STRONG
ENERGY

WE MAKE GREEN ENERGY STRONG

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STRONG
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STRONG Energy

Commercial & Industrial Energy Storage Solutions

Product Brochure



BRANCHES

- FRANCE (OPERATIONAL HQ)
- GERMANY
- ROMANIA
- POLAND
- ITALY
- IBERIA (Spain + Portugal)
- AUSTRIA
- UNITED KINGDOM
- TURKEY
- UKRAINE
- SCANDINAVIA (Denmark + Norway + Sweden + Finland + Baltics)
- CEE (Czech + Slovakia)



About STRONG Energy

Strong Energy, as part of the **Strong Group**, has been deeply rooted in the European market **since 1986**, serving more than **20 million European families**. Building on the advantages and experience of its parent company Skyworth in the field of new energies and its locally based European service team, Strong Energy began introducing inverters, energy storage batteries and system solutions in Europe from mid-2023, following the trend of clean energy development to make a positive contribution to global environmental protection.

Strong Energy's parent company **Skyworth** is already world-renowned as a consumer electronics company for its smart TVs, digital set-top boxes and other products. The company employs more than **40,000 people** worldwide, encompasses **20 national high-tech companies** and two publicly listed companies. With its powerful intelligent manufacturing, system integration and supply chain management capabilities, the company entered the household photovoltaic market in 2020, has accumulated more than 5 GW of power plant construction experience and is recording rapid market growth. More than 200,000 household photovoltaic power plants have already been built and connected to the grid in China.

Our Mission

Strong Energy started in mid-2023 with the introduction of inverters, energy storage batteries and system solutions in Europe. We follow the trend of clean energy development and make a positive contribution to global environmental protection – for the present and the future.

Why STRONG Energy?

We Make Green Energy Strong

Service

We give our customers confidence and security based on our high-quality requirements. Our local Germany team offers 360° premium quality in pre-sales and after-sales support.

Experience

As part of the Strong Group, we have been deeply rooted in the European market since 1986, supporting more than 20 million European families. We are a fast-growing group with more than 5 GW of experience in photovoltaic construction from our parent company Skyworth.

Strong Capacity

Our production capacity allows us to manufacture over 20,000 photovoltaic systems in a single month.

Single Source

We offer our customers, tailor-made clean energy solutions and comprehensive services from a single source.



OUR SOLUTIONS

Requirement Analysis & Technical Advisory

We begin by partnering with you as a technical consultant. Through in-depth discovery and analysis, we gain a precise understanding of your project's unique scenario, business model, local environmental and grid conditions, and all functional, performance, and reliability requirements. We translate this into a clear, actionable project definition, ensuring the solution is perfectly aligned with your operational and commercial objectives.

Tailored Technical Solutioning

Based on this definition, we develop a systematic technical plan. This includes selecting and adapting the optimal product portfolio, conducting a thorough risk assessment, and defining mitigation strategies. We emphasize flexibility—refining every detail of the solution to match your specific needs. Our goal is to deliver a customized, bankable system that maximizes safety, efficiency, and return on investment for your European market context.



Utility-scale ESS Solution

Large-scale ESS solution integrates a **high-safety, high-energy-density, high-efficiency liquid-cooled battery system** with grid-forming PCS, grid-connected transformer, comprehensive fire protection, and intelligent EMS.

It delivers peak shaving, frequency regulation, ancillary services, and black start capability to **enhance renewable integration** and **stabilize grid fluctuations**.

