TBEA
XI'AN ELECTRIC TECHNOLOGY

Grid-Forming String Energy Storage Solution

TBEA Xi'an Electric Technology Co., Ltd.

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About Us

Founded in 2010, TBEA Xi'an Electric Technology Co., Ltd. is a trusted provider of high-performance energy solutions, with expertise in solar power generation, battery energy storage systems (BESS), power conversion systems (PCS), advanced power distribution, flexible HVDC transmission, and intelligent operation & maintenance (O&M) platforms. The Company emphasizes reliability, safety, and long-term value in global energy infrastructure. Its comprehensive portfolio includes grid-connected solar inverters, PCS, high-voltage STATCOM, energy routers for microgrids, flexible HVDC converter valves, and more.

In the solar sector, TBEA Xi'an Electric Technology offers a complete lineup of grid-connected inverters ranging from 8 kW to 9,000 kW, with a cumulative global installation capacity exceeding 100 GW. For energy storage, TBEA Xi'an Electric Technology has delivered BESS solutions with a total installed capacity of 5 GWh, and over 55 GVar of static var generators (SVG). As one of the pioneers in China, the Company provides integrated solutions spanning BESS, microgrids, HVDC systems, SCADA platforms, and the TB-eCloud intelligent O&M system.

TBEA Xi'an Electric Technology maintains a strong international footprint, with operations in more than 20 countries across Asia, Europe, Latin America, and the Middle East. Guided by its mission of "Green Energy for a Better Life", TBEA Xi'an Electric Technology is dedicated to driving the sustainable development of global society through intelligent, efficient, and eco-friendly energy solutions.

38+GW
Total designed capacity of PV and wind power

20+
Countries and regions

20+GW
Total access of TB-eCloud

5+GWh
Cumulative global shipments of energy storage system

55+Gvar
Cumulative global shipments of TSVG

100GW
Cumulative global shipments of PV inverters

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String BESS Solution

Solution Value

Grid Support

- Grid forming
- Rapid response

Low LCOS

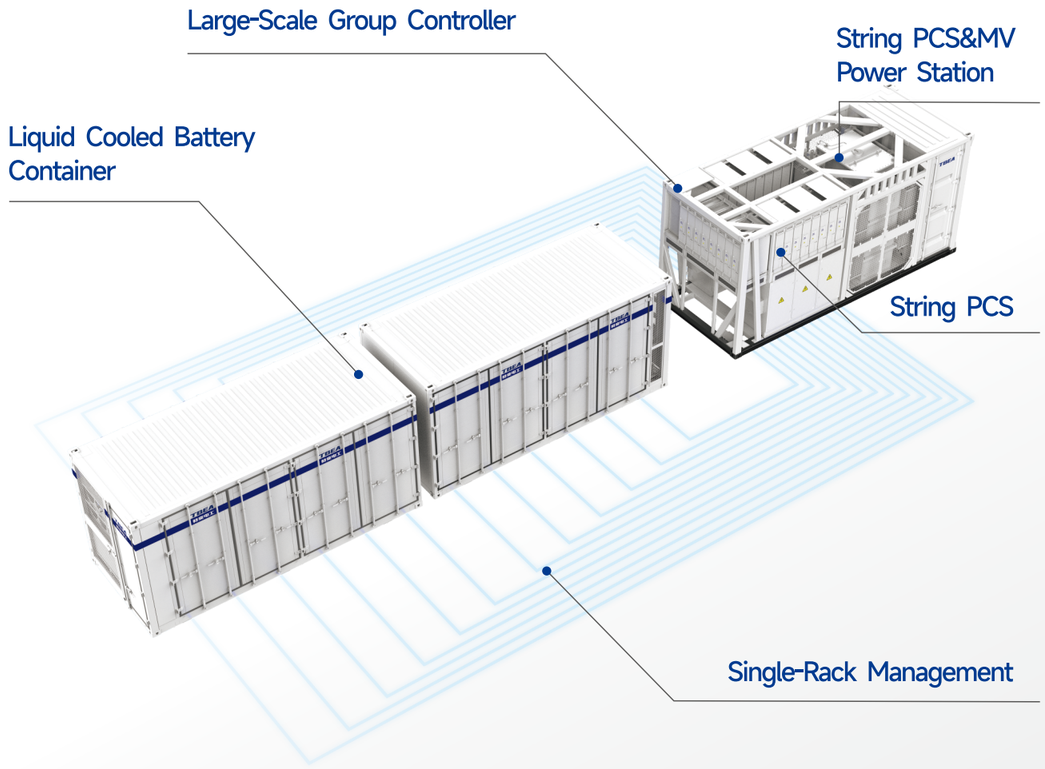
- Enhanced overall benefits
- Increase discharge capacity

