

Vatrer Power Introduces 48V 100Ah Lithium Battery With WiFi for Off-Grid Energy Storage Systems

New LiFePO4 battery introduces WiFi connectivity, self-heating protection, and scalable storage designed for solar backup power and remote energy systems



New York City, New York Mar 19, 2026 ([Issuewire.com](https://www.issuewire.com)) - As off-grid energy infrastructure continues expanding across residential, mobile, and remote environments, reliable lithium energy storage batteries are becoming a critical component of modern power systems. From solar installations and emergency backup power to distributed micro-energy networks, battery technology now plays a central role in ensuring a stable electricity supply where grid access is limited or unavailable.

Responding to these evolving energy needs, **Vatrer Power** has introduced its latest [48V 100Ah lithium battery with wifi](#), a smart energy storage solution designed for off-grid solar systems, backup power systems, and modular lithium battery storage installations. The battery combines LiFePO4 battery chemistry, intelligent battery management, and advanced communication features to provide stable and scalable power storage.

Built for Off-Grid Power and Integrated Energy Storage Systems

The Vatrer 48V 100Ah lithium battery is designed for applications where dependable energy storage is required for extended operation without reliance on the electrical grid. Typical deployment scenarios include off-grid solar energy storage systems, residential backup power solutions, remote monitoring stations, telecommunications infrastructure, and mobile power platforms such as RVs or service vehicles.

With a nominal 51.2V operating voltage, the battery aligns with the voltage requirements of many modern solar inverters and energy storage controllers used in off-grid systems. Its 100Ah capacity provides approximately 5.12kWh of stored energy, allowing a single unit to support essential loads such as lighting systems, communication equipment, refrigeration devices, or small appliances depending on system configuration.

For larger installations, the battery supports parallel expansion up to 16 units, allowing total energy storage capacity to reach approximately 81.9kWh. This modular design allows system integrators and installers to scale storage capacity according to project requirements while maintaining a consistent system voltage architecture.

Integrated BMS Provides Comprehensive Battery Protection

Safety and long-term operational stability remain key considerations in lithium battery design. The Vatrer 48V 100Ah solar battery integrates an advanced Battery Management System (BMS) that continuously monitors the operational condition of the battery pack. The BMS supervises critical parameters including cell voltage, pack current, temperature levels, and overall charge state to ensure safe operation during both charging and discharging cycles.

The protection system safeguards the battery against overcharging, over-discharging, excessive current, short circuits, and abnormal temperature conditions, while also supporting internal cell balancing to maintain consistent voltage distribution across battery cells. When operating thresholds are approached, the BMS automatically regulates current flow or temporarily disconnects the system to prevent potential damage. Continuous monitoring and protection help maintain stable battery output, extend cycle life, and improve the reliability of energy storage systems used in off-grid environments.

Low-Temperature Charging with Built-In Self-Heating Function

Cold climate operation remains one of the major challenges for lithium battery charging, particularly in outdoor solar installations and remote energy systems. Charging lithium batteries outside their recommended temperature range can affect efficiency and long-term performance.

To address this challenge, when ambient temperature drops to approximately 32°F (0°C), this [Vatrer 48V 100Ah heated server rack battery](#) temporarily suspends charging and activates its internal heating mechanism. The system gradually warms the battery cells until they reach a 41°F (5°C) temperature.

Once the cells return to an appropriate charging range, normal charging resumes automatically without user intervention. This design allows the battery to maintain stable charging performance in colder environments such as remote solar installations, outdoor telecommunications equipment, and off-grid residential energy systems located in northern climates.

WiFi Communication Enables Remote Monitoring and System Control

A key capability of the battery is its integrated WiFi communication module, which allows remote monitoring and management of lithium battery storage systems. Through monitoring platforms, users can access real-time battery information such as voltage levels, current flow, state of charge (SOC), temperature conditions, and charging or discharging activity.

