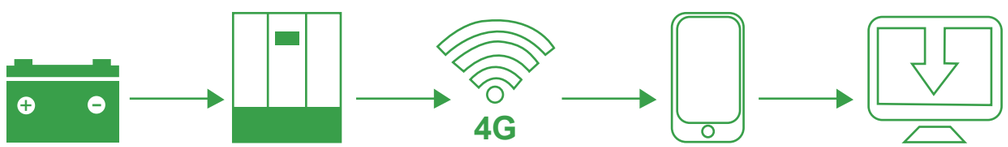


SOLAR INVERTERS

High frequency machine & industrial frequency machine

SOLAR INVERTER INTEGRATED MACHINE

SOLAR INVERTERS

2023

Pack lightly

Easy to pack and easy to transport

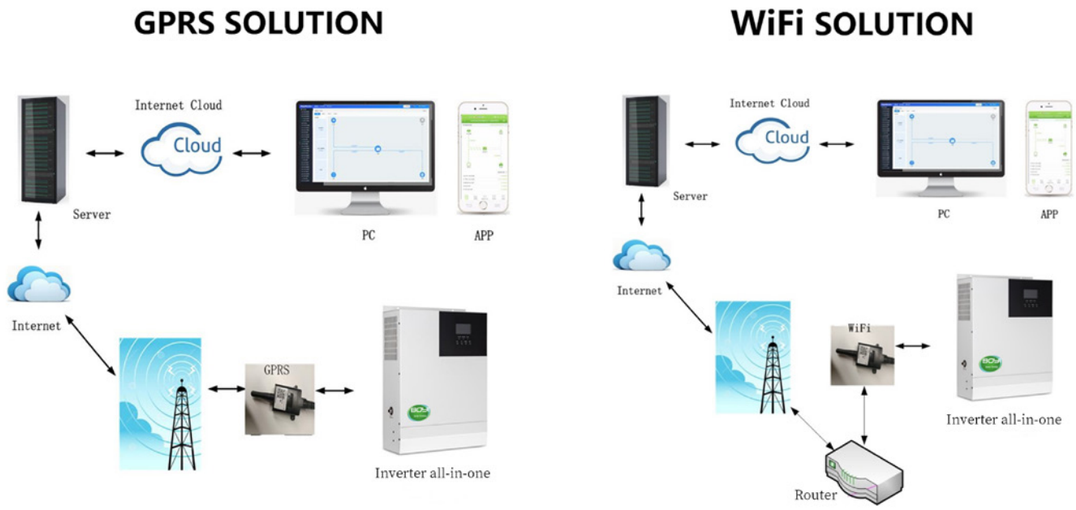
30% weight reductio One person can also disassemble and assemble freely

Cross-border logistics can save **30%** cost

RV system

Household energy storage system

SOLAR SYSTEM SPECIFICATIONS



The composition of the solar energy storage intelligent monitoring system:

It consists of 4 parts: Internet of things inverter control all-in-one machine, wireless communication module (WIFI or GPRS), cloud server, client (mobile app, WBE terminal).

Internet of things inverter control machine:

The intelligent inverter control integrated machine can collect the current, voltage, temperature, power generation, power consumption and other information of the system (photovoltaic panel, battery, power grid, load, etc.), transmit the data to the communication module through the interface, and can receive data from customers.
Terminal switch control.

Communication module:

The information of the inverter control integrated machine is transmitted to the cloud platform through the network, which is a bridge connecting the controller and the cloud platform. The platform supports various communication methods such as GPRS and WIFI.

Cloud Server:

Cloud servers are deployed on Alibaba Cloud and Amazon Cloud and are responsible for system scheduling, data storage, data processing, and logical transaction processing.

Client:

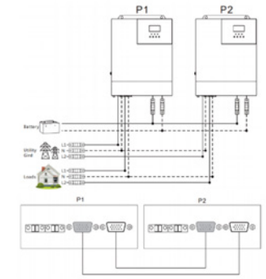
The client includes web and mobile APP. Users can view the data of the cloud service through the client, and can control the power on and off through the cloud server.

Networking scheme comparison

- **Wi-Fi**
  - In the effective range of the radio wave coverage of the wireless router, use the Wi-Fi connection method to network.
  - Advantages:The use of Wi-Fi wireless networking solution not only saves additional network costs, but also saves local network deployment costs.
  - Disadvantages:Requires wireless router and server support, high cost and high technical threshold.
- **GPRS**
  - The direct connection scheme is adopted, there is no centralized manager, and the signal transmission is carried out through the base station of the mobile operator.
  - Advantages:The signal reliability and safety are relatively high, the construction is relatively simple, and there is no need to install a concentrator.
  - Disadvantages:The communication module and traffic charges are relatively high.

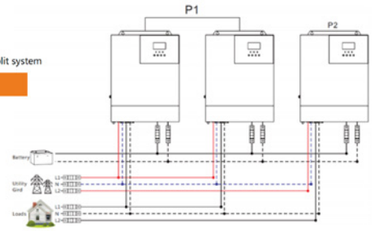
a)Two devices form a two-phase separation system

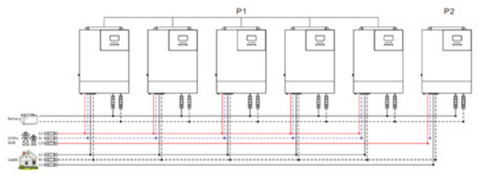
1+1 system



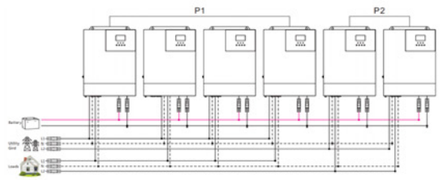
b)Three equipments form a two-phase split system

System2+1

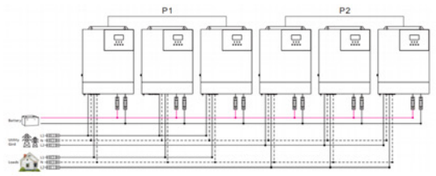




5+1 six parallel machines and phase separation phase separation



4+2 six parallel machines and phase separation



3+3 six parallel machines and phase separation

Product overview

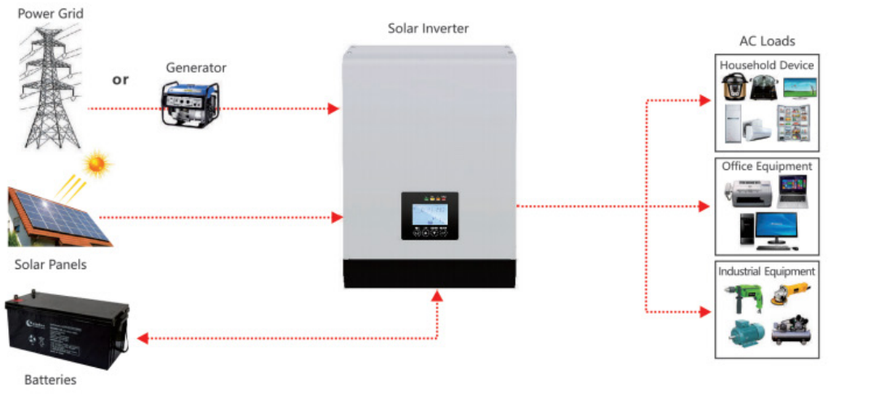
HEP series is a new all-in-one hybrid solar charge inverter, which integrates solar energy storage&means charging energy storage and AC sine wave output. Thanks to DSP control and advanced control algorithm, it has high response speed, hight reliability and high industrial standard.

Performance characteristics

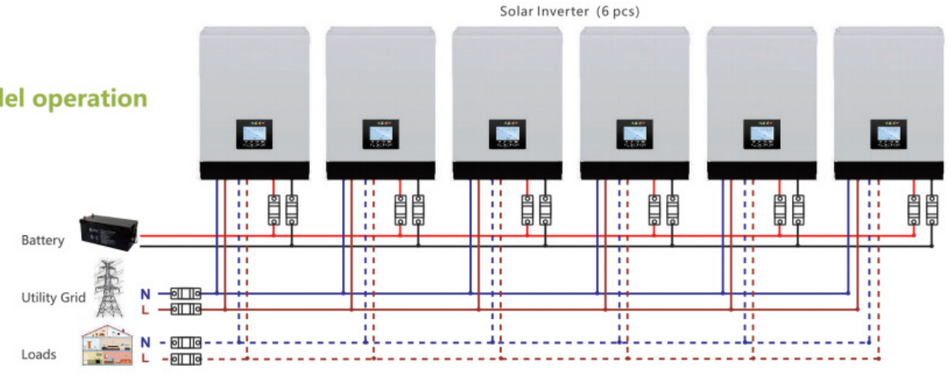
- Full digital voltage and current double closed loop control, advanced SPWM technoligy, output of pure sinewave.
- Two output modes: mains bypass and inverter output; uninterruptes power supply.
- Available in 4 charging modes: Only Solar, Mains Priority, Solar Priority and Mainsv& olar hybrid charging.
- Available MPPT technology with an efficiency of 99.9%.With the charging requirement (voltage,current, mode) settings, and suitable for various types of energystorage batteries,
- ON/OFF rocker switch for AC output control.
- Power saving mode available to reduce no-load loss. Intelligent variable speed fan to efficiently dissipate heat and extend system life.
- Lithium battery activation design, allowing access of lead-acid battery and lithium battery.
- 360° all-round protection with a number of protection functions. Such as overload, short circuit and overcurrent.
- Supply of a variety of user-friendly communication modules, Such as RS485(GPRS,WIFI,Bluetooth). CAN,USB etc., and suitable for computer, mobile phones, internet monitoring as well as remote operations.
- Available for 6 units parallel connection.

