

# Vega

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

TESS-500-1048



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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.

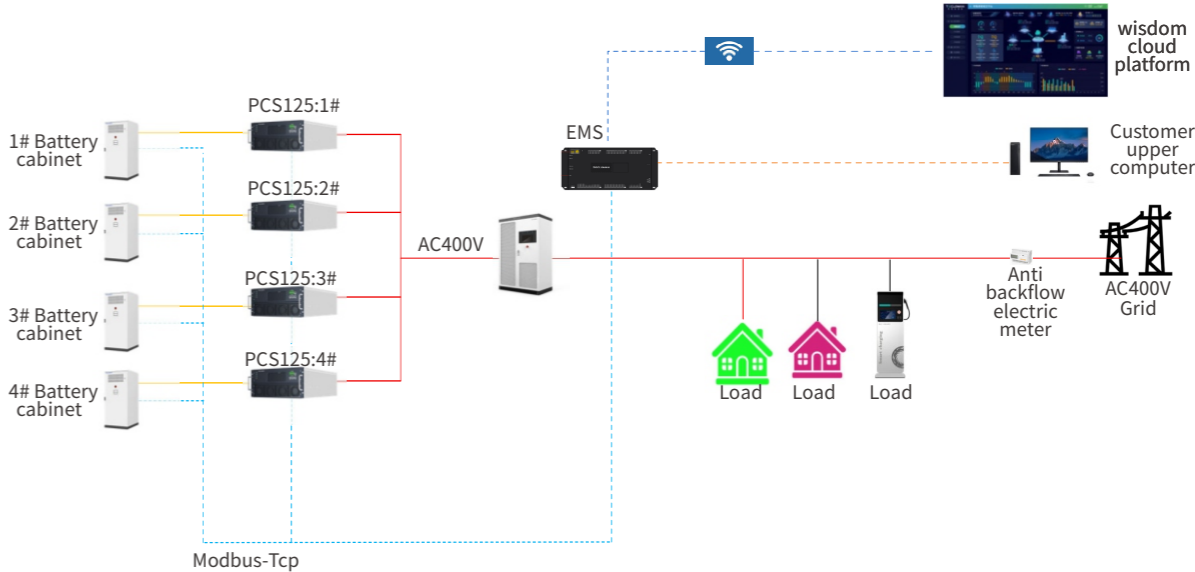
Fully certified

All components are CE certified,  
Meet overall transportation requirements.

# Product Features



Typical Configuration Scheme:



