Output frequency	50Hz(or 60Hz)		50Hz(or 60Hz)		50Hz(or 60Hz)			
Standby current	<0.8A	<0.1A	0.9A	0.9A	0.9A	0.7A	0.9A	0.7A
Conversion efficiency	80%~85%		Maximum94%	80%~85%	Maximum 94%			
Rated voltage	12V	12V	12V	12V	12V	24V	12V	24V
Maximum input current	32A	52A	120A	120A	250A	125A	300A	150A
Input voltage range	9V-16V	9V-16V	9V-16V	9V-16V	9V-16V	18V-32V	9V-16V	18V-32V
Under voltage protection	9V±0.5V	9V±0.5V	9V±0.5V	9V±0.5V	9V±0.5V	19.9V±0.2V	9V±0.5V	19.9V±0.2V
Under voltage tip	10.2V±0.5V	10.2V±0.5V	10.2V±0.5V	10.2V±0.5V	10.2V±0.5V	20.9V±0.2V	10.2V±0.5V	20.9V±0.2V
Under pressure recovery	12.5V±0.5V	12.5V±0.5V	12.5V±0.5V	12.5V±0.5V	12.5V±0.5V	24.7V±0.2V	12.5V±0.5V	24.7V±0.2V
Over voltage protection	15V±0.5V	15V±0.5V	15V±0.5V	15V±0.5V	15V±0.5V	30.2V±0.2V	15V±0.5V	30.2V±0.2V
Over voltage recovery	14.8V±0.5V	14.8V±0.5V	14.8V±0.5V	14.8V±0.5V	14.8V±0.5V	29.8V±0.2V	14.8V±0.5V	29.8V±0.2V
High temperature protection	Buzzer/LED warning		Buzzer/LED warning		Buzzer/LED warning			
Output short circuit protection	Buzzer/LED warning		Buzzer/LED warning		Buzzer/LED warning			
Output overload	Smart control		Smart control		Smart control			
Load power factor	0.98		0.98		0.98			
USB Output	5V 1A		5V 1A		5V 1A			
Battery reverse protection	Fuse protection		Fuse protection		Fuse protection			
Cooling way	Temperature control		Temperature control		Temperature control			
Working temperature	-20~60°C		-20~60°C		-20~60°C degrees celsius			
Storage temperature	-20~80°C		-20~80°C		-20~80°C degrees celsius			
Working humidity	10~90% (No condensation)		10~90% (No condensation)		(10~90% No condensation)			
Product size(mm)	200×94×55	225×94×55	325x180x85	445×395×325	405x180x85		470x180x85	
N.W/G.W(KG)	0.69	0.84	2.77		4.77		5.33	



New

>>FPC-D3000A/B FPC-D4000A/B

>>FPC-D1500A/B FPC-D2000A/B

FEATURES

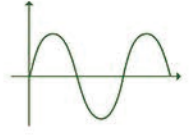
1. Perfect sine waveform output, input and output are completely independent.
2. Adopt new safe connecting terminal
3. LED screen display shows full working condition
4. Special designed for inductive loads such as 1hp A/C
5. Excellent loading capacity running small power sensitive electric appliances
6. 2 USB charging Ports 5V 1.2A/2.1A
7. Conversion efficiency is up to 94%
8. Built-in RS 485 communication controller(Optional)



Technical Parameter

FPC-D-series

Model	FPC-D1000A	FPC-D1500A	FPC-D2000A	FPC-D2000B	FPC-D3000A	FPC-D3000B	FPC-D4000A	FPC-D4000B
Peak Power	2000W	2500W	3000W	3000W	4500W	4500W	5000W	5000W
Rated Power	1000W	1500W	2000W	2000W	3000W	3000W	4000W	4000W
Output Waveform	Pure Sine Wave							
Output Voltage	220V/230V±5V							
Harmonic distortion	<3%(Impedance load)							
Standby current	<1.5A	<1.3A	<1.3A	<1.3A	<2A	<1A	<2A	<1A
Conversion efficiency	Maximum 94%							
Rated Voltage	12V	12V	12V	24V	12V	24V	12V	24V
Maximum input current	200A	250A	150A	150A	300A	150A	380A	190A
Input Voltage Range	10-15V	20-32V	20-32V	20-32V	10V-16V	20V-32V	10V-16V	20V-31V
Under voltage protection	10V	20V	20V	20V	10V	20V	10V	20V
Under voltage tip	10.5V	21V	21V	21V	10.5V	21V	10.5V	21V
Under pressure recovery	12.3V	24.6V	24.6V	24.6V	12.3V	24.6V	12.3V	24.6V
Over voltage protection	15.5V	31V	31V	31V	15.5V	31V	15.5V	31V
Over voltage recovery	15V	30V	30V	30V	15V	30V	15V	30V
High temperature protection	95°C							
Output short circuit protection	Yes							
Output overload	Intelligent Protection							
Load power factor	0.98							
USB Output	5V 3Amax							
Battery reverse protection	Fuse protection							
Cooling way	Intelligent fan							
Working temperature	-20-60°C							
Storage temperature	-20-80°C							
Working humidity	10-90%(No condensation)							
Product Size	210*127*67	386*205*100	425*205*100mm	425*205*100mm	388*260*100mm	388*260*100mm	438*260*100mm	438*260*100mm



New



FEATURES

1. Multiple AC output sockets(European standard socket/Universal socket/Terminal output)
2. Perfect sine waveform output
3. Applicable for 11000-22500 BTU/H air-conditioner
4. Double USB charging interface 5V 1A/2A
5. LED screen display
6. Designed for high-power inductive loads
7. Built-in RS 485 communication controller(Optional)



Technical Parameter

FPC-D-series

	output					input								
MODEL	output voltage	output power	Peak power	USB output	frequency	No-load power	Working voltage	Voltage range	Alarm voltage	Low voltage protection	Over voltage protection	maximum efficiency	Product size	weight
FPC-D5000B	AC 230V	5000W	6000W	5V/3A	50Hz	35W	24V	20V~31V	21V	20V	31V	>90%	510X275X285mm	13.5kg
FPC-D6000B	AC 230V	6000W	7200W	5V/3A	50Hz	35W	24V	20V~31V	21V	20V	31V	>90%	510X275X285mm	13.5kg
FPC-D5000F	AC 230V	5000W	6000W	5V/3A	50Hz	35W	48V	40-60V	42V	40V	63V	>90%	510X275X285mm	13.5kg
FPC-D6000F	AC 230V	6000W	7200W	5V/3A	50Hz	35W	48V	40-60V	42V	40V	63V	>90%	510X275X285mm	13.5kg



FEATURES

1. DC 12V/24V to AC 220V 500W to 4000W
2. LED screen display
3. Applicable for refrigerator
4. Built-in 5V 1A USB charging interface
5. Advanced modified sine waveform output, can run some inductive loads smoothly
6. Accessories: Cigarette lighter or connecting lips is optional

