

WE DO MORE THAN STORE POWER WE MAKE IT SMART



OUR VISION

- Become a world-leading green energy storage solution and service provider.
- Make clean energy accessible to 100 million people in 10 years.

OUR STORY

core STRATEGY

3 ALPHA HOME

ALPHA C & I

O1 OUR STORY



Who We Are

AlphaESS is a leading global green energy storage solution and service provider. With expertise in BMS, EMS, system integration, and cloud monitoring, we excel in providing tailored solutions for a wide range of applications, including residential, commercial & industrial, and utility-scale projects.

AlphaESS has 30+ subsidiaries and branches worldwide, including China, Germany, Australia, Italy, the United Kingdom, South Africa, Singapore, Malaysia, and more. With over 150,000 systems actively running across 100+ countries, we have built a comprehensive global supply chain and logistics network.







12 +
Years of Industry Experience



200 +

Patents in the ESS field



TOP 1

2022-2023 TOP 1 Australia Market Share from SunWiz

TOP 5

2023 H1 TOP 5
Residential ESS Provider in Germany
from EUPD Research

TOP 6

2021 TOP 6 Supplier of Global Residential Storage Systems from IHS Markit



ESG Transparency Award







iF & Reddot & G-mark

Design Award



TOP BRAND PV (STORAGE & INVERTERS)

Our History

2012

Established in Nantong, China

2013

1st Generation BMS, EMS, and AlphaCloud Platform

2016

Commercial Energy Storage Project Launched

2017

- Large Air-cooled Energy Storage Container System
- Italian Subsidiaries Established
- 3rd Generation Residential ESS



2014

1st All-in-One Residential ESS



2015

European & Australian Subsidiaries Established

2018

Myanmar Rural Electrification Project *

* Named as a Finalist for the SmarterE Award in 2020





2019

Top 1 Residential ESS Provider in Australia (by SunWiz Research)

2020

Overseas Headquarters Established in Singapore

2023

Overseas Production Center Put into Operation



2024

20ft 5MWh Liquid-cooling Energy Storage

2021

- 4th Generation Residential ESS
- Top 5 Residential ESS Provider in Germany (by EUPD Research)

2022

5th Generation Residential ESS



Global Presence



300+

Global Service Network

Key Networks

- Asia: China, Singapore, Malaysia, The Philippines, Myanmar, Indonesia, Uzbekistan, Japan
- Europe: Germany, United Kingdom, Italy, Belgium, Netherlands, France, Czech Republic, Spain
- Oceania: Australia, New Zealand, Fiji, New Caledonia
- Americas: United States, Guam, Hawaii, Colombia
- Africa: South Africa, Kenya, Nigeria





Subsidiaries



Production Centers

China: Nantong (Tongzhou & Qidong), Ulanqab Malaysia: Kulim







R&D Centers

Nantong, Suzhou, Nanjing, Tianjin







*China: Nantong (Tongzhou & Qidong), Suzhou, Nanjing, Ulanqab, Beijing, Tianjin, Shenzhen, Guangzhou, etc.



Localization

Local Service Experience through a Global Network

We strive to provide our customers with seamless end-to-end services through our comprehensive localized service network, which offers convenient services including demand analysis, customized solutions, spare parts supply, professional training, warehouse management, fault analysis, and efficient maintenance. Our dedication lies in maximizing the utilization of our customers' systems and ensuring an exceptional service experience.



Remote Maintenance



Troubleshooting



Installation Training



Technical Support



Automatic Updates



Warranty Service

Core Technologies

AlphaESS masters core technologies including BMS, EMS, system integration and the monitoring platform. Its product lines cover micro, residential, commercial and industrial, and utility-scale energy storage, offering ESS solutions ranging from 1 kilowatt to hundreds of megawatts for the global market.

