

# Smart Storage Safe Power Sustainable Future

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Wenergy Storage |

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**WINCLE** **WENERGY**

Energy Storage Portfolio

## Innovative Solutions for Global Energy Challenges

Wincle Energy Pte. Ltd.

# About Wenergy

**1** Headquarter in Singapore      **5** Global Branches      **15 Years** Battery Cell Manufacturing

**15GWh** Annual Capacity      **660,000+m<sup>2</sup>** R&D and Production Base

**60+** Countries / Regions Exported To  
(30+ Countries in Europe)

Bulgaria	Hungary	Australia	South Africa	Zimbabwe	Chile	Indonesia	Vietnam	Philippines	.....

## Focus on Innovation, Full-Chain Layout

From Cathode Materials and Battery Cells to Modules and Smart ESS Solutions

### R&D Production Bases



Aerial View



Integration Workshop



Cathode Material Production



Battery Cell Manufacturing



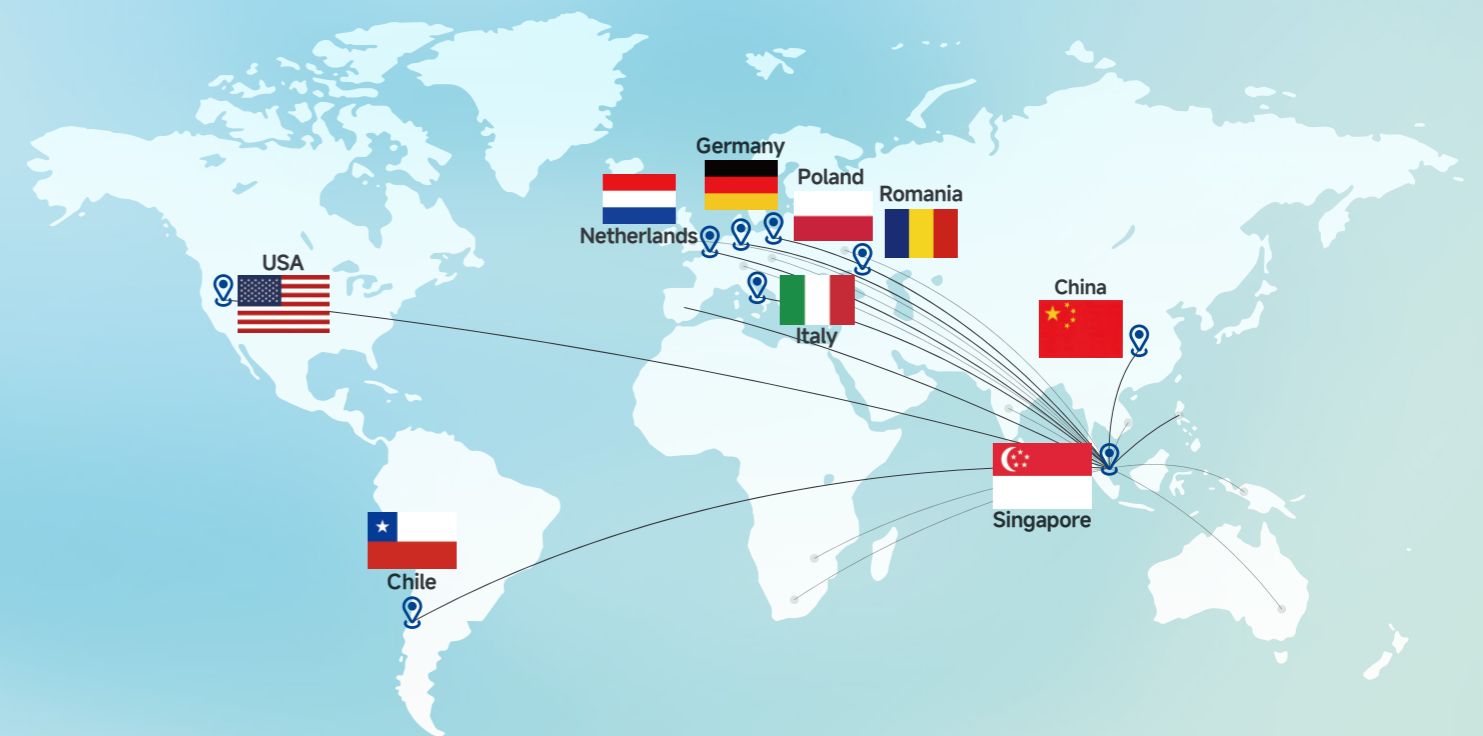
Battery Pack Assembly



BESS Integration & Commissioning

## Global Service Network

- ◆ On-Time Delivery
- ◆ Hassle-Free After-Sales Service
- ◆ Fast and Responsive Technical Support



### Offices

Singapore, China, USA, Germany, Italy, Chile

### Overseas Warehouse

Netherlands

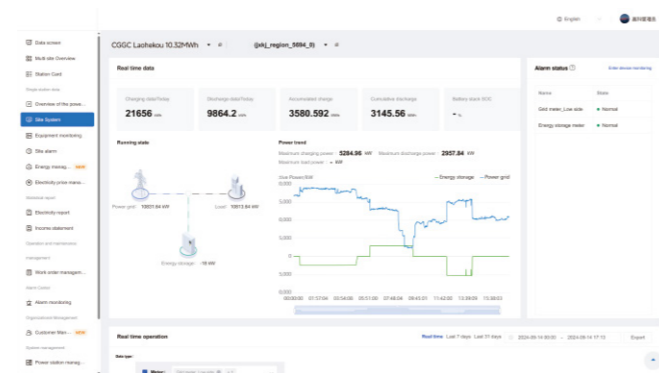
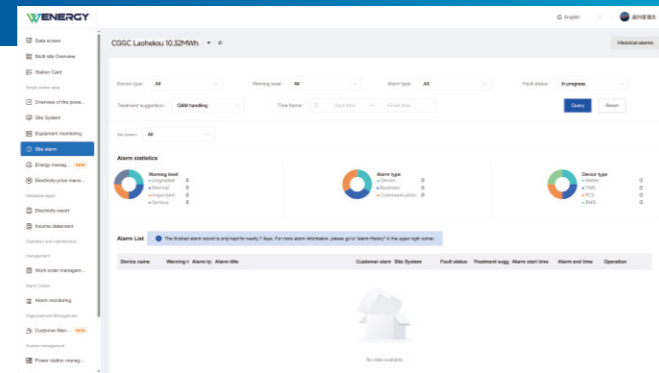
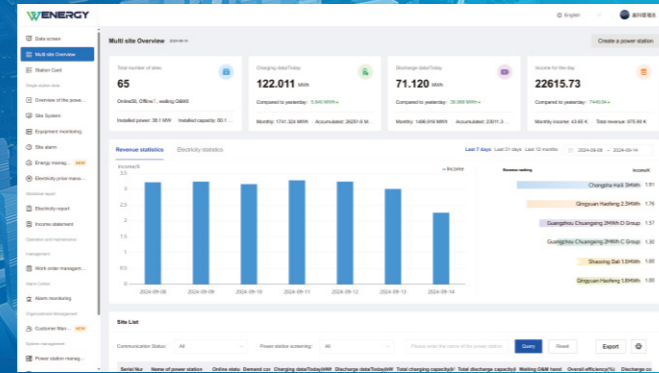
**20+** Industries Served with Tailored Solutions

(Cement Industry, Industrial Manufacturing, Textile Industry, Electronic Industry, Environmental Protection Industry, Paper and Printing Industry, Data Centers...)

