LiFePO4 Battery 48V 100Ah for Telecom/Solar/Backup System

Cylindrical Lithium Iron Phosphate Battery

OPT48100

Diameter: 32.2±0.5mm

Height: 70.0±0.5mm

Brief Introduction

OptimumNano always develop and produce **32650** cells to or assemble battery packs to satisfy the requirements of high performance and operational reliability of our customers. We also have the **14500/18650/22650/26650** cells to meet all your requirements.

Characteristics of ESS

- **Cells and Battery Voltage Detection:** protection and alarming for over charge, over discharge
- **Cells and Battery Ambient Temperature Detection: p**rotection and alarming for high temperature and low temperature
- **Battery Charge and Discharge Current Detection:** protection and alarming for charge current and discharge current, also for short circuit protection
- **Battery SOC and Cycles Detection:** show the real-time SOC and recycle times
- **With 6 LED indicators:** to show the SOC, operation mode, alarming and protection status
- **Bottom for Start-up, Shutdown and Reset**
- **RS232 and RS485 Communication Interface:** the PC can do the battery Data Monitoring, Operation Controlling and Parameter Setting through the remote order
- **History Data Record Storing and Reading**
- **Battery Parameter Setting:** to cells and battery over discharge, over charge, over current, short circuit, high temperature, low temperature, number of serials, battery capacity

Electrical Charateristics

Nominal Voltage	48V
Nominal Capacity	100Ah
Impedance (Max. at1000Hz)	⩽55mΩ
Expected Cycle Life	More than 2000 cycles, with 1C charge and discharge rate, at 25 ℃

Mechanical Characteristics

Dimensions (4U steel rack)	**Width**	482±2mm (442mm without food mounting)
	Depth	510±2mm
	Height	176±2mm
Weight		~65Kg

Operation Conditions

Charge Method	CC-CV
Max. Charge Voltage	54.75V
Continuous Charge Current	Max. 100A
Charge Temperature	0℃～45℃
Continuous Discharge Current	Max. 100A
Peak Instant Discharge Current (10 Seconds)	110A
Discharge Cut-off Voltage	37.5V
Discharge Temperature	-20℃～60℃
Storage Temperature	-20℃～55℃
Self Discharge (Stored at 50% SOC)	<= 3%/month

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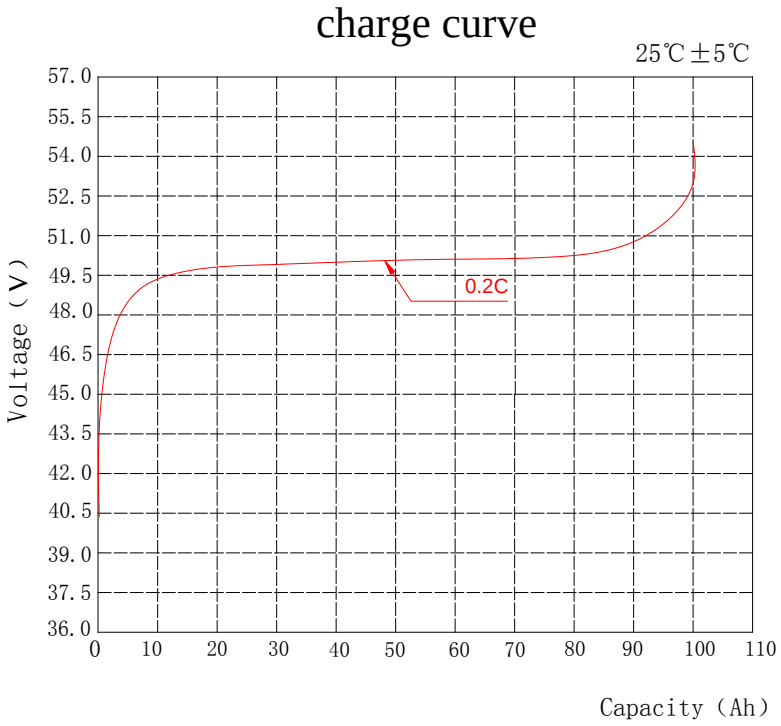
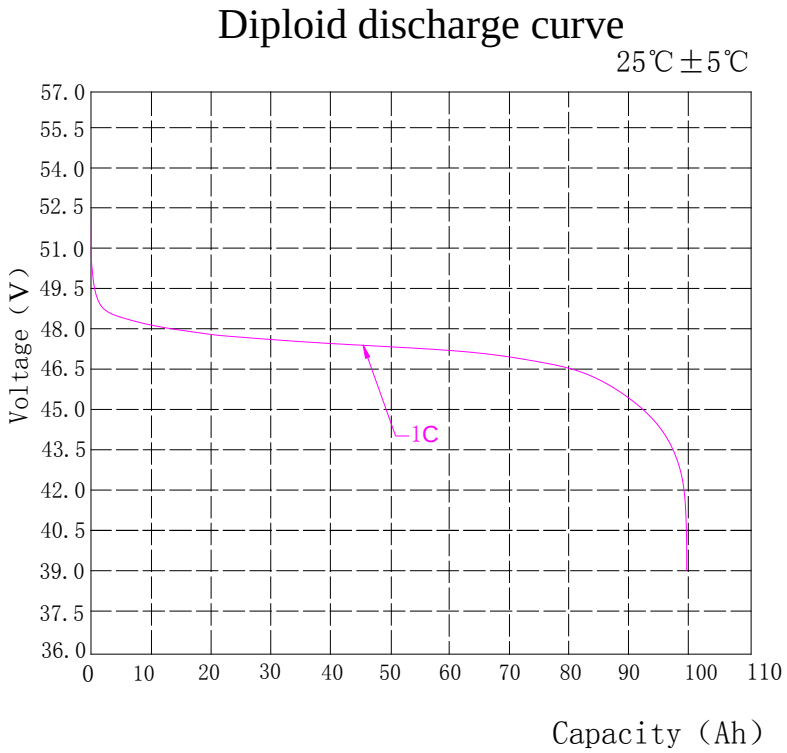
Charge and discharge curve





