

# COMMERCIAL & INDUSTRIAL ESS

## 3.354 MWh/1.67MW LFP Battery Solution Introduction



**Probenergy**  
REDEFINING ENERGY STORAGE

in partnership with **ENRBOND**

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## Technology Features



### Safety

LFP technology with high safety performance, passed test of thermal runaway.

### Ultra long life

Proven technique long life up to 10000 cycles

### Economic benefit

Large amount production and long time development make the cost very cheap, end user and EPC parties can get benefit very soon.

### Easier assembly

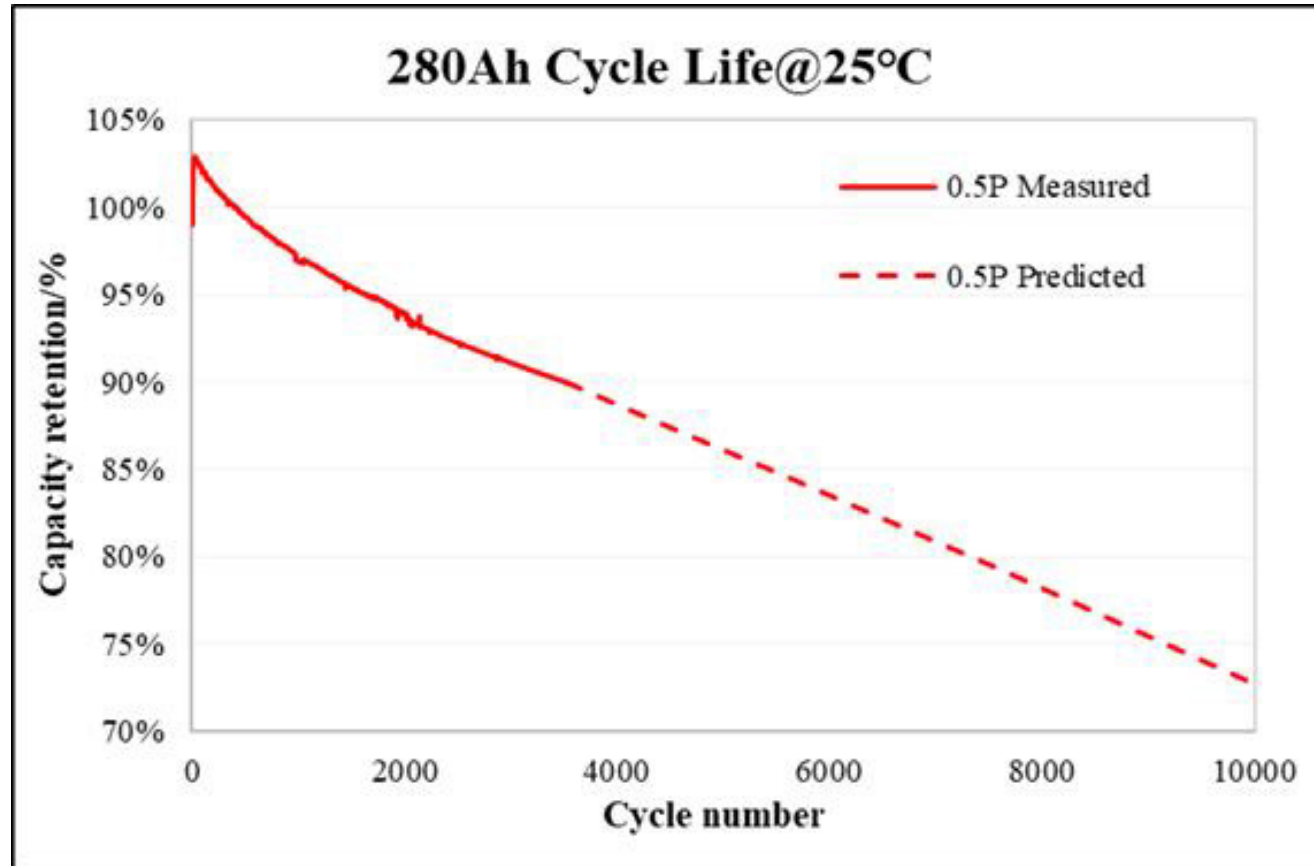
The system designed base on modularization, easy to install and maintain.