SOLAR HIGH HYBRID INVERTER

Household energy



Parallel operation

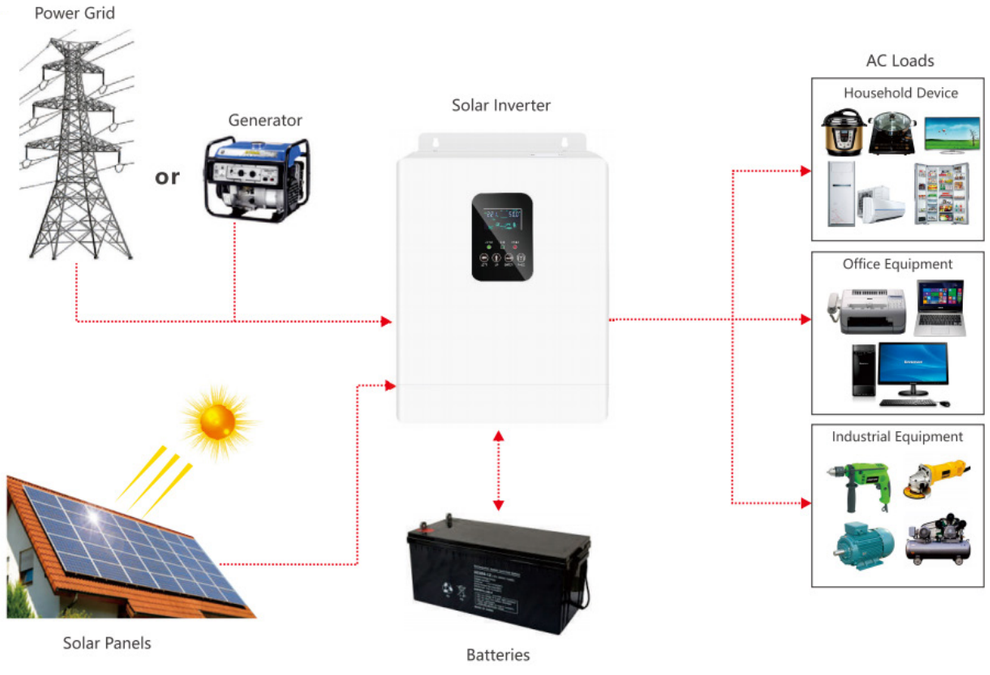


PRODUCT PARARAMETERS

	Model	502
	Rated Power	5000W
	Peak Power(20ms)	15KVA
	Battery Voltage	48VDC
	Size(L*W*Hmm)	440x300x110
	Package Size(L*W*Hmm)	515x375x205
	N.W(kg)	9.5
	G.W(kg)	10.5
	Installation Method	Wall-Mounted
PV	Charging Mode	MPPT
	Rated PV input voltage	360VDC
	MPPT tracking voltage range	120V-430V
	Max PV Input Voltage voc (At the lowest temperature)	450V
	PV Array Maximum Power	5500W
	PV Array Maximum Power	1
Input	DC Input voltage range	42-60VDC
	Rated AC Input voltage	208VAC / 220VAC / 230VAC / 240VAC
	AC Input voltage range	90VAC~280VAC(Appliance mode) / 170VAC~280VAC(UPS mode)
	AC Input Frequency Range	40Hz~70Hz(default)
Output	Efficiency(Battery/PV Mode)	94%(Peak value)
	Output voltage(Battery/PV Mode)	208VAC±2% / 220VAC±2% / 230VAC±2% / 240VAC±2%(INV mode)
	Output frequency(Battery/PVMode)	50Hz/60Hz±0.1%
	Output Wave(Battery/PVMode)	pure sine wave
	Efficiency(AC Mode)	>99%
	Output voltage(AC Mode)	Follow input
	Output frequency(AC Mode)	Follow input
	Output waveform distortion(Battery/PV Mode)	≤3%(Linear load)
	No load loss(Battery Mode)	≤1% rated power
	No load loss(AC Mode)	≤0.5% rated power (charger does not work in AC mode)
Battery	VRLA Battery	Charge voltage: 56.4V; Float voltage: 54V
	Customize battery	Charging and discharging parameters of different types of batteries can be customized according to user requirements (charging and discharging parameters of different types of batteries can be set through the operation panel)
	Max AC Charging Current	60A
	Max PV Charging Current	80A
	Maximum Charging Current (Mains+PV)	80A
	Charging method	Three-stage (constant current, constant voltage, floating charge)
Protection	Battery low voltage alarm	Factory default: 44V
	Battery low voltage protection	Factory default: 42V
	Battery over voltage protection	61VDC
	Overload power protection	Automatic protection (battery mode), circuit breaker or insurance (AC mode)
	Inverter output short circuit protection	Automatic protection (battery mode), circuit breaker or insurance (AC mode)
	Temperature protection	>90℃(Shut down output)
	Working Mode	Mains priority/PV priority/Battery priority(Can be set)
	Transfer Time	≤10ms
	Display	LCD+LED
	Thermal method	Cooling fan in intelligent control
	Communication(Optional)	RS232/USB/APP (WIFI monitoring or GPRS monitoring)
Environment	Operating temperature	-10℃~40℃
	Storage temperature	-15℃~60℃
	Noise	≤55dB
	Elevation	2000m (More than derating)
	Humidity	0%~95% (No condensation)

SOLAR HIGH HYBRID INVERTER

Household energy

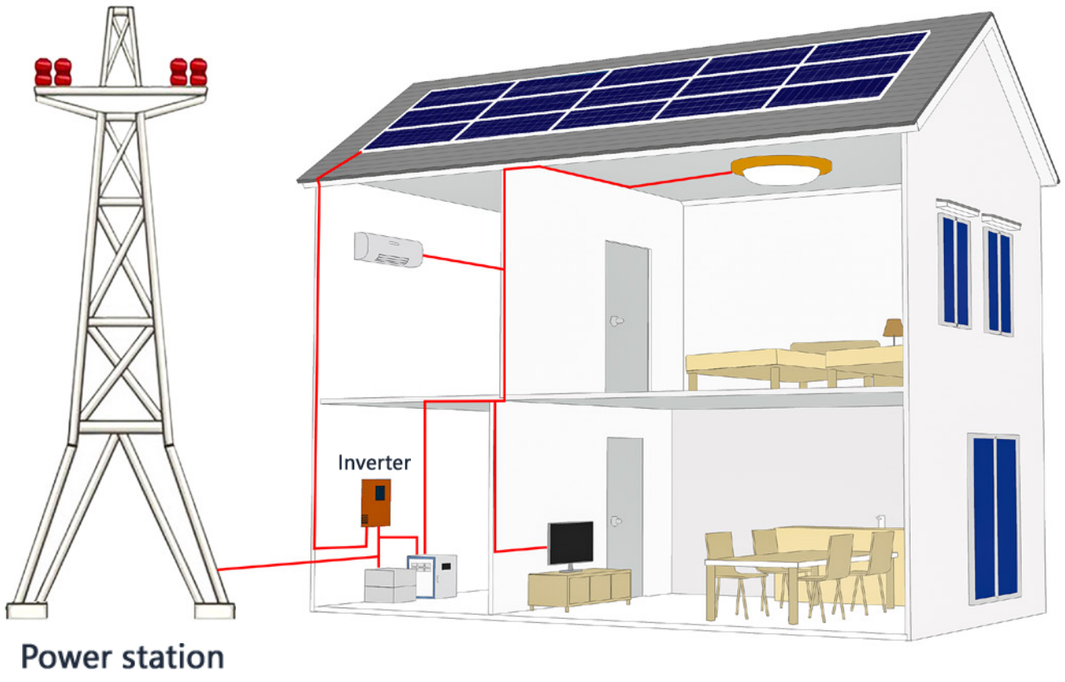


PRODUCT PARARAMETERS

	Model	32224L	50248L	72248
	Rated Power	3200W	5000W	7200W
	Peak Power(20ms)	9.6KVA	15KVA	21.6KVA
	Battery Voltage	24VDC	48VDC	48VDC
	Product Size(L*W*Hmm)	400x315x101.5	440x342x101.5	525x355x115
	Package Size(L*W*Hmm)	488x393x198	528x420x198	615x435x210
	N.W(kg)	8.5	10	14
	G.W(kg)	9.5	11	15.5
	Installation Method		Wall-Mounted	
PV	Charging Mode		MPPT	
	MPPT tracking voltage range	30V-100VDC	60V-140VDC	120V-450VDC
	Rated PV input voltage	30V-60VDC	60V-90VDC	360VDC
	Max PV Input Voltage voc (At the lowest temperature)		450V	
	PV Array Maximum Power	1680W	3360W	4000W*2
	MPPT tracking channels (input channels)	1	1	2
Input	DC Input voltage range	21VDC-30VDC	42VDC-60VDC	42VDC-60VDC
	Rated AC Input voltage		220VAC / 230VAC / 240VAC	
	AC Input voltage range		170VAC~280VAC(UIPS mode) / 120VAC~280VAC(INV mode)	
	AC Input Frequency Range		45Hz~55Hz (50Hz), 55Hz~65Hz (60Hz)	
Output	Output efficiency(Battery/PV Mode)		94%(Peak value)	
	Output voltage(Battery/PV Mode)		220VAC±2% / 230VAC±2% / 240VAC±2%(IN mode)	
	Output frequency(Battery/PVMode)		50Hz/60Hz±0.5%(INV mode)	
	Output Wave(Battery/PVMode)		pure sine wave	
	Efficiency(AC Mode)		>99%	
	Output voltage(AC Mode)		Follow input	
	Output frequency(AC Mode)		Follow input	
	Output waveform distortion(Battery/PV Mode)		≤3%(Linear load)	
	No load loss(Battery Mode)		≤1% rated power	
	No load loss(AC Mode)		≤0.5% rated power (charger does not work in AC mode)	
Battery	VRLA Battery		Charge voltage: 56.4V; Float voltage: 54V	
	Customize battery		Charging and discharging parameters of different types of batteries can be customized according to user requirements (charging and discharging parameters of different types of batteries can be set through the operation panel)	
	Max AC Charging Current	60A	60A	80A
	Max PV Charging Current	60A	60A	150A
	Maximum Charging Current (Mains+PV)	120A	120A	150A
	Charging method		Three-stage (constant current, constant voltage, floating charge)	
Protection	Battery low voltage alarm		Battery undervoltage protection value+ 0.5V(Single battery voltage)	
	Battery low voltage protection		Factory default: 10.5V(Single battery voltage)	
	Battery over voltage alarm		Constant charge voltage+0.8V(Single battery voltage)	
	Battery over voltage protection		Factory default: 17V(Single battery voltage)	
	Battery over voltage recovery voltage		Battery overvoltage protection value-1V (Single battery voltage)	
	Overload power protection		Automatic protection (battery mode), circuit breaker or insurance (AC mode)	
	Inverter output short circuit protection		Automatic protection (battery mode), circuit breaker or insurance (AC mode)	
	Temperature protection		>90℃(Shut down output)	
	Working Mode		Mains priority/Solar priority/Battery priority(Can be set)	
	Transfer Time		≤10ms	
	Display		LCD+LED	
	Thermal method		Cooling fan in intelligent control	
	Communication(Optional)		RS485/APP (WIFI monitoring or GPRS monitoring)	
Environment	Operating temperature		-10℃~40℃	
	Storage temperature		-15℃~60℃	
	Noise		≤55dB	
	Elevation		2000m (More than derating)	
	Humidity		0%~95% (No condensation)	

