Rev. 01_25.12 EN

Sunerg SOLAR ENERGY

C&I BESS

Battery Energy Storage System

Commercial & Industrial ESS

Sunerg Commercial and Industrial ESS adopts an integrated design, incorporating lithium batteries, energy management systems, energy storage inverters, intelligent temperature control systems and other components.

The system can be flexibly configured with various energy storage capacities according to project requirements, with an overall protection level of IP54 to accommodate diverse application environments.

It supports rapid expansion through direct parallel connection of multiple devices, and is applicable to scenarios such as peak-valley tariff arbitrage, demand-side dispatch response, and emergency power supply.

More Flexible Option
Provide different solutions for various usage scenarios

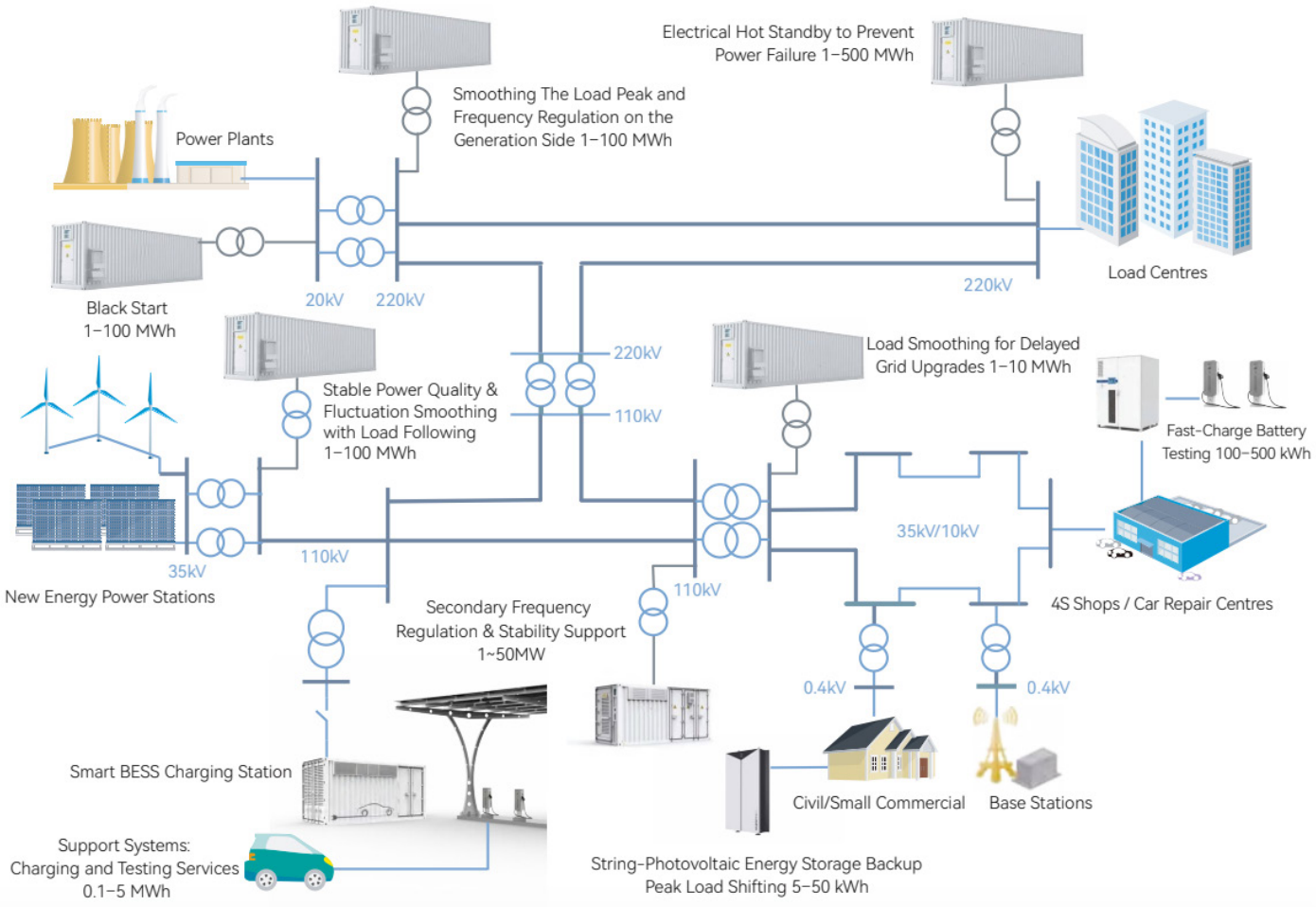
CATL LFP Cell
Adopt 280Ah/306Ah LFP cells

