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ENERGY STORAGE SOLUTION

For a future powered by clean and reliable energy



Alpha·ESS

An energy storage system
integrator covering full power range

YOUR SMART ENERGY

YOUR SMART ENERGY

Making clean energy beneficial to
everyone in the world

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ABOUT US

Established in 2012, AlphaESS specializes in advanced battery storage products and intelligent energy management solutions for residential and commercial customers. AlphaESS products are present in over 50 countries , benefitting thousands of customers.



Our Vision

Vision

To promote future energy revolution;
To become a world-class energy service provider;
To lead innovation in energy storage and produce smart clean energy.

Values

Making clean energy beneficial to everyone in the world.

Mission

Sincerity, Responsibility, Gratitude.





Key Shareholders



EVE Energy (300014)

EVE is a tier-1 battery cell manufacturer with 9GWh+ production capacity.



CGN Industry Fund

CGN is the largest state-owned clean energy group company in China with a number of listed companies in A and H stock market.



CAIF

China Aviation Investment Fund is a state-owned fund focusing on investing cutting edge technologies and advanced manufacturing.



Global Partners





Global Presence

We are a multinational company that currently has over 20,000 residential and commercial systems running in over 50 countries globally and our products are credited by TÜV, CEC and are also complied with IEC and many other international standards.



WHY ESS

With expensive infrastructure costs and high electricity prices, we are confident that ESS is the solution to reduce cost and transform the way homeowners, businesses and utilities produce and use power.



What is ESS

The energy storage system is used to capture electricity produced by both renewable and nonrenewable resources to store it and use it when required. The system allows users to go off-grid or switch to stored electricity at a time most beneficial, giving greater flexibility and control of your energy consumption. The market for energy storage is growing at a rapid pace, driven by declining prices and supportive government policies.

What's the benefit



- Save money
- Back-up power
- Energy independence
- Environmentally friendly

Overwhelmingly, people want to save money and have greater control of their power use. With power costs expected to continue rising, it makes sense that families, businesses and utilities look to store energy, they are producing and use it later in the day, reducing their power bills.

e.g.

In Australia, Adding a 5.7-17.2 kWh battery to a 5 kW solar panel system can increase the amount of self-generated solar electricity the household consumes from 60%-100%.

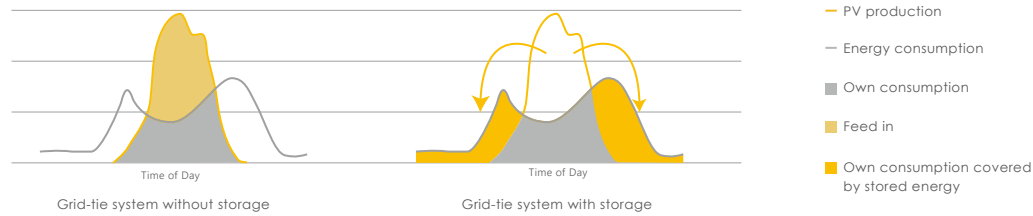
—By AlphaESS



ESS Application Scenarios

Self-Consumption Optimization

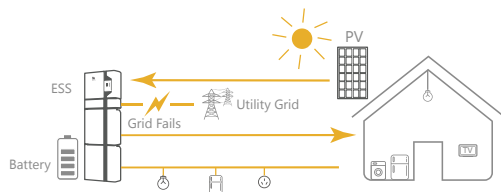
The typical electricity demand curve usually doesn't meet the PV generation curve. By storing the surplus PV generation into a battery storage unit, you can maximize self-consumption and reduce your electricity bill.



*For illustration purposes only. Profiles and usage patterns shall vary between homes.

Backup-Uninterrupted Power Supply (UPS)

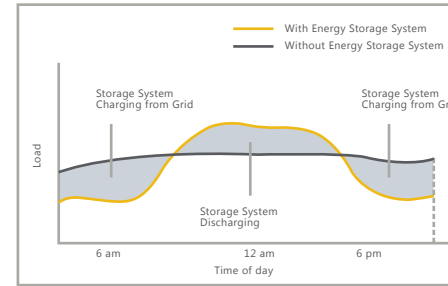
Storage system will continue to provide electricity when the grid fails.



- The system can switch to an off-grid mode when a power outage occurs or grid power supply is insufficient.
- Users can also set UPS emergency priority or UPS emergency reserve to meet your needs.

