



STORING TOMORROW'S ENERGY TODAY FOR A SAFER FLEXIBLE FUTURE



Energy Storage Manufacturer by BloombergNEF 2025

An aerial photograph of a rural landscape. In the foreground, there are several long, parallel rows of solar panels. To the right, a large red barn with a white roof and a white porch stands on a green lawn. A white cylindrical silo is visible near the barn. A dirt road winds through the green fields. In the distance, a line of wind turbines is visible against a sky with scattered white clouds.

“ MAKE CLEAN **ENERGY**

ACCESSIBLE TO 100 MILLION

PEOPLE IN 10 YEARS

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- INTELLIGENT MANUFACTURING

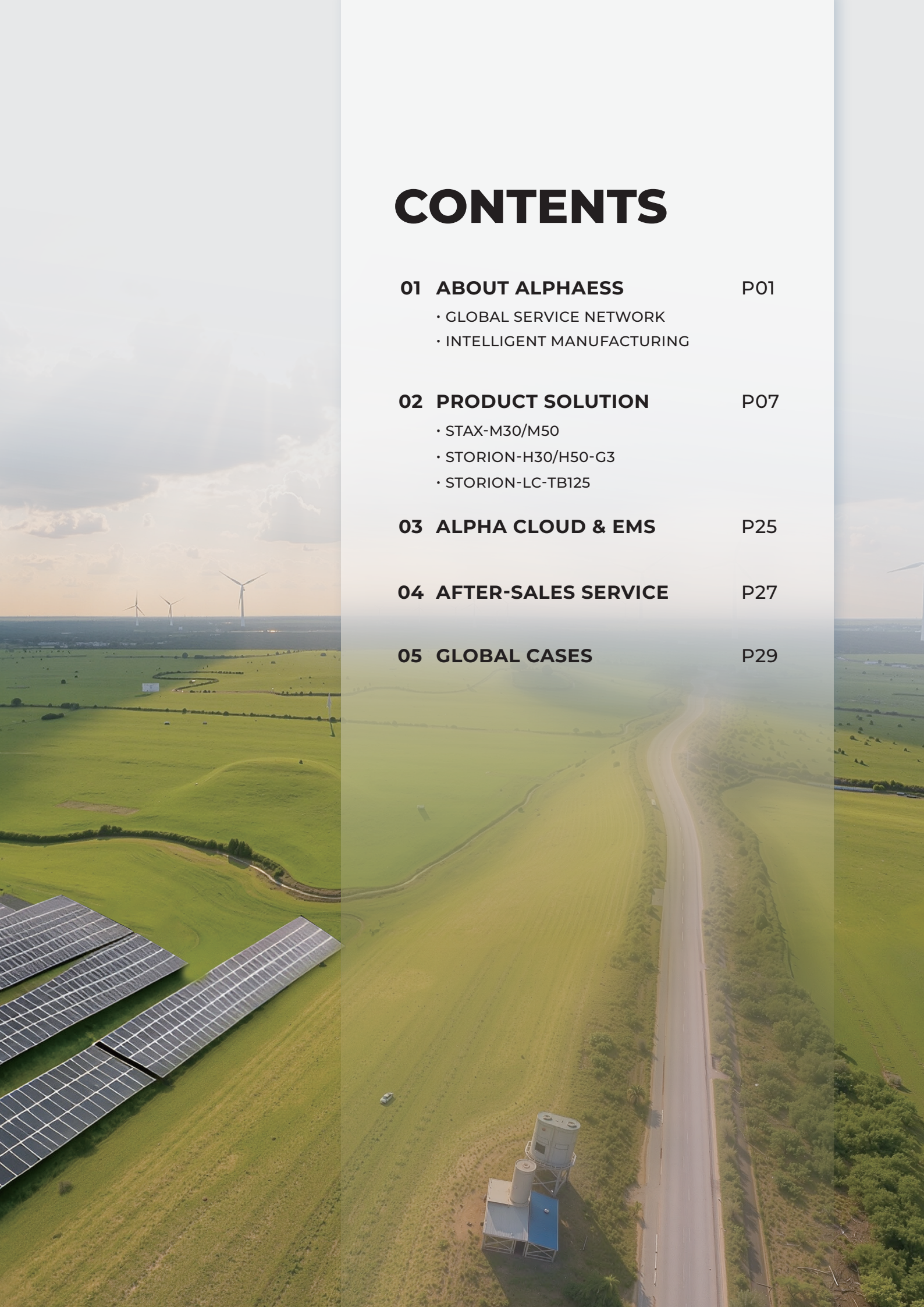
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ABOUT ALPHAESS

Founded in 2012, AlphaESS is now one of the world-leading energy storage solution and service providers. The company specializes in delivering pre-eminent fit-for-purpose product solutions covering the full power range from small portable power stations all the way up to large utility-scale solutions. With 40+ subsidiaries in the globe, AlphaESS provides local services and supports 200,000+ systems actively running in over 130+ countries.

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

 **13+**
Years since Establishment

 **250+**
Patents in the ESS Field

 **200,000+**
Systems Installed Globally

 **130+**
Countries & Regions



The Most Recommended Brand in Germany



ESG Transparency Award



iF & Reddot & G-mark Design Award



TOP BRAND PV (STORAGE & INVERTERS)

