

TITAN SERIES

Battery Energy Storage System

Titan 1MWh-0.5MW-DHP



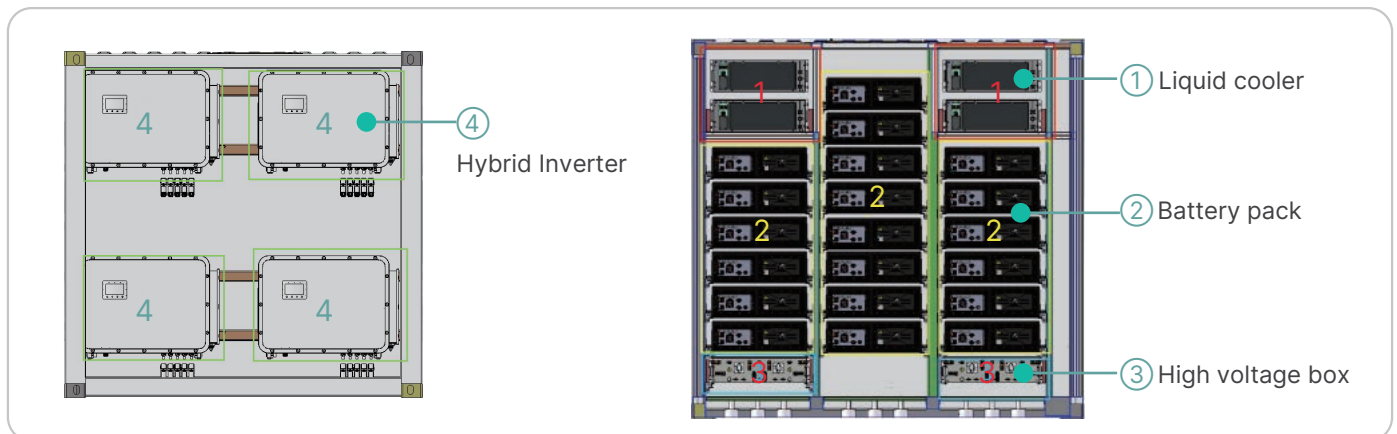
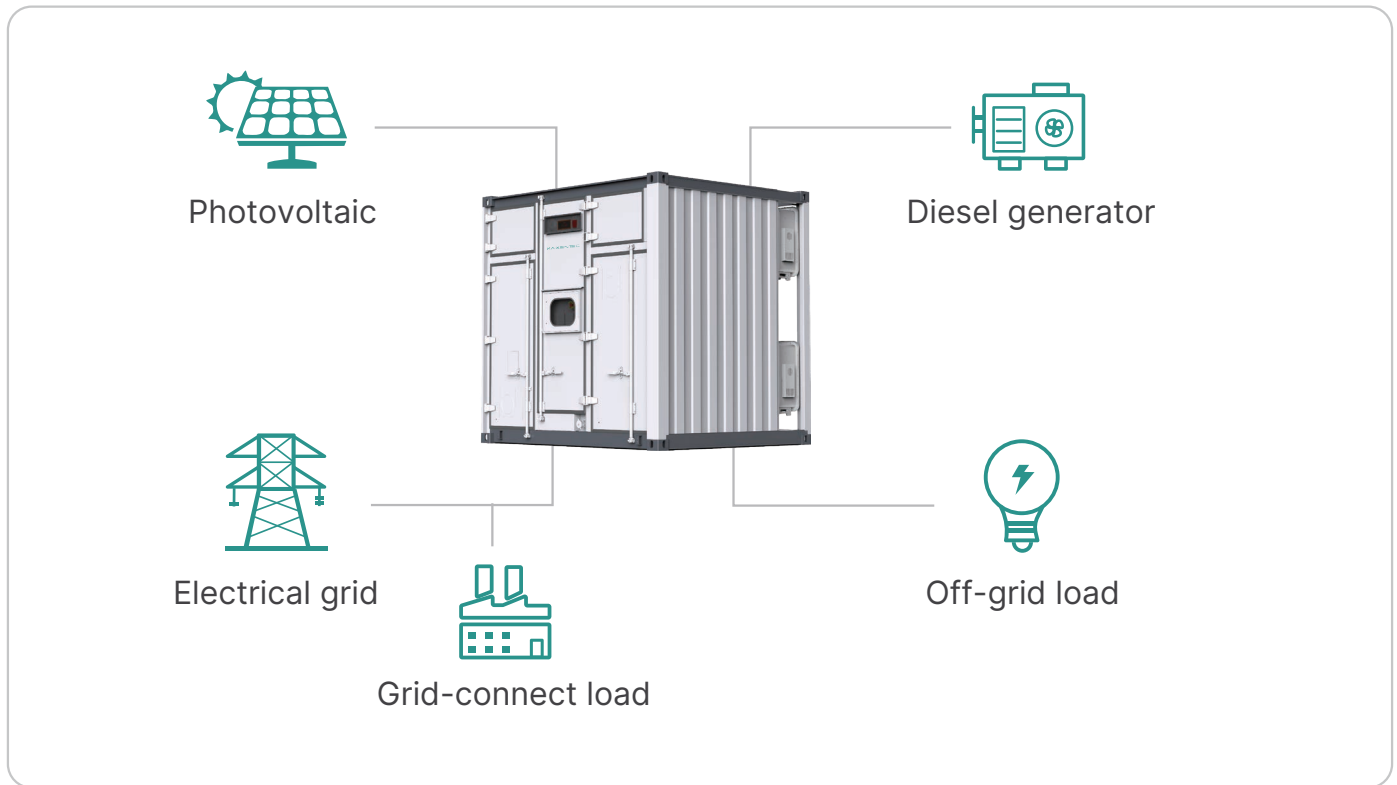
The Titan **1MWh-0.5MW-DHP** is a compact, liquid-cooled hybrid energy storage container designed for scenarios requiring flexible input sources and rapid deployment. It supports multiple power inputs, including grid, diesel generators, and photovoltaic systems, making it ideal for off-grid, microgrid, and backup power applications.

