



Green energy
change life ~

.2018



Foshan Suoer Electronic Industry Co., Ltd

PWM/MPPT Solar Charge Controller >> •

Car Dc To Dc Power Converter >> •

Solar Power Inverter >> •

AGM/GEL Battery Charger >> •

Five Star Quality, derived From Suoer Technology!



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MADE IN CHINA



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Five Star Quality, derived From Suoer Technology!



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

Suoer Electronic Industrial Company Limited integrates R&D, manufacture and sales together. Located at Dali town, Nanhai district, Foshan city, Guangdong province, it is 20 kilometers away from Guangzhou with convenient transportation and beautiful scenery. We have built a 20,000 square meters industrial park with standard workshops, advanced equipments and leading R&D center.

The company pushes forward many world's leading products, including power inverter, car power inverter, battery charger, power frequency inverter, scenery complementary control inverter, wind generator and other products.

Suoer sticks to the spirit of “innovative development, win-win benefit” and the principle of “technical refinement, upward unity, and joint development”. We adhere to the virtue of strict management system, perfect after-sale service system and regard creating a famous industry brand as our duty. We try our best to provide quality products and first-class service for our customers.



Sufficient Inventory

Multiple Mixing Lines

Excellent R & D Team

Excellent Sales Team

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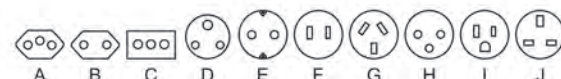


USB Interface

Technical parameter

GTI-series

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

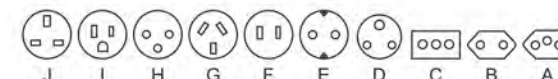
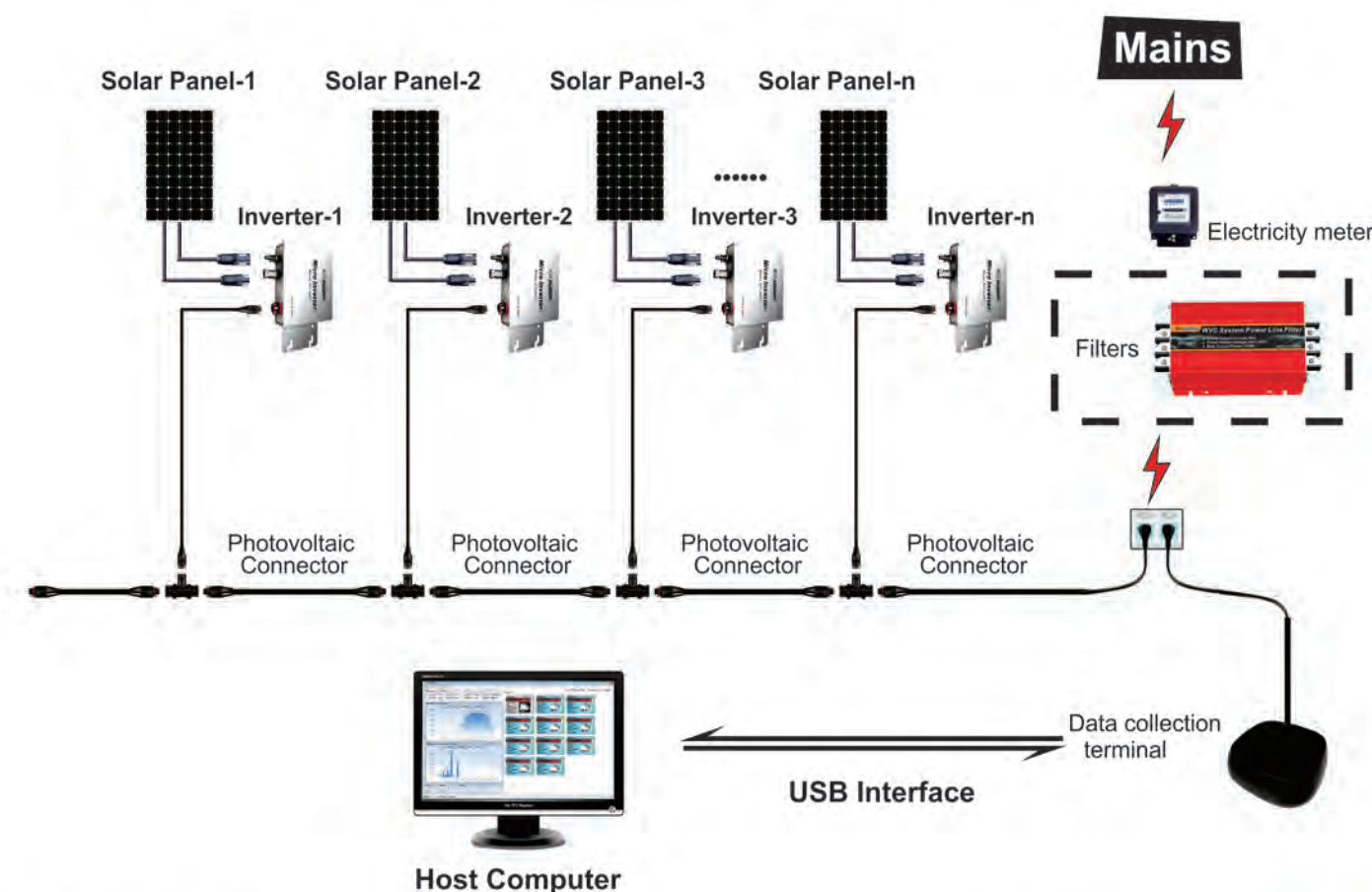


<<Waterproof Ip67/green Energy>>

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

Installation instruction of GTI series products





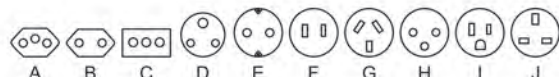
FEATURES

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



>> SDB-2000A >>

Range of application



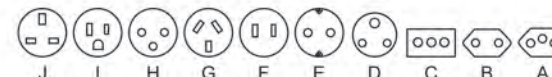
FEATURES

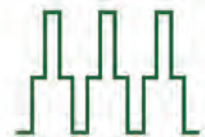
1. 5V 1A USB charging interface
2. Battery/output voltage, battery capacity, AC loads real-time LCD display.
3. New connecting terminal screws
4. Modified sine waveform output
5. OEM & ODM are acceptable

Technical parameter

SDB-series

Model	SDB-500A	SDB-500B	SDB-1000A	SDB-1000B	SDB-1500A	SDB-1500B	SDB-2000A	SDB-2000B
Output voltage	AC230V	AC230V	AC230V	AC230V	AC230V	AC230V	AC230V	AC230V
Output power	300W	300W	600W	600W	800W	800W	1000W	1000W
Peak power	500W	500W	1000W	1000W	1500W	1500W	2000W	2000W
Output frequency	50Hz	50Hz	50Hz	50Hz	50Hz	50Hz	50Hz	50Hz
USB interface	DC5V1A	DC5V1A	DC5V1A	DC5V1A	DC5V1A	DC5V1A	DC5V1A	DC5V1A
NO-load current	<0.3A	<0.2A	<0.5A	<0.3A	<1A	<0.5A	<1A	<0.5A
Working volt	DC12V	DC24V	DC12V	DC24V	DC12V	DC24V	DC12V	DC24V
Voltage range	10.5-15V	21-30V	10.5-15V	21-30V	10.5-15V	21-30V	10.5-15V	21-30V
Alarm voltage	10.5V	21V	10.5V	21V	10.5V	21V	10.5V	21V
low-voltage	10V	20.5V	10V	20.5V	10V	20.5V	10V	20.5V
Overvoltage	16V	31V	16V	31V	16V	31V	16V	31V
Efficiency	>85%	>85%	>85%	>85%	>85%	>85%	>85%	>85%
Size	20.3*11.2*5.5CM		22.5*11.2*5.5cm		24.5*12.5*7.5CM		32*18*8.5CM	
Weight	0.59KG		0.75KG		1.37KG		2.47KG	
Output waveform	Modified sine wave		Modified sine wave		Modified sine wave		Modified sine wave	





Range of application



FEATURES

1. 5V 1A USB charging interface
2. Battery/output voltage, battery capacity, AC loads real-time LCD display.
3. Modified sine waveform output
4. OEM & ODM are acceptable
5. High power rating

Technical parameter

SDB-D-series

Model	SDB-D1500A	SDB-D1500B	SDB-D2000A	SDB-D2000B
Output voltage	AC230V	AC230V	AC230V	AC230V
Output power	1000W	1000W	1500W	1500W
Peak power	1500W	1500W	2000W	2000W
Output frequency	50Hz	50Hz	50Hz	50Hz
USB interface	DC12V	DC24V	DC12V	DC24V
NO-load current	<1A	<0.5A	<1A	<0.5A
Working volt	DC12V	DC24V	DC12V	DC24V
Voltage range	10.5-15V	21-30V	10.5-15V	21-30V
Alarm voltage	10.5V	21V	10.5V	21V
low-voltage	10V	20.5V	10V	20.5V
Overvoltage	16V	31V	16V	31V
Efficiency	70%~80%			
Size	24*12.5*7.5CM		32*18*8.5CM	
Weight	13.7KG		2.47KG	
Output waveform	Modified sine wave		Modified sine wave	



New



FEATURES

1. Advanced modified sine waveform output(Almost suitable for most of home resistive appliances)(SON-1400MPPT)
2. Perfect sine waveform output(FPC-T1800CA)
3. Built-in AC charger 20A(FPC-1800CA)
4. Built-in MPPT charging controller 30A(SON-1400MPPT)
5. Built-in PWM charging controller 30A(FPC-T1800CA)
6. Auto switch to inverter output/mains supply acc to the AC voltage range(<15ms)
7. Input voltage range of mains:170V-280V or 90V-280V
8. Auto identification of output frequency:50Hz or 60Hz
9. LCD+LED screen display(Output power, Output voltage, battery capacity)
10. Overcharge protection, Overload protection, Over-voltage protection, Short circuit protection, Low battery protection



