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Vega

MW-level liquid-cooled commercial and industrial solar energy storage system

THESS-500-1048

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Tecloman Energy GmbH

Tecloman's MW-level liquid-cooled commercial and industrial energy storage system utilizes 315Ah LFP battery cells and a modular cabinet design. The power and battery capacity can be adjusted at any time according to customer needs, allowing for flexible configurations to meet diverse customer requirements.

The MW-level liquid-cooled commercial and industrial energy storage system is primarily designed for commercial and industrial energy storage applications. It supports AC 400V grid connection, photovoltaic integration, and includes reserved interfaces for charging stations. With high safety protection levels, fire protection, and intelligent temperature control systems, it is suitable for a variety of commercial and industrial energy storage applications.

Product Introduction

Modular assembly

High protection level, easy to install and transport.

Ip54 protection rating

Independent battery and electrical compartment design.

Fire Safety Protection

Reliable integration of intelligent temperature control and fire management enhances system fire safety.

Multi-Scenario Applications

Suitable for renewable energy integration, microgrids, peak regulation, and more.

Supports multi-source access

Supports 400V grid connection,
Supports charging station connection.

Fully certified

All components are CE certified,
Meet overall transportation requirements.

Product Features

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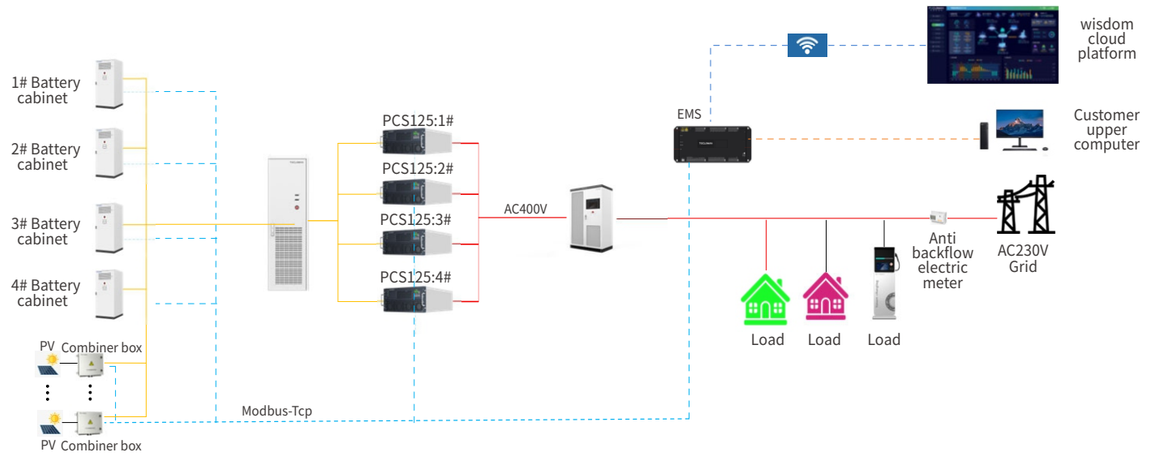
Typical System Topology

Typical Configuration Scheme:



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Typical Application Scenarios:

Peak shaving and valley filling

Charge during off-peak hours when electricity prices are low, and discharge during peak hours to profit from the price difference.

Dynamic scaling

When the power load exceeds the transformer capacity, the energy storage system automatically discharges to meet the power demand, effectively acting as a capacity expansion solution.

Emergency backup

When the power grid fails, the off-grid system can supply power to the load, ensuring uninterrupted operation of critical loads.

Multi-energy complementary microgrid

Multiple energy sources provide a balanced power supply.

Integrated energy storage and charging system

The combination of grid power and solar power can be used in conjunction with electric vehicle charging stations.

Application Scenarios

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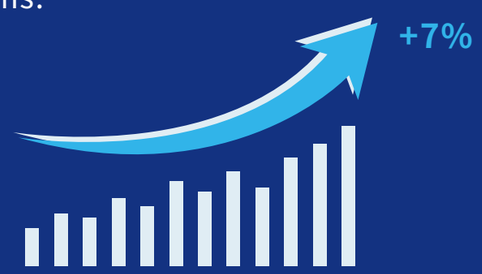
Product Advantages

Advantage One

Highly integrated, modular cabinets are designed for easy assembly, allowing for flexible adjustment of power and battery capacity according to customer needs, and enabling flexible configurations to meet diverse customer requirements.

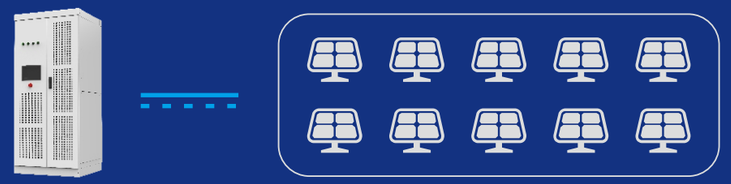
Advantage Two

This system utilizes DC power storage and distribution, reducing energy losses from AC/DC conversion and improving energy utilization efficiency. It achieves a 7% higher conversion efficiency compared to AC-coupled systems.



Advantage Three

le Configuration: The photovoltaic MPPT modules can be freely configured, supporting up to 10 x 50kW MPPT modules.



Advantage Four

Safe operation and maintenance
Multi-dimensional fire protection, remote real-time monitoring.

version

APP/Mini Program

MW-level liquid-cooled commercial and industrial solar energy storage system

Model	THESS-500-1048
AC (On-grid)	
Maximum power	550kW
Rated power	500kW
Rated voltage	400V
Rated current	721A
Voltage range	400VAC (-15%~+10%)
Rated frequency	50Hz/60Hz
THDI	<3%
Power factor	-0.9~0.9
Wiring	3/N/PE
AC (Off-grid)	
Maximum power	550kW
Rated power	500kW
Rated voltage	400V
Rated current	721A
THDU	<3% (Resistive load)
Rated frequency	50Hz/60Hz
Overload capacity	120% overload (1min)
Direct current (batteries and photovoltaic)	
Maximum PV open-circuit voltage	1000VDC
Rated PV power	500kWp
Maximum PV power	1.1~1.4 times rated
PV Voltage range	400V~678VDC
Rated battery voltage	832V
Battery voltage range	728~949VDC
Battery capacity	1048kWh
Maximum charging power	550kW
Maximum discharging power	550kW

Product Parameters

Model	THESS-500-1048
Maximum charging current	793A
Maximum discharging current	793A
Basic parameters	
Noise	<75dB (A) @1m
Protection level	IP54
Corrosion protection rating	C3
Operating temperature	-25℃~+55℃
Protection function	Over/undervoltage, overcurrent, over/under temperature, excessively high/low
	SOC (State of Charge), low insulation resistance, short-circuit protection, etc.
Fire protection	aerosol
Cooling Method	Liquid-cooled air conditioning + forced air cooling
Relative Humidity	0-95% (non-condensing)
Altitude	4000m (derated above 2000m)
Dimensions (WxDxH)	5700×1300×2350mm
Weight	≈11T
Communication	
Display	Touchscreen
Communication Interface	RS485、CAN、LAN