Honeywell | Energy Storage Solutions

HONEYWELL IONIC™ MODULAR ALL-IN-ONE

Solution Note

Scalable, Cybersecure, and Intelligent: Compact, end-to-end modular battery energy storage system (BESS) combined with an energy management system designed for commercial and industrial plug-and-play scalability and 5G networking.

Introduction

Organizations are under pressure to use energy more efficiently, reliably and economically, while meeting sustainability goals and maintaining safety.

Energy assets may be geographically dispersed and often include aging infrastructure and systems lacking the ability to meet rigorous performance objectives. Many businesses utilize a variety of equipment manufacturer assets and control systems which may not be optimized to meet the operating demands of the current market and do not satisfy enterprise-wide data requirements.

Honeywell's Solution

Honeywell can provide a complete plug-and-play system as part of our end-to-end approach. The Honeywell Ionic™ Modular All-in-One system, utilizing lithium-ion battery cells, and built-in power conversion systems (PCS) includes Honeywell's Ionic™ Control and Energy Management system integrated with microgrid controllers, 5G modem, and battery management system (BMS) designed to optimize energy use, enhance uptime, and enable peak shaving, energy balancing, and Virtual Power Plant. Additionally, it offers cell-level performance insights and a remote operation center (ROC) option offering analytics and reporting

Honeywell's technology is designed for seamless integration with DCS and build management systems. It enables batteries to charge during off-peak times and draw from the BESS when energy demand on the grid and costs spike—typically on-air conditioning-intense summer days or heating-intense winter days.

Customers can contract with Honeywell for project delivery, including fully integrated battery energy storage systems, control and energy management software solutions, and analytics and services. Honeywell can operate and maintain energy storage systems from its Remote Operations Centers (ROCs) and utilize proprietary predictive analytics and value stack optimization algorithms. Our advanced control technologies enable precise battery dispatch along with network security and OT cybersecurity protection.

FEATURES & BENEFITS

- All-in-one AC block with microgrid controller, 5G modem, and EMS server
- Plug-and-play single enclosure
- Modular and scalable from 250 kWh to 5 MWh
- Energy management system included
- Integrated microgrid controllers
- Renowned certified Honeywell cybersecurity (ISA Secure 2)
- Controls, analytics, energy services, and service agreements in one place

Honeywell's operations platform typically consists of:

- State-of-the-art, multiple megawatt-hour BESS
- Experion® Elevate cloud-enabled Supervisory Control and Data Acquisition (SCADA) system
- ControlEdge™ Remote Terminal Units (RTUs)
- Microgrid and power plant controllers (PPC)
- Advanced battery scheduling and peak prediction software

The solution includes Honeywell's renowned ISA Secure 2 cybersecurity, and an intuitive and advanced HMI user interface for energy management, and early thermal runaway detection using Li-ion Tamer sensors .

Renewable energy stakeholders can partner with Honeywell to develop and deploy an energy storage program to help users achieve significant electricity cost savings and improved sustainability and resiliency. Honeywell's solutions emphasize energy density, flexibility, scalable modular designs, flexible installation and augmentation, and high voltage efficiency.

Benefits

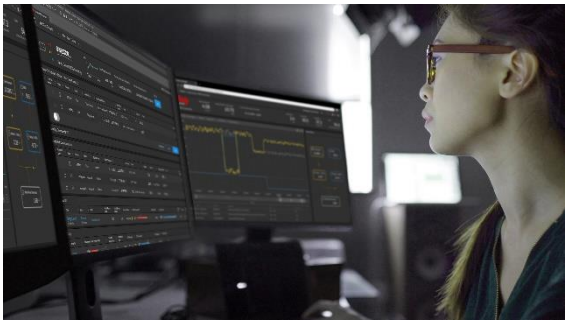
Honeywell's solution supports a variety of capabilities and use cases, including:

- Energy Resilience and Demand Management
- Peak Shaving
- Revenue Stacking
- Renewables Incorporation
- Fleet management
- Gas Turbine + BESS Solution
- Virtual Power Plant