## Cells Specifications



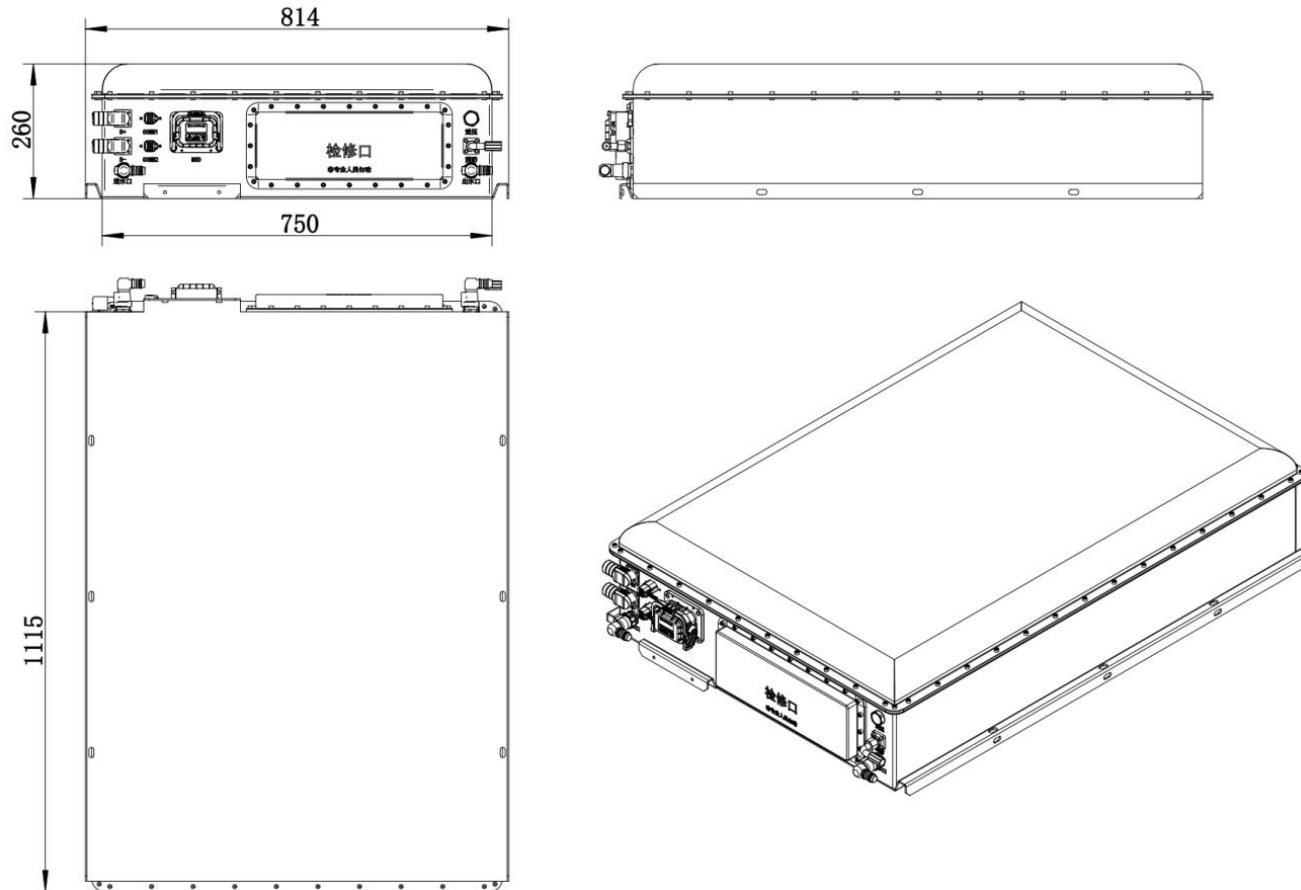
No.	Item	Parameters
1	Cell type	280Ah
5	Rated capacity	280Ah
6	Norminal voltage	3.2V
7	Rated energy capacity	896Wh
8	Working voltage	2.6~3.65V 2.0~3.65V
9	Energy denstiy	170Wh/kg 355Wh/L
10	The recommended SOC usage window	5%~95%SOC
11	Monthly self-discharge	≤3%/month
12	Standard Charge/ Discharge rate	0.5P
13	Operating temperature	Charging: 0°C~60°C Discharging:-30°C~60°C