SOLAR HIGH HYBRID INVERTER

Household energy



PRODUCT PARARAMETERS

	Model	10212/24/48(102)	30224/48(302)	60248(602)
	Rated Power	1000W	3000W	6000W
	Peak Power(20ms)	3000VA	9000VA	18000VA
	Start Motor	1HP	3HP	4HP
	Battery Voltage	12/24/48VDC	24/48VDC	48VDC
	Installation Method	Wall-Mounted		
Input	DC input voltage range	10.5-15VDC (single battery voltage)		
	AC input voltage range	85VAC~138VAC (110VAC) / 95VAC~148VAC (120VAC) / 170VAC~1275VAC (220VAC) / 180VAC~285VAC (230VAC) / 190VAC~295VAC (240VAC)		
	AC input frequency range	45Hz~55Hz (50Hz) / 55Hz~65Hz (60Hz)		
	Max AC charging current	0~30A(Depending on the model)		
	AC charging method	Three-stage (constant current, constant voltage, floating charge)		
Output	Efficiency(Battery Mode)	≥85%		
	Output voltage(Battery Mode)	110VAC±2% / 120VAC±2% / 220VAC±2% / 230VAC±2% / 240VAC±2%		
	Output frequency(Battery Mode)	50Hz/60Hz±1%		
	Inverter output waveform	pure sine wave		
	Efficiency(AC Mode)	>99%		
	Output voltage(AC Mode)	110VAC±10% / 120VAC±10% / 220VAC±10% / 230VAC±10% / 240VAC±10%		
	Output frequency(AC Mode)	Tracking Automatically		
	Output waveform distortion(Battery Mode)	≤3%(Linear load)		
	No load loss(Battery Mode)	≤0.8% rated power		
	No load loss(AC Mode)	≤2% rated power (charger does not work in AC mode)		
	No load loss(Energy saving Mode)	≤10W		
Battery Type	VRLA Battery	Charge voltage: 14.2V; Float voltage: 13.8V (single battery voltage)		
	Customize battery	Charging and discharging parameters of different types of batteries can be customized according to user requirements (charging and discharging parameters of different types of batteries can be set through the operation panel)		
Protection	Battery undervoltage alarm	Factory default: 11V (single battery voltage)		
	Battery undervoltage protection	Factory default: 10.5V (single battery voltage)		
	Battery overvoltage alarm	Factory default: 15V (single battery voltage)		
	Battery overvoltage protection	Factory default: 17V (single battery voltage)		
	Battery overvoltage recovery voltage	Factory default: 14.5V (single battery voltage)		
	Overload power protection	Automatic protection (battery mode), circuit breaker or insurance (AC mode)		
	Inverter output short circuit protection	Automatic protection (battery mode), circuit breaker or insurance (AC mode)		
	Temperature protection	≥90℃(Shut dowm output)		
Alarm	A	Normal working condition, buzzer has no alarm sound		
	B	Buzzer sounds 4 times per second when battery failure, voltage abnormality, overload protection		
	C	When the machine is turned on for the first time, the buzzer will prompt 5 when the machine is normal		
Inside Solar controller (Optional)	Charging mode	PWM or MPPT		
	Charging current	10A~60A (PWM or MPPT)		
	PV Input Voltage Range	PWM: 15V-44V(12V System); 30V-44V(24V System); 60V-88V(48V System) MPPT:15V-120V(12V System); 30V-120V(24V Ststem); 60V-120V(48V System)		
	Max PV Input Voltage(VOC) (At the lowest temperature)	PWM: 50V(12V/24V System); 100V(48V System) / MPPT:150V		
	PV Array Maximum Power	12V System: 14W(10A)/28020A)420W(30A)/560W40A)7D0W50A)/840W60A) /1120W80A)/1400W(100A); 24V Svstem: 280W(10A)/560W(20A)/840W30A)/1120W(40A)400W(50A)/1680W60A/2240W80A)/2800W(100A; 48V System:560W(10A)/1120W(20A)/1680W(30A)/2240W(40A)2800W50A)/3360W(60A)/4480W(80A)/5600W(100A)		
	Standby loss	≤3W		
	Maximum conversion efficiency	>95%		
	Working Mode	Battery First/AC First/Saving Energy Mode		
	Transfer Time	≤4ms		
	Display	LCD		
	Thermal method	Cooling fan in intelligent control		
	Communication	RS485/APP (WIFI monitoring or GPRS monitoring)		
Environment	Operating temperature	-10℃~40℃		
	Storage temperature	-15℃~60℃		
	Noise	≤55dB		
	Elevation	2000m (More than derating)		
	Humidity	0%~95% (No condensation)		
	Warranty	1 year		

SOLAR MMPT CHARGE CONTROLLER

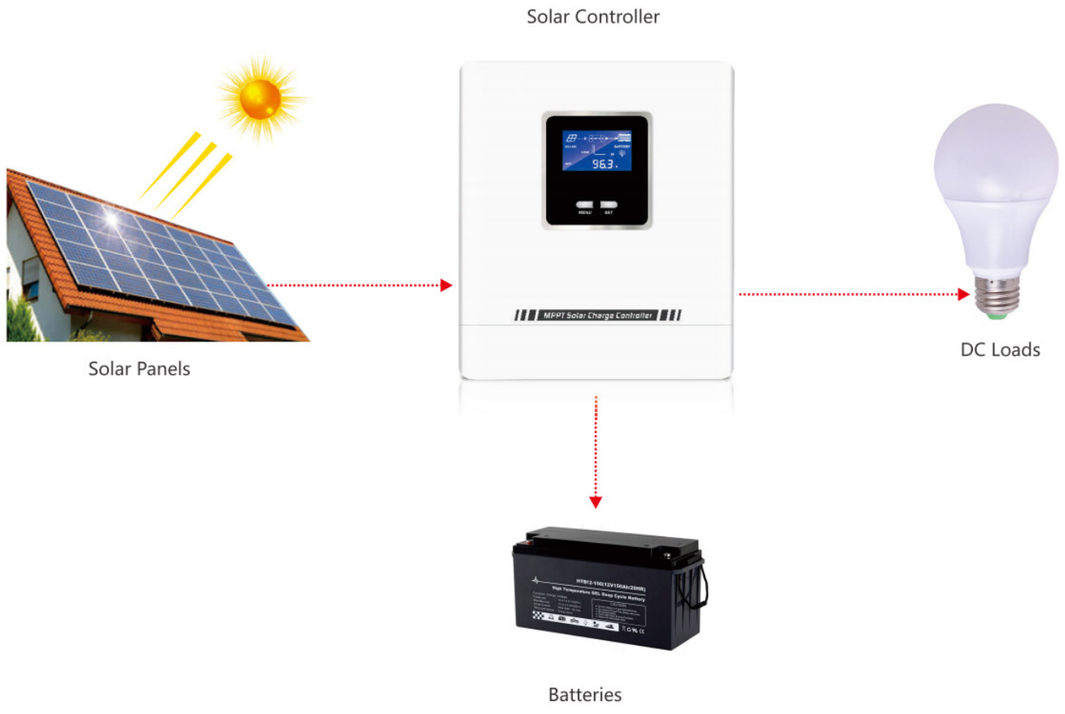
Household energy

PRODUCT PARARAMETERS

Model	150/10,150/20, 150/30 (10/20/30)	96/100 (100)	192/100,216/100, 240/100,384/100 (100)
Rated current	10A/20A/30A	100A	100A
Rated System Voltage	12V/24V/48V Auto Recognition	96V	192V216V/240V 384V
Max PV Input Voltage(Voc) (At the lowest ambient temperature)	150V	300V(96V system) / 450V(192V/216V system) / 500V(240V system) / 800V(384V system)	
MPPT Tracking Voltage Range	12V system: 15V-120V; 24V system: 30V-120V; 48V system: 60V-120V	120V~240V(96V system) / 240V/ 270V~360V (192V/216V system) / 300V~400V(240V system) / 480V~640V(384V system)	
Recommended operating voltage range	12V system: 15V-120V; 24V system: 30V-40V; 48V system: 60V-80V	120V-160V(96V system) / 240V/ 320V(192Vsystem); 270V-320V(216V system); 300V-350V(240V system); 480V-560V(384V system)	
PV array Max power	12V system: 140W-(10A)/280W(20A)/420(30A)/560(40A)/ 700W(50A)/840W(60A)/1120W(80A)/1400W(100A); 24V system: 280W(10A)/560W(20A)/840W(30A)/1120W(40A)/ 1400W(50A)/1680W(60A)/12240W(80A)/2800W(100A); 48V system: 560W(10A)/1120W(20A)/1680W(30A)/2240W(40A)/ 2800W(50A)/3360W(60A)/4480W(80A)/5600W(100A)	5.6KW*2	11.2KW*2/12.6KW*2/ 14KW*2/22.4KW*2
MPPT route number	1	2	2
Battery type	Lead acid battery(Battery type base on user chargr specification		
Floating voltage	13.8V/Single battery	110.4V/220.8V/248.4V/276V/441.6V	
Charge voltage	14.2V/Single battery	113.6V/227.2V/255.6V/284V/454.4V	
Charging protection voltage	15V/Single battery	120V/240V/270V/300V/480V	
Promote recovery voltage	13.8V/Single battery	105.6V/211.2V/237.6V/264V/422.4V	
Recovery voltage after low voltyage disconnect	12.5V/Single battery	/	
Discharge Limited voltage	10.5V/Single battery	/	
Temperature compensation	-3mV/℃/2V (25℃is baseline) (Optional)		
Charging mode	MPPT maximum power point tracking		
Charging method	Three stages: constant current (MPPT), conatant voltage, floating charge		
Protection	Over-voltage/under-voltage/over-temperature/PV anti-reverse protection		
Conversion Efficiency	>98%		
MPPT Tracking Efficiency	>99%		
Machine dimension(L*W*Hmm)	185*135*65	315*250*108	530*410*162
Package dimension(L*W*Hmm)	224*171*94(1PC) 351*233*196(4PCS)	356*296*147(1PC) 365*305*303(2PCS)	598*487*239
N.W.(kg)	1.15(1PC)	5.6(1PC)	26.5
G.W.(kg)	1.35(1PC)	6.3(1PC)	28.5
System Parameters			
Display	LCD		
Thermal method	Cooling fan in intelligent control		
Protection level	IP20		
Operating temperature	-15℃~+50℃		
Storage temperature	-20℃~+60℃		
Elevation	5000m(Dreating above 2000m)		
Humidity	5%~95%, No condensation		
Communication	RS485/APP (WIFI monitoring or GPRS monitoring)		

