48V100Ah Battery Pack Spec

Model：

48V100Ah

Customer P/N:

Nominal Voltage:

48V

Capacity:

100Ah

1. Application

Power backup system for telecom base, data center, and home Energy Storage System

2. Basic Information

|		
Description	:	Rechargeable LiFePO4 battery pack
Cell Type	:	3.2V100Ah
Chemistry	:	LiFePO4
PCM		V0867 48V100A
Cell configuration	:	1P15S
Voltage Nominal	:	48V
Capacity Nominal		100Ah
Capacity		102Ah
Energy		4800Wh（Max 4896Wh）
Additional Function		+485 +CAN
Protection	:	

A. Over Charge Protection

B. Over Discharge Protection

C. Over Current Protection

D. Temperature Protection

E. Short Protection

3. Electrical Characters

| Items	Parameter
Charging Method	**CC-CV**
Charging Voltage	54V±0.05V
Over Charging Protect	3.65±0.025V
Standard Charging Current	20A (0.2C)
Max. Charging Current	100A
Cut-off Charging Current	2A (0.02C)
Standard Discharging Current	20A (0.2C)
Max. Discharging Current	100A
Discharging cut-off Voltage	40.5V
Over Charge Current	/
Level 1 Over Discharge Current	110A±10A
Level 2 Over Discharge Current	250A±10A
Over Discharging Protect	2.7±0.08V
Internal Resistance	<80mOhm
balancing voltage	3.350V
balancing current	60±30mA
Standard Charge Temperature	0~45℃
Standard Discharge Temperature	-20~60℃

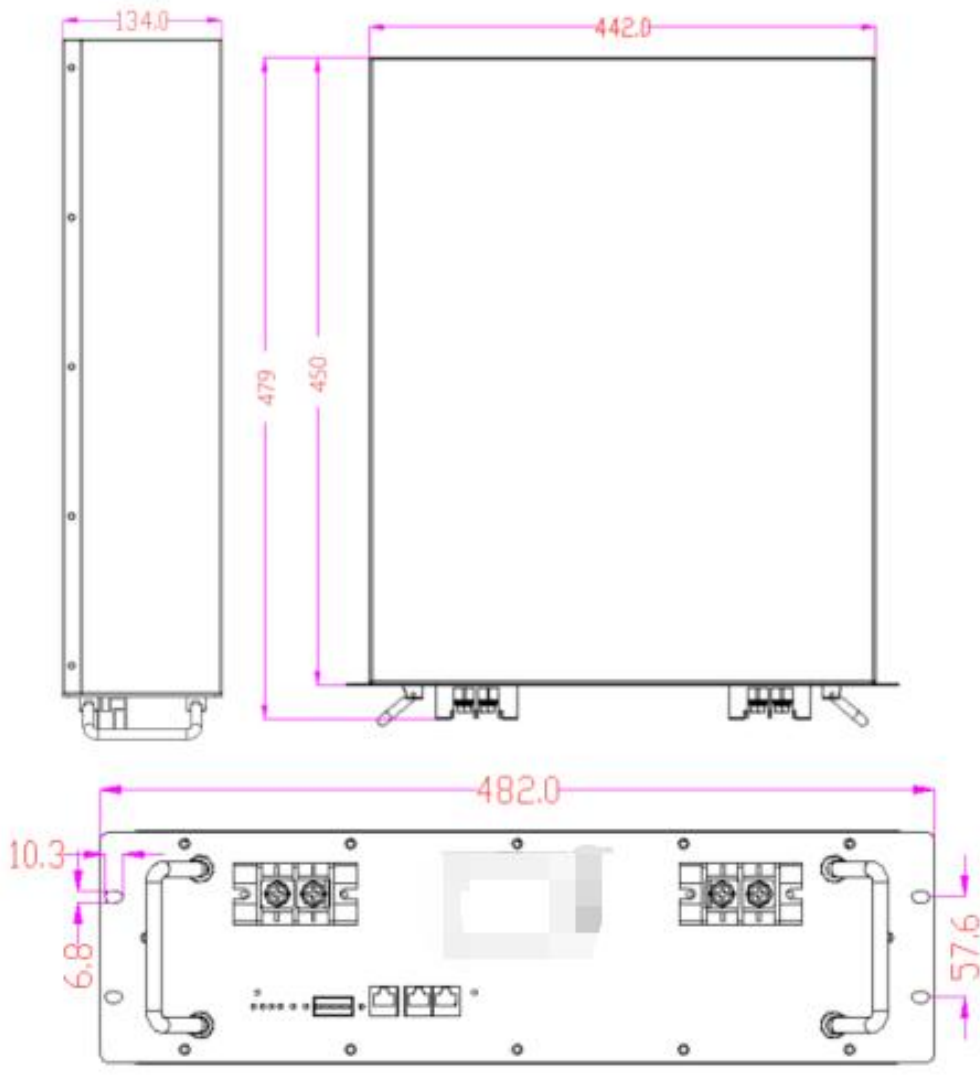|	
Cycle life　　DOD 90% 20℃）	（After 3000cycles，the discharge capacity≥ 80%）@25℃
Storage Humidity	65%RH not condensed
Storage Temperature	-20~60℃
size	442*450*134mm（No handles, terminals,lugs）
Weight	About 43 kg