This system ensures seamless energy transition with an off-grid switching time of less than 20 ms, guaranteeing uninterrupted supply for critical loads. Its integrated design houses batteries, BMS, EMS, fire protection, thermal management, hybrid inverters, and distribution components in a high-density layout.

Available in five configurations from 125 kW / 522 kWh to 500 kW / 1044 kWh, the Titan DHP series supports both 2-hour and 4-hour use cases. This modular scalability allows it to adapt to diverse project demands in commercial, industrial, and remote energy environments.

With high space utilization, plug-and-play installation, and intelligent control capabilities, the Titan 1MWh-0.5MW-DHP offers a reliable and efficient energy storage solution for dynamic energy systems and hybrid power needs.

Titan Series Technical Parameters



	Equipment	Specification	Quantity
Battery parameters			
1	Liquid cooler	5kW	4
2	Battery pack	1P52S	20
3	High voltage box	1000V DC/DC Two in and two out	2
4	Hybrid Inverter	125kW	4

* The actual product may differ slightly from the pictures.
 * The specifications are subject to change without prior notice.

Titan Series Technical Parameters

Model	250kW/ 522kWh	375kW/ 783kWh	500kW/ 1044kWh	125kW/ 522kWh	250kW/ 1044kWh
Battery parameters					
Single Battery Specifications	LFP 314Ah				
Battery System Capacity (kWh)	522	783	1044	522	1044
Battery Pack Series and Parallel Connection Methods	1P52S				