SOLAR MMPT CHARGE CONTROLLER

Household energy

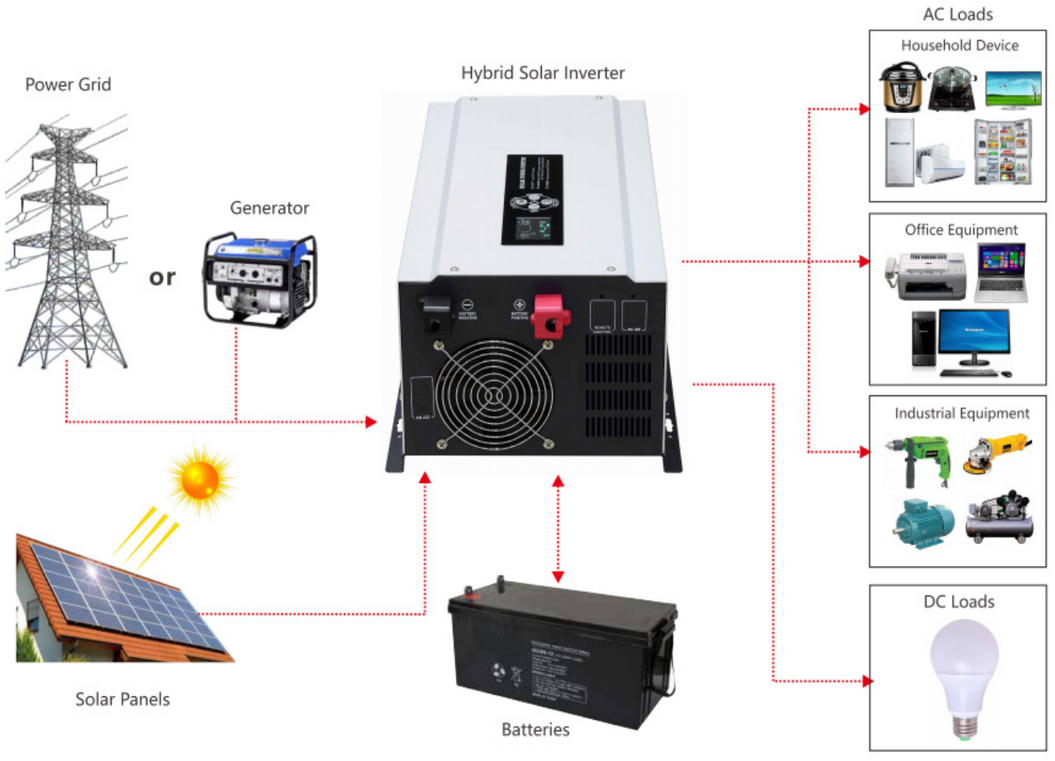


PRODUCT PARARAMETERS

Model	1048,2048 3048	4048,5048 6048	8048, 10048
Rated current	10A/20A/30A	40A/50A/60A	80/100A
Rated System Voltage	48V	48V	48V
Max PV Input Voltage(Voc) (At the lowest ambient temperature)	180V	180V	180V
MPPT Tracking Voltage Range	12V system: 15V-80V; 24V system: 30V-80V; 48V system: 60V-140V		
Recommended operating voltage range	12V system: 15V-20V; 24V system: 30V-40V; 48V system: 60V-80V		
PV array Max power	12V system: 140W-(10A)/280W(20A)/420(30A)/560(40A)/ 700W(50A)/840W(60A)/1120W(80A)/1400W(100A); 24V system: 280W(10A)/560W(20A)/840W(30A)/1120W(40A)/1400W(50A)/1680W(60A)/12240W(80A)/2800W(100A); 48V system: 560W(10A)/1120W(20A)/1680W(30A)/2240W(40A)/2800W(50A)/3360W(60A)/4480W(80A)/5600W(100A)		
Battery type	Lead acid battery(Battery type base on user chargr specification		
Floating voltage	13.8V/Single battery		
Charge voltage	14.2V/Single battery		
Charging protection voltage	15V/Single battery		
Promote recovery voltage	13.8V/Single battery		
Recovery voltage after low voltyage disconnect	12.5V/Single battery		
Discharge Limited voltage	10.5V/Single battery		
Temperature compensation Coefficient	-3mV/℃/2V (25℃is base line) (Optional)		
Charging mode	MPPT maximum power point tracking		
Charging method	Three stages: constant current (MPPT), conatant voltage, floating charge		
Protection	Over-voltage/under-voltage/over-temperature/PV anti-reverse protection		
Conversion Efficiency	>98%		
MPPT efficiency	>99%		
Machine dimension(L*W*Hmm)	214*155*72.8	238*180*82	315*210*106.5
Package dimension(L*W*Hmm)	243*184*115(1PC) 497*379*247(8PCS)	267*209*124(1PC) 639*278*265(6PCS)	344*239*149(1PC) 489*355*315(4PCS)
N.W.(kg)	1.6(1PC)	2.4(1PC)	4.2(1PC)
G.W.(kg)	1.8(1PC)	2.7(1PC)	4.6(1PC)
System Parameters			
Display	LCD		
Thermal method	Cooling fan in intelligent control		
Protection level	IP20		
Operating temperature	-15℃~+50℃		
Storage temperature	-20℃~+60℃		
Elevation	5000m(Dreating above 2000m)		
Humidity	5%~95%, No condensation		
Communication	RS485/APP (WIFI monitoring or GPRS monitoring)		

SOLAR INVERTER CHARGER/HYBRID SOLAR INVERTER

Household energy



PRODUCT PARARAMETERS

	Model	20212/24/48	40224/48	70248
	Rated Power	2000W	4000W	7000W
	Peak Power(20ms)	6000VA	12000VA	21000VA
	Start Motor	2HP	3HP	5HP
	Battery Voltage	12/24/48VDC	24/48VDC	48VDC
	Size(L*W*Hmm)	555*297*184	555*297*184	615*315*209
	Packing Size(L*W*Hmm)	620*345*255	620*345*255	680*365*280
	N.W(kg)	15.5	23	27.5
	G.W(kg)(Carton Packing)	17.5	25.5	30
	Installation Method	Wall-Mounted		
Input	DC Input voltage range	10.5-15VDC(Single battery voltage)		
	AC Input voltage range	85VAC / 138VAC (110VAC) / 95VAC~148VAC(120VAC) / 170VAC~275VAC (220VAC) / 180VAC~285VAC (230VAC) / 190VAC~295VAC (240VAC)		
	AC Input Frequency Range	45Hz~55Hz (50Hz), 55Hz~65Hz (60Hz)		
	Max AC charging current	0~30A (Depnding on the model)		
	AC charging method	Three-stage (constant current, constant voltage, floating charge)		
Output	Efficiency(Battery Mode)	≥85%		
	Output voltage(Battery/PV Mode)	110VAC±2% / 120VAC±2% / 220VAC±2% / 230VAC±2% / 240VAC±2%		
	Output frequency(Battery/PVMode)	50Hz/60Hz±1%		
	Output Wave(Battery/PVMode)	pure sine wave		
	Efficiency(AC Mode)	>99%		
	Output voltage(AC Mode)	110VAC±10% / 120VAC±10% / 220VAC±10% / 230VAC±10% / 240VAC±10%		
	Output frequency(AC Mode)	Tracking Automatically		
	Output waveform distortion(Battery/PV Mode)	≤3%(Linear load)		
	No load loss(Battery Mode)	≤0.8% rated power		
	No load loss(AC Mode)	≤2% rated power (charger does not work in AC mode)		
	No load loss(Energy saving Mode)	≤10W		
Battery Type	VRLA Battery	Charge voltage: 14.2V; Float voltage: 13.8V(12V system; 24V system x2； 48V system x4)		
	Customize battery	Charging and discharging parameters of different types of batteries can be customized according to user requirements (charging and discharging parameters of different types of batteries can be set through the operation panel)		
Protection	Battery undervoltage alarm	Battery undervoltage protection value+ 0.5V(Single battery voltage)		
	Battery undervoltage protection	Factory default: 11V(12V system; 24V system x2； 48V system x4)		
	Battery overvoltage alarm	Factory default: 15V(12V system; 24V system x2； 48V system x4)		
	Battery overvoltage protection	Factory default: 17V(12V system; 24V system x2； 48V system x4)		
	Battery overvoltage recovery voltage	Factory default: 14.5V(12V system; 24V system x2； 48V system x4)		
	Overload power protection	Automatic protection (battery mode), circuit breaker or insurance (AC mode)		
	Inverter output short circuit protection	Automatic protection (battery mode), circuit breaker or insurance (AC mode)		
	Temperature protection	>90℃(Shut down output)		
Alarm	A	Normal working condition, buzzer has no alarm sound		
	B	Buzzer sounds 4 times per second when battery failure, voltage abnormality, overload protection		
	C	When the machine is turned on for the first time, the buzzer will prompt 5 when the machine is normal		
Inside Solar conteoller (Optional)	Charging Mode	Battery undervoltage protection value+ 0.5V(Single battery voltage)		
	Charging current	Factory default: 11V(12V system; 24V system x2； 48V system x4)		
	PV Input Voltage Range	Factory default: 15V(12V system; 24V system x2； 48V system x4)		
	Max PV Input Voltage(Voc) (At the lowest temperature)	Factory default: 17V(12V system; 24V system x2； 48V system x4)		
	PV Array Maximum Power	12V system: 140W(10A)/280W(20A)/420W(30A)/560W(40A)/700W(50A)/840W(60A)/1120W(80A)/1400W(100A)； 24V system: 280W(10A)/560W(20A)/840W(30A)/1120W(40A)/1400W(50A)/1680W(60A)/2240W(80A)/2800W(100A)； 48V system: 560W(10A)/1120W(20A)/1680W(30A)/2240W(40A)/2800W(50A)/3360W(60A)/4480W(80A)/5600W(100A)		
	Standby loss	≤3W		
	Maximum conversion efficiency	>95%		
	Working Mode	Battery First/AC First/Saving Energy Mode		
	Transfer Time	≤4ms		
	Display	LCD (External LCD Display(Optional))		
	Thermal method	Cooling fan in intelligent control		
	Communication(Optional)	RS485/APP (WIFI monitoring or GPRS monitoring)		
Environment	Operating temperature	-10℃~40℃		
	Storage temperature	-15℃~60℃		
	Noise	≤55dB		
	Elevation	2000m (More than derating)		
	Humidity	0%~95% (No condensation)		
	Warranty	1 year		