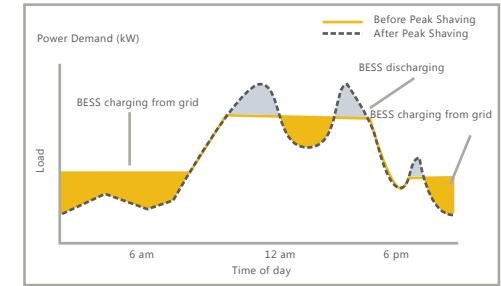
Load Shifting

Reduce your electricity bill by storing electricity during off-peak time and shift energy to be used at peak time.



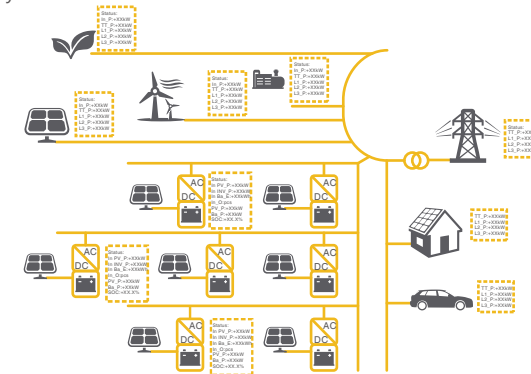
Peak Shaving

The goal is to avoid the increase of import capacity to supply the peaks of a variable load. Energy storage provides a fast response and emission-free solution.



Smart Grid / Micro Grid

Controls and monitors various power generation sources to form the foundation of smart-grid and smart-city.



Frequency Response

Restore and balance supply and demand, the storage system is charged or discharged in response to signals sent by the network to increase or decrease grid frequency, and keep it within pre-set limits.



WHAT WE DO

We're passionate about the role that battery storage can play in the energy revolution and network transformation.



Residential

3kW-10kW



Commercial

30kW-300kW



Industrial

250kW-10MW+

Our Focus

Our Expertise

- BMS hardware and software design
- EMS hardware and software design
- ESS system design and integration
- Battery & system products manufacturing
- Solution technical support and consultation
- Remote monitoring and online management

Major Applications

- PV and wind Self-consumption
- Back-up and off grid solution
- Load shifting / Peak shaving
- Micro grid
- Virtual Power Plant(VPP)
- EV fast charging solution



Our Products

Advanced battery storage products and intelligent energy management solutions for residential and commercial customers.





Residential

Our residential energy storage solution covers single phase 3kW, 5kW and three phase 10kW, this range is predominantly designed for PV self-consumption, back-up power, load shifting and off-grid solutions for household applications.



3kW 2.9kWh
All in one






SMILE-B3
3kW Battery Inverter
2.9kWh LFP Battery
2.9-17.2kWh
All-in-one module




SMILE5
5kW Single phase hybrid inverter
5.7-34.4kWh LFP Battery (1-6Modules)
Modular design

5kW Hybrid Inverter Module

5.7kWh x 2 LFP Battery Module









10kW Hybrid Inverter Module

High Voltage Cable box

2.9kWh x 4 LFP Battery Module

SMILE-T10
10kW 3 Phase hybrid inverter
11.5-23kWh LFP Battery (4-8Modules)
Modular Design High Voltage

Commercial

Our commercial energy storage solutions offer from 30kW to 300kW. We have delivered hundreds of projects covering most of the commercial applications such as demand charge management, PV self-consumption and back-up power, fuel saving solutions, micro-grid and off-grid options.



Indoor



Outdoor

STORION-T30

30 kW Battery Inverter Module
28.7-68.8kWh LFP Battery (69 kWh)
All-in-one Cabinet



STORION-T50/100/150

50 kW/100 kW Hybrid Inverter
150 kW DCDC Inverter+DCAC Inverter
Transformer Integrated
Modular Design



HV-CLUSTER

28.7-63.0 kWh Battery Cluster
5 to 11 Units of 5.7 kWh (M48112-S)
Easy to parallel to MWh



