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RV12100 User Manual

Brief Version: 1.0

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1 Product introduction

1.1 Product features

The lithium iron phosphate battery adopts the modular series design, through the reliable BMS system and high-performance equalization technology, the whole system has the characteristics of flexible configuration and high reliability. It is widely used in home energy storage, power grid energy storage, photovoltaic energy storage, data room and other applications requiring high-voltage platform batteries.

- Voltage platform: 12V;
- High C rate: the output power reaches sustained 1C;
- High safety: lithium iron phosphate battery is safe and reliable;
- High reliability: interactive cooperative guarantee mechanism is adopted to improve system reliability;
- Minimalist design: bolt design of positive and negative terminals with strong adaptability;
- Battery status information display, SOC display;
- Ultra-long cycle life: 3000 cycles;

1.2 Product appearance



1.3 Scope and purpose of application

This battery is mainly used for RV battery (replacing traditional lead-acid battery), 12V battery application, electric car, yacht.etc

2 Product parameters

2.1 Battery module technical parameters

Table 4 -Technical parameters of battery module

NO	Item	Value
1	Nominal capacity	100 Ah
2	Nominal voltage	12.8Vdc
3	Voltage range	DC 10V ~14.8V
4	Continuous charging current	DC 50A
5	Continuous discharging current	DC 100A
6	Working temperature	-20°C ~ 50°C
7	Humidity	5 ~ 95%
8	Cooling	Natural cooling
9	Dimension	300mm*173mm*220mm
10	Weight	≤ 15kg
11	IP rate	IP20
12	Communication	Optional
13	Parallel Connection	Support
14	Reverse Connection function	Support

2.2 Panel definition



Battery switch:

Press the Power Button for “1S” and the battery will start up.

Long press the Power Button “3S” to turn off the battery.

Self-check lamp status: When the initial self-check is completed, all lights will be turn on for a while and then return to the normal display state.

Please refer to the table below for normal display state:

State	Soc	Status		SOC				Remark
		●★ Run	●★ ALM	SOC4	SOC3	SOC2	SOC1	
Turn off								All off
Idle	0%-25%	●					●	All SOC Light is solid
	26%-50%					●	●	
	51%-75%				●	●	●	
	76%-100 %			●	●	●	●	
Charge	0%-25%	●					★	The SOC top one is flashing, others are solid
	26%-50%					★	●	
	51%-75%				★	●	●	
	76%-100 %			★	●	●	●	
discharge	100%-76 %	★		●	●	●	●	The Run light is flashing
	75%-51%				●	●	●	
	50%-26%					●	●	

	25%-0%							●	
Alarm	Alarm		★	According to Soc state					The protected state can be released upon reaching the recovery condition
Protect	Protect		●						Hardware damaged

Indicator light description:

- : Green light solid
- ★ : Green light flashing (2S flashing)
- ★★ : Green light flashing (4S flashing)

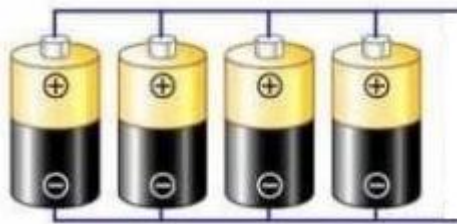
- : Red light solid
- ★ : Red light flashing (2S flashing)
- ★★ : Red light flashing (4S flashing)

2.3 System wiring

2.3.1 Parallel connection

Before wiring the battery model, Make sure all batteries are turned off .Follow the steps shown below for wiring, with all positive poles together and all negative poles together.

Then press any battery' Power button and the other batteries will turn on automatically.



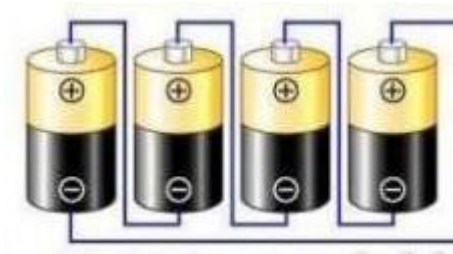
Notice:

- 1、 The number of parallel connections is limited to 8 pcs.
- 2、 Ensure that the voltage difference between the batteries should not exceed 0.5V before connection.

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- 3、 Each set of the battery external cables should have the same wire diameter and length. This keeps the current flow of each battery consistent during operation.
 - 4、 When 2~4 battery are connected in parallel, the charge-discharge current shall not exceed 0.5C of the Total current.

2.3.2 Series Connection

Before wiring the battery model, Make sure all batteries are turned off .Follow the steps shown below for wiring. Then press any battery' Power button one by one.



Notice:

- 1、 The number of series connections is limited to 2 pcs, 24V.
- 2、 Each battery should have the same capacity and the same voltage. Otherwise it will affect subsequent use. If not, please first connect the battery in parallel to internal balance and then use it in series.
- 3、 If one battery goes into protective mode, the whole system will shutdown.
- 4、 Each set of the battery external cables should have the same wire diameter and length. This keeps the current flow of each battery consistent during operation.

3 Installation Environment

Battery operating environment requirements are as follows:

Working temperature: 0°C - 50°C

Humidity: 5% - 95%

Altitude: < 4000m

The site environment: Away from heat, no corrosive gas, no explosive gas, no damaging gas, no damaging insulation Conductive dust.

4 Transportation and storage requirements

4.1 Product transportation requirements

Battery in the process of transportation should prevent violent vibration, impact or extrusion, to prevent the sun and rain, can use cars, trains, ships, aircraft and other means of transportation.

In the process of loading and unloading, the battery should be handled gently to prevent throwing, rolling and weight.

4.2 Product storage requirements

Batteries should be stored in clean, dry and ventilated rooms where the ambient temperature is -20°C ~ 60°C and the relative humidity is no more than 85%.

Battery should avoid contact with corrosive substances, should be far away from the source of fire and heat.

Battery storage SOC: 40% ~ 50%.

Long-term storage: before storage, the SOC should be more than 80%, and the battery should be recharged every six months. The charging amount should exceed 80% of the capacity.