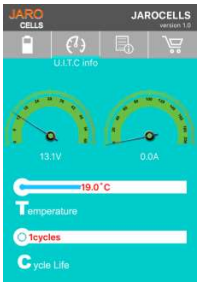
LiFePO4 Battery（Bluetooth）Specification

Model: JAROCELL BT12.50



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Issued Date	10-02-2016		
Issued Version	V01		

1. General Information

This specification defines the performance specifications of the rechargeable LiFePO4 battery pack **JAROCELL BT12.50.** Through installation of the Jarocells App on smartphone or tablet (android 4.3 or higher, Iphone 4S and higher or iPad 2 and higher) the user can read the battery pack system information.

2. Specification

NO	Items		Description
Normal Specification			
1	Nominal Voltage		12.8V
2	Normal Capacity		50Ah
3	Internal Resistance		≤20mΩ
Standard Charge			
4	Battery operation temperature range @charging		0~45℃
5	Normal charge voltage		14.5±0.2V
6	Recommended float charge voltage(for Standby use)		13.5 - 13.8 V
7	Allowed MAX charge current		50A@Battery initial Temp 25±5℃
8	Recommended charge current		≤25A
Standard Discharge			
9	Battery operation temperature range @discharging		-20~60℃
10	Output Voltage Range		10.0~14.6V
11	Allowed discharge current		50A withstand 30min @Battery initial Temp 25±5℃
12	Pulse discharge current		150A withstand 3s
13	Discharge Cut-off voltage		10.0V
Mechanical Characteristics			
14	Dimension		Length 196±2mm
			Width 165±2mm
			Height 174±2mm
15	Weight		Approx. 6.8Kg
Storage			
16	Storage Temperature & Humidity Range	Short: within one month	-20~35℃,45~75%RH
		Long term: above one month	-10~30℃,45~75%RH
17	Self-discharge rate	Residual capacity	≤3% per month; ≤15% per year

3. Electrical Characteristics & Test Condition

Testing Conditions: Ambient Temperature: 25±5℃; Huminity:45%~75%.

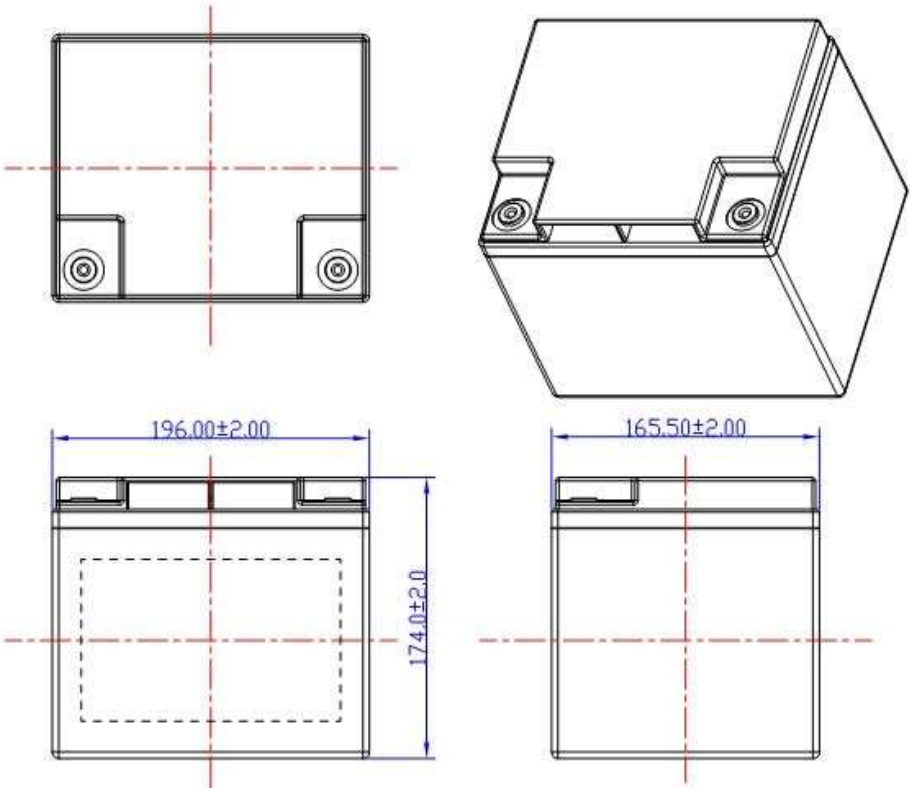
NO	Items	Criterion		Condition
1	Internal Impedance	≤20mΩ		Test the internal resistance of 50% SOC battery pack with 1 kHz AC internal resistance test instrument.
2	Capacity	⩾49Ah		Rest for 1 hour after fully charged, then discharge with 0.33C current until the battery reaches the discharge cutoff voltage. Repeat above process for three times, if the discharge time is not less than 180 minutes, you can stop and define the Discharging current*time value (Ah) as battery capacity.
3	MAX chargeCurrent	50A		Charging with this current for more than 0.5h and the added temperature of battery pack less than 20℃.
4	MAX discharge Current	50A		Discharging with this current for more than 0.5h and the added temperature of battery pack less than 35℃.
5	Cycle life (DOD%100)	≥2000cycle		Discharge with the current of 0.5C until it can't discharge, and then rest it for 1h. Charge the battery following CC(0.33C)/CV(14.6V) mode to full capacity, and then rest it for 1h. Repeat above process until full charged capacity is no more than 80% of normal value. Accumulated times is defined as cycle life.
6	Discharge Temperature Characteristics	-20℃	⩾70%	At 25±5℃ discharge the battery with the current of 0.33C to the cut-off voltage. Store the battery at various temperatures for 2h and discharge the battery with 0.33C to the cut-off voltage. Record the ratio between discharging & charging capacity.
		0℃	⩾80%	
		25℃	100%	
		55℃	⩾95%	
7	Charge Retention ability	remain capacity≥90%		Charge the battery to full capacity and store it for 28days, and then discharge it with 0.33C to the cut-off voltage.