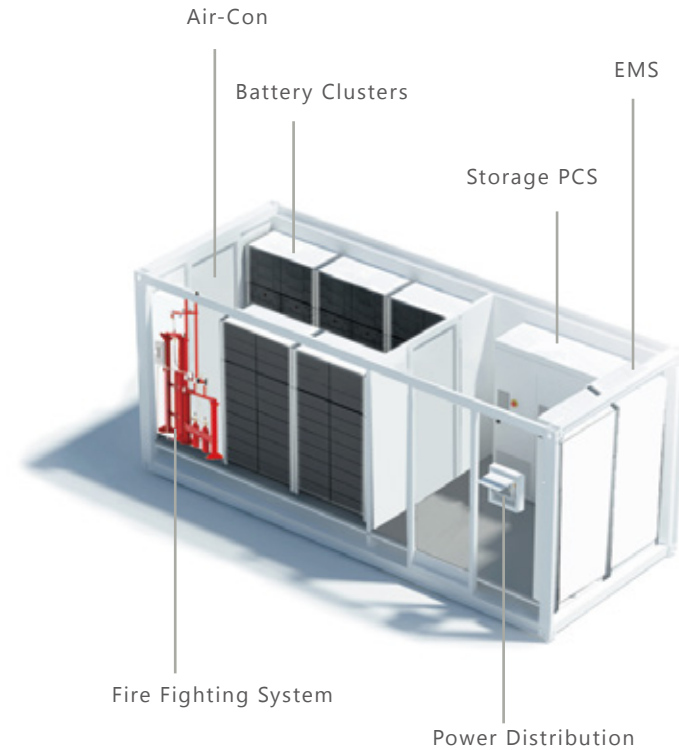
Battery Outdoor Cabinet

28.7kWh-103kWh (M48112-S)
64kWh-97.2kWh (M38210-S)
Easy to parallel to MWh



Industrial

Our experienced team is able to provide customized solutions that are stable and flexible for the requirements of all our customer demands.



Alpha-CS

We customize ESS solutions for industrial applications. This includes:

Power Control Systems(PCS):

250kW, 500kW, 1MW expandable to MWs.

Battery: 5.7 kWh (1C) module, 8.1 kWh (0.5C) module, LiFePO4 chemistry

BMS: Intelligent Battery Management System

EMS: Intelligent Energy Management System

Container:

If a container is used, our standard ESS system includes the following facilities:

- Fire Suppression
- AC system
- Ventilation system
- Lighting and power distribution system

The maximum capacity per container is:

- 10feet: up to 300kWh (1C)
- 20feet: 600kWh (1C)/1.3MWh(0.5C)
- 40feet: 1.6MWh(1C)/2.8MWh(0.5C)





Battery Packs



M4856-P

2.9 kWh (1C, 51.2 V)
Max. 6 in parallel



SMILE5-BAT

5.7 kWh (0.5C, 51.2 V)
Max. 6 in Parallel



SMILE-BAT-10.1P

10.1 kWh (0.5C, 48V)
Max. 6 in parallel



M4856-S

2.9 kWh (1C)
Max. 8 in series/cluster
HV50056 Required



M48112-S

5.7 kWh (1C)
Max. 15 in series/cluster
HV900112 Required



M38210-S

8.1 kWh (0.5C)
Max. 20 in series/cluster
HV900105 Required

Our battery modules are compatible with many types of inverters including:



AlphaCloud Monitoring Platform



Lifelong free access to monitoring via Web and APP



New function and latest version upgrades available remotely



Set parameters control and build VPP



IoT compatible





*The photo is only for marketing purpose, and the actual installation need to be complied to the local regulations.

AlphaHome

Your Smart HOME

- Fully integrated home energy solution
- Visibility on performance of each component
- Life-long free upgrade
- Open platform for IoT (Internet of Things)
- Pioneering human-machine interaction powered by Amazon

WHY AlphaESS

With patented technology, 7 years of professional experience in the industry and various cost-effective solutions to meet all demand, we listen to you and deliver what you need. We are pursuing an ambitious goal to build an energy internet where everyone can produce their own energy and support the community.

Core Technology



Safety

Certified by international authorities, AlphaESS products are well recognized with outstanding product safety and reliability. Alpha Cloud enables intelligent fleet management and monitors every system performance 24/7.



Leading Technology

Advanced turn key lithium battery storage systems, controlled by EMS and Alpha Cloud with cutting edge algorithm to improve battery lifetime and efficiency.



Various Solutions

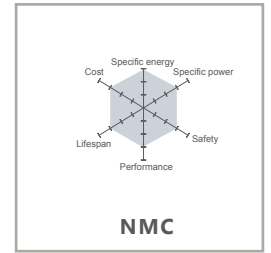
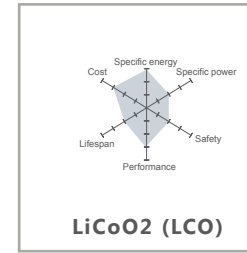
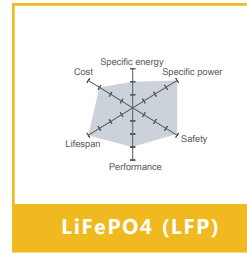
AlphaESS provides customized energy storage solutions for on-grid, off-grid and micro-grid applications at both residential and industrial & commercial levels, which helps customers to achieve energy independence and environmental responsibilities.