SOLAR THREE PHASE INVERTER

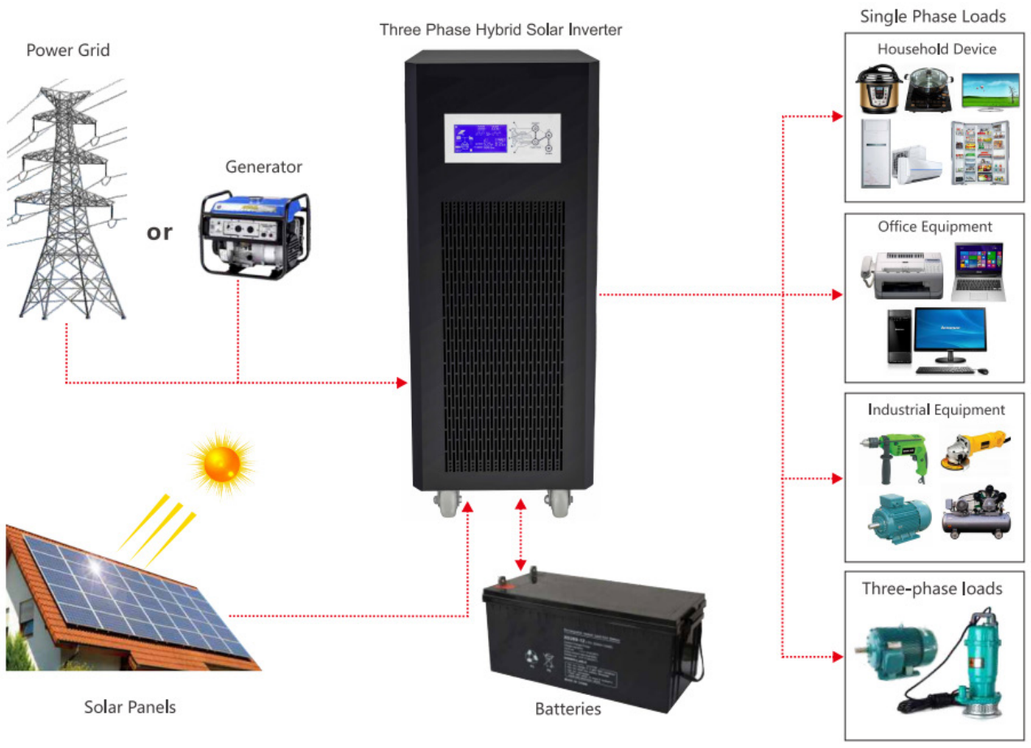
Household energy

PRODUCT PARARAMETERS

	Model	102P	302P/W	702P/W
Capacity	Rated Power	1000W	3000W	7000W
	Peak Power(20ms)	3000VA	9000VA	21KVA
Input	Stardard battery voltage	12VDC	24VDC	48VDC
	AC input voltage range	73~138VAC(110VAC)/83~148VAC (120VAC)/145~275VAC(220VAC)/ 155~285VAC(230VAC)/ 165~295VAC(240VAC)	85~138VAC(110VAC)/95VAC~148VAC(120VAC)/170VAC~275VAC(220VAC)/ 180VAC~285VAC(230VAC)/190VAC~295VAC(240VAC)	
	AC input frequency range	45Hz~55Hz (50Hz);55Hz~65Hz (60Hz)		
Output	Conversion efficiency	≥85%(Battery mode); >99%(AC mode)		
	AC Output voltage	110VAC±2% / 120VAC±2% / 220VAC±2% / 230VAC±2% / 240VAC±2%(Battery mode); 110VAC±10% / 120VAC±10% / 220VAC±10% / 230VAC±10% / 240VAC±10%(AC mode)		
	AC Output frequency	50/60Hz±1%(Battery mode); Tracking Automatically(AC mode)		
	AC Output waveform	Pure Sine Wave		
	THD	≤3%(Linear load)		
	DC Output voltage	4*DC 12V; 2*USB (5V)	4*DC 12V; 4*USB (5V)	
AC charger	AC charging current	0~30A(Depends on model)		
	AC charging method	Three-stage(constant current, constant voltage, floating charge)		
solar charger (Optional)	Charging mode	PWM	PWM/MPPT	
	Max PV Input Voltage(Voc) (At the lowest temperature)	50V	PWM:50V; MPPT:150V	PWM:100V; MPPT:150V
	PV input voltage range	15V~44V	PWN:30V~44V; MPPT:30V~120V	PWN:60V~88V; MPPT:60V~120V
	Charge & discharge current	40A	60A	
	Max PV input power	560W	1680W	3360W
Inbuilt battery	Capacity	1*100AH	2*200AH	4*200AH
	Battery size(LxWxH)/pcs	407*174*210(240)	522*240*218(244)	
Other	Transfer time	≤4ms		
	Protection	With over-voltage, low-voltage; overload, short circuit, high tempreature protections		
	Display	LCD & LED		
	Cooling way	Cooling fan in intelligent control		
	Communication(Optional)	RS485/APP (WIFI monitoring or GPRS monitoring)(Models below 1000W(including 1000W)are not supported		
Working mode (selectable)	d1	AC priority mode		
	d2	ECO mode		
	d3	Solar priority mode		
Working environment	Operating temperature	-10℃~40℃		
	Storage temperature	-15℃~60℃		
	Elevation	2000m (More than derating)		
	Humidity	0%~95%,No condensation		
Physical	Dimention L x W x H(mm)	488*232*450	560*350*928	610*535*960
	Overload power protection	16	43	66
Packing	Dimention L x W x H(mm)	550*295*625	638*427*1063	688*62*1093
	Gross weight(kg) (without battery)	21	53	81
	Quantity/CTN	1 pcs per wooden case		