SON-1400MPPT

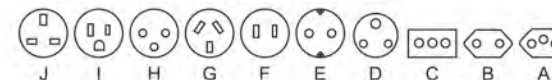


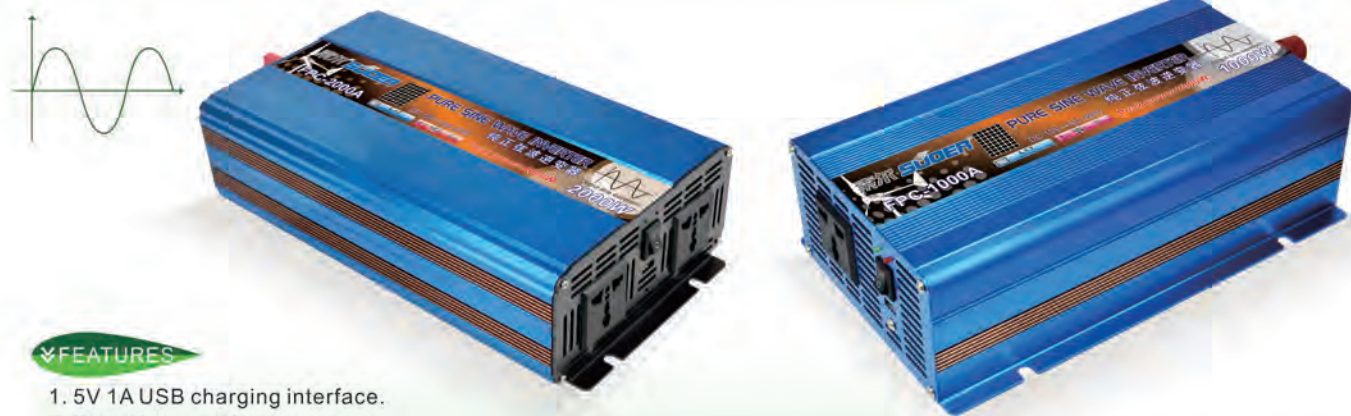
FPC-T1800CA

Technical parameter

SON-1400MPPT/FPC-T1800CA

MODEL		MPPT-1400VA	FPC-T1800CA
CAPACITY	VA/W	1400VA/800w	1800VA/900w
BATTERY	VDC	12V	12V
INPUT	Normal Voltage	230V	230V
	Voltage Range	170-280VAC(narrow range) 90-280VAC(wide range)	170-280VAC(narrow range) 90-280VAC(wide range)
OUTPUT	Voltage	230V AC	230V AC
	Voltage Regulation(Bat.model)	+10%~18%	+10%~18%
	Frequency	50Hz or 60Hz	50Hz or 60Hz
	Frequency Regulation(Bat.model)	±1Hz	±1Hz
	Output Waveform	Modified Sine wave	Pure sine wave
BATTERY&CHARGER	Charger current	15Amp or 20Amp Selectable ±2A	15Amp or 20Amp Selectable ±2A
	Overcharge protection	15V	15V
THANSFERTIMET	Typical	<15ms	<15ms
EFFICIENCY	AC to AC	>95%	>95%
	DC to AC	>80%	>80%
DISPLAY INDICATOR	AC model	Display output power ,output voltage	Display output power ,output voltage
	Battery Mode	The mark will flicker every 1 second	The mark will flicker every 1 second
	Battery Charging Mode	Display the battery capacity	Display the battery capacity
	Fault	Display fault	Display fault
AUDIBLE ALARM	Low battery at battery model	Sounding every 2seconds	Sounding every 2seconds
	Overload	Sounding every 0.5seconds	Sounding every 0.5seconds
	Fault	Display fault	Display fault
Protection	Full protection	Discharge, overcharge,overload, over temperature protection.	Discharge, overcharge,overload, over temperature protection
PHYSICAL	Dimension		
	Net weight(kgs)		
ENVIROMENT	Operation enviroment	0-50°C,5%-90% relative humidity (non-condensing)	0-50°C,5%-90% relative humidity (non-condensing)
	Storage enviroment	-15 to 55,5% to 95% humidity (non-condensing)	-15 to 55,5% to 95% humidity (non-condensing)
	Noise Level	Less than 50db	Less than 50db





FEATURES

1. 5V 1A USB charging interface.
2. Pure sine wave 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%).

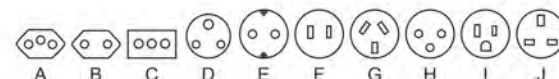
<<Special applicable for inductive loads.



Technical parameter

FPC-series

Model	FPC-1000A	FPC-1000B	FPC-2500A	FPC-2500B	FPC-3000A	FPC-3000B
Peak power	2000W(1S)		5000W(1S)			
Rated power	1000W		2500W			
Output waveform	Pure sine wave		Pure sine wave			
Output voltage	220V/230±5V		220V/230±5V			
Harmonic distortion	<3%(Impedance load)		<3%(Impedance load)			
Output frequency	50Hz(or 60Hz)		50Hz(or 60Hz)			
Standby current	0.9A	0.4A	0.9A	0.7A	0.9A	0.7A
Conversion efficiency	Maximum 94%		Maximum 94%			
Rated voltage	12V	24V	12V	24V	12V	24V
Maximum input current	120A	60A	250A	125A	300A	150A
Input voltage range	9V-16V	18V-32V	9V-16V	18V-32V	9V-16V	18V-32V
Under voltage protection	9V±0.5V	19.9V±0.2V	9V±0.5V	19.9V±0.2V	9V±0.5V	19.9V±0.2V
Under voltage tip	10.2V±0.5V	20.9V±0.2V	10.2V±0.5V	20.9V±0.2V	10.2V±0.5V	20.9V±0.2V
Under pressure recovery	12.5V±0.5V	24.7V±0.2V	12.5V±0.5V	24.7V±0.2V	12.5V±0.5V	24.7V±0.2V
Over voltage protection	15V±0.5V	30.2V±0.2V	15V±0.5V	30.2V±0.2V	15V±0.5V	30.2V±0.2V
Over voltage recovery	14.8V±0.5V	29.8V±0.2V	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			
Output short circuit protection	Buzzer/LED warning		Buzzer/LED warning			
Output overload	Smart control		Smart control			
Load power factor	0.98		0.98			
USB Output	5V 1A		5V 1A			
Battery reverse protection	Fuse protection		Fuse protection			
Cooling way	Temperature control		Temperature control			
Working temperature	-20~60°C		-20~60°C degrees celsius			
Storage temperature	-20~80°C		-20~80°C degrees celsius			
Working humidity	10~90% (No condensation)		10~90% (No condensation)			
Product size(mm)	325x180x85		405x180x85		470x180x85	
N.W/G.W(KG)	2.77		4.77		5.33	



Left side



FEATURES

1. 5 working status indicators, Easy to know the condition of the inverter
2. Adopt new safe connecting terminal
3. Large start up power
4. Excellent improvement of loading performance, designed for small power sensitive electric appliances
5. 2 USB charging Ports 5V 1.2A/2.1A
6. Conversion efficiency is up to 94%
7. Indicators directly displays the error message
8. Built-in RS 485 communication controller(Optional)



Same Appearance:FPC-H1500A/B
FPC-H2000A/B

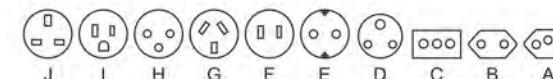


Same Appearance:FPC-H3000A/B
FPC-H4000A/B

Technical parameter

FPC-H-series

Model	FPC-H1500A	FPC-H1500B	FPC-H2000A	FPC-H2000B	FPC-H3000A	FPC-H3000B	FPC-H4000A	FPC-H4000B
Peak Power	2500W	2500W	3000W	3000W	4000W	4000W	5000W	5000W
Rated Power	1500W	1500W	2500W	2500W	3000W	3000W	4000W	4000W
Output Waveform	Pure Sine Wave							
Output Voltage	220v/230±5v							
Harmonic Distortion	<3%(Impedance Load)							
Output Frequency	50/60Hz(optional)							
Standard Current	<1.5A	<0.8A	<2A	<1A	<2A	<1A	<2A	<1A
Conversion Efficiency	Maximum 94%							
Rated Voltage	12V	24V	12V	24V	12V	24V	12V	24V
Maximum Input Current	200A	120A	250A	150A	300A	150A	380A	190A
Input Voltage Range	10-15V	20-32V	10-15V	20-32V	10V-16V	20V-32V	10V-16V	20V-31V
Under voltage protection	10V	20V	10V	20V	10V	20V	10V	20V
Under voltage tip	10.5v	21v	10.5V	21V	10.5V	21V	10.5V	21V
Under Pressure Recovery	12.3v	24.6v	12.3V	24.6V	12.3V	24.6V	12.3V	24.6V
Over Voltage Protection	15.5v	31v	15.5V	31V	15.5V	31V	15.5V	31V
Over Voltage Recovery	15v	30v	15V	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(mm)	338*195*80mm		475*195*80mm		388*260*100mm		438*260*100mm	





>>FPC-D1000A/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 1P/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)



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

New

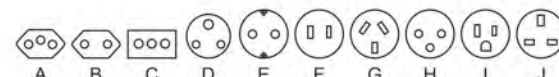


>>FPC-D1500A/B FPC-D2000A/B

Technical parameter

FPC-D-series

Model	FPC-D1000A	FPC-D1000B	FPC-D1500A	FPC-D1500B	FPC-D2000A	FPC-D2000B	FPC-D3000A	FPC-D3000B	FPC-D4000A	FPC-D4000B
Peak Power	2000W		2500W		3000W		4500W		5000W	
Rated Power	1000W		1500W		2000W		3000W		4000W	
Output Waveform	Pure Sine Wave									
Output Voltage	220V/230V±5V									
Harmonic distortion	<3%(Impedance load)									
Standby current	<1.5A	<0.8A	<1.3A	<1.3A	<1.3A	<1.3A	<2A	<1A	<2A	<1A
Conversion efficiency	Maximum 94%									
Rated Voltage	12V	24V	24V	24V	24V	24V	12V	24V	12V	24V
Maximum input current	200A	120A	250A	250A	150A	150A	300A	150A	380A	190A
Input Voltage Range	10-15V	20-32V	20-32V	20-32V	20-32V	20-32V	10V-16V	20V-32V	10V-16V	20V-31V
Under voltage protection	10V	20V	20V	20V	20V	20V	10V	20V	10V	20V
Under voltage tip	10.5V	21V	21V	21V	21V	21V	10.5V	21V	10.5V	21V
Under pressure recovery	12.3V	24.6V	24.6V	24.6V	24.6V	24.6V	12.3V	24.6V	12.3V	24.6V
Over voltage protection	15.5V	31V	31V	31V	31V	31V	15.5V	31V	15.5V	31V
Over voltage recovery	15V	30V	30V	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*67mm		386*205*100mm		425*205*100mm		388*260*100mm		438*260*100mm	



New



FEATURES

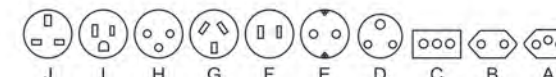
1. Multiple AC output sockets(European standard socket/Universal socket/Terminal output)
2. Perfect sine waveform output
3. Applicable for 11000-22500 BTU/H air-conditioner
4. Double USB charging interface 5V 1A/2A
5. LED screen display
6. Designed for high-power inductive loads
7. Built-in RS 485 communication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



Technical parameter

FPC-D-series

MODEL	output					input							Product size		weight
	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			
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	





