ACrevPOWER

SPB-2000 Battery Pack

User Manual

Introduction

Stepup Battery pack, SPB-2000, the capacity is 2kWh, which is especially design for balcony energy storage system, combine with our micro inverter SPD-800 and energy storage controller, SPD-EMS, PV hub, you can easily to build up your own balcony energy storage system, of course, this battery pack is also suitable for other PV hub and micro inverters.

Note

- The pictures in this manual are only used for illustration, it may be different with your ordered product.
- This manual will be updated timely due to product changes, or to improve readability of the manual.

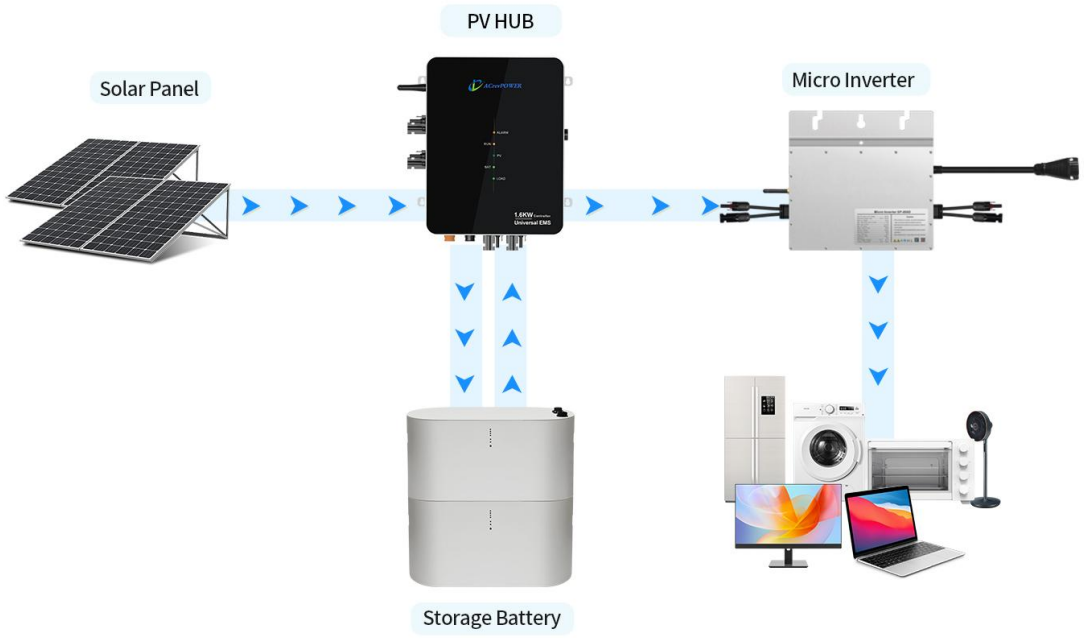
Caution

- Please read this manual before using battery pack to build up your energy storage system.
- Do not place the battery pack into water.
- Do not use and leave the pack near a heat source as fire or heater
- Do not short-circuit the battery pack by directly connecting the positive and negative terminal with metal object such wire
- Do not strike or disassemble or throw the battery pack.
- The battery pack should be stored at room temperature, battery pack should be charged for one time every 3 months if no using, if more than one year no using, the battery pack should be done one cycle charge and discharge to activate it and to restore energy.

Content

1. Battery pack in balcony solar energy storage system

A balcony solar energy storage system normally including 4 parts, PV panel which is responsible for power generation, Battery pack is a key part which is responsible for energy storage, micro inverter which is responsible for change the DC power from PV or from battery pack into AC power, meanwhile it's connected onto grid and supply the applicants in home, and other key part is the PV hub which is responsible energy arrangement among in PV panel, battery and micro inverter.



2. Battery pack over view

3. Battery pack data

Item	Parameter
Nominal voltage	51.2V
Nominal capacity	40Ah
Minimum capacity	38Ah
Battery type	LFP (EVE C40)
Number of cells	2x16string
Life cycle	>4000 cycles (Capacity>80%)
Charge voltage limited	57.6V
Discharge cut-off voltage	40V
Standard charge current	8A
Maximum charge current	40A
Standard discharge current	20A
Max continuous discharge current	50A
Self-discharge rate	≤2%/month
Communication	RS485
Operating environment	Temperature: -20℃ ~ +60℃, Humidity: ≤85% RH, Altitude: ≤4000m
Warranty	1 year
Size LxWxH	210*205*470mm
Weight	15.5kg

4. BMS Characteristic

Item		Parameter	Remark
Cell overcharge protection	Alarm voltage	3600mV	Settable
	Protection voltage	3700mV	
	Protection delay	1.0S	
	Protection release	3380mV	
Cell over discharge protection	Alarm voltage	2700mV	
	Protection voltage	2500mV	
	Protection delay	1.0S	
	Protection release	2850mV	
Overall overcharge protection	Alarm voltage	57.6V	
	Protection voltage	58.40V	
	Protection delay	1.0S	
	Protection release	45.60V	
Charge over current protection	Alarm current	50A	
	Protection current	60A	
	Protection delay	1.0S	
Recovery condition	After 10min, it will try automatically recovery, and it will be locked if 3 time tries are failed, then you have to manual recovery or discharge to recovery		
Discharge over current 1 Protection	Alarm current	50A	Settable
	Protection current	60A	
	Protection delay	1.0S	
Over current 1 recovery conditions	After 1min, it will try automatically recovery, and it will be locked if 3 time tries are failed, then you have to manual recovery or charge to recovery		
Discharge over current 2 protection	Protection current	≥80A	Settable
	Protection delay	500mS	
Over current 2 recovery condition	After 1min, it will try automatically recovery, and it will be locked if 3 time tries are failed, then you have to manual recovery or charge to recovery		
Short circuit protection	Protection current	≥300A	
	Protection delay	≤550μS	
	Protection release	After the load is removed, it is automatically recovery	
MOS high temperature protection	Protection temperature	110℃	Settable
	Protection release	80℃	
Cell temperature protection	Charge low temperature Alarm	0℃	
	Charge low temperature protection	-5℃	
	Charge low temperature protection release	5℃	
	Charge high temperature alarm	50℃	

	Charge high temperature Protection	55℃	Settable
	Charging high temperature protection release	50℃	
	Discharge low temperature alarm	-15℃	
	Discharge low temperature protection	-20℃	
	Discharge low temperature protection release	-15℃	
	Discharge High temperature alarm	55℃	
	Discharge high temperature protection	60℃	
	Discharge high temperature protection release	55℃	
Ambient temperature protection	Ambient low temperature alarm	-15℃	
	Ambient low temperature protection	-20℃	
	Ambient low temperature protection release	-15℃	
	Ambient high temperature alarm	60℃	
	Ambient high temperature protection	65℃	
	Ambient high temperature protection release	55℃	
Balancing	Enable on voltage	3450mV	
	Start on voltage differential	30mV	