PRODUCT COM-PANY CATALOGUE

Plamd

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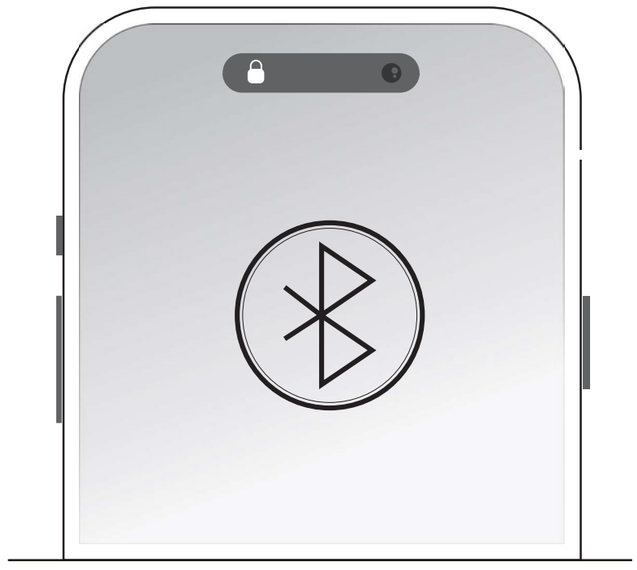
CON-TENTS

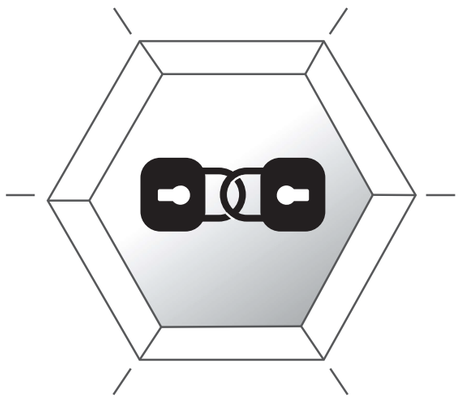
PRODUCT FUNCTION

Our products use software management and control design schemes, with Bluetooth APP control, which can realize data visualization and make operations easier and simpler; the products are equipped with LCD screen displays, which can directly view data or protocol to match the different inverter.



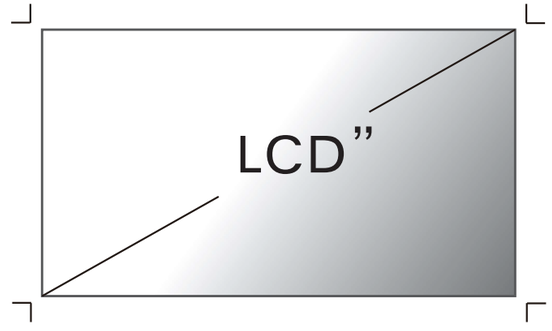
BLUETOOTH APP

Remote monitoring and operation via mobile phone, which is easy and convenient.



PRODUCT DOUBLE PROTECTION

The product adds breaker and switch, double protection



LCD DISPLAY

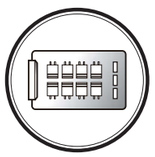
Data viewing, function adjustment.

PRODUCT ADVANTAGES

The company's products use lithium iron phosphate (LiFePO4) batteries as the main material, and the battery cells are supplied by first-line brands, with guaranteed quality, safety and longer service life; the BMS adopts well-known brands to ensure all the cells working well.

THE BATTERY CELLS

The battery cells adopt the first-tier brands in China, also the cells come to us with the same batches, which make sure the cells with high consistency; the battery cells are stored at a constant temperature and humidity environment to keep the cell with the high performance.



BMS TEST

The incoming BMS is tested and fully inspected according to the process parameter requirements, which ensure qualified performance; data storage and binding tracking can also be carried out.

AUTOMATIC PRODUCTION LINE

The production process of production line automation: cell sorting and testing, automatic extrusion, automatic laser welding of modules. Automated production improves product efficiency and ensures stable quality.

AGING

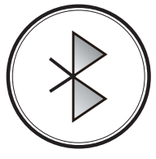
Aging is to test product performance, which ensure that product performance meets parameter requirements. Fully inspect the product for aging to ensure that each battery has qualified output.

STANDARD MODULE

The product adopts the standard design module concept, which has strong manufacturability, strong versatility of materials, stable product performance, and advantageous product cost;

FINISHED PRODUCT TEST

The performance of the finished product is fully inspected and tested to ensure that the performance of the shipped product is qualified.



APP

The product is equipped with a Bluetooth module, which can realize the APP operation of the mobile phone, and can monitor data or command operations.

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LW SERIES-WALL MOUNTED LFP BATTERY

HOUSEHOLD BACKUP POWER SUPPLY SERIES

The LW series is a high-tech product developed for the requirements of new backup power supply.

Built-in intelligent BMS to protect the battery pack at any time and prolong its service life, modular design enables parallel installation for larger power back up.

WORKING MODE:

Charging, Discharging Application Fields: It Can Be Widely Used In Indoor Distribution Stations, Integrated Base Stations, Edge Stations, Home Photovoltaic Storage, Distributed Power Supplies And Other Fields.(Product Specifications Are Subject To Change Without Notice.)

LW series wall-mounted LiFePO4 battery

- Cells cycle times 5000 cycles(25℃ 0.2C@80% DOD).
- Wall-mounted design, space saving, easy installation, matching inverter to meet daily energy needs.
- Smart BMS system to optimize the performance.
- Communication: RS485/CAN, Compatible with different brands of solar inverter.
- All around protection: such as SOC/SOH etc..
- High discharge rate currents, suitable for off- grid solar system and other loads.
- Maximum of 16 battery packs can be connected in parallel. With front display to know effectively the status of each batteries.

Technical Parameter

Model	LW-5K	LW-10K	LW-15K
Specification			
Battery Type	LiFePO4	LiFePO4	LiFePO4
Battery Model	51.2V100AH	51.2V200AH	51.2V300AH
Nominal Capacity(25℃, 0.2CWH	5120Wh	10.24KWh	15.00KWh
Adjustable working voltage(Vdc)	40~56.8V	40~56.8V	40~56.8V
Folat Charge Voltage(Vdc)	58.4V	58.4V	58.4V
Max.Continuous discharge current(A)	100	200	200
Max.pulse discharge current(A)	150A(1 sec)configurable	300A(1 sec)configurable	300A(1 sec)configurable
Max.Continuous charge current(A)	100	200	200
Cycle life(25C 0.2C 80%DOD)	>5000 Cycles	>5000 Cycles	>5000 Cycles
Cell Equalizer Current(A)	0.1~5AMax.(Optional)	0.1~10Max.(Optional)	0.1~10Max.(Optional)
Terminal	EES-6mm quick plug terminal	EES-6mm quick plug terminal	EES-6mm quick plug terminal
Storage duration	6 months at 25℃	6 months at 25℃	6 months at 25℃
Safety standard	UN38.3.MSDS.CE	UN38.3.MSDS.CE	UN38.3.MSDS.CE
Communication function	RS485/CAN(Standard)	RS485/CAN(Standard)	RS485/CAN(Standard)
Protection			
Protection	Overcharge protection\Overdischarge protection\Overcurrent protection\ Shortcircuit protection Overtemperature protection		
Ambient			
Noise(dB)	<40dB(1 meter)	<40dB(1 meter)	<40dB(1 meter)
Working temperature	-20℃~+60℃	-20℃~+60℃	-20℃~+60℃
Humidity	0-95%(no condensation)	0-95%(no condensation)	0-95%(no condensation)
Altitude(m)	<3000	<3000	<3000
Dimension			
W*H*D(product size)mm	W500*H600*D165	W415*H715*D250	W500*H800*D228
Net Weight(Kg)	46.6	90	138

" Additional Features (optional feature)LCD Display and WiFi.Due to different communication protocol versions,it is necessary to confirm clearly before shipment."