New



FEATURES

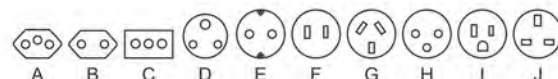
1. DC 12V/24V to AC 220V 500W to 4000W
2. LED screen display
3. Applicable for refrigerator
4. Built-in 5V 1A USB charging interface
5. Advanced modified sine waveform output, can run some inductive loads smoothly
6. Accessories: Cigarette lighter or connecting lips is optional

Range of application



Technical parameter

Model		STA-500A	STA-500B	STA-1000A	STA-1000B	STA-1500A	STA-1500B	STA-2000A	STA-2000B	STA-3000A	STA-3000B	STA-4000A	STA-4000B
Output	Output voltage	AC230V(110V)											
	Rated power	400W	400W	650W	650W	1000W	1000W	1500W	1500W	2000W	2000W	2500W	2500W
	Peak power	500W	500W	1000W	1000W	1500W	1500W	2000W	2000W	3000W	3000W	4000W	4000W
	Frequency	50Hz	50Hz	50Hz	50Hz	50Hz	50Hz	50Hz	50Hz	50Hz	50Hz	50Hz	50Hz
Input	USB	DC 5V 1A	DC 5V1A	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	DC 5V 1A
	No-load current	<0.3A	<0.2A	<0.5A	<0.3A	<0.5A	<0.3A	<0.5A	<0.3A	<1	<1	<2.5	<2.5
	working voltage	DC 12V	DC 24V	DC 12V	DC 24V	DC 12V	DC 24V	DC 12V	DC 24V	DC 12V	DC 24V	DC 12V	DC 24V
	Voltage range	10.5-15V	21-30V	10.5-15V	21-30V	10.5-15V	21-30V	10.5-15V	21-30V	10.5-15V	21-30V	10.5-15V	21-30V
	Alarm voltage	10.5V	21V	10.5V	21V	10.5V	21V	10.5V	21V	10V	20.5V	10V	20.5V
	Low-voltage protection	10V	20.5V	10V	20.5V	10V	20.5V	10V	20.5V	10V	20.5V	10V	20.5V
	Overvoltage protection	16V	31V	16V	31V	16V	31V	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. Intelligent soft startup of large power
2. LED screen display
3. Built-in 2 USB charging interfaces(5V 1A/2.1A).
4. Battery reverse connection protection, etc
5. Universal socket, suitable for all kinds of plugs
6. Modified sine waveform output
7. Applicable for resistive AC loads
8. Micro-computer control technology of power-saving



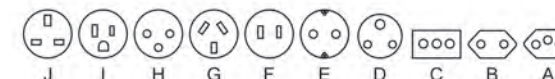
External cigarette lighter
Special design for the car

Special Design For The Car

Technical parameter

STA-E-series

Model		STA-E300A	STA-E500A	STA-E500B	STA-E1000A	STA-E1000B
Output	output voltage	AC210~240V	AC 220V	AC 220V	AC 220V	AC 220V
	Output power	300W	400W	400W	650W	650W
	Peak power	600W	500W	500W	1000W	1000W
	Frequency	50Hz	50Hz	50Hz	50Hz	50Hz
	USB	DC 5V 2.1A 1A	DC5V 1A	DC5V 1A	DC5V 1A	DC5V 1A
Input	No-load current	<1A	<0.3A	<0.2A	<0.5A	<0.3A
	working voltage	DC 12V	DC 12V	DC 24V	DC 12V	DC 24V
	Voltage range	10~15V	10.5-15V	21-30V	10.5-15V	21-30V
	Alarm voltage	11.1V	10.5V	21V	10.5V	21V
	Low-voltage protection	9.5V	10V	20.5V	10V	20.5V
	Overvoltage protection	15.8V	16V	31V	16V	31V
	Efficiency	70%~80%				
	Size(cm)	130*81.5*53mm	18x9.5x5.5	18x9.5x5.5	22x9.5x5.5	22x9.5x5.5
Weight(kg)		0.45	0.56	0.56	0.81	0.81





HAA Family:HAA-1000A B/HAA-2000A B
HAA-3000A B



Intelligent double fan



The power/battery voltage display



FEATURES

1. Simulated sine waveform output
2. Intelligent cooling fan, controlled by the load
3. Built-in 5V 1A USB interface
4. Built-in soft start-up circuit and quick voltage recovering function
5. Low power consumption during no-load
6. LED screen display



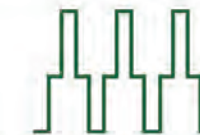
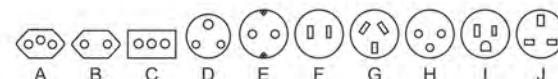
Range of application



Technical parameter

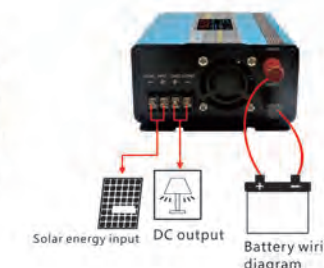
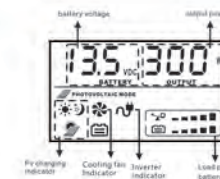
HAA-series

Model	HAA-1000A	HAA-1000B	HAA-2000A	HAA-2000B	HAA-3000A	HAA-3000B
Output	Output voltage	AC 220V(or 110V)	AC 220V(or 110V)	AC 220V(or 110V)	AC 220V(or 110V)	AC 220V(or 110V)
	Output power	1000W	1000W	2000W	2000W	3000W
	Peak power	2000W	2000W	4000W	4000W	6000W
	Frequency	50Hz(or 60Hz)	50Hz(or 60Hz)	50Hz(or 60Hz)	50Hz(or 60Hz)	50Hz(or 60Hz)
	USB	DC 5V 1A	DC 5V 1A	DC 5V 1A	DC 5V 1A	DC 5V 1A
Input	No-load current	<0.5A	<0.3A	<0.5A	<0.3A	<0.8A
	Working voltage	DC 12V	DC 24V	DC 12V	DC 24V	DC 12V
	Voltage range	10.5-15V	21-30V	10.5-15V	21-30V	10.5-15V
	Alarm Voltage	10.5V	21V	10.5V	21V	10.5V
	Low-voltage protection	10V	20.5V	10V	20.5V	10V
	Over-voltage protection	16V	31V	16V	31V	16V
	Efficiency	>85%	>90%	>85%	>90%	>85%
Product Size(MM)	Product Size(MM)	240x150x75		360x150x75		480x150x75
	Weight(Kg)	1.95		3		4.28



FEATURES

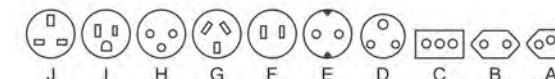
1. Built-in solar charge controller 20A
2. Adopt auto PV-charging control system
3. 3.0" LED screen display.
4. Battery reverse connecting protection, etc
5. Universal socket, suitable for all kinds of plugs
6. Modified sine waveform output
7. Applicable for resistive AC loads

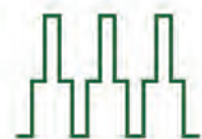


Technical parameter

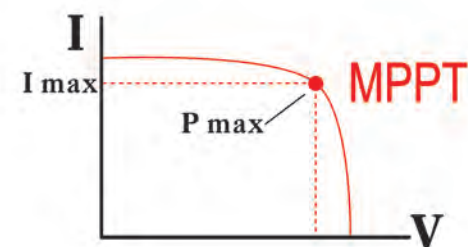
SUS-series

Model	SUS-500A	SUS-500B	SUS-1000A	SUS-1000B
The built-in	12V/10A	24/10A	12V/20A	24/20A
Featured solar	100~150W/18V	200~150W/30V	100~200W/18V	200~300W/30V
External battery	12V	24V	12V	24V
USB output	1000MA		1000MA	
Output voltage	5.0+/-0.3V		5.0+/-0.3V	
Output voltage	AC 220V+/-5%		AC 220V+/-5%	
Maximum	350W		600W	
Peak power	500W		1000W	
No load current	<0.5A	<0.3A	<0.5A	<0.3A
DC input voltage	DC9.7V~15.5V	DC20V~32V	DC9.7V~15.5V	DC20V~32V
Output	50+/-3Hz		50+/-3Hz	
Conversion	70%~80%		70%~80%	
High Voltage cut	15V+/-0.5V		15V+/-0.5V	
Low voltage	11.2V+/-0.3V		11.2V+/-0.3V	
Low voltage	10V+/-0.3V		10V+/-0.3V	
Overload, short	Yes		Yes	
Output	Modified sine wave		Modified sine wave	
Cooling mode	Fan cooler		Fan cooler	
Working	-20°C~+70°C		-20°C~+70°C	
Relative	<90%RH		<90%RH	





New



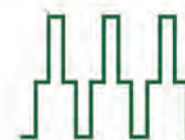
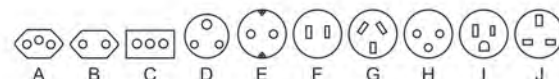
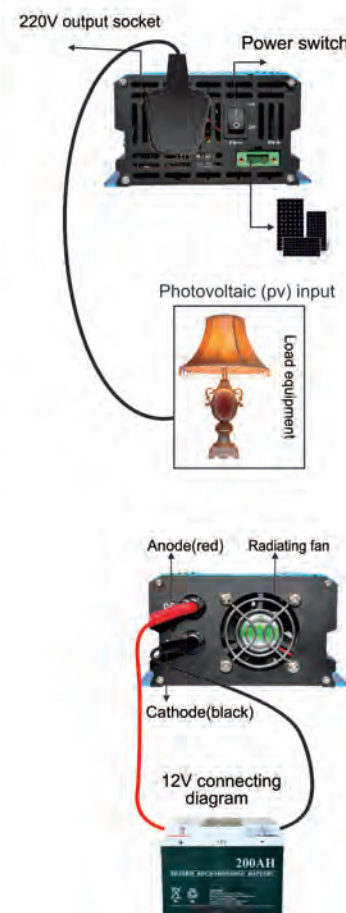
FEATURES

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
The built-in controller	600W
Featured solar panel specifications	100~150W/18V
External battery	12V 100Ah~200Ah
Solar input range.	18V ~ 45V
Solar power output.	600W max
Solar charging voltage.	14.3V
Output voltage of the inverter	AC 220V±5%
Maximum continuous power	800W
Peak power	<0.8A
DC input voltage	DC9.7V~15.5V
Output frequency	50Hz ±3Hz
Conversion efficiency	> 88%
High pressure cut off	15V±0.5V
Low voltage alarm	10.2V±0.3V
Low cut	10V±0.3V
Overload,short circuit protection	Yes
Output waveform	Modified Sine Wave
cooling mode	Cooling Fan
working environment temperature	-20℃~40℃ @ 100% load / 60℃ @ 60% load
Relative humidity	<90%RH
Overall dimensions	230X127X67mm
The weight of the	1.5Kg