**200+** Projects on Track

## Wenergy Solutions

- ◆ PV+Storage Integration
- ◆ Frequency Regulation
- ◆ Backup Power Supply
- ◆ Peak-Valley Arbitrage



### Software-Defined Energy Management

- \*Enables integration with customer-owned EMS systems.
- \*Real-Time Price Capture & Automated Trading (Local Market Tuned)

### Cloud-based BMS Optimization

- Dual-processor architecture
- 4KHz real-time monitoring
- Cloud-based balancing optimization
- 90% diagnostic coverage

### Multi-protocol Compatible EMS

- AI-powered energy forecasting
- Open EMS API integration
- 100+ protocol support
- Millisecond-level response

### Unified Control Platform

- Remote monitoring & diagnostics
- Cross-platform mobile access
- Health & performance analytics

## Quality Assurance Globally Certified Excellence in C&I Energy Storage Solutions

Global Certification

UN38.3

American Standard



UL 1973  
UL 9540  
UL 9540A



FCC Part 15B



NFPA 69

European Standard



IEC62619, IEC60730,  
IEC61000, IEC63056,  
IEC62477, IEC62933,  
IEC60529



RF/EMC

ISO13849

Grid-connected Certification



VDE 4105  
VDE 4110  
VDE 4120

G99

CEI 0-16  
CEI 0-21

EN 50549-1  
EN 50549-10

UNE 217002  
UNE 217001

TOR Erzeuger

Polish Grid Code A3

NTS 631

# Application Cases

## CEEC-CGGC Group Project Cluster

CGGC-Laohekou Cement ESS Project  
10.2MW / 20.64MWh

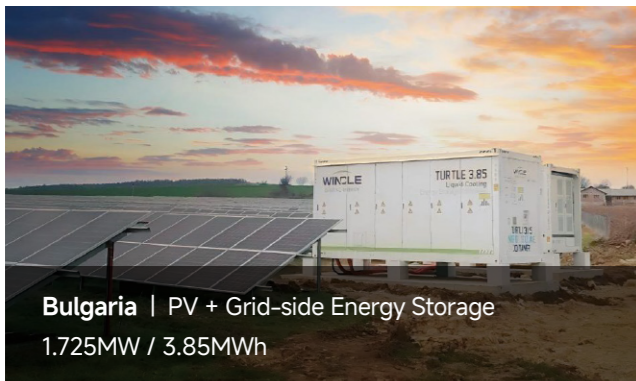
CGGC-Jiayu Cement ESS Project  
10.2MW / 20.64MWh

CGGC-Yicheng Cement ESS Project  
13.6MW / 27.52MWh

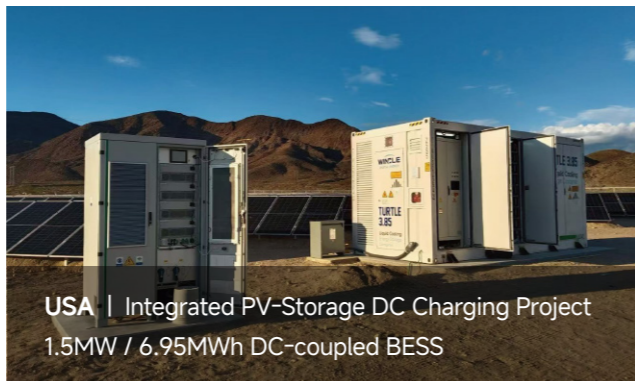
CGGC-Zhongxiang Cement ESS Project  
6.9MW / 13.76MWh