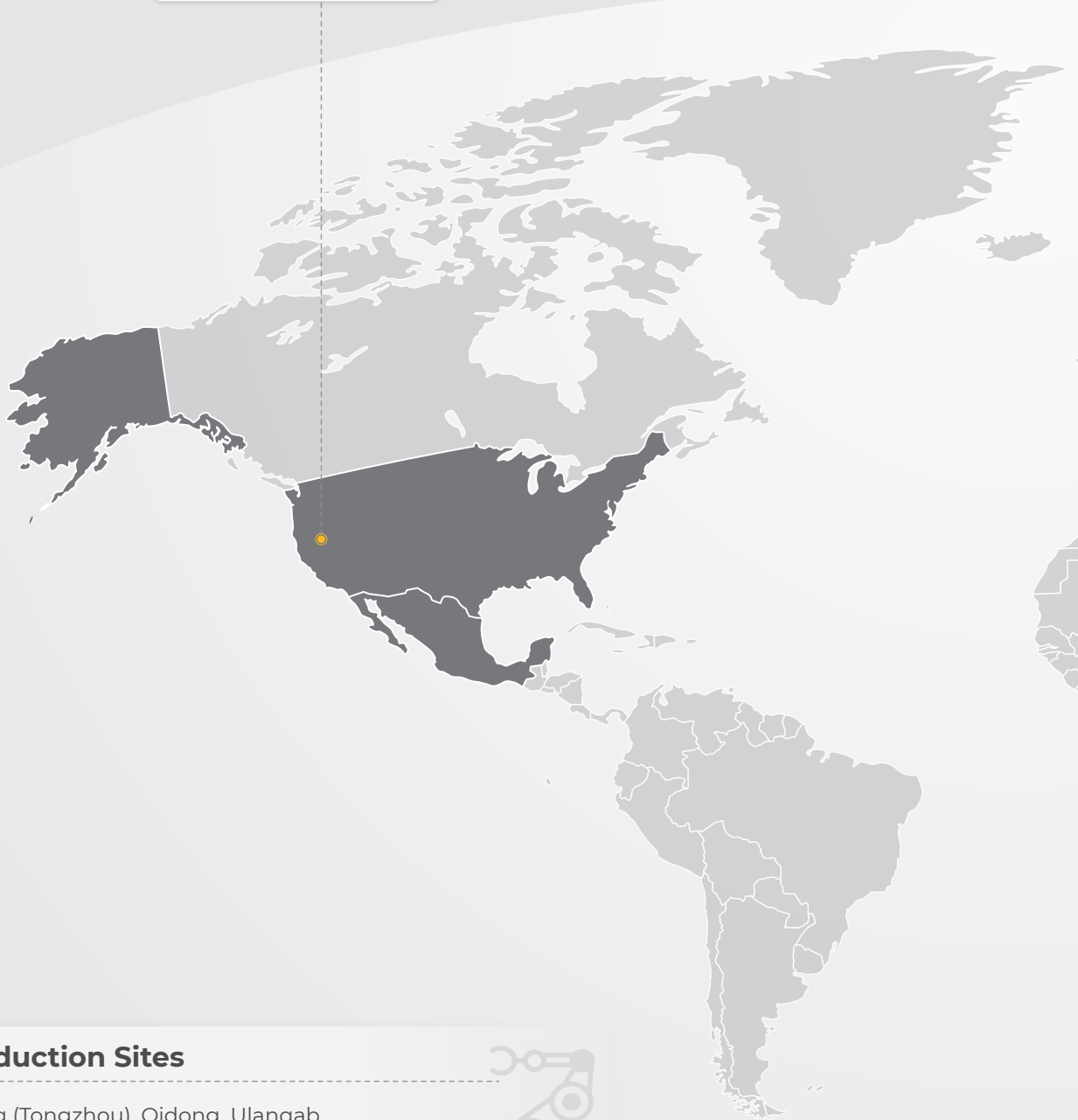


Energy Storage Manufacturer by BloombergNEF 2025



GLOBAL SERVICE NETWORK

 America (US)



4

Production Sites

China: Nantong (Tongzhou), Qidong, Ulanqab

Malaysia: Penang

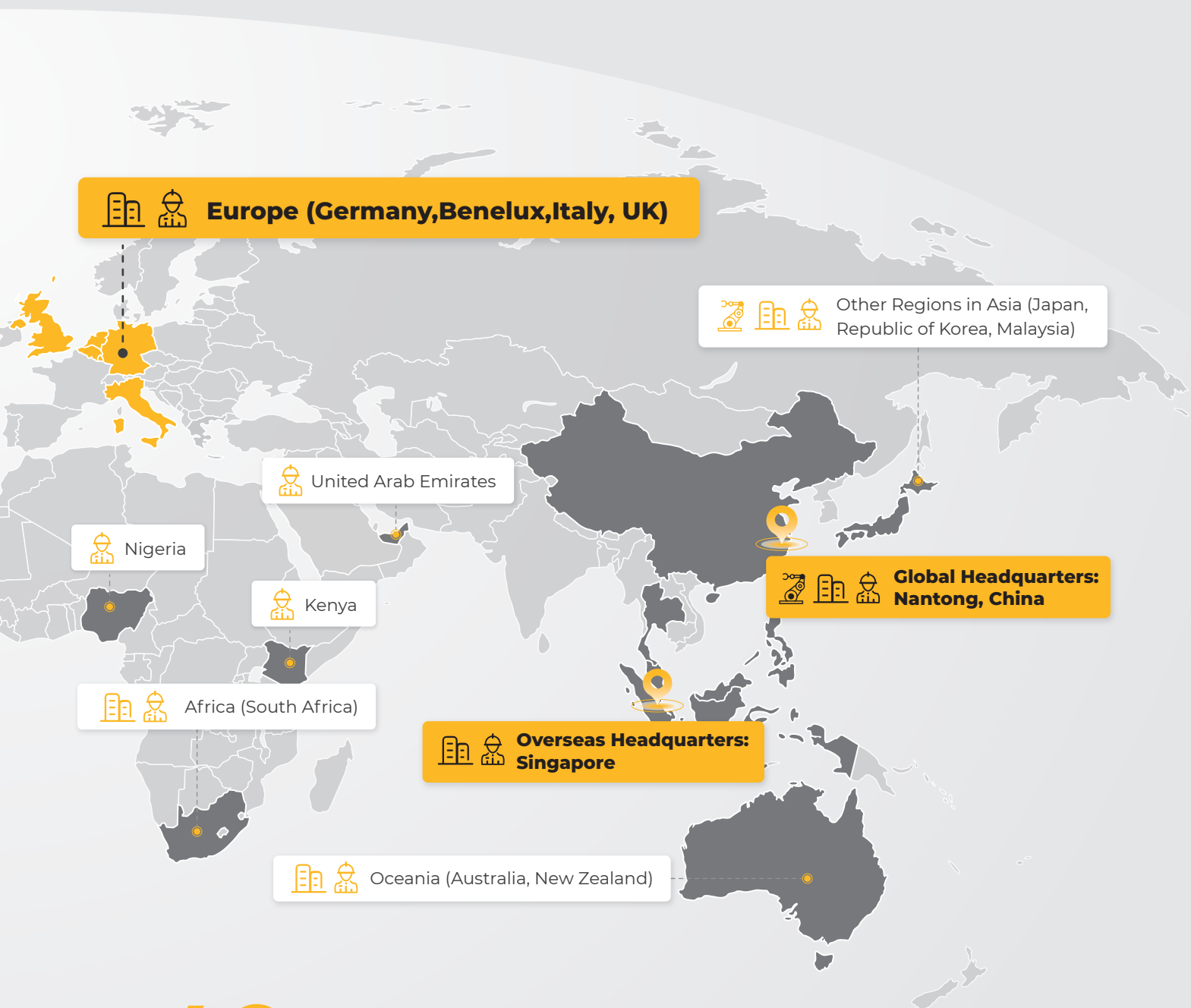


4

R&D Centers

Nantong (Tongzhou), Suzhou, Nanjing, Tianjin





40 Subsidiaries

China: Suzhou, Beijing, Tianjin, Shenzhen, Chengdu, and Nanjing.

Global: European countries, including Germany, Benelux, Italy, and the UK; Oceanian countries like Australia and New Zealand; the United States; Asian countries like Japan, Republic of Korea and Malaysia.

Note: The data shows the company's global presence as of the end of 2024.

