

Cell information



Basic Parameters

Capacity [Ah]	280
Charge/discharge rate [P]	0.5
Cycle life [25°C, @80%SOH, 70%SOH]	6,000 8,000
Dimensions [L*W*H] [mm]	173.9*71.7*207.2

Testing and certification



Basic Parameters

Capacity [Ah]	306
Charge/discharge rate [P]	0.5
Cycle life [25°C, @80%SOH, 70%SOH]	8,000 10,000
Dimensions [L*W*H] [mm]	173.9*71.7*207.2

Testing and certification

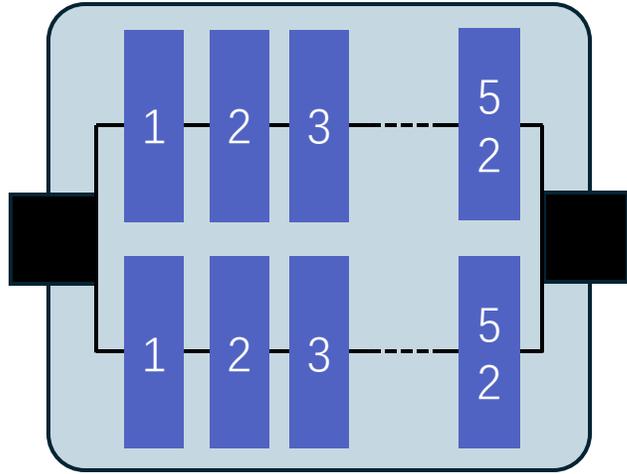


Cell information inferred from specifications and searched on the Internet

Cell type	LFP	Specification
Capacity	280/306Ah	Specification
Voltage	3.2V	Specification
Shape	Square	Internet
Size	173.9*71.7*207.2mm	Internet
Manufacturer	CATL	Specification
Weight	5.51kg	Internet
Operating Temperature	-35°C-65°C	Internet
Charge/Discharge	0.5P	Internet

Battery module information

Cell * 52(S) * 2(P) ⇒ Module



Battery module



Module information inferred from specifications and caculation		
Module type	52S 2P	Specification
Cell number	104	Specification
Capacity	280/306Ah	Specification
Voltage	166.4V	Specification /Calculation
Voltage range	145.6-187.2V	Specification
Energy	101.84kWh	Calculation
Rated energy	93.184kWh	Specification
C/D current	306A	Specification / 0.5C from calculation
C/D max current	391A	Specification, <1min
C temperature	0~55°C	Specification, from cell
D temperature	-20~55°C	Specification, from cell
Colling	Liquid colling	

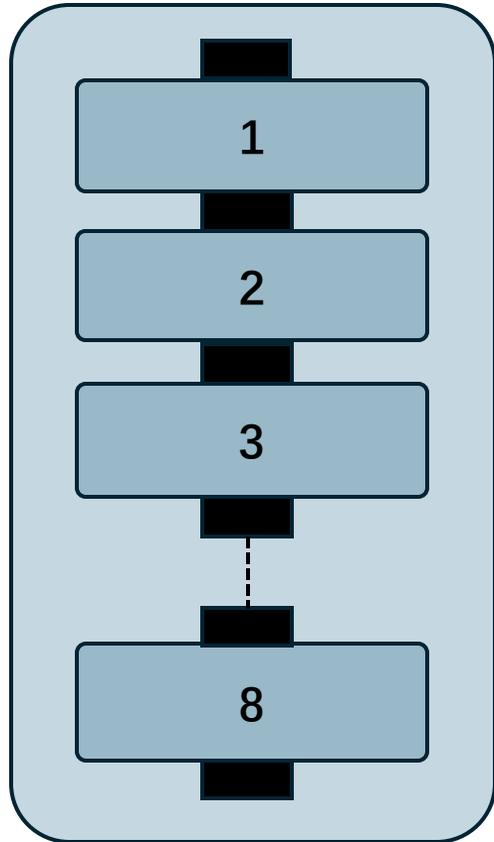
Capacity = 306Ah * 2= 712Ah or 280Ah * 2= 560Ah

