

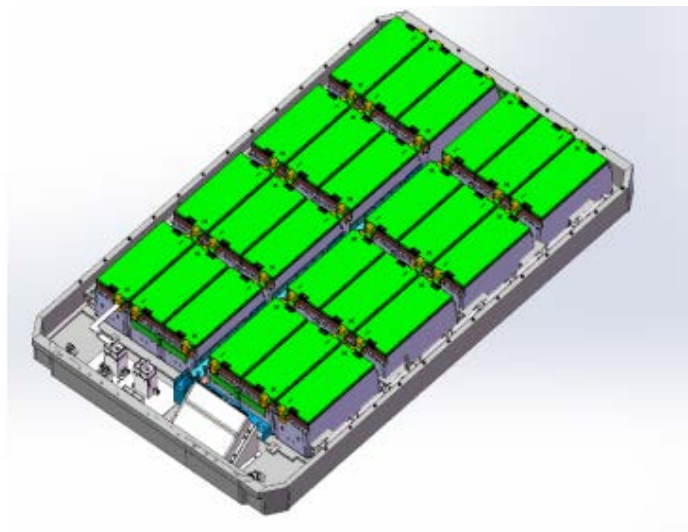
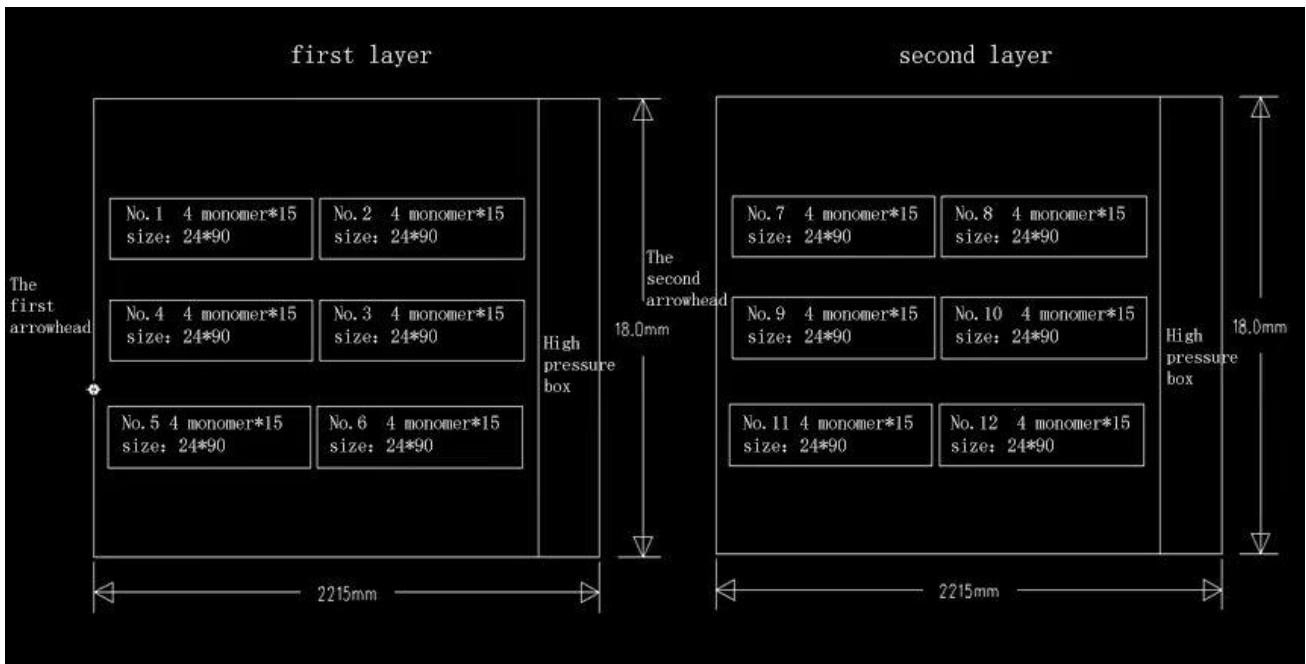
1. general planning

number order	project	Parameter 1
1	Battery brand and model number	601A101
2	Battery management system, BMS	LANL
3	Capacitance	120Ah
4	Power	≈40KWh
5	Maximum continuous charge rate	1C
6	Maximum continuous discharge rate	3C
7	Peak charging ratio	2C
8	Cell material	LIC
9	System string and way	90 strings of 2 and (180 strings) each string of 4 single cells in parallel, a single module of 60 Ah
10	rated voltage	340V
11	Operating voltage range	252~378V
12	Maximum continuous charge / discharge current	250A/450A
13	SOC range of operation	0- 100%
14	Charging operating temperature range	- 40 ℃-85 ℃
15	Discharge operating temperature range	-40 ℃-85 ℃
16	Monomer cycle life of 100% DOD (time)	30, 000
17	100% DOD (time)	30, 000
18	levels of protection	IP67
19	insulation grade	>20M
20	Battery cooling method	Air conditioning liquid