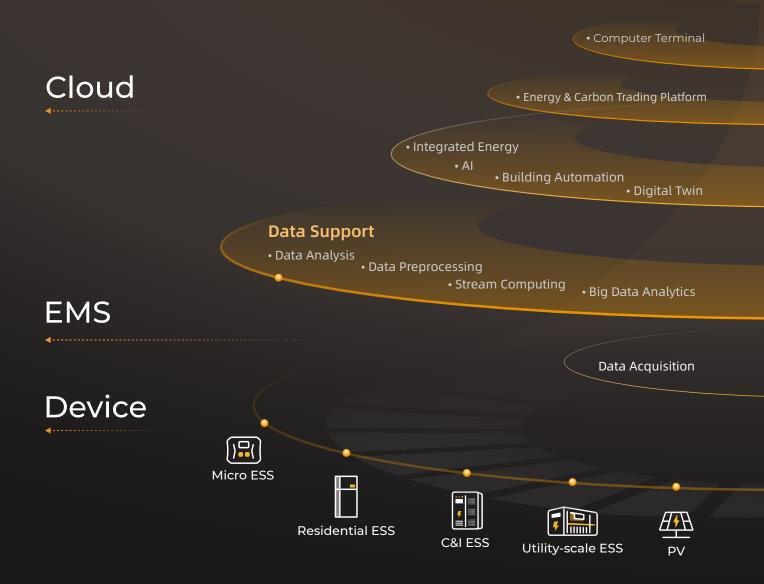


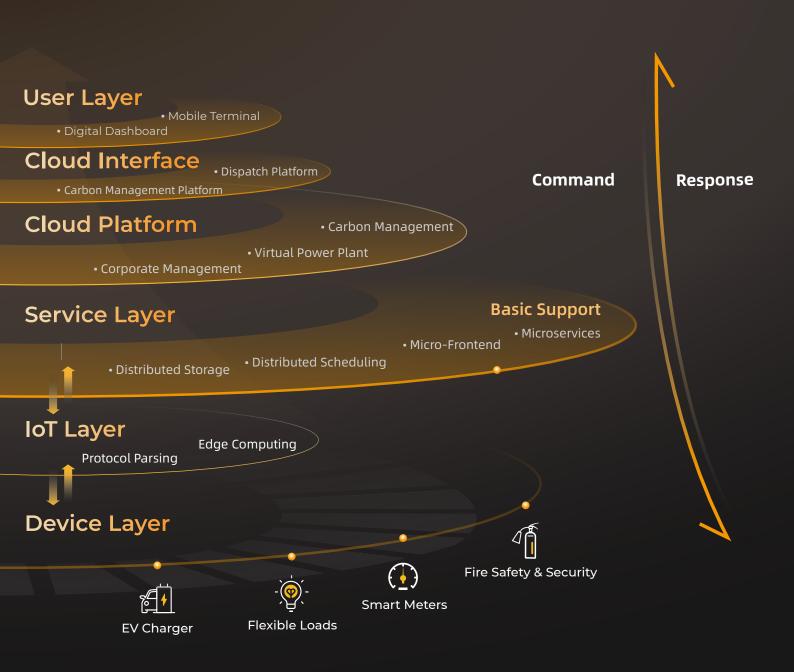
CORE STRATEGY



Smart Energy

Digital Intelligent Management Architecture





Safe and Reliable

01

Material Safety

Secure the energy storage

Only first class, reliable **LiFePO**₄ cell will be used 02

System Safety

Secure the quality and performance



Design Er

Thermal &
Environmental
Control

Real-Time Monitoring



Tiered Alarms



Multiple Fire Protection



Product Insurance







03

Workplace Safety

Secure the green, smart, and sustainable future

- Integrate safety controls with intelligent devices to minimize human operation risks and enhance safe production.
- EHS in practice with everyone involved: trainings, accountability, and occupational health
- Less emission with clean and efficient production



04

Testing Safety

Leave no stone unturned

Battery Safety

- · Compression Crash Tests
- · Overcharge and Overdischarge Tests
- · Short-Circuit Tests

EMS Safety

- · EMC Tests
- Fault Waveform Recording
 Tests
- Hardware-in-loop Simulation
 Tests

Structural Safety

- · Structural Strength Verification
- · System Structural Simulation
- Structural Design Short/Long-term
 Testing Verification

Electrical Safety

- · Short-Circuit Tests
- · Overload Temperature Rise Tests
- · Insulation Withstand Voltage Tests

Fire Safety

- Thermal Runaway and
 Propagation Tests
- Multi-dimensional Perception
 Detection Tests
- · UL9540A Certification Tests

Environmental Reliability

- · Low Pressure Tests
- · Salt Spray Tests
- Temperature Shock & Humidity
 Cycling Tests





One-Stop Customer Service

Focusing on products, technology, customer relations, sustainability, and internationalization, we provide personalized and comprehensive one-stop service to ensure customers have an excellent experience throughout the purchase, use, and maintenance of our energy storage systems.