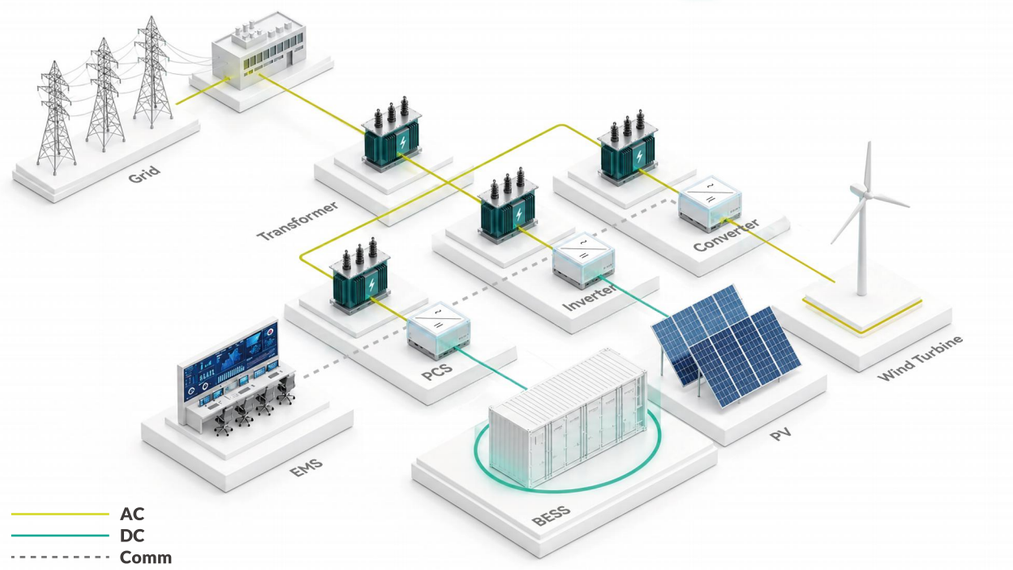
Features & Value

Tier 1 Grade A LFP cells
Liquid-cooled, lays the foundation for reliability on long-term safety and economic returns.

High-performance system integration
Optimized control, ensures fast and accurate response to grid demand.

Supports 1P / 0.5P / 0.25P
Customizable system configuration, meets diverse power and energy needs.

Modular design
Flexible architecture, allows for quick and flexible deployment.





Large-scale C&I ESS Solution (>3MWh)

Containerized ESS with **modular design** flexibly adapts to various application scenarios like industrial park, factory, commercial area, data center, etc. through multiple operation modes, and inteligent management system, and then **optimizes electricity cost and energy efficiency**.

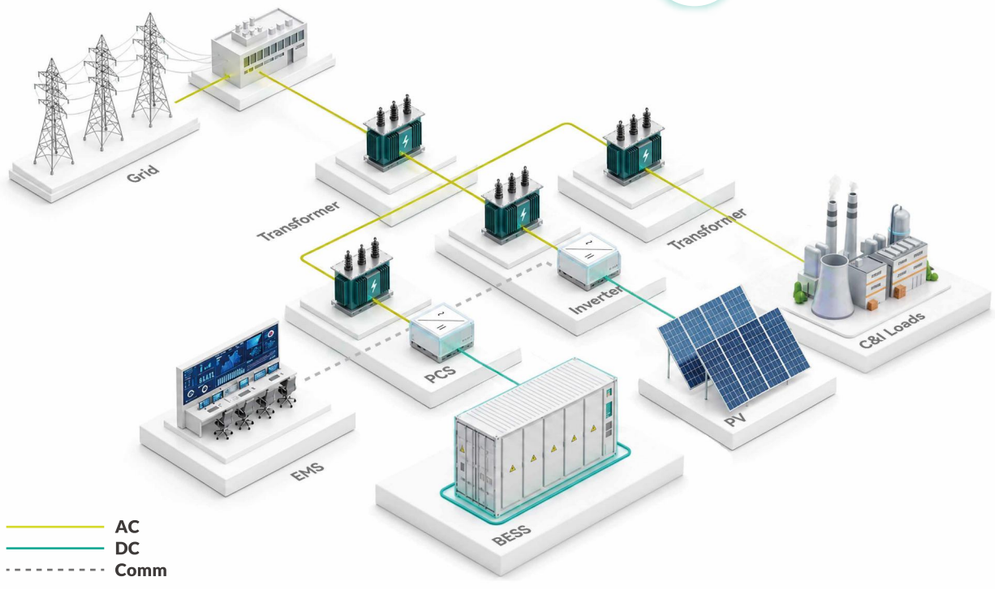
Features & Value

Multi-scenario application support
Peak Shaving, TOU arbitrage, Dynamic Capacity Expansion, and Emergency Power Supply, etc., addresses diverse operational needs.