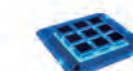


FEATURES

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



Smart fan



Low power consumption during no- load



Multiple protections



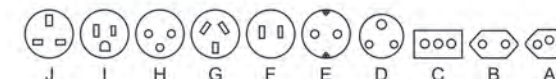
USB Interface

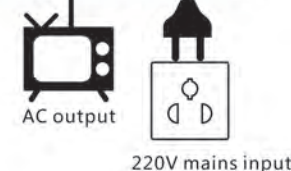


Technical parameter

SUA-series

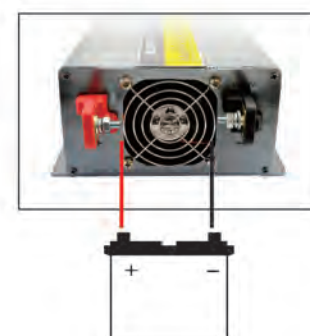
Model	Output Voltage	Output Power	Peak Power	Frequency	No-load Current	Working Volt	Voltage Range	Efficiency	Product Size (CM)	Weight (KG)
SUA-500A	AC220V/(AC110V)	500w	1000w	50Hz	<0.3A	DC12V	10.5-15V	85%~90%	18*9.5*5.5	0.54
SUA-500B	AC220V/(AC110V)	500w	1000w	50Hz	<0.3A	DC24V	21-30V	85%~90%	18*9.5*5.5	0.54
SUA-500F	AC220V/(AC110V)	500w	1000w	50Hz	<0.3A	DC48V	42-60V	85%~90%	18*9.5*5.5	0.54
SUA-1000A	AC220V/(AC110V)	1000w	2000w	50Hz	<0.3A	DC12V	10.5-15V	85%~90%	22*9.5*5.5	0.74
SUA-1000B	AC220V/(AC110V)	1000w	2000w	50Hz	<0.3A	DC24V	21-30V	85%~90%	22*9.5*5.5	0.74
SUA-1000F	AC220V/(AC110V)	1000w	2000w	50Hz	<0.3A	DC48V	42-60V	85%~90%	22*9.5*5.5	0.74
SUA-2000A	AC220V/(AC110V)	2000w	4000w	50Hz	<0.3A	DC12V	10.5-15V	85%~90%	24*9.5*5.5	0.9
SUA-2000B	AC220V/(AC110V)	2000w	4000w	50Hz	<0.3A	DC24V	21-30V	85%~90%	24*9.5*5.5	0.9
SUA-2000F	AC220V/(AC110V)	2000w	4000w	50Hz	<0.3A	DC48V	42-60V	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
SUA-3000B	AC220V/(AC110V)	3000w	6000w	50Hz	<0.3A	DC24V	21-30V	85%~90%	23*12.7*6.7	1.15





FEATURES

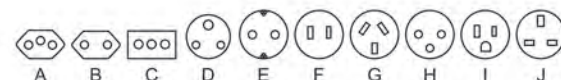
1. LCD screen display
2. Optional charging current: 5A 10A 15A 20A 25A 30A
3. Over-current protection switch
4. Modified sine waveform output
5. Built-in 5V 1A USB charging interface
6. Rated power: 1000W, Peak power: 2000W



Technical parameter

HBA-series

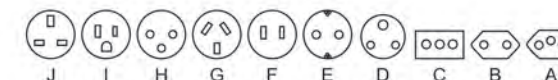
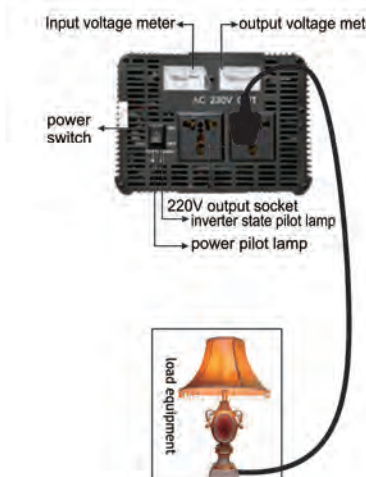
Model		HBA-1000C	HBA-2000C
Output	Output power	1000W	2000W
	Peak power	2000W	4000W
	Frequency	50Hz	
	USB input	DC 5V 1A	
DC input	Working voltage	DC 12V	
	Voltage range	10.5V-1V	
	Alarm voltage	10.5V	
	Low-voltage protection	10V	
	Over-voltage protection	16V	
Charge	Efficiency	70%~80%	
	AC input voltage	AC 220V(110V)	
	AC input range	165~265V	
	Charging current	SET5A/10A/15A/20A/25A/30A	
	Floating charge	13.5V	
Size		40.5X18X8.5cm	47X18X8.5cm
G.W.		2.72kg	3.6kg

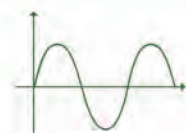


Technical parameter

HDA-series

Model		HDA-1000C	HDA-1500C	HDA-2000C	HDA-2500C	HDA-3000C
Output	Output voltage	AC220V	AC220V	AC220V	AC220V	AC220V
	output power	1000W	1500W	2000W	2500W	3000W
	Peak power	2000W	3000W	4000W	5000W	6000W
	Frequency	50Hz	50Hz	50Hz	50Hz	50Hz
Input	no-load current	<1A	<1.5A	<2A	<2.5A	<3A
	working volt	DC12V	DC12V	DC12V	DC12V	DC12V
	voltage range	10.5-15V	10.5-15V	10.5-15V	10.5-15V	10.5-15V
	Alarm voltage	10.5V	10.5V	10.5V	10.5V	10.5V
	low-voltage protection	10V	10V	10V	10V	10V
	over-voltage protection	16V	16V	16V	16V	16V
	Efficiency	>90%	>90%	>90%	>90%	>90%
Charge	charging voltage	14V	14V	14V	14V	14V
	charging current	20A	20A	20A	20A	20A
	Input voltage	AC220V	AC220V	AC220V	AC220V	AC220V
	input voltage range	AC220V~±10%				
	Out voltage	Input voltage at the same time				
	Switching time	<20MS	Without UPS function			
	product size	26.5X17.5X12.5cm	31.5X17.5X12.5cm	33.5X17.5X12.5cm	40.5X17.5X12.5cm	45.5X17.5X12.5cm
Weight		3.5kg	4kg	4.6kg	5.3kg	6kg





<<Hybrid High-frequency Photovoltaic Inverter

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 uninterruptible 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

Technical parameter

SON-SUW1500VA

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

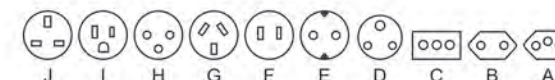
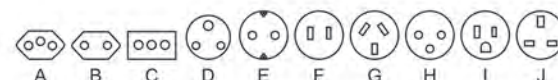


- Working hours(T)=Battery capacity(AH) * Battery voltage(V)*80%*0.9/Load power(W)
- $T=C(AH)*U(V)*80\%*0.9/P(W)$
- 0.8 --- Discharge coefficient of battery;
- 0.9 --- Conversion efficiency of the Inverter.

Technical parameter

LDA-series

Model	LDA-1000C	LDA-1000D	LDA-1500C	LDA-1500D	LDA-2000C	LDA-2000D
Output Voltage	AC220V	AC220V	AC220V	AC220V	AC220V	AC220V
Output Power	1000W	1000W	1500W	1500W	2000W	2000W
Peak Power	2000W	2000W	3000W	3000W	4000W	4000W
Frequency	50Hz	50Hz	50Hz	50Hz	50Hz	50Hz
No-load Current	<1A	<0.6A	<1.5A	<0.8A	<2A	<1A
Working Voltage	DC12V	DC24V	DC12V	DC24V	DC12V	DC24V
Voltage Range	10.5-15V	21-30V 10	10.5-15V	21-30V 10	10.5-15V	21-30V 10
Alarm Voltage	10.5V	21V	10.5V	21V	10.5V	21V
Low-voltage Protection	10V	20.5V	10V	20.5V	10V	20.5V
Overvoltage Protection	16V	31V	16V	31V	16V	31V
Efficiency	>90%					
Charging Voltage	14V	28V	14V	28V	14V	28V
Charging Current	20A	10A	20A	10A	20A	10A
Input Voltage	AC220V	AC220V	AC220V	AC220V	AC220V	AC220V
Input Voltage Range	AC220V~±10%					
Size/pcs	422*193*70MM					
G.W./PCS	3.4KG		3.9KG		4.4KG	





>Same Product Shell:SFA-500A/
SFA-1000A

Technical data

SFA-series

Model	SFA-500A	SFA-1000A
Input Voltage	A series is 12V input,B series is 24V input	
Output Voltage	220V~240V	
Rated Power	500W	1000W
Peak Power	1000W	2000W
Efficiency	>70%	
Protection	Overload protection,Input over-voltage protection, Input low-voltage protection,Over-temperature protection.	
Packed qty	20PCS	
Dimensions	160*95*55mm	200*95*55mm
N.W	0.8kg	1.03kg
Certification	ISO/CTA/CE	

FEATURES

- 1.Built-in 10A charger
- 2.Reverse connecting protection
- 3.5V 1A USB charging interface
- 4.Inverter and charger can work independent noninterference
- 5.Modified sine waveform output
- 6.3.5V 1A USB charging interface
- 7.Battery reverse connected protection



Technical parameter

SDA-series

Model	SDA-300A	SDA-350A	SDA-400A	SDA-500A	SDA-600A	SDA-800A	SDA-1000A
	SDA-300B	SDA-350B	SDA-400B	SDA-500B	SDA-600B	SDA-800B	SDA-1000B
Input voltage	12V/24V(A series are 12V input,B series are 24V output)						
Output voltage	220V~240V						
Rated power	300W	350W	400W	500W	600W	800W	1000W
Peak power	600W	700W	800W	1000W	1200W	1600W	2000W
Efficiency	>70%						
Protections	Overload protection,Input over-voltage protection,Input low-voltage protection,Over-temperature protection						
Pack QTY	20pcs						
Dimensions(MM)	300W-600W:160x95x54				800W-1000W:200x95x54		
N.W.(KG)	300W-600W:0.54				800W-1000W:0.77		
Certification	ISO,CTA,CE						



- QC 3.0 fast charging technology >>
Max inverting power 200W >>
LCD screen display >>
Smart temperature controlled fan >>
Built-in phone holder >>

New



FEATURES

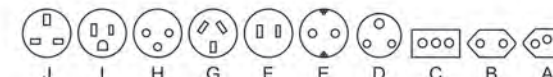
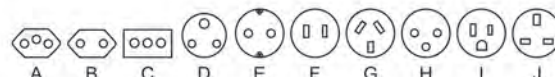
- 1.QC3.0/QC2.0 fast charging technology
- 2.Built-in modified power inverter 200W
- 3.LCD screen display
- 4.Intelligent fan controlled by temperature
- 5.Built-in phone holder
- 6.Built-in 2 USB fast charging ports 2.1A