SOLAR THREE PHASE INVERTER

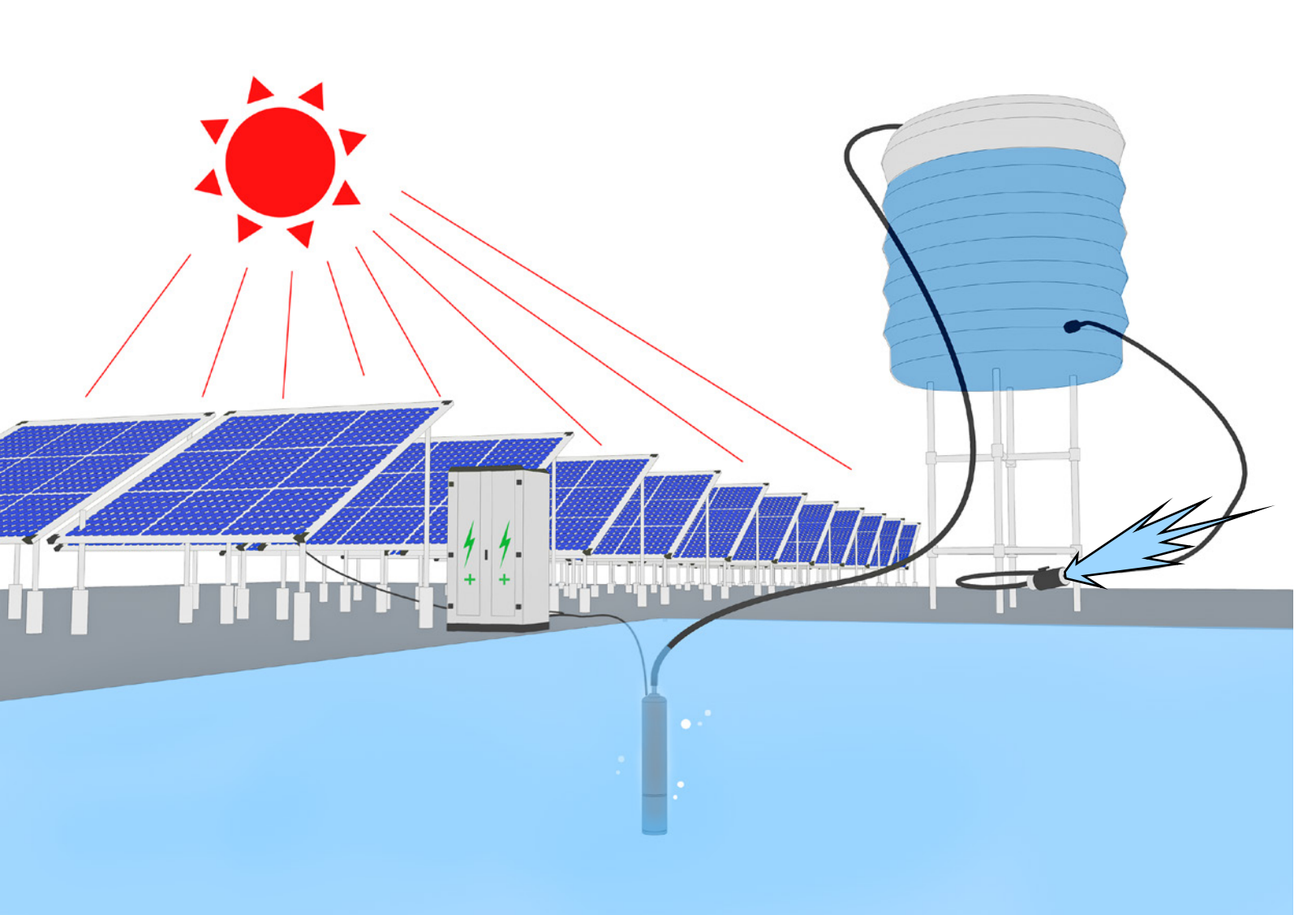
Household energy



PRODUCT PARARAMETERS

	Model	64248/96/192	12348/96/192	24396/192
	Rated Power	8KVA/6.4KW	15KVA/12KW	30KVA/24KW
	Peak Power(20ms)	19.2KVA	36KVA	72KVA
	Start Motor	4HP	7HP	15HP
	Battery Voltage	48/96/192VDC	48/96/192VDC	96/192VDC
	Size(L*W*Hmm)	565*300*775	725*365*1010	725*365*1010
	Packing Size(L*W*Hmm)	620*360*895	785*425*1135	785*425*1135
	N.W(kg)	80	134	189
	G.W(kg)(Carton Packing)	93	158	213
	Installation Method	Tower		
Input	DC Input voltage range	10.5-15VDC(Single battery voltage)		
	AC Input voltage range	380VAC / 400VAC±10% (customized 190VAC/200VAC)		
	AC Input Frequency Range	45Hz~55Hz (50Hz), 55Hz~65Hz (60Hz)		
	Max AC charging current	0~45A (Depnding on the model)		
	AC charging method	Three-stage (constant current, constant voltage, floating charge)		
	Phase	3/N/PE		
Output	Efficiency(Battery Mode)	≥85%		
	Output voltage(Battery Mode)	380VAC/400VAC±10%(customized 190Vac/200Vac)		
	Output frequency(Battery/PVMode)	50Hz/60Hz±1%		
	Output Wave(Battery/PVMode)	pure sine wave		
	Efficiency(AC Mode)	>99%		
	Output voltage(AC Mode)	Conforming to AC input		
	Output frequency(AC Mode)	Conforming to AC input		
	No load loss(Battery Mode)	≤2.5% rated power(4KVA-30KVA models); ≤1% rated power(40KVA-200KVA models)		
	No load loss(AC Mode)	≤2% rated power (charger does not work in AC mode)		
	No load loss(Energy saving Mode)	≤10W		
	Phase	3/N/PE		
Battery Type	VRLA Battery	Charge voltage: 13.8V; Float voltage: 13.7V(Single battery voltage)		
	Customize battery	Charging and discharging parameters of different types of batteries can be customized according to user requirements (charging and discharging parameters of different types of batteries can be set through the operation panel)		
Protection	Battery undervoltage alarm	11V(Single battery voltage)		
	Battery undervoltage protection	10.5V(Single battery voltage)		
	Battery overvoltage alarm	15V(Single battery voltage)		
	Battery overvoltage protection	17V(Single battery voltage)		
	Battery overvoltage recovery voltage	14.5V(Single battery voltage)		
	Overload power protection	Automatic protection (battery mode), circuit breaker or insurance (AC mode)		
	Inverter output short circuit protection	Automatic protection (battery mode), circuit breaker or insurance (AC mode)		
	Temperature protection	>90℃(Shut down output)		
Alarm	A	Normal working condition, buzzer has no alarm sound		
	B	Buzzer sounds 4 times per second when battery failure, voltage abnormality, overload protection		
	C	When the machine is turned on for the first time, the buzzer will prompt 5 when the machine is normal		
Inside Solar conteoller (Optional)	Charging Mode	MPPT or PWM		
	Charging current	PWM:10A/20A/30A/40A/50A/60A(48V System); 50A/100A/150A/200A(96V/192V/384V System) MPPT:10A/20A/30A/40A/50A/60A/80A/100A(48V System); 50A/100A(96V/192V/384V System)		
	PV Input Voltage Range	PWM:60V-88V(48V System); 120V-176V(96V System); 240V-352V(192V System); 480V-704V(384V System) MPPT:60V-120V(48V System); 120V-240V(96V System); 240V-360V(192V System); 480V-640V(384V System)		
	Max PV Input Voltage(VOC) (At the lowest temperature)	PWM:100V(48V System); 200V(96V System); 400V(192V System); 750V(384V System) MPPT:150V(48V System); 300V(96V System); 450V(192V System); 800V(384V System)		
	PV Array Maximum Power	48V system: 560W(10A)/1120W(20A)/1680W(30A)/2240W(40A)/2800W(50A)/3360W(60A) 96V system: (PWM: 5.6KW(50A)/11.2KW(100A)/(MPPT:5.6KW(50A)/5.6KW*2(100A); 192V system: (PWM: 11.2KW(50A)/22.4KW(100A)/16.8KW*2(150A)/22.4KW*2(200A)(MPPT:11.2KW(50A)/11.2KW*2(100A); 384V system: (PWM: 22.4KW(50A)/44.8KW(100A)/33.6KW*2(150A)/44.8KW*2(200A)(MPPT:22.4KW(50A)/22.4KW*2(100A)		
	Standby loss	≤3W		
	Maximum conversion efficiency	>95%		
	Working Mode	Battery First/AC First/Saving Energy Mode		
	Transfer Time	≤4ms		
	Display	LCD		
	Thermal method	Forced air cooling		
	Communication(Optional)	RS485/APP (WIFI monitoring or GPRS monitoring)		
Environment	Operating temperature	-10℃~40℃		
	Storage temperature	-15℃~60℃		
	Noise	≤65dB		
	Elevation	2000m (More than derating)		
	Humidity	0%~95% (No condensation)		
	Warranty	1 year		

SOLAR THREE PHASE INVERTER



PRODUCT PARARAMETERS

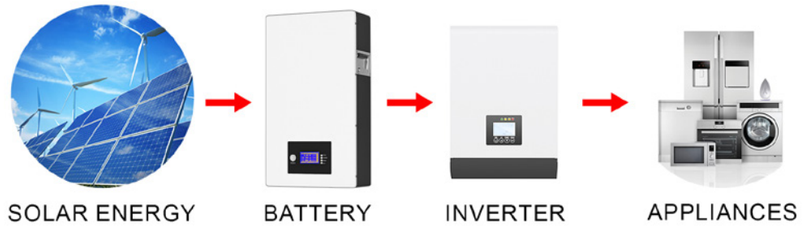
Model		50248/96	10348/96/192	403384
Power rating		5KW	10KW	40KW
Peak power(20ms)		15000VA	30KVA	120KVA
Start motor		4HP	7HP	20HP
Standard battery voltage		48/96VDC	48/96/192VDC	384VDC
Maximum utility current		0~20A (depending on the model, the maximum charging power is 1/4 of the rated power)		
Built-in solar controller charging current (optional)		48V(PWM:10A~120A/MPPT:10A~100A)/96V(50A/100A (PWM or MPPT)	Pwm:(48V:120A;96V:50A/100A'192V/384V:50A) MPPT:(48V:100A/200A;96V:50A/100A;192V/384:50A)	50A/100A
Machine size(L*W*Hmm)		491x260x490	540x350x695	721x400x1002
Package Size(L*W*Hmm)		545x315x550	600x410x810	775x465x1120
Net weight(KG)		30	70	192
Gross weight (KG) (carton packaging)		33	81	215
Installation method		Tower type		
Input	DC input voltage range	10.5-15VDC (single battery voltage)		
	Mains input voltage range	73VAC~138VAC / 83VAC~148VAC / 145VAC~275VAC / 155VAC~285VAC / 165VAC~295VAC (700W~7000W) 92VCA~128VAC / 102VAC~138VAC / 185VAC~255VAC / 195VAC~265VAC / 205VAC~275VAC(8KW~40KW)		
	Mains input frequency range	45Hz~55Hz (50Hz) / 55Hz~65Hz (60Hz)		
	Mains charging method	Three-stage (constant current, constant voltage, floating charge)		
Output	Inverter output efficiency	≥85%		
	Inverter output voltage	110VAC±2% / 120VAC±2% / 220VAC±2% / 230VAC±2% / 240VAC±2% (battery mode)		
	Inverter output frequency	50Hz±0.5 or 60Hz±0.5		
	Inverter output waveform	pure sine wave		
	Mains output efficiency	≥99%		
	Mains output voltage range	Follow input		
	Mains output frequency range	Auto track		
	Inverter output waveform distortion	≤3%(Linear load)		
	Battery mode no-load loss	≤1%Power rating		
	Mains mode no-load loss	≤2%Power rating(Mains charger not working)		
	Energy saving mode no-load loss	≤10W		
Battery Type	Valve Regulated Lead Acid Batteries	Equalizing voltage: 14.2V; Floating voltage: 13.8V (single cell voltage)		
	custom battery	The charge and discharge parameters of different types of batteries can be customized according to user requirements (the charge and discharge parameters of different types of batteries can be set through operation)		
	Battery undervoltage alarm	Factory default: 11V (single battery voltage)		
	Battery undervoltage protection	Factory default: 10.5V (single battery voltage)		
	Battery overvoltage alarm	Factory default: 15V (single battery voltage)		
	Battery overvoltage protection	Factory default: 17V (single battery voltage)		
	Battery overvoltage recovery voltage	Factory default: 14.5V (single battery voltage)		
	Overload power protection	Automatic protection (battery mode), circuit breaker or fuse (mains mode)		
	Inverter output short circuit protection	Automatic protection (battery mode), circuit breaker or fuse (mains mode)		
	Temperature protection	≥99℃(close output)		
Alarm	A	In normal working state, the buzzer has no alarm sound		
	B	When battery failure, abnormal voltage, overload protection, the buzzer beeps 4 times per second		
	C	When the machine is turned on for the first time, when the machine is normal, the buzzer will prompt 5 times		
Work mode		Inverter priority/mains priority/energy saving mode		
Conversion time		≤4ms		
Panel display		LCD		
Heat dissipation method		Smart Fan Control		
Communication function (optional)		RS485 communication interface / mobile APP (WIFI monitoring or GPRS monitoring)		
Surroundings	Use temperature	-10℃~40℃		
	Storage temp	-15℃~60℃		
	Noise	≤55dB		
	Elevation	2000m(Exceeds need to be derated)		
	Relative humidity	0%~95%, no condensation		