Grid interaction enablement
Demand Response and Ancillary Service, unlocks new revenue through electricity trading.

Advanced grid-forming capability
VSG and unbalanced loading, ensures stable operation for different types of loads.

Intelligent Energy Management (EMS)
Smart platform, allows for easy monitoring and planning.





Small-scale C&I ESS Solution (<3MWh)

All-in-one ESS system perfectly adapts to **various small-scale application scenarios** with high energy-consumption, such as commercial area, factory, data center, charging station, etc., with minimum effort of system integration to **optimize energy efficiency and cutting electricity bill**.

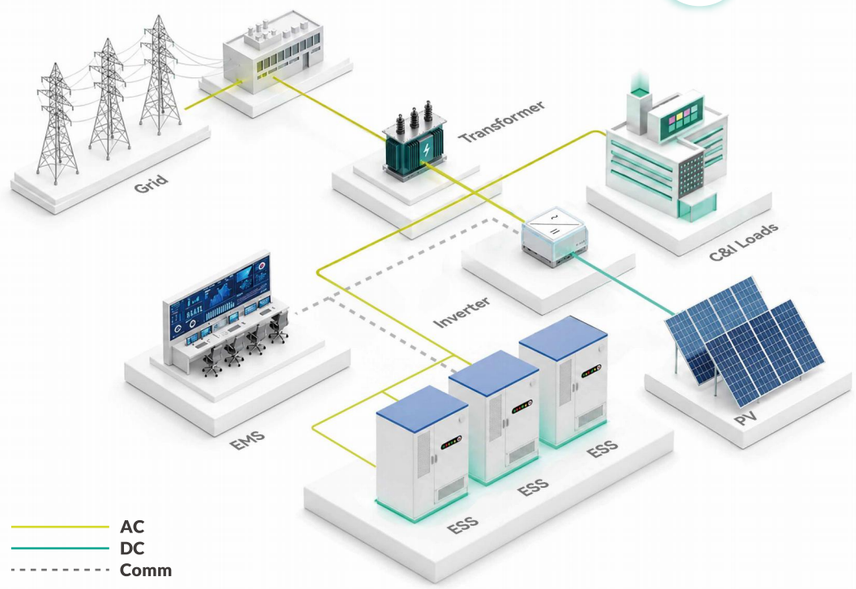
Features & Value

Integrated and compact design
All-in-one cabinet, features built-in BMS, PCS, FSS, TMS, and EMS.

Flexible system expansion
Parallel connection, allows for easy expansion of multiple cabinets.

Easy site integration
Modbus ready, enables easy integration with CEMS and existing PV for maximization of energy efficiency.

Multi-scenario application
On/off-grid modes adaptable for various application secnarios.





Micro-grid ESS Solution

Micro-grid ESS solution forms up microgrid independently or combined with local power source to **eliminate dependency on weak grid, and acheive self-sufficiency and uninterupted power supply**. It is widely adopted in industrial parks, islands and remote areas where weak or no grid is available.