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LR SERIES-RACK MOUNTED LFP BATTERY

LR SERIES RACK MOUNT LIFEP04 BATTERY

LR series LiFePO4 battery is a high-tech product developed for the requirements of new backup power supply.

Built-in intelligent BMS to protect the battery pack at any time and prolong its service life,modular design enables parallel installation for larger power back up.

LR Series Rack Mount LiFePO4 Batteries

- Cells cycle times 5000 cycles(25 ℃ 0.2C@80% DOD).
- Long lifespan: 10 years life design.
- 3U rack-mount chassis design is easy for parallelexpansion and maintenance.
- Smart BMS system to optimize the performance.
- Communication: RS485/CAN, Compatiblewith different brand of solar inverter and chargers.
- All around protection: such as SOC/SOH etc..
- High discharge rate currents, suitable for on-grid oroff- grid solar system and other loads.
- Maximum of 16 battery packs can be connected in parallel.
- With front display to know effectively the status of the batteries.

Technical Parameter

Model	LR 25.6-100	LR 48-100	LR 51.2-100	LR 48-200	LR 51.2-200
Specification					
Battery Type	LiFePO4	LiFePO4	LiFePO4	LiFePO4	LiFePO4
Battery Model	25.6V100AH	48V100AH	51.2V 100AH	48V200AH	51.2V200AH
Nominal Capacity(25 ℃, 0.2CWH	2560Wh	4800Wh	5120Wh	9600Wh	10240Wh
Adjustable working voltage(Vdc)	22.4 ~ 29.2V	37.5~53.25V	40~56.8V	37.5 ~ 53.25V	40 ~ 56.8V
Folat Charge Voltage(Vdc)	28V	54.75V	58.4V	54.75V	58.4V
Max.Continuous discharge current(A)	100	100	100	200	200
Max.pulse discharge current(A)	150A (1 sec)configurable	150A (1 sec)configurable	150A (1 sec)configurable	250A (1 sec)configurable	250A (1 sec)configurable
Max.Continuous charge current(A)	100	100	100	200	200
Cycle life(25C 0.2C 80%DOD)	>5000 Cycles	>5000 Cycles	>5000 Cycles	>5000 Cycles	>5000 Cycles
Terminal	M8				
Storage duration	6 months at 25 ℃				
Safety standard	UN38.3.MSDS.CE				
Communication function	RS485/CAN(Standard)				
communicate wth mainstream inverter	Growatt/Victron/GOODWE/Pylontech/MUST etc.				
Protection					
Protection	Overcharge protection\Overdischarge protection\Overcurrent protection\ Shortcircuit protection Overtemperature protection				
Ambient					
Noise(dB)	<40dB(1 meter)				
Working temperature	-20 ℃~+60 ℃				
Humidity	0-95%(no condensation)				
Altitude(m)	<3000				
Dimension					
W*H*D(product size)mm	L444*W482*H178	L516*W482*H132.5	L516*W482*H132.5	L551*W482*H132.5	L846*W482*H177
Net Weight(Kg)	27.1	42.8	44.8	84.3	88.3

" Additional Features (optional feature)LCD Display and WiFi.Due to different communication protocol versions,it is necessary to confirm clearly before shipment."

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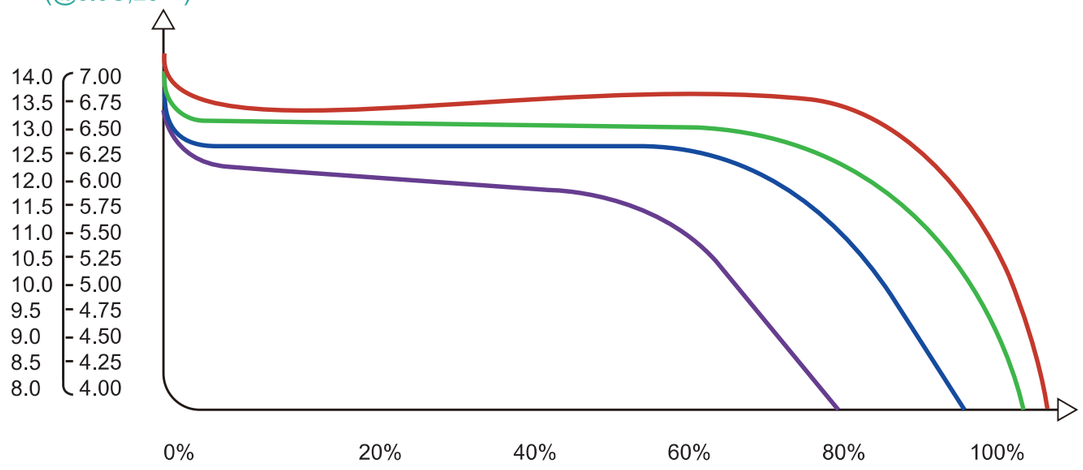
LK SERIES-12V/24V
LFP BATTERY

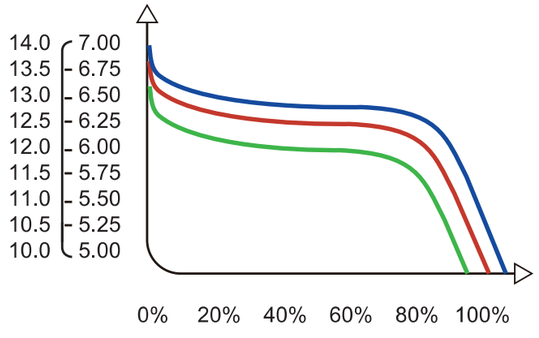
Application

UPS	Electric vehicle,E-bike	Solar &Wind power system
E-rickshaw e.g.	Golf Cart	Lighting

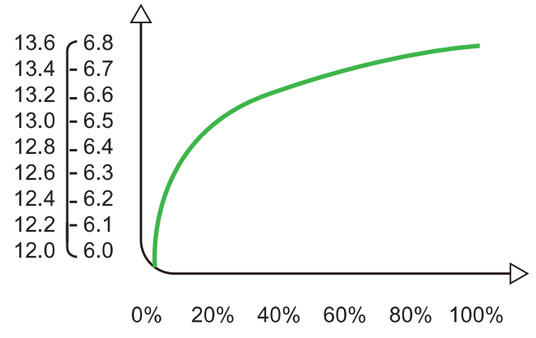
A Different Temperature Discharge Curve (@0.5C,25℃)