Technical parameter

STA-K-series

Model	STA-K350A	STA-K350B
Output	Output Voltage	AC210~240V
	Output Power	120W
	Peak Power	300W
	Frequency	50Hz
	USB	Dual DC 5V 2.1A Support QC3.0 QC2.0 Fast Charging
Input	Cigarette Lighter Output	DC 12V 3A
	No-load Current	<0.5A
	Working Voltage	DC 12V
	Voltage Range	10~15V
	Warning Voltage	11.1V
	Low Voltage Protection	9.5V
	Over Voltage Protection	15.8V
	Max Efficiency	>90%
Size	170*80*53mm	





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



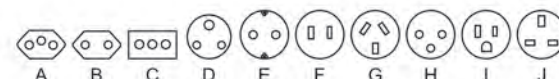
Technical data SAA-series

Model	SAA-500AF	SAA-1000AF
Input voltage	10V-15V	
Output voltage	220V AC	
Rated power	500W	1000W
Peak power	1000W	2000W
Efficiency	>70%	
Protection	Overload protection, Input over-voltage protection, Input low-voltage protection, Over-temperature protection, Battery Reverse protection	
Dimensions	160*95*55mm	200*95*55mm
N.W	0.8kg	1.03kg
Certifications	ISO, CTA, CE	



Technical parameter SAA-series

Model	SAA-500A	SAA-1000A	SAA-500C	SAA-1000C
	SAA-500B	SAA-1000B		
Input voltage	12V/24V(A series is 12V,B series is 24V)		12V with charger	
Output voltage	220V-240V		220v~240v	
Rated power	500W	1000W	500W	1000W
Peak power	1000W	2000W	1000W	2000W
Efficiency	>70%		>85%	
Protections	Overload protection,Input over-voltage protection,Input low-voltage protection,Over-temperature protection			
Dimension(mm)	160x95x55	200x95x55	226*95*55mm	267*95*55mm
N.W.(KG)	0.8	1.03	0.75kg	0.9kg
Packed QTY(PCS)	20			
Certifications	ISO.CTA.CE			



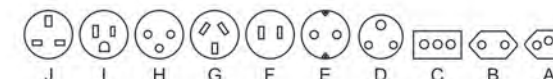
FEATURES

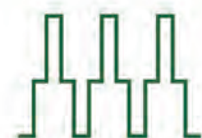
1. Modified sine waveform output
2. Battery reverse polarity protection
3. Built-in USB charging Ports 5V 1.2A
4. LCD screen display



Technical parameter SAA-D-series

Model	SAA-D500A	SAA-D600AF	SAA-D1000A	SAA-D1200AF	SAA-D1500A
Input Voltage	12V	12V	12V	12V	12V
Output Voltage	220V-240V				
Rated Power	500W	500W	1000W	1000W	1200W
Peak Power	1000W	1000W	2000W	2000W	2000W
Efficiency	>70%				
Protection	Overload protection, high voltage input cut off protection, low voltage input cut off protection, abnormal temperature detection cut off protection				
Product Size	160X95X55mm		200X95X55mm		
Weight	0.8KG		1.03KG		





Technical parameter

Led + LCD colorful display

SON-series

Model		SON-1000VA	SON-1400VA	SON-2400VA
Capacity	VA/W	1000VA/660W	1400VA/800W	2400VA/1440W
Battery	VDC	12VDC		24VDC
	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		
Battery&charger	charger current	15Amp or 20Amp Selectable±2A	10 Amp	
	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		
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		
	Weight(KG)	2.4 kg		

FEATURES

1. Advanced modified sine waveform output(Almost suitable for most of home resistive appliances)
2. Built-in AC charger 15A/20A
3. Built-in PWM PV charging controller 30A
4. Auto switch to inverter output/mains supply acc to the AC voltage range (<15ms)
5. Input voltage range of mains:170V-280V or 90V-280V
6. Auto identification of output frequency:50Hz or 60Hz
7. LCD+LED screen display(Output power, Output voltage, battery capacity)
8. Overcharge protection, Overload protection, Over-voltage protection, Short circuit protection, Low battery protection

Range of application



PC

TV



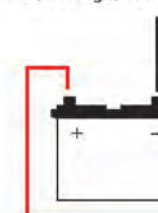
Light

Electric fan



- >>Theory charging time=Battery capacity(AH)/Charging current(A)*1.2~1.5
- >>Tips: The optimal charging current should be in control of 1/7~1/10 of battery capacity.
- >>EX: If the battery capacity is 100AH, the optimal charging current is 10~14A.

Power/voltage/current/show



220V mains input

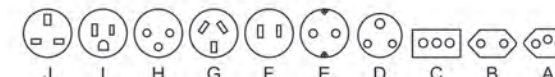
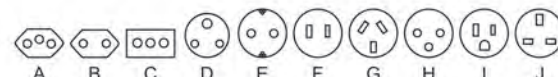
FEATURES

1. Full Pulse charging mode ensures fast charging and full charging.
2. Three phase charging mode
3. LED screen display
4. Adjustable current:5A 10A 15A 20A 25A 30A
5. Reverse protection,short circuit protection

Technical parameter

MC-series

Model	MC-1230A	MC-1230B	MC-1240A	MC-1240B	MC-2415A
Input Voltage	180V/240V	180V/240V	180V/240V	180V/240V	180V/240V
Apply to the battery voltage (DC)	12V	24V	12V	24V	24V
Maximum charge voltage	15V	29V	15V	29V	30V
Maximum Charger Current	30A	30A	40A	40A	15A
Display method	Digital	Digital	Digital	Digital	Digital
AC Input Frequency	47~63HZ	47~63HZ	47~63HZ	47~63HZ	47~63HZ
Charging mode	Three-phase;pulse	Three-phase;pulse	Three-phase;pulse	Three-phase;pulse	Three-phase;pulse
Full load efficiency	>90%	>90%	>90%	>90%	>90%
Size	285x165x100MM				
N.W/CTN	18KG	18KG	18KG	18KG	17.67KG
Packed QTY/CTN	8PCS	8PCS	8PCS	8PCS	8PCS
Certification	ISO,CTA,CE				





DC Family :DC-1210A/DC-1220A/DC-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



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

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



DC-W Family:DC-W1220A

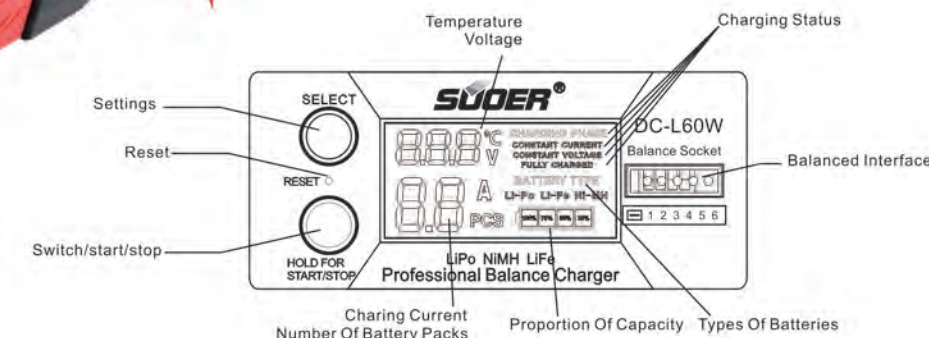
Technical parameter

DC-W-series

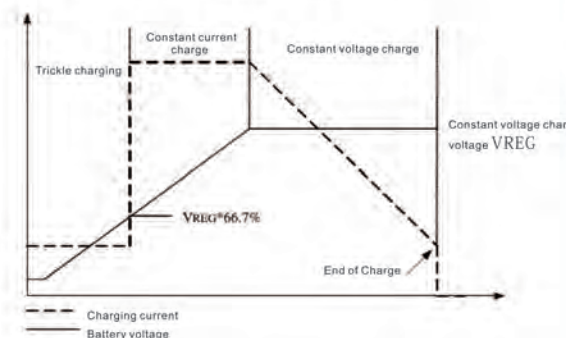
Model	DC-1210A	DC-1220A	DC-1230A	DC-1240A	DC-W1204A	DC-W1206A	DC-W1210A	DC-W1220A
Input Voltage	180V/240V	180V/240V	180V/240V	180V/240V	180V/240V	180-250V	180-250V	180-250V
Apply to the battery voltage (DC)	12V	12V	12V	12V	12V	12V	12V	12V
Maximum charge voltage	15.5V	15V	15V	15V	15.3V; 14.7V; 14.3V; 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	10A	20A	30A	40A	4A	6A	10A	20A
Display method	Digital	Digital	Digital	Digital	LCD	LCD	LCD	LCD
AC Input Frequency	47~63HZ	47~63HZ	47~63HZ	47~63HZ	47~63HZ	47~63HZ	47~63HZ	47~63HZ
Charging mode	Three-phase	Three-phase	Four-phase	Three-phase	Four-phase	Four-phase	Four-phase	Four-phase
Full load efficiency	>90%	>90%	>90%	>90%	>90%	>90%	>90%	>90%
Dimensions	153*96*55MM	183*96*55MM	188*128*68MM	235*128*68MM	186*105*30.8MM	186*105*30.8MM	200*97*59MM	265*97*59MM
N.W/CTN	18.65KG	19.32KG	1.2KG	1.5KG	17.18KG	18KG	0.62KG	1.05KG
Packed QTY/CTN	20PCS	16PCS	20PCS	20PCS	30PCS	30PCS	20PCS	20PCS
Certification	ISO,CTA,CE							



<<Introduce:



>>Schematic diagram of charging process



FEATURES

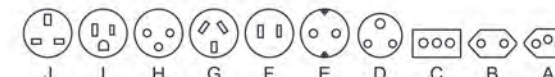
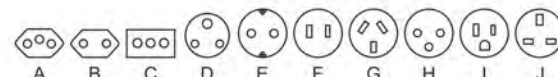
Suoer New Lithium Balance Battery Charger 60W(DC-L60W)

1. Input voltage AC : 110V-250V @50Hz/60Hz
2. Applicable for 2-6 cells Lithium polymer battery (Ni-Po)/phosphoric acid iron battery (Ni-Fe)/Nickel-metal hydride battery (Ni-MH)
3. Charging current: 0.1A-6A/0.1A-9A
4. DC output voltage: 2.8V-25V
5. Charging mode: Trickle charging mode, Constant current charging mode, Constant voltage charging mode, Equalizing charging mode
6. Automatically check the numbers of Lipo Cells
7. LCD screen display: charging voltage of each battery and series battery
8. Max output power: 60W/100W

Technical parameter

DC-L-series

Lithium Battery Charger	
Model	DC-L60W
Charging Mode	Floating Charging, Constant Current, Constant Voltage
Input Voltage	AC110~240V 50/60Hz
Output Voltage	DC3V~25V
Max Output Current	6A
Rated Power	60W
Numbers of batteries	2~6 pieces
Product Size	186X105X30.8mm



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

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.