All-in-One Design
Pre-debugged at factory for immediate use
With BMS, EMS and Cloud Platform

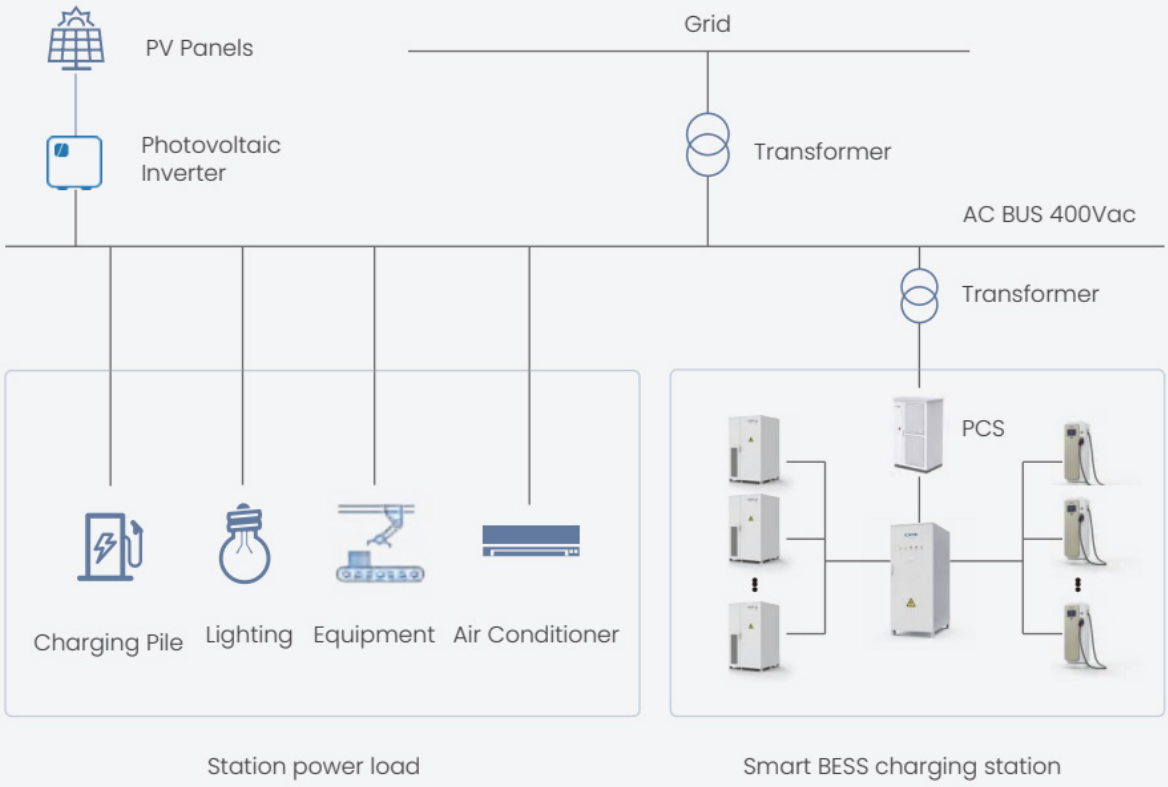
Easy to Transport
Transportable in standard 20 ft international containers, up to 6 at a time

100 kW ~ 2MW Scalable Design
Liquid cooling system + long life time LFP cell and multiple protection.