CGGC-Gezhouba Special Cement ESS Project  
5.725MW / 11.44MWh





**Bulgaria** | PV + Grid-side Energy Storage  
1.725MW / 3.85MWh



**USA** | Integrated PV-Storage DC Charging Project  
1.5MW / 6.95MWh DC-coupled BESS



**Bulgaria** | PV + C&I Energy Storage Project  
0.875 MW / 1.8 MWh



**Bulgaria** | C&I Energy Storage Project  
3x125kW / 289kWh



**Zambia** | PV-Storage-Diesel Off-Grid Operation  
3.45MW / 7.7MWh



**Zimbabwe** | PV-Storage-Diesel Off-Grid Operation  
12MW / 24MWh



**Netherlands** | C&I Energy Storage Project  
83\*258kWh (Total 21.4MWh)



**Netherlands** | C&I Energy Storage Project  
20MW / 41.28MWh



**Latvia** | Grid-side Energy Storage Project  
3MW / 6.17MWh



**Eastern Europe** | PV + Industrial Energy Storage Project  
5MW / 20MWh



**Austria** | C&I Energy Storage Project  
1.75MW / 3.86MWh



**Austria** | C&I Energy Storage Project  
2x125kW / 289kWh



**Germany** | PV + Industrial Energy Storage Project  
47.7MWh



**Bulgaria** | PV + Energy Storage Project  
1MW / 2.31MWh



**Poland** | C&I Energy Storage Project  
2\*125kW / 258kWh



**China** | Mobile Energy Storage Project  
16.7MW / 34.7MWh

# Wenergy Products

## Turtle Series Container ESS | 2.5 / 2.089 / 1.67 MWh 3.85 / 5 / 6.25 MWh



### ◆ Applications

Utility-Scale Renewable Integration

Industrial & Commercial ESS

Remote/Off-Grid Power

Emergency Energy Storage

### ◆ Key Highlights

#### Reduced Cost

- One-stop system, easy install & low maintenance
- Large module design, 50% more efficient

#### Safety

- Balanced batteries for longer life
- Dual fire suppression for extreme safety

#### High Efficiency

- 1500V platform, 89% RTE efficiency
- C4H anti-corrosion, 15+ years lifespan

#### Smart

- Fast fault detection & localization
- Cloud monitoring, 24/7 unattended

### ◆ Products Parameters 2.5 / 2.089 / 1.67 MWh

AC/DC Integrated Container BESS with Seamless STS & ATS Switching

Model	Turtle CL2.5	Turtle CL2.089	Turtle CL1.67
DC side	Battery Type		
	LFP 314Ah		
	Battery System Configuration	2.507 MWh / 6P416S	2.089MWh/5P416S
DC Voltage Range	1164.8V ~ 1497.6V		
	DC Voltage Range		
STS	Rated Power		
1000kW			
Transformador	Rated Power		
1250kVA (690V / 380V)			
ATS	Rated Current		
1600 A			
PCS	Rated Power		
225kW*6      225kW*5      225kW*4			
Grid / Diesel Generator Connection	AC Input Rated Power		
	1000kW		
PV Connection	Rated Voltage		
	380V, 50-60Hz		
Load Connection	DC Input Power		
	1000kW		
AC Output Rated Power	1000kW		
	Rated Voltage		
380V, 50-60Hz			
System	IP Protection Level		
	IP54 (Battery Container)		
Anti-corrosion Level			
C4H			
Cooling Type			
Intelligent Liquid Cooling (with Auxiliary Heater)			
Operating Temperature Range			
-35°C~55°C			
Operating Altitude			
≤2000m (> 2000m Derating)			
Communication Interfaces			
CAN, RS485, Ethernet			
Dimensions (W*D*H)			
6058*2458*2896mm			
Fire Protection System			
Aerosol + Water + Smoke/Temp. Detection + Explosion Venting			
Weight			
27.5t      25t      22.5t			

### ◆ Products Parameters 3.85 / 5.016 / 6.25 MWh

Model	Turtle CL3.85	Turtle CL5	Turtle CL6.25
Battery Type	LFP 314Ah	LFP 314Ah	LFP 587Ah
Rated Energy	3.85 MWh	5.016 MWh	6.25 MWh
DC Rated Power	1925 kW	2500 kW	3125 kW
DC Rated Voltage	1228.8V	1331.2V	1331.2V
DC Voltage Range	1075.2V ~ 1382.4V	1164.8V ~ 1497.6V	1164.8V ~ 1497.6V
DC Efficiency	94%		
IP Protection Level	IP55		
Anti-corrosion Level	C4H		
Weight	≈36t	≈43t	≈52t
Cooling Type	Liquid Cooling		
Noise	<75 dB (1m Away from the System)		
Communication Interface	Wired: LAN, CAN, RS485		
Communication Protocol	Modbus TCP/CAN2.0		
System Certification	IEC 60529, IEC 60730, IEC 62619, IEC 62933, IEC 62477, IEC 63056, IEC/EN 61000, UL 1973, UL 9540A, UL 9540, CE Marking, UN 38.3, TÜV Certification, DNV Certification, NFPA69, FCC Part 15B.		