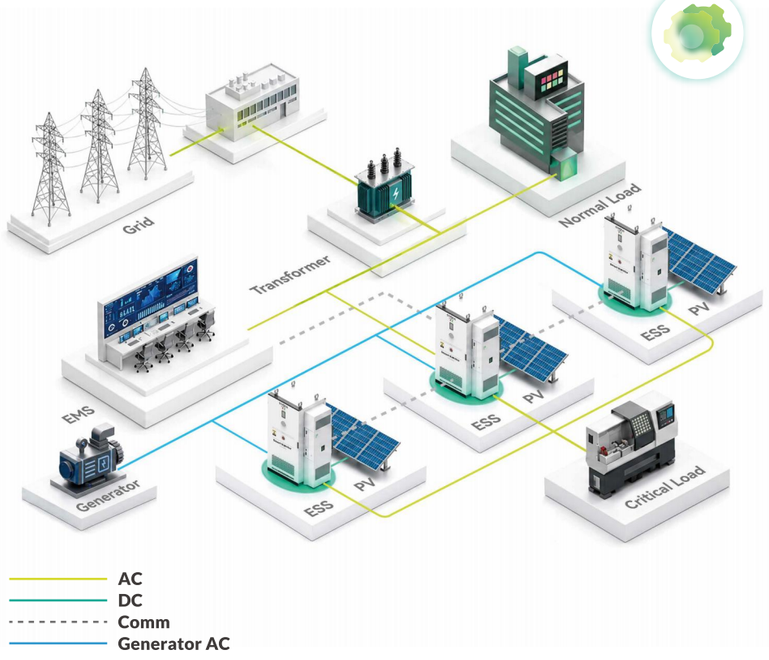
Features & Value

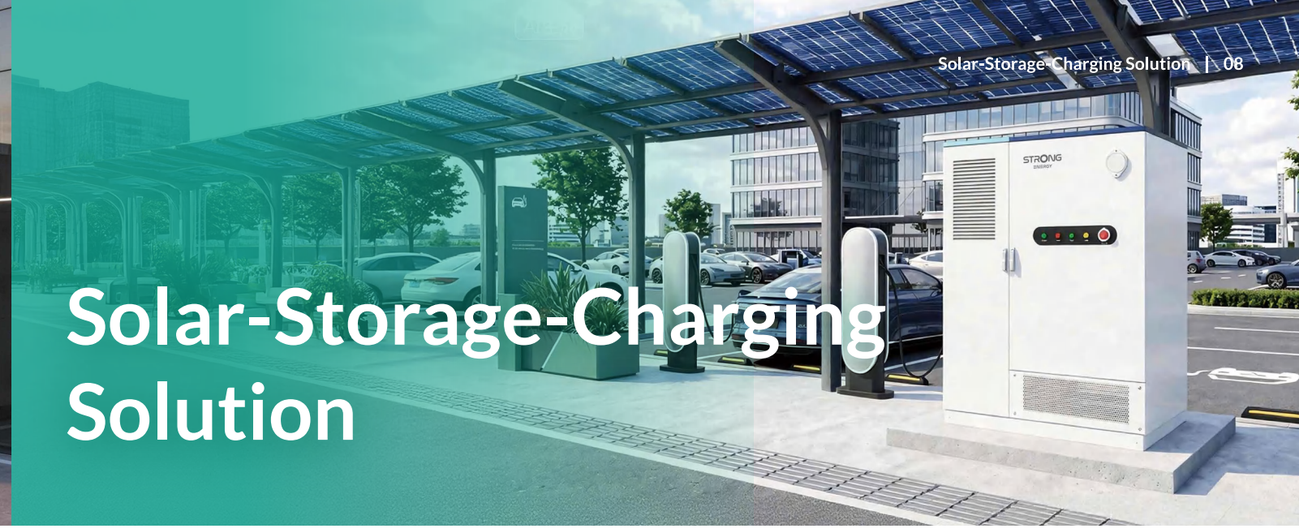
Plug & Play Installation
Hybrid source input, seamlessly converges power from PV and Generator.

STS embeded for backup
On/off-grid switching within 20ms, ensures uninterrupted emergency power supply.

Built-in EMS
Remote monitoring and intelligent energy management from anywhere anywhen.

Flexible system expansion
AC side parallel upto ≤6 for wide range of demand.
DC side scaling for 2hr and 4hr storage requirement.