## Cycle life



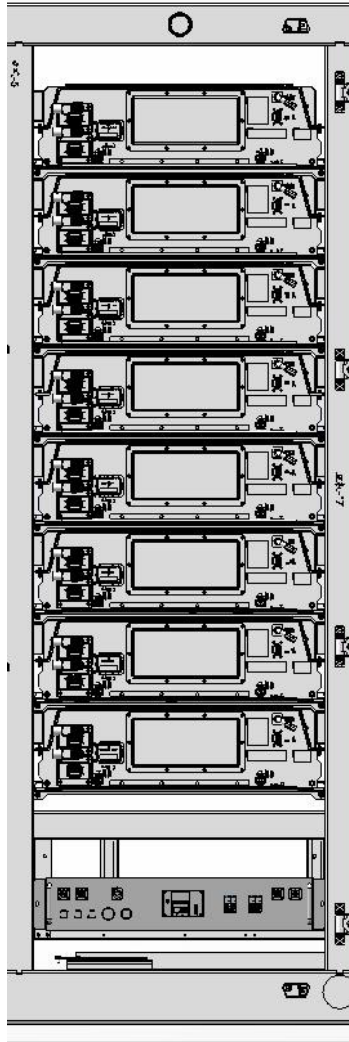
Cells No.	Criteria	Capacity retention (%)
01	9876	73.78
02	9980	73.61
03	9896	74.02
04	9987	73.55
05	9899	73.18

## Standard Module



Item	Criteria
Part number	GTLFP-166.4V46.59K-M
Norminal Voltage	166.4V
Capacity	280Ah
Energy Storage	46.592kWh
Standard Power	23.3kW
Standard Current	140A
Operating Temperature	-20°C~+65°C
Insulation Resistance	10MΩ
Cooling Method	Liquid cooling
Communicate Protocol	Canbus,Modbus,TCP
Weight	330kg
Dimensions	750*1115*260mm

## Cluster Design



Item	Criteria
Part number	GTLFP-1131.2V372K-R
Norminal Voltage	1131.2V
Capacity	280Ah
Energy Storage	372kWh
Standard Power	186kW
Standard Current	140A
Operating Temperature	-20°C~+65°C
Insulation Resistance	10MΩ
Cooling Method	Liquid cooling
Communicate Protocol	Canbus,Modbus,TCP
Weight	3300kg
Dimensions	932*1137*2725mm

