

# SP Series User Manual

Updated: Nov 2021

## 1、 Introduction

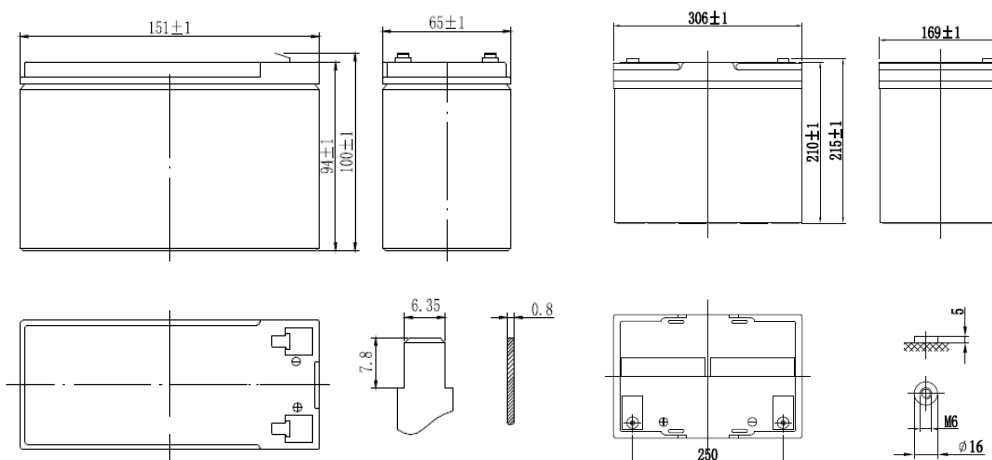
SP series is developed by Shenzhen Center Power Tech Co.,Ltd., which is suitable for backup purpose of UPS ,energy storage system and Recreational Vehicle.

BMS is built into the battery system, which is responsible for collecting and analyzing the voltage, temperature and current of the single cell. It has the functions of over-voltage protection, under-voltage protection, high temperature protection, low temperature protection, short circuit protection and cell balance.

## 2、 Overview

Model	SPH12-6	SP12-100A	SP12-100	SP12-150	SP12-200
Nominal Voltage	12.8V				
Capacity	6Ah	100Ah	100Ah	150Ah	200Ah
Cell	3.2V-1500mAh	3.2V-100Ah	3.2V-100Ah	3.2V-50Ah	3.2V-100Ah
Cells Grouping	4S4P	4S1P	4S1P	4S3P	4S2P

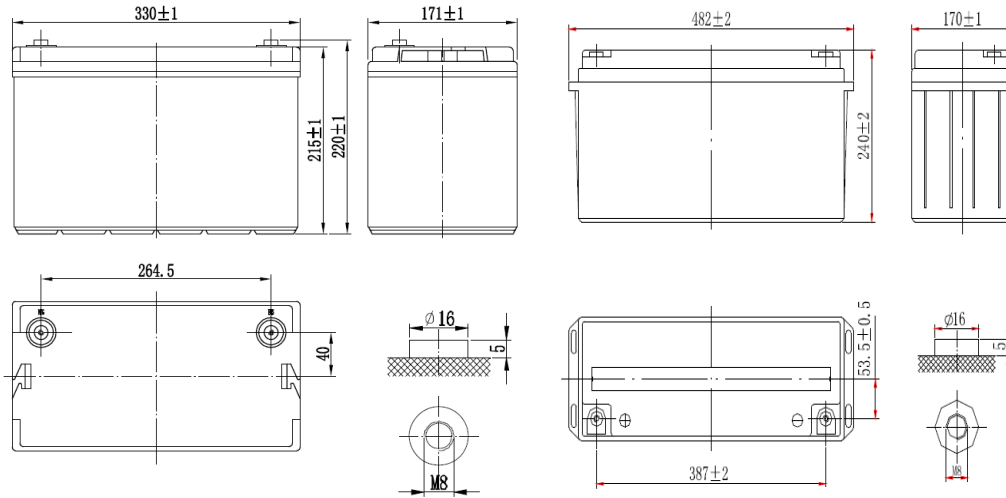
## 3. Dimension:



SPH12-6

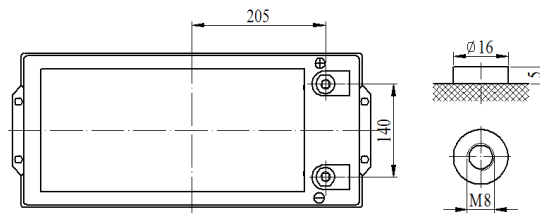
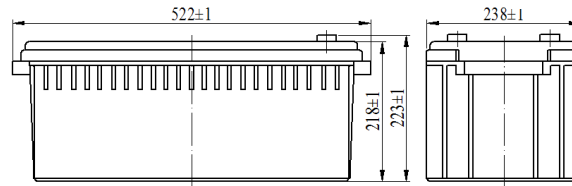
SP12-100A