Solar-Storage-Charging Solution

The integrated SSC (Solar-Storage-Charging) solution meets the surging power demand from EV growth by using ESS for **dynamic grid capacity expansion and peak shaving**. It intelligently manages energy flow, leveraging solar generation and time-of-use tariffs for cost-effective energy arbitrage. This synergy **minimizes grid dependency, slashes operating costs, and transforms charging hubs into high-value, resilient assets.**

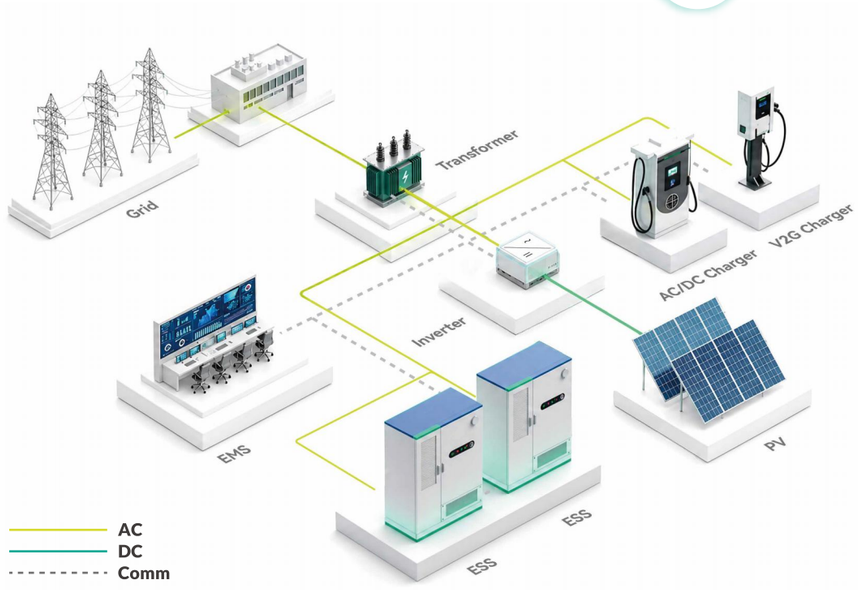
Features & Value

Comprehensive solution
Station-level synergy, integrates multiple power sources and economic factors.

Flexible system expansion
Parallel connection, allows for easy scaling as per needs.

Grid interaction enablement
Demand response and ancillary service, fully supports electricity trading requirements.

Future-proof technology
V2G ready, enables bi-directional energy transfer for vehicle-to-grid integration.



PRODUCT INTRODUCTION

*Pictures may differ from real products

STAR Q Hybrid All-in-one Cabinet
50kW/109kWh Datasheet

Specifications

Product Model	STAR Q		
Battery Specifications		**AC Power (ON/OFF-Grid)**	
Battery Type	LFP	Rated Output Power	50kW
Battery Model	306Ah	Rated Input Voltage	380/400Vac 3L+N+PE
Energy Capacity	109kWh	Rated Frequency	50/60Hz
Cycle Life (@25°C, 0.5P)	≥10000	THDI	< 3%
P-rate	≤0.5P	THDU	< 3%
Battery Pack Ingress Protection	IP67	**PV Input**	
General Specifications		MPPT Voltage Range	150~850Vdc
On/Off-Grid Switching Time	< 20ms	Maximun Input Power of PV	96kW
Cooling Method	Air Cooling	MPPT channels/Strings per MPPT channel	4/2
Operating Temperature Range	-25~55°C	Max Input Current	40/40/40/40A
Relative Humidity	0~95% (Non-condensation)		
Operating Altitude	≤4000m (> 2000m derating)		
Anti-corrosion	C4, C5(optional)		
Ingress Protection	System: IP55; Battery: IP67; PCS: IP66		
Dimension (W)x(D)x(H)	1272x1356.8x2070mm		
Weight	≈1.8T		
Compliance	EN 50549-1, EN50549-10, VDE-AR-N 4105, VDE-AR-N 4110, NRS 097-2-1, IEC 61000, IEC 62477, IEC 62619, IEC62109, UN38.3		