Range of application



Technical Parameter

STA-series

Model		STA-500A	STA-1000A	STA-1500A	STA-2000A	STA-2000B	STA-3000A	STA-3000B	STA-4000A	STA-4000B
Output	Output voltage	AC230V(110V)								
	Rated power	400W	650W	1000W	1500W	1500W	2000W	2000W	2500W	2500W
	Peak power	500W	1000W	1500W	2000W	2000W	3000W	3000W	4000W	4000W
	Frequency	50Hz	50Hz	50Hz	50Hz	50Hz	50Hz	50Hz	50Hz	50Hz
	USB	DC 5V 1A	DC 5V 1A	DC 5V 1A	DC 5V 1A	DC 5V 1A	DC 5V 1A	DC 5V 1A	DC 5V 1A	DC 5V 1A
Input	No-load current	<0.3A	<0.5A	<0.5A	<0.5A	<0.3A	<1	<1	<2.5	<2.5
	working voltage	DC 12V	DC 12V	DC 12V	DC 12V	DC 24V	DC 12V	DC 24V	DC 12V	DC 24V
	Voltage range	10.5-15V	10.5-15V	10.5-15V	10.5-15V	21-30V	10.5-15V	21-30V	10.5-15V	21-30V
	Alarm voltage	10.5V	10.5V	10.5V	10.5V	21V	10V	20.5V	10V	20.5V
	Low-voltage protection	10V	10V	10V	10V	20.5V	10V	20.5V	10V	20.5V
	Overvoltage protection	16V	16V	16V	16V	31V	16V	31V	16V	31V
	Efficiency	70%~80%								
Size		18*11.2*5.5CM	22.5*11.2*5.5CM	24.5*12.5*7.5CM	32*18*8.5CM		36*18*8.5CM		39.8*19.5*8.8CM	
G.W.		0.56KG	0.81KG	1.37KG	2.47KG		2.47KG		4.88KG	



FEATURES

1. Built-in 10A charger (SAA-500C/1000C)
2. Reverse connecting protection
3. 5V 1A USB charging interface
4. Inverter and charger can work independent noninterference
5. Modified sine waveform output



Technical Parameter

SAA-series

Model	SAA-500A	SAA-1000A	SAA-500AF	SAA-1000AF
Input voltage	12V		10V-15V	
Output voltage	220V-240V		220V AC	
Rated power	500W	1000W	500W	1000W
Peak power	1000W	2000W	1000W	2000W
Efficiency	>70%			
Protections	Overload protection, Input over-voltage protection, Input low-voltage protection, Over-temperature protection		Overload protection, Input over-voltage protection, Input low-voltage protection, Over-temperature protection, Battery Reverse protection	
Dimension(mm)	160x95x55	200x95x55	160*95*55mm	200*95*55mm
N.W.(KG)	0.8	1.03	0.8kg	1.03kg
Packed QTY(PCS)	20			
Certifications	ISO,CTA,CE			



Smart fan



USB Interface



Multiple protections



Low power consumption during no-load



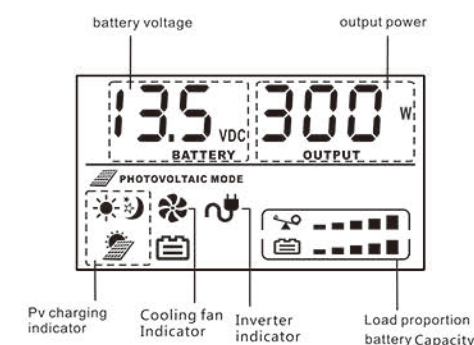
FEATURES

- 1.5V 1A USB Interface
- Modified Sine Waveform Output
- New connecting terminal screws
- Built-in 20A charger
- Most Competitive price ever

Technical Parameter

SUA-series

Model	Output Voltage	Output Power	Peak Power	Frequency	No-load Current	Working Volt	Voltage Range	Efficiency	Product Size (CM)	Weight (KG)
SUA-2000A	AC220V(AC110V)	2000w	4000w	50Hz	<0.3A	DC12V	10.5-15V	85%~90%	24*9.5*5.5	0.9
SUA-2000C	220V-230V	2000w	4000w	50Hz	<0.3A	DC12V	10.5-15V	85%~90%	24*9.5*5.5	0.9
SUA-2000AF	AC230V	2000w	4000w	50Hz	<0.3A	DC12V	10.5-15V	85%~90%	24*9.5*5.5	0.9
SUA-3000A	AC220V(AC110V)	3000w	6000w	50Hz	<0.3A	DC12V	10.5-15V	85%~90%	23*12.7*6.7	1.15



FEATURES

- Built-in solar charge controller 20A
- Adopt auto PV-charging control system
- 3.0" LED screen display
- Battery reverse connecting protection, etc
- Universal socket, suitable for all kinds of plugs
- Modified sine waveform output
- Applicable for resistive AC loads

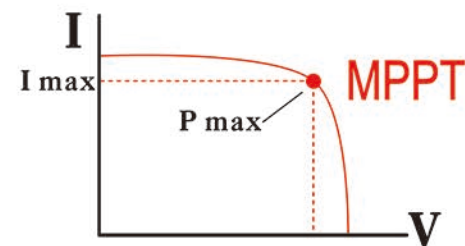


Technical Parameter

SUS-series

Model	SUS-500A	SUS-1000A
Solar controller	12V/10A PWM	12V/10A PWM
Solar panel	100-150W/18V	100-200W/18V
External battery	12V	12V
USB output	5V 1A	5V 1A
Output USB interface	5.0+/-0.3V	5.0+/-0.3V
Output voltage	AC 220V+/-5%	AC 220V+/-5%
Rated output power	350W	600W
Peak power	500W	1000W
No load current	<0.5A	<0.5A
DC input voltage	9.7V DC-15.5V DC	9.7V DC-15.5V DC
Output frequency	50+/-3HZ	50+/-3HZ
Conversion efficiency	70%~80%	70%~80%
High voltage cut-off protection	15V+/-0.5V	15V+/-0.5V
Low voltage alarm	11.2V+/-0.3V	11.2V+/-0.3V
Low voltage cut-off protection	10V+/-0.3V	10V+/-0.3V
Overload/short circuit protection	Yes	Yes
Output waveform	Modified sine wave	Modified sine wave
Cooling mode	Fan cooler	Fan cooler
Operating temperature	-20°C~+70°C	-20°C~+70°C
Relative humidity	<90%RH	<90%RH





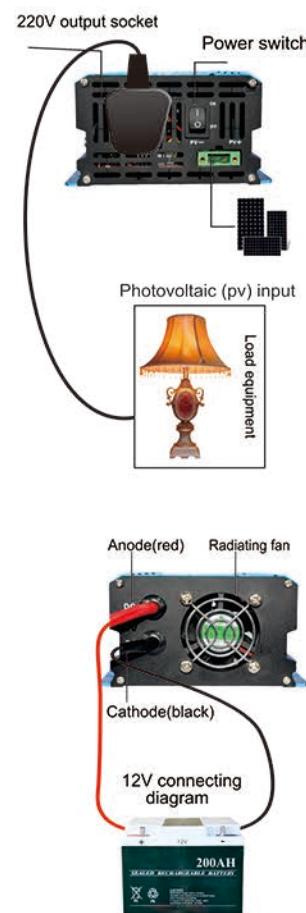
✓FEATURES

1. Built-in MPPT solar charge controller 600W (Solar input voltage:18V-45V)
2. LED screen display.
3. Adopt advanced 32 Bit processor MCU control system
4. Universal socket, suitable for all kinds of plugs
5. Modified sine waveform output
6. Applicable for resistive AC loads
7. Battery reverse connecting protection,etc