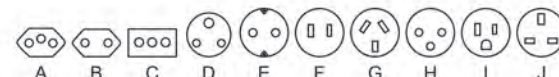
Similar models :SON-1205/SON-1205B



Technical parameter

SON-series

Model	SON-1203	SON-1203B	SON-1205	SON-1205B
Input Voltage	110V/240V	110V/240V	110V/240V	110-250V
Apply to the battery voltage (DC)	12V	12V	12V	12V
Maximum charge voltage	14V	15.3V	15.3V	15.3V
Maximum Charger Current	3A	3A	5A	5A
Display method	LED	LED	Digital stripes lights	Digital stripes lights
AC Input Frequency	47~63HZ	47~63HZ	47~63HZ	47~63HZ
Charging mode	Three-	Three-phase	Four-phase	Four-phase
Full load efficiency	>90%	>90%	>90%	>90%
Dimensions	150*85*55mm	150*85*55mm	150*85*55mm	150*85*55mm
N.W/CTN	21.08kg	17.1kg	36.58kg	
Packed QTY/CTN	60PCS	60PCS	60PCS	
Certification	ISO,CTA,CE			



Similar models :SON-1207/SON-1208



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)

>>SON-1210D>>



>>SON-1206D>>



Technical parameter

SON-series

Model	SON-1206D	SON-1207	SON-1208	SON-1210
Input Voltage	110-250V	110-250V	110-250V	110-250V
Apply to the battery voltage (DC)	12V	12V	12V	12V
Maximum charge voltage	15V	14V	14V	15.5V
Maximum Charger Current	6A	7A	8A	10A
Display method	Digital tube lights	LED	LED	LED
AC Input Frequency	47~63HZ	47~63HZ	47~63HZ	47~63HZ
Charging mode	Three-phase	Three-	Three-phase;pulse	Three-phase
Full load efficiency	>90%	>90%	>90%	>90%
Dimensions	168*78*62MM	150*85*55mm	150*85*55mm	
N.W/CTN	20.7kg	21.08kg	21.08kg	20.2kg
Packed QTY/CTN	50PCS	60PCS	60PCS	40PCS
Certification	ISO,CTA,CE			



>> SON-1210D+ >>



FEATURES

1. Max charging current:10A
2. Rated input current:110-240V
3. Adopt PWM charging mode,auto stop charging when the battery gets fully charged
4. LCD screen display:Charging voltage/Battery capacity/Charging current
5. Auto battery detection,auto regulate the charging current acc to the battery capacity
6. Applicable for gel battery and lead-acid battery



Similar models :SON-1220/SON-1220B /SON-1230B

Technical parameter

SON-series

Model	SON-1210D+	SON-1220	SON-1220B	SON-1230B
Input Voltage	110-250V	110-250V	180V-250	180V-250V
Apply to the battery voltage (DC)	12V	12V	12V	12V
Maximum charge voltage	15V	15.5V	15.3V	15.3V
Maximum Charge Current	10A	20A	20A	30A
Display method	Digital tube lights	LED	LED	LED
Rated power	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	168*78*62MM			
N.W/CTN	29.2kg	26.05kg	20.75kg	17.98kg
Packed QTY/CTN	50PCS	30PCS	30PCS	20PCS
Certification	ISO,CTA,CE			

FEATURES

1. Adopt PWM three-step fast charging mode
2. Applicable for 48V/60V/72V electric vicles: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-2420B	SON-4803	SON-4880D	SON-6080D	SON-7280D
Input Voltage	180V-250V	180V-250V	190V-250V	190V-250V	190V-250V
Apply to the battery voltage (DC)	24V	48V	48V	60V	72V
Maximum charge voltage	30V	59V	60V	75V	90V
Maximum Charge Current	20A	3A	9A	7A	6A
Display method	LED	LED	Digital tube lights	Digital tube lights	Digital tube lights
Rated power	47~63HZ	47~63HZ	47~63HZ	47~63HZ	47~63HZ
Charging mode	Three-phase	Three-phase;pulse	Three-phase	Three-phase	Three-phase
Full load efficiency	>90%	>90%	>90%	>90%	>90%
Dimensions					
N.W/CTN	17.64kg	24.17kg			
Packed QTY/CTN	20PCS	42PCS	20PCS	20PCS	20PCS
Certification	ISO,CTA,CE				



SON-10A⁺
(6V/12V)



SON-20A⁺
(12V/24V)

FEATURES

- 1.Max charging current:10A
- 2.Rated input current:220V
- 3.Adopt PWM charging mode,auto stop charging when the battery gets fully charged
- 4.New LED screen display control panel
- 5.6V/12V manual switch(SON-10A+), 12V/24V manual switch(SON-20A+)
- 6.Applicable for gel battery and lead-acid battery



SON-10A

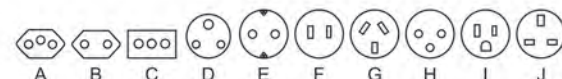


SON-20A

Technical parameter

Model	SON-10A	SON-10A+	SON-20A	SON-20A+
Input Voltage	AC 220V±10% 50Hz	AC 220V±10% 50Hz	AC 220V±10% 50Hz	AC 220V±10% 50Hz
Rated Voltage	6V/12V	6V/12V	12V/24V	12V/24V
Constant charge current	10A±5%	10A±5%	20A±5%	20A±5%
Size	128*92*53MM	180*126*73MM	130*96*60MM	185*120*68MM

SON-series



Similar models :MB-4820A/MB-4812A/MB-1250A



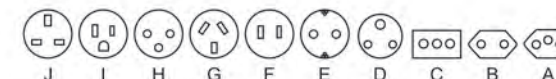
FEATURES

- 1.High performance and good stability
- 2.Applicable for gel battery, lead- acid battery and maintenance-free battery
- 3.Special designed for electric cars
- 4.Smart and easy to carry
- 5.Universal socket, suitable for all kinds of plugs

Technical parameter

MB-series

Model	MB-4820A	MB-4812A	MB-1250A
Input Voltage	90V-270V	90V-270V	220V-240V
Apply to the battery voltage (DC)	48V	48V	12V
Maximum charge voltage			
Maximum Charger Current	1.3A	1A	1A
Display method	no	no	no
Rated power			
Charging mode	Three-steps	Three-steps	Three-steps
Full load efficiency	>91%	>91%	>90%
Dimensions	150*85*55mm	150*85*55mm	150*85*55mm
N.W/CTN	23.84kg	22.9kg	22.86kg
Packed QTY	50PCS	50PCS	50PCS
Certification	ISO,CTA,CE		



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

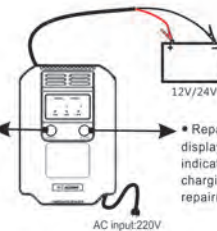


>> A02-1224A >>



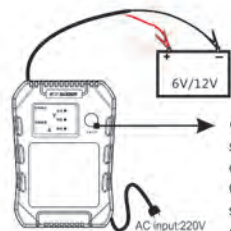
>> A02-1224B >>

• 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).

AC input: 220V



• 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.

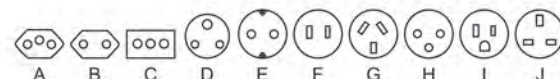


>> A01-0612A >>

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)	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		



>> A04-1240 >>

FEATURES

1. Input voltage: 220V
2. Adjustable charging current: 6A to 40A
3. Designed for 12V Gel/AGM battery
4. Three phase charging mode
5. Battery repaired technology



>> A03-1224 >>

FEATURES

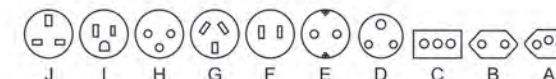
1. Input voltage: 176V—264V
2. Adjustable charging current: 10A, 20A, 30A
3. Auto identification of 12V/24V battery
4. Three phase charging mode
5. Battery repaired technology



Technical parameter

A03/A04-series

Model	A03-1224	A04-1240
Input Voltage	176V~264V	220v±10%
Apply to the battery voltage (DC)	12/24V(Automatic)	12V
Charge Current	10A	6A-40A adjustable
AC Input Frequency	50HZ	50HZ
Charging mode	Three-phase	Three-phase
Full load efficiency		
Dimensions/CTN	650*365*515MM	650*365*515MM
N.W/CTN	17.6KG	17.6KG
Packed QTY/CTN	4PCS	4 PCS
Certification	ISO,CTA,CE	



Technical data

MA-series

Model	MA-1210A	MA-1220A	MA-1220(MA-1204)	MA-1230A
Input Voltage	220V/240V	220V/240V	220V/240V	220V/240V
Apply to the battery voltage (DC)	12V	12V	12V	12V
Maximum charge voltage	15.5V	15V	15V	15V
Maximum Charger Current	10A	20A	20A	30A
Rated power	47~63HZ	47~63HZ	47~63HZ	47~63HZ
Charging mode	Three-phase	Three-phase	Four-phase	Three-phase
Full load efficiency	>90%	>90%	>90%	>90%
Dimensions	460*300*340mm	505*345*440mm	190*130*60mm	475*335*380mm
N.W	0.7KG	1.37kg	1.03kg	0.8KG
Packed QTY	20PCS	16pcs	16pcs	12pcs
Certification	ISO,CTA,CE			



Similar models:MA-1210A/MA-1220A/
MA-1204/MA-1230A



Similar models :MA-1220A/MA-1204A/MA-2410



Similar models :MA-1230A/MA-2415A/MA-1230E/
MA-1240A/MA-1250A

Technical parameter

MA-series

Model	MA-2410	MA-2415A	MA-1230E	MA-1240A	MA-1250A
Input Voltage	220V/240V	220V/240V	220V/240V	180-250V	180-250V
Apply to the battery voltage (DC)	24V	24V	12V	12V	12V
Maximum charge voltage	10V	15V	15V	15V	15V
Maximum Charger Current	30A	30A	30A	40A	50A
AC Input Frequency	47~63HZ	47~63HZ	47~63HZ	47~63HZ	47~63HZ
Charging mode	Four-phase	Four-phase	Four-phase	Four-phase	Four-phase
Full load efficiency	>90%	>90%	>90%	>90%	>90%
Dimensions	175*130*60MM	225*145*80MM	225*145*80MM	225*145*80MM	225*145*80MM
N.W	1.1KG	1.1KG	1.4KG	1.6KG	1.6KG
Packed QTY	8pcs	6pcs	12pcs	12pcs	12pcs
Certification	ISO,CTA,CE				

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



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



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

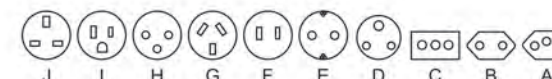
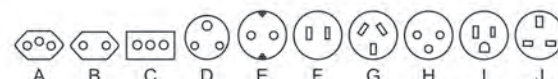
FEATURES