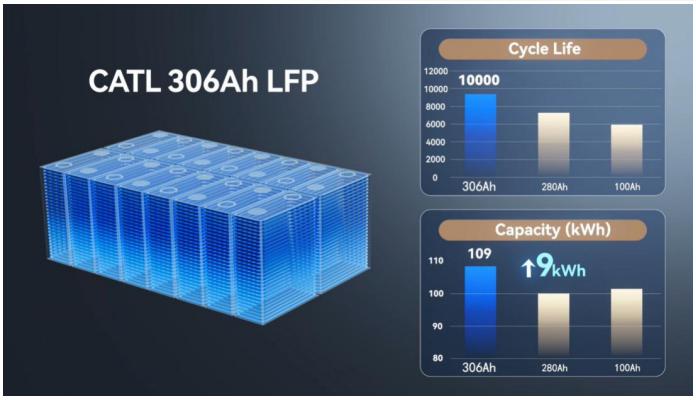
Full-Scenario Energy Storage Solutions



Charging Station Application



Equipped with CATL Cells



Safety Features

The results of the safety test: no fire, no explosion lithium iron phosphate has high thermal stability, slow heat production rate and less heat production lithium iron phosphate does not release oxygen under overcharge and overdischarge.

Electrical Safety

Over-current / external short-circuit protection
Insulation monitoring
Equipontential bonding
Electric shock warning

Chemical Safety

Flameresistant material
Safety requirements of the battery cell
Identification of hazardous substances
Prevent Battery Thermal Runaway

Mechanical Safety

Vibration resistance
Impact resistance
Explosion-proof

Functional Protection

Overvoltage / undervoltage protection
Overvemperature/ low temperature protection
Overcurrent protection
Communication abnormal protection

Cell Process

Electrode sheet winding process is not easy to produce burr, decarbonization and Metal particle, low long-term cycle short circuit risk.

QBESS-H-232

All-in-One ESS Cabinet

Precise Temperature Control, Highly Efficient Liquid Cooling

- System Temperature Difference **≤3℃**
  Extended Battery Life

Quadruple Protection, Ultimate Safety

Thermal & Smoke Detectors

Aerosol Fire SuppressionModule

Combustible Gas Detector

Explosion Relief Valve

Flexible deployment, **Plug-and-play**

- Supports up to **10** all-in-one cabinets with **Zero-gap** parallel connection

Intelligent EMS, Dynamic Optimization

- **Real-time System Security**

  Continuous Monitoring

  Smart Alerts

  Optimized Performance

- **Cloud-Based Energy Storage Monitoring**
  Complete and accurate monitoring and maintenance services