4. System Block Diagram
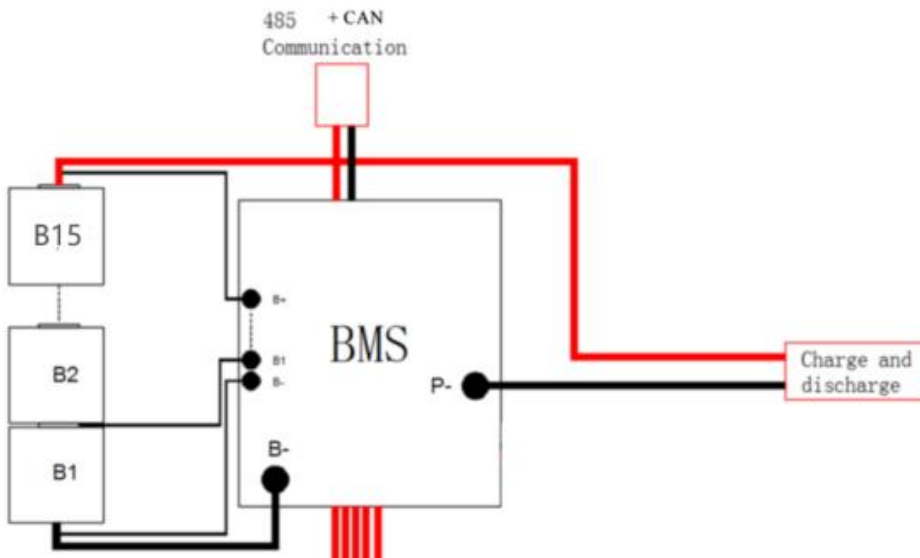
5. Mechanical Information

5.1. Sample Picture
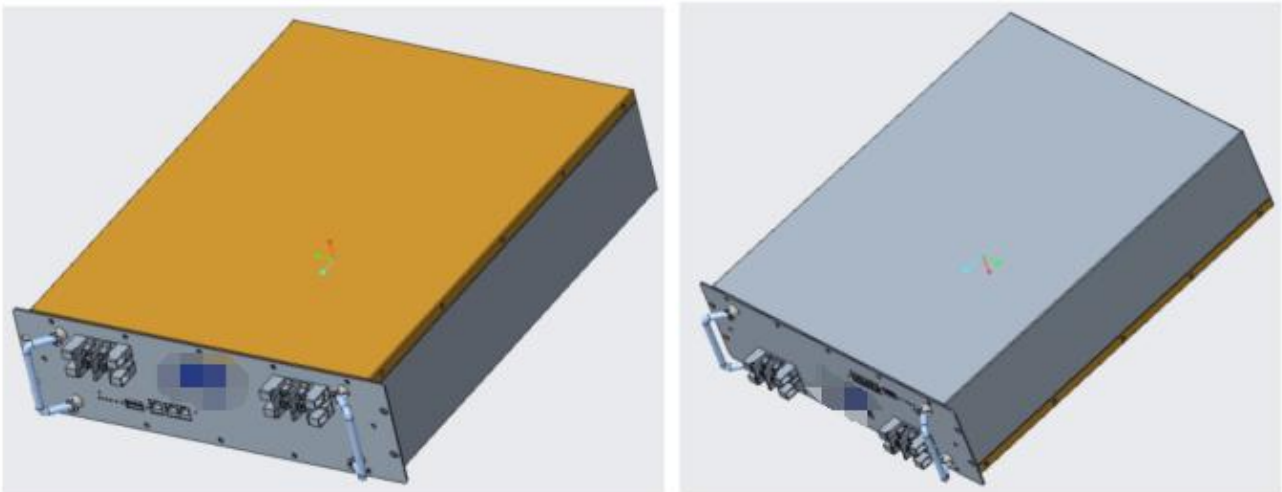
5.2. Design size

mm
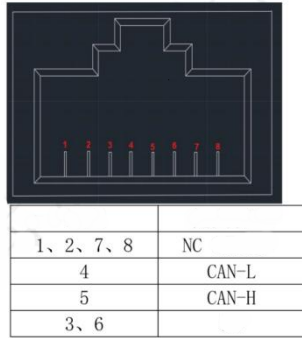±2mm

5.3. Screen printing design

5.4. BMS（For reference only, the concrete in kind shall prevail 　　　　）

A:

CAN communication:
Battery pack with CAN communication function, which baud rate is 500 Kbps, with 8 P8C RJ45 connector. Master Battery communicate with the inverter or CAN TEST via CAN interface. Interface definition:
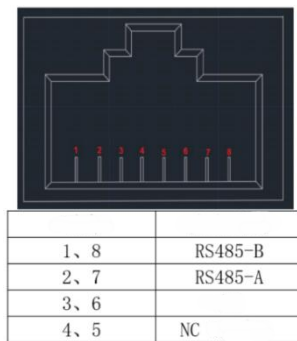

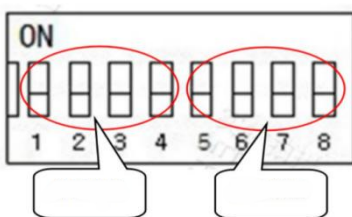| 1、2、7、8	NC
4	CAN-L
5	CAN-H
3、6	

B:　RS485

RS485 communications:
RS485 baud rate is 19200 bps with interface 8 P8C RJ45. RS485 is for sharing all information of slave battery to the master battery. Interface definition:

1、8	RS485-B
2、7	RS485-A
3、6	
4、5	NC

C:　Address setting

Address Coding switch definition:

In the case of connecting in parallel, coding switch is for distinguish the communication addresses.