Safe and Reliable

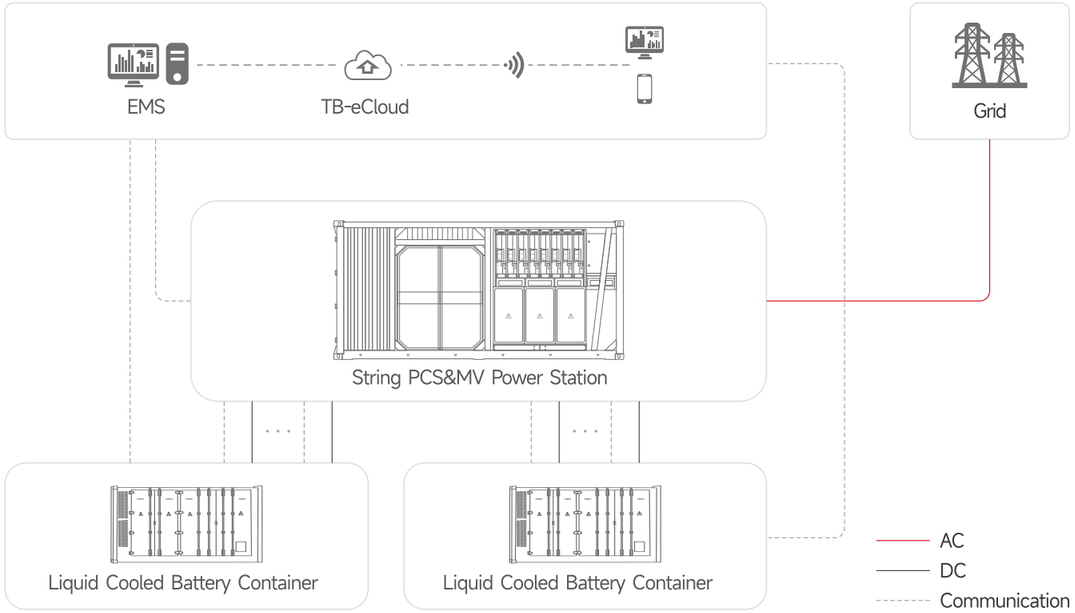
- Independent fire protection
- Modular management

Smart O&M

- Intelligent data monitoring
- Modularized design



BESS Solution



TBEA XI'AN ELECTRIC TECHNOLOGY Value of Energy Storage System Solution

Optimal Investment

- Reducing investment
- Improving discharge capacity

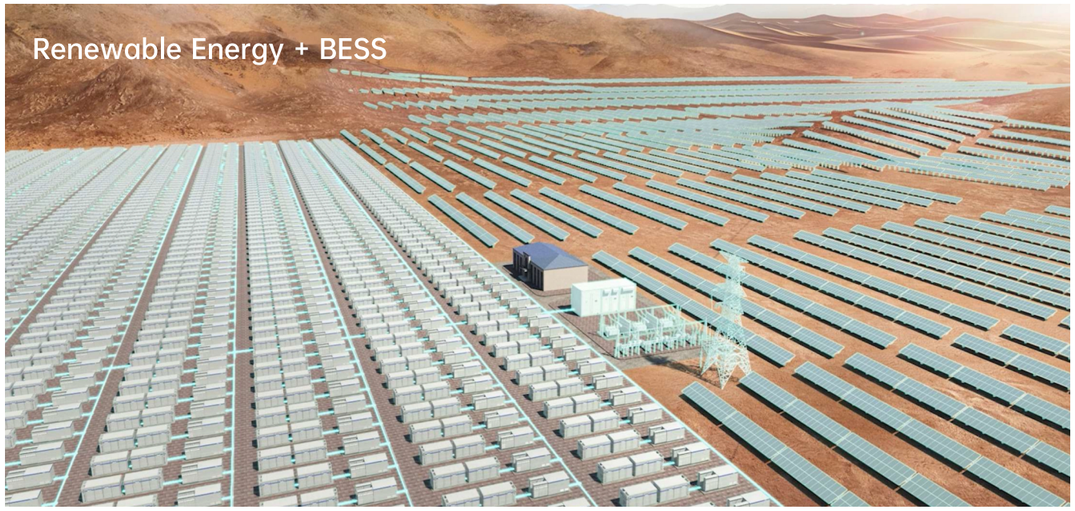
Safe and Efficient

- Multi-layer security protection
- Single-rack management

Grid Support

- Peak shaving/ Frequency regulation
- VSG / Black Start / LVRT / HVRT

Application Scenarios



- Increase renewable energy access capacity
- Promote renewable energy consumption
- Smoothing the fluctuation of renewable energy output
- Participate in grid ancillary services

- Enhancement of grid security and stability
- Participate in grid ancillary services
- Participate in electricity market-based trading
- Decreasing grid infrastructure investment

TE215/235/250K-HV String PCS

High Reliability

- IGBT industry-leading brand
- IP66 protection grade, C5 anticorrosion grade
- Grid-support function

High Availability

- High altitiude adaptability
- Wide temperature adaptability
- Convenient installation and maintenance

High Cost-effectiveness

- High discharge consistency of modular rack level management
- Three-level topology high conversion efficiency

