



ENERGY STORAGE SYSTEM SOLUTIONS

en.hicitech.com

HiCÍ

About HICI

HICI is a technology leading company to provide smart charging solution for digital power application.

HICI has over 8+ years of experience in designing, manufacturing, installing and maintaining electric vehicle charging infrastructure. With a team of 330+ employees in which over 30% R&D employees to garantee the best-in class technology.

HICI EV chargers have already been applied to more than 200 cities in China and over 50 countries all over the world. HICI E-Mobility aims to contribute to the smart, reliable, and emission-free mobility.

50⁺ Countries

200⁺

330⁺ Employees

120⁺

Patents & Copyrights

720kWDC Charging Speed

20,000⁺ DC Chargers

STRATEGIC PARTNERS































About R&D Testing



30% R&D Employees

- Hardware
- Software
- Platform



Test Centre for Parts & Complete Charger

- Salt Mist Test Chamber
- Dust Proof Test Chamber
- Water Proof Test System
- High and Low Temperature Test Chamber





















2 AC Charger Lines 2200 PCS/month



3 DC Charger Lines 660 PCS/month

- MES Management System
 High Efficiency: Time-efficient & Availability
 Quality Assurance: Traceability & Poka-Yoke
- ISO9001 / ISO14001 / ISO45001 /IATF16949









After-Sale Service

Online Technical Support + Local Spare Parts + Local Service Centre

01
Local Service Centre

02

Flying doctors + Local Spare Parts

03

24H Online Technical Support and Remote Guidance

Techinical and Service Support:

• 24/07/365 Days online support as well as onsite support.

After - sale Service Centre:

• 5 global centres cover all 50+ overseas countries and 24 domestic service centres cover mainland.

Core Value:

Customer-oriented and Service-oriented.

Remote services



- Online support
- Remote services
- Remote diagnostics
- Remote firmware upgrades

On-site service and parts availability



- Standard warranty execution
- Extended warranty options
- Service level agreements
- Preventive service and maintenance
- Spare parts program

Training



- Standardized online training
- Customized service training
- Third-party service training programs
- Custom software services

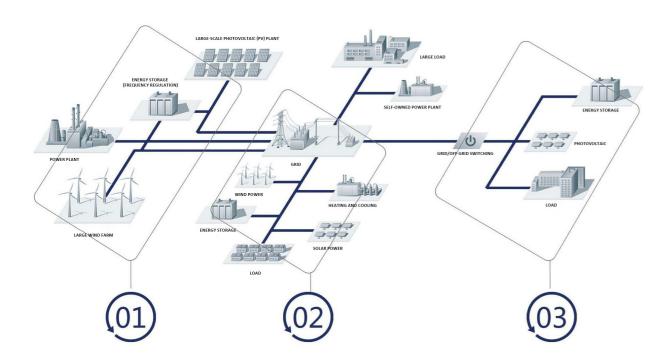
OCPP integration



- Autocharge integration testing
- Interoperability testing and validation
- Customized software integration support

Energy Storage System Integrated Solutions

Comprehensive Solutions for Centralized Generation, Transmission & Distribution, Distributed Generation, and Electricity Demand Side



Centralized Generation Side



- Load Regulation
- Smoothing Intermittent Renewable Energy
- Increase Renewable Energy Integration
- Enhance Grid Reserve Capacity
- Frequency Regulation Participation



Power Transmission and Distribution Side

- Improve Power Quality / Reduce Line Losses
- Increase Grid Redundancy
- Enhance Efficiency of Power Transmission and Distribution Equipment
- Delay the Need for Capacity Expansion





- Increase Distributed Energy Integration, Smooth Peak Loads
- Reduce Maximum Power Demand, Enhance Power Supply Reliability and Quality
- Electricity Supply for Remote or Underserved Areas



Energy Storage System (ESS) Integrated Solutions 215kWh



Smart Liquid Cooling System

Cooling Method

> 0.99

IP54

Power Factor

IP Rating



- Utilize High-End Components
- Design Life ≥ 10 Years

Peak Performance

- Utilize Automotive-Grade Lithium Iron Phosphate Battery
- Battery Pack Temperature and Voltage Control
- Liquid Cooling System for Battery
- Battery Pack IP67 Protection

(P) Ultra-Fast Charging

- As fast as 10 minutes
- Chargeable up to 80%

W High Safety

- 30 Active Safety Checks
- 24-Hour Platform Monitoring
- Equipped with Emergency Stop Button
- High Safety Assurance