Technical Parameter

SUS-series

Model	SUS-1500A
Solar controller	600W MPPT
Solar panel	100-150W/18V
External battery	12V 100Ah~200Ah
MPPT input voltage range	18V ~ 45V
USB output interface	5V 1A
Solar charging voltage	14.3V
Output voltage	AC 220V±5%
Rated power	800W
No-load current	<0.8A
DC input voltage	9.7V DC-15.5V DC
Output frequency	50Hz ±3Hz
Conversion efficiency	> 88%
High voltage cut-off protection	15V ± 0.5V
Low voltage alarm	10.2V+0.3V
Low voltage cut-off protection	10V + 0.3V
Overload/short circuit protection	Yes
Output waveform	Modified Sine Wave
Cooling mode	Fan cooler
Operating temperature	-20°C 40°C @100%load/ 60°C @60% load
Relative humidity	<90%RH
Size/PC	230X127X67mm
Weight/PC	1.5Kg



MHFamily :MH-1210A/MH-1220A/MH-1230A

✓FEATURES

1. Car Engine start function(10s)
2. Battery autofix feature
3. LCD screen display(Charging time, Temperature, Charging current/voltage, Battery capacity)
4. Adjustable charging current 4A/8A/12A/20A/30A/40A
5. Reverse connecting protection
6. Three phase charging mode
7. OEM & ODM are acceptable



Technical Parameter

MH-series

Model	MH-1210A	MH-1220A	MH-1230A	MH-1240A
Input Voltage	180V/240V	180V/240V	180V/240V	180V/240V
Apply to the battery voltage (DC)	12V	12V	12V	12V
Maximum charge voltage	15.5V	15V	15V	15V
Maximum Charger Current	10A	20A	30A	40A
Display method	Digital	Digital	Digital	Digital
AC Input Frequency	47~63HZ	47~63HZ	47~63HZ	47~63HZ
Charging mode	Three-phase	Three-phase	Three-phase	Three-phase
Full load efficiency	>90%	>90%	>90%	>90%
Dimensions	153*96*55MM	183*96*55MM	188*128*68MM	235*128*68MM
N.W/CTN	18.65KG	19.32KG	1.2KG	1.5KG
Packed QTY/CTN	20PCS	16PCS	20PCS	20PCS
Certification	ISO,CTA,CE			





FEATURES

1. Input voltage: 180V-240V @50Hz
2. Max output charging current: 4A/6A/10A/20A
3. Applicable for lead-acid battery(15.2V), maintenance-free battery(14.7V), gel battery(13.7V)
4. Output DC voltage can be manually regulated(15.2V, 14.7V, 13.7V)
5. Charging current can be manually regulated, DC-W1210A(3A-10A) /DC-W1220A(6A-20A)(Only available in >DC-W1210A)
6. LCD screen display

Technical Parameter

DC-W-series

Model	DC-W1204A	DC-W1206A	DC-W1210A	DC-W1220A
Input Voltage	100V-260V	100V-260V	100V-260V	100V-260V
Apply to the battery voltage (DC)	12V	12V	12V	12V
Maximum charge voltage	15.3V;14.7V;14.3V;12V	15.3V;14.7V;14.3V;12V	15.3V;14.7V;14.3V;12V	15.3V;14.7V;14.3V;12V
Maximum Charger Current	4A	6A	10A	20A
Display method	LCD	LCD	LCD	LCD
AC Input Frequency	47~63HZ	47~63HZ	47~63HZ	47~63HZ
Charging mode	Four-phase	Four-phase	Four-phase	Four-phase
Full load efficiency	>90%	>90%	>90%	>90%
Dimensions	186*105*30.8MM	186*105*30.8MM	200*97*59MM	265*97*59MM
N.W/CTN	17.18KG	18KG	0.62KG	1.05KG
Packed QTY/CTN	30PCS	30PCS	20PCS	20PCS
Certification	ISO,CTA,CE			



DC-W Family :DC-W1204A/DC-W1206A



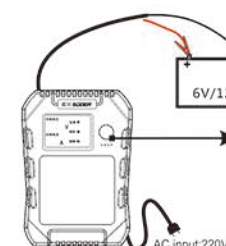
DC-W Family:DC-W1220A

FEATURES

1. Automatic identification of 12V/24V battery
2. Max charging current 8A
3. Three phase charging mode
4. Reverse connecting protection, overcharge protection, short circuit protection
5. Adjustable charging current: 2A, 4A, 7A
6. No sparks when connecting the battery
7. OEM & ODM are acceptable



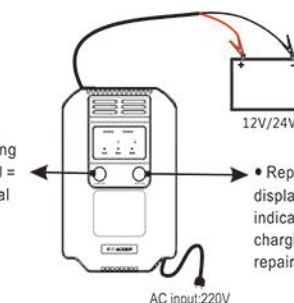
>> A02-1224B >>



- Capacity selection / repair switch: Short pressing for electric current selection (OU=1A, OU=2A, OU=4A, OU=6.9A, OU=AU fully-automatic charge); press 3 seconds for opening the repair function (display RE = ON); repair indicator light is often said to start repairing charge, press 3 seconds again for closing the repair function (display RE=OF); when the charger is in the mode of repairing, short press can also turn to repair electric current, repair time is 90 minutes.



>> A02-1224A >>



- Manual operation/automatic charging options: by volume selection key: OU = 2A slow charge, OU = 4A conventional charge, OU = 6.9A fast charge, automatic charge.

- Repair Charge: Press Repair to display RE = ON means open repair, indicator light indicates repair start charging, RE = OF means closed repair (Repair time is 90 minutes).



>> A01-0612A >>

Technical Parameter

A01/A02-series

Model	A02-1224A	A02-1224B	A01-0612A
Input Voltage	170V-250V	170V-250V	170V-250V
Apply to the battery voltage (DC)	12V / 24V (automatic recognition)		6V / 12V Adaptive
Charge Current	2A, 4A, 6.9A	2A, 4A, 6.9A	2A, 4A, 6.9A or Automatic
AC Input Frequency	50HZ	50HZ	50HZ
Charging mode	Three-phase	Three-phase	Three-phase
Full load efficiency	≥87%	≥87%	≥87%
Dimensions/CTN	540*420*460MM	540*420*460MM	490*370*380MM
N.W/CTN	26.2KG	26.2KG	
Packed QTY/CTN	20 PCS	20 PCS	
Certification	ISO,CTA,CE		

FEATURES

- Omni-directional battery protection functions.
- The power will be turned off automatically when the battery gets fully charged.
- Three-phase charging mode makes it charge quickly.
- Reverse connect protection and short circuit protection.
- It can judge whether there is a battery, and will shut down automatically if there is no one.
- No spark appears when connecting, very safe.
- Hanging style design makes it easy to install.