Voltage = 3.2V * 52 = 166.4V

Energy = 3.2V * 280/306Ah * 52 * 2 /1000 = 93.184/101.84kWh

Battery string / Battery rack information

Battery module * 8(S) ⇒ Battery rack



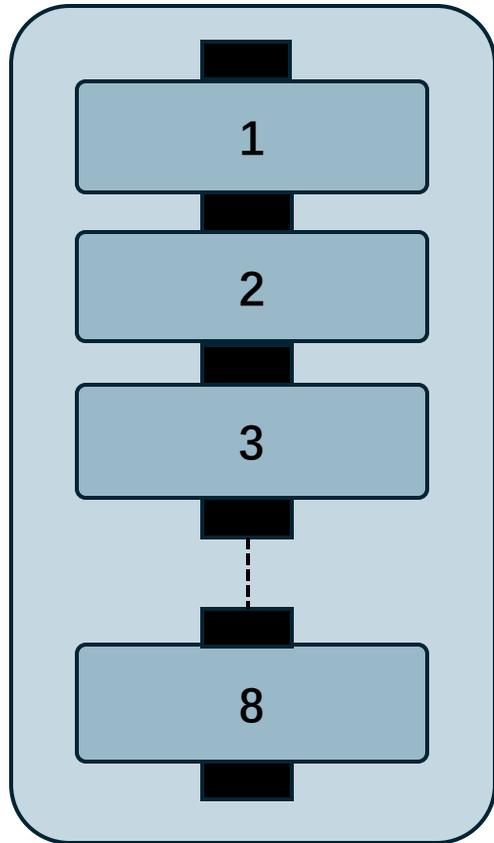
Battery string information inferred from specifications and calculation

Cell number	832	Specification
Energy	745/814kWh	Specification
Number of modules	8	Calculation

$$\text{Energy} = 3.2\text{V} * 280/306\text{Ah} * 832 / 1000 = 745.472/814.69\text{kWh}$$
$$\text{Number of modules} = 832 / 104 = 8$$

Battery string / Battery rack information

Battery module * 8(S) ⇒ Battery rack



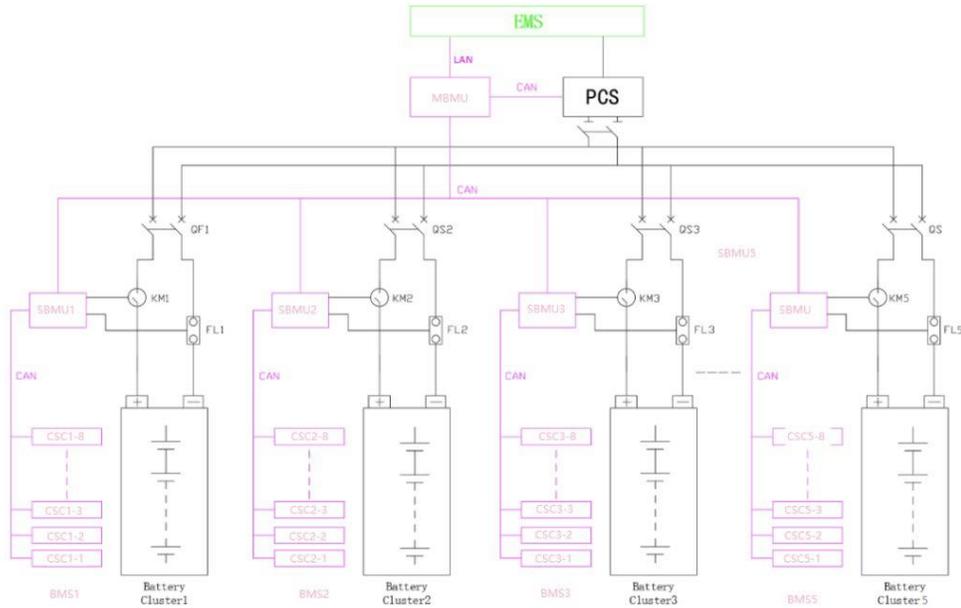
Battery rack information inferred from specifications and calculation

Cell number	832	Calculation
Connection	2P 416S	Specification
Rate Energy	745/814kWh	Specification
Rate voltage	1331.2V	Specification
Connection from module	Series	Calculation
C/D current	306A	Specification / from module
C/D max current	391A	Specification / from module
C/D temperature	-30~55°C	Specification / from module and heating/cooling power
Cycles	6000	@25°C, 80%Retain from cell

$$\text{Voltage} = 3.2\text{V} * 416 = 1331.2\text{V}$$

Battery container information

Battery rack * 5 ⇒ container



Battery cluster: battery rack.

Battery container information inferred from specifications and searched on the Internet

Energy	3.727/4.073MWh	Calculation
Control box	1	Specification
Chiller	1	
Fire suppression system	1	
Primary and Secondary Connection	1	

Energy = $3.2V * 280/306Ah * 832 * 5 / 10^6 = 3.727/4.073MWh$
1 container has 4160 cells

Basic Parameters	
Configuration	10P416S
Cell capacity [Ah]	280 306
Rated voltage [V]	1331.2
Rated energy [MWh]	3.72 4.07
IP Rating	IP55
Product weight [T]	35 36
Dimensions [L*W*H] [mm]	6058*2438*2896

Testing and certification



Compared from CATL directly: 306Ah 10P416S. 4.07MWh Looks same.

