

# AA Champion

## LFP 12V50Ah

### Features Of LiFePO4 Battery

**Longer Cycle Life:** Offers up to 20 times longer cycle life and five times longer float/calendar life than lead acid battery, helping to minimize replacement cost and reduce total cost of ownership.

**Lighter Weight:** About 40% of the weight of a comparable lead acid battery. A 'drop in' replacement for lead acid batteries.

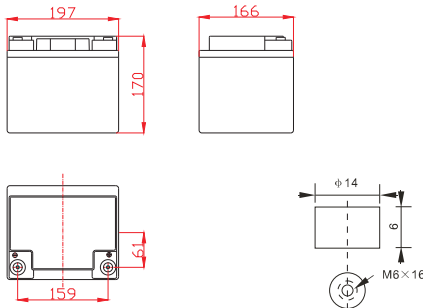
**Higher Power:** Delivers twice power of lead acid battery, even high discharge rate, while maintaining high energy capacity.

**Wider Temperature Range:** -20°C~60°C.

**Superior Safety:** Lithium Iron Phosphate chemistry eliminates the risk of explosion or combustion due to high impact, overcharging or short circuit situation.



### Physical Dimension-mm



### Typical Applications

- Wheelchairs and scooters
- Solar/wind energy storage
- Back-up power for small UPS
- Golf trolleys & buggies
- Electric bikes
- Tools

### Specification

Mechanical	Plastic Case	ABS
	Approx. Dimensions	197mm*166mm*170mm (7.75in.*6.54in.*6.69in.)
	Approx. Weight	6.0kg (13.22 lbs)
	Terminal	T9 T16
Electrical Characteristics	Nominal Voltage	12.8V
	Nominal Capacity	50Ah
	Energy	640Wh
	Internal Resistance(AC)	≤30mΩ
	Cycle Life	>2000 cycles @1C 100 %DOD
	Months Self Discharge	<3%
	Efficiency of Charge	100% @0.5C
	Efficiency of Discharge	96~99% @1C
Standard Charge	Charge Voltage	14.6±0.2V
	Charge Mode	0.2C to 14.6V, then 14.6V,charge current to 0.02C (CC/CV)
	Charge Current	25A
	Max. Charge Current	50A
	Charge Cut-off Voltage	14.6V±0.2V
Standard Discharge	Continuous Current	100A
	Max. Pulse Current	100A(<3s)
	Discharge Cut-off Voltage	8V
Environmental	Charge Temperature	0 °C to 55 °C (32F to 131F) @60±25 % Relative Humidity
	Discharge Temperature	-20 °C to 60 °C (-4F to 140F ) @60±25 % Relative Humidity
	Storage Temperature	-20 °C to 45 °C (-4F to 113F) @60±25 % Relative Humidity
	IP Class	IP65

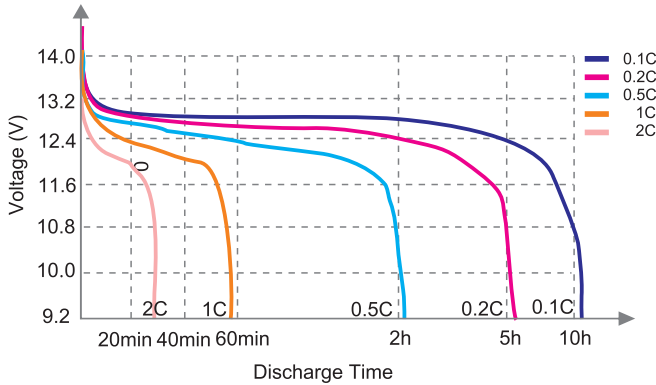
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## BMS CHARACTERISTICS