B Different Rate Discharge Curve Capacity(%)



C Open circuit voltage Soc(%)



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LK Series 12V/24V LFP Battery

- Using the technology of lithium iron phosphate cell,superior safety, thousands of cycles @ 100% DOD,under normal conditions
- Built-in automatic protection for over-charge, overdischarge, over current and over temperature
- Maintenance free
- Internal cell balancing
- Lighter weight: About 40% ~50% of the weight of a comparable lead acid battery.
- Wider temperature range:-20° C ~60° C
- Can be charged at low temperature below 0° C

Technical Parameter

Model	LK12.8-50	LK12.8-100	LK12.8-150	LK12.8-200	LK12.8-300	LK25.6-50	LK25.6-100
Norminal voltage	12.8V	12.8V	12.8V	12.8V	12.8V	25.6V	25.6V
Nominal Capacity @0.2C	50Ah	100Ah	150Ah	200Ah	300Ah	50Ah	100Ah
Energy(Wh)	640Wh	1280Wh	1920Wh	2560Wh	38400Wh	1280Wh	2560Wh
Cycle Life	>5000 Cycles @ 0.5C Charge/Discharge at 100%DOD,End of Life 70% Capacity						
Months Self Discharge	⩽3.5% per month at 25℃						
Charge Voltage	14.4±0.2V					29.2±0.2V	
Charge Mode(CC/CV)	At a temperature of 0℃~50℃, charge to 14.4Vat a constant current of 0.2C, and then change to a constant voltage of 14.4V until the current is not greater than 0.05C charging mode (CC/CV)					At a temperature of 0℃~50℃, charge to 29.2Vat a constant current of 0.2C, and then change to a constant voltage of 29.2V until the current is not greater than 0.05C charging mode (CC/CV)	
Max.continuous Charge Current	50A	100A	150A	200A	300A	50A	100A
Max.Continuous Discharging Current	50A	100A	150A	200A	300A	50A	100A
Discharge Cut-off Voltaget	10V					20V	
Environmental							
Charge Temperature	0℃ to 60℃(32°F to 140°F)@60±25% Relative Humidity						
Discharge Temperature	-20℃ to 60℃(-4°F to 140°F)@60±25% Relative Humidity						
Storage Temperature	0℃ to 45℃(32°F to 113°F) @60±25% Relative Humidity						
Water Dust Resistance	IP65						
Plastic Case	ABS						
Dimension(L*W*H)(mm)	229*138*208	260*168*209	483*170*240	522*240*219	520*269*220	330*173*220	483*170*240
Approx.Weight(Kg)	6.1	9.8	14.5	21.2	26	9.8	19.5
Terminal	M6	M8	M8	M8	M8	M8	M8

LV SERIES-LOW SPEED VEHICLE LFP BATTERY

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LV Series-Low Speed Vehicle LFP Battery

The intelligent LV series LiFePO4 battery is a new "Plug And Play" high-tech products, specially designed for low speed electric vehicles, widely used for golf carts, two-wheeled electric bicycles, tricycles, sightseeing cars, patrol cars,logistics vehicles and so on. It has the advantages of light weight, intelligent, non-toxic, non-polluting, good safety performance and much longer service life than lead acid battery.

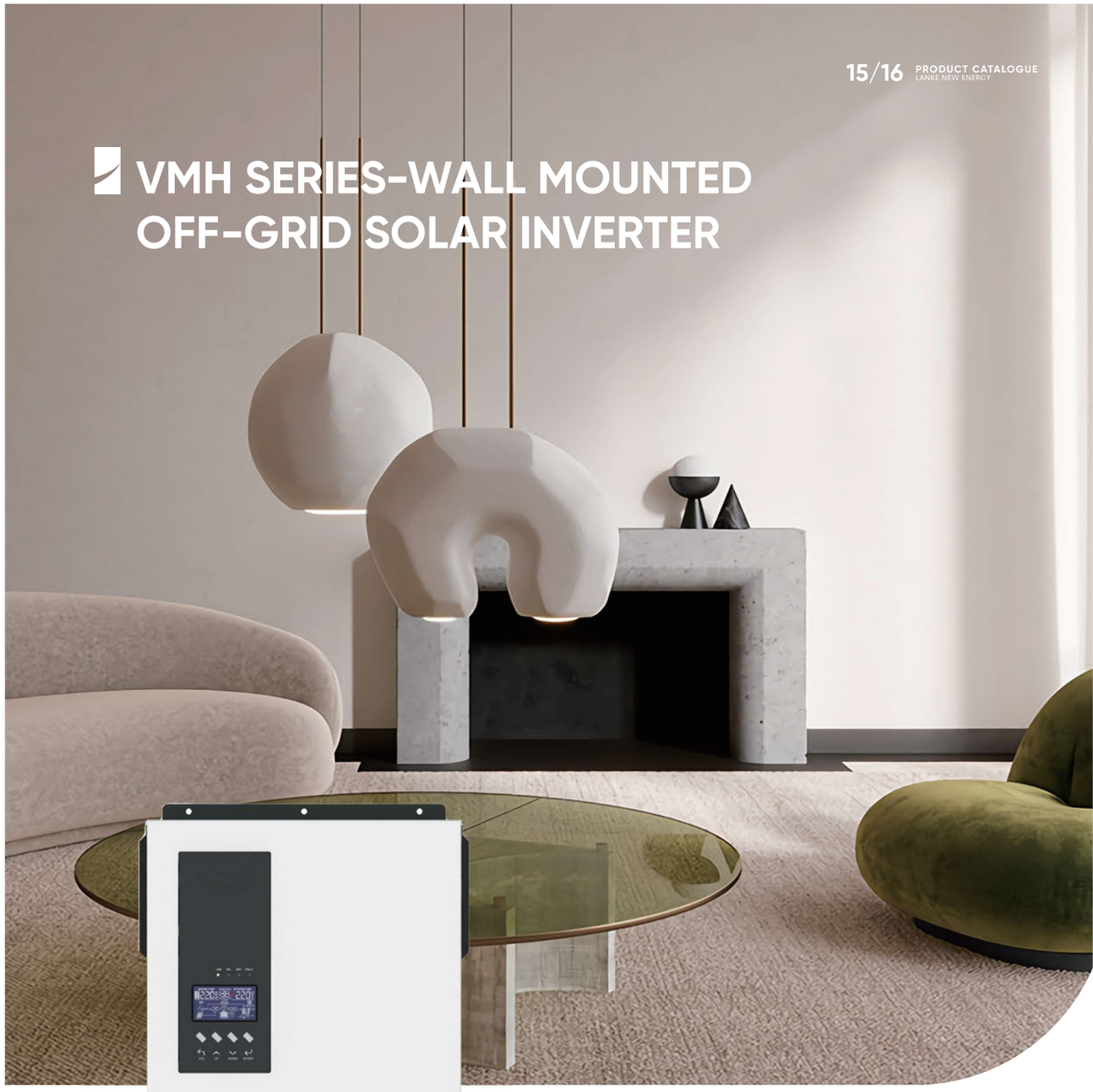
Main Feature:

- High-density energy lithium battery
- Plug And Play, lightweight, safe and environmentally friendly
- Over 5000 cycles and maintenance free
- 10 years life design
- CAN Bus Communication allows battery modules to work synchronously
- Built-in intelligent battery management system (BMS)
- Mobile APP monitoring, with Bluetooth function, can check the battery status by phone
- IP67 Rated, Dust and WATERPROOF
- Overcharge and over-discharge protection
- Over-current and Short-circuit protection
- Supports in Parallel
- All around protection: such as SOC/SOH etc..

