

# Vega

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

THESS-500-1048



### Product Overview

The MW-level liquid-cooled commercial and industrial energy storage system is primarily designed for commercial and industrial energy storage applications both domestically and internationally. It supports AC 400V grid connection and photovoltaic integration, includes reserved charging pile interfaces, and utilizes modular cabinets for assembly. Power and battery capacity can be adjusted at any time according to customer needs. It features high-level safety protection, fire protection, and intelligent temperature control systems. It is suitable for various applications such as integrated solar-storage-charging systems, substation capacity expansion, and local microgrids.



Integrated design, high protection rating, and convenient installation and transportation



The reliable integration of intelligent temperature control and fire management enhances the fire safety protection of the system



Supports expansion by connecting multiple units in parallel



Supports AC 400V grid connection



The independent battery and electrical compartment design enhances safety protection levels



Suitable for multiple application scenarios, including renewable energy integration, microgrids, and peak load management



All components within the system are CE certified, ensuring the system is suitable for transportation as a whole



The design includes provisions for electric vehicle charging station interfaces.



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
Maximum charging current	793A
Maximum discharging current	793A
Basic parameters	
Noise	<75dB (A) @1m
Protection level	IP54
Corrosion protection rating	C3

Model	THESS-500-1048
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)	5700×1300×2350mm
Weight	≈11T
Communication	
Display	Touchscreen
Communication Interface	RS485, CAN, LAN

## Product Certification

### PCS Certification:

CE, EN 61000-6-4:2019, EN 61000-6-2:2019, EN 62477-1:2012+A1:2017, EN62109-1:2010, EN 50549-1: 2019, C10/11.

### Module Certification:

GB/T36276-2018, IEC61629, UN38.3, EMC.

### Battery Certification:

UL1973, UL9540A, IEC61629, UN38.3, GB/T36276-2018, ROHS, MSDS.

## Product Principle

