

435.2V/600AH/ 235kWh LFP BATTERY SOLUTION

1. Battery Module

Table No.1 Specification of Pouch Cell

Cell model	IFP11200275 (1)	
Typical capacity	53 Ah	
Rated capacity	50Ah	
Rated voltage	3.2V	
End-off voltage	2.5V	
Internal Resistance	≤3.0mΩ	
Dimensions of pouch cell	Refer to table No.2	
Charge Method recommended	CC/CV constant current and constant voltage	
The Max. charging voltage	3.6V	
The charging current recommended	10A (0.2 C ₅ A)	
The discharging current recommended	10A (0.2 C ₅ A)	
The Max. charging current allowed	25A (0.5 C ₅ A)	
The Max. discharge current allowed	50A (1.0 C ₅ A)	
Operating temperature	Charge	10~50°C
	Discharge	-20~60°C
Storing temperature	< 1 month	-10~50°C
	< 3 months	-10~35°C
	< 1 year	-10~25°C
Humidity range	< 80%	
Cycling life at 25°C	≥10000 times	
Cycling life at 60°C	≥4000 times	

Table No.2 Dimension sheet of Pouch Cell

Item	Description	Dimension (mm)	
T	Cell Thickness	≤11.0	
W	Cell Width	200.0±1.0	
L	Cell Length	≤275.0	
B	The width of the polar lug	50.0±0.2	
A	Center-to-center distance of polar lug	90.0±1.0	

1.2 Battery module unit CH032100HP

The Battery module CH032100HP consists of 2 pcs of IFP pouch cells 11200275 (1) connected in parallel with the laser welding technology. The detailed parameters of our Battery module are shown in Table 3.

Table No.3 Specification of Battery module unit CH032100HP

Battery unit Module		CH032100HP
pouch cell module		IFP11200275 (1)
Series-parallel connections		2P1S 2 cells are connected in parallel
Rated voltage		3.2V
Electric connection mode		laser welding technology
Maximum continuous charging rate		1C
Maximum continuous discharging rate		1C
Maximum pulse discharge rate (for 10 seconds)		2C
Overall dimension (L×W×H, mm)		210×23.5×306 (See figure No.1)
Weight		2.6kg
Operating temperature range	Charge	10°C ~ 50°C
	Discharge	-20°C ~ 60°C

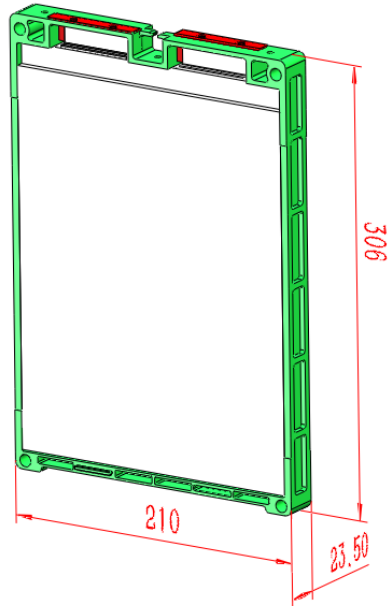


Figure No.1 Outline drawing of Battery module unit CH032100HP

1.3 Battery system module CH256200HP

The parameters of battery system module CH256200HP are as follows:

Table 4 Specification of battery system module CH256200HP

Battery system module		CH256200HP
Battery unit Module		CH032100HP
Series-parallel connections		2P8S
Rated voltage		25.6V
Rated battery energy		5.12kWh
Maxium continuous charging rate		1C
Maxium continuous discharging rate		1C
Maximum pulse discharge rate (for 10 seconds)		2C
Overall dimension (L×W×H, mm)		660×445×115 (See figure No.1)
Weight		22.5 kg
Operating temperature range	Charg	10°C ~ 50°C
	Discharge	-20°C ~ 60°C