Technical Parameter

Model No.	Voltage V	Capacity AH	Energy WH	Dimension(mm) L	W	H	Weight Kg	Terminal Yype
LV-3660	36	60	2160	350	250	240	24.5	Andson Connector
LV-36100	36	100	3600	520	300	200	38.5	Andson Connector
LV-4860	48	60	2880	380	260	230	31.5	Andson Connector
LV-48100	48	100	4800	500	300	200	50.5	Andson Connector
LV-72100	72	100	7200	900	400	300	75	Andson Connector

VMH SERIES-WALL MOUNTED OFF-GRID SOLAR INVERTER



SMART VMH 3KVA-10KVA SERIES

The VMH series is an integrated control machine of pure sine wave high-frequency solar inverter. The controller adopts advanced MPPT calculation method and intelligent battery management to ensure the maximum energy acquisition. With a wide PV input range, the inverter can be carried without battery when the energy is sufficient. It has the advantages of high-power density, simple operation, high overall efficiency, and small no-load loss. The inverter integrates the 3-in-1 function of solar energy, mains power and battery , which can be used for lighting, computers, televisions and otherhousehold appliances and electric tools, as well as small-scale industrial electrical equipment.

- Battery Voltage 24V/48V
- Work Without Battery
- Wide Frequency 50Hz/60Hz
- Wide AC input range 170-280Vac/90-280Vac
- MFD Function (Multi-function Display)
- WIFI and Bluetooth

Work Without Battery: When the AC state or PV energy is sufficient, it can work without connecting the battery with load, which can reduce the cost of the solar system.

Solar System Connection

Product Description

Ⓐ LCD Display Ⓑ Status Indicators Ⓒ Setting Button Ⓓ AC Input Ⓔ Input Circuit Breaker Ⓕ AC Output
Ⓖ USB Ⓗ Dry contact Ⓘ Parallel Communication Port(Only for Paralle Model) Ⓙ RS485/CAN
ⓚ External Battery Connectors Ⓛ Power Switch Ⓜ PV In

VMH SERIES Off-Grid Solar Inverter

- Pure sine wave output, Work without Battery
- 450V wide PV circuit voltage can work for the load without battery connected (when the energy is sufficient)
- Built in MPPT solar controller
- Configurable AC/Solar input priority and output priority via LCD settings
- Wide and selectable AC input voltage range
- Multiple protections of battery over discharge, overload, over temperature, short circuit
- Automatically turn on after the mains is restored
- Cold start function, USB and RS232 monitoring functions
- WIFI and Bluetooth intelligent monitoring function, support mobile APP to view various data (optional)
- Selectable charging for different types of battery via LCD setting
- Built-in or external WIFI and Bluetooth.

Technical Parameter

Model	VMH-3024	VMH-5048	VMH-10048
Output			
Rated Output Power	3KVA/3KW	5KVA/5KW	10KVA/10KW
Output Format	L+N+PE	L+N+PE	L+N+PE
Rated Output Voltage	208/220/230/240VAC±5%		
Output Frequency	50/60Hz±0.1%		
Waveform	Pure Sine Wave	Pure Sine Wave	Pure Sine Wave
Peak Power	6000VA	10000VA	20000VA
Overload Capacity	Battery Mode: 1min@ 102%~110% Load ; 10s@110%~130%Load; 3s@130%~150% Load ; 200ms@>150% Load		
Peak Eficiency(Battery Mode)	>94%	>94%	>93%
Transfer Time	10ms	10ms	10ms
AC Input			
Input Format	L+N+PE	L+N+PE	L+N+PE
Rated Input Voltage	208/220/230/240VAC		
Input Voltage Range	170-280VAC(FOr PC):90-280VAC(For Home Appliances)		
Frequency Rage	50/60Hz(Auto Sensing)		
PV Input			
Solar Charging Type	MPPT	MPPT	MPPT
PV Max.Input Power	4000W	5500W	11000W
MPPT Tracking Voltage Range	120-430VDC	120-430VDC	120-430VDC
Max.PV Input Voltage	450 VDC	450 VDC	450 VDC
Max.PV Charging Current	80A	80A	80A+80A
Max.Charging Current	80A	80A	80A+80A
Battery			
Rated Voltage	24VDC	48VDC	48VDC
Battery Type	Li-ion/ Lead-Acid		
Constant charging voltage(can be set)	28.2 VDC	56.4 VDC	56.4 VDC
Float charging voltage(can be set)	27 VDC	54 VDC	54 VDC
Product General Data			
Communication Interface	USB/RS232/RS485/CAN/DRY CONTACT		
Expansion slot communication interface	WiFi (Optional)		
Display	LED Screen	LED Screen	LED Screen
Parallel Interface	N/A	Yes	N/A
Operation Environment Temperature	0-50 ℃	0-50 ℃	0~50 ℃
Storage Environment Temperature	-15-60 ℃	-15~60 ℃	-15~60 ℃
Environment Humidity	20%-95% (Non-condensing)		
Operation Altitude	<2000m	<2000m	<2000m
Cooling Mode	Active Cooling	Active Cooling	Active Cooling
Noise Emission	<50db	<50db	<50db
Demension(W*H*D)(mm)	300*450*110	300*450*110	480*620*145
Weight(kg)	7	7.8'	16
Safety Standard	IEC62368-1		

"Product specifications are subject to change without notice."

HRT SERIES-RACK MOUNTED OFF-GRID SOLAR INVERTER

HRT Series Rack mounted Off-Grid Solar Inverter

HRT series

The HRT series inverters are designed with a standard 3U rack-mounted structure, which is easy to use with lithium battery packs and saves space. The inverter is a pure sine wave solar inverter control integrated machine;

the controller adopts advanced MPPT calculation method and intelligent battery management to ensure maximum energy acquisition,with a wide PV input range,when the energy is sufficient, it can be loaded without the battery;

at the same time, it adopts high-frequency design, which has the advantages of high-power density, simple operation, high efficiency of the whole machine, and low no-load loss. It integrates the functions of solar energy, mains power and battery 3 in 1 to provide a steady supply of energy for lighting, computers,TVs and other household appliances and power tools, as well as small-power industrial electrical equipment.