OUR HISTORY

2012

Established in Nantong, China

2013

1st Generation BMS, EMS, and AlphaCloud Platform

2014

1st All-in-One Residential ESS



2015

European & Australian Subsidiaries Established

2016

Commercial Energy Storage Project Launched

2017

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



2018

Myanmar Rural Electrification Project *

* Named as a Finalist for the SmarterE Award in 2020

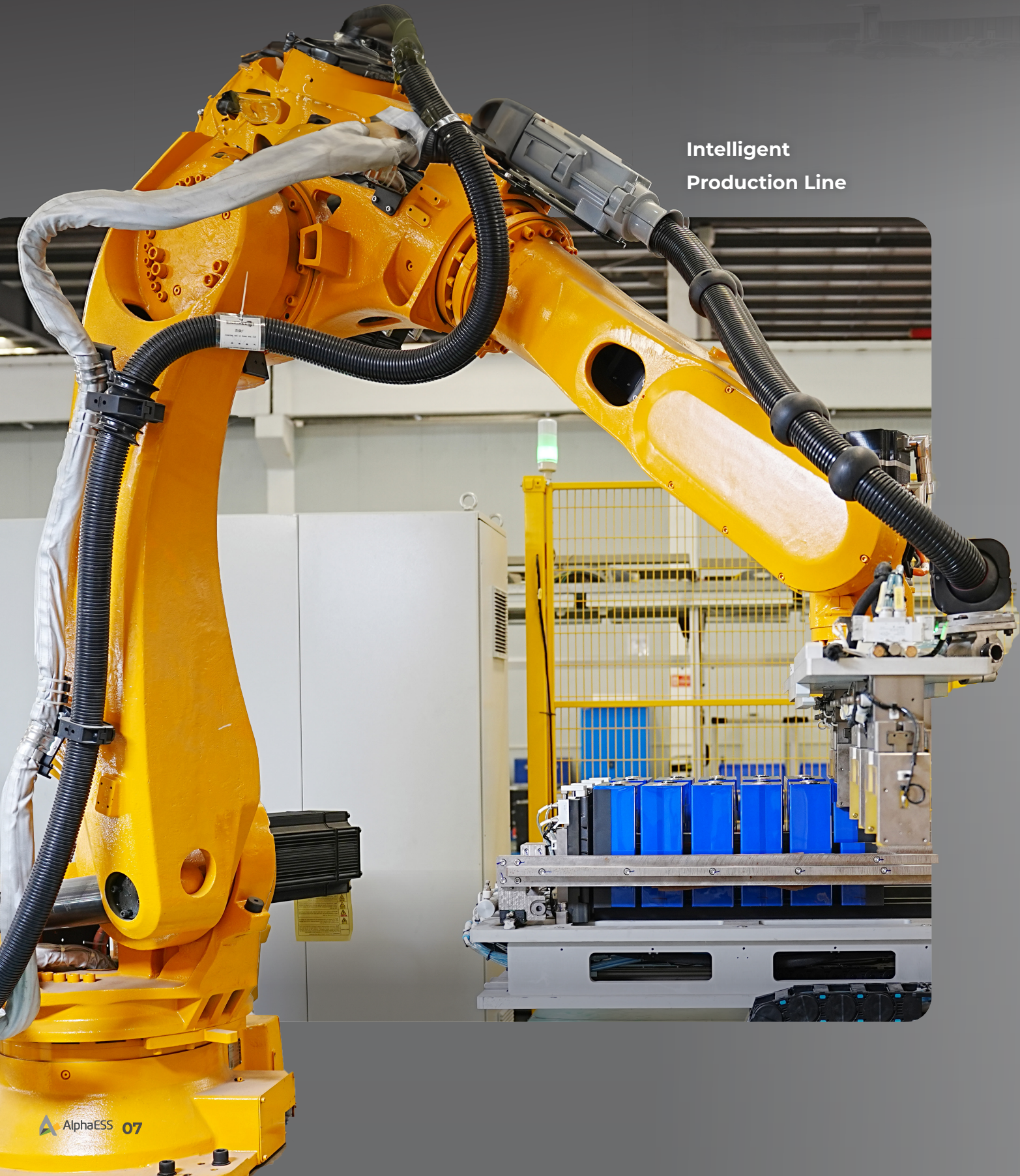




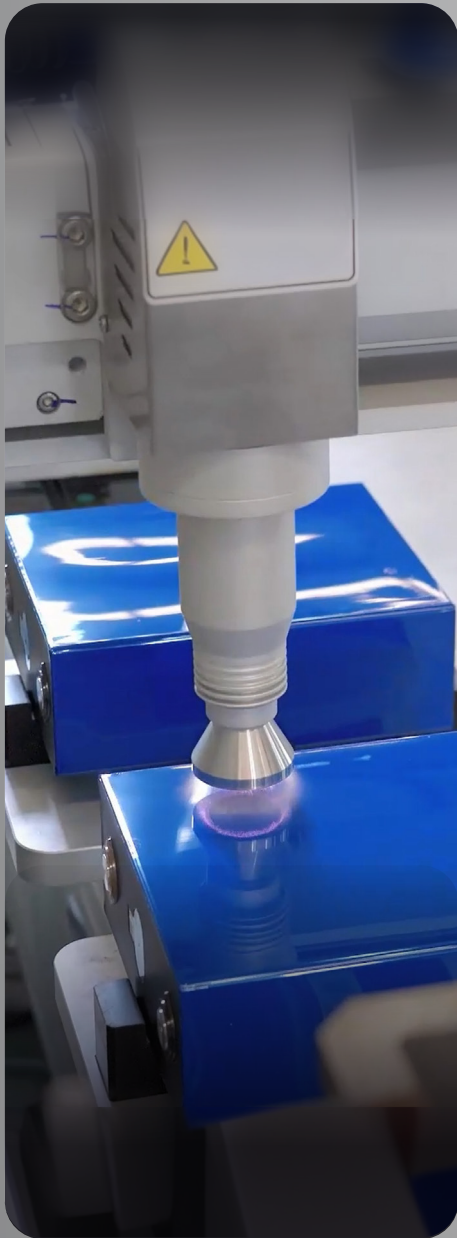
INTELLIGENT MANUFACTURING

With technological innovation as the engine, we provide efficient, precise and reliable products and services.

Intelligent
Production Line



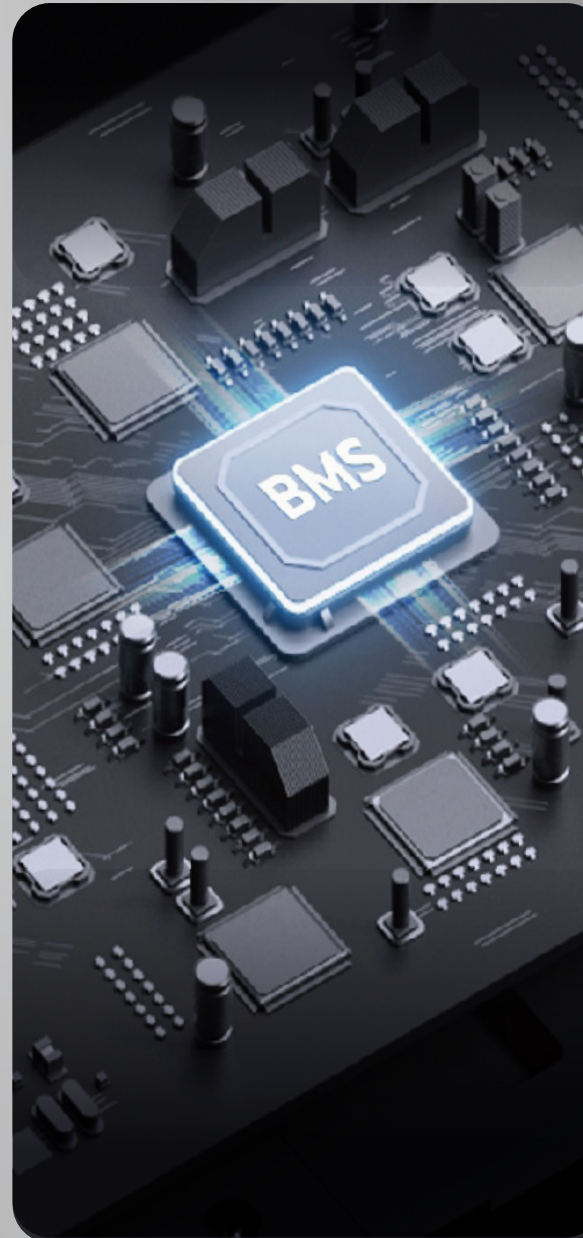
**Lean
Production**



**Intelligent
Warehousing**



**Digital
Integration**



2

PRODUCT SOLUTION

Maximize ROI – Payback in as Fast as 3 Years

Optimize Investment

- All-in-One design: smaller footprint, higher capacity
- Hybrid coupling for optimal solar integration
- Simplified installation: pre-installed, energized transport or stackable deployment