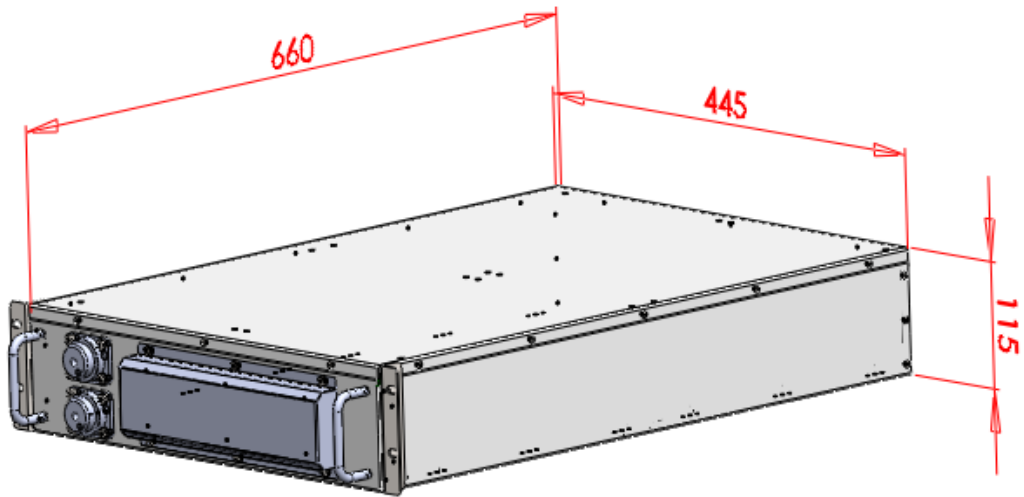


Figure No.2 Outline drawing of battery system module CH256200HP

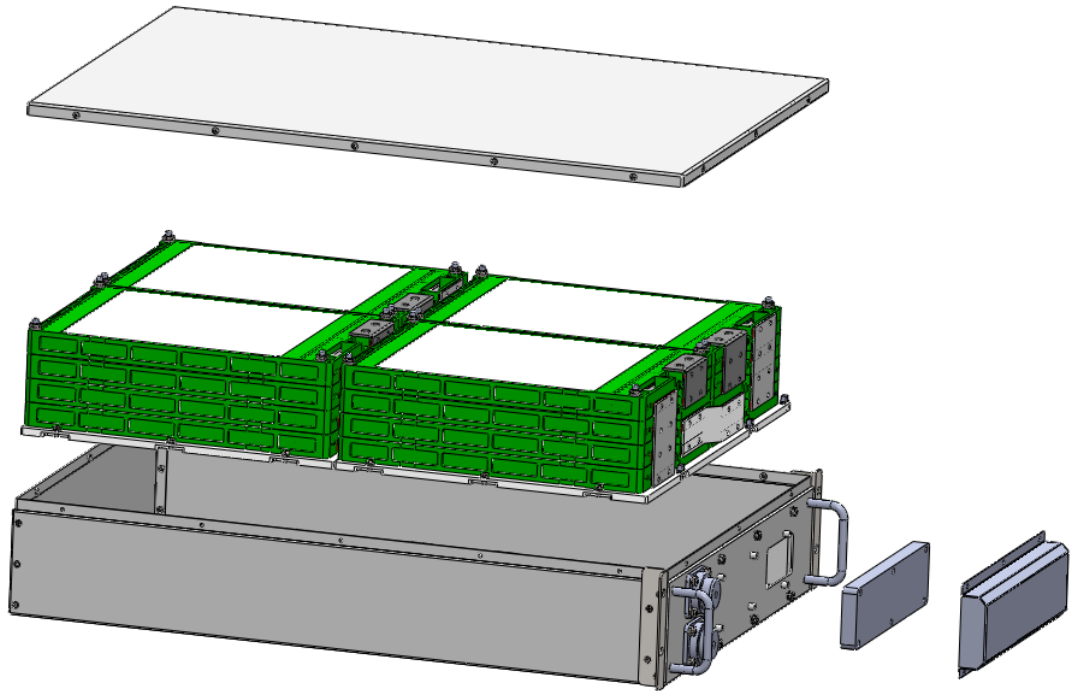


Figure No.3 Assembly exploded diagram of CH256200HP

1.4 Battery system Parameters CH-LFP-87K

The battery system CH-LFP-87K consists of 17 sets of battery system module CH256200HP connected in series. The technical parameters are shown in Table

Table 5 Specification of Battery system Parameters CH-LFP-87K

Battery system models	CH-LFP-87K
Rated voltage	435.2 V
Rated capacity	200 Ah
Rated battery energy	87.04 kWh
Maximum continuous charging rate	1C
Maximum continuous discharging rate	1C
Maximum pulse discharge rate (for 10 seconds)	2C
Maxium charging voltage allowed	489.6 V
The end-off voltage	367.20 V
battery system module	CH256200HP
Numbers of battery modules	17 sets
Depth of discharge DOD	90%
Available power	78.336 kWh

Operating temperature range	Charge	10°C ~ 50°C
	Discharge	-20°C ~ 60°C
Storage temperature range	< 1 month	-10 ~ 50°C
	< 3 months	-10 ~ 35°C
	< 1 year	-10 ~ 25°C



Figure 4 Drawing and photos of Battery system Parameters CH-LFP-87K

1.5 Battery system Parameters CH-LFP-261K

The battery system CH-LFP-261K consists of 3 sets of Battery system Parameters CH-LFP-87K connected in parallel. The technical parameters are shown in Table

Table 5 Specification of Battery system Parameters CH-LFP-261K

Battery system parameters		CH-LFP-261K
Rated voltage		435.2 V
Rated capacity		600Ah
Rated battery energy		261.12 kWh
Maximum continuous charging rate		1C
Maximum continuous discharging rate		1C
Maximum pulse discharge rate (for 10 seconds)		2C
Maximum charging voltage allowed		489.6V
The end-off voltage		367.20 V
Battery system module		CH256200HP
Numbers of battery modules		51 sets (3P17S)
Depth of discharge DOD		90%
PCS efficiency		97%
Available power		227.958KWH
Operating temperature range	Charge	10°C ~ 50°C
	Discharge	-20°C ~ 60°C
Storage temperature range	< 1 month	-10 ~ 50°C
	< 3 months	-10 ~ 35°C
	< 1 year	-10 ~ 25°C



Figure 5 Diagram of battery system CH-LFP-261K

3. Battery Management System (BMS)

- The BMS battery management system adopts a 2-level BMS management framework, which enables the control management to realize the corresponding functions and ensure the stability and reliability of the battery system. .
- BMU(Battery monitoring unit) slave control unit: It collects data information, such as voltage, temperature of the cells in the battery moduels and transmit these information to the master unit.
- HD- Mastor control unit : It provide over-charge protection, over-discharge protection, over-current protection, over-temperature prttection and multi-level alarm for the battery. It can communicate with the host computer in real time, upload the battery status data and store battery status and data