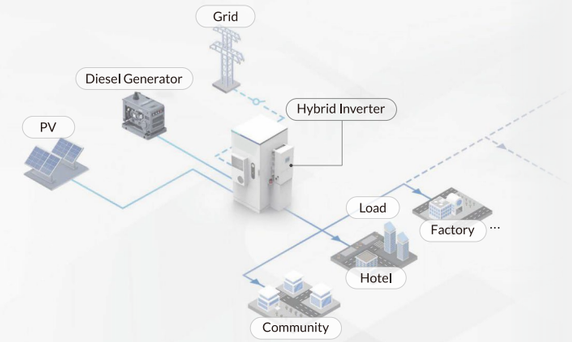
Product Advantages

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

Pure off-grid, Power 10 families a day.
*At 10 kWh/d/family (estimated)

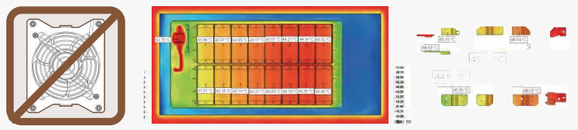
Adopt the hybrid inverter.
Supports access of multi-power sources:
Diesel generator, PV, Grid...

0.02s On/Off-Grid switch.
Uninterrupted Power, always on.



Patented Self-Cooling Rack, Lifecycle Maintenance-Free

Air-fin patent, even heat spread.
Fanless, quieter.



Thermal simulation diagram of the pack

IP67 Sealed Protection
Fully isolates condensate water, dust, etc.

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

Insulation Detection at start up
Leakage Current Detection in operation

Support 6 AC in Parallel
Up to 12 Cabinets Expandable

All-in-One



*Pictures may differ from real products

Onovo Kunstor Hybrid All-in-one Cabinet
125kW/261kWh Datasheet

Specification

Battery Parameters

Nominal Capacity	261kWh	**Corrosion Resistance Rating**	C5
Nominal Voltage	832Vdc	**Operating Temperature**	-20℃~55℃
Voltage Range	702~949Vdc	**Storage Temperature**	-30℃~60℃
Communication	CAN / RS485 / Ethernet, Modbus	**Operating Humidity**	5%~95%(non-condensing)
Cooling Method	Liquid Cooling	**Max. Operating Altitude**	≤3000m (>2000m derating above 2000 m)
Fire Suppression System (FSS)	CO/Smoke/Temperature detection; Aerosol in PACK and RACK; Dry Pipe, Deflagration vent (Optional)	**Noise Level**	< 65dB
		Dimensions (W×H×D)	1100*2250*1400mm
		Weight	~3T
Ingress Protection	IP55 for Outdoor Installation	**Certification**	IEC62619, IEC62477, IEC61000, UN38.3, MSDS

Hybrid Invert Parameters

PV Input		**Smart Port (GEN / Smart Load / PV Inverter)**	
Max. PV Input Power	250kW	**Rated Voltage**	
MPPT Voltage Range	150Vdc ~ 950Vdc	**Rated Output Power**	380/400V/415V @50/60Hz, 3P+N+PE
Number of MPPTs / Strings	10 / 20	**Max. Output Power**	125kW
Max. Input Current	42A * 10	**General**	137.5kVA
AC Grid		**Max. Efficiency**	
Rated Voltage	380/400V/415V @50/60Hz, 3P+N+PE	**Number of Parallel Connection**	97.8%
Rated Output Power	125kW	**Ingress Protection**	≤6
Max. Output Power	137.5kVA	**Protection Class**	IP66
THDi	2%	**Communication**	Class I
Power Factor	>0.99 (-0.8 ~ 0.8)	**Dimensions (W×H×D)**	Ethernet / WiFi or 4G (Optional) / RS485 / CAN
AC Backup		**Weight**	971.5 × 880 × 311mm
Rated Voltage	380/400V/415V @50/60Hz, 3P+N+PE	**Certification**	<150KG
Rated Output Power	125kW		IEC62477, IEC61000, IEC62109,
Overload Capacity	150%@10s		EN50549, VDE-4105, VDE-4110, G99/G100,
THDu	2%		PTPiREE, C10/C11, NTS631:2021, UNE,
Transfer Time	< 10ms		CEI 021/16, TOR Erzeuger

Features

Safety & Performance

- Inteligent liquid cooling ESS adopts 314Ah Grade-A LFP cell for >15 year service life.
- Multi-layer protection covering cells, packs and cabinets, built with alarms, explosion relief, smoke detection and smart BMS.