## Stars Series Cabinet ESS



Stars 96/144/192 kWh



Stars 261 kWh (Pro)



Stars 261 kWh



Stars 258/289/385 kWh

### ◆ Products Parameters 261kWh Multi-Source Integrated BESS (125 kW Hybrid Inverter)

	Model	Stars CL261	Stars CL261Pro
General	Rated Energy	261kWh	
	Efficiency (RTE)	≥ 90% (RTE)	
	Cycle Life	≥ 8000 Cycles (100% DoD, EoL 70% SoH)	
DC Side	Battery Type	LFP 3.2V / 314Ah	
	DC Voltage Range	728~936V	
	DC Protection	Contactor + Fuse	
AC Side	Rated AC Power	125 kW	
	Rated Voltage	400 V (±15 %)	
	Grid Frequency	50Hz	50/60Hz
	Power Factor	-1 ~ 1	
	Wiring	Three-phase Four-wire System	
PV Connection	DC Input Power	/	250kW
	Number of MPPTs	/	10
	Voltage Range	/	150~950V
System	IP Protection Level	IP55	IP54 (Battery Compartment)
	Anti-corrosion Level	C4H	
	Cooling System	Intelligent Liquid Cooling (with Automatic Refilling)	
	Operating Temperature	-35°C~55°C (Derating from 45°C)	-25°C~55°C
	Operating Altitude	≤4000m (> 2000m Derating)	≤2000m (> 2000m Derating)
	Relative Humidity	0~95% (Non-condensing)	
	Noise Level	≤75dB	
	Auxiliary Power Supply	Self-supply / External Supply	
	Communication Interfaces	LAN / RS485	
	Protocols	Modbus / IEC104 / MQTT	
Operating Modes	Grid-connected / Off-grid		
Mechanical	Dimensions (W×D×H)	(1012±10)*(1380±10)*(2270±10)mm	1520*1350*2270mm
	Weight	≤2.5t	≤2.9t
	Installation	Floor-mounted	
Safety	Fire Protection System	Aerosol Extinguishing System + Water Mist + Top Centilation + Alarm Function	Aerosol + Smoke/Temperature Detection + Explosion-proof Ventilation
Standards	Certifications	IEC/EN 62619, IEC 60529, IEC 62477-1, IEC 61000-6-2/-4, UN 38.3	

### ◆ Products Parameters Stars 96/144/192 kWh

Model	Stars CL192Pro - 125		
Rated Energy	96.46kWh	144.69kWh	192.92kWh
DC Voltage Range	240~350.4V	360~525.6V	480~700.8V
AC Rated Power	125kW		
AC Rated Voltage	400V		
Rated Frequency	50/60Hz		
IP Protection Level	IP55		
Anti-corrosion Level	C4H		
Cooling Method	Liquid Cooling		
Noise	<75dB (1m Away from the System)		
Dimension(W*D*H)	(1800±10)*(1435±10)*(2392±10)mm		
Communication Interface	Ethernet		
Communication Protocol	Modbus TCP/IP		
System Certifications	IEC 62619, IEC 60730-1, IEC 63056, IEC/EN 62477, IEC/EN 61000, IEC/EN 61851, IEC/EN 62311, UL1973, UL9540A, EN 301 489, EN 301 908, CE Marking, UN 38.3, TÜV Certification, DNV Certification		

\*Standard: PCS、DCDC | Optional: MPPT (60kW)、STS、ATS、AC EV Charger (22kW\*2)

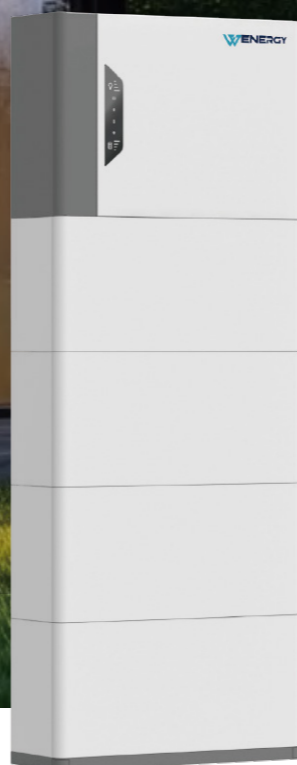
### ◆ Products Parameters Stars 258/289/385 kWh

