

GSL Energy 125kW / 261kWh All-in-One Liquid-Cooling High-Voltage Energy Storage System

CHINA, January 13, 2026

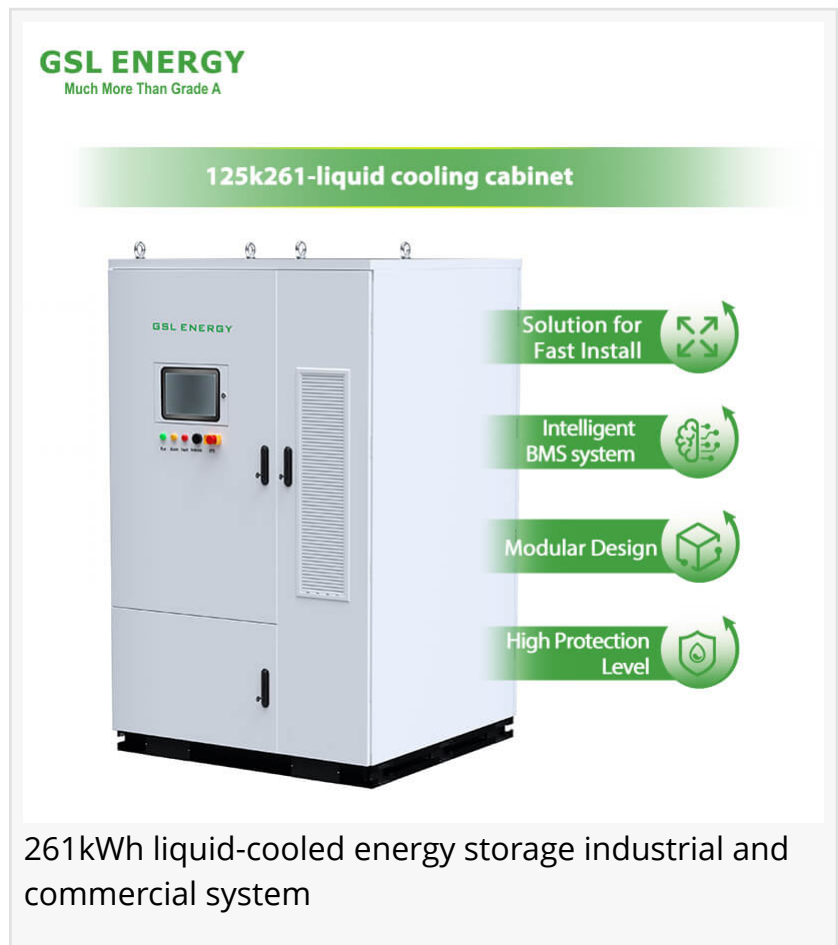
/EINPresswire.com/ -- [GSL Energy](#) proudly introduces the new 125kW / 261kWh all-in-one liquid-cooling [high-voltage energy storage](#) system. It employs 52.24kWh HV LFP314Ah battery modules, an 832V high-voltage architecture, and integrates a PCS (Power Conversion System), intelligent EMS (Energy Management System), liquid cooling unit, and multi-level safety protections. This system provides a comprehensive energy solution for commercial & industrial applications, micro-grids, new energy projects, and integrated solar+storage+charging projects. The system supports customized configurations, allowing flexible capacity and power combinations based on customer needs. It meets short-term and long-term AC/DC power distribution requirements while optimizing energy consumption, reducing operational costs, enhancing economic returns, effectively cutting carbon emissions, and enabling green, sustainable development.

Core Advantages

Safety & Longevity

High-quality REPT LiFePO₄ cells with inherently excellent safety performance.

Cycle life ≥8000 cycles, with over 10 years warranty.



Pack-level liquid cooling integrated with a fire protection system to mitigate thermal runaway risk.

Comprehensive protection strategy supporting diverse scenarios: C&I, micro-grids, farms, villas, etc.

Intelligent Thermal Control & Stability

Built-in liquid cooling unit ensures temperature difference $\leq 3^{\circ}\text{C}$ within a single battery pack.

Precise temperature control extends battery life by over 20%.

Stable operation within ambient temperatures from -30°C to $+55^{\circ}\text{C}$.

Balanced temperature of key components (IGBT, reactor, capacitors) ensures long-term reliable operation.

High Integration & Flexible Scalability

Integrated PCS, BMS, EMS, liquid cooling unit, and fire protection system.

Pre-assembled, plug-and-play design reduces on-site installation and system integration risks.

Modular structure supports multiple parallel units, scalable up to 16 units per system.