CATL Original Pack, LFP Cells

Cell Cycle life **≥8000**

Product Specifications

Commercial and Industrial ESS
QBESS-H-232

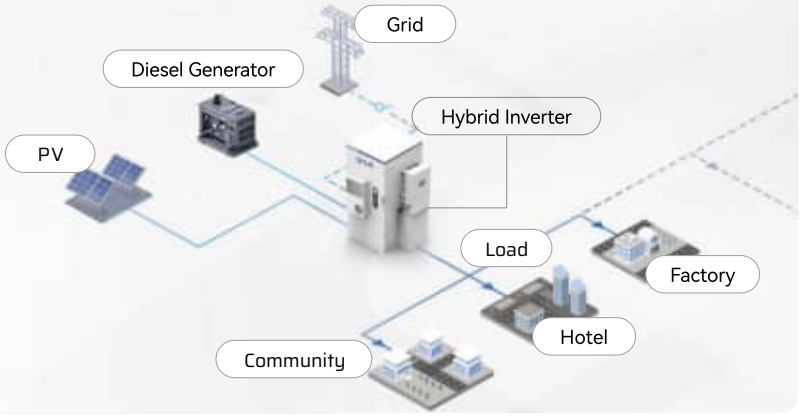
PRODUCT MODEL	QBESS-H-232
BATTERY SPECIFICATIONS	
Battery Type	LFP
Battery Model	280Ah
Energy Capacity	232kWh
Voltage Range	728 ~ 936VDC
P-rate	0.5P
Certifications	UN 38.3, UN 3480, UL 1973, UL 9540A, UL9540, IEC 62619, IEC 61000-6-2/-4, IEC 62477-1, IEC 60356, IEC 60730-1
PCS SPECIFICATIONS	
Rated AC Power	100kW
Rated Grid Voltage	400/480Vac
Total Harmonic Distortion	<3%
Rated Grid Frequency	50/60Hz
Peak Efficiency	98%
Power Factor	-1 to 1, continuously adjustable
Certifications	EN 50549, G99, VDE AR-N 4105, NTS Spain, IEC 62477, IEC 61000-6-2, IEC 61000-6-4, UL 1741, IEEE1547:2018, UL1741 SB
GENERAL SPECIFICATIONS	
Cooling Method	Liquid Cooling
Operating Temperature Range	-25 ~ 55 ℃ (>45℃ derating)
Relative Humidity Range	0 ~ 95% (No Condensation)
Max. Working Altitude	4000m (>2000m derating)
Fire Safety Equipment	Aerosol, Smoke detector, Heat detector, Pressure relief valve, Flammable gas detector (optional), Deflagration venting pannel (optional), Water extinguishing system
Battery Compartment Ingress Protection	IP65
System Dimensions (W×D×H)	≈1500×1300×2000mm
Weight	≈3.5T
Isolation Transformer	Off-Grid Require

QBESS-Q

All-in-One ESS Cabinet

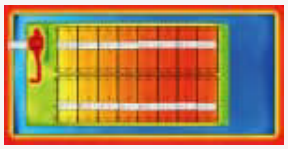
Seamless On/Off-Grid, **One Cabinet Forms a Micro-Grid**

- Pure off-grid,
  Power 1**0 families** a day
  *At 10 kWh/d/family (estimated)
- **Adopt the hybrid inverter**
  Supports access of multi-power sources:
  Diesel generator, PV, Grid…



Patented **Self-Cooling Pack**, Lifecycle **Maintenance-Free**

- **Air-fin patent,** even heat spread

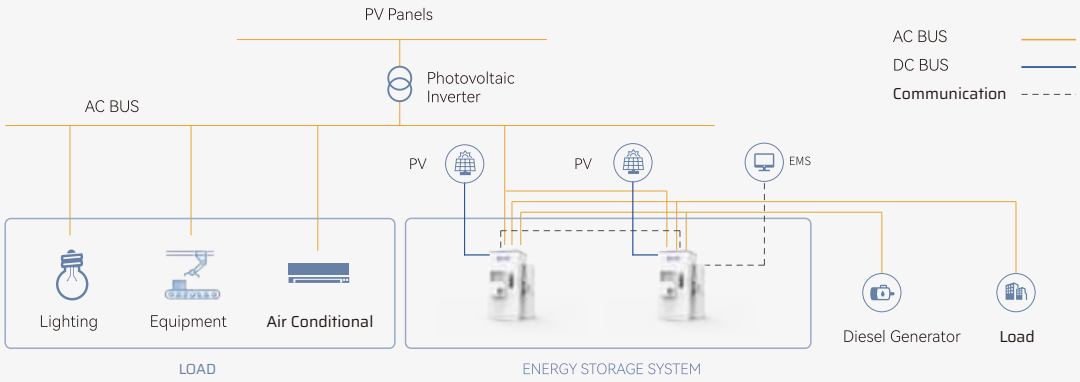


Thermal simulation diagram of the pack

- **Fanless,** quieter

- IP67 Sealed Protection
  Fully isolate condensate water, dust, etc.