Integrated Design

- Integrated all-in-one design equiped with high performance hybrid inverter for Solar-Storage-Generator micro-grid.
- Easy for installation with floor space ~1.6m².

Smart Management

- Supports multiple energy modes like Self-consumption, Peak-shaving, Feed-in first, and Backup priority.
- Realtime monitoring and intelligent energy management from anywhere anywhen.

Multi-scenario Application

- Supports parallel connection up to 6 units for off-grid, and 24 units for on-grid.
- Supports BESS capacity expansion for 2hr and 4hr application secnarios.
- Adopts IP55 and C5 protection level suitable for various installation environment.



*Pictures may differ from real products

STAR H-232 All-in-One Cabinet
115kW/232kWh Datasheet

Specification

Product Model	STAR H-232
Battery Parameters	
Battery Type	LFP
Battery Model	280Ah
Energy Capacity	232kWh
Voltage Range	728~936VDC
P-rate	0.5P
Certifications	UN 38.3, UN 3480, UL 9540A, IEC 62619, IEC 61000-6-2/-4, IEC 62477-1, IEC 63056
PCS Specifications	
Rated AC Power	115kW (125kW derated for use)
Rated Grid Voltage	380/400Vac
Total Harmonic Distortion	<3%
Rated Grid Frequency	50/60Hz
Peak Efficiency	98%
Power Factor	-1 to 1, continuously adjustable
Certifications	EN50549, VDE-AR-N 4105, VDE-AR-N 4110, IEC62477, IEC61000-6-2, IEC61000-6-4
General Specifications	
Cooling Method	Cell: Liquid Cooling, PCS: Air Cooling
Operating Temperature Range	-25~55 °C (>45°C derating)
Relative Humidity Range	0~95% (No Condensation)
Max. Working Altitude	4000m (>2000m derating)
Fire Safety Equipment	Aerosol, Smoke detector, Heat detector, Flammable gas detector (optional), Deflagration venting pannel (optional)
Ingress Protection	Electrical Equipment Cabinet: IP54; Battery Cabinet: IP65
System Dimensions (W)x(D)x(H)	≈1500×1300×2050mm
Weight	≈2.6T

* If there are any changes in product size and parameters, please refer to the latest information.

Features

Flexible Application

- All-in-One Design
- Plug-and-Play
- Zero-Gap Parallel Connection

Ultimate Safety

- 3+2+2 Safety Protection
- Precision Fire Alarm Position
- Real Time Insulation Monitoring

Accurate Liquid Cooling

- Temperature Difference ≤3°C
- Extend Battery Lifespan

Intelligent Power Management

- EMS Ensures System Safety
- Cloud Platform Monitors Status



*Pictures may differ from real products

STAR T-285/306 ESS Container

Up to 4MWh Datasheet

Specification

Product Model	STAR T-285	STAR T-306
Battery Parameters		
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)x(D)x(H)	6058x2438x2896 mm	
Weight	34.5T	33.5T
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)	

* If there are any changes in product size and parameters, please refer to the latest information.

Features

Standardized Design

- 20 ft Standard Container
- 5-10 Racks Option
- Supports 1-4 Hour Applications

Ultimate Saftey

- Quadruple Fire Protection
- Precision Fire Alarm Position
- 24/7 DC Insulation Monitoring