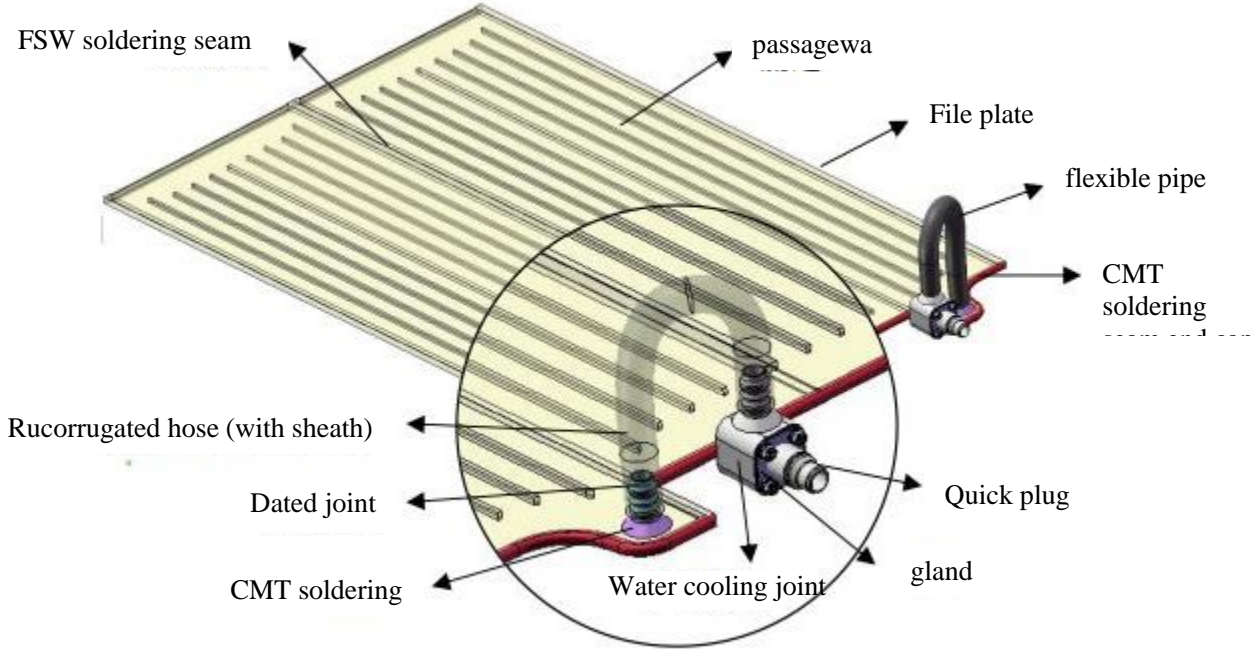
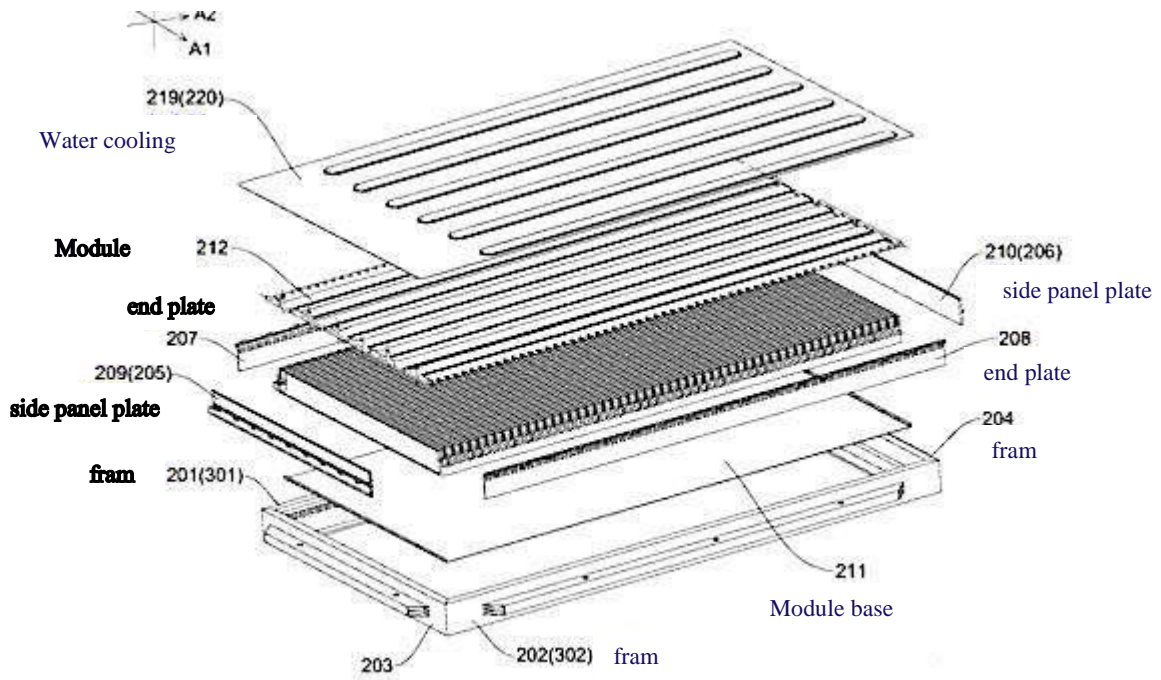
2. Battery system scheme