Reduce O&M Costs

- Cell-level active balancing: increase available capacity
- Smart thermal management: improve stability and lifespan
- Intelligent EMS: reliable system reduces labor cost

Boost Energy Profits

- High system efficiency for maximum energy utilisation
- Multiple revenue streams: dynamic tariffs, energy trading, VPP-ready

FLEXIBLE EXPANSION

Indoor & Outdoor

Cell:

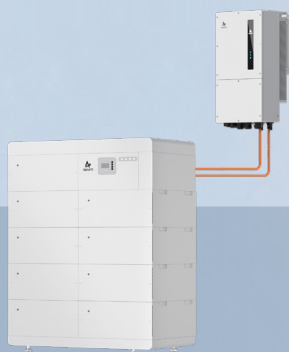
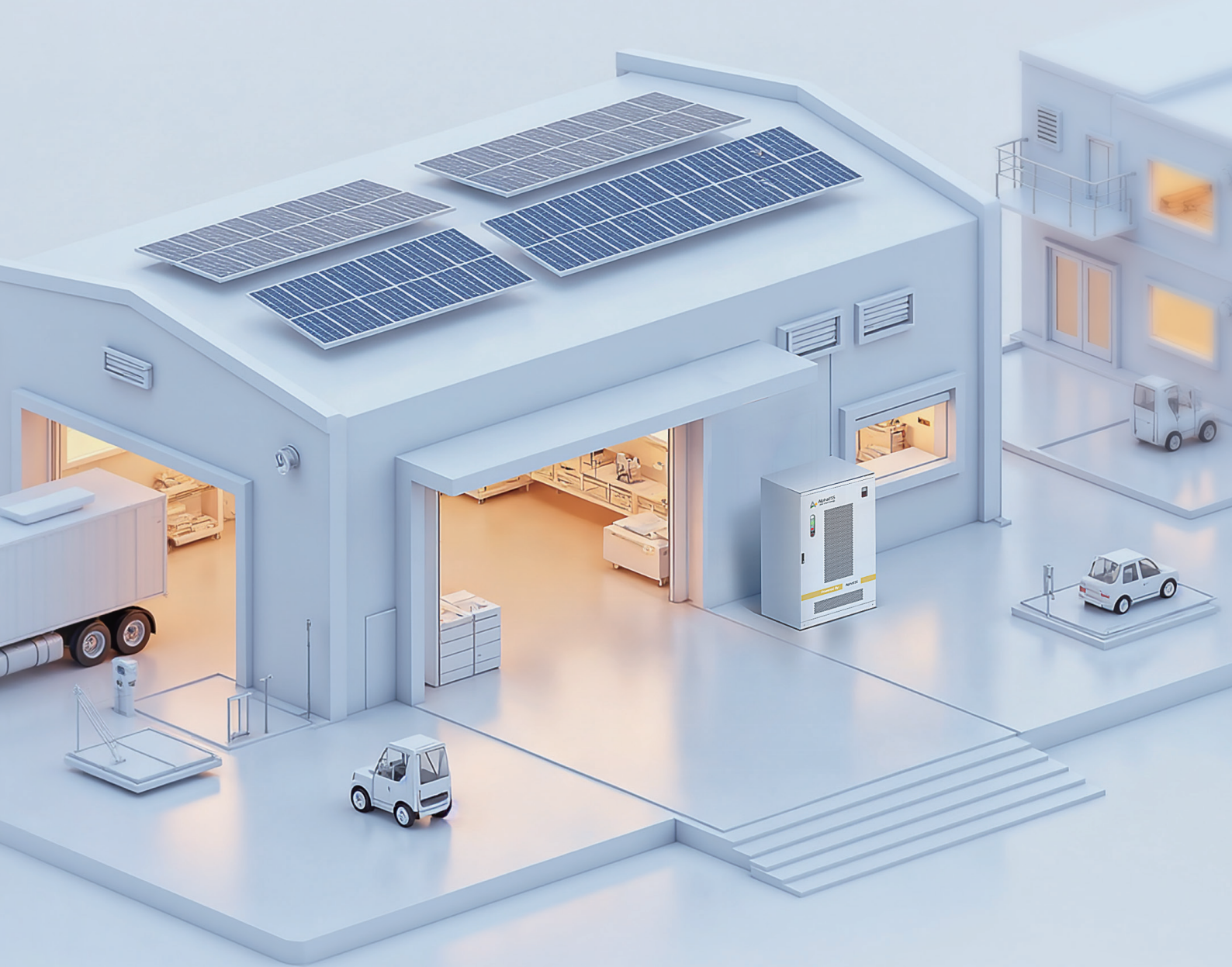
314 Ah

Power:

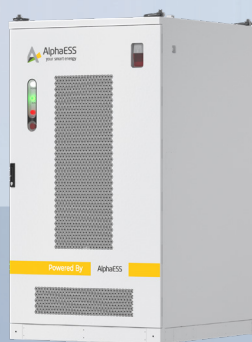
30 kW ~ 6.25 MW

Capacity:

60 kWh ~ 6.12 MWh



StaX-M30/M50



STORION-H30/H50-G3



STORION-LC-TB125

MULTI-LEVEL SAFETY

Protection from Cell to System



UL 9540A

*UL9540A certified to meet global leading safety standards

*No spreading and deformation at over 800°C

Prüfbericht - Produkte Test Report - Products		TÜVRheinland®	
Prüfbericht-Nr.: Test report no.:	CN26ULV6 001	Auftrags-Nr.: Order no.:	326099030
Kunden-Referenz-Nr.: Client reference no.:	Z195086	Auftragsdatum: Order date:	2025-03-03
Auftraggeber: Client:	Alpha ESS Co., Ltd. No. 1006 Shixue Road, Tongzhou District, Nantong City, Jiangsu Province, 226300, P.R. China		Seite 1 von 32 Page 1 of 32
Prüfgegenstand: Test item:	Rechargeable Li-Ion Battery		
Bezeichnung / Typ-Nr.: Identification / Type no.:	M160314-625-EX		
Auftragsinhalt: Order content:	Test report		
Prüfungsbasis: Test specification:	UL 9540A, 2025 (5th Edition) Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems		
Warenempfangdatum: Date of sample receipt:	2025-07-10		
Prüfmuster-Nr.: Test sample no.:	#2025071001		
Prüfzeitraum: Testing period:	2025-07-11 - 2025-07-15		
Ort der Prüfung: Place of testing:	See page 5 Testing location		
Prüflaboratorium: Testing laboratory:	TÜV Rheinland (Shanghai) Co., Ltd.		
Prüfresultat: Test result:	See main report		
geprüft von: checked by:	Dandan Shen	genehmigt von: authorized by:	Simon Wang
Datum: Date:	2025-07-24	Ausstellungsdatum: Issue date:	2025-07-24
Stellung / Position:	Project Engineer	Stellung / Position:	Authorizer
Sonstiges: Other:			
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:	Prüfmuster vollständig und unbeschädigt Test item complete and undamaged		
<p><small>Legend: Passed + approved by Prüfingenieur / Item + approved by Prüfingenieur / Not + not passed / Not + not passed / Passed + approved by Prüfingenieur / Item + approved by Prüfingenieur / Not + not passed / Not + not passed</small></p> <p><small>Dieser Prüfbericht bezieht sich nur auf das in der Prüfnummer und der Fehlnummer angegebene Prüfobjekt. This test report only relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated or extracted. This test report does not entitle to carry any test mark.</small></p>			
<p><small>TÜV Rheinland (Shanghai) Co., Ltd. No. 177, 178, Lane 777 West Guoding Road, Jing'an District, Shanghai, China Mail: service-gd@tuv.com Web: www.tuv.com</small></p>			