Technical Specification

PARAMETERS	
Machine Dimensions(W*D*H)	2000*2100*1300
IP Rating	IP54 (Battery pack IP65)
Charger type	Integrated
Battery pack Battery power	215kWh
Voltage range	600-876VDC
Input power rating	AC380/Max 40KW/80KW
Battery cycling	≥6000 Cycles
Cooling system Liquid	Liquid cooling
Output current	140A
Output power	107KW
Charging system Max output power (KW)	120KW+40KW/80KW
Output voltage	200V-1000VDC
Output current	250A (max)
System thermal management	Air cooling
Charging Gun Dual	Double gun
User interface	7" LCD touchscreen
Operation tips	Voice function
Advertising screen	15.6" inches
Communication mode	4G, WIFI, Bluetooth, Ethernet
User authentication	Swipe card, scan code, mini program, APP, POS payment
Charging system	Cell: IEC 62619/IEC62933/UN38.3 Battery system: IEC62619, IEC 63056 (including functional safety) and IEC62477-1 Charging part: IEC 62619, IEC61851, IEC62477, IEC15118
Protection function	Flood switch, collision protection, anti-theft door lock, door opening protection, ground protection, tipping protection,
noise	noise<65dB

HiCÍ

Liquid-cooling Energy Storage System ST6880kWh-3450kW-MV-2h



Smart Liquid Cooling System

> 0.99

IP54

Cooling Method

Power Factor

IP Rating



- Intelligent Liquid Cooling Temperature Control to Reduce Auxiliary Power Consumption
- Double-Layer Horizontal Battery Clusters to Save Electrical Cables
- Pre-Installed Design, Entire Unit Transportable, No Battery Installation Work Needed



- Al Monitoring of Cell Health, Early Warning for Abnormal Cells
- Management, Rapid Overcurrent Disconnection and Arc Suppression Protection
- Separate Placement of Electrical and Battery Compartments to Prevent Thermal Runaway Spread

(High Efficiency & Flexibility

- Efficient Liquid Cooling for Heat Dissipation, Simultaneously Improving Battery Life and System Discharge Capacity
- Front Single-Door Design, Supports Back-to-Back and Side-by-Side Display Layout
- Pre-Commissioning to Reduce On-Site System Debugging, Enables Quick Grid Connection

Convenient Operation & Maintenance

- One-Click System Upgrade, All Units Upgraded Simultaneously Without Individual Upgrades
- Intelligent Automatic Refilling, Reducing the Need for Manual Refilling Work
- Online Intelligent Monitoring, Reducing Manual Inspection Frequency

Technical Specification

PARAMETERS	ELECTRICAL PARAMETERS
Battery parameters	
Cell Type	3.2 V / 280 Ah
System Battery Configuration	384S10P * 2
Battery Rated Capacity	3440 kWh * 2
Battery Voltage Range	1036.8 V - 1401.6 V
BMS Communication Interface	Ethernet
BMS Communication Protocol	Modbus TCP
AC-Side Parameters	
AC Rated Power	3450 kVA
AC Current Distortion Rate	< 3 % (Rated power hour)
DC Component	< 0.5 %
AC Rated Voltage	690 V
Grid Voltage Range	586.5 V - 759 V
Power Factor	> 0.99 (Rated power hour)
Adjustable Reactive Power Range	- 105 % - 105 %
Rated Grid Frequency	50 Hz
Grid Frequency Range	45 Hz - 55 Hz
Isolation Method	Transformer isolation
Transformer Parameters	
Rated Power	3450 kVA
Voltage Ratio	0.69 kV / 37 kV
Group	Dy11
System Parameters	
Battery System Dimensions (W * D * H)	9340 mm * 3150 mm * 1730 mm
Battery System Weight	≤33.5 t
Inverter Boost System Dimensions (W*D*H)	7800 mm * 2817 mm * 3000 mm
Inverter Boost System Weight	16 t
IP Rating (Inverter Boost System)	IP54
IP Rating (Battery Compartment)	IP55
Operating Temperature Range	- 35 °C - 50 °C (> 45 ° C Derated)
Operating Humidity Range	0 % - 95 % (non-condensing)
Maximum Operating Altitude	2000 m
Battery Temperature Control Method	Intelligent liquid cooling
Inverter Cooling Method	Temperature controlled forced air cooling
Fire Protection System (Battery System)	FM200 Gas Fire + Combustible Gas detection + exhaust + Water Fire, PACK Fire (optional)
System Communication Interface	Ethernet
External System Communication Protocol	Modbus TCP
Certification	GB/T 36276, GB/T 34131, GB/T 34120, GB/T 34133

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Commercial & Industrial Liquid-Cooling Energy Storage



Smart Liquid Cooling System

250kVA

IP54

Cooling Method

Output power

IP Rating



- Highly Integrated for Easy Transportation and Maintenance
- Fully Pre-Assembled, No On-Site Installation of Battery Modules Required
- On-Site Installation Completed Within 8 Hours