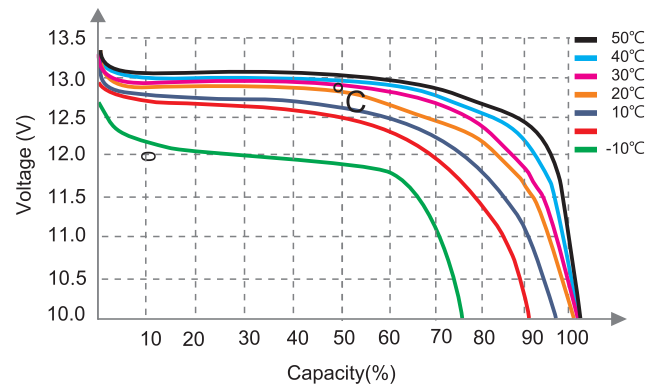
Primary Charging Protection	Current: 55A	Delay Time: 20s
Second Charging Protection	Current: 100A	Delay Time: 2-3s
Primary Discharging Protection	Current: 55A	Delay Time: 30S
Second Discharging Protection	Current: 100A	Delay Time: 2-3s
Over Charge Voltage Protection	Voltage :14.6V	Delay Time: 1-2s
Over Discharge Voltage Protection	Voltage :10.8V	Delay Time: 2-3s
Temperature Protection	PCB teperature $\geq 95^{\circ}\text{C}$	
Bluetooth(APP)	Optional	
Heating Funtion	Optional	

4 Batteries in Series 4 battereis in Parallel 16pcs in total.

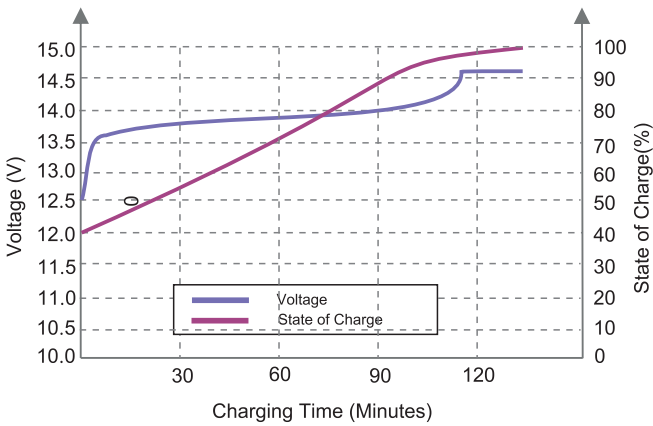
### Different Rate Discharge Curve(25°C)



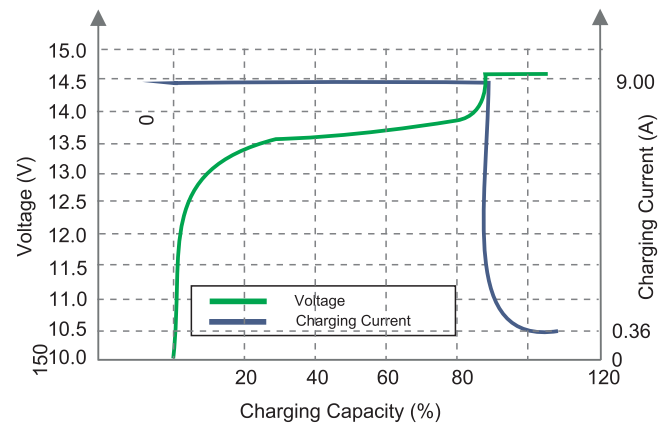
### Different Temperature Discharge Curve(0.5C)



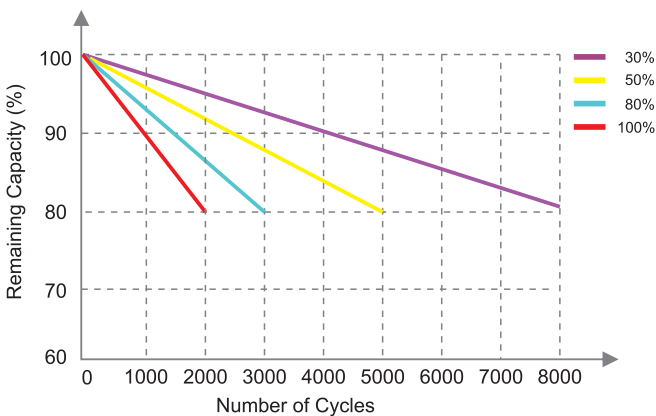
### State of Charge Curve(0.5C, 25°C)



### Charging Characteristics(0.5C, 25°C)



### Different DOD Discharge Cycle Life Curve(1C)



### Different Temperature Self Discharge Curve

