Lithium-ion Battery Specification

Product Model ：RK51200LFP-HES-AC5K

Product application: Household energy storage

Product name：Energy storage inverter integrated machine

Prepared by	
Approved by	
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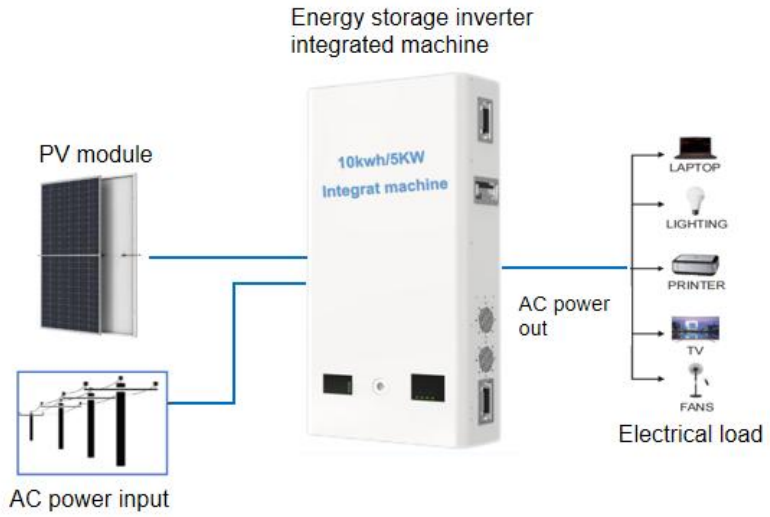
Customer Signature	

Change Records

Revision	Description	Date
V1.0	Preliminary draft	2022.12.17

1. Product Description

The product is an energy storage inverter integrated machine, featuring high integration, high reliability, convenient installation, etc; The inverter module is designed with a mature scheme, and the lithium battery is lithium iron phosphate battery (LiFePO4), which is characterized by high reliability, high safety and long cycle life. The battery is equipped with an intelligent BMS lithium battery management system, which has the functions of overcharge protection, over discharge protection, temperature protection, over-current protection, etc., and comprehensively monitors the key parameters of the battery.



2. Battery Technical Specification

No.	Item	Specification	Remarks
1	Battery Pack	16S2P	
2	Energy	10.24wh	
3	Rated Capacity	200Ah@25℃ 0.3C	
4	Minimal Capacity	197Ah@25℃ 0.3C	
5	Rated Voltage	51.2V	
6	Charge Voltage	57.6V	
8	Discharge Cut Off Voltage	41.6V	
9	Rated Charge Current	≤75A @25℃	
10	Max Charge Current	100A @25℃	
11	Max.discharge current	100A @25℃	
12	Self discharge rate	<3% Per Month	
13	Internal Resistance	≤30mΩ @ 50% SOC 1KHz	
14	Working Temperature	Charge：0℃ to 50℃ Discharge：-20℃ to 55℃ Storage：0℃ to 40℃	
15	ON/OFF Switch	YES	Button switch
16	Wifi module	Optional/Yes	
17	Protection Class	IP21	

18	Dimensions (L x W x H)	1100*520*192mm	
19	Weight	105kg	
20	Case Material	metal shell	
21	Installation method	Wall mounted	

3. Product appearance drawing

The inverter module integrates MPPT solar charging controller, high-frequency pure sine wave inverter and UPS function module, which is very suitable for off grid self generation or backup power supply.

The inverter module also requires other equipment to achieve complete operation, such as photovoltaic modules, generators or public power grids.

The WiFi/GPRS module can be optionally configured as a plug and play monitoring device installed on the inverter. The user can

This device can be used to monitor the status of the system anytime, anywhere through mobile phones or web pages.