4. Circuit Protection

The batteries are supplied with a LiFePO4 Battery Management System (BMS)that can monitor and optimized each single prismatic cell during charge & discharge, to protect the battery pack overcharge, over discharge, short circuit. Overall, the BMS helps to ensure safe and accurate running.

Test item	Content	Criterion
Over charge	Over-charge protection for each cell	3.80±0.03V
	Over-charge release for each cell	3.60±0.05V
	Over-charge release method	Under the release voltage
Over discharge	Over-discharge protection for each cell	2.50±0.05V
	Over-discharge release for each cell	2.30±0.05V
	Over-discharge release method	Over the release voltage
Over current	Discharge over current protection	150~200A
	Protection delay time	50~200ms
	Over current release method	Release after 30s.
Over Temperature	Battery over temperature	Protection @65±5℃
		Release @60±5℃
Over Temperature	Battery lower temperature	Protection@-10±5℃
		Release @0±5℃

5. Dimensional Drawing



6. Storage & Transportation

* Based on the character of cell, proper environment for transportation of LiFePO4 battery pack need to be created to protect the battery.
* Battery should be stayed in the ware house -20℃～35℃ where it's dry, clean, shade, and well-ventilated.
* The battery should be stored in 50% SOC during transportation.
* The battery need to be charged every 6 months if out of use
* Keep the battery against dropping, turning over and serious stacking during loading.

7. Warning & Tips

Please read and follow the specification and caution remarks on battery surface before use the battery. Improper use may cause heat, fire, rupture, damage or capacity deterioration of the battery.

Warning!

* The battery must be far away from heat source, high voltage, and avoid to be exposed in sunshine for longtime.
* Never throw the battery into water.
* Never connect the positive and negative of battery with metal.
* Never ship or store battery together with metal.
* Never reverse two electrodes when use the battery.
* Never disassemble the battery without manufacturer's permission and guidance.
* Never knock, throw or trample the battery.

Tips!

* Keep the battery against high temperature. Otherwise it will cause battery heat, get into fire or lose some function and reduce the life.
* When battery run out of power, please charge your battery timely (≤15day).
* Please use the matched or suggested charger for this battery.
* If battery emit peculiar smell, heating, distortion or appear any abnormity during working or storage, please stop using and take it out from device.
* If the battery leaks and get into the eyes or skin, do not wipe, instead, rinse it with clean water and see doctor immediately.
* Please far away from children or pets.
* Do not put scrap battery into a fire or water.
* If user needs to parallel several battery packs, please charge them to full capacity with same type of matched charger, and set it aside for 8 hours, professionals only. This battery pack supports application no more than 8 group parallel. If user needs to apply this product to more groups parallel, please reconfirm details with us.
* It is strictly prohibited any series between the battery packs without consulting Jarocells because of special requirements needed.