Customer Service Package — AlphaCare

The AlphaCare package is tailored for our end customers and partners, providing comprehensive services in technical support, financing plan, marketing etc..

Technical Support:

Dedicated customer service from start to finish with our OSC (Online Service Center).

Marketing Support:

Impactful co-branded initiatives to maximize brand exposure and early product upgrade info to stay competitive.

· AlphaCloud:

A lifetime-free energy management and monitoring platform for all AlphaESS systems.

AlphaPartner:

Exclusive service platform for AlphaESS' parnters including distributors and installers.



Individual Account



Instant Messaging



Work Order Management



Online Store



Active User Community

Low-Carbon Smart Park Platform



O3 ALPHA HOME

- · All-in-One Energy Storage System
- · PV-Storage-Charging Solution
- · Balcony Energy Storage System
- · Portable Power Station

Residential Series

AlphaESS provides energy storage solutions ranging from 1 to 20 kW for households. With the AlphaCloud monitoring platform, users can fully enjoy the economic benefits and convenience of smart energy management.





SMILE Product Series

- S tronger Output
- M odular Configuration
- ntelligent Management
- ong Lifespan
- E fficient Operation

All-in-One Energy Storage System





Easy Installation

- · All-in-One Design
- · Plug & Play Wiring System
- · Built-in SPD



Flexible Expansion

- · Modular System
- Bypass for Faulty Battery
- · No Need for SOC Calibration



Cutting-Edge VPP

- Tailored API for Dynamic
 VPP Scheduling
- Fast FCAS
- · Global Compatibility*

^{*}Leading the Australian VPP market; compliant with European Commission Regulations (EU) 2017/1485, 2016/631, 2016/1388, 2017/1485 for Frequency Containment Reserves

YOUR ALMIGHTY KNIGHT

SMILE-G3 Series

SMILE-G3-S3.6 / S5 / B5 / S8

SMILE-G3-T4/5/6/8/10

SMILE-G3-T12 / 15 / 20

SMILE-G3 series offers single-phase solutions ranging from 3.6 to 8 kW and three-phase solutions from 4 to 20 kW for home energy storage, catering to both AC and DC coupled scenarios. It covers a comprehensive range of needs including self-consumption for residential homes, peak-valley arbitrage, dual power supply with diesel generators, VPP (Virtual Power Plant) scheduling, solar storage charging, and solar storage heating.









HIGHER EFFICIENCY BRINGING MORE PROFITS





SMILE-G3-S8

Single Phase: 3.6/5 kW

8 kW

Capacity: 3.8 - 60.5 kWh

8.2 - 49.2 kWh

Datasheet







SMILE-G3-T4/5/6/8/10

Three Phase: 4/5/6/8/10 kW

Capacity: 3.8 - 49.2 kWh

Datasheet





SMILE-G3-T12 / 15 / 20

Three Phase: 12/15/20 kW

Capacity: 7.7 - 49.2 kWh

Datasheet





More Profits

- 200% PV Input
- MPPT Shadow Scanning
- High Voltage Battery with Higher
 RTE (Roud-Trip-Efficency)



Energy Independence

- Seamless On/Off-Grid Switchover < 20ms
- UPS Peak Overloading up to 200%
- Dual Power Supply (Grid & Generator)



Smart IoT

- VPP-Ready with Very Fast FCAS
- PV-Storage-Charging Solution
- SG Ready for Heat Pumps

Available in: Australia, Germany, UK, Italy, Belgium, Czech, The Philippines, Thailand, China, Middle East, Africa, Latin America, etc.





HIGH VOLTAGE, HIGH EFFICIENCY



SMILE-S6-HV

Single Phase: 6 kW Capacity: 5 - 49.2 kWh



Datasheet



SMILE-T10-HV

Three Phase: 10 kW

Capacity: 8.2 - 49.2 kWh

Datasheet



- · High Voltage Battery System (153.6V/256V)
- · PV Shadow Scanning for More Solar Energy Yield
- Fast Charging and Discharging (1C)
- · Modular Design for Quick Installation

Available in: Germany, UK, Belgium, Poland, Australia, China, Thailand, etc.