Product Specification Battery Container

➤ Specification:

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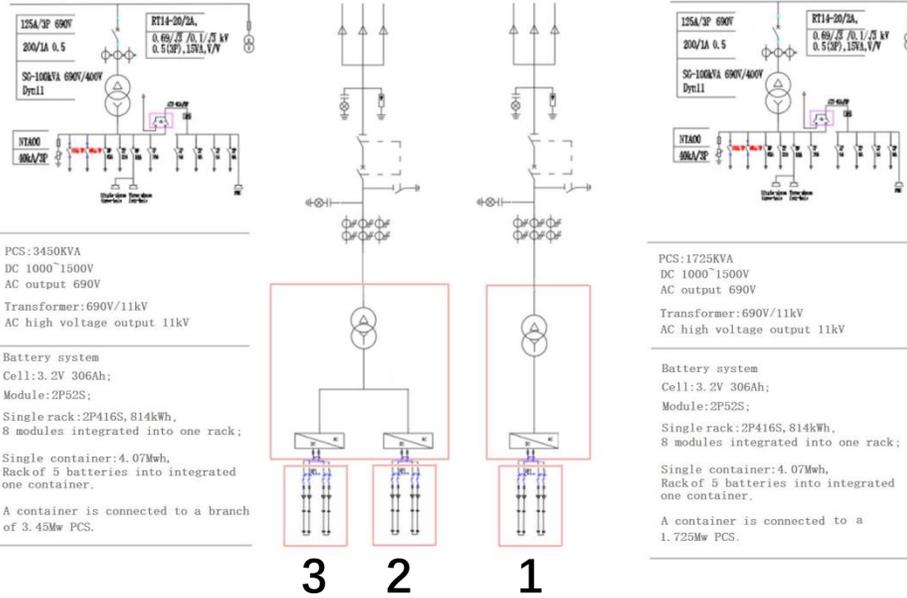
ADVERTISED PLAN



Item	Cell-306Ah	Module	Container
Configuration	/	2P52S	10P416S
Dimension	174(W)*72(D)*207(H)mm	830.0(W)*2206.5(D)*250.0(H)mm	2438 (W)*6058(D)*2896(H)mm
Weight	5.50±0.30kg	~640±5kg	~36000kg
Rated Voltage	3.2V	166.4V	1331.2V
Voltage Range	2.5 ~ 3.65V	145.6 ~ 187.2V	1164.8 ~ 1497.2V
Rated Energy	0.979kWh	101.837kWh	4.073Wh

BESS information

Battery container * n ⇒ BESS



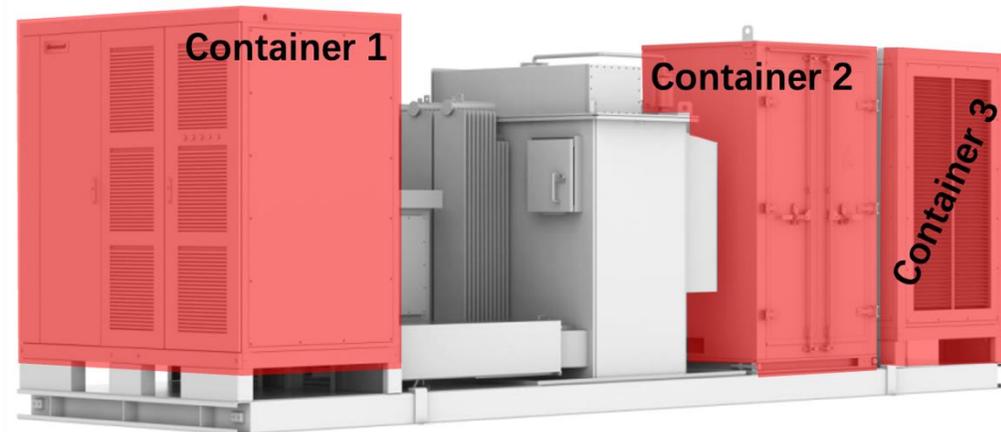
Battery container information inferred from specifications and searched on the Internet

Energy	$n * 3.727/4.073$ MWh	Calculation
Nameplate energy	Change from Energy	Specification
C/D power	0.5 P MW	Calculation
C/D power	Change from C/D @AC side	Specification

n = number of battery containers you chose

Energy = $n * 3.727/4.073$ MWh

1 BESS has $n*4160$ cells



Energy storage solutions from CATL directly



Power Transmission & Distribution

Zhenjiang Xinba Power Station, Jiangsu

Scale: 10MW/20MWh

Functions: peak load regulation of 110KV transformer substations
on the power distribution

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