Intelligent Power Management

- EMS Ensures System Saftey
- Cloud Platform Monitors Status

Outstanding Performance

- RTE≥93%
- AC Available Capacity≥94%

Smart Liquid Cooling

- Auto-refill Coolant
- Temperature Difference ≤4℃

LFP Battery

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



*Pictures may differ from real products

Powtrix ESS Container
5.015MWh Datasheet

Specification

General	
Configuration	416s12p
Communication protocol	CAN, RS485, TCP/IP
Elevation	≤3000m
Cooling and heating type	Liquid cooling / heating
Operating ambient temp	-30°C~55°C
Electrical Parameters	
Withstand voltage	4500VDC, leakage current ≤5mA
Short circuit current	130.56kA@12 racks, 13.6kA @1 rack
Rated energy	5015.9kWh, 100% DOD, 0.5P
Rated voltage	1331.2V
Operating voltage range	1040V~1500V
Rated charge power	2500kW(0.5P) According to power map
Rated discharge power	2500kW(0.5P) According to power map
Short peak charging power	5000kW@60s According to power map
Short peak discharging power	5000kW@60s According to power map
Auxiliary power supply	3-phase 400Vac±10% 50Hz (CE), 3phase 480Vac±10% 60Hz(UL)
DC side output form	1/2/12 outputs(optional)
Mechanical Parameters	
Mass	~44.5t
IP level of enclosure	IP55
Dimension (W)x(D)x(H)	6058x2438x2896mm, 20HQ
Certification	
Executive standard	UL9540A-2019, UN38.3, RoHS, GBT36276-2023, For module
	UL9540A-2019, UL1973-2022, IEC62477-1-2012 IEC62619-2022, IEC63056-2020, IEC60730-1-2022, GBT36276-2023, For unit
	UL9540-2023, NFPA68-2023, NFPA69-2024, NFPA855, UN3536 IEC62477-1-2012, IEC62933-5-2-2022, IEC61000-6-2-2016,
	RoHS IEC61000-6-4-2018, IEEE Std 693-2018, ISO3744-2010, REACH, For container

Features

High Security

- UL9540A thermal forced spread test evaluation results are excellent, combustible gas monitoring, pressure relief and explosion protection meet NFPA68, NFPA69 specifications;
- "2+2" fire prevention and control measures: The design adopts the modular built-in fire suppression & container firefighting system echelon configuration;
- Large scale fire impact assessment test results were good, no propagation to adjacent container;
- Insulation strength of the system is sufficient, and no breakdown or flashover in 5kVd.c. withstand test. The DC circuit is equipped with multi-level disconnections, whitch are echelon configuration;

Long Life and Durability

- Thermal management design adopts centralized cooling, multistage shunt, parallel flow channel, throttling control. The temperature difference of cells in the module is 2°C, and that is 3°C for container level.
- Special energy storage battery, standard cycle 10000+, service life of 20 years;
- Protection is in place and reliable and durable. The protection grade of the enclosure is IP55, the anti-corrosion grade is C4/C5, and the high voltage module is IP67.

Solid and Reliable

- Adaptive design, module structure retention and internal force release optimization in the whole life cycle;
- Excellent steel structure stability, 2 times lifting load, 10 times ballast performance recognized by classification society;
- The overall structural stability meets IEEE693 high level earthquake tolerance;
- Electrical components are tested for high temperature durability at 60 C; The liquid cooling pipeline is checked at 1000 hours of high temperature cycle;

CASE STUDY

Commercial & Industrial Energy Storage Solutions

STRONG Energy





Utility-scale ESS , Netherlands

1.5MW / 4MWh (STAR-T)
Peak load and frequency regulation

Factory, Vilnius, Lithuania

230kW/464kWh (STAR-H)
Power Backup, Peak-shaving



Plastic Factory, Cyprus

115kW/232kWh(STAR-H)
AC Coupled PV, Self-consumption, Peak-shaving



Factory, Indonesia

50kW/109kWh (STAR-H)
Self-consumption, Power Backup, Peak-shaving





Community, Netherlands

50kW/109kWh (STAR-H)
Self-consumption, Power Backup





Industrial Park, Shenzhen China

7.5MW/15.6MWh 10kV,
Peak shaving, Peak-valley arbitrage,
Demand Management

Solar-Storage-Super Charging Station, Shenzhen

100kW/215kWh ESS, 600kW EV Charger,
38kWp PV, Self-consumption, Peak-valley Arbitrage,
Capacity Compensation





Textile Factory, AnQing, China

1.875MW/3.915MWh ESS,
Peak-Shaving, Demand Management