Model	Stars CL258Pro	Stars CL289Pro	Stars CL385Pro
Rated Energy	258kWh	289kWh	385kWh
DC Voltage Range	720~1000V	720~1000V	960~1401.6V
Rated Power	125kW	125kW	/
AC Rated Voltage	400V	400V	/
Rated Frequency	50/60Hz	50/60Hz	/
IP Protection Level	IP55		
Anti-corrosion Level	C4H		
Cooling Method	Liquid Cooling		
Noise	<75dB (1m Away from the System)		
Dimension(W*D*H)	(1588±10)*(1380±10)*(2450±10)mm		1578mm*1380*2500mm
Communication Interface	RS485/CAN		
Communication Protocol	Modbus TCP/CAN2.0		
System Certification	IEC 62619, IEC 60730-1, IEC 63056, IEC/EN 61000, IEC/EN 62311, IEC 60529, IEC 62040 or 62477, EN 301 489, EN 301 908, ISO 13849, RF/EMC, UKCA (IEC 62477-1), UKCA (CE-EMC Transfer), UL1973 <sup>[1]</sup> , UL9540A <sup>[1]</sup> , UN 38.3		

[1]. UL1973 and UL9540A are for Stars CL385Pro only.

## Great Wall Series Residential ESS (High Voltage)

- Wide Environmental Compatibility
- High Safety
- Long Service Life
- IP66 Rating
- High Usage



## Great Wall Series Residential ESS (Low Voltage)

- Highly Integrated Design
- High Reliability
- Wide Environmental Compatibility
- High Usable Energy
- Quick Installation



### ◆ Products Parameters

Model	GW-(7.6~22.7)-H-8K	GW-(7.6~22.7)-H-10K	GW-(7.6~22.7)-H-12K
Battery System Energy	7.6 / 11.4 / 15.2 / 19 / 22.7kWh		
Number of Battery Modules	2 / 3 / 4 / 5 / 6		
Rated Battery Voltage	204.8 / 307.2 / 409.6 / 512 / 614.4V		
Recommended Max. PV Input Power	12kW	15kW	18kW
Recommended Charging/Discharging Current	18.5A		
Max. Charging/Discharging Current	37A		
System Dimensions (W*H*D)	670*(1135/1450/1765/2080/2395)*230mm		
System Net Weight	117 / 155 / 193 / 231 / 269kg		
Communication	RS485 / WLAN / Bluetooth / DRY / DRM / Meter, LAN / 4G(Optional)		
<b>Environment</b>			
Operating Temperature Range	Charge: -10°C~50°C, Discharge: -10°C~55°C		
Max. Operating Altitude	< 4000m( > 2000m Power Derating)		
Relative Humidity Range	0~95% (No Condensation)		
Installation	Wall-mounted or Floor-mounted		
Ingress Protection Rating	IP66		
Warranty	10years		
Cycle Life	≥7000 cycles <sup>[1]</sup>		
<b>System Certification</b>	Safety: IEC/EN 62109-1&-2; IEC62619; CE; UN38.3 EMC: IEC/EN 61000-6-1/-2/-3/-4; IEC/EN 61000-3-2/-3/-11/-12; IEC/EN 62920 Grid Connection Standards: EN 50549-1:2019/AC:2019; VDE-AR-N 4105:2018; DIN VDE V 0124-100:2020; EN50549-1+EN50438; NA/IEA-NE7 – CH 2020; EIFS 2018: 2; OVE Directive R 25:2020; TOR Erzeuger Type A V1.2		

[1]. 25°C ambient temperature, recommended charging/discharging current.