YOUR CHOICE FOR HOME ESS IN NORTH AMERICA



SMILE-SP/SPB SERIES

Split-Phase: 7.6 / 9.6 kW Capacity: 8.2 - 49.2 kWh AC-Coupled & DC-Coupled

- 9.1 / 11.5 kW Peak AC Output
- · 1.2C Continuous Charging/Discharging
- \cdot 95% Round-Trip Efficiency (DC-Coupled)
- · VPP Ready
- · 4 MPPTs, Max. 15 kW PV Input







PIONEER OF ALL-IN-ONE SYSTEM

SMILE5 has made green living a reality for 30,000+ families worldwide

with 320 + MWh total installed capacity

SMILE5

Single Phase: 5 kW Capacity: 2.9 - 80 kWh







YOUR BEST SOLUTION FOR RETROFITTING PV SYSTEM



SMILE-B3

Single Phase: 3 kW

Capacity: 2.9 - 17.2 kWh





SMILE-B3-Plus

Single Phase: 3 kW

Capacity: 5.04 - 30.24 kWh







SMILE-B5/S5*

Single Phase: 5 kW

Capacity: 5.04 - 30.24 kWh

* SMILE-S5 also applies to DC/Hybrid-coupled solutions

Datasheet





Datasheet

Built-in Battery & Inverter



AC-Coupled: Compatible with Any Solar Inverter

Brand Available on the Market



Space-saving & Lightweight



VPP Ready

EV CHARGER PV-Storage-Charging Solution

SMILE-G3-EVCS7

Single Phase / 7 kW

SMILE-G3-EVCT11

Three Phase / 11 kW



User-Friendly

- · Easy installation
- High compatibility
- Keycard or AlphaCloud launching for proprietary identification
- \cdot 7m-long charging cable



Higher Profits

- · 100% green energy consumption
- · Subsidy available
- · Lifetime-free upgrading online



Multiple Charging Modes

- · Green mode: EV charged only by solar energy or battery
- · Fast mode: First priority for EV charging
- · ECO mode: Customized timers and fixed power





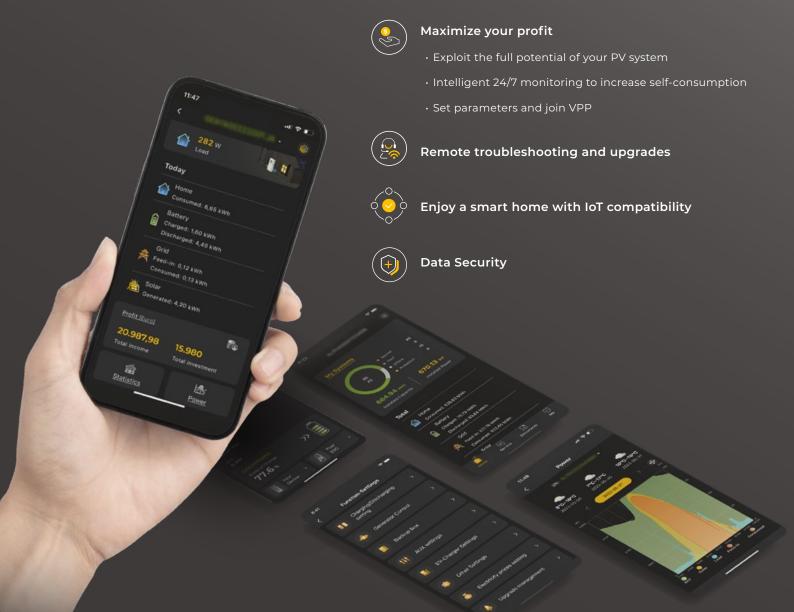




Available in: EU, UK

ALPHACLOUD MONITORING PLATFORM

AlphaCloud is a lifetime-free platform (for App and Web) where you can easily manage every device connected to AlphaESS systems. As soon as a device is plugged in, AlphaCloud reads its information and prepares all the possible configurations for you, so that you can learn about or change your energy plan anytime, anywhere.



MICRO ENERGY STORAGE SYSTEMS

May the Power be with you

AlphaESS's innovative 1-2kW/1-6kWh Micro Energy Storage Solutions are perfect for indoor balconies and outdoor portable settings. Featuring all-in-one design and plug-and-play installation, our systems guarantee safe and reliable power supply during emergencies and outdoor adventures. Embrace the freedom of green, clean energy—available whenever and wherever you need it.





