

# User Manual Artemis LiFePO4-100BT

Thank you for choosing Artemis product. You can be sure that the product you have purchased is one of the best in the market. Before using, please read this manual carefully and keep it for further reference.

LiFePo4-100BT is a Lithium Iron Phosphate (LiFePo4) 12.8V100Ah rechargeable battery with Bluetooth function. It is designed and manufactured for deep cycle use as power for caravans, motor-homes, electrical vehicle, renewable energy storage systems, micro-grid and off-grid system, UPS, on boats etc.

## Part 1. Basic introduction

Battery Type		LiFePO4
Nominal Voltage		12.8 V
Nominal Capacity	25°C/0.2C	100Ah
Energy	25°C/0.2C	1280Wh
Dimension	Length	330 ± 2mm (13.00inch)
	Width	172 ± 2mm (6.77inch)
	Height	216 ± 2mm (8.50inch)
	Total height	216 ± 2mm (8.50inch)
Net Weight		About 11.6Kg
Internal Resistance (Fully Charged, 25°C)		≤20mΩ
Cycle life @25°C	0.2C/100%DOD	≥ 2500 cycles
	0.2C/80%DOD	≥ 3500 cycles
Charging Current		20~100A, best: 20-50A
Max Charging Voltage		14.6V
Standard Charge		Constant current 20A charge to 14.6V, then constant voltage 14.6V charge till current drops
Max Discharging Current (Continue)		100A
Max Discharging Current (Pulse)		240A/3 seconds
Discharge Cut-Off Voltage		8.4V
Operating Temperature	Discharge	-20°C ~ 60°C (-4°F ~ 140°F)
	Charge	0°C ~ 45°C (32°F ~ 113°F)
	Storage	-20°C ~ 45°C (-4°F ~ 122°F)
Terminal Type		M8

## Electronic characteristic

N.O	Item	Specification
1	Over voltage detection value of charge	$3.65 \pm 0.10V$
2	Over voltage detection delay time of charge	$2000 \pm 1000mS$
3	Release voltage of over charge	$3.50 \pm 0.10V$
4	Max continuous charge current	$\leq 100A$
5	Over voltage detection value of discharge	$2.50 \pm 0.10V$
6	Over voltage detection delay time of discharge	$2000 \pm 1000mS$
7	Release voltage of over discharge	$3.00 \pm 0.10V$
8	Max continuous discharge current	$\leq 100A$
9	Over current detection value of discharge	$110 \pm 5A$
10	Over current protection delay time of discharge	$10000 \pm 2000mS$
11	Discharging temperature protection	$65 \pm 5^{\circ}C$
12	Discharging temperature protection release	$60 \pm 5^{\circ}C$
13	Short circuit protection	$\leq 600\mu S$
14	Balance triggered Voltage	$3.40 \pm 0.10V$
15	Balance current	$10 \sim 100mA$
16	Internal impedance	$\leq 60m \Omega$
17	Current consumption @sleep mode	$\leq 100\mu A$

## Part 2. Bluetooth APP

First download APP from the APP Store. From the APP, you will be able to access the basic battery information, such as SOC (State Of Charge), Battery Voltage, Battery Temperature, the Input and Output Current (how much current is going into the battery and how much current is going out of the battery), (@discharge mode) Time To Go (the time

your battery will last at present current output), (@charge mode) Charge time (the time needed to fully charge the battery), and Charge/Discharge Switch (direct control of charge/discharge process).

### **Part 3. Attention of operation**

#### **Charge:**

1. The battery pack must be charged with a special charger for lithium batteries. When charging the battery, please make sure that the power supply voltage is consistent with the input voltage of the charger, and the output voltage of the charger is consistent with the battery's charging voltage. Unqualified chargers will lead to battery failure or short life.
2. The charging position shall be well ventilated. Do not charge in high temperature environment, and keep away from inflammable and explosive gases or objects. The charger and battery shall be well placed to prevent from falling.
3. It is normal that the surface of the battery box is slightly heated during charging. If it is found that the surface temperature of the battery box is too high, the power should be cut off immediately for further check.
4. After full charge, unplug the charger in time, and then disconnect the charger and battery interface. This process cannot be operated in reverse.
5. When the battery leaves the factory, the SOC is about 40% - 60%, which needs to be supplemented before use.
6. Do not directly connect positive and negative ports, which will hurt yourself or damage the battery.
7. The maximum charging time should be less than 12 hours (the specific charging time depends on the use of the battery). Do not charge for long time.

#### **Operation:**

1. The battery can only be used for the intended purpose, not for other purposes.
2. The battery should be firmly installed in the vehicle/ vessel, so as to avoid the battery damage due to bumps during the operation.
3. Do not use the battery in a wet environment
4. Do not immerse the battery in water.
5. At normal temperature, the discharge performance of the battery is better, and at low temperature, the capacity of the battery will decrease, so when the usage temperature is low, the working time of the battery after charging will be reduced. This is normal.
6. The battery shall be placed in a place free from direct sunlight and radiation source, and the distance from the heat source (fire source, heating, equipment, etc.) shall not be less than 2 meters.
7. Try to avoid using the battery in the place with strong static electricity. Static electricity can easily damage the charging protection plate, resulting in abnormal operation of the battery.

8. If abnormal phenomena such as peculiar smell are found in the charging or discharging. Please stop use immediately for further investigation.