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**SP12-100**

**SP12-150**



**SP12-200**

#### 4. Parameter

Model	SPH12-6	SP12-100A	SP12-100	SP12-150	SP12-200
Rated Voltage(V)	12.8V	12.8V	12.8V	12.8V	12.8V
Rated Capacity(Ah)	6Ah	100Ah	100Ah	150Ah	200Ah
Rated Energy(KWh)	0.0768KWh	1.28KWh	1.28KWh	1.92KWh	2.56KWh
Maximum Charging Current(A)	6A	50A			
Maximum Discharging Current(A)	50A	100A			
Discharge Cut-off Voltage(V)	10.0V	11.2V			
Charging Voltage	13.6~13.8V				

Life Cycle (@25°C , 0.5C/0.25C, 80%DOD )	Approx 2500 Cycles				
Total Weight(Kg)	0.95Kg	10.5kg	10.8kg	22kg	21.5kg
Internal Resistance Fully Charged@ 25°C	≤40m Ω	≤ 10m Ω	≤ 10m Ω	≤8m Ω	≤5m Ω
Thermal Management	Air cooling				
Operating Humidity	60±25%R.H.				
Operating Temperature	Charging 0~50°C				
	Discharging -20°C~65°C				

## 5、 Performance

- ✧ High acquisition of voltage data collection (5mv)
- ✧ Customized BMS function and parameter
- ✧ Intelligent equalization management
- ✧ Over Charging, Over Discharging, Over Temperature, Short Circuit Protection
- ✧ This BMS supports a matrix of 6 battery in series X 6 battery in parallel. A total of 36 batteries in the matrix.

## 6、 Installation Guide

### 6.1 Preparation

Before installation, please read all safety information provided in this document. If you have any questions about operation and safe use of the battery system, please contact VISION Customer Support (Email Address: [aftersales@vision-batt.com](mailto:aftersales@vision-batt.com)) immediately for a free consultation.

Before Operation:

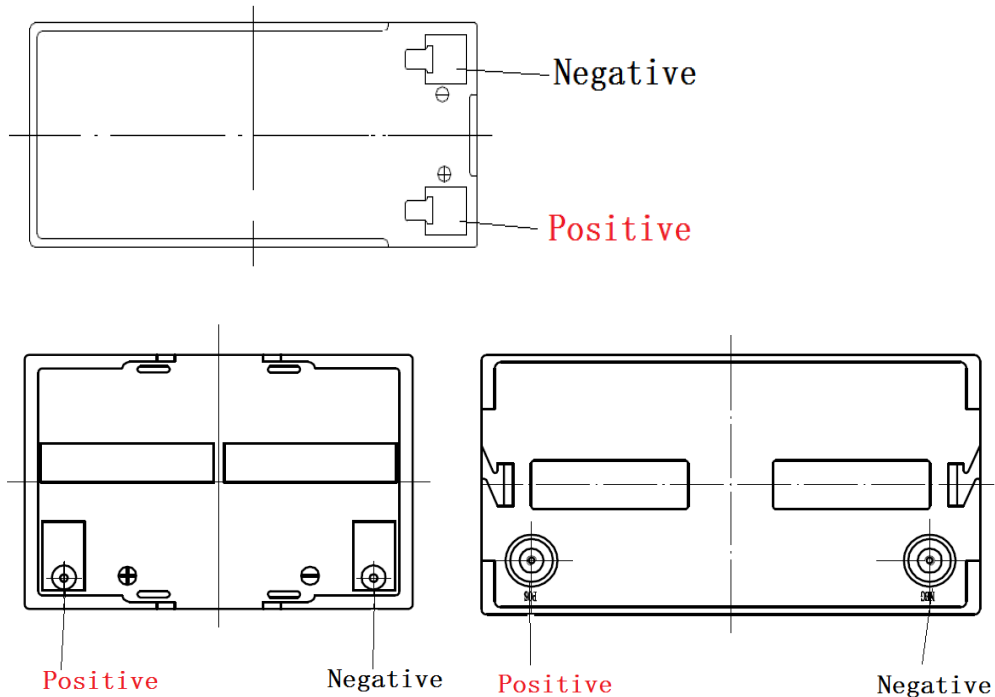
- Qualified electric worker Qualification is mandatory
- Remove all metal items, such as jewelry, watch, pen
- To ensure the safety of construction personnel and equipment, disconnect the battery pack from the operating equipment during wiring
- Pay attention to the terminal voltage polarity of the battery module
- Make sure installation tools insulating and use tools correctly
- Follow the connection port description and system connection diagram