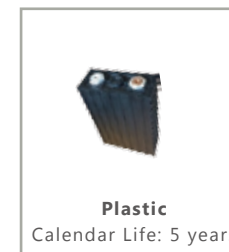
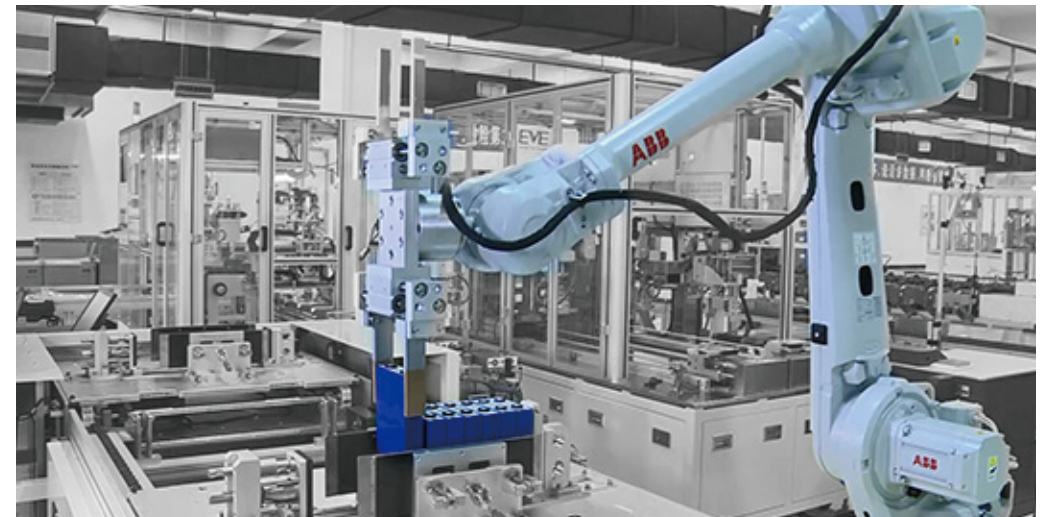
Global Energy Service Provider

AlphaESS is helping to advance the clean energy revolution in over 50 different countries and regions. Making clean energy beneficial to the greatest extent to everyone in the world.

Battery Cells



Whilst Alpha's batteries are of slightly larger sizes compared to other types of Li-Ion batteries used in electronics and EVs, they do not suffer from safety issues such as thermal runaway because we have chosen LiFePO4 for its superior life span and safety.



AlphaESS uses only the Metal CAN cells with aluminum casing in all of its battery packs for long mechanical life-span and safety.

BMS & EMS

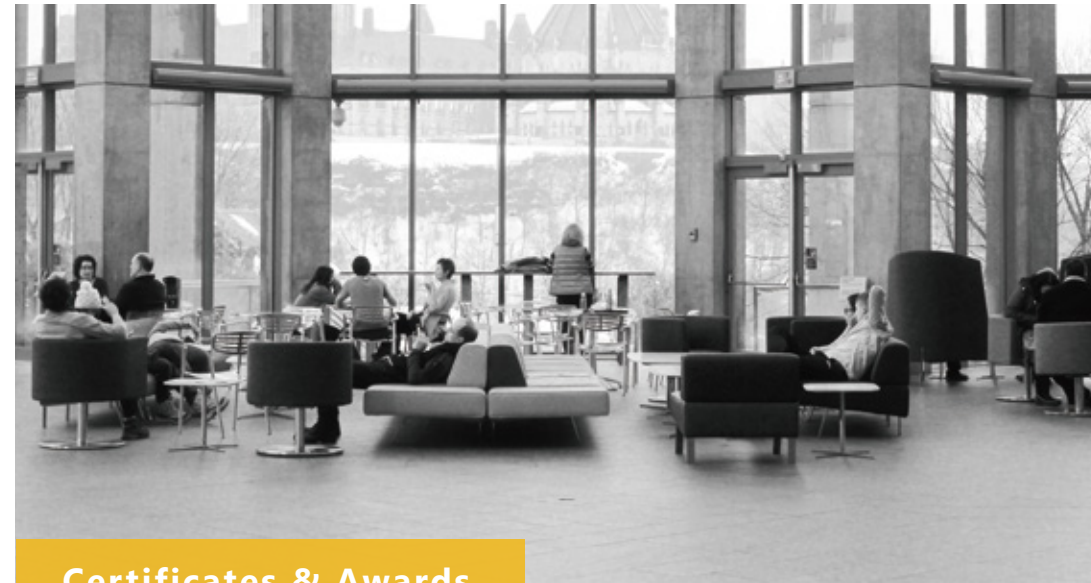
AlphaESS BMS and EMS are the brain of the system. They manage the ultimate function of the battery and also provides critical safeguards to protect and prolong the life of batteries.