BALCONY SOLAR ENERGY SYSTEM

VitaPower VT1000

- $\cdot 1 \text{kW} / 2 \text{kW} \cdot 1 6 \text{kWh}$
- Plug & Play
- All-in-One Design:
 Built-in Battery, Micro-Inverter, DC Power
 Controller, and LCD
- Versatile Applications:
 On-Grid and Off-Grid
- Safe & Reliable:
 Durable Metal Casing & Extended Warranty Service
- Stackable Expansion



Available in: Germany Brochure



BALCONY SOLAR ENERGY SYSTEM

VitaMate Set



Battery Parameters

Capacity 1024 Wh
Battery Chemistry LiFePO4
Ingress Protection IP65



- \cdot UPS-level off-grid switching time <10ms
- · Support AC-coupled in balcony microinverter systems
- · On-grid and off-grid applications

Available in: Germany



PORTABLE POWER STATION

- · Big Capacity in Small Box
- · Equipped with 2 Wireless Charging Pads
- · Capable to Charge 12-15 Devices Simultaneously
- \cdot Chargeable with AC/PV
- · 95% DoD (Depth of Discharge)



BlackBee 1000

- ·1kW/1kWh
- · 10.2 kg





Datasheet

Datasheet 🔳

























O4 ALPHA C&I

EXPERT FOR ALL APPLICATION SCENARIOS

Generation Side

- · Smooth Wind & PV Power Output
- · Maximizing Wind & PV Utilization
- · Thermal Power Storage Frequency Modulation
- · Active Power Control and Reactive Power Compensation

Network Side

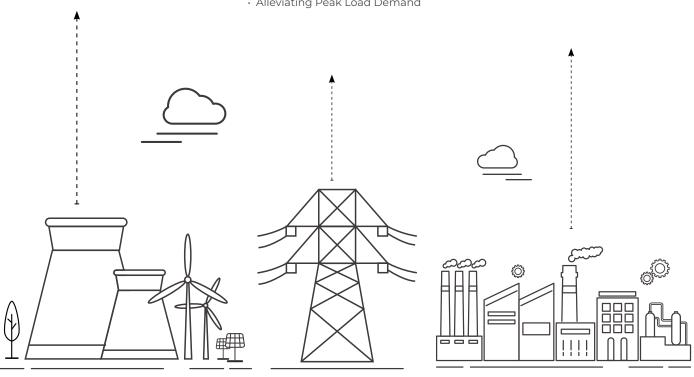
- · Peak Shaving and Frequency Modulation
- · Improving Power Quality and System Reliability
- · Maintaining Voltage Stability of the

Transmission Network

- · Extending the Lifespan of Transmission Equipment
- · Alleviating Peak Load Demand

Behind-the-Meter

- · Peak-Valley Arbitrage
- · Backup Power
- · Dynamic Expansion
- · Virtual Power Plant (VPP)
- Microgrid
- · Ancillary Services



MASTER OF ADAPTATION



Applicable Terrains



Desert

Mountain



Gobi Desert



Plain



Plateau



Coastline



Applicable Climates



Hot & Dry



Cold & Humid



Thunderstorms



Heavy Snowfall



Salt Fog



Sandstorms

LARGE C&I PROJECT INVESTMENT MODEL

Client Self-Investment

AlphaESS is responsible for project construction and technical support; the ownership of the project and all profits belongs to the client.



Third-party Investment / EMC (Energy Management Contract)

The ownership of the project belongs to the third-party investor, while the user client, with zero investment and operating costs, share peak-valley arbitrage profits with the investor, thereby reducing energy loss and saving electricity costs.



AlphaESS Investment

AlphaESS invests and provides EPC contract, energy storage systems, and professional intelligent operation and maintenance services.





CREATING VALUE FOR OUR CLIENTS

 Comprehensive Energy Solutions for the Full Lifecycle







Digitalized & Visualized Smart Energy Management

Low-Carbon Smart Park Platform

The software platform functions as a digital hub and control panel for everything within an industrial park. Its Al algorithms ensure neat data analysis and informed decision-making, which increases the revenue of energy projects, reduces energy consumption, and facilitates the maintenance of equipment.



Main Customers:

- · Industrial Enterprises
- · Industrial Real Estate / O&M Investors
- · District / County Government
- · Energy Projects / O&M Investors





Innovative Technologies:

- · Distributed Energy Storage Virtual Power Plant Technology
- · Industrial Park / Plant Digital Twin
- · Integrated Platform
- · Integrated Alarm System for All Facilities
- · Integrated Surveillance Cameras / Access Control / Fire Protection System
- · Integrated System Management
- · Collaborative System Update and Optimization





Targeted Pain Points:

- · Construction without integrated planning.
- · Multi-platform operation and maintenance in parks / factories.
- Efficient operation and maintenance management, revenue and cost saving of multi-projects.
- By providing an integrated platform covering all the issues above, AlphaESS provides the best smart park management solution for business owners.