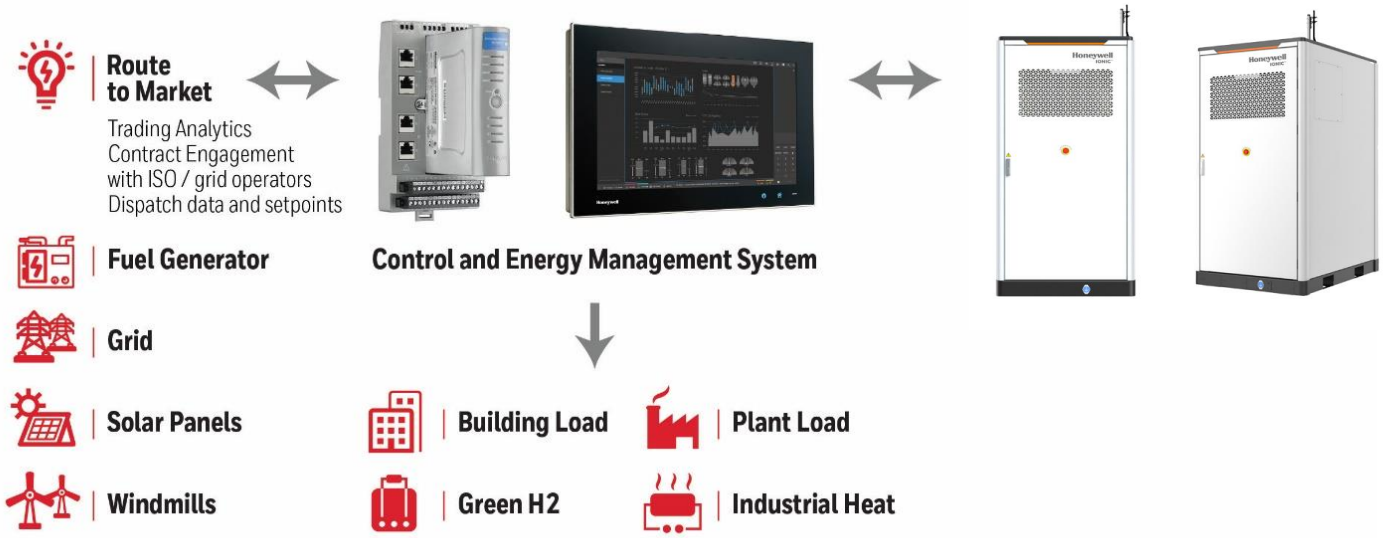
Analytics and Services

In addition to traditional aftermarket operations and long-term service agreements, Honeywell offers a combination of end-to-end monitoring, reporting, and predictive analytics to forecast, recommend actions, and manage energy use, efficiency, and trading opportunities.

A unified control and energy management platform, combined with tailored analytics and service options provides organizations with a streamlined, cost-effective approach to achieving their operational, energy management, power resilience, and sustainability goals.



Since every organization has unique needs, a tiered service model—offering options such as outsourced remote operation center services and risk-sharing arrangements tied to performance milestones—ensures the best fit. By delegating these functions, organizations can alleviate the challenge of retaining scarce skilled personnel while allowing end-users to focus on core operations and business objectives.



Complete, Integrated Energy Management

Honeywell's Battery Energy Storage Systems offer technology, software, and services to help optimize operations, reduce carbon footprint, and deliver significant cost savings to end user companies, independent power producers, and utilities. Combine new and traditional energy generation to improve redundancy and energy stability.

With over 200 patents, Honeywell offers complete, integrated solutions for energy storage including integrated BESS hardware, energy monitoring and control systems, and energy services utilizing monitoring and advanced analytics from remote operations centers (ROCs). Pretested and certified enclosures, multiple battery block and PCS-agnostic solutions, and autonomous controls can be combined with an integrated view of assets with comprehensive software providing peak prediction, frequency regulation, autonomous dispatch, and virtual power plant capabilities along with warranty tracking and operations and maintenance suggestions from our ROCs. Your Honeywell contact can provide a specification sheet.

Why Honeywell?

Honeywell has installed over 5GW of traditional power generation and over 500MWh of energy storage deployments at over 50 global sites. Whatever the project size, Honeywell leverages our renowned automation platform and cybersecurity solutions combined with the largest system installed base and nearly 50 years of global experience in control automation to guide you with smart technologies and energy management best practices. With a global team of supply chain, technology, and service experts, you can rely on us for reduced risk and improved performance.

With continuous innovation and seamless on-line migration to the latest release, some of Honeywell's greatest advances are the result of our commitment to helping customers continuously evolve while maintaining their current systems. We provide lifecycle investment protection by providing smooth migration paths to the latest control system technology when the time is right.

For More Information

Learn more about Honeywell's Stationary Reserve Solution, visit BESS Solutions or contact your Honeywell Account Manager or System Integrator.

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