Three-Level Fire Protection Design



Cell Level

Real-time cell temperature monitoring via BMS, automatic power cutoff in case of short circuits, and aerogel insulation for thermal protection



Module Level

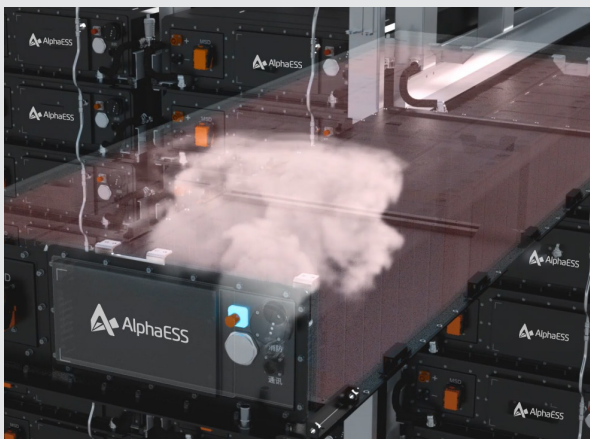
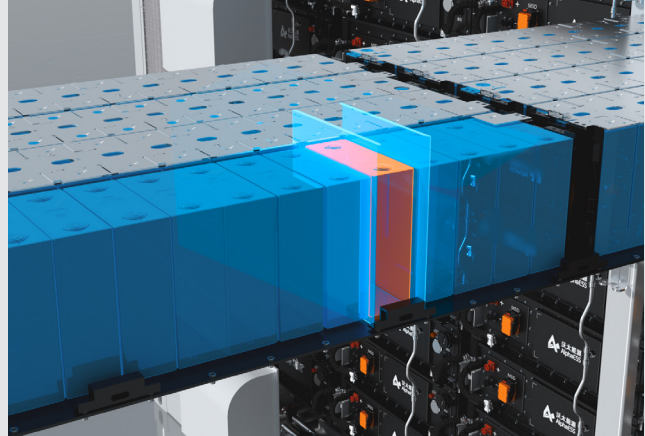
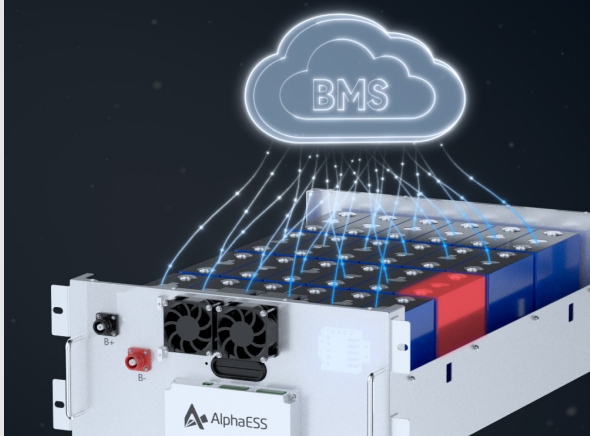
Integrated aerosol fire suppression system

MSD: Emergency physical isolation to provide maintenance security



System Level

Temperature and smoke detectors, coordinated water/aerosol suppression, and explosion relief vents compliant with NFPA 68



ON-GRID SCENARIO

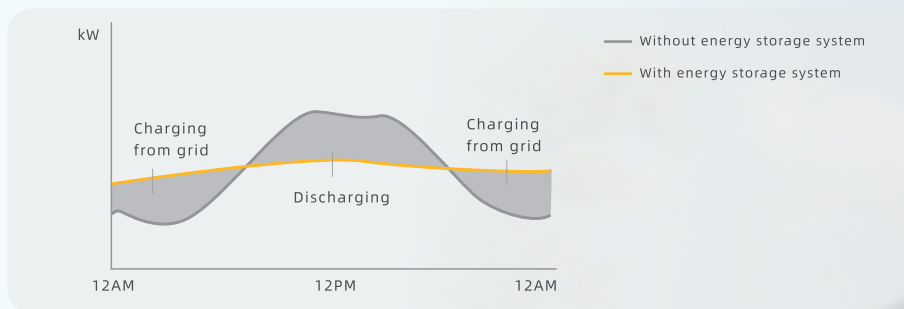
In the scenario of stable grid, AlphaESS Storion system maximises the self-consumption of solar energy and the user's revenue.

► Self-Consumption

Maximise the use of solar energy to meet load demands, with the surplus stored in batteries.

► Peak Shaving

The system provides supplementary power when the load exceeds the grid planning limits or its peak, and the power gap is addressed through the Storion System.



► Dynamic Tariff

Based on EPEX dynamic electricity prices, it provides an intelligent scheduling strategy: charging when prices are low and discharging when prices are high, ensuring you always have access to low-cost electricity.

► Imbalance Trading

The Storion System supports participation in Imbalance Trading via Eniris (Modbus TCP) and the API platform, making full use of battery capacity to generate revenue, which will further optimise the system's ROI.



OFF-GRID SCENARIO

In micro grid or off-grid scenarios, the Storion system delivers continuous, reliable power —enabling straightforward energy independence.

► **Reliable Backup**

guaranteeing uninterrupted backup power for Essential Loads:



20ms Switching



High Compatibility

400V (±20%) 50/60Hz(±5Hz)

► **Dual Power**

Both the diesel generator and the STORION system work together, The EMS controls the generator's operation, ensuring continuous power supply, guaranteeing a reliable power supply for customers residing in off-grid areas.



STAX- M30/M50

The M30/M50 is AlphaESS's first stackable C&I energy storage system.

With modular design, plug-and-play setup, and robust outdoor protection, it ensures fast deployment, reliable backup, and scalable performance — up to 216.9 kWh.

► **Fast Installation · Modular Design**

- 30-minute plug & play setup — no battery rack or complex wiring needed
- Modular stackable design for flexible deployment
- Supports transportation by truck, train, ship, or even helicopter — ideal for rapid site deployment

► **Reliable Operation · 24/7 Energy Security**

- Built-in AlphaESS BypassTech: automatically isolates faulty modules without system shutdown
- Supports off-grid functionality for critical load continuity
- Low-noise performance suitable for nighttime or noise-sensitive environment

► **Scalable & Profitable Flexible Configuration**

- Effortless plug-and-play expansion up to 216.9 kWh
- 200% PV input design boosts green energy utilisation and ROI
- IP66 protection rating for harsh outdoor conditions
- Integrated diesel generator port for backup resilience

► **AI-Driven Battery Life Optimization**

- Equipped with AI-powered SOC calibration
- Maintains cell consistency, prolongs battery life, and reduces maintenance costs