9. Keep children away from the battery.

## Battery Assembly

LiFePo4-100BT supports further connection in series (max 4 sets) or in parallel (max 4 sets), respecting the permitted configuration shown in the table below.

Connection	1S (12V)	2S (24V)	3S (36V)	4S (48V)
1P	YES	YES	YES	YES
2P	YES	YES	YES	YES
3P	YES	YES	NO	NO
4P	YES	YES	NO	NO

Note: xP means x batteries in parallel, and xS means x batteries in series.

### WARNING:

1. Series/parallel connection **MUST** be carried out by professional personnel, otherwise it may destroy the battery or even cause danger to the operator.
2. Before assembly, each battery **MUST** be fully charged and the voltage difference between batteries **MUST** be  $\leq 0.1V$ .
3. **ONLY** use NEW batteries for further assembly.
4. **ONLY** use batteries of SAME model and SAME batch for further assembly.

## Part 4. Danger warning

1. **Do not disassemble the battery!**
2. **Do not short circuit the battery!**
3. **Do not use battery in water or in liquid!**

## Part 5. Transportation and storage

### Transportation:

1. Battery transportation temperature: 20 ~ 30 °C.
2. Batteries shall be well packed in solid boxes for transportation.
3. During transportation, the battery shall not be subject to severe vibration, impact, exposure, inversion and heavy pressure. Special attention shall be paid to waterproof.
4. The battery shall be handled with care during loading and unloading. Throwing, rolling, heavy pressing and

dumping of battery are strictly prohibited.

### Storage:

1. Store the battery in a cool and well ventilated area with low humidity, suggested storage temperature  $-20^{\circ}\text{C} \sim 45^{\circ}\text{C}$ .
2. When the battery is not used for a long time (more than 3 months), please remove it from the device, charge the battery to the semi saturated state.
3. Fully charge the battery every 3 months.

## Part 6. Typical faults and troubleshooting

Fault phenomenon	Reason	Processing method
Unable to charge normally	Charger not plugged in Charger fault The terminal is dirty or the screw is not locked Protection board protection Battery circuit fault	Check charger connector Replace charger Clean the terminals and lock the screws Disconnect the battery for 30 seconds and reconnect Please contact the nearest dealer for repair.
Abnormal discharge	Polarity error The battery SOC is too low Battery circuit fault	Check polarity Charging first Please contact the nearest dealer for repair.
Abnormal discharge stop	Operation temperature too high, trigger over temperature protection Excessive discharge current, triggers over current protection External short circuit of battery, triggering short circuit protection	Half an hour at room temperature Reduce discharge current Turn off the device, disconnect the battery, remove the short circuit and then turn on the device

## Part 7. Precautions for handling abnormal problems

1. This product should be repaired by professional personnel. If you open the battery shell, it will void the warranty.
2. If the battery is seriously impacted, squeezed, dropped or heated, please stop use for further inspection or

contact the agent or after-sales service office in time.

3. In case of fire, it is recommended to cover it with sand or thick wetted cloth, then use water to extinguish the fire.

If it is particularly urgent, you can also directly use a large amount of water to extinguish the fire.

4. Although the used batteries do not have any pollution to the environment, disassembly of the used batteries has certain risks. For safety, it is recommended to send to special waste battery disposal place or contact us for further process.

## **Part 8. Maintenance and after sales**

1. According to the relevant laws and regulations of the country, Artemis will carry out warranty for the sold products.

2. When your battery needs to be repaired, please bring the purchase battery invoice and warranty card to our company or the dealer's designated after-sales service station for repair.

3. Failure caused by unauthorized disassemble and assembly, unauthorized maintenance or improper operation will not be covered by the warranty.

4. Faults and losses caused by charging, using, maintaining, storing and transporting not in accordance with the requirements of this manual will not be in the scope of warranty and liability.

## **Part 9. Others**

1. For the safety, please read this manual in detail when using the battery.

2. Please keep this manual properly. If it is lost, it will not be reissued.

3. The company will not bear any legal liability for direct and indirect losses caused by improper use.

4. In case of any direct or indirect loss caused by the user's inability to use the product for any reason, the company shall only bear the responsibilities required by the applicable laws of the country.

5. If there is any difference between the actual product and the instruction manual due to the continuous technical and appearance transformation of the product, the actual product shall prevail.

6. The company reserves the right to interpret the specification.

7. The company reserves the right to modify this manual without prior notice.

## **Part 10. Warranty Certification**

### **5 years limited warranty from the date of purchase**

<b>Year</b>	<b>Charge of Replacement</b>
1	free
2	free
3	40%
4	60%
5	80%

Such services are only valid through an authorized service center. The warranty is valid on condition that the product has been handled in accordance with the manual instructions and has not been repaired and/or tampered with by non-authorized personnel and/or if the serial number has not been altered.

We suggest you keep the original packaging in case you have any reason to return your purchase to an authorized service center.

Please return the product together with filled warranty card (not doing so will void any warranty), along with a detailed description of device malfunction.

In addition, please note that the warranty does not cover products which have been modified or adapted for the reception of transmission outside of the country for which such products have been designed and built, approved and/or authorized or any damage caused by such modifications. If the product does not operate correctly or is in any way faulty, please contact one of the authorized service centers located around New Zealand.

## **After-sale service center**

### **Apollo Entertainment Limited**

Add: 25D Karepiro Drive, Whangaparaoa, Auckland, 0932

web: [www.apollotv.co.nz](http://www.apollotv.co.nz) tel: +64 09 424 1427

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