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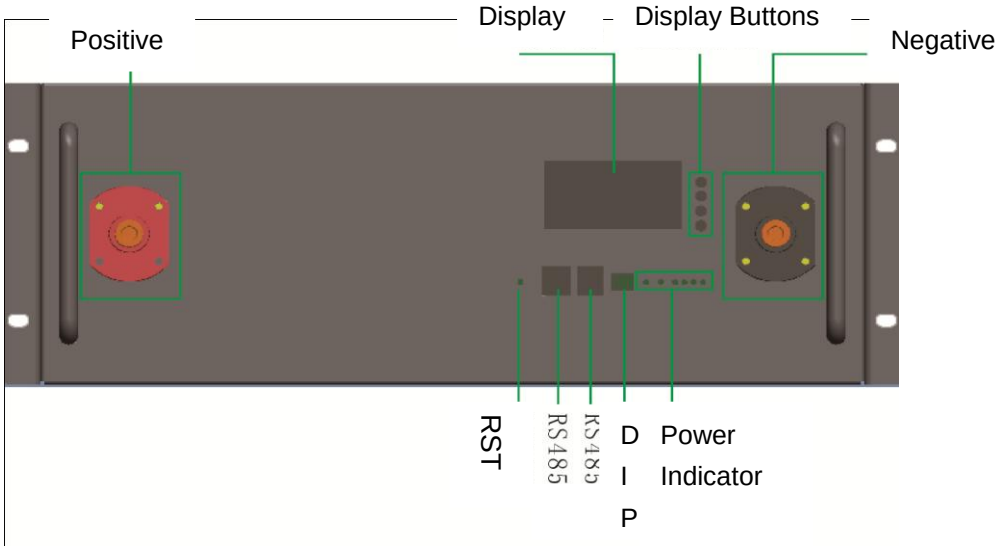
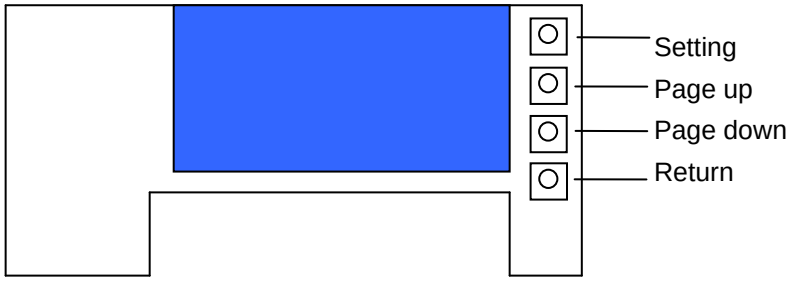
Instructions



2. Description for the buttons



3. Display instructions

XXXXXX Welcome 2014-12-30 16:55	**Picture 1:** **This is what the BMS show when awakening, and to get to normal parameters. Then it will automatically jump to the Picture 2.** **At this moment, all the buttons do not work.**
Bat_Volt:51. 16V Bat_Curt:0.00A Rem_Capt: 70.71Ah Sys_Stat: Standby	**Picture 2:** **To show the battery voltage, current, SOC and status.** **Press "setting", turn to Interface 2nd to set all the parameters;** **The "return" do not work;** **Press "page down", turn to Interface 3rd;** **Press "page up", turn to Interface 7th**