STAX-M30/M50

Model	StaX-M30	StaX-M50
System Specifications		
Nominal Output Power	30 kW	50 kW
System Capacity	60.25 ~ 216.9 kWh	
Ingress Protection	IP66	
Battery Chemistry	LFP (LiFePO4)	
Warranty	5 Years Product Warranty (10 years warranty optional), 10 Years Battery Warranty	
PV Side		
Max. Input Power	60 kW	100 kW
Start-up Voltage	180 V	
MPPT Voltage Range	150 ~ 850 V	
Number of MPPTs	3	4
Number of Strings per MPPT	6	8
Max. Input Current	40 A * 3	40 A * 4
Max. Short-circuit Current	60 A * 3	60 A * 4
AC Data (Grid)		
Nominal Output Power	30 kW	50 kW
Max. Output Apparent Power	30 kVA	50 kVA
Nominal Grid Voltage	3/N/PE, 220 V / 380 V; 3/N/PE, 230 V / 400 V	
Nominal Grid Frequency	50 Hz / 60 Hz	
Max. Output Current	45.6 A	76 A
Power Factor	< 0.99 (0.8 leading - 0.8 lagging)	
Max. THD of Current	< 3%	
AC Data (Backup)		
Nominal Output Power	30 kW	50 kW
Max. Output Power	105% continuously ; 160% for 2s	
Back-up Switch Time	< 10ms	
Nominal Output Frequency	3/N/PE, 220 V / 380 V; 3/N/PE, 230 V / 400 V	
Max. Output Current	45.6 A	76 A
Max. THD of Voltage	< 2%	
AC Data (Generator)		
Max. Input Power	30 kW	50 kW
Nominal Input Voltage	3/N/PE, 220 V / 380 V; 3/N/PE, 230 V / 400 V	
Nominal Input Frequency	50 Hz / 60 Hz	
Nominal Input Current	45.6 A	76 A
Efficiency		
Max. Efficiency	97.8%	
European Efficiency	97.4%	
Charging/Discharging Max. Efficiency	98.5%	
General Parameters		
Dimensions (W x D x H)	530 x 880 x 290 mm	
Weight	73 kg	
Operating Temperature Range	-25 ~ 60 C	
Operating Humidity Range	0 ~ 95%	
Noise Emission	62 dB	
Corrosion Protection Class	C5	
Compliance	IEC 62109, IEC61000, VDE 4105, VDE 4110, TOR-R25, G99 G100, EN50549-1&-10, C10/I1, NC RFG	
Battery Technical Specifications		
Module Model	M38314-S	
Module Capacity	12.05 kWh	
Depth of Discharge (DoD)	95% on grid ; 90% off grid	
Nominal Voltage	38.4 V	
Max. Charging/Discharging Current	157A*	
Operating Temperature Range	0 ~ 50 C (Charging) ; -20 C ~ 50 C (Discharging)	
Cycle Life	8000 @ EOL 70% **	
Number of Battery Module	5 ~ 18***	
Dimensions (W x D x H)	550 x 615 x 250 mm	
Weight	90 kg	
Compliance	IEC 62619, IEC 62040, IEC 61000-6-1/-2/-3/-4, UL9540A	

* Max. charge/discharge current derating may occur with changes in temperature and SoC.

** Under specific test conditions.

*** Max. 12 battery modules per column, up to 2 columns.

STORION-H30/H50-G3

Exclusive For Small Business All-in-One Solution

▶ All-In-One Design

The Cabinet contains PCS, batteries, DC/DC, STS and EMS, but only occupies a small area
Lower installation cost: Factory pre-installed ; energized transport with no on-site battery installation required.

▶ Small Footprint, Great Energy

Single cabinet: 120.5 kWh in 1.5m²
With an expansion cabinet: up to 241 kWh
2-hour/4-hour applications

▶ Flexible Configuration

Support DC Couple, AC Couple, Hybrid Couple
PV input: 4*MPPT with 8 inputs
150% PV power overcapacity

▶ **On-Grid Application**

Max 10 systems in on-grid parallel: up to 500kW,2.41MWh

Supports Modbus TCP,Cloud API, for flexible third-party EMS.

Various Modes: Self-consumption, Peak shaving, Power Rationing Support,Dynamic Tarrif

Scheduling,Imbalance Trading (Vpp Ready)

▶ **Off-Grid Application**

Max 4 systems in off-grid parallel: up to 200kW,964kWh

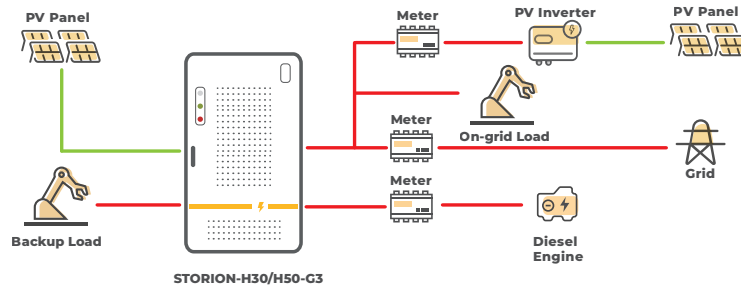
On-/Off-grid switching times \leq 20ms

High compatibility: 400V \pm 20% 50/60Hz(\pm 5Hz)



STORION-H30/H50-G3


System Diagram





Model	STORION-H30-G3	STORION-H50-G3
System Technical Specification		
System Capacity	72.3 kWh	120.5 kWh
Standard Battery Rack	1*	
Warranty	5 Years Product Warranty (10 years warranty optional), 10 Years Battery Warranty	
PV Side (DC)		
Max. input power	60 kW	75 kW
Start-up voltage	210 V	
MPPT Voltage Range	200 ~ 850 V	330 ~ 850 V
Number of MPPT	4	
Number of Strings per MPPT	2	
Max. Input Current	40 A / 40 A / 40 A / 40 A	
Max. Short-circuit Current	50 A / 50 A / 50 A / 50 A	
AC side (on-grid)		
Nominal Output Power	30 kW	50 kW
Max. Input Apparent Power	60 kVA	80 kVA
Nominal Grid Voltage	3L / N / PE , 220 V / 380 V; 230 V / 400 V; 240 V / 415 V	
Nominal Grid Frequency	50 / 60 Hz (± 5 HZ)	
Max. Output Current	45.5 A	75.8 A
Max.THD of current	< 3%	
AC Power Factor	0.8 leading ... 0.8 lagging	
AC side (off-grid)		
Nominal Output Power	30 kW	50 kW
Max. Output Apparent Power	30 kVA	50 kVA
Nominal Output Voltage	3L / N / PE , 220 V / 380 V; 230 V / 400 V; 240 V / 415 V	
Nominal Grid Frequency	50 / 60 Hz (± 5 HZ)	
Max. Output Current	45.5 A	75.8 A
Max.THD of voltage	< 3%	
Overload	150%, 10 s	
Efficiency		
Max. Efficiency & European Efficiency	97.8% & 97.2%	
Round-Trip Efficiency (RTE) DC→AC	92%	
General Parameter		
Dimensions (W x D x H)	1,120 x 1,300 x 2,050 mm	
Battery Module Connection	3 in series	5 in series
Weight	1,700 kg (with 5*M77314-S)	
Corrosion Protection Class	C4	
Ingress Protection	IP55	
Noise Emission	≤ 65 dB @ 1m	
Operating Temperature Range	-30 °C ~ 50 °C(PCS > 45°C derating)	
Operating Humidity Range	0% ~ 90% (No Condensation)	
Max. operating Altitude	3,000 m / 9,842 ft (> 3,000 m derating)	
Fire-fighting System	Aerosol + Smoke / Temperature Detection	
Cooling Method	HVAC	
Communication	RS485, CAN, Ethernet, Modbus TCP	
Dispatching Protocol	Modbus TCP, API	
Compliance	IEC 61000-1/-2/-3/-4, IEC 62109, IEC 62477, EN 50549, VDE 4105, VDE 4110, AS4777, NRS 097, NC RFG, G99/G100	


* Max support 2 battery racks, extra battery cabinet is needed.