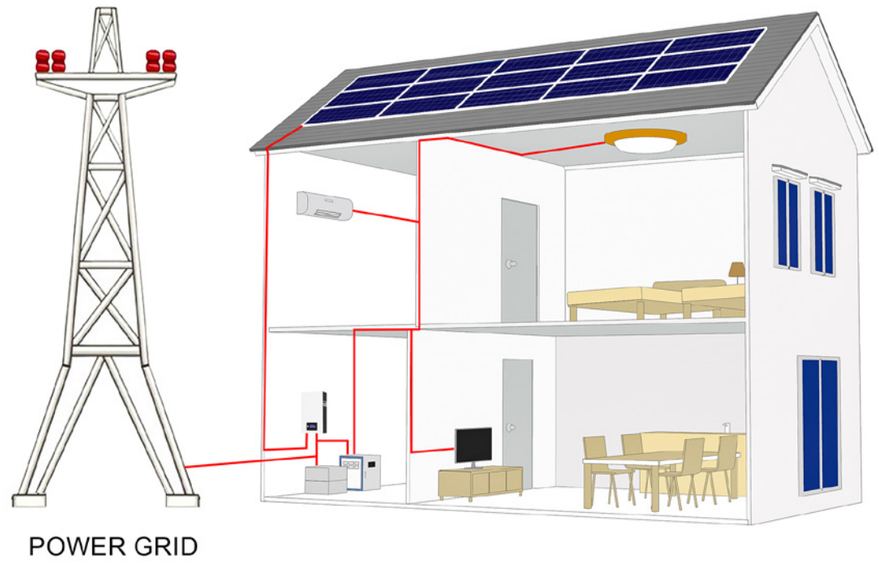
WALL-MOUNT LIFEPO4 STORAGE BATTERY

Household energy

*Support battery capacity customization

SUPPORT CUSTOMIZED PARAMETERS





PRODUCT PARARAMETERS

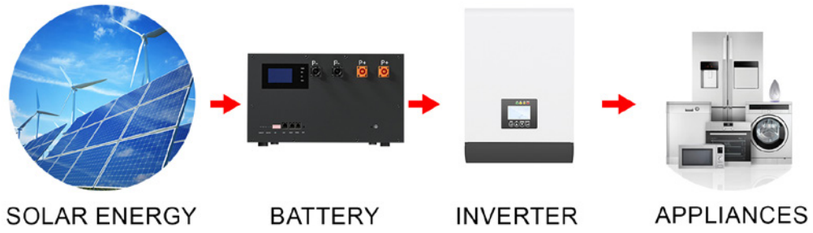
Model	ES-BOX2S
Friendly Environment Battery	LiFePO4
Calender life	10 years
Nominal Voltage	51.2V-16S
Nominal Capacity	100AH
Nominal energy	5.12kWh
Operation voltage range	40.0V-57.6V
Standard charge current	20A
Max Continuous charge current	100A
Temperature sensor protection	65℃
Charging temperature	0~45℃
Working temperature	-20~60℃
Over-current Fuse	120A
Cycle life	6000 times(80%DOD)
Communication	RS485/RS232/CAN
Box Size	600*510*173mm
Weight(KGS)	48KGS±0.5KGS

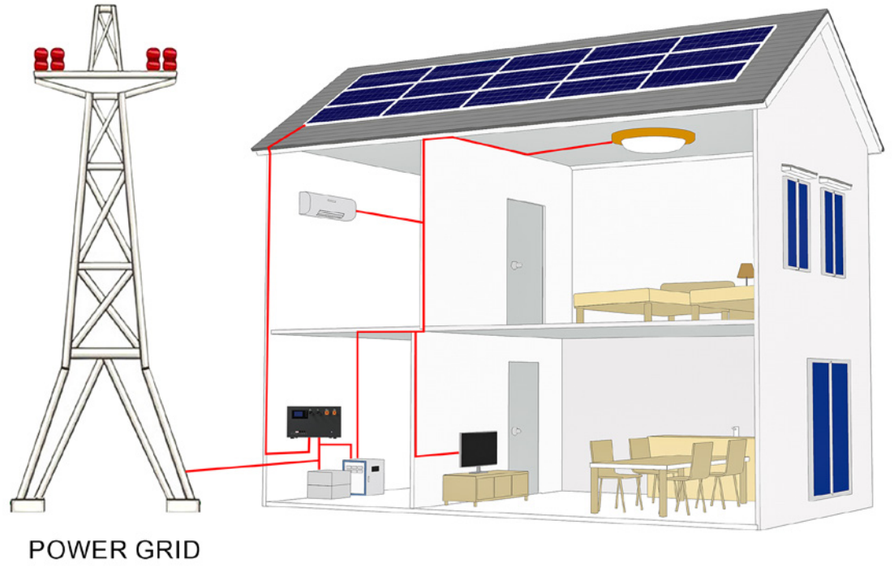
STACKED LIFEPO4 STORAGE BATTERY

Household energy

*Support battery capacity customization

SUPPORT CUSTOMIZED PARAMETERS



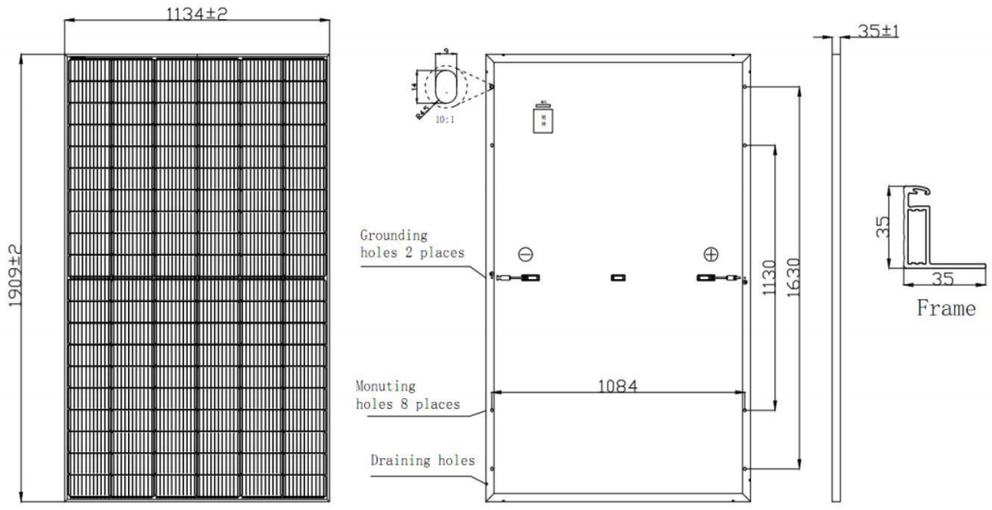


PRODUCT PARARAMETERS

Model	ESS-5120
Friendly Environment Battery	LiFePO4
Calender life	10 years
Nominal Voltage	51.2V-16S
Nominal Capacity	100AH
Nominal energy	5.12kWh
Operation voltage range	40.0V-58.4V
Standard charge current	20A Max
Continuous charge current	100A
Standard discharge current	20A
Max Continuous discharge current	100A
Temperature sensor protection	65℃
Charging temperature	0~45℃
Working temperature	-20~60℃
Over-current Fuse	120A
Cycle life	4000-5000 times(80%DOD)
Communication	RS485/RS232/CAN
Size	442*439.7*165mm (without handle)
Size	442*484*165mm (with handle)
Net Weight (KGS)	41.2KGS±0.5kg

MONO SOLAR PANEL

Overall dimensions (LxWxH)	Power range	Weight
1909mm x 1134mm x 3030mm	430-455W	About 23.0kg±3%



ELECTRICAL PARARAMETERS AT STC

Mode	JMD445P-120M	JMD450P-120M	JMD455P-120M	JMD460P-120M
Maximum Power (Pmax/W)	445	450	455	460
Module Efficiency (%)	20.60	20.80	21.00	21.20
Open Circuit Voltage (Voc/V)	41.10	41.25	41.40	41.55
Short Circuit Current (Isc/A)	13.82	13.89	13.97	14.04
Maximun Power Voltage (Pmp/V)	34.48	34.67	34.87	35.07
Maximun Power Current (Imp/A)	12.91	12.98	13.05	13.12

ELECTRICAL PARARAMETERS AT NOCT

Maximum Power Pmax/W	336	340	343	346
Open Circuit Voltage (Voc/V)	38.53	38.65	38.77	38.85
Short Circuit Current (Isc/A)	11.03	11.08	11.12	11.17
Maximun Power Voltage (Pmp/V)	32.35	32.51	32.67	32.76
Maximun Power Current (Imp/A)	10.40	10.46	10.51	10.56

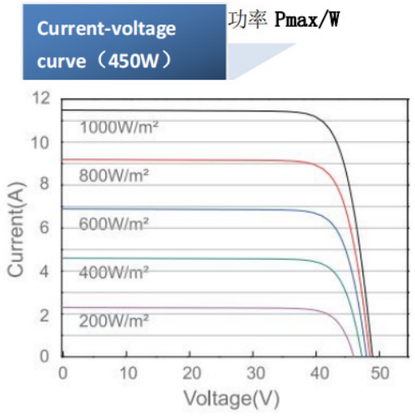
TEMPERATURE CHARACTERISTICS

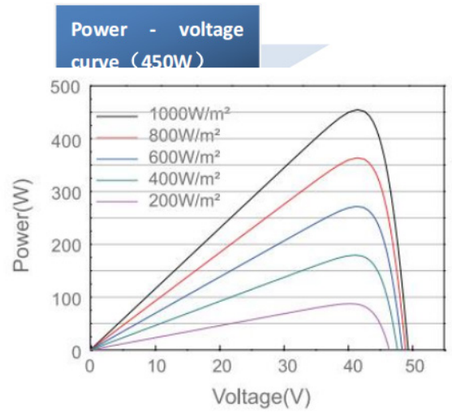
NOCT	45±2℃	Temp Coefficient of Isc	+0.046%/℃
Temp Coefficient of Voc	-0.275%/℃	Temp Coefficient of Pmax	-0.350%/℃

PACKING CONFIGURATION

Modules/Pallet	36 Pieces	Modules/40'Container	864 Pieces
Packing Description	24Pallets, Total=(36+36)x12=864 Pieces		

Characteristics



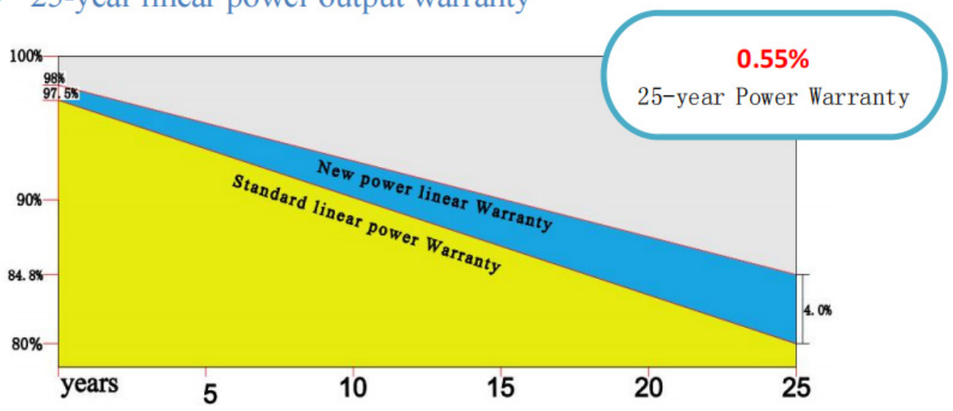


Operating Parameters

Maximum System Voltage	1500V DC
Operating Temperature	-40° C~+85° C
Maximum Series Fuse	20A
NOCT	45±2° C
Fireproof Performance	Glass C
Maximum Static Load, Front Maximum Static Load, Back	5400Pa(112 lb/ft²) 2400Pa (50 lb/ft²)

Quality warranty and Certification system

- 10-year product material and technology warranty
- 25-year linear power output warranty



Comprehensive Certificates

- IEC 61215, IEC 61730,UL 61215, UL 61730
- ISO 9001: 2015 Quality management systems
- ISO 14001: 2015 Environmental management systems
- ISO 45001:2018 Occupational health and safety management systems
- IEC TS 62941: 2016 Terrestrial photovoltaic (PV) modules – Guidelines for increased confidence in PV module design qualification and type approval

Module Excellence

Multi Busbar Technology：Better light trapping and current collection to improve，Effectively improve the module's power output and reliability。

Higher output power：Module output power increased to 455W.