### ◆ Products Parameters

Model	GW-(5~20)-L-3.68K	GW-(5~20)-L-5K	GW-(5~20)-L-6K
Battery System Energy	5.1 / 10.2 / 15.3 / 20.4kWh		
Number of Battery Modules	1 / 2 / 3 / 4		
Rated Battery Voltage	51.2V		
Recommended Max. PV Input Power	7.2kW	10kW	10kW
Recommended Charging/Discharging Current	50A/Module		
Max. Charging/Discharging Current	80A	100 / 120 / 120 / 120A	100 / 125 / 125 / 125A
System Dimensions (W*H*D)	725*(740/1040/1340/1640)*230mm		
System Net Weight	75 / 121 / 167 / 213kg		
Communication	RS485 / WLAN / Bluetooth / DRY / DRM / Meter, LAN / 4G(Optional)		
<b>Environment</b>			
Operating Temperature Range	Charge: 0°C~50°C, Discharge: -20°C~50°C		
Max. Operating Altitude	< 4000m( > 2000m Power Derating)		
Relative Humidity Range	0~95% (No Condensation)		
Installation	Floor-mounted		
Ingress Protection Rating	IP66		
Warranty	Inverter: 5 years (Expand to 10 Years); Battery: 10 Years		
Cycle Life	≥6000 Cycles <sup>[1]</sup>		
<b>System Certification</b>	Safety: IEC/EN 62109-1&-2; IEC62619; CE; UN38.3 EMC: IEC/EN 61000-6-1/-2/-3/-4; IEC/EN 61000-3-2/-3/-11/-12; IEC/EN 62920 Grid Connection Standards: EN 50549-1:2019/AC:2019; VDE-AR-N 4105:2018; DIN VDE V 0124-100:2020; EN50549-1+EN50438; NA/IEA-NE7 – CH 2020; EIFS 2018: 2; OVE Directive R 25:2020; TOR Erzeuger Type A V1.2		

[1]. 25°C ambient temperature, recommended charging/discharging current.

## Turtle M Series Mobile ESS | 289 / 365 / 645 / 723 / 1157 kWh

Customizable as Needed

- Energy Saving & Eco-Friendly
- Intelligent Dispatching
- Ready-to-Deploy
- Effortlessly Tackling Power Challenges



### ◆ Applications

Outdoor Activities & Emergency Power Supply

C&I Mobile Energy Storage

Infrastructure Development in Remote Areas

### ◆ Key Highlights

#### Flexible Deployment

Paired with a dedicated tractor and custom trailer, the unit can be moved and deployed anywhere, delivering instant power for events, emergency response, and industrial sites.

#### Intelligent & Safe Operation

Advanced BMS/EMS with liquid cooling ensures efficient, safe performance. Equipped with aerosol fire suppression and multi-sensor detection for all-round protection.

#### Built for Harsh Environments

Operates from -30°C to 55°C and up to 4,500 m altitude, ensuring reliable power in remote and demanding conditions.

#### Lower Costs, Higher Efficiency

Self-powered design and optimized energy management cut operating expenses and reduce energy waste.

## Turtle M Series Mobile ESS | 289 / 365 / 645 / 723 / 1157 kWh

Customizable as Needed

### ◆ Products Parameters

Model	289kWh	365kWh	645kWh	723kWh	1157kWh
<b>Battery Parameters</b>					
Configuration	1P288S	1P364S	3P240S	3P240S	4P288S
Rated Energy	289kWh	365kWh	645.12kWh	723kWh	1157.52kWh
Rated Voltage	921.6V	1164.8V	768V	768V	921.6V
Voltage Range	720V-1000V	910-1328.6V	600V-876V	600V-876V	720V-1000V
<b>System Parameters (0.5P)</b>					
Rated Voltage	400VAC				
AC Rated Power	140kW	180kW	322.5kW	320kW	350kW
Max. Discharging Power	270kW	320kW	405kW	405kW	540kW
Rated Frequency	50Hz/60Hz				
Temperature Range	-30~45°C				
Operating Altitude	≤4500m (>2000m Derating)				
Humidity	≤95%RH				
<b>Basic Parameters</b>					
ESS Size (L*W*H)	4050*1900*1825mm	4000*1900*1850mm	6058*2438*2896mm	4900*2380*2400mm	6058*2438*2896mm
ESS Weight	≈ 6.1t	≈7.1t	≈16t	≈12t	≈19t
IP Protection Level	IP54				
Cooling Method	Liquid Cooling				
Fire Satey Configuration	Aerosol Fire Protection, Five-in-one Detector				
Communication	RS485/CAN				