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

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





>>>> All model products are the same size >>>>



FEATURES

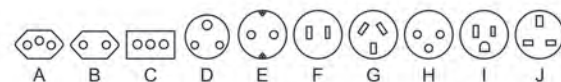
1. PWM charging mode
2. LCD display
3. Set real time clock
4. Auto voltage identification
5. Light control mode, Time control mode
6. Reverse connecting protection
7. Hanging style design makes it convenient to install
8. 2 USB charging interface(5V 1A)
9. 12V/24V/48V/60V

Technical parameter

ST-W-series

Category	ST-W1210	ST-W1220	ST-W1230
Model			
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		

Category	ST-W4810	ST-W4820	ST-W4830	ST-W6010	ST-W6020	ST-W6030
Model						
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

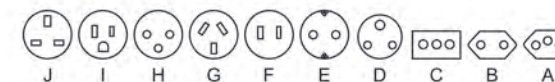
1. PWM charging mode
2. LCD display
3. Set real time clock
4. Auto voltage identification
5. Light control mode, Time control mode
6. Reverse connecting protection
7. Hanging style design makes it convenient to install
8. 2 USB charging interface(5V 1A)
9. 12V/24V/48V/60V

Technical parameter

ST-W-series

Category	ST-W1240	ST-W1250	ST-W1260
Model			
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		

Category	ST-W4840	ST-W4850	ST-W4860	ST-W6040	ST-W6050	ST-W6060
Model						
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					





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-C1210/ST-C1230/ST-C1250

>Same Product Color:ST-C1220/ST-C1240/ST-C1260

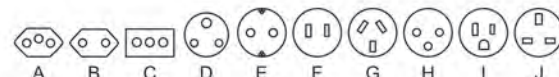
Double USB
output(5V2.1A)



Technical parameter

ST-C-series

Model	ST-C1210	ST-C220	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 voltage	13A	26A	39A	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 >>>>

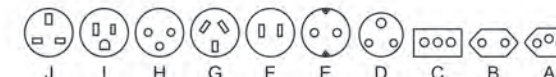


- ◆MCU control
- ◆Load turns on work,LVR can be seted up
- ◆Overloading protection
- ◆Short circuit protection
- ◆Reverse polarity connection protection
- ◆Thunder and Lighting protection
- ◆Overdischarge protection
- ◆Overcharge protection

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 voltage	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				





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%			



>> SON-MPPT-10A



>> SON-MPPT-20A



>> SON-MPPT-30A



>> SON-MPPT-40A

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?





>>SON-MPPT-80A



>>SON-MPPT-100A

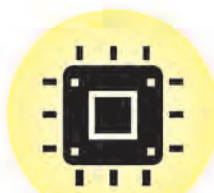


>>SON-MPPT-60A

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	
Maximum input 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
	24Vsystem	1720W
	48Vsystem	3440W
	12Vsystem	1130W
	24Vsystem	2270W
	48Vsystem	4540W
	12Vsystem	1410W
	24Vsystem	2820W
	48Vsystem	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

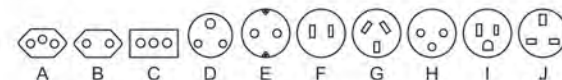


High speed fans



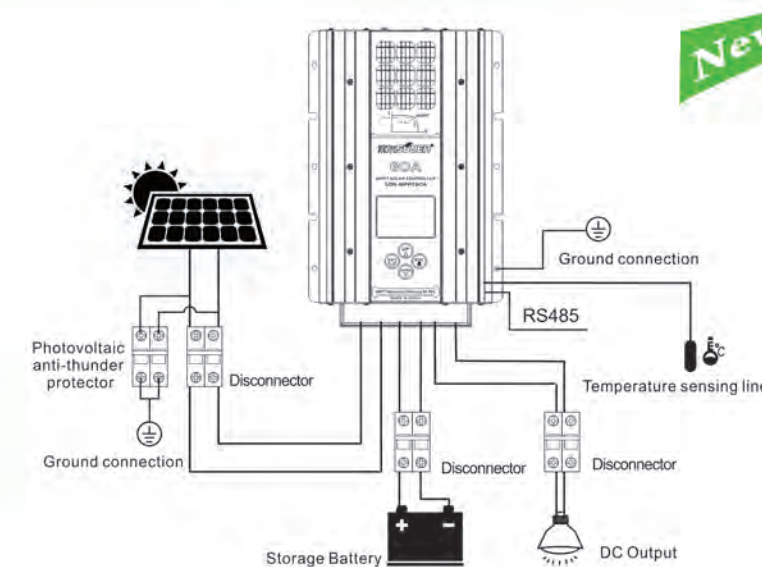
Multiple protections

SOLAR CHARGING SYSTEM
DC LOADS



FEATURES

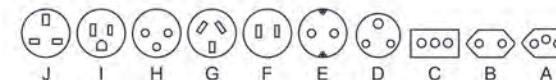
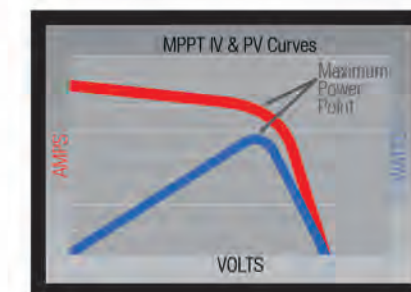
- 1.Max input voltage of solar panel:150V
- 2.Clock timing function,light control mode,Time control mode
- 3.Regulatory mechanism of temperature compensation(Auto regulate the charging voltage according to the temperature sensors)
- 4.Built-in solar data monitoring interface(RS485)
- 5.LCD Display with 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	

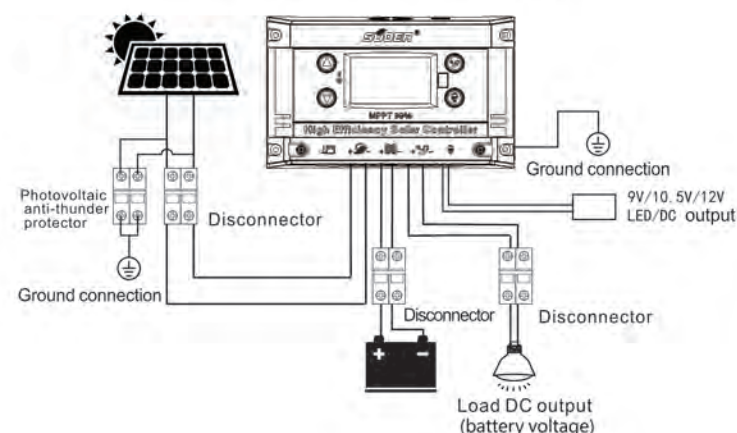




ST-H Family:ST-H1210/ST-H1220/ST-H1230



<<Solar charging system connection diagram>>



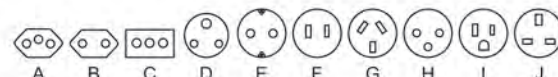
***FEATURES**

- 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

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



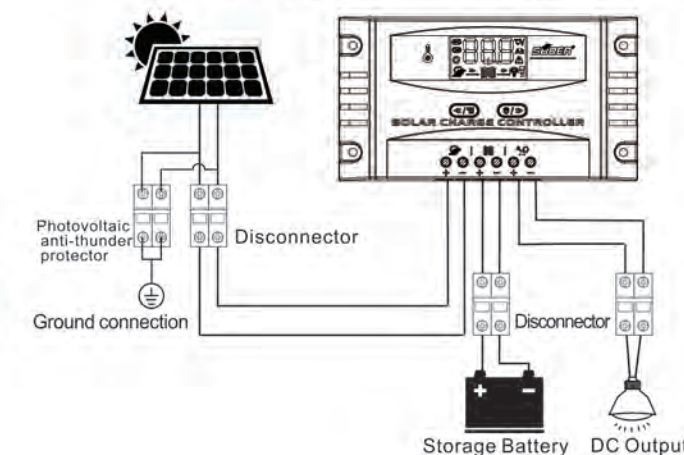
ST-L Family:ST-L1210/ST-L1220/ST-L1230

***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



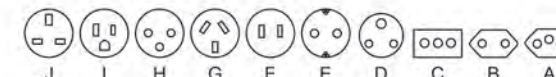
<<Solar charging system connection diagram>>



Technical parameter

ST-L-series

Function	Model	ST-L1210	ST-L1220	ST-L1230
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



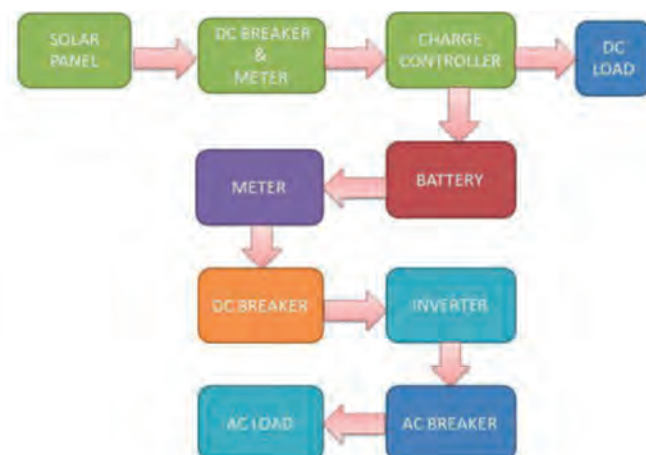


How to Build a Off-grid Small Home Solar Systems?

» » For an off grid solar system, you need four basic components:

1. Solar Panel (PV Panel)
2. Charge Controller
3. Inverter
4. Battery

» » Here's how all the pieces fit together:
(Besides the above components you need a few more things like Copper Wire, MC4 Connector, breaker, meter and fuses, etc.)

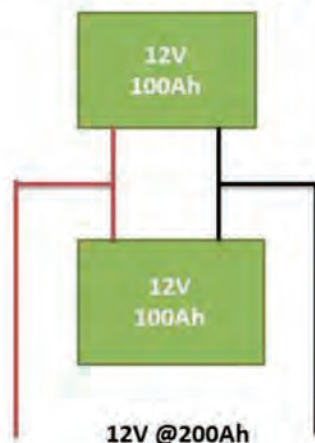


STEP 1: Calculate Your Load

.Before choosing the components, you have to calculate your power load, how much time it will run, etc. It is very simple to calculate if you know basic math.

.Decide what appliances (light, fan, tv etc.) you want to run and how much time (hours).
.See the specification chart in your appliances for power rating.

PARALLEL CONNECTION



STEP 2: Battery Selection

.The output from the solar panel is dc power. This power is generated during day time only. So if you want to run a dc load during day time then it seems to be very easy. But doing this is not a good decision because...

.Most of the appliances need a constant rated voltage to run efficiently. Solar panel voltage is not constant, it varies according to the sun light. If you want to run the appliances during the night then it is impossible. The above problem is solved by using a battery to store the solar power during the day and use it according to your choice. It will provide constant source of stable, reliable power.