No.	Item	Specification	Remarks
1	Rated Output Power	5000VA/5000W	
2	Surge Power	10000VA	
3	Output Voltage	220V-230V-240VAC	
4	Peak Efficiency	93%	
5	Parallel Capability	Max 6 units for built in inverter mode;	
6	Monitoring Option	WiFi or GPRS	
7	Transfer Time	10ms(For Personal Computers); 20ms(For Home Appliances)	
8	Wave Form	Pure Sine Wave	
9	PV input voltage	120-430VDC	
10	Max.PV Array Power	6000W	
11	Max.Solar Charge current	100A	
12	Max.AC Charge Current	80A	
13	Max.PV Array Open Circuit Voltage	450VDC	

Notes：

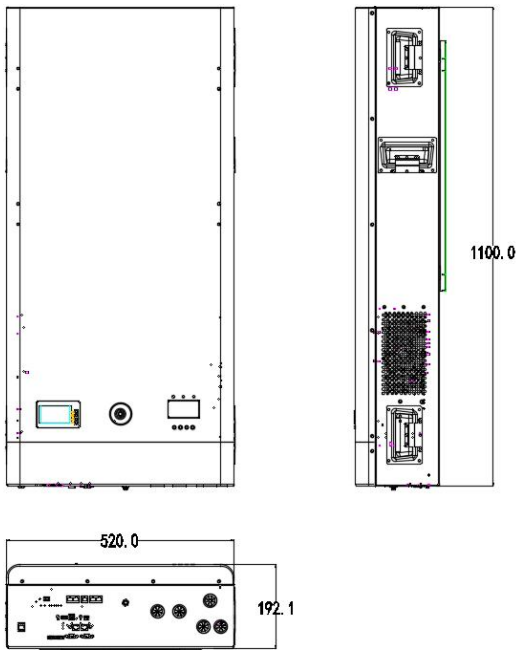
Do not install the inverter on flammable building materials, but on a solid wall.

To ensure the optimal working conditions of the inverter, the ambient temperature of the product shall be between 0 ℃ and 55 ℃

The load power of household appliances shall not exceed the maximum output power of the inverter

The power of photovoltaic module shall not exceed the MPPT power of inverter, and lightning protection module shall be installed for photovoltaic input

4. Structural dimension drawing



5. BMS Specification

The following BMS protection parameters are set according to the working requirements of the battery. When the parameters of the battery reach the protection threshold, the BMS will automatically open the protection to protect the battery by disconnecting the circuit.

Item	Test item	Specifications			Units
		Min Value	Typical Value	Max Value	
Voltage protection	Over charge detection voltage	3.65	3.70	3.75	V
	Over charge protection delay time	500	1000	2000	mS
	Over charge detection release voltage	3.40	3.45	3.50	V
	Over discharge detection voltage	2.450	2.500	2.550	V
	Over discharge protection delay time	500	1000	2000	mS
	Over discharge detection Release voltage	2.650	2.700	2.750	V
Current protection	Over discharge current detection	110	120	130	A
	Over discharge protection delay time	800	1000	1500	mS
Short protection	Short-circuit protection delay time	200	330	800	uS
	Short circuit protection recovery	Disconnect load			
Equilibrium function	Equilibrium voltage	3.425	3.45	3.475	V
	Equalizing current	30			mA
Temperature protection	Charging high temperature protection	63	65	67	℃

	Charging low temperature protection	-2	0	2	℃
	Discharge high temperature protection	68	70	72	℃
	Discharge low temperature protection	-22	-20	-18	℃

6. Warning & User Instructions

This manual is applicable to qualified technicians or professional end users. Operators need to have the following skills:

- Understand the working principle of inverter
- Have professional skills to deal with electrical hazards and risk avoidance during the installation and use of electrical equipment
- Have professional skills to install and debug electrical equipment Know the applicable safety standards
- Please a professional electrician or mechanical engineer to perform all operations and connections.
- All electrical installations must comply with local electrical safety standards.
- When installing photovoltaic modules in the daytime, the installer should cover the photovoltaic modules with opaque materials, otherwise the terminal voltage of the modules under the sun is too high, which will cause danger.