

THE OMNICUBE A215

THE MODULAR, SECURE AND INTELLIGENT C&I ENERGY STORAGE SYSTEM

Summary and overview

The OmniCube A215 is a modular commercial and industrial energy storage system built on a 215 kilowatt-hour (kWh) lithium iron phosphate (LFP) battery platform with a rated output of 105 kilowatts (kW). The system integrates the patented Intelligent Cell Connection System (iCCS), which reduces internal cable connections by up to 80 percent and enables precise single-cell monitoring. Abnormal thermal behavior can be detected several minutes before critical escalation, compared to conventional systems that typically respond only seconds before shutdown. A coordinated six-dimensional (6D) protection architecture and an integrated aerosol fire suppression system provide additional safety layers.

The OmniCube A215 operates at 400 volts in a three-phase configuration and connects directly to standard European low-voltage infrastructure without additional transformers. A total harmonic distortion (THD) of ≤ 3 percent at full load supports high power quality and compliant grid interaction. The IP54-rated cabinet enables outdoor deployment and reliable operation in temperatures ranging from -30°C to $+55^{\circ}\text{C}$.

Each unit provides 215 kWh of storage capacity, and up to ten systems can be connected in parallel. This enables projects to scale from approximately 100 kW and 200 kWh up to around 1 megawatt (MW) and 2 megawatt-hours (MWh). Compliance with relevant IEC and UL standards supports regulatory approval, insurability, and long-term operational reliability. The system has been developed to address rising safety, cost, and grid stability requirements across European markets. The OmniCube A215 is particularly suited for safety-sensitive commercial and industrial environments requiring direct low-voltage integration, scalable expansion to megawatt level, and advanced early-warning protection against thermal events.

Fully integrated storage platform for simplified C&I deployment

The OmniCube A215 integrates battery storage, a Power Conversion System (PCS), optional Maximum Power Point Tracking (MPPT) inputs for direct photovoltaic (PV) connection, and an Energy Management System (eEMS) within a single factory-assembled outdoor cabinet. This all-in-one architecture reduces system complexity, limits external components, and simplifies installation and commissioning.

Built for standard 400 V commercial grids

The system operates at 400 volts (V) in a three-phase configuration, which reflects the standard electrical setup in most European commercial and industrial facilities. Direct connection to existing low-voltage infrastructure eliminates the need for additional transformers or conversion equipment. The three-phase design supports stable and consistent power delivery across

Predictive safety

A modular C&I storage system that prioritizes predictive safety and intelligent control while remaining fully scalable and grid-compliant for European markets, enabling safer operations and lower total cost of ownership.

Climate-resilient performance

Operational stability in harsh climate environments from -30°C to $+55^{\circ}\text{C}$, reducing downtime risk and protecting long-term asset performance.

Regulatory and operational security

IEC and UL certification ensures regulatory acceptance and insurance readiness, reducing approval risk.

Simplified installation

Fully integrated C&I storage platform reducing complexity, components and commissioning time, accelerating project execution.

Seamless integration

Built for direct connection to Europe's standard commercial power infrastructure, reducing installation complexity.

manufacturing plants, logistics centers, office buildings, and retail facilities with demanding electrical loads.

Modular architecture enables scalable C&I projects

The OmniCube A215 supports grid-tied, off-grid, and microgrid applications. Its modular structure allows projects to start at smaller commercial scale and expand to megawatt-class installations through parallel connection of up to ten units. This approach supports phased investment while maintaining a consistent technical architecture across project sizes.

Patented iCCS architecture enhances reliability and safety

The patented Intelligent Cell Connection System (iCCS) reduces internal cable connections by up to 80 percent. Fewer connections lower potential failure points and reduce long-term maintenance requirements. Continuous single-cell monitoring enables early detection of abnormal electrical or thermal behavior, frequently minutes before critical escalation occurs.

The coordinated 6D protection logic regulates voltage, current, and temperature parameters in real time to maintain stable operation under fluctuating load conditions. The design separates battery and electrical compartments and maintains internal temperature deviation within eight degrees Celsius (8°C) through controlled airflow. A cabinet enclosure with two-hour fire resistance and an integrated aerosol fire suppression system provide additional protection. This layered architecture increases system availability, supports insurability, and reduces operational risk over the system lifecycle.

Integrated energy management system enables intelligent and scalable operation

The integrated Energy Management System (eEMS) coordinates charging, discharging, and grid interaction in real time. Pre-configured parameters simplify installation and commissioning, while multi-unit coordination enables scalable deployment from smaller commercial systems to megawatt-class projects. The eEMS continuously monitors electricity consumption and grid conditions and optimizes battery operation accordingly. This supports peak shaving, demand control, improved use of time-of-use tariffs, controlled grid export where required, and backup supply for critical loads. Connectivity to higher-level control platforms or virtual power plant (VPP) structures provides additional operational