String Formation	2P52S	3P52S	42P52S	2P52S	4P52S
Rated Operational Voltage (V)	832				
Operating Voltage Range (V)	728~923				
Rated Discharge Rate of Electricity (C)	0.5			0.25	
Photovoltaic Side Parameters					
Maximum Input Power (kW)	500	750	1000	250	500
Maximum Input Voltage (V)	1000				
Rated Input Voltage (V)	600				
Starting Voltage (V)	180				
MPPT Voltage Range (V)	150~950				
Maximum Input Current of Photovoltaic System(V)	20*42	30*42	40*42	10*42	20*42
Maximum Input Short-circuit Current of Photovoltaic (V)	20*60	30*60	40*60	10*60	20*60
MPPT Quantity/Maximum No. of Input String Circuits	20/40	30/60	40/80	10/20	20/40
Grid output parameters					
Output Rating (kW)	250	375	500	125	250
Maximum Output Apparent Power(kVA)	250	375	500	125	250
Rated Grid Voltage (V)	3/N/PE,230/400				
Rated Grid Frequency (Hz)	50/60				
Grid Input Parameters					
Maximum Input Current (A)	500	750	1000	250	500
Off-Grid AC Output Parameters					
Output Rating (kW)	250	375	500	125	250
Maximum Output Apparent Power (kVA)	250	375	500	125	250
Rated Grid Voltage (V)	3/N/PE,230/400				
Rated Grid Frequency (Hz)	50/60				
Off-Grid Switching Time (ms)	< 20				
Generator Input Parameters					
Maximum Input Power (kW)	250	375	500	125	250
Rated Input Voltage(V)	3/N/PE,230/400				
Rated Input Frequency (Hz)	50/60				

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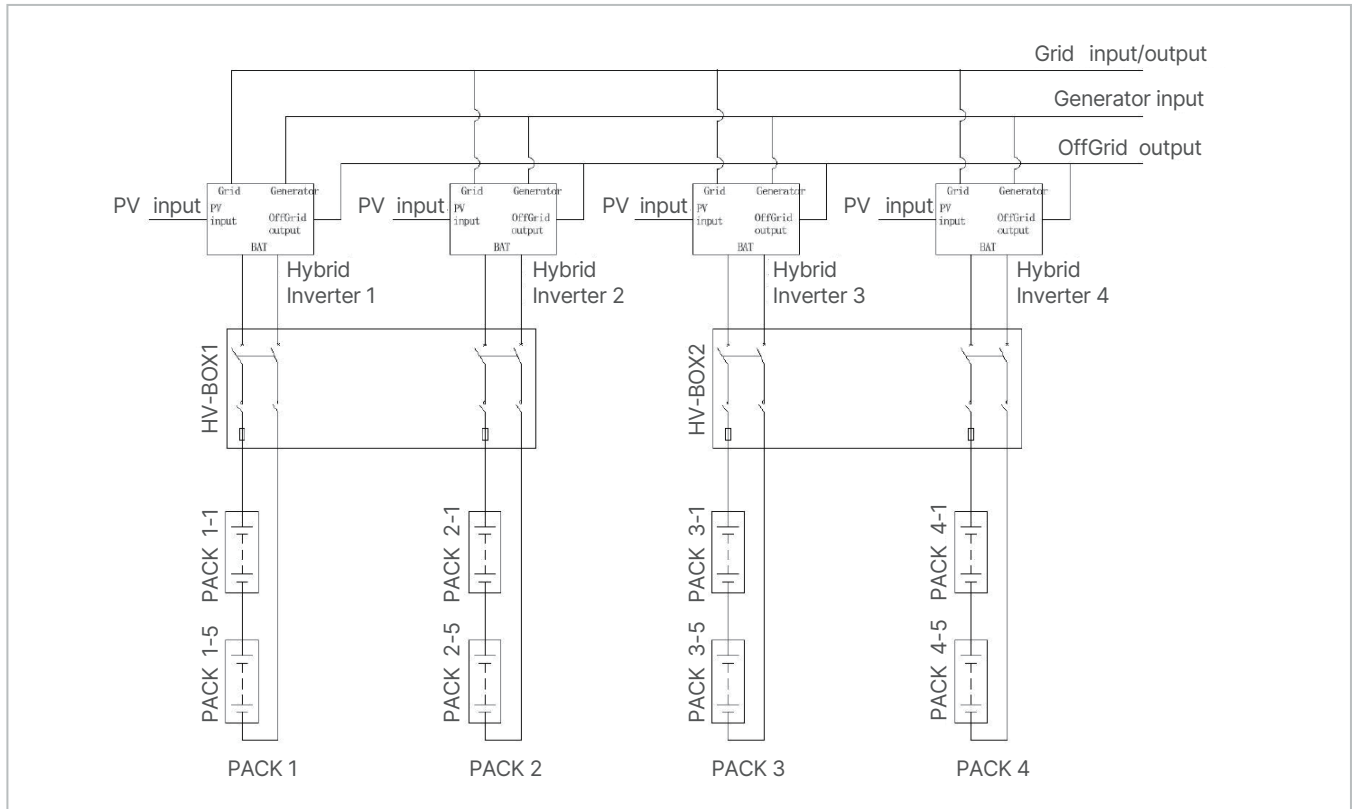
Titan Series Technical Parameters