Similar models: SON-1203B / SON-1205B



>> SON-1210D+ >>



FEATURES

1. Max charging current:5-6A
2. Rated input voltage:110-240V
3. Adopt PWM charging mode, auto stop charging when the battery gets fully charged
4. Charging voltage/Battery capacity/Charging current LCD real-time display
5. Auto battery detection
6. Applicable for gel battery, lead-acid battery and maintenance-free battery
7. Prevent battery from losing liquid (Low battery dehydration rate)

Technical Parameter

SON-series

Model	SON-1203B	SON-1205B	SON-1206D	SON-1210D+
Input Voltage	180V-230V	180V-230V	110-250V	110-250V
Apply to the battery voltage (DC)	12V	12V	12V	12V
Maximum charge voltage	15.3V	15.3V	15V	15V
Maximum Charger Current	3A	5A	6A	10A
Display method	indicator light	indicator light	LED digital tube	LED digital tube
AC Input Frequency	47~63HZ	47~63HZ	47~63HZ	47~63HZ
Charging mode	Three-phase	Four-phase	Three-phase	Three-phase
Full load efficiency	>90%	>90%	>90%	>90%
Dimensions	150*85*55mm	150*85*55mm	168*78*62MM	168*78*62MM
N.W/CTN	17.1kg	20.4kg	20.7kg	29.2kg
Packed QTY/CTN	60PCS	60PCS	50PCS	50PCS
Certification	ISO,CTA,CE			

FEATURES

1. Adopt PWM three-step fast charging mode
2. Applicable for 48V/60V/72V electric vehicles: Electric tricycles, electric cars, Electric lift trucks, Electric pallet trucks, Forklift trucks, Golf carts, Electric sightseeing cars, Electric tour buses and electric cars, and small generator set, etc.
3. Input voltage AC 220V±20%
4. LED screen displays voltage out, current, capacity, parameter and status.
5. Output charging current: 48V/13A, 60V/11A, 72V/9A



Technical Parameter

SON-series

Model	SON-4880D	SON-6080D	SON-7280D
Input Voltage	190V-250V	190V-250V	190V-250V
Apply to the battery voltage (DC)	48V	60V	72V
Maximum charge voltage	60V	75V	90V
Maximum Charge Current	9A	7A	6A
Display method	Digital tube lights	Digital tube lights	Digital tube lights
AC Input Frequency	47~63HZ	47~63HZ	47~63HZ
Charging mode	Three-phase	Three-phase	Three-phase
Full load efficiency	>90%	>90%	>90%
Dimensions	565*440*320mm	565*440*320mm	565*440*320mm
N.W/CTN	19.2kg	19.8kg	19.8kg
Packed QTY/CTN	20PCS	20PCS	20PCS
Certification	ISO,CTA,CE		



Similar models: MA-1210AS



Similar models: MA-1220AS



Similar models: MA-1230A

Technical Parameter

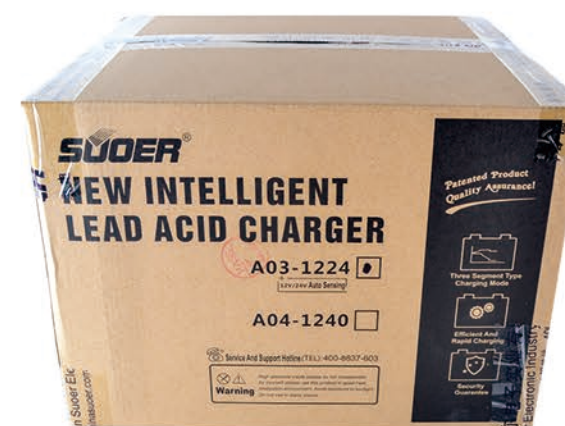
MA-series

Model	MA-1210AS	MA-1220AS	MA-1230A
Input Voltage	220V/240V	220V/240V	220V/240V
Apply to the battery voltage (DC)	12V	12V	12V
Maximum charge voltage	15.5V	15V	15V
Maximum Charger Current	10A	20A	30A
AC Input Frequency	47~63HZ	47~63HZ	47~63HZ
Charging mode	Three-phase	Three-phase	Three-phase
Full load efficiency	>90%	>90%	>90%
Dimensions	460*300*330mm	505*345*440mm	475*335*380mm
N.W/CTN	11.1KG	19.48KG	19KG
Packed QTY/CTN	20PCS	16PCS	12PCS
Certification	ISO,CTA,CE		

FEATURES

1. PWM fast charging mode
2. LED display
3. MCU Control management system
4. Auto battery voltage identification
5. Light control mode, Time control mode
6. Reverse connecting protection
7. Hanging style design makes it convenient to install
8. Water-proof, Moisture-proof, Dust-proof
9. Special design for streetlamps

>>A03-1224>>



FEATURES

1. Input voltage: 170V-250V
2. Adjustable charging current: 3-30A
3. Auto identification of 12V/24V battery
4. Three phase charging mode
5. Battery repaired technology

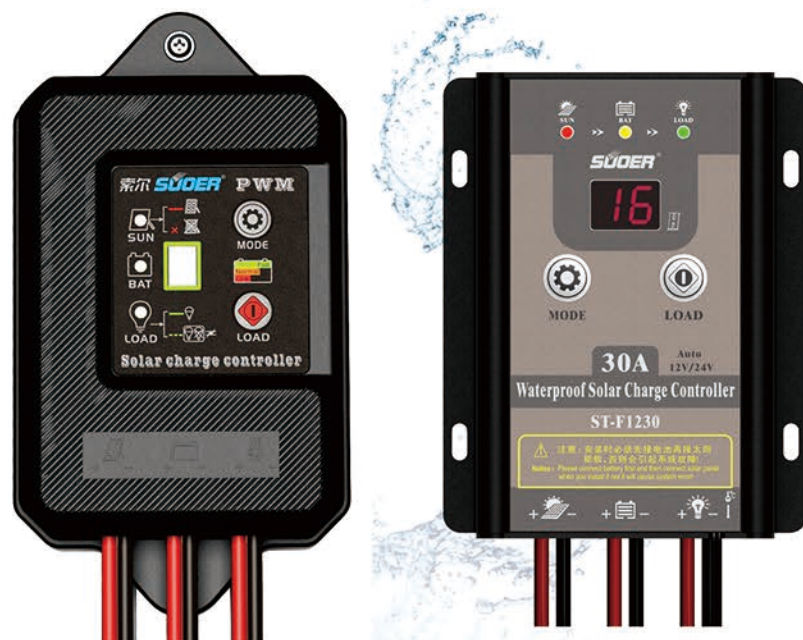
Technical Parameter

A03-series

Model	A03-1224
Charging current	3-30A
Applicable battery voltage (DC)	12V/24V adaptive
Rated input voltage (AC)	170V-250V
Rated frequency	50Hz
Full load efficiency	>87%
Mechanical shock and quake-proof degree	Agree with the SAEJ1378 requirements.
Temperature range	-40~ + 90°C



>>> IP67 waterproof level controller,aging-resistance,corrosion resistance.