COMPONENTS

Model	
Battery Module	
Parameter	
Model	M77314-S 0.5C
Battery Chemistry	LiFePO4
Pack Configuration	3.2 V / 314 Ah @ 1P24S
Internal Resistance	≤ 10 mΩ
Nominal Capacity	24.1 kWh
Nominal Voltage	76.8 V
Operating Voltage Range	69.6 V ~ 84 V
Max. Charging/Discharging Current	157 A
Cycle Life	8,000@EOL 70% **
Operating Ambient Temperature Range	-20 °C ~ 50 °C***
Ingress Protection	IP 20
Communication	CAN
Dimensions (W x D x H)	526 x 814 x 250 mm
Weight	168 kg
Compliance	IEC 61000-1/-2/-3/-4, IEC 62619, IEC 62109, IEC 61000, UL9540A

Meter (optional)																	
	<table border="1"> <thead> <tr> <th>Model</th> <td>DTSU666</td> </tr> </thead> <tbody> <tr> <td>Rated Voltage</td> <td>230 V AC / 400 V AC</td> </tr> <tr> <td>Accuracy Class</td> <td>± 1%</td> </tr> <tr> <td>Communication</td> <td>RS485, Modbus RTU</td> </tr> <tr> <td>Dimensions (W x D x H)</td> <td>72 x 80 x 101 mm</td> </tr> <tr> <td>CT Model</td> <td>AKH-0.66</td> </tr> <tr> <td>CT Current Ratio</td> <td>400 / 5 A</td> </tr> <tr> <td>CT Perforation Size</td> <td>∅ 36 mm</td> </tr> </tbody> </table>	Model	DTSU666	Rated Voltage	230 V AC / 400 V AC	Accuracy Class	± 1%	Communication	RS485, Modbus RTU	Dimensions (W x D x H)	72 x 80 x 101 mm	CT Model	AKH-0.66	CT Current Ratio	400 / 5 A	CT Perforation Size	∅ 36 mm
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Extension Battery Cabinet (optional)																			
	<table border="1"> <thead> <tr> <th>Model</th> <td>Extension Battery Cabinet</td> </tr> </thead> <tbody> <tr> <td>Battery</td> <td>M77314 - S</td> </tr> <tr> <td>Rack Capacity</td> <td>72.3 kWh / 120.5 kWh</td> </tr> <tr> <td>Max. Charging / Discharging Current</td> <td>157 A</td> </tr> <tr> <td>Battery Rack Voltage Range</td> <td>208.8 ~ 252 V / 348 ~ 420 V</td> </tr> <tr> <td>Number of Battery Module</td> <td>3 / 5 in series</td> </tr> <tr> <td>Fire-fighting System</td> <td>Aerosol + Smoke / Temperature Detection</td> </tr> <tr> <td>Dimensions (W x D x H)</td> <td>1,120 x 1,300 x 2,050 mm</td> </tr> <tr> <td>Weight</td> <td>1,600 kg (with 5 * M77314 - S)</td> </tr> </tbody> </table>	Model	Extension Battery Cabinet	Battery	M77314 - S	Rack Capacity	72.3 kWh / 120.5 kWh	Max. Charging / Discharging Current	157 A	Battery Rack Voltage Range	208.8 ~ 252 V / 348 ~ 420 V	Number of Battery Module	3 / 5 in series	Fire-fighting System	Aerosol + Smoke / Temperature Detection	Dimensions (W x D x H)	1,120 x 1,300 x 2,050 mm	Weight	1,600 kg (with 5 * M77314 - S)
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Parallel Backup Box(Optional)																					
	<table border="1"> <thead> <tr> <th>Model</th> <td>Parallel Backup Box</td> </tr> </thead> <tbody> <tr> <td>Max. Connection systems</td> <td>4</td> </tr> <tr> <td>Nominal Power</td> <td>200 kW</td> </tr> <tr> <td>Nominal Current</td> <td>400 A</td> </tr> <tr> <td>Nominal Frequency</td> <td>50/60 Hz</td> </tr> <tr> <td>Switching Time</td> <td>≤ 20 ms</td> </tr> <tr> <td>Ingress Protection</td> <td>IP54</td> </tr> <tr> <td>Operating Ambient Temperature Range</td> <td>-25 °C ~ 50 °C</td> </tr> <tr> <td>Dimensions (W x D x H)</td> <td>600 x 255 x 800 mm</td> </tr> <tr> <td>Weight</td> <td>40 kg</td> </tr> </tbody> </table>	Model	Parallel Backup Box	Max. Connection systems	4	Nominal Power	200 kW	Nominal Current	400 A	Nominal Frequency	50/60 Hz	Switching Time	≤ 20 ms	Ingress Protection	IP54	Operating Ambient Temperature Range	-25 °C ~ 50 °C	Dimensions (W x D x H)	600 x 255 x 800 mm	Weight	40 kg
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Ingress Protection	IP54																				
Operating Ambient Temperature Range	-25 °C ~ 50 °C																				
Dimensions (W x D x H)	600 x 255 x 800 mm																				
Weight	40 kg																				

** Under specific test conditions.

*** Max. charge / discharge current derating may occur with changes in temperature and SoC.



STORION-LC-TB125

Pre-assembled Liquid-Cooling BESS

The STORION-LC-TB125 is AlphaESS's first liquid-cooling All-in-One storage cabinet for commercial and industrial use. It combines battery modules, PCS, BMS, EMS, and more into a compact 1.5 m² footprint.

Each unit delivers 125 kW power and 261 kWh capacity, scalable up to 50 units. Featuring Active Balance and powered by the EMS 5.0 platform, the system supports API and MODBUS TCP for smart, flexible control across diverse applications like peak shaving, microgrids, and self-consumption.

► **Plug & Play, Quick Deployment**

- Factory-assembled with PCS, EMS, BMS, battery modules, liquid cooling, and fire suppression
- 125 kW inverter, 261.2 kWh per cabinet, up to 522.4 kWh per system. Supports up to 50 units in parallel

► **High Efficiency, Smarter Returns**

- Liquid-Cooling System and precision thermal control - powering stability, safety, and efficiency
- 290% System Efficiency maximises energy utilisation and conversion
- BMS: Active balance technology improves cell consistency, extends battery life by 10%+, and delivers 23x efficiency than passive balancing
- Accelerated ROI: High performance meets smart economics-achieves ROI in as fast as 3 years with multiple revenue streams

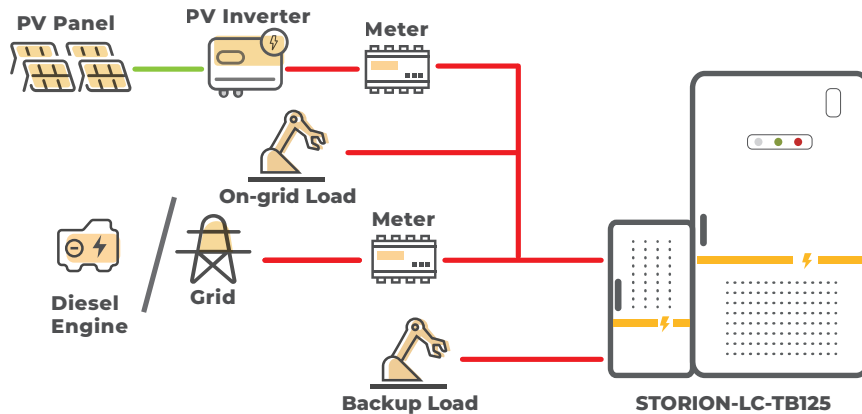
► **Thermal Management, Intelligent O&M & Business Continuity**

- Smart Thermal Control System: Monitors cell temperature and adjusts cooling dynamically
- Latest EMS 5.0 Platform: Compact with API and MODBUS TCFP for smart and flexible control
- Integrated Fault Diagnosis: Accurate issue detection via built-in EMS tools
- Multi-platform O&M: Support intelligent customer management and improve efficiency
- Seamless Backup (<20ms): STS enables instant grid/off-grid switching, ensuring uninterrupted power for critical loads.(optional)