Model	250kW/ 522kWh	375kW/ 783kWh	500kW/ 1044kWh	125kW/ 522kWh	250kW/ 1044kWh
Battery parameters					
Container Protection Grade	IP54/IP55				
Dimensions of the single battery compartment (W*D*H,mm)	2991*2438*2896				
Battery System Cooling Method	Liquid cooling				
Hybrid Inverter Cooling Method	Wind cooling				
Operating Temperature (°C)	-20~55				
Operating Humidity	5%~95%RH(No condensation)				
Working Altitude(m)	≤3000 (>2000m needs decentralization)				
Fire Fighting Medium	Temperature sensation + smoke sensation + combustible gas detection + ventilation + aerosol + water spray				
Communication Interface	Ethernet/CAN/485				
Reference Weight (t)	≈7.5	≈9.5	≈11.5	≈7	≈11

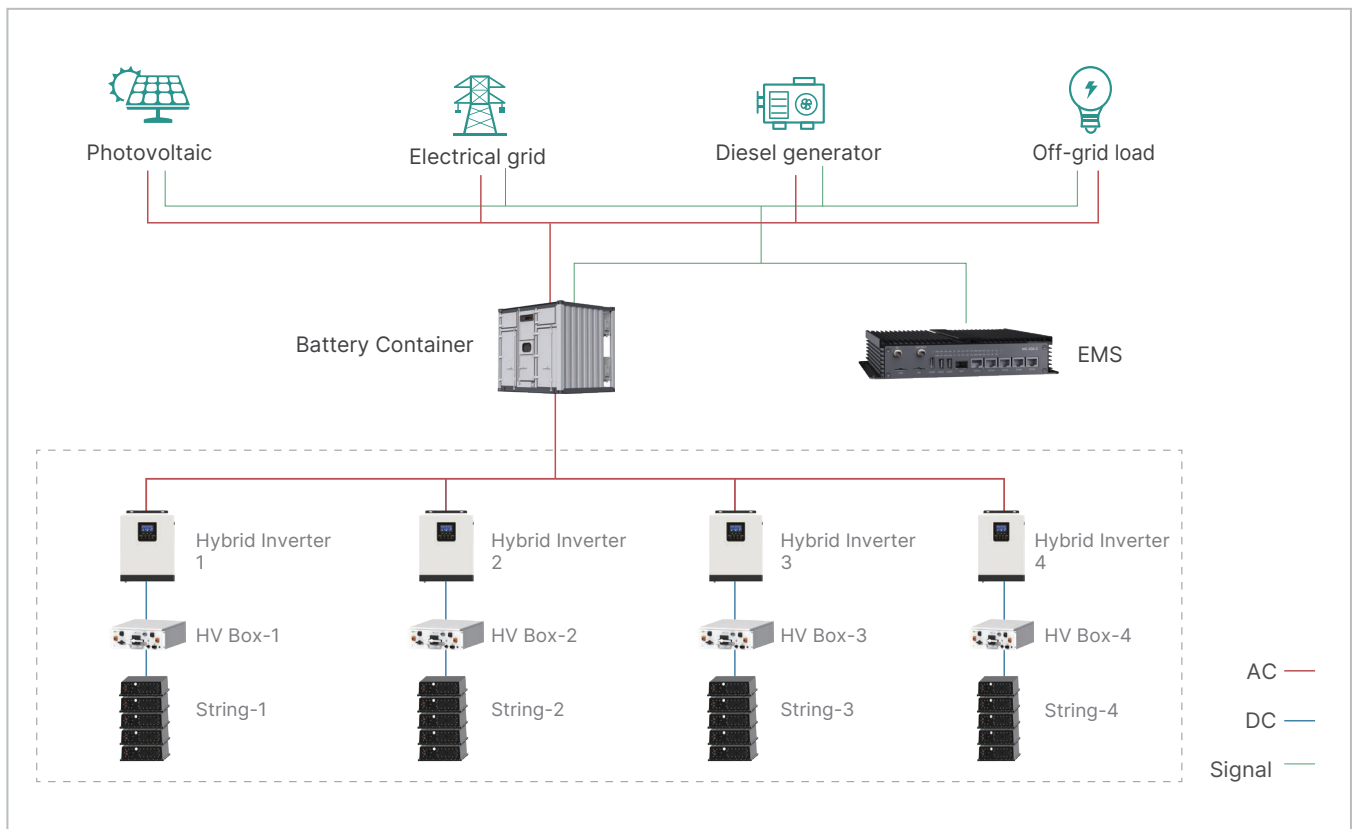
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Electrical diagram of an example energy storage system