FEATURES

1. PWM fast charging mode
2. LED display
3. MCU Control management system
4. Auto battery voltage identification
5. Light control mode, Time control mode
6. Reverse connecting protection
7. Hanging style design makes it convenient to install
8. Water-proof, Moisture-proof, Dust-proof
9. Special design for streetlamps

>Same Product Shell:ST-F1205/ST-F1210 >Same Product Shell:ST-F1220/ST-F1230

Technical Parameter

ST-F-series

Model	ST-F1205	ST-F1210	ST-F1220	ST-F1230
voltage range of solar panel	15V-40V		18V-24V	
			36V-48V	
Battery voltage	12V-24V		12V/24V	
Max output current	5A	10A	20A	30A
Max charging current	5A	10A	24A	35A
Recommended solar panel power	12V(40W)	12V(80W)	12V(200W)	12V(300W)
	24V(80W)	24V(160W)	24V(400W)	24V(600W)
Battery capacity	24AH	60AH	120AH	180AH
Overload current protection	30s		30s	
Waterproof Level	Ip67		Ip67	
System standby power consumption	<10MA		<20MA	
Size(mm)	74x24.2x141		108x100x30	128x100x30



Double USB output(5V2.1A)



FEATURES

1. Clock timing function
2. Built-in two 5V 2.1A USB interfaces
3. Extreme Low Power Consumption
4. Built-in IR self-learning infrared remote control to turn the DC loads on and off
5. LCD Display with backlight
6. Adjustable charging voltage(Low:14.2V, Default:14.5V,High:15.2V)
7. Light control mode, Time control mode
8. Reverse protection, short circuit protection
9. Designed for 12V/24V solar power system
10. Hanging style design makes it convenient to install
11. Available in 10A/20A/30A/40A
12. Simple options, automatic memory retention of users' settings

>Same Product Color:ST-C1220/ST-C1230/ST-C1250

>Same Product Color:ST-C1210/ST-C1240/ST-C1260

Technical Parameter

ST-C-series

Model	ST-C1210	ST-C1220	ST-C1230	ST-C1240	ST-C1250	ST-C1260
To adapt to the battery	12V/24V,battery<16V:12V,Battery>18V:24V					
Maximum charging voltage	12V:18-24V Standard specifications solar panels(24V battery*2)					
Maximum charging current	10A	20A	30A	40A	50A	60A
The largest output current	12A	24A	35A	45A	55A	65A
Maximum charging voltage	Convenient switch:(24V Battery *2,Parameters can adjust in the Settings menu) Set 1:Low: 14.2V(28.4V),Gel battery(Default Option) Set 2:Default:14.5V(29V)(Conventional lead-acid batteries) Set 3:High: 15.2V(30.4V) (Liquid lead-acid battery)					
Low voltage protection voltage	10.5V(24 battery*2,Parameters can adjust in the Settings menu)					
Low pressure recovery voltage	12.5V(24 battery*2,Parameters can adjust in the Settings menu)					
Load overload automatic recovery	30S					
Double USB output	5V 2.1A				No	
Load relating to open time	0-24 hours can choose					
Infrared remote control distance	>5m					



>> All model products are the same size >>



FEATURES

1. PWM charging mode
2. LCD display
3. Set real time clock
4. Auto voltage identification
5. Light control mode, Time control mode
6. Reverse connecting protection
7. Hanging style design makes it convenient to install
8. 2 USB charging interface(5V 1A)
9. 12V/24V/48V/60V

Technical Parameter

ST-W-series

Model	Category	ST-W1210	ST-W1220	ST-W1230
Adapt to battery voltage		12V/24V Battery		
Max current output		10A	20A	30A
Solar panel power		12V(90W)24V(180W)	12V(180W)24V(360W)	12V(270W)24V(540W)
Product size		125*86*33.5mm		

Model	Category	ST-W4810	ST-W4820	ST-W4830	ST-W6010	ST-W6020	ST-W6030
Adapt to battery voltage		48V Battery			60V Battery		
Max current output		10A	20A	30A	10A	20A	30A
Solar panel power		360W	720W	1000W	450W	900W	1250W
Product size		125*86*33.5mm					



>> All model products are the same size >>



FEATURES

1. PWM charging mode
2. LCD display
3. Set real time clock
4. Auto voltage identification
5. Light control mode, Time control mode
6. Reverse connecting protection
7. Hanging style design makes it convenient to install
8. 2 USB charging interface(5V 1A)
9. 12V/24V/48V/60V

Technical Parameter

ST-W-series

Model	Category	ST-W1240	ST-W1250	ST-W1260
Adapt to battery voltage		12V/24V Battery		
Max current output		40A	50A	60A
Solar panel power		12V(360W)24V(720W)	12V(450W)24V(900W)	12V(540W)24V(1080W)
Product size		200*173*63mm		

Model	Category	ST-W4840	ST-W4850	ST-W4860	ST-W6040	ST-W6050	ST-W6060
Adapt to battery voltage		48V Battery			60V Battery		
Max current output		40A	50A	60A	40A	50A	60A
Solar panel power		1440W	1800W	2160W	1800W	2250W	2700W
Product size		200*173*63mm					



>> All model products are the same size >>



FEATURES

- ◆MCU control
- ◆Load turns on work, LVR can be seted up
- ◆Overloading protection
- ◆Short circuit protection
- ◆Reverse polarity connection protection
- ◆Thunder and Lighting protection
- ◆Overdischarge protection
- ◆Overcharge protection

Technical Parameter

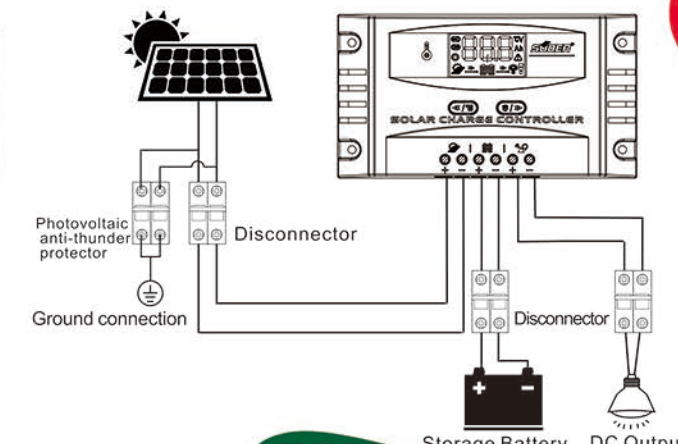
ST-G-series

	ST-G1205	ST-G1210	ST-G1215	ST-G1220	ST-G1230
Rated charging power	60W	120W	180W	240W	360W
Charging current rating	5A	10A	15A	20A	30A
Battery voltage	12V/24V				
Charging voltage	13.6V/27.2V				
Float charging voltage	13.8V/27.6V				
Discharge cut-off voltage	10.5V/21V				
Battery over-voltage protection	17V/34V				
Output protection	>1.25 times rated current 60s protection				
	>1.5 times rated current 5s protection				
	>3 times rated current straightway protection				
	>short circuit immediately protection				
Discharge cut-off current	10mA				
Standby loss	0.2mA				
Charging circuit pressure drop	≤0.26V				
Discharge circuit voltage drop	≤0.15V				
Charging control mode	PWM pulse width modulation				
Size(mm)	167x124x50				



ST-L Family:ST-L1210/ST-L1220/ST-L1230

<<Solar charging system connection diagram>>



FEATURES

- 1.Low Power Consumption
- 2.LCD screen display
- 3.Manual switch mode,Light control mode(Delay switch 1-23 hours),Pure optically control mode(Test mode)
- 4.Designed for 12V/24V solar power system
- 5.Available in 10A/20A/30A
- 6.Auto identification of system voltage
- 7.Overload Protection,Undervoltage Protection,Reverse protection,short circuit protection
- 8.Built-in charging current limiting protection