MAIN FEATURES

- Adopt standard 3U rack structure design, especially suitable for use with lithium batteries
- Pure sine wave output, can meet the use of various types of loads
- The maximum PV open circuit voltage is 450V, when the energy is sufficient, it can be loaded without the battery
- Built-in MPPT solar controller
- With multi-mode setting function, the priority level of photovoltaic, utility power and battery can be selected and set through the LCD screen
- It has a wide range of mains input voltage, which can be selected through LCD to meet di□erent power requirements
- With battery over-discharge, overload protection, over-temperature protection, short-circuit protection and other protection functions
- When the battery is discharged and the inverter is turned on, the inverter will automatically turn on when the photovoltaic or mains power is restored.
- With cold start function; support USB, RS485 monitoring function
- WIFI intelligent monitoring function, support mobile APP to view various data (optional)
- Redundant parallel function (Optional)

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Technical Parameter

Model	HRT 3024	HRT 5048
Rated Capacity	3000VA/3000W	5000VA/5000W
Input		
Input Format	L+N+PE	
Rated input voltage	208/220/230/240VAC	
Voltage Range	170-280VAC(For Personal computers);90-280VAC(For Home Appliances)	
Frequency Rangel	50Hz/60Hz(Auto sensing)	
Output		
Output Format	L+N+PE	
Rated output voltage	208/220/230/240VAC±5%	
Output frequency	50/60Hz±0.1%	
Waveform	Pure sine wave	
Transfer Time	10ms(For Personal computers),10ms(For Home Appliances)	
Peak Power	6000VA	10000VA
Overload Capacity(Battery Mode)	1min@102%~110%Load 10s@110%~130%L0ad 3s@130%~150%L0ad 200ms@>150%L0ad	
Peak Efficiency(Battery Mode)	>93%	>94%
Battery		
Rated voltage	24 VDC	48 VDC
Constant voltage charging voltage (can be set)	28.2 VDC	56.4 VDC
Float charging voltage(can be set)	27 VDC	54 VDC
Solar Charger&AC Charger		
Solar Charger type	MPPT	MPPT
PV maximum input power	4000W	5500W
MPPT tracking range	120-430VDC	120-430VDC
Maximum PV input voltage	450 VDC	450 VDC
Maximum PV Charge Current	80A	80A
Maximum mains charging current	60A	80A
Maximum charging current	80A	80A
Communication Interface		
RS232	5PIN/Pitch2.0mm,baud rate 2400	
Expansion slot communication interface	2x 5PIN/Pitch2.54mm,Lithium battery BMS communication card,WIFI card,dry contact card,etc.	
Parallel interface	No parallel	With parallel
Environmental Parameters		
Operating ambient temperature	0-40℃	
Operating environment humidity	20%-95%(Non-condensing	
Storage temperature	-15-60℃	
Altitude	Altitude should not exceed 1000m,derating above 1000m,maximum 4000m, refer to IEC62040	
Noise	⩽50db	
Physical parameters		
DxW×H(mm)	405×483×133.5	
Weight(net weight)(Kg)	7	7.8

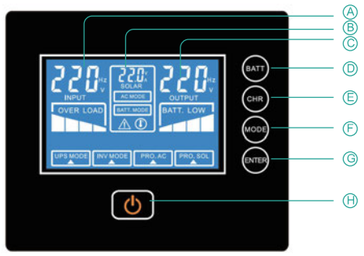
"Product specifications are subject to change without notice."

MPS SERIES-TRANSFORMER BASE OFF-GRID SOLAR INVERTER

MPS Series Transformer Base Off-Grid Solar Inverter

- Pure sine wave inverter Cold start functio
- Selectable INV MODE range 165-265±5Vac or UPS MODE 180-265±5Vac for home appliances and personal computers
- Selectable high power AC charging current of 5A/10A/20A/30A/ 45A/60A
- Selectable up to 8 types battery Lithium Iron Phosphate(LiFePO4)/ AGM/Gel/-Sealed lead acid/ Gel EURO/Open lead acid/ Calcium/De sulphation
- Compatible to mains voltage or generator output
- Auto restart while AC is recovering, overload and short circuit protections
- Smart battery charger design for optimized battery performance
- Selectable solar charging current from10A to 60A
- Configurable AC / Solar input priority via LCD setting
- Setting of battery shutdown voltage
- Setting of battery voltage from solar priority to AC priority
- Remote control function USB and RS232 communication function

Product Introduction

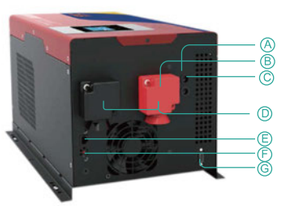


Ⓐ Input voltage
Ⓑ Solar information
Ⓒ Output voltage
Ⓓ UP
Ⓔ DOWN
Ⓕ Mode selection
Ⓖ Confirm button
Ⓗ ON/OFF switch/PRO selection

Press 'ENTER'about 4 seconds to enter Advanced Menu,it will appear following Settings

- bLs:Press Aor v to select the battery shutdown voltage,options of 10.0V,10.5V,10.8V and 11.1V(for per unit battery).
- btu:Press or to select the battery voltage from solar priority to AC priority,options of 11.4V,11.6V,11.8V and 12.0V (for per unit battery)
- scc:Press or to select the maximum current of solar charger,options of 10A/20A/30A/40A/50A/60A.
- bat:Press or to select the battery types which connecting to inverter.
- chr:Press or to select the inverter AC charging current,options of 5A/10A/20A/30A/45A/60A.
- yes:Press or to select setting YES or NO and press ENTER to confirm.

MPS Solar System



Ⓐ PV
Ⓑ Battery input
Ⓒ Photovoltaic component

Ⓓ Storage battery
Ⓔ LCD display
Ⓕ Battery reverse connection alarm before battery switch on
Ⓖ RS232

Technical Parameter

Model	MPS2012	MPS3024	MPS3048	MPS4048	MPS6048	MPS8048	MPS12048
Output							
Real Power	2000W	3000W		4000W	6000W	8000W	12000W
Display							
Indicator panel	LCD display						
AC Mode							
Input Voltage (INV.mode)	160~265±5Vac						
Input Voltage (UPS mode)	180~265±5Vac						
Input frequency	45-65Hz						
Output Voltage (INV.mode)	160~265±5Vac						
Output Voltage (UPS mode)	180~265±5Vac						
Efficiency	⩾96%(AC Mode)						
Inverter Mode							
THD	<3%(linear load)						
Output voltage	230Vac						
Output frequency	50±0.1Hz/60±0.1Hz(Auto sensing)						
Output wave form	Pure Sine Wave						
Transfer time	<10ms (Typical)						
Efficiency	⩾80%(BATTERY Mode)						
Overload capability	(100%<Load<120%)+10%:Auto shutdown in 2 mins; (120%<Load<140%)+10%:Auto shutdown in 60 secs; (140%<Load±10%: Auto shutdown in20secs;						
Overcurrent protection	System shuts down automatically within 20ms						
Output short circuit protection	Yes						
Battery							
DC voltage	DC 12V	DC 24V	DC 48V				
Battery type	8 types of battery						
AC charging current	5AV10A/20A/30A/45A(60A)Max						
Solar charging current(MPPT)	60A Max					100A Max	
MPPT Tracking Voltage Range	DC18V-DC150V	D34V-DC150V	DC65V-DC150V				
Maximum PV Input Voltage	DC 170V						
Physical							
Dimension(mm)	480(L)*286(W)*251(H)						
Net weight(kg)	24.9	29	29	29	35	60	80
Environment							
Environment	Temperature0℃-40℃, Humidity20%-90%						
Noise leve	⩽40dB(1m)						
Altitude	s1000 m l(Altitude exceeds 1000m,full power cannot reach)						

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ES SERIES-ALL IN ONE ENERGY STORAGE SYSTEM

ALL-IN-ONE HOME ENERGY SOLUTION
ES SERIES

Main Features

- Elegant and stylish,floor installation.
- Hybrid inverter,with built-in batteries and MPPT solar controller.
- Selectable priority between solar,batteries or mains to feed the output.
- Wide range of selectable mains input voltage.
- Protection for over-discharge,overload,over-temperature.short-circuit protection etc.
- Supports RS485/CAN/SNMP/Wifi/Bluetooth monitoring function.
- Built in lithium battery with extremely long life 5000 cycles.