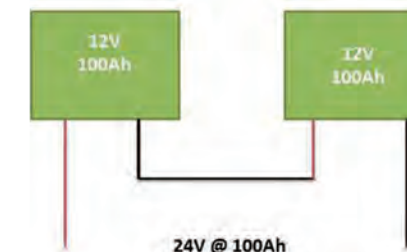
.Note: Before going to choose the components decide your system voltage, 12/24 V or 48 V. The higher the voltage, the lesser the current and the lesser the copper loss will be in the conductor. This will also reduce your conductor size. Most of the small home solar systems will have 12 V or 24 V.

STEP 3: Solar Panel Selection

.The Solar Panel converts the sunlight into electricity as direct current (DC). These panels are typically categorized as mono crystalline or poly crystalline. Mono crystalline are costlier and more efficient than poly crystalline panels.

.Solar panels are generally rated under standard test conditions (STC): irradiance of 1,000 W/m², solar spectrum of AM 1.5 and module temperature at 25°C.

SERIES CONNECTION



100W Polycrystalline Photovoltaic Solar Panel	
Part #:	SOL-100P-01
Maximum Power (Pmax):	100 Watts
Open Circuit Voltage (Voc):	21.60 Volts
Short Circuit Current (Isc):	6.32 Amps
Max Power Voltage (Vpm):	17.40 Volts
Max Power Current (Imp):	5.75 Amps
Max System Voltage:	1000 VDC (800 VDC UL)
Dimensions:	40.0" x 26.4" x 1.2" (1015mm x 670mm x 30mm)
Weight:	18.7 lbs (8.5kg)
Max Series Fuse Rating:	8 Amps
Nom Operating Cell Temp:	48 C [+/-2]

STEP 4: Charge Controller Selection

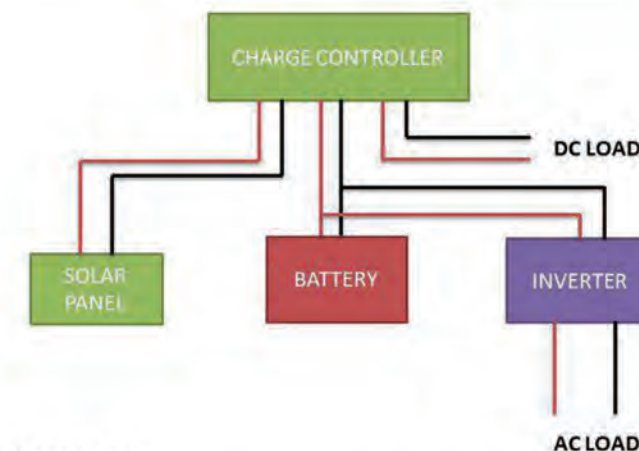
.A solar charge controller is a device which is placed between a solar panel and a battery.
.It regulates the voltage and current coming from your solar panels. It is used to maintain the proper charging voltage on the batteries. As the input voltage from the solar panel rises, the charge controller regulates the charge to the batteries preventing any overcharging.

Types of Charge Controllers:

- ON OFF
- PWM
- MPPT

Try to avoid the ON/OFF charge controller as it is the least efficient.

Among the 3 charge controllers MPPT have the highest efficiency but it is also costly. So you can use either PWM or MPPT.



STEP 5: Inverter Selection

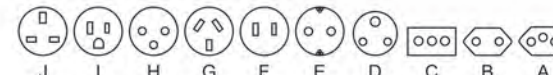
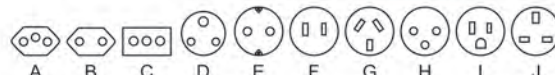
.Solar panels (PV) receive the sun's rays and convert them into electricity called direct current (DC). DC is then converted into alternating current (AC) through a device called an Inverter. AC electricity flows through every outlet of your home, powering the appliances.

Inverter Types:

- Square Wave
- Modified Sine Wave
- Pure Sine Wave

.Square wave inverters are the cheapest but not suitable for all appliances. Modified Sine Wave output is also not suitable for certain appliances, particularly those with capacitive and electromagnetic devices such as: a fridge, microwave oven and most kinds of motors. Typically modified sine wave inverters work at lower efficiency than pure sine wave inverters.

.Note: Appliances like fridge, hair drier, vacuum cleaner, washing machine, etc. likely have a starting power consumption several times greater than their normal working power (typically this is caused by electric motors or capacitors in such appliances). This should be taken into account when choosing the right size of inverter.



12V 600W Off - grid Home Solar System

STA-1000A

No.	Item	Photo	Specs	Quantity
1	Poly solar panel(Mono optional)		*18V 100W *Rated power:100W *Max power voltage(VMP):18V *Max power current(IMP):5.5A *Size:1030*670*30	5
2	PWM solar controller		*Model : ST-C1230 *12V 30A *Adjustable charging voltage *LCD screen display *Two 5V 2.1A USB interfaces	1
3	Deepcycle Gel battery		*12V 100AH *Weight:28kg *Free maintenance deep cycle	1
4	Modified sine wave inverter(Pure sine wave inverter optional)		*Model : STA1000A *12V 1000W *AC output:220V *Rated power:600W Frequency : 50Hz *Built -in 1 USB charging port	1
5	Solar PV cable		*4mm ² *40 C-90 C *High precision Oxygenfree copper material	20m

FEATURES

1. You can choose different photovoltaic modules from different suppliers.
2. You can combine different energy sources such as PV, wind energy and hydropower to the current system.
3. You can expand or change the photovoltaic modules at any time



Electricity load Reference Table

No.	Electric appliances	Power(W)	Quantity(pcs)	Work time(h)	Illuminati on time(h)	Total power(W.h)
1	Led Lamp	20	1	7-8	5-6	420
2	Desktop Fan	60	1	7-8	5-6	840
3	LCD TV	90	1	7-8	5-6	1260
Total		170				2520

24V 3000W Off - grid Home Solar System

STA-4000B

No.	Item	Photo	Specs	Quantity
1	Poly solar panel(Mono optional)		*36V 300W *Rated power:300W *Max power voltage(VMP):36V *Max power current(IMP):8.3A *Size:1950*990*40	20
2	MPPT solar controller		*Model:MPPT-80A *24V 80A *LCD screen display *RS 485 port	2
3	Deepcycle Gel battery		*12V 200AH *Weight:60kg *Free maintenance deep cycle	8(4 in series,4 in parallel)
4	Modified sine wave inverter(Pure sine wave inverter optional)		*Model : STA4000B *24V 3000W *AC output:220V *Rated power:3000W Frequency : 50Hz	1
5	Solar PV cable		*4mm ² *40 C-90 C *High precision Oxygenfree copper material	100m



FEATURES

All the technical parameters above are developed and tested by our solar engineers based upon most customers' general requirements, if you have special request , we can configure and regulate the proper tech specs for you, such as DC voltage, charging current, etc.

Electricity load Reference Table

No.	Electric appliances	Power(W)	Quantity(pcs)	Work time(h)	Illuminati on time(h)	Total power(W.h)
1	Led Lamp	20	3	7-8	5-6	420
2	Desktop Fan	60	2	7-8	5-6	840
3	LCD TV	90	2	7-8	5-6	1260
4	Refrigerator	70	1	7-8	5-6	490
5	Laptop	100	1	7-8	5-6	700
6	Air conditioner(1.5hP)	1000	1	7-8	5-6	7000
Total		1340				10710

24V 2000W Off - grid Home Solar System

| STA-3000B |

No.	Item	Photo	Specs	Quantity
1	Poly solar panel(Mono optional)		*36V 200W *Rated power:200W *Max power voltage(VMP):36V *Max power current(IMP):5.5A *Size:1340*990*35	20
2	PWM solar controller		*Model ST-C1260 *24V 60A *Adjustable charging voltage *LCD screen display *Two 5V 2.1A USB interfaces	2
3	Deep cycle Gel battery		*12V 200AH *Weight:60kg *Free maintenance deep cycle	6(3 in series,3 in parallel)
4	Modified sine wave inverter(Pure sine wave inverter optional)		*Model STA-3000B *24V 3000W *AC output:220V *Rated power:2000W Frequency 50Hz	1
5	Solar PV cable		*4mm ² *-40 C-90 C *High precision Oxygen-free copper	100m

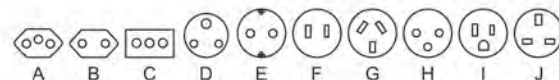
FEATURES

Off-grid inverter is the core component of off - grid power system, which is responsible for converting direct current to alternating current for AC load use. This modified sine waveform inverter (STA Series)(Pure sine waveform inverter is optional) is specially designed to run some inductive appliances like refrigerator and so on.



Electricity load ReferenceTable

No.	Electric appliances	Power(W)	Quantity(pcs)	Work time(h)	Illumination time(h)	Total power(W.h)
1	Led Lamp	20	3	7-8	5-6	420
2	Desktop Fan	60	2	7-8	5-6	840
3	LCD TV	90	2	7-8	5-6	1260
4	Refrigerator	70	1	7-8	5-6	490
5	Laptop	100	1	7-8	5-6	700
6	Air conditioner(1hP)	650	1	7-8	5-6	4550
Total						8260



48V 5000W Off - grid Home Solar System

| FPC-D5000F |

No.	Item	Photo	Specs	Quantity
1	Poly solar panel(Mono optional)		*36V 300W *Rated power:300W *Max power voltage(VMP):36V *Max power current(IMP):8.3A *Size:1950*990*40	54
2	MPPT solar controller		*Model MPPT-60A *48V 60A *LCD screen display *RS 485 port	2
3	Deep cycle Gel battery		*12V 200AH *Weight:60kg *Free maintenance deep cycle	16(8 in series,8 in parallel)
4	Pure sine wave inverter		*Model FPC-5000F *48V 5000W *AC output:220V *Rated power:4000W Frequency 50Hz	1
5	Solar PV cable		*4mm ² *-40 C-90 C *High precision Oxygen-free copper material	150m

FEATURES

1. Solar panels collect sunlight power and transfer to electricity power.
2. MPPT charge controller can track the maximum power point of the solar panel, and control charging battery with high efficiency, intelligence. It can also protect the battery while charging.
3. The battery store the electricity power safely.
4. Pure sine wave inverter converts DC output into a utility frequency AC for our home appliances usage efficiently.
5. The solar system supply electricity power to home appliances.
6. It also can connect with city electricity to charge the battery and protect it.



Electricity load ReferenceTable

No.	Electric appliances	Power(W)	Quantity(pcs)	Work time(h)	Illumination time(h)	Total power(W.h)
1	Led Lamp	20	3	7-8	5-6	420
2	Desktop Fan	60	2	7-8	5-6	840
3	LCD TV	90	2	7-8	5-6	1260
4	Refrigerator	70	1	7-8	5-6	490
5	Laptop	100	1	7-8	5-6	700
6	Air conditioner(2hP)	1500	1	7-8	5-6	10500
Total		1840				14210