Technical Parameter

ST-L-series

Model	ST-L1210	ST-L1220	ST-L1230
Function	To adapt to the battery voltage		
To adapt to the battery voltage	To adapt to the battery:12V/24V(battery<6V:12V system battery>18V System)		
Maximum charging voltage	50V		
Maximum charging current	10A	20A	30A
Maximum output current	10A	20A	30A
Specifications of Recommended Solar Panel	12V:Open loop voltage 18-24V Standard specifications solar panels 150WX1 24V:Open loop voltage 36-48V Standard specifications solar panels 300WX1		
Numbers of Recommended Solar Panel	1 piece	Two pieces of parallel	Three parallel
Charging Mode	The three-phase PWM charge quickly		
Float charging voltage	Default 14V(24V Battery*2, Parameters can adjust in the Settings menu)		
Constant charging voltage	Default 14V+0.4V(24V Battery*2, Parameters can adjust in the Settings menu)		
Under-voltage protection voltage	Default 10.5V(24V Battery*2, Parameters can adjust in the Settings menu)		
Owe pressure recovery voltage	Default 12.5V, (24V Battery*2, Parameters can adjust in the Settings menu)		
Load overload automatic Recovery time	60S		
Double USB output	5V/2A		
Stand-by power consumption	< 20mA		
Operating temperature range	-20°C ~ 55°C		
Overall dimensions	168mm*92mm*39.5mm		
Installation of fixed size	152mm*60mm		
Product weight(G.W)	0.2kg	0.2kg	0.25kg



Technical parameter

SON-MPPT-series

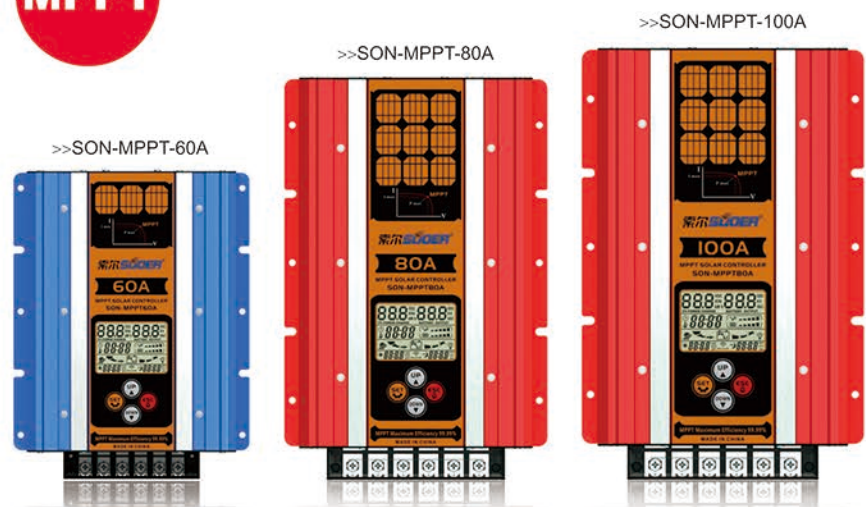
MPPT Solar controller	System/Voltage	SON-MPPT-10A	SON-MPPT-20A	SON-MPPT-30A	SON-MPPT-40A
charging mode	Maximum power point tracking automatically				
charging way	Three -phase:constant current ,constant voltage ,floating				
System type	DC12V/24V/48V	12V/24V	12V/24V	12V/24V/48V	12V/24V/48V
System identification of voltage	12v	DC9VDC15V			
	24v	DC18V-DC30V			
	48v			DC36V-DC60V	
Soft start time	12v/24v/48v	≤10s			
Response time to recover	12v/24v/48v	500us			
the machine efficiency	12v/24v/48v	≥96.5%,≤99%			
Photovoltaic utilization	12v/24v/48v	≥99%			
The input features					
MPPT working voltage and scope	12V	DC18V-90V		DC18V-DC150V	
	24V	DC34V-90V		DC34V-DC150V	
	48V			DC65V-DC150V	
The input low voltage protection	12V	DC16V			
	24V	DC30V			
	48V			DC60V	
The input low pressure recovery points	12V	DC22V			
	24V	DC34V			
	48V			DC65V	
Maximum input voltage	12v/24v/48v	DC95V		DC160V	
Input overvoltage protection	12v/24v/48v	DC90V		DC150V	
input overvoltage recovery points	12v/24v/48v	DC88V		DC145V	
The largest solar panels power input	12V	140W	290W	430W	570W
	24V	290W	580W	860W	11300W
	48V			1720W	2270W
The charging characteristics					
Battery types to choose from (the default for gel gel battery)	12v/24v/48v	Sealed Lead- Acid Battery,Opzs Battery,gel battery,nickel-cadmium batteries(customized for other types of battery charging)			
constant pressure voltage	12v/24v/48v	Refer to the battery type charging voltage meter.			
float charging voltage	12v/24v/48v				
The overcharger protection voltage	12V	14.6V			
	24V	29.2V			
	48V			58.4V	
The output current rating	12v/24v/48v	10A	20A	30A	40A
current limiting protection	12v/24v/48v	12A	22A	33A	44A
The temperature coefficient of	12v/24v/48v	± 0.02%/°C			
Automatic temperature compensation	12v/24v/48v	14.2v-(maximum temperature-25°C)*0.3			
Grain output voltage peak-peak	12v/24v/48v	200mV			
The output voltage accuracy	12v/24v/48v	≤±1.5%			

FEATURES

1. Clock timing function
2. Regulatory mechanism of temperature compensation (Only available in 30A/40A/50A/60A)
3. Extreme Low Power Consumption
4. Built-in solar data monitoring interface(RS485) (Only available in 30A/40A/50A/60A)
5. LCD Display with backlight
6. Good heat dissipation effect with less noise
7. Light control mode, Time control mode
8. Reverse protection, short circuit protection
9. Designed for 12V/24V/48V solar power system
10. Hanging style design makes it convenient to install
11. Available in 10A/20A/30A/40A/50A/60A

How a solar system works?

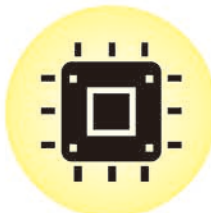




Technical parameter

SON-MPPT-series

Table 1		INPUT CHARACTERISTICS		
charging mode	MPPT maximum work function point tracking automatically			
charging methods	Three-phase: constant current, constant voltage, floating			
System type	DC12V/24V/48V	uto identification		
System identification of voltage	12Vsystem	<16V		
	24Vsystem	>18V <33V		
	48Vsystem	>35V		
Soft-start time	12V/24Vsystem	<10S		
Recovery time of Dynamic response	12V/24Vsystem	500us		
Recovery time	12V/24Vsystem	>96.5%		
The utilization rate of photovoltaic modules	12V/24Vsystem	>99%		
INPUT CHARACTERISTICS				
MPPT working voltage and scope	12Vsystem	DC18V~DC150V		
	24Vsystem	DC34V~DC150V		
	48Vsystem	DC65V~DC150V		
Photovoltaic (pv) input low voltage protection	12Vsystem	Battery voltage+1V		
	24Vsystem			
	48Vsystem			
Photovoltaic (pv) input low voltage recovery	12Vsystem	Battery voltage+5V		
	24Vsystem			
	48Vsystem			
Maximuminput voltage	12V/24V/48Vsystem	DC160V		
Input over-voltage protection	12V/24V/48Vsystem	DC150V		
Input over-voltage recovery	12V/24V/48Vsystem	DC145V		
Maximum power of solar panel		60A	80A	100A
	12Vsystem	860W	1130W	1410W
	24Vsystem	1720W	2270W	2820W
	48Vsystem	3440W	4540W	5640W
CHARGE CHARACTERISTIC				
Battery types to choose from (The default is GEL battery)	12V/24V/48Vsystem	Sealed lead acid battery, gel battery, discharge type battery, nickel cadmium battery, (also can charge other kinds of batteries)		
peak-peak of Output Voltage Ripple	12V/24V/48Vsystem	200mV		
accuracy of output voltage accuracy	12V/24V/48Vsystem	≤±1.5%		