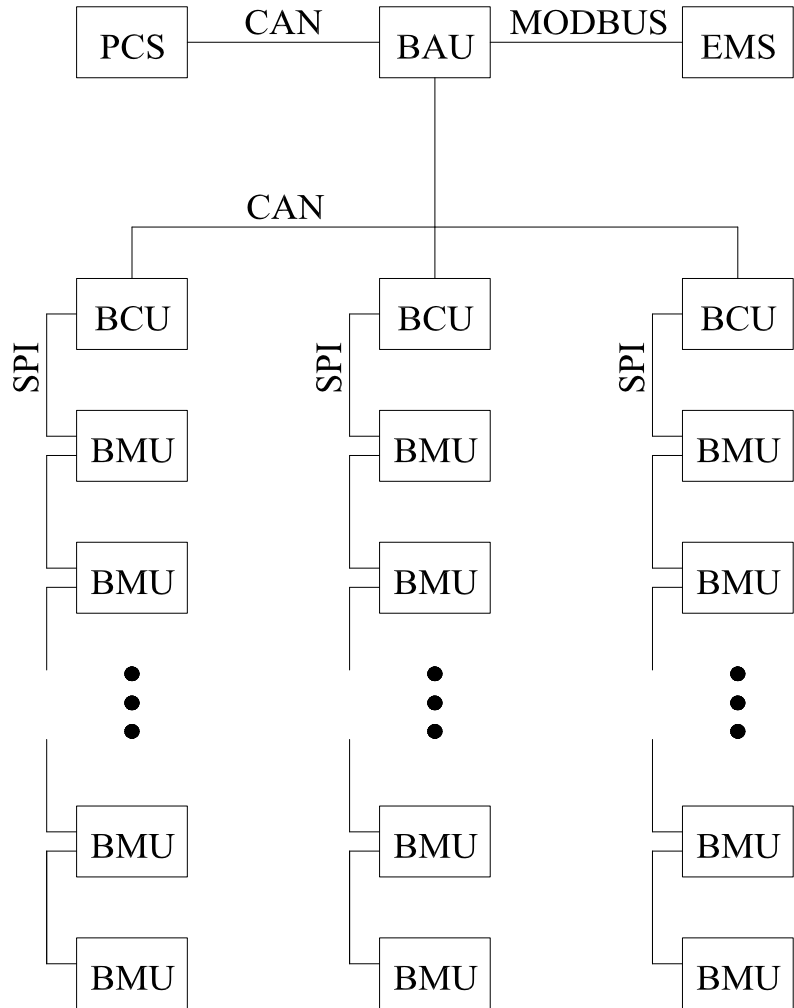
## Container Solutions



Item	Criteria
Part number	GTLFP-1331.2V/3.354MWh/1.67MW
Norminal Voltage	1331.2V
Capacity	2520Ah
Energy Storage	3354kWh
Standard Power	1677kW
Standard Current	1260A
Operating Temperature	-20°C~+55°C
Insulation Resistance	10MΩ
Cooling Method	Liquid cooling
Communicate Protocol	Canbus,Modbus,TCP
Round Trip Efficiency*1	89% at beginning
Recommend DoD	5%~95%
Weight	35T
Dimensions	HQ 20ft



# BMS Solutions



Item	Criteria
Architecture	Three-level architecture
Supply Voltage	24V
Isolation CAN	2
CAN communication baud rate	250K/500K
Isolation RS485	4
RS485 communication baud rate	9600/57600
Ethernet	3
Ethernet communication baud rate	100M
PCS communication method	CAN
EMS communication method	Optional modbus RTU RS485 or modbus TCP