(High Efficiency & Flexibility

- Smart Liquid Cooling Ensures Higher Efficiency and Longer Battery Cycle Life
- Modular Design, Supports Parallel Connection, Facilitating System Expansion

Safe and Reliable

- DC Circuit Safety Management, Rapid Fuse Protection, and Arc Protection
- Multi-Level Battery Protection System, Impeccable Safety
- Intelligent Leak Detection and Refilling System, Enhances System Safety

Convenient Operation & Maintenance

- Real-time Status Monitoring and Fault Recording, Achieves Fault Early Warning and Fault Location
- Built-in Battery Performance Monitoring and Recording Functionality

Technical Specification

PARAMETER TYPES	ELECTRICAL PARAMETER	
Battery Parameters		
Cell Type	Lithium iron phosphate	
System Battery Configuration	300S2P 300S2P*2	
DC Side Battery Capacity @BOL	537 kWh 537 kWh*2	
Battery Voltage Range	810~1095V	
Battery Cabinet Dimensions (W * D * H)	2180*2450*1730mm (Single box)	
Battery Cabinet Weight	5900kg (Single box)	
IP Rating	IP54	
IC Rating	C3	
Operating Humidity Range	0 ~ 95 % (non-condensing)	
Operating Humidity Range	-30 to 50°C (> 45 ° C Derated)	
Maximum Operating Altitude	3000m	
Battery Cabinet Cooling Method	Intelligent liquid cooling	
Fire Safety Configuration	Aerosol, combustible gas detection + exhaust	
Communication	Ethernet	
Communication Protocol	Modbus TCP	
Certification and Standards	GB/T 36276, GB/T 34131	
PCS Cabinet Parameters		
Rated Output Power	250kVA@45° C	
Total Current Harmonic Distortion	<3% (Rated power hour)	
DC Component	<0.5% (Rated power hour)	
Rated Grid Voltage	400V	
Grid Voltage Range	360-440V	
Rated Grid Frequency	50/60Hz	
Grid Frequency Range	45-55Hz,55-65Hz	
PCS Cabinet Dimensions (W * H* D)	1800*2450*1230mm	
Weight	1600kg	
IP Rating	IP54	
Corrosion Protection Level	C3	
Operating Humidity Range	0 ~ 95 % (non-condensing)	
Operating Temperature Range	-30 to 50°C (> 45 ° C Derated)	
Maximum Operating Altitude	3000m	
Communication	Ethernet	
Communication Protocol	Modbus TCP	
Certification and Standards	GB/T 34120, GB/T 34133	





Globle Renewable ESS Application

LOCATION

United States

PRODUCT TYPE

Containerized Energy Storage Products

DELIVERY TIME

From 2017 until now

SYSTEM FUNCTIONS

Regulating Power Quality, Storing Electrical Energy







Minnesota







Renewable ESS Application

LOCATION

Liaoning, Inner Mongolia, Gansu, Tibet, etc.

PRODUCT TYPE

Containerized Energy Storage Products

DELIVERY TIME

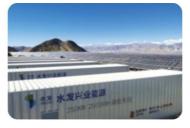
From 2014 until now

SYSTEM FUNCTIONS

Wind Farm (Smooth Power Output, Tracking Generation Plans, Transient Active Power Output, Emergency Response, Transient Voltage Emergency Support), Domestic Renewable **Energy Generation**



Xizang 193MWh ESS Project



Xizang 40MWh ESS Project



Wind Power ESS Project



National Grid Wind Power Project







Thermal power ESS Application

LOCATION

Guangdong, Shanxi, Inner Mongolia, etc.

PRODUCT TYPE

Fire-Energy Joint FrequencyRegulation System

DELIVERY TIME

From 2019 until now

SYSTEM FUNCTIONS

Provide high-quality and efficient frequency regulation services for the grid, stabilize grid frequency, improve grid power supply quality

PAGE-18 PAGE-19

Grid Application

LOCATION

Henan, Jiangsu, Tianjin, etc.

PRODUCT TYPE

Containerized Energy Storage Products

DELIVERY TIME

From 2018 until now

PROJECT CONTRIBUTION

Significant in alleviating grid pressure, implementing peak shaving and valley filling, improving grid equipment utilization, enhancing the capacity of renewable energy sources within the grid, and increasing grid operational safety and stability. This project is a large-scale energy storage system.











Large-scale ESS Application

LOCATION

Texas, United States

INSTALLED CAPACITY

260MW/260MWh

DELIVERY TIME

May 2022

PROJECT CONTRIBUTION

The largest single energy storage station in Texas, contributing to increased grid equipment utilization.