High performance chip



High speed fans



Multiple protections



DC LOADS

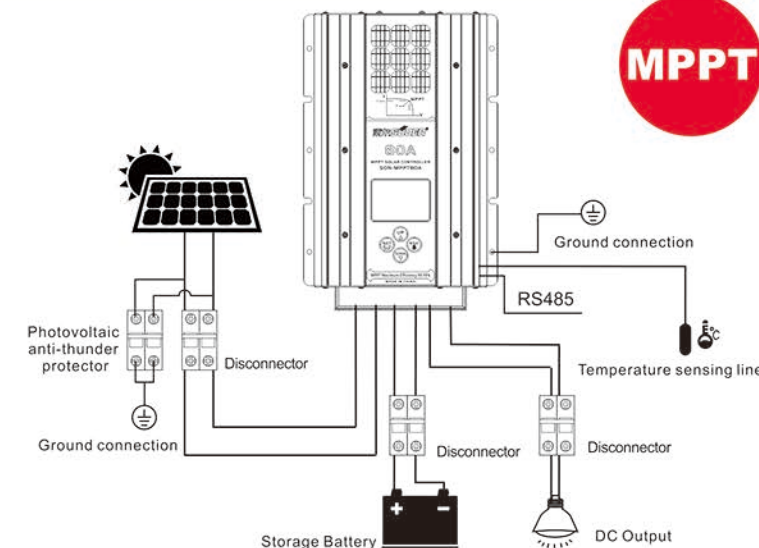


ST-MP60



FEATURES

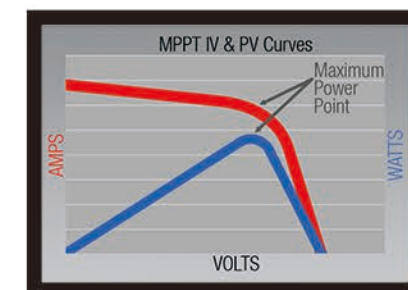
- 1.Max input voltage of solar panel:150V
- 2.Clock timing function,light control mode,Time control mode
- 3.Regulatory mechanism of temperature compensation(Auto regulate the charging voltage according to the temperature sensors)
- 4.Built-in solar data monitoring interface(RS485)
- 5.LCD Display with backlight
- 6.Good heat dissipation effect with less noise
- 7.Cable specification:≥10 square millimetres (Copper cable)
- 8.Reverse protection,short circuit protection
- 9.Auto identify system voltage of 12V/24V/48V