STORION-LC-TB125

System Diagram



STORION-LC-TB125	
System Parameter	
Battery Chemistry	LiFePO4
Energy Capacity	261.2 kWh per Cabinet
Warranty	5 Years Product Warranty (10 years warranty optional), 10 Years Battery Warranty
AC side (on-grid)	
Nominal Output Power	125 kW
Max. Output Apparent Power	137.5 kVA
Nominal Grid Voltage	400 V(±15%), 3L/N/PE
Nominal Grid Frequency	50 / 60 Hz (± 5 Hz)
Max.THDr of current	< 3 % (Nominal Power)
AC Power Factor	1.0 leading ~ -1.0 lagging
AC side (off-grid)	
Nominal Output Power	125 kW
Nominal Voltage	400 V 3L / N / PE
Frequency	50 / 60 Hz
Overload	110% Continuous; 120% 1 min
Backup Switch Time (with extra STS)	≤ 20ms
Max.THDr of voltage	< 3 % (Linear Power)
Efficiency	
Max. Efficiency	97%
System Efficiency (RTE)	90.6%
General Parameter	
Dimension(W x D x H)	1003 x 1500 x 2482 mm *
Battery Modules Connection	5 Modules in Series
Weight	2.9 t *
Corrosion Protection Class	C4
Ingress Protection	IP 55
Noise Emission	< 70 dB@1m **
Operating Ambient Temperature Range	-20 °C ~ 50 °C (> 45 °C Derating)
Operating Humidity Range	0 ~ 95 % RH
Max Operating Altitude	3000 m(> 2000 m Derating)
Fire-fighting System	Aerosol (Pack & Rack)+ Sprinkler + Smoke / Temperature Detection
Communication	CAN, RS485, USB, LAN, WIFI
Dispatching Protocol	Modbus TCP, API
Compliance	IEC 62477, IEC 61000, IEC 62109, IEC 61727, IEC 62116, EN 50549-1&2&10, VDE 4105/4110/4120, G99, TOR, C10/I1


* The dimension and weight do not include STS cabinet.



** < 75dB @ 1m when STS cabinet is installed.





COMPONENTS

Model	STORION-LC-TB125
Battery Cluster System	

Item	Data
	
Battery Module	M166314-S
Battery Chemistry	LiFePO4
Pack Configuration	3.2 V / 314 Ah @ 1P52S
Internal Resistance	≤ 10 mΩ
Nominal Capacity	52.124 kWh
Rated Voltage	166.4 V
Operating Voltage Range	140.4 ~ 187.2 V
Rated Charging/Discharging Power	26.062 kW (0.5 P)
Cycle Life	8000 @ EOL 70% *
Operating Ambient Temperature Range	-30 °C ~ 55 °C **
Ingress Protection	IP 67
Communication	CAN
Dimensions (W x D x H)	810 x 1125.5 x 237.5 mm
Weight	333 kg
Compliance	IEC 62619, IEC 62477, IEC 61000, UL9540A

Meter (Optional)	
	
Model	DTSU666
Rated Voltage	230 V AC / 400 V AC
Accuracy Class	±1%
Communication	RS485, Modbus RTU
Dimensions (W×D×H)	72 x 80 x 101 mm
CT Model	AKH-0.66, K-30×20
CT Current Ratio	400 / 5 A
CT Perforation Size	32 x 22 mm

Expansion Battery Cabinet (Optional)	
	
Model	STORION-LC261
Battery	M166314-S
Cluster Capacity	261.2 kWh per Cabinet
Rated Charging/Discharging Power	130.6 kW(0.5P)
Battery Cluster Voltage Range	702 ~ 936 V
Battery Rack	5 Modules in series
Fire-Fighting System	Aerosol (Pack & Rack)+ Sprinkler + Smoke / Temperature Detection
Dimensions (W×D×H)	1003 x 1500 x 2482 mm
Weight	2.7 t

STS (Optional)	
	
Model	ALPSTS-300-O
Nominal Power	300 kW
Nominal Frequency	50 / 60 Hz
On- / Off- grid switching time	≤ 20 ms
Weight	~ 120 kg
Dimension (W x D x H)	473 x 752 x 1080 mm
Max. Operating Altitude	3000 m (> 2000 m derating)
Ingress Protection	IP 55
Corrosion Protection Class	C4

*Under specific test conditions.

**Max. charge/discharge current derating may occur with changes in temperature and SoC.



3

ALPHA CLOUD & EMS



► Monitoring

- 10-second real-time system data updates, real-time selfcheck & fault warning system, predict anomalies in advance, reduce labor costs
- Enhanced monitoring of multi-level real-time core-level information
- Grouping management system, batch setup system, improve the efficiency of operation and maintenance

► Security

- Built-in communication encryption localized European data center for cybersecurity
- End-to-end data security for peace of mind.

► Visualisation

- Provide BI dashboard and rich statistical charts for business insights

► Adaptiveness

- Customized strategies to support Self-Consumption, Time-Sharing Control, Peak Shaving, Power Rationing Support, SOC Balancing, Power backup, and Dual Power
- Support Modbus TCP and API connection

► Intelligence

- Cloud platform with remote diagnostics, EMS upgrades, and multi-platform integration
- AI dynamic tariff scheduling strategy with PV forecasting
- VPP Ready



4 AFTER-SALES SERVICE



Reliable Local Support

- Local engineer teams across Europe
- Quick on-site response through regional dispatch
- Local spare parts warehousing ensures faster repairs



24/7 Protection & Professional Support

- Prevents issues and ensures uptime
- Emergency support available in English, German, Dutch, Italian, etc.
- Regular system check-ups and performance evaluations



Easy & Transparent Service Process

- Intelligent dispatch platform with automatic job assignment
- Real-time tracking of service progress
- Clear procedures from start to finish, with archived service records and customer feedback tracking



Training & Empowerment for Installers

- Local training centers + online training support
- Complete installer toolkits: manuals, commissioning guides, FAQs
- Project initiation support and on-site installation assistance



Standardised Service for Consistent Experience

- Fully standardised service protocols across regions
- Committed service response time guarantees
- Unified technical acceptance criteria for quality assurance

10th Sinds 2015

IN EUROPA

A DECADE OF LOCAL COMMITMENT

For over a decade, AlphaESS has built a reliable and responsive ecosystem across Europe — not just selling products, but delivering service with accountability and local insight.

- Established Technical Service Centers in Europe
- Local Engineering Teams familiar with regional regulations and customer expectations
- Continuous Optimisation of service models to align with European market feedback
- 10 Years of Proven Performance, empowering local partners and users with dependable solutions
- Long-Term Investments in local warehousing, training hubs, and tech support resources

10 YEARS IN EUROPE

Served over **90,000**
households and C&I users

Installed Power over
800 MW

Installed Capacity over
1.2 GWh



5

GLOBAL CASES

Unlocking the Potential of C&I Energy Systems



50kW / 136kWh

PV + STORAGE | SOMERSET, UNITED KINGDOM



50 kW / 51 kWh

PV + STORAGE | WOLFSBERG, AUSTRIA



50kW/100kW & 100kWh-300kWh

SOLAR-BATTERY-DIESEL MICROGRID SYSTEM | ASIA





2MW / 4MWh

PV + STORAGE | LITHUANIA



140MW / 280MWh + 80MW / 160MWh

PEAK SHAVING AND FREQUENCY REGULATION | CHINA



500 kW / 1 MWh

PV + STORAGE + GENSET | AFRICA





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