- Real-time volt. / temp./ current monitoring on cell level
- Multiple-level protections based on the data monitored
- Communication to EMS (Energy management system)
- Reliable battery cell balancing management
- Intelligent SOC (state of charge) algorithm
- Capable to be remotely upgraded to latest technology



- PV Self-consumption maximization
- Load shifting
- Peak shaving
- Demand response
- Micro grid control
- Virtual power plant
- Auxiliary control
- Fully programmable for tailored design



Certificates & Awards

SMILE5-BAT	Safety	IEC62619 (pack)
M4856-P	Safety	IEC62619 (pack)
M48112-S	CE-EMC	EN 61000-6-2 & 61000-6-4
SMILE5-INV	Safety	IEC62109-1&-2
	CE	IEC62477
	CE-LVD	EN62109 & EN62040
	CE-EMC	EN 61000-6-1, -2, -3, -4
	SAA	AS/NZS 4777.2, IEC 62040.1.1,
	Grid Regulation	IEC 62109-1&-2
Storion-T30	CE-EMC	EN61000-2&-4
	Grid Regulation	VDE4105 G99
SMILE-B3	SAA	AS4777.2 & IEC62040
	Safety	IEC62619 IEC62477
	Grid Regulation	AS4777.2 VDE4105 G99
Storion-T50/ T100	Safety	IEC 62109-1&-2
	Grid Regulation	AS4777.2/.3 G98
SMILE-T10	Safety	IEC 62109-1&-2, IEC 62040-1



product design award 2018 reddit design award 2018



LUMIT The First & Only storage Brand with insurance covered in Germany

PINGAN Global Warranty

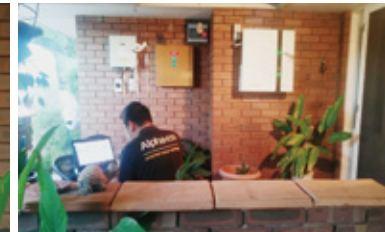
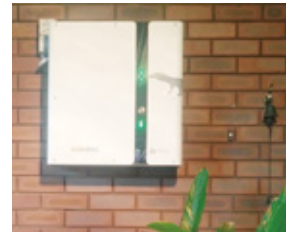
CASE STUDY

With proprietary technologies, AlphaESS provides the most reliable and innovative energy storage solutions widely spread over the globe with different application scenarios.

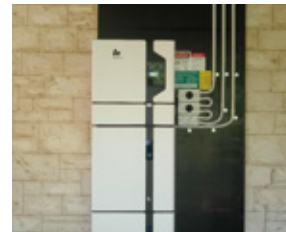
Residential



- Project: 3kW PV
SMILE-B3, 2.9kWh Storage
- Application:
PV-self consumption
- Location: England



- Project: 3kW PV,
SMILE-B3, 2.9kWh Storage
- Application: Battery retrofit
- Location: Perth WA Australia



- Project: 6kW PV,
SMILE5, 11.4kWh Storage
- Application:
PV Self-consumption
- Location: SA, Australia



- Project: 20kW PV,
SMILE-T10, 40kWh Storage
- Application: Self-consumption +
UPS
- Location: Lahore, Pakistan



Commercial & Industrial



10ft Container ESS

- Project: 100kW/206kWh
- Application: Solar + Diesel+ Storage
- Location: Dubai



20ft Container ESS

- Project: 100kW/670kWh
- Application: Solar + Storage+ Microgrid
- Location: Australia



10ft Container ESS

- Project: 5 x 50kW/160kWh Rural Electrification
- Application: Solar + Storage + Diesel mini grid
- Location: Myanmar



40ft Container ESS

- Project: 500kW/1.26MWh, Pharmaceutical Factory
- Application: UPS + Load Management.
- Location: Cambodia



10ft Container ESS

- Project: 60kW/100kWh
- Application: Solar+Storage+ Genset
- Location: Indonesia



40ft Container ESS

- Project: 500kW/1MWh, Hospital
- Application: Energy Independence
- Location: Accra, Ghana



20ft Container ESS

- Project: 100kW/250kWh, Oil Pumps
- Application: Solar+Storage+ Off grid
- Location: SA, Australia



- Project: 50kW/172kWh 50kW/257kWh
- Application: Solar + Storage+ Microgrid
- Location: Philippines