The communication module also enables advanced management capabilities, including remote monitoring, battery configuration adjustments, OTA (over-the-air) firmware upgrades, and coordinated management of multiple battery units within a larger energy storage system. These functions allow system operators and installers to supervise battery performance without needing physical access to the installation site.

For distributed energy systems or off-grid installations located in remote areas, remote monitoring can significantly simplify system maintenance while improving visibility into battery health and system

performance.

Bluetooth Monitoring Supports Local System Diagnostics

In addition to WiFi connectivity, the battery also supports Bluetooth communication, enabling local monitoring through a “Vatrer App.” When you are within Bluetooth range of the battery system, you can quickly access operational data directly from a mobile device.

The monitoring interface displays detailed information, including battery voltage, current levels, state of charge, internal temperature readings, charging activity, and battery protection status. This functionality is particularly useful during system installation, commissioning, and routine maintenance because technicians can quickly verify system performance without connecting specialized diagnostic equipment.

The combination of Bluetooth local monitoring and WiFi remote connectivity provides flexible system visibility, allowing installers and users to manage lithium battery systems both on-site and remotely.

Modular Expansion Supports Scalable Energy Storage

Energy storage requirements vary widely depending on system size, energy consumption patterns, and application environments. The Vatrer 48V 100Ah lithium battery supports parallel expansion up to 16 units (16P1S configuration), allowing total storage capacity to grow as system demand increases.

Each battery provides approximately 5.12kWh of energy storage. By connecting additional batteries, system capacity can be expanded incrementally. For example, a single battery provides about 5.12kWh of storage, while four units can deliver approximately 20.48kWh. Eight batteries can increase capacity to around 40.96kWh, and a full configuration of sixteen batteries can reach approximately 81.92kWh of total energy storage.

This scalable architecture enables system designers to start with a smaller battery bank and expand storage capacity later without replacing existing equipment. Such flexibility is particularly valuable for solar energy storage systems and growing off-grid power installations.

Supporting the Growth of Intelligent Energy Storage

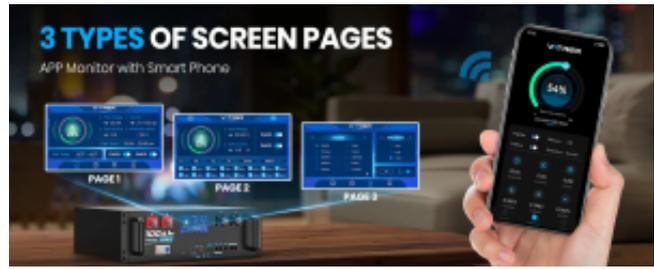
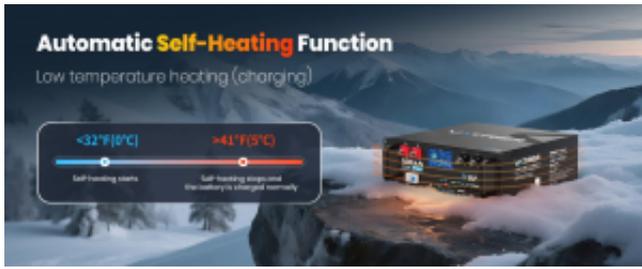
Energy storage technology continues to evolve alongside renewable energy adoption and distributed power generation. Modern battery systems increasingly integrate communication interfaces, intelligent monitoring capabilities, and modular expansion. These features allow the battery to support energy infrastructures that require dependable storage performance, operational visibility, and flexible system scaling.

About Vatrer Power

[Vatrer Power](#) develops lithium battery solutions for applications including golf carts, RV power systems, off-grid solar installations, and backup energy storage systems. The company focuses on battery platforms built on LiFePO4 technology, which provides stable thermal characteristics, long cycle life, and lower maintenance requirements compared with conventional lead-acid batteries.

Through ongoing product development and engineering innovation, Vatrer Power continues expanding its portfolio of lithium battery solutions designed to support renewable energy systems, mobile power

applications, and distributed energy storage infrastructure worldwide.



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