Battery system scheme						
case number (CN)	String and number	voltage	volume	quantity of electricity	Number of modules	Total weight of module
Scheme 1	2P90S	340V	120Ah	40KWh	12 Modules	≈1000KG

Using 12 modules, a 2-cluster scheme, Each cluster has six standard modules, Into the confluence box



Battery PACK internal design



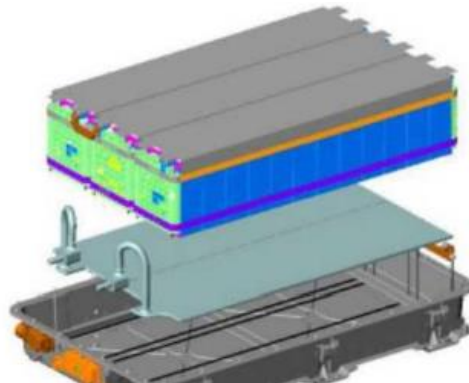
heat management

The thermal management system controls the battery temperature

Thermal management target to control temperature. That is, the best use temperature range of iron lithium battery is 15-40 °C ;

The Pack is designed with the following tools:

- (1) Battery pack heating: electric heating sheet mode ;
- (2) Battery pack cooling: liquid-cooled
- (3) busbar: Wide and thin design, improve the surface area, improve the heat dissipation rate ;



Liquid cooling and air cooling can be optional

Introduction to the BMS system

1. The BMS system has been successfully produced in commercial vehicles, logistics vehicles, port autonomous driving IGV, port rail crane, cross-transport vehicles and other mass production, using the control chip for the NXP vehicle specification level control chip.
2. The BMS system adopts the level 1, level 2 and level 3 architecture, most of which currently adopts the level 2 architecture, and the topology architecture of one master board plus multiple slave boards.
3. The BMS system collects monomer voltage, monomer temperature 'current, high precision' data stability, which can meet the national test requirements, has passed the GB / T_38661 test, and the national standard charging has passed the GB / T 34658-2017 test.
4. The BMS system has high insulation precision acquisition and meets the requirements of national standards.
5. The BMS system can modify the operating parameters through the upper computer, and can display the collected parameters through the upper computer, with touch screen, good man-machine interface, more humanized.
6. BMS system also has the remote monitoring function, for the fault, current, voltage, insulation, temperature, remote monitoring, for the vehicle safety accidents prediction, can prevent and potential accidents.
7. The BMS system has high-precision SOC estimation, using multiple SOC algorithms and multiple SOC compensation methods.
8. The BMS system adopts multi-level fault judgment, through CAN communication and vehicle controller communication, and provides reliability for the safety of the whole vehicle system The information.

Quotation

Name/HS	P/N	Capacitance/ Power	Rated voltage/ Operating voltage range	Charging & discharging temperature	Price/Usd/set/ FOB	Lead time	remark
lithium ion capacitor 8507600090	601A101	120Ah/ ≈40KWh	340V/ 252-378V	- 40°C-85°C	91,974.00	75days after prepayment of 40%	paid balance before shipment