Technical Parameter

Model	ES-3K/2.56KW	ES-3K/5KWH	ES-5K/5KWH	ES-5K/10KWH
Output Nominal Power(W)	3000W	3000W	5000W	5000W
Power Factor	1	1	1	1
OUTPUT				
Waveform	Pure Sine Wave	Pure Sine Wave	Pure Sine Wave	Pure Sine Wave
Output Format	L+N+PE	L+N+PE	L+N+PE	L+N+PE
Nominal Voltage	208/220/230/240VAC	208/220/230/240VAC	208/220/230/240VAC	208/220/230/240VAC
Output Accuracy	⩽±5%	⩽±5%	⩽±5%	⩽± 5%
Nominal Frequency	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz
Transfer Time	10mS(typical value)	10mS(typical value)	10mS(typical value)	10mS(typical value)
Overload Capability (Batt.Mode)	1min@102%-110%load;10s@110%~130%load: 3s@130%-150%load;200ms@>150%load			
INPUT				
Input Format	L+N+PE	L+N+PE	L+N+PE	L+N+PE
Nominal Voltage	208/220/230/240VAC	208/220/230/240VAC	208/220/230/240VAC	208/220/230/240VAC
Voltage Range	90~280V(Household Appliances) 170~264V(Computer Equipment)	90-280V(Household Appliances) 170-264V(Computer Equipment)	90-280V(Household Appliances) 170-264V(Computer Equipment)	90-280V(Household Appliances) 170-264V(Computer Equipment)
Frequency	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz
BATTERY				
Battery Type	LiFePO4 battery	LiFePO4 battery	LiFePO4 battery	LiFePO4 battery
Nominal Voltage	25.6V	25.6V	51.2V	51.2V
Voltage Range	20V~29.2V	20V-29.2V	40-58.4V	40-58.4V
Battery Capacity	100Ah	200Ah	100Ah	200Ah
Battery Energy	2.56KWh	5.12KWh	5.12KWh	10.24KWh
PV Max.Open Circuit Voltage	450V	450V	450V	450V
MPPT Voltage Range	120V~430V	120V-430V	120V-430V	120/-430V
PV Input Max.Power	4000W	4000W	6000W	6000W
PV Max.Charging Current	60A	60A	80A	80A
AC Max.Charging Current	60A	60A	80A	80A
Short-circuit Protection	Circuit Breaker	Circuit Breaker	Circuit Breaker	Circuit Breaker
PHYSICAL				
Dimension,DxWxH(mm)	413*422*656	413*422*656	510*170*760	800*510*240
Net Weight	52Kg	52Kg	53kg	102kg
Indicator Panel	LCD display	LCD display	LCD display	LCD display
IP Class	IP21	IP21	IP21	IP21
Operation Temperature	-15℃~55℃			
Storage Temperature	20℃~45℃			
Operation Humidity	20%~90%			
Altitude	3000m			

SES SERIES-STACKABLE ALL IN ONE STORAGE SYSTEM

PRODUCT INTRODUCTION

G-Tech's SES series residential energy storage all-in-one unit primarily consists of battery modules, BMS modules, inverters, output interfaces, etc. It can store and release electrical energy according to the requirements of the DC inverter system, featuring low cost, easy installation, and high conversion efficiency.

Main Feature:

- Suitable for various applications and environments.
- Boasts a long lifespan ensuring reliability.
- Incorporates a high-quality battery known for its safety and stable performance.
- Features a simple plug-and-play setup.
- No need for additional adjustments during installation.
- Intuitive interface for easy operation.
- Equipped with a sturdy casing for protection.
- Offers a range of capabilities to meet different needs.
- Allows for remote monitoring and control via a mobile application.

Technical Parameter

Model		SES-5KWH /5KW	SES-10KWH /5KW	SES-15KWH /5KW	SES-20KWH /5KW	SES-25KWH /5KW
Battery Type		LiFePO4 battery				
Nominal Voltage		51.2V				
Voltage Range		40V~58.4V				
Battery Capacity		100Ah	200Ah	300Ah	400Ah	500Ah
Max. Continuous Charging Current		100A				
Max. Continuous Discharging Current		100A				
Operation Temperature		Charging: 0~45℃ Discharging: -20~50℃				
Cycle Life		Ambient temperature @ 0.5C Charge-discharge cycle 3000 times , SOC≥80% initial capacity				
Total Battery Power		5KWH	10KWH	15KWH	20KWH	25KWH
No. of Battery Modules		1	2	3	4	5
Communication Interface		CAN/RS485/RS232				
Inverter (Optional)						
AC Output	Nominal Power	5000W				
	Waveform	Pure Sine Wave				
	Voltage	208/220/230/240Vac±5%				
	Frequency	50Hz~60Hz				
	Peak Efficiency (Batt. Mode)	>94%				
	Overload Capability	60S@102%~110% load; 10S@110%~130% load; 3S@130%~150% load; 200ms@≥150% load;				
Solar Charging @AC Charging	PV Max. Open Circuit Voltage	450V/DC				
	Photovoltaic Arrays MPPT Tracking Voltage	120~430V/DC				
	PV Max. Charging Current	60~80A				
	AC Max. Charging Current	60~80A				
	AC Charging Voltage Range	90~280VAC(APP Mode); 170~280VAC(UPS Mode)				
	Charging Mode	Two-stage/three-stage charging mode, lead-acid battery/lithium battery				
Net Weight		82Kg	134kg	186kg	238kg	290kg
Dimension（L*W*H）mm		550*572*510	550*572*680	550*572*850	550*572*1020	550*572*1190

HV SERIES-HIGH VOLTAGE BATTERY PACK

PRODUCT INTRODUCTION

The HV Series product are a newly developed intelligent energy storage module by GTECH. With a rated voltage of 192V, 384v and 480v, the capacity of 50Ah and 100Ah, this module represents a cutting-edge solution in the field of energy storage. Its innovative design and advanced features make it a standout choice for various applications.