Low light performance：The special solar cell technology has excellent low light power generation performance.

Better resistance to hot spots：The use of half cell structure and special circuit design is less shade loss, with better temperature coefficient and thermal spot resistance ability.

Adaptability to harsh environments：High performance materials are suitable for coastal, farm, desert and other harsh environmental conditions, glass surface is anti-reflective and easy to clean, minimizing power generation losses caused by dirt and dust.

Module Packaging

Module Type	MSDXXXP-120M
Dimension	1909*1134*35mm
Number	31pcs/pallet
Volume	2.834m³
Weight	N.W-713kg/G.W-736kg
40'HQ Container	744pcs
Trailer（17.5m）	1054pcs

Mechanical Parameters

Cell	Mono
Solar Cells	120pcs（6*20）
Dimension	1909×1134×35mm
Weight	23.0kg±3%
Structure	3.2 glass + EVA film + back
Cable Cross Section Size	4mm²(IEC)
Junction Box	IP68、3*bypass diode
Cable Length (Including Connector)	4.0mm²，(+)280mm/(-)280mm(custom)
Connector	MC4/Compatible with MC4

PROJECT CASE

USA

Thailand

Kenya

Saudi Arabia

Germany

Brazil

South Africa

PORTABLE POWER STATION

A variety of styles to choose from to meet your needs

200W/400W/600W

500W/1000W/1500W/2000W

600W

600W

1000W

1000W/2000W

6000W

SOLAR POWER STATION(TERNARY LITHIUM BATTERY)

Emergency battery

Optional solar panels

PRODUCT PARARAMETERS

Model	500W (pure sine wave)	1000W (pure sine wave)	1500W (pure sine wave)	2000W (pure sine wave)
Solar Panel	Optional	Optional	Optional	Optional
Battery voltage	12.6V	12.6V	12.6V	29.4V
Battery capacity	554WH	1134WH	1714WH	2234WH
Charging time	5 hours	4 hours	4hours	5 hours
Solar charging current	<30A	<60A	<80A	<60A
On board output voltage	12V	12V	12V	12V
DC output power	120W	120W	120W	120W
AC power output	500W	1000W	1500W	2000W
Size	32x21x35cm	32x21x35cm	327x21x35cm	47x33.5x33.5cm

Emergency battery

Optional solar panels

MULTIPLE OUTPUT MODES

SINE WAVE220V / 768WH/ AC/ USB / DC / LED LIGHT

PRODUCT PARARAMETERS

Model	3000W (correction wave)
Solar Panel	Optional
Battery voltage	12.6V
Battery capacity	328WH
Charging time	3.5 hours
Solar charging current	<15A
DC output power	120W
AC power output	300W
Size	28.2x7.3x20cm

SOLAR POWER STATION(LIFEPO4 BATTERY)

Household energy

Optional solar panels

BYBX-6D

BYBX-6D1

(wireless charging function Optional)

PRODUCT PARARAMETERS

Model	BYBX-6D	BYBX-6D1
Solar Panel	16V(<500W)	16V(<500W)
Battery voltage	14.4V	14.4V
Battery capacity	605WH	605WH
Charging time	2 hours	2 hours
Solar charging current	<40A	<40A
On board output voltage	12V	12V
DC output power	120W	120W
AC power output	600W	600W
Size	37x21x21.5cm	29x21x24.5cm

SOLAR POWER STATION(LIFEPO4 BATTERY)

Household energy

Optional solar panels

PRODUCT PARARAMETERS

Model	BYBX-10C
Solar Panel	16V(<800W)
Battery voltage	14.4V
Battery capacity	1008WH
Charging time	1.5 hours
Solar charging current	<60A
On board output voltage	12V
DC output power	120W
AC power output	1000W
Size	37x26.5x22.5cm

SOLAR POWER STATION(LIFEPO4 BATTERY)

Emergency battery

Optional solar panels

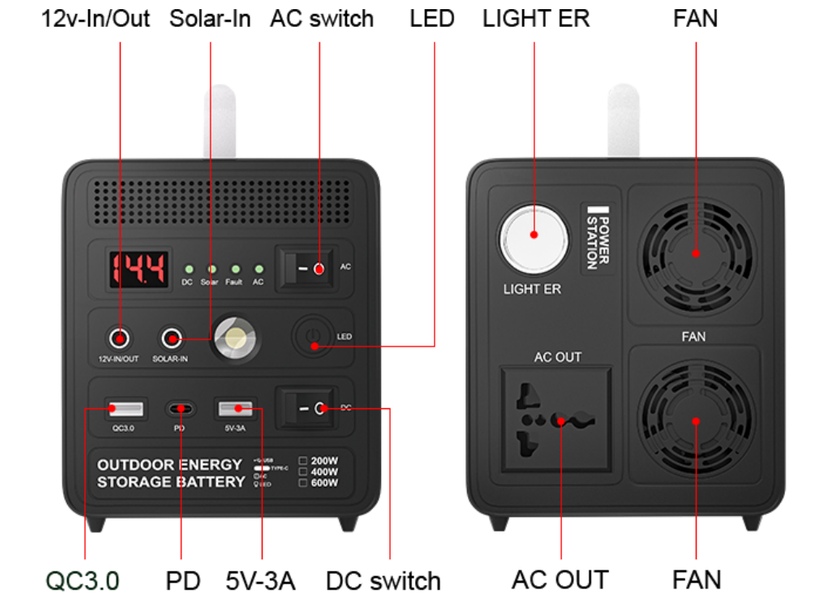
PRODUCT PARARAMETERS

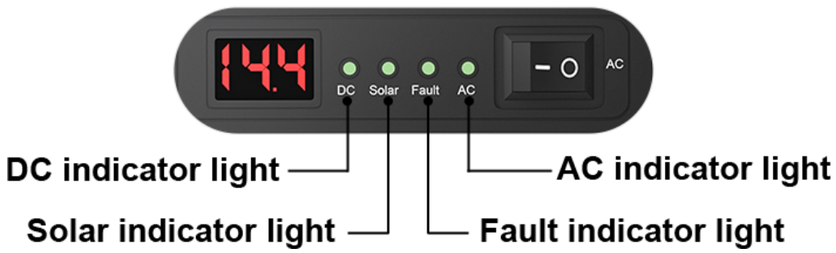
Model	BYBX-10C1	BYBX-20C	BYBX-30C
Solar Panel	16V(<800W)	36V(<1800W)	36V(<2800W)
Battery voltage	14.4V	28.8V	28.8V
Battery capacity	1008WH	2016WH	2880WH
Charging time	1.5 hours	1.5 hours	1.5 hours
Solar charging current	<60A	<60A	<80A
On board output voltage	12V	12V	12V
DC output power	120W	120W	120W
AC power output	1000W	2000W	3000W
Size	21.5x40x26.5cm	21.5x40x26.5cm	30.5x51x37cm

SOLAR POWER STATION(LIFEPO4 BATTERY)

Emergency battery

Optional solar panels





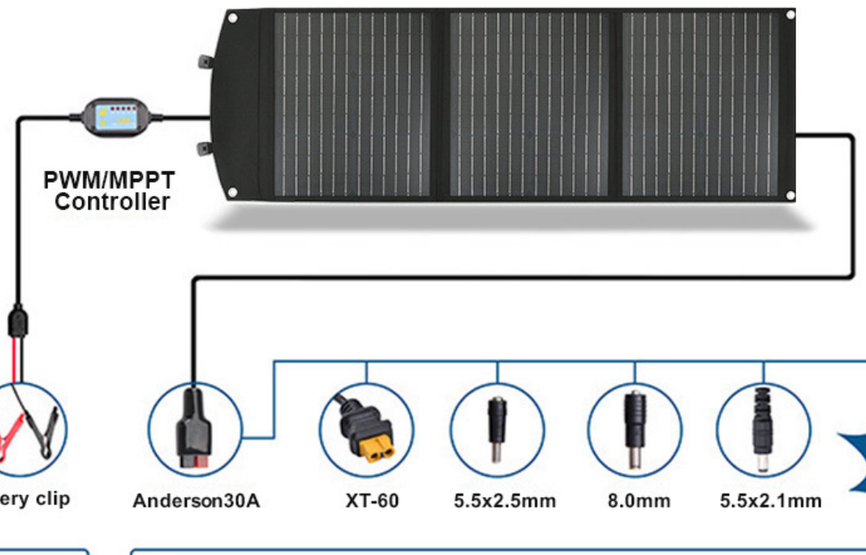
PRODUCT PARARAMETERS

Model	BYBX-2C	BYBX-4C	BYBX-6C
Solar Panel	16V(<200W)	16V(<200W)	16V(<400W)
Battery voltage	14.4V	14.4V	14.4V
Battery capacity	288WH	432WH	432WH
Charging time	2 hours	2 hours	2 hours
Solar charging current	<10A	<15A	<15A
On board output voltage	12V	12V	12V
DC output power	120W	120W	120W
AC power output	300W	400W	600W
Size	12.5x29.5x17.5cm	12.5x29.5x17.5cm	12.5x29.5x17.5cm

FOLDING SOLAR PANEL

HIGH COMPATIBILITY

Multiple connectors for power stations and batteries

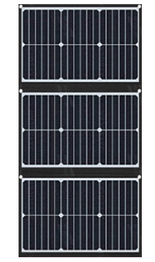


A VARIETY OF SPECIFICATIONS FOR YOUR CHOICE

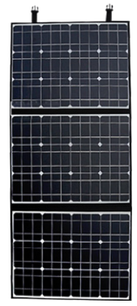

JP-21W


JP40W


JP-30W


JP60W


JP60W


JP100W


JP100W


JP120W


JP150W


JP200W


JP200W