ALPHA



Alpha C&I and Utility Solutions

For 30kW+ applications, AlphaESS C&I and utility-scale solutions can work in sync with wind and solar resources, significantly improving the self-consumption rate of clean energy, smoothing out power supply-demand fluctuations. They can also be integrated with advanced technologies such as smart energy management platforms and the Internet of Things (IoT), facilitating the transformation of energy structure and providing crucial support for achieving carbon neutrality goals.

C&I





High Energy Density



Cell-Level Constant Temperature Control



Enhanced Electrical Protection



Intelligent Fire Protection

5MWh

Liquid-Cooled Battery Container



Model	AlphaCS-H20-DC-LC 2.0
Rated Energy	5015.9 kWh
Ingress Protection	IP55
Charge/Discharge Rate	0.5 C
Battery Type	LiFePO ₄
Fire Protection	Perfluorohexanone + Water
Battery Module	M166314-S
	M332314-104S-CN

- Multiple fire protection systems, battery pack-level suppression
- Enhanced electrical protection to mitigate short-circuit risks
- Liquid cooling for uniform temperature, 20% less energy loss
- · Compatible with various PCS and EMS
- Cloud-based data management, remote troubleshooting
- 34% increase in energy density, reducing upfront investment
- Two options available: back-to-back or double-sided doors, adaptable to different station layouts

Available in: China

1500V

Liquid-Cooled Battery Container



Model	AlphaCS-H20-DC-LC	AlphaCS-H20-DC-LC-EX
Rated Energy	3727.3 kWh	5015.9 kWh
Ingress Protection	IP55	IP55
Charge/Discharge Rate	0.5 C	0.5P
Battery Type	LiFePO ₄	LiFePO ₄
Fire Protection	Aerosol + Water (Optional: Perfluorohexanone)	Aerosol + Water
Battery Module	M166280-S	M332314-104S-EX

- · Low noise
- · High energy density
- · Multiple intelligent fire protection systems
- Flexible layout, supporting parallel connection
- · Intelligent thermal management strategy
- External maintenance design, efficient and convenient







Liquid-Cooled Battery Cabinet

Model	STORION-LC-372
Rated Energy	372.7 kWh
Ingress Protection	IP55
Battery Type	LiFePO ₄
Fire Protection	Aerosol + Water
Battery Module	M166280-S
	ST Annual C





All-in-one design for easy installation & transportation



Liquid cooling, system temperature difference ≤ 3°C



Support parallel connection of multiple systems on the DC side



Compartment-level & pack-level intelligent fire protection systems with explosion relief strategy



High IP rating and dehumidification solution



Air-Cooled All-in-One Cabinet



Model	STORION-G2-H50	STORION-G2-H30	
Rated Power	50 kW	30 kW	
Rated Energy	55.2 ~ 104.8 kWh, Expandal	55.2 ~ 104.8 kWh, Expandable up to 209.6 kWh	
Ingress Protection	IP20		
Battery Type	LiFePO ₄		
Fire Protection	Smoke Detector		
Battery Module	M7790-S or M38210-SC		



Datasheet





- · PCS & battery all-in-one system
- · Plug & play installation
- · Seamless on/off-grid switching within 20ms
- · Easy parameter settings, cloud-based control
- · Multiple working modes available
- Support parallel connection of 5 systems (on-grid) or 3 systems (off-grid)

Model	STORION-H30-O
Rated Power	30 kW
Rated Energy	96.7 kWh
Ingress Protection	IP55
Battery Type	LiFePO ₄
Fire Protection	Aerosol
Battery Module	M7790-S or M38210-SC

- · PCS & battery all-in-one system
- · Plug & play installation
- · Space-saving design
- Support parallel connection of 3 systems (off-grid)









Tailored Solutions



Indoor Outdoor

STORION-T50/T100 Series

Model	Indoor	Outdoor
Rated Power	50 / 100 kW Available	
Rated Energy	62 ~ 968 kWh	62 ~ 387 kWh
Ingress Protection	IP20	IP54
Safety Protection	 Constant temperature control at 23±2°C Self-diagnostic & EMS cell-level detection 	Smoke & temperature detectionFM-200 fire suppression system
Battery Module	M38180-S or M38210-S	