Main Feature:

- Long Lifespan, supports up to 5000 Cycles @ 0.5C Batteries. Charge/1C Discharge, 100% DOD, 80% EOL, 35° C.
- Easy Maintenance,
- Compatible with many world famous brand inverters,
- Multiple protection, safety

Technical Parameter

Item Series	HV192V Series	HV240V Series	HV384V Series	HV480V Series	HV512V Series
Cell Battery	LiFePO4				
Nominal Voltage	192V DC	240V DC	384V DC	480V DC	512V DC
Rated Capacity	100AH	100AH	100AH	100AH	100AH
Max Charging Voltage	219V	274V	438V	547V	584V
Max Charge Current	50A				
Rated Energy	19.2KW	24KW	38.4KW	48KW	51.2KW
Cut off voltage	150V	187.5V	300V	375V	400V
Cycle Life	5000times @ 0.5C charge/0.5C discharge, 100% DOD, 80% EOL, 35℃				
Weight	Approx: 225KG	Approx: 280KG	Approx: 450KG	Approx: 560KG	Approx: 620KG
Width × Depth × Height(mm)	⩽20U	⩽24U	⩽32U	⩽40U	⩽40U
Communication Port	CAN、RS485				
Install Method	19 inch Rack-Mount Installation				
Protect Function	Over-temperature Protection Over-current Protection Overcharge Protection Over-discharge Protection Short Circuit Protection etc.				
Design Life	10 Years				
Work Temperature	-20℃ ~ 50℃				
Humidity	0% ~ 95%				

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ESS SEREIS-OUTDOOR ESS 215KWH STANDARD CABINET

The whole system is plug-and-play, easy to be transported, installed and maintained. It is an one-stop integration system and consist of battery module, PCS, PV controller（MPPT）(optional), control system, fire control system, temperature control system and monitoring system. The synergy of the system components can achieve effective charging and discharging. It adopts AC coupled microgrid structure, PCS, load, grid, and access to AC bus, and the corresponding control strategy is developed according to the actual case to ensure the safety of power supply.

The battery cluster consists of modules connected in series, and the whole battery system is controlled by BCM to monitor the cluster voltage and current in real time. The battery module consists of LiFePo4 battery cells. It adopts distributed BMM control system with functions of collecting the battery voltage, battery temperature and battery equalization to ensure the module works effectively and safely.

Main Feature:

- High-performance LiFePo4 battery to ensure high safety and reliability for energy storage.
- Intelligent temperature control to ensure the optimal temperature environment and lower system power consumption.
- Real-time data backup.
- Automatic fire fighting system with high safety.
- Patented design with pressure relief and flame arrest.
- One-button start, automatic operating and it support multiple parallel connection.
- Protection class IP55, suitable for outdoor use.
- Four layers of safety protection design for higher safety and reliability.
- Remote viewing service.

Technical Parameter

Model	ESS-30P	ESS-60P	ESS-100P
Battery parameters			
Cell Type	LFP-280Ah	LFP-280Ah	LFP-280Ah
Module Model	IP20S	IP20S	IP20S
System Configuration	1P240S	1P240S	1P240S
Battery Capacity（BOL）	215kWh	215kWh	215kWh
Battery voltage range	672V-864V	672V-864V	672V-864V
AC on-grid parameters			
Grid Type	3P4W	3P4W	3P4W
Rated charge/discharge power	30KW	60KW	100KW
Rated grid voltage	AC400V	AC400V	AC400V
Grid Voltage range	-15%~+15%	-15%~+15%	-15%~+15%
Rated grid frequency	50Hz	50Hz	50Hz
Frequency range	±5Hz	±5Hz	±5Hz
Rated current	43A	86A	172A
Power Factor	0.8（Leading）~0.8（Lagging）	0.8（Leading）~0.8（Lagging）	0.8（Leading）~0.8（Lagging）
Output Harmonics（Rated power）	⩽3%	⩽3%	⩽3%
General parameters			
Dimension (W*H*D)	1900*2100*1330mm	1900*2100*1330mm	1900*2100*1330mm
Max Weight	2000kg	2500kg	2500kg
IP Protection Rating	IP55（Battery room） IP54 （Electrical room）	IP55（Battery room） IP54 （Electrical room）	IP55（Battery room） IP54 （Electrical room）
Seismic Intensity Rating	8 degree（IEC60980）	8 degree（IEC60980）	8 degree（IEC60980）
Anti-corrosion grade	C3	C3	C3
Operating temperature【1】	-20 ℃ ~ 50 ℃	-20 ℃ ~ 50 ℃	-20 ℃ ~ 50 ℃
Relative Humidity	0-95%（Non-condensing）	0-95%（Non-condensing）	0-95%（Non-condensing）
Altitude【2】	＜2000m	＜2000m	＜2000m
Cooling method	Battery room: air conditioning Electrical room: forced air cooling	Battery room: air conditioning Electrical room: forced air cooling	Battery room: air conditioning Electrical room: forced air cooling
Noise	⩽75dB	⩽75dB	⩽75dB
Fire fighting System	Automatic fire extinguishing	Automatic fire extinguishing	Automatic fire extinguishing
Fire extinguishing media	FM200	FM200	FM200
Communication Interface	RS485、Ethernet	RS485、Ethernet	RS485、Ethernet
Communication protocols	Modbus RTU、ModbusTCP/IP	Modbus RTU、ModbusTCP/IP	Modbus RTU、ModbusTCP/IP
Photovoltaic side parameters (Optional)			
Maximum input module power	30KW	30KW/60kW	30KW/60kW
MPPT Voltage Range	200V-850V	200V-850V	200V-850V
Number of MPPT paths	1	1/1	1/1
Number of PV input channels	1	1/1	1/1
Maximum input current	100A	100A/200A	100A/200A

PPS SEIRES-PORTABLE POWER SYSTEM

PRODUCT INTRODUCTION

The G-Tech PPS series portable power supply is a line of high-performance, portable power products. They utilize advanced rechargeable battery technology and feature USB ports and other interfaces to provide reliable power support for various electronic devices. With a lightweight and portable design, they are suitable for outdoor activities and travel. Additionally, they incorporate multiple safety protection features, such as overcharging protection, over-discharging protection, and short circuit protection, ensuring both user and device safety. The G-Tech PPS series portable power supply is the ideal choice when you need a reliable backup power source.

Product Series:

PPS-600W

PPS-1200W/1500W

PPS-2000W

PPS-600W

PPS-1200W/1500W

PPS-2000W

Main Feature:

- Designed for easy carrying, facilitating travel and outdoor activities
- Incorporates safety features such as overcharging protection, ensuring user and device safety
- Provides multiple functionalities, capable of charging various devices
- Designed with environmental considerations in mind, promoting sustainable energy practices
- Equipped with up to eight output interfaces, accommodating diverse charging needs
- Available in different sizes to suit varying power requirements
- Supports various charging methods, including wireless charging, offering convenience and flexibility