First 4 bits is for the address. 0000 is host address or single application; other 1000~1111 is for slave.

The last 4 bits is for the total Slave battery quantity. 0000 is mean no slave battery (for single battery application); 1000~1111 is for 1~15 slave battery (means there are 1~15 slave battery; total 2~16 pcs battery including the host)

Address setting for single application: 0000 0000

For two battery parallel connection: the first battery coding 0000 1000 as the host; Second battery as slave coding 1000 0000 as slave.

For three battery parallel connection: first host coding 0000 0100; Second battery as the first slave coding 1000 0000; Third battery as the second slave coding 0100 0000.

For four battery parallel connection: first host coding 0000 1100; Second battery as the first slave coding 1000 0000; Third battery as the second slave coding 0100 0000; the Fourth battery as the third slave coding 1100 0000···
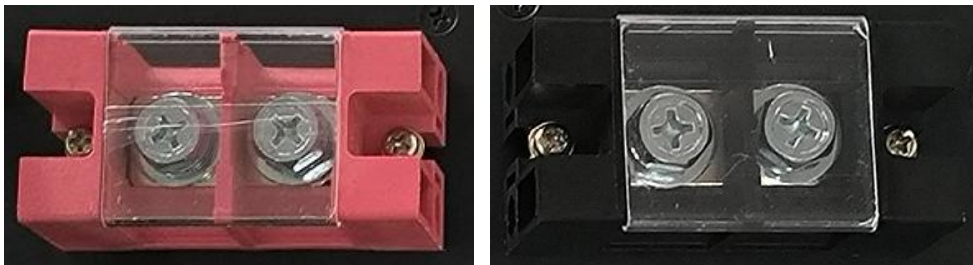
Address settings list:

Address Coding

address	coding switch				remark
	#1	#2	#3	#4	
1	ON	OFF	OFF	OFF	Pack1
2	OFF	ON	OFF	OFF	Pack2
3	ON	ON	OFF	OFF	Pack3
4	OFF	OFF	ON	OFF	Pack4
5	ON	OFF	ON	OFF	Pack5
6	OFF	ON	ON	OFF	Pack6
7	ON	ON	ON	OFF	Pack7
8	OFF	OFF	OFF	ON	Pack8
9	ON	OFF	OFF	ON	Pack9
10	OFF	ON	OFF	ON	Pack10
11	ON	ON	OFF	ON	Pack11
12	OFF	OFF	ON	ON	Pack12
13	ON	OFF	ON	ON	Pack13
14	OFF	ON	ON	ON	Pack14
15	ON	ON	ON	ON	Pack15

Slave amount

| Slave amount	coding switch				remark
	#1	#2	#3	#4	
1	ON	OFF	OFF	OFF	2Packs
2	OFF	ON	OFF	OFF	3Packs
3	ON	ON	OFF	OFF	4Packs
4	OFF	OFF	ON	OFF	5Packs
5	ON	OFF	ON	OFF	6Packs
6	OFF	ON	ON	OFF	7Packs
7	ON	ON	ON	OFF	8Packs
8	OFF	OFF	OFF	ON	9Packs
9	ON	OFF	OFF	ON	10acks
10	OFF	ON	OFF	ON	11Packs
11	ON	ON	OFF	ON	12Packs
12	OFF	OFF	ON	ON	13Packs
13	ON	OFF	ON	ON	14Packs
14	OFF	ON	ON	ON	15Packs
15	ON	ON	ON	ON	16Packs