Topology diagram of energy storage system



Energy Management System (EMS)



✓ Summary

The EMS supports a wide range of functions, including real-time data acquisition, protocol conversion, energy management, lightweight edge computing, and local interface display. Integrated with the cloud management platform, it enables advanced features such as electricity consumption tracking, revenue analysis, intelligent O&M, alarm diagnostics, and fine-grained system control.

It is ideally suited for applications such as transformer zone management, industrial and commercial energy storage, integrated charging and storage systems, and photovoltaic-storage microgrids. The system is compatible with multiple communication protocols, including IEC61850, IEC104, Modbus, TCP/IP, DL/T645, MQTT, and HTTP.

Powered by AI-based optimization algorithms, the EMS supports forecasting and dispatching of renewable generation, demand-side response, charging infrastructure, building loads, and production schedules. This enables efficient use of renewable resources, dynamic load balancing, and comprehensive economic and carbon optimization across microgrid environments.

✓ Product features

- ⦿ High real-time performance, supporting data collection at the millisecond second level;
- ⦿ High compatibility, compatible with devices from third-party manufacturers and supporting commonly used industry protocols;
- ⦿ Rich peripheral interfaces;
- ⦿ Supports multiple control strategies, such as peak shaving and valley filling, demand control, peak-valley arbitrage, and orderly charging, etc.
- ⦿ Support carbon emission management;
- ⦿ Optimal AI algorithm optimization
- ⦿ Anti-reverse flow, anti-overload;
- ⦿ Have local security controls;

EMS Technical Parameters

Model	Titan500-EMS	Remarks
System resources		
CPU	Four-core Cortex-A55	
NPU	1TOPS	
Main frequency	2GHz	Highest frequency
Memory	2GB/4GB LPDDR4	The memory can be optionally equipped with 2GB or 4GB
Storage	32GB+128G SSD	SSD solid-state drives are optional
System	Linux	
Peripheral resources		
Power supply	Dual-channel redundancy	DC 9~36V
Gigabit Ethernet	1(10/100/1000Mbps)	Optical port and electrical port are optional
100 Megabit Ethernet	4(10/100Mbps)	Ethernet in the same network segment
RS485	8	Isolated type
RS232	2	Isolated type
CAN	2	Isolated type
DI	4	
DO	4	For signal use only
start	2	
HDMI2.0	1	
Wireless communication	WiFi/BLE、4G/5G	Optional 5G
SIM card		
SD card		
Indicator light	30	
Environmental parameters		
Working temperature	-25~55°C	
Working humidity	5%~95%(No condensation and no freezing)	
Working altitude	Below 3000 meters	
Mechanical properties		
Mechanical dimensions	200x235x52 mm	
Protection grade	IP50	

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The logo for Kaixentec, featuring the word "KAIXENTEC" in a bold, uppercase, sans-serif font. The letters are white with a light blue glow effect. The background of the entire page is a dark blue/black gradient with a complex, glowing circuit-like pattern of white and light blue lines and hexagons.

KAIXENTEC

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