Topology



Support **6** AC in Parallel
Up to **10** Cabinets Expandable

All-in-One

Pre-installation/debugging
Ready For Use
Easy Install, Flexible Deployment

Product Specifications

Commercial and Industrial ESS
QBESS-Q

PRODUCT MODEL	QBESS-Q
BATTERY SPECIFICATIONS	
Battery Type	LFP
Battery Model	306Ah
Energy Capacity	109kWh
Cycle Life (@25℃, 0.5P)	≥10000
P-rate	≤0.5P
Battery Compartment Ingress Protection	IP67
COMMUNICATION (ON/OFF-GRID)	
Rated output power	50kW
Rated Input Voltage (3/N/PE)	380/400Vac
Rated Frequency	50/60Hz
THDi	< 3%
THDu	< 3%
PV INPUT	
MPPT Voltage Range	150 ~ 850Vdc
Max. Input Power of PV	96kW
MPPT channels/Strings per MPPT channel	4/2
Max. Input Current	40/40/40/40A
GENERAL SPECIFICATIONS	
On/Off-Grid Switching Time	< 20ms
Cooling Method	Air Cooling
Operating Temperature Range	-25 ~ 55 ℃ (>45℃ derating)
Relative Humidity	0 ~ 95% (Non-condensation)
Operating Altitude	≤4000m (>2000m derating)
Ingress Protection	IP54
Dimension (W×D×H)	1270×1340×2094mm
Weight	≈1.8T
Certifications	EN 50549-1, EN 50549-10, VDE-AR-N 4105, NRS 097-2-1, IEC 61000, IEC 62477, IEC 62619, IEC62109, UN 38.3

QBESS-T

Utility-Scale ESS

The Utility-Scale ESS consists of photovoltaic modules, energy storage battery systems, bidirectional converters, grid-connected inverters, box-type substations, and other equipment. Once connected, the generated DC power is converted from DC to AC via grid-connected inverters, is boosted, and then connected to the grid. For the irregular and intermittent output of photovoltaic or wind power generation, electrochemical energy storage systems have the advantage of faster response, smaller size, and longer lifespan compared to other energy storage systems, and are better at smoothing power output and managing energy flow.

QBESS T

Liquid Cooling
ESS Container

0.5P/1P Optional

Usable for frequency regulation
Applicable in multiple scenarios

1.9MWh ~ 4MWh Available

Liquid cooling system + long life time LFP cell and multiple protection.

CATL LFP Cell

285Ah Cycle Life ≥9,000
306Ah Cycle Life ≥10,000

Outstanding Performance

RTE≥93%
AC Available Capacity≥94%

Ultra Safety

Multiple Fire Protection
Real-Time Insulation Monitoring

Intelligent O&M

BMS & Cloud Platform Available

Product Specifications

Utility-Scale ESS
QBESS-T

PRODUCT MODEL	QBESS-T-285	QBESS-T-306
Battery Type	LFP	
Battery Model	285Ah	306Ah
Max. Energy Capacity	3793kWh	4073kWh
Energy Capacity	379.3kWh×N (5≤N≤10)	407.3kWh×N (5≤N≤10)
Voltage Range	1164.8 ~ 1497.6Vdc	
Max. Charging&Discharging Power	3793kW	2000kW
P-rate	1P	0.5P
Cooling Method	Liquid Cooling	
Ingress Protection	IP55	
System Dimensions (W×D×H)	6058 ×2438×2896mm	
Weight	≈35T	
DC Channel	2/N	1/2/N
Certifications	UN 38.3, UN 3536, UL 1973, UL 9540A, IEC 62619, IEC 61000-6-2/-4, IEC 62477-1, IEC 62933-5-2, IEC 63056, IEC 60730-1	
GENERAL SPECIFICATIONS		
Operating Temperature Range	-25 ~ 55 ℃ (>45℃ derating)	
Relative Humidity Range	0 ~ 95% (No Condensation)	
Max. Working Altitude	4000m (>2000m derating)	
Fire Safety Equipment	Heat detectors, Aerosol, Smoke detectors, Flammable gas detector, Exhausting system, Dry pipe (optional)	