5.5. Terminal
DW38-02-02-D1/M8

6.5. Spare parts
1. 6AWG/ +/ 1PCS）

2. 6AWG/ -/ 1PCS

8.2mm 100A

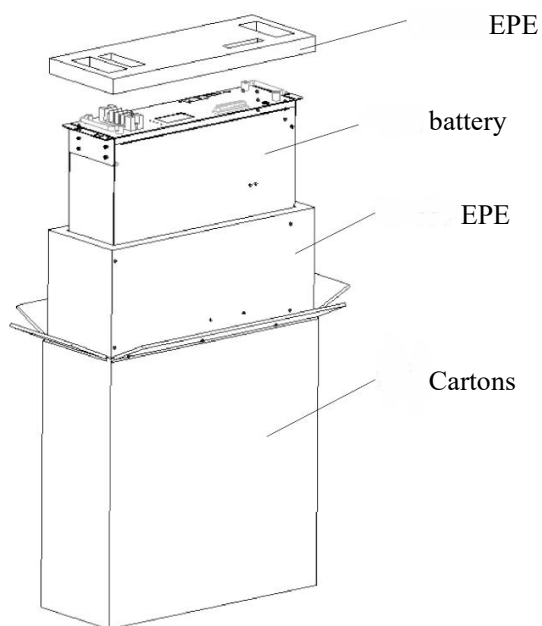/6AWG

8.2mm 100A

3.8 /26#/（1PCS）

200±5

1

8

-1

8   26#

-2

1

8
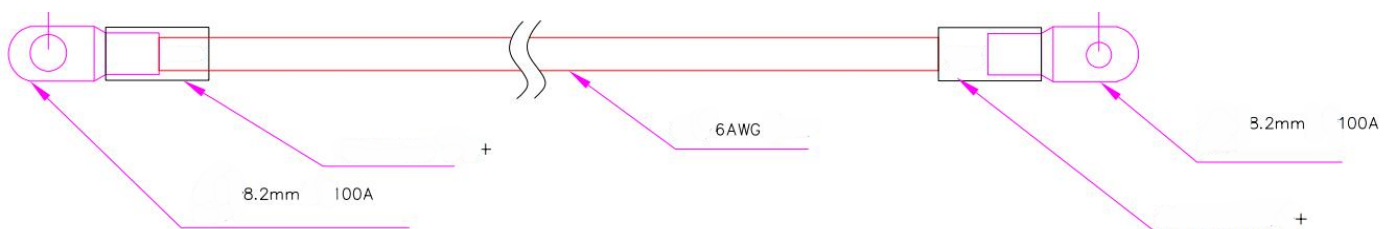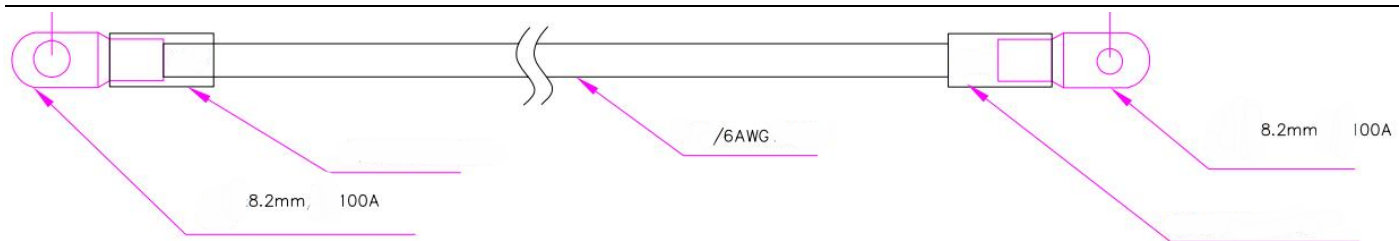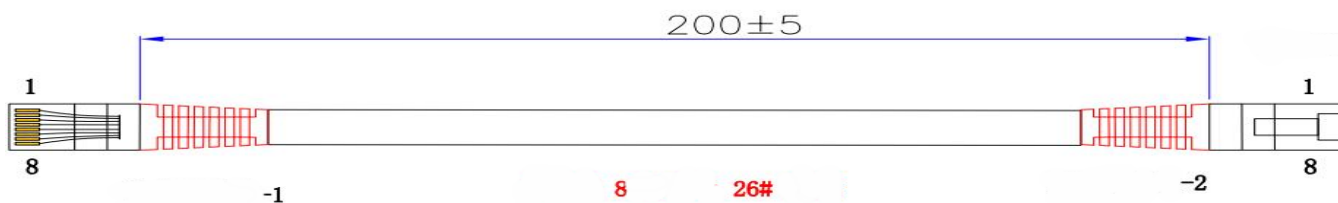
6.7.Drawing Packing

EPE

battery

EPE

Cartons

（示列）

6.   Caution and prohibition

Before using and handling the pack, see carefully attached "Handling Instruction for Rechargeable battery Pack".

For safety reasons rechargeable batteries are not shipped in a low remaining capacity state. Charge before using.

7. Handling Instruction Guide for LiFePO4 Battery Pack

7.1. General

Battery packs supplied by CTECHI or CPKD have to be handle carefully according to the specification. Here are some more to be followed.

7.2. Storage of pack

The packs are requested to be stored under the following conditions:

a. Indoor storage in a cool circumstances without direct sun light on the packs or cartons.

b. Store batteries in a dry location with low humidity, and a temperature range of - 20°C to +30°C. In case of the long term storage.

c. As long-term storage can accelerate battery self-discharge and lead to the deactivation of the batteries. To minimize the deactivation effect, store battery packs in a temperature range of +10°C to +30°C.

d. When charging for the first time after long-term storage, deactivation of the packs may have led to decreased capacity. Recover such packs to original performance through repeating several cycles of full charging and discharging.

e. When store packs for more than 6 month, charge at least once charring require per 6 months to prevent leakage and deterioration in performance due to self-discharging.

7.3. Charging pack

a. Use suitable charger with the specified voltage and current. We strongly recommend CTECH and CPKD smart battery charger. We can recommend the usage or specification of the charger manufacturing. If you want to get the information about it, please contact us.

b. Never attempt reverse charging. Charring with polarity reversed can cause a reversal in battery polarity, causing gas pressure inside of the battery to rise, which can be lead to leakage of the batteries in the pack.

c. Avoid overcharging. Repeated overcharging can be lead to deterioration in pack performance. And Over-heat occurred.

d. Charging efficiency drops at temperatures above 40°C.

7.4. Protection from unexpected damaged to pack

a. (+) and/or (-) terminals must not be connected in metal wire, necklace, chains.

b. Do not drop packs from height in order to prevent them from possible malfunction or damage.

c. Do not twist or bend packs in order to prevent possible damage.

7.5. For Safety

a. Do not disassemble packs.

b. Do not use pack when something abnormal found such as smells, deformation, discoloration, and so on.

d. Do not re-use LiFePO4 cells or other parts after removing from the packs.

e. When the electrolyte leakage occurs, do not touch the liquid.

f. Once watered, packs may have potential malfunctions. Do not use those packs.

g. Do not have packs in the hot-temperature (60°C or more).

h. Do not put packs into fire.

i. Do not crush/nail pack.

j. Do not apply solder directly to packs.