Typical System Topology

## 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.

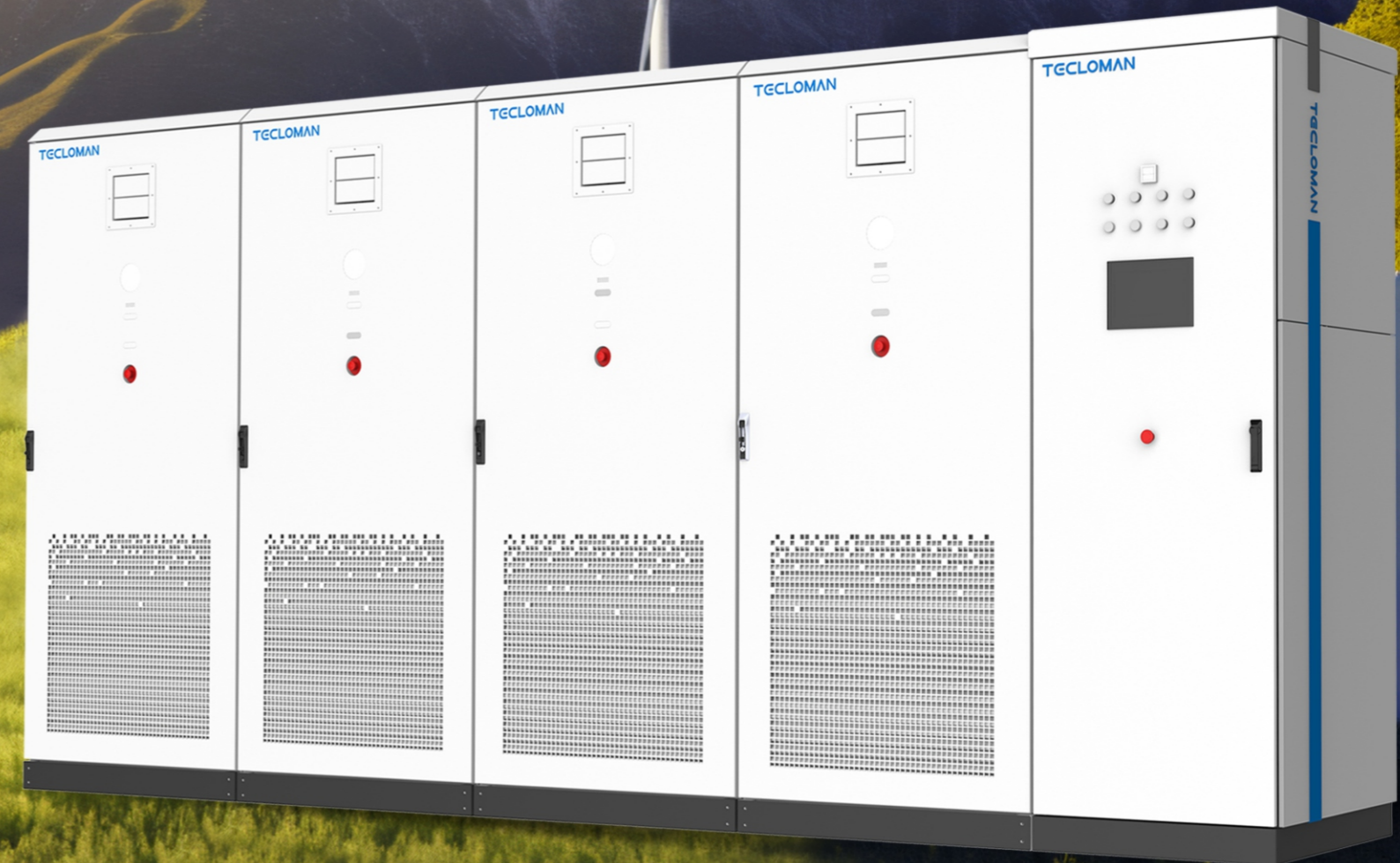
### Multi-energy complementary microgrid

Multiple energy sources provide a balanced power supply.

### Integrated energy storage and charging system

Complementary use in conjunction with new energy vehicle charging stations.

## Application Scenarios



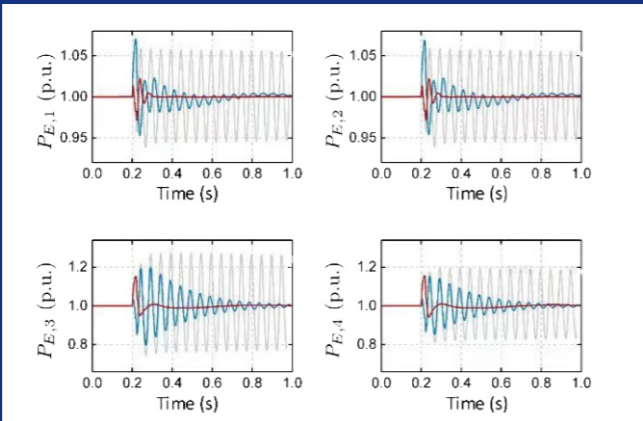
▼ Advantage One

The highly integrated, modular cabinet design allows for quick on-site assembly and requires a smaller land area.



► Advantage Two

Rapid demand-side response, bidirectional interaction, and enhanced grid stability.



Product Advantages

▼ Advantage Three

High flexibility. The capacity can be adjusted by adding or removing battery cabinets, and it can be easily scaled up to MW or even tens of MW levels by connecting multiple modular products in parallel, just like building with LEGO blocks.



▼ 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 energy storage system

| Model                       | TESS-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              |                      |
| Rated battery voltage       | 832V                 |
| Battery voltage range       | 728~949VDC           |
| Battery capacity            | 1048kWh              |
| Maximum charging power      | 550kW                |
| Maximum discharging power   | 550kW                |
| Maximum charging current    | 793A                 |
| Maximum discharging current | 793A                 |
| Basic parameters            |                      |
| Noise                       | <75dB (A) @1m        |

Product Parameters

| Model                       | TESS-500-1048   |
|-----------------------------|---|
| Protection level            | IP54  |
| Corrosion protection rating | C3  |
| Operating temperature       | -25°C~+55°C   |
| 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)          | 4750×1300×2350mm  |
| Weight                      | ≈10.5T  |
| Communication               |   |
| Display                     | Touchscreen   |
| Communication Interface     | RS485、CAN、LAN   |