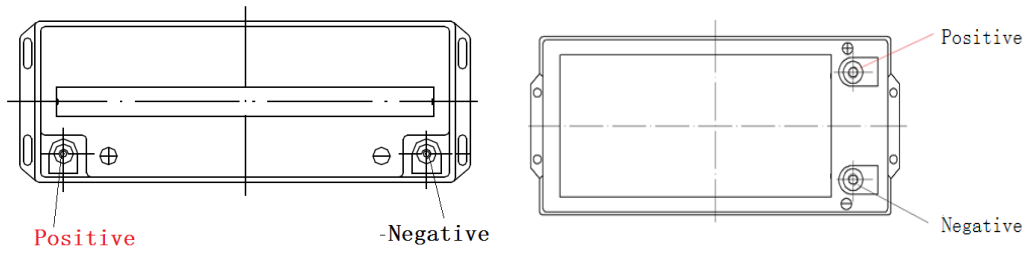
- It is absolutely forbidden to plug and unplug when the battery is working. Necessary operation should be done after the power supply is disconnected
- Before the formal operation, ensure whether the power terminals are properly connected and tighten the terminals; When it is necessary to measure, be careful to use instruments and tools, to avoid short circuit and other accidents
- It is strictly prohibited to disassemble the battery without permission of the professional technician from manufacture

### 6.2 Installation Tools

Torque Wrench	
Cross Screwdriver	
Insulating Gloves	
Multimeter	

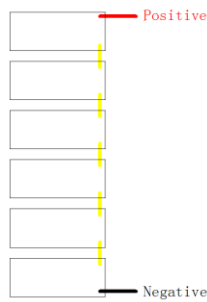
### 6.3 Appearance



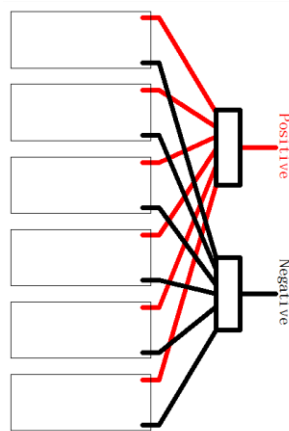


## 6.4 Battery Connection

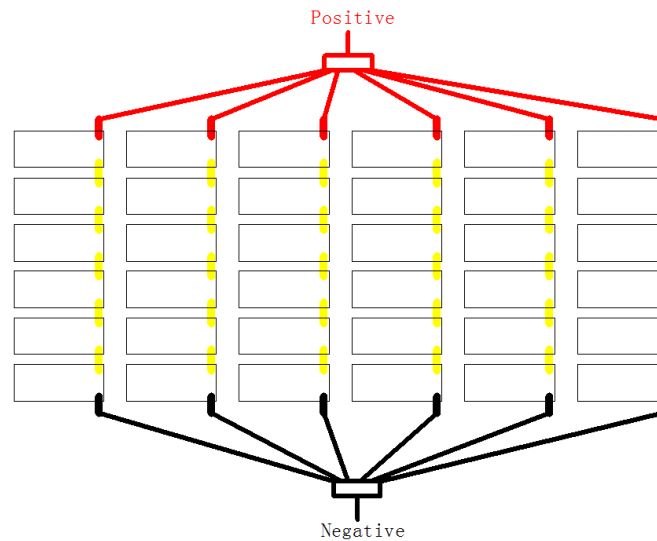
### 6.4.1 Battery Series:



### 6.4.2 Battery Parallel:



### 6.4.3 Battery Series and Parallel (Max 6S6P) :



## 7、 Attention

- Charging current shall be less than the maximum charging current specified in the data sheet. Charging current exceeding the recommended current may damage the battery;
- The discharge current shall be less than the maximum discharge current specified in the product specifications; Discharge current bigger than the recommended current may damage the battery;
- Non-professional personnel is not allowed to disassemble the battery;
- Reverse charging the battery is strictly prohibited;
- Battery pack should not be used or placed at high temperature. It will cause overheat, function failure or shorter life;
- Battery pack should be placed in dry and cool environment when it is not in use. Immersing into water is prohibited;
- It is strictly prohibited to install and disassemble the battery pack when it is live.
- Not suitable for under bonnet usage.
- Due to the legality, LFP battery must be less than 50% charged ( SOC) for transportation purpose, this means the battery is not ready to use until it has been fully charged.
- DO NOT put the battery under any direct sunlight. Store the battery in a cool place.