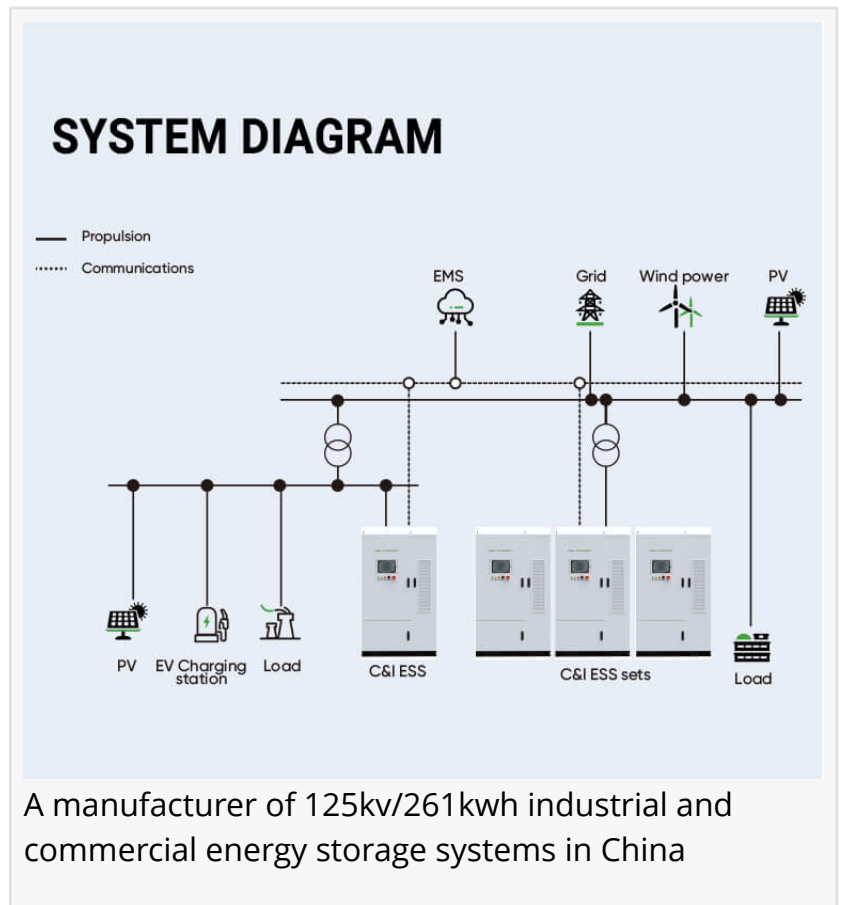
Flexible system configuration facilitates future expansion and maintenance.

Intelligent EMS Management

Cloud-based energy management platform enables remote monitoring and smart O&M.

Supports device status monitoring, fault alarms, economic dispatch, and data analysis.

Offers multiple control strategies: peak shaving & valley filling, anti-reverse power flow, renewable energy consumption, demand management, and grid-tied/off-grid control.



User-friendly operation via Web, APP, and Mini-Program with automatic anomaly alerts.

Multi-Scenario Application Value

□ Peak-Valley Arbitrage

Leverage electricity price differences: charge during off-peak hours and discharge during peak hours to reduce overall electricity costs and enhance investment returns.

□ Demand Management / Dynamic Capacity Expansion

Release stored energy during peak demand to flatten the load curve, avoiding transformer overload and peak demand charges, thereby saving operational costs.

□ Backup Power

Millisecond-level switching to critical loads (e.g., production lines, data centers, communication equipment) during grid anomalies or outages, ensuring production continuity and business security.

□ Renewable Energy Consumption

Pair with PV systems to store excess daytime generation for use at night or on cloudy days, increasing the self-consumption rate to over 80% and reducing losses from low-price feed-in of surplus power.

□ Demand Response & Peak Shaving

Respond to grid dispatch, participate in peak shaving and valley filling, providing grid ancillary services while earning subsidy revenues.

□ Anti-Reverse Power Flow Function

Monitor load power in real-time, dynamically adjust system output to ensure zero power feedback to the grid, meeting grid connection safety and compliance requirements.

System Components

Liquid-Cooling High-Voltage Module: 52.24kWh HV LFP314Ah cells, 832V high-voltage architecture, high energy density, modular and scalable.

PCS (Power Conversion System): Supports PQ / VF / VSG modes, grid-tied/off-grid switching, black start capability.

Liquid Cooling Unit: Precise temperature control ensures optimal battery operating range, prolongs lifespan, and enhances safety.

EMS (Energy Management System): Cloud-based intelligent dispatch, remote monitoring, data analysis, and economic optimization.

Battery High-Voltage Box: Core power distribution hub integrating circuit breakers, relays, fuses, and control units.

Fire Protection System: Smoke + temperature sensors with pack-level aerosol fire suppression linkage.

Dehumidification System: Semiconductor cooling dehumidification prevents insulation aging and equipment damage.

Smart Meter & AC Combiner Box: High-precision power monitoring, bi-directional metering, anti-reverse power flow, and multiple protections.

Global Certifications & Confidence Assurance

Multiple international certifications including IEC/EN62619, IEC/EN60730, UN38.3, UN3480, IEC/EN62477, IEC/EN61000, IEC/UL60730, GB/T36276, providing professional assurance for your energy storage investment.

Experience the New Era of Energy Management Now

The GSL Energy 125kW / 261kWh all-in-one liquid-cooling high-voltage [energy storage system](#) merges high-voltage modules with smart management technology. It is more than just an energy storage device; it is an intelligent energy management platform.

The system optimizes energy consumption, reduces electricity costs, secures critical loads, improves renewable energy utilization rates, and meets the comprehensive demands of micro-grid and integrated solar+storage+charging projects. It delivers long-term economic benefits and sustainable value for enterprises and projects.

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