Technical parameter

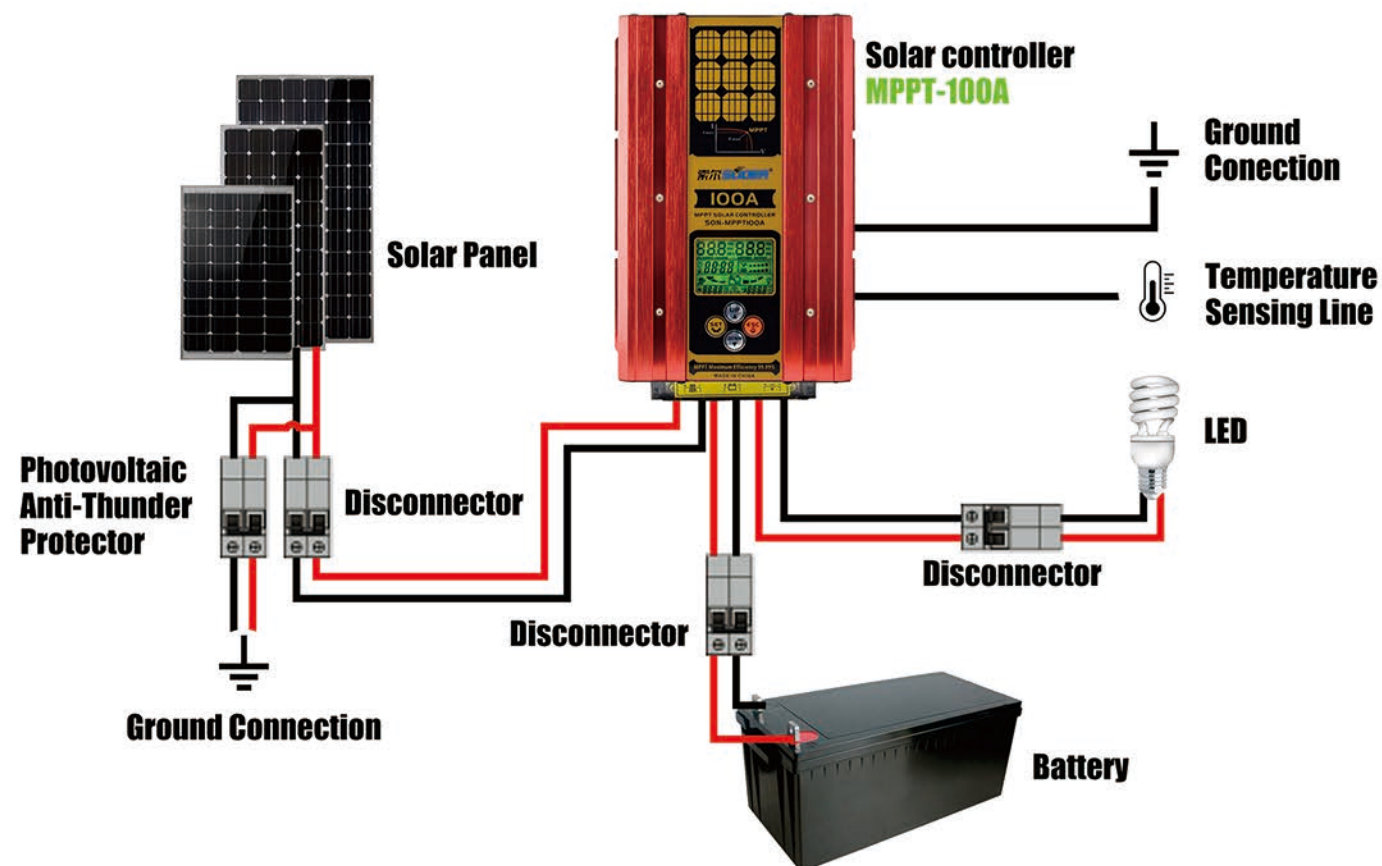
SON-MPPT-series

Table 2		
charging mode	Controller or Host computer	
Maximum current of discharge	12V/24V/48Vsystem	60A
Discharge protection	12V/24V/48Vsystem	fuse100A/150A
Appointment of on-off mode	12V/24V/48Vsystem	to make an appointment time of on and off
Normally open, normally open control mode	12V/24V/48Vsystem	Normally open or Normally close
PV voltage control switch mode	12V/24V/48Vsystem	PV voltage on, PV voltage off
PV voltage and time delay control switch mode	12V/24V/48Vsystem	PV voltage on and time delay off
PV voltage and time delay	12V/24V/48Vsystem	(Take a 12V battery for example) The default 10.5 V (Can be adjusted on control interface)
Communication characteristics		
RS485 communication interface	12V/24V/48Vsystem	Select COM connecting type
Temperature protection	85°C	
Overheat protection	When the temperature is over 75°,reduce the power output by decrease 3A each degree.	
audible noise	≤40dB	
heat-dissipating	Temperature control system+Load control system	
metadata accessories	Imported materials, conform to EU standards, temperature can be chosen, electrolytic capacitor rated temperature is not lower than 105 degrees Celsius.	
smell	Do not produce peculiar smell and the smell of harmful to health	
environmental requirement	Meet the 2002/95 / EC; No cadmium, hydride and fluoride	
attribute		
Gross weight	60A:3.5kg 80A/100A:4.2kg	
Electro Magnetic Compatibility (EMC)	En61000	
Mechanical protection type	IP21	
Environmental Requirement		
humidity	0~90% (Not condensation)	
Altitude	0~3000m	
Ambient temperature	-20°C ~ +40°C	
Storage temperature	-40°C ~ +75°C	
Atmospheric pressure	70~106kPa	



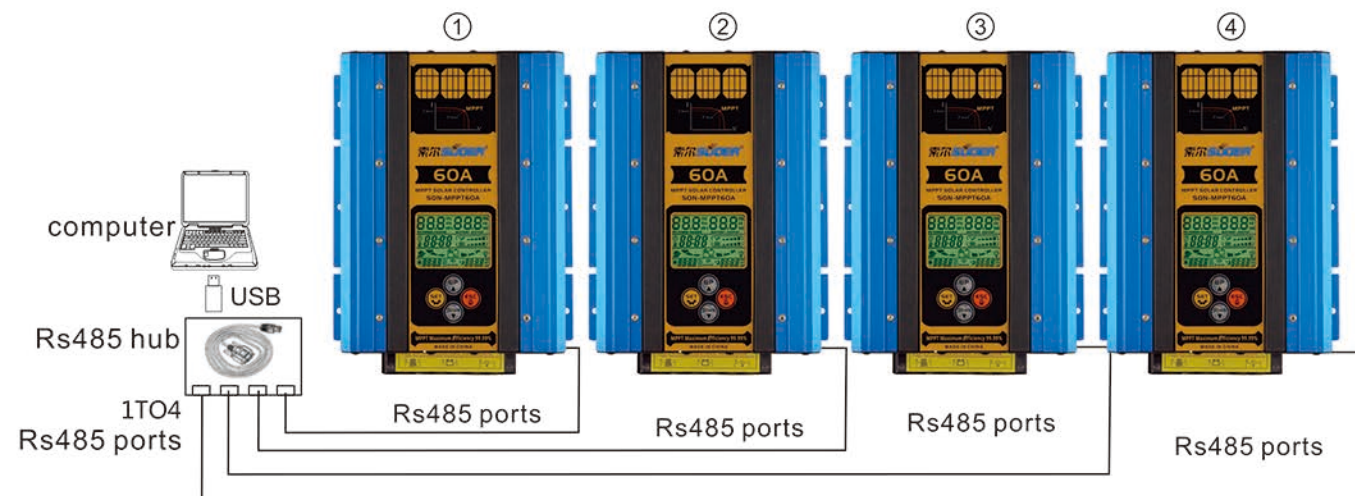


SOLAR CHARGING SYSTEM



The MPPT controller and the upper machine connections

Through the RS485 connection (COM). Customer used another purchase and form a complete set of RS485 communications suite:



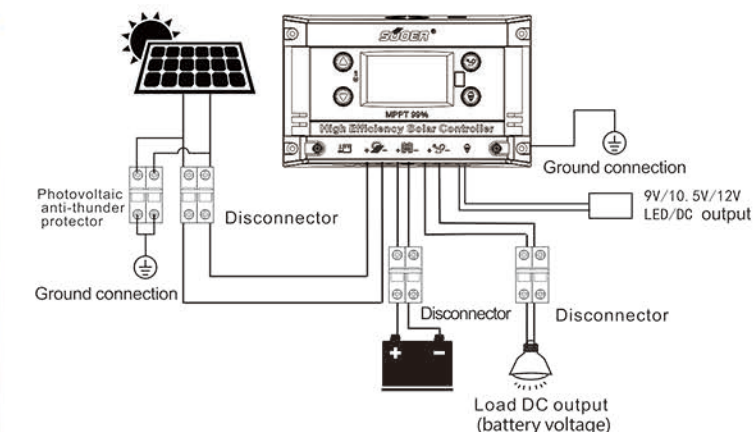
ST-H Family:ST-H1210/ST-H1220/ST-H1230

FEATURES

- 1.Max output voltage of solar panel:50V
- 2.Can work independently without connecting the battery
Can work steadily when the battery is connected
- 3.Built-in IR self-learning infrared remote control to turn the DC loads on and off
- 4.Regulatory mechanism of temperature compensation
(Auto regulate the charging voltage according to the temperature sensors)
- 5.Adjustable charging voltage(Default:14.2V, Mid:14.4V, High:14.7V)
- 6.Built-in 2 USB 5V 2.1A charging interfaces
- 7.Auto identify system voltage of 12V/24V
- 8.LED luminance can be adjusted



<<Solar charging system connection diagram>>



Technical Parameter

ST-H-series

Function	Model	ST-H1210	ST-H1220	ST-H1230
To adapt to the battery voltage		12V/24V Adaptive(Battery<16V:12V System Battery>18V:24V System)		
Rating charger voltage		50V		
Rating charger current		10A	20A	30A
Recommended power of solar panel		12V Open-loop Voltage 18-24V Standard Solar Panel 150W*1 24V Open-loop Voltage 36-48V Standard Solar Panel 300W*1		
Recommended number of solar panels		1 Pieces in parallel	2 Pieces in parallel	3 Pieces in parallel
Charging way		Intelligent Charging MPPT Maximum Power Point tracking		
Constant voltage charging voltage		Default: 14.2V (24V battery *2) parameters can be set in menu /Quick switch available		
Constant current charging current		10A	20A	30A
Under-voltage protection voltage		Default:10.5V(24V Battery*2)parameters can be set and adjusted in menu		
Owe pressure recovery voltage		Default:12.5V(24V Battery*2) parameters can be set and adjusted in menu		
Battery charge voltage summer and winter temperature compensation		16 mV/°C @ 12 V		32 mV/°C @ 24 V
Load overload automatic Recovery time		30S		
DC output		5V2.1A		
Double USB output		9V/10.5V/12V 1A	Output voltage can be remotely controlled.	
Stand-by power consumption		< 20mA		
Operating temperature range		-20°C~ 55°C		
Overall dimensions		208mm*127mm*53mm		
Installation of fixed size		192mm*96mm		
Product weight(G.W)		0.52kg	0.54kg	0.56kg