- All-in-one design, space-saving
- Flexible configuration
- On/Off-grid switching time ≤ 20ms
- Support 200% PV oversized
- High security & control: cell-level monitoring of batteries





TB187.5/375/500 Series

Model	Indoor	Outdoor (20/40ft)	
Rated Power	187.5/375/500 kW Available		
Rated Energy	0.24 ~ 1.6 MWh		
Ingress Protection	IP20	IP54	
Safety Protection	 Constant temperature control at 23±2°C Self-diagnostic & EMS cell-level detection 	Smoke & temperature detectionFM-200 fire suppression system	
Battery Module	M38180-S or M38210-S		

- Easy installation: most devices are pre-assembled at the factory
- Flexible configuration
- On/Off-grid switching time ≤ 20ms
- High security & control: cell-level monitoring of batteries
- Support parallel connection of containers: up to 2MW / 6.4MWh



Industrial Battery Packs

Liquid-Cooled Battery

Battery Module	M166314-S (0.5C)
Rated Voltage	166.4 V
Rated Power / Rated Energy	26.1 kW / 52.2 kWh
Cycle Life	≥ 6000 (@ 25°C)
Operating Temperature Range	-30°C ~ 50°C
Available in: China	



Battery Module	M166280-S (0.5C)
Rated Voltage	166.4 V
Rated Power / Rated Energy	23.2 kW / 46.5 kWh
Cycle Life	≥ 6000 (@ 25°C)
Operating Temperature Range	-30°C ~ 50°C



Battery Module	M332314-104S(0.5C)
Rated Voltage	332.8 V
Rated Power / Rated Energy	52.2 kW / 104.4 kWh
Cycle Life	≥ 6000 (@ 25°C)
Operating Temperature Range	-30°C ~ 50°C



Air-Cooled Battery





Battery Module	M38210-SC (0.5C)	M7790-S (1C)
Rated Voltage	38.4 V	76.8 V
Rated Power / Rated Energy	4.032 kW / 8.1 kWh	6.912 kW / 6.9 kWh
Cycle Life	≥ 6000 (@ 25°C)	
Operating Temperature Range	-30°C ~ 50°C	





Battery Module	M38180-S (1C)	M38210-S (0.5C)
Rated Voltage	38.4 V	38.4 V
Rated Power / Rated Energy	6.912 kW / 6.9 kWh	4.032 kW / 8.1 kWh
Cycle Life	≥ 6000 (@ 25°C)	
Operating Temperature Range	-10°C ~ 50°C	



Peak Shaving and Frequency Regulation Ulanqab, Inner Mongolia















- 1 50MW / 100MWh
 PV + Storage
 Anlu, Hubei, China
- 2 5MW / 10MWh

 PV + Storage

 Nanjing, Jiangsu, China
- 3 100kW / 206kWh

 PV + Storage + Genset

 Abu Dhabi, The UAE
- 4 100kW / 250kWh
 Off-Grid PV + Storage
 Moomba, SA, Australia

Scan the QR code for more details







Alpha ESS Co., Ltd.

Email: info@alpha-ess.com Website: www.alphaess.com

No. 1086 Bihua Road, Tongzhou District, Nantong City,

Jiangsu Province, 226300, P.R. China

Alpha ESS International Pte. Ltd.

Email: singapore@alpha-ess.com 2 Corporation Road #01-06A Corporation Place 618494 Singapore

Alpha ESS Europe GmbH

Email: europe@alpha-ess.de Website: www.alphaess.de Alfred-Herrhausen-Allee 3-5, 65760 Eschborn

Alpha ESS Australia Pty. Ltd.

Email: techsupport@alphaess.au Website: www.alphaess.au 8/15-21 Gibbes Street, Chatswood, NSW 2067 Australia

Alpha ESS South Africa (Pty) Ltd

Email: measervic@alpha-ess.com Johannesburg, South Africa

Alpha ESS Malaysia SDN. BHD.

Email: info@alpha-ess.com
Plot 49 & 63, Lorong Perusahaan 2b, Kulim
Industrial Estate, 09000 Kulim, Kedah, Malaysia





@alpha_ess



@AlphaESS



www.alphaess.com