Technical Parameters

Product			
Specification	TE215K-HV	TE235-HV	TE250K-HV
Efficiency			
Max. Efficiency (EU)	99.2%		
DC Side			
Max. DC Voltage	1500V		
Operating DC Voltage Range	1040-1500V		
AC Side			
Rated AC Active Power	215kW	235kW	250kW
Max. Apparent Power	279.5kVA	279.5kVA	279.5kVA
Rated AC Current	180A	196.6A	209A
Max. AC Current	234A	234A	234A
On - Grid			
Rated Grid Voltage	690V		
Allowable Grid Voltage Range	-10%~10% (settable)		
Rated AC Grid Frequency	50Hz/60Hz		
THDi	<3% (at rated power)		
Power Factor Range	-1 (Lagging)~1 (Leading)		
System			
Cooling method	Smart Air Cooled		
IP Rating	IP66		
Corrosion Prevention	C5		
Operating Temperature Range	-40°C~60°C		
Relative Humidity	0-100% （no condensation）		
Altitude	4000m		
Dimensions (WxHxD)	213*900*740mm		
Weight	≤98kg		
Standard	IEC62477，IEC61000，IEC61683，IEC61727，IEC62116		

1 - For more product models, please consult with TBEA.

2 - When ambient temperature ≥55°C, awning shall be equipped on site by customer.

TE4100/5000KT-EL
String PCS&MV Power Station

Flexible and Friendly

- Module design, highly integrated convenient operation and maintenance
- DC wide voltage input, flexible configuration of battery

Safe and Reliable

- Single-rack battery management prevent overcharge and overdischarge
- Multi-modules coordinated control

Intelligent Collaboration

- Quick suppression of frequency and power fluctuation can adapt to various application scenarios
- LVRT/HVRT, weak grid support, VSG, Grid-forming, Black start

Technical Parameters

Product		
Specification	TE4100KT-EL	TE5000KT-EL
DC Side		
Max. DC Voltage	1500V	
Operating DC Voltage Range	1040-1500V	
Number Of DC Branches	20	24
Max. DC Current	236.5A*20	236.5A*24
AC Side		
Rated AC Active Power	215kW*20	215kW*24
Max. Apparent Power	236.5kW*20	236.5kW*24
Voltage Transformation Ratio	11KV-33kV/0.69kV(Consult with TBEA for other voltage level)	
Rated Transformer Capacity	4100kVA	5000kVA
System		
Overload Capacity	110% overload	
Cooling method	Smart Air Cooled	
Rated AC Grid Frequency	50/60Hz	
THD (Rated Power)	< 3%	
Power Factor Range	-1 (Lagging)~1 (Leading)	
IP Rating	IP55	
Corosion Prevention	C4/C5	
Operating Temperature Range	-30°C~55°C	
Relative Humidity	4%-100% (no condensation)	
Altitude	4000m (>2000m customized)	
Communication	Ethernet (CAN, RS485 Optional)	
Dimensions (W×H×D)	6058*2896*2438mm	
Weight	≤22T	

1 - For more product models, please consult with TBEA.

2 - When ambient temperature ≥55°C, awning shall be equipped on site by customer.

Liquid Cooled Battery Container

High Safety

- Active fire protection
- Multiple fuse protection
- Dedicated cell monitoring and protection

High Reliability

- High thermal stability
- High cycle life
- Easy extension

Low LCOS

- Excellent thermal management
- Supports back to back and side by side installations

Technical Parameters

Product		
Cell		
Capacity	306Ah	314Ah
Charge/Discharge Rate	≤0.5P	≤0.5P
Nominal Voltage	3.2V	3.2V
Rated Energy	979.2Wh	1004.8Wh
Battery Rack		
Cell Specification	LFP306Ah	LFP314Ah
Number Of Cell	416	
Nominal Capacity	407.347kWh	417.996kWh
System		
Rated Voltage	1331.2V	
Voltage Range	1164.8V~1497.2V	
Nominal Capacity	4073kWh	5015kWh
Cooling method	Liquid cooled	
IP Rating	IP55	
Corosion Prevention	C4/C5	
Operating Temperature Range	-30°C~55°C	
Max. Operating Altitude	4000m	
Communication	Ethernet (CAN,RS485 Optional)	
Dimensions (W*H*D)	6058*2896*2438mm	
Weight	≤36T	≤40T
Testing and Certification	IEC61000, IEC62477, IEC62619, IEC63056, UL9540, CE, NFPA 855	

1 - For more product models, please consult with TBEA.

Application Case

Inner Mongolia-78MW/156MWh

- Distributed air-cooled BESS
- Dual AB fiber-optic ring network
- Independent fire protection and video ring network
- Battery temperature difference <5°C

Gucheng-200MW/400MWh

- High system efficiency
- Lower LCOS and enhanced IRR
- Standardized design and modular installation
- Simplified commissioning and maintenance

Liaocheng-100MW/200MWh

- Multi-level electrical protection
- Protection level IP55, anti-corrosion C4
- Early-stage detection and warning
- System μs transmission delay, ms synchronization

Zibo-58.65MW/117.3MWh

Bulgaria-34.5MW/65.16MWh

Sixian-50MW/50MWh

Chengde-30MW/120MWh