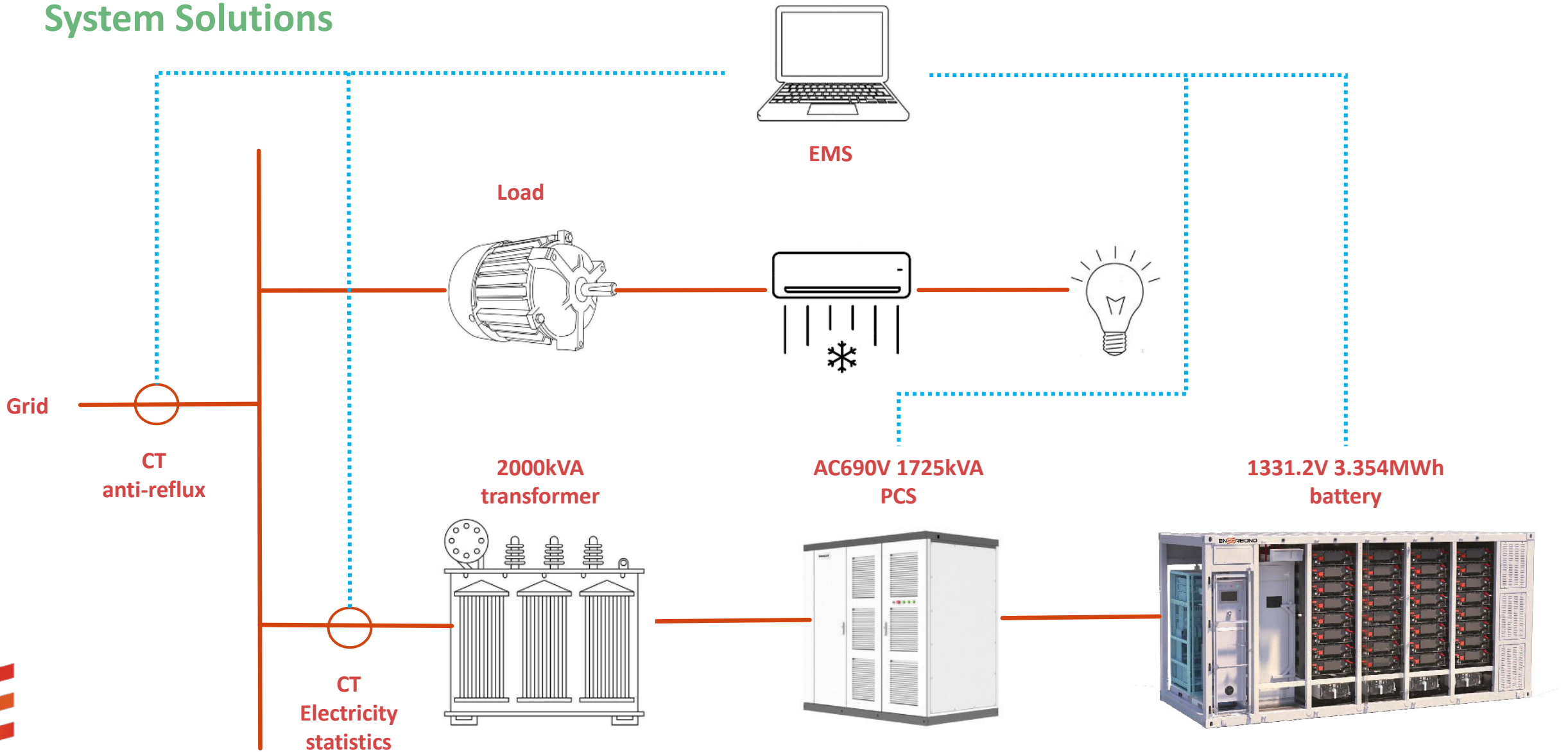
# PCS Solutions



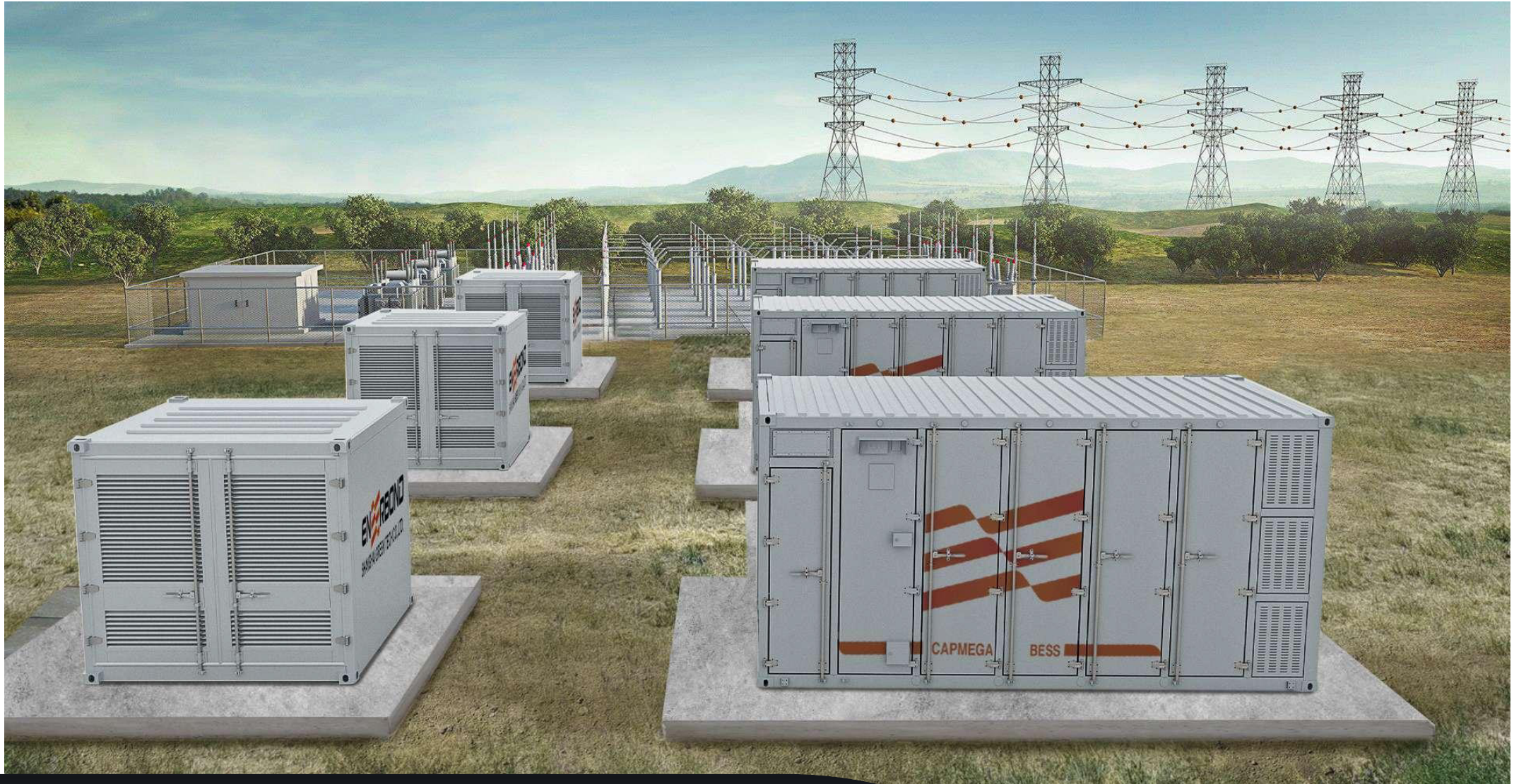
ACparameters								
Nominal ACpower	215kVA	430kVA	645kVA	860kVA	1075kVA	1290kVA	1505kVA	1725kVA
ACconnection	Three-phase three-wire							
Overload Capability	236kVA	473kVA	709kVA	946kVA	1182kVA	1419kVA	1655kVA	1897kVA
AC voltage	690(-15%~10%)V							
AC frequency	50/60 (-5~5) Hz							
THDi	≤3%							
ACPF	0.99/-1~1							

DCparameters								
Max DC power	236kW	473kW	709kW	946kW	1182kW	1419kW	1655kW	1897kW
DC voltage range	1000~1500V(Can onlybe charged)							
Fullload voltage range	1070~1500V(Full charge and discharge)							
Number of DC branch	1							
Number of modules	1	2	3	4	5	6	7	8
Maximum DC current every branch	201A	402A	603A	804A	1005A	1206A	1407A	1612A
Voltage regulation accuracy	≤±1%							
Current regulation accuracy	≤±1%							

# System Solutions



# BESS+PCS Layout



### 3. 2MWh/1MW Factory Energy Storage System



# 185MWh/90MW Solar Farm ESS





# Thank You

**Probenergy**  
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**ENERBOND**

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