Technical Parameter

Model		PPS-600W	PPS-1200W	PPS-1500W	PPS-2000W
Nominal Capacity Nominal Energy (Wh)		30Ah 576Wh	60Ah 1152Wh	60Ah 1152Wh	45Ah 2300Wh
Input	DC Input	24V1~5A(adapter) 24V1~5A (car charger 12~24V) 24V1~5A(solar panel)	12V-24V/1-5A(adapter) 12V-24V/1-5A (car charger 12-24V) 12V-24V/1-5A(solar panel) 21.9V/20(power adapter (fast charger)	12V-24V/1-5A(adapter) 12V-24V/1-5A (car charger 12-24V) 12V-24V/1-5A(solar panel) 21.9V/20A (power adapter fast charger)	10V ~ 45V/10A support MPPT tracking AC input 180V ~ 250V rated power 1000W
AC Output 110V/220V	AC Output Voltage	AC 220V±5%			
	AC Output Power Overload protections	600W 700W	1200W 1300W	1500W 1650W	2000W 2200~2400W
	AC Output Waveform	Pure Sine Wave			
	AC Output Peak	1200W Peak maintenance time ＜50ms	2400W Peak maintenance time＜50ms	3000W Peak maintenance time ＜50ms	⩾22000W
	Frequency	110V-60HZ 220V-50HZ			
USB Output	USB1 Output	QC3.0 MAX 12V/1.5A	QC3.0 MAX 12V/1.5A	QC3.0 MAX 12V/1.5A	QC3.0 MAX 20V/3A
		18W	18W	18W	18W
	USB2 Output	QC3.0 MAX 12V/1.5A 18W	QC3.0 MAX 12V/1.5A 18W	QC3.0 MAX 12V/1.5A 18W	QC3.0 MAX 12V/1.5A 18W
Type-c Output	Type-c 1	quick charge 5V-3A, 9V-2A,12V-1.5A total power 18W	quick charge 5V-3A, 9V-2A,12V-1.5A total power 18W	quick charge 5V-3A, 9V-2A,12V-1.5A total power 18W	QC3.0MAX 12V-1.5A total power 18W PD MAX 12V 2.5A 30W
	Type-c 2	quick charge 5V-3A, 9V-3A,12V-3A, 15V-3A, 20V-3A total power 100W	quick charge 5V-3A, 9V-3A,12V-3A, 15V-3A, 20V-3A total power 100W	quick charge 5V-3A, 9V-3A,12V-3A, 15V-3A, 20V-3A total power 100W	PD/QC3.0 MAX 20V-5A total power 100W
Wireless Output		15W			
DC Output	DC1/DC2 /DC Car charger	12V/10A MAX120W	12V/10A MAX120W	12V/10A MAX 120W	12V/10A MAX120W
Charge Time	Charge from 10% to 100% (automatic cut-off)	5-6H	Fast charge 2.5-3H	Fast charge 2.5-3H	2.5-3H
Charging Voltage	Curt off Voltage	21.9V±0.1V	21.9V±0.1V	21.9V±0.1V	58.4V±0.1V

Technical Parameter

Model		PPS-600W	PPS-1200W	PPS-1500W	PPS-2000W
Protection	Short-circuit, overload, over-temperature, over-voltage, over-current, under-voltage, etc.				
LED Display	SOC	Power percentage and power bar jumps			
	DC, AC, PD operating status	Display power			
Cycle Life	>2000				
Over temperature Protection	AC over temperature protection	⩾85 ℃			
Lights	LED light	1W high brightness with 2-stage dimming and SOS flashing light			
Material	PC+V0 fire-resistant				
Color	White panel (regular colors: green, black, white, orange, silver gray, custom colors available)				
Dimension (L*W*H)mm Net Weight		270*210*220mm 6.5KG	280*245*250mm 12KG	280*245*250mm 12KG	462*3252*333mm 24KG

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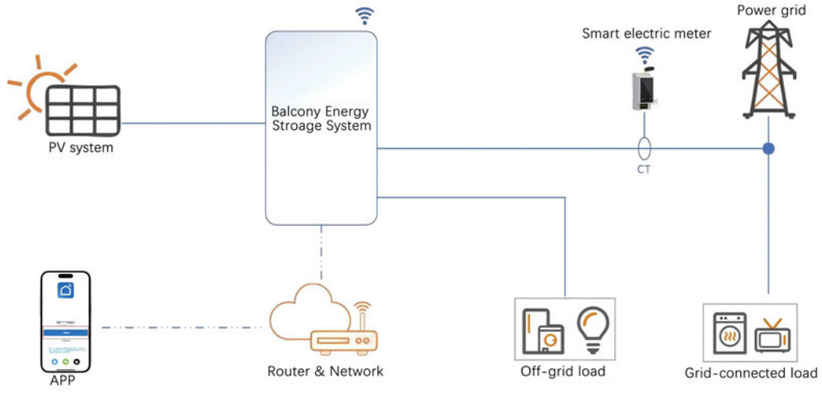
BALCONY ENERGY STORAGE SYSTEM

Application Scenario Diagram



Product Introduction

The BES series of grid-connected and off-grid inverters offer a complete and independent AC coupling energy storage solution. The inverter not only supports charging the battery through photovoltaic power generation and mains electricity but also enables inversion discharge in both grid-connected and off-grid modes. It is compatible with smart green electricity plans and provides three working modes: custom mode, intelligent socket, and off-grid mode to meet different electricity needs.

The BES series inverters support communication with smart meters such as Shelly and P1 Meter to ensure zero grid feedback, meaning no power is fedback into the grid. The built-in energy management system can coordinate the scheduling of photovoltaic power generation, mains input, battery storage, and load consumption, achieving comprehensive management of energy from photovoltaics, mains electricity, batteries, and loads.

Through smart electricity meters and mobile apps, users can set appropriate operating modes based on their household electricity usage, thereby maximizing the optimization of home electricity costs and achieving energy saving and emission reduction. The BES series inverter, with its intelligence and flexibility, provides an efficient and economical solution for home energy management.

Technical Parameter

PV input	
Max. input power	2400W
Rated intput voltage	12-60V
MPPT starting voltage	18V
MPPT quantity	2
Max. current per MPPT	34A
Max. short-circuit current(Isc)	50A
Grid-connected AC input/output	
Rated Output Power	1600VA
Max. input/output power	1600VA
AC output voltage	230V
AC output voltage range	180-264V
AC output frequency	50/60Hz
Max. output current	6.9A
Power factor	1 (adjustable range: -0.8 to +0.8)
Total harmonic distortion (THD)	<3% (at rated power)
Network type	L+N+PE
Off-grid output	
Max. output power	1600VA
Peak Output Power	2400VA(10S)
AC output voltage	230V
AC output voltage range	180-264V
AC output frequency	50/60Hz
Max. output current	6.9A
Power factor	1 (adjustable range: -0.8 to +0.8)
Total harmonic distortion (THD)	<3% (at rated power)
Network type	L+N+PE

Efficiency	
Max. Efficiency	97%
MPPT Tracking Efficiency	99%
Battery parameters	
Battery type	LiFePO4
Battery Energy	2.56KWH(Expand to 10.24KWH)
Battery voltage range	40-60V
Max. charging current	50A
Max. discharge current	35A
Communication method	CAN
Charging curve	Equalization
External temperature sensor	Optional
Product general data	
Dimensions (L x W x D)	480x230x43mm
Weight	2kg
Working temperature range	-20~+65 ℃
Storage environment temperature	-40~+65 ℃
DC connector type	MC4
Cooling method	Natural cooling
Communication function	WiFi/ Bluetooth
Isolation characteristic	HF transformer
Control method	Cloud platform/APP