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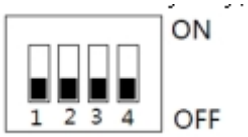
Cycles : 35Ah Amb_TemP: 19.3℃ Pow_Temp: 26.7℃ AlarStat: None	**Picture 3:** **To show the battery used capacity, ambient temperature, power temperature and the BMS alarming status.** **Press "setting", turn to Interface 8th to set all the parameters;** **The "return" do not work;** **Press "page down", turn to Interface 4th;;** **Press "page up", turn to Interface 2nd**
Cel_Volt mV 01~08 3342 3343 3345 3343 3344 3343 3345 3346	**Picture 4:** **To show the voltage from B1-B8.** **Press "setting", turn to Interface 8th to set all the parameters;** **The "return" do not work;** **Press "page down", turn to Interface 5th;;** **Press "page up", turn to Interface 3rd**
Cel_Volt mV 09~16 3345 3345 3346 3346 3345 3345 3345	**Picture 5:** **To show the voltage from B9-B15.** **Press "setting", turn to Interface 8th to set all the parameters;** **The "return" do not work;** **Press "page down", turn to Interface 6th;;** **Press "page up", turn to Interface 4th**
Cel_TemP℃ 01~04 17.6 17.2 17.6 17.6	**Picture 6:** **To show the temperate from 1 to 4** **Press "setting", turn to Interface 8th to set all the parameters;** **The "return" do not work;** **Press "page down", turn to Interface 7th;;** **Press "page up", turn to Interface 5th.**

4. **DP number:** It is used for battery parallel with binary system and the four bottoms represent 1, 2, 4,8

- If you use one battery only, pls keep all the bottoms down, like this



- if you want to connect the battery in parallel, then you should change the the DP number(stated in the BMS sepecification)
- After change the DP number, pls "RST"

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Function of PCM/BMS (Battery Management System)

Item	Content	Criterion
Communication	RS485 or RS232	To show the battery voltage, temperature, SOC, faults and so on
Over charge Protection	Over charge detection voltage	3900±20 mV (can be set)
	Over charge release voltage	3800±20 mV (can be set)
	Release condition	The single voltage is up to the release voltage
Over discharge protection	Over discharge detection voltage	2000±50 mV (can be set)
	Over discharge detection delay time	5 ±1S (can be set)
	Over discharge release voltage	2300±50 mV(can be set)
	Release condition	Detect the effective charge current and the single voltage is higher than the release voltage
Over current protection	Over charge current detection current	**100±1A (can be set, 3A~100A)**
	Over charge detection delay time	5±1S (can be set, 1S~600S)
	Over discharge current detection current	**-100±1A (can be set, 3A~100A)**
	Over discharge detection delay time	5±1S (can be set, 1S~600S)
	Release condition	Connect with charger or reset
Cells balancing	Balancing voltage	3370 mV(can be set, 3000mV-4500mV)
	Balancing voltage different	50mV(can be set, 50mV-100mV)
	Balancing end voltage	30mV(can be set, 10mV-30mV)
Temperature Protection	Low temperature alarm	-10±3℃(can be set, -20-60℃)
	High temperature alarm	60±3℃(can be set, -20-60℃)

Storage and Transportation

1. Based on the character of cell, proper environment for transportation of LiFePO4 battery pack need to be created to protect the battery.
2. During transportation, 50% SOC must be kept to ensure that short circuit, appearance of liquid in the battery or immersion of battery in liquid never occur.
3. Battery should be kept at -20℃～45℃ in warehouse where it's dry, clean and well-ventilated.
4. During loading of battery, attention must be paid against dropping, turning over and serious stacking.

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Warnings and Tips

In order to prevent the battery leaking, getting hot and exploding, please pay attention to preventing measure as following:

Warning!

- Never throw the battery into water, keep it under dry, shady and cool circumstance when not use.
- Never upside down the positive and negative.
- Never connect the positive and negative of battery with metal.
- Never ship or store the battery together with metal
- Never knock, throw or trample the battery.
- Never cut through the battery with nail or other edge tool.

Tips!

- Never use or keep the battery under the high temperature. Otherwise it will cause battery heat, get into fire or lose some function and reduce the life. The proposed temperature for long-term storage is 10-45℃.
- Never throw the battery into fire or heating machine to avoid fire, explosion and environment pollution; scrap battery should be returned to the supplier and handled by the recycle station.
- Never use the battery under strong static and strong magnetic field, otherwise it will destroy the protecting device.
- If battery leaked, the electrolyte get into eyes, please don't knead, please wash eyes by water and send to hospital. Otherwise it will hurt eyes.
- If battery emit peculiar smell, heating, distortion or appear any unconventionality during using, storage or charging process, please take it out from device or charge and stop using.
- Never cut the battery in socket directly; please use the stated charger when charging.
- Check the voltage of battery and relevant connectors before using the battery. It can't be used until everything turns out to be normal.
- Prior to charging, fully check the insulativity, physical condition and ageing status, since breakage and ageing are never allowed; the pack voltage must not be less than the cutoff voltage, if not, it's abnormal and that battery needs to be labeled. The user should contact our Customer Service Dept and it can't be charged until repaired by our staff.
- The battery should be stored in 50% SOC. It needs to be charged once if out of use for as long as half a year.
- Clean the dirty electrode, if any, with a clean dry cloth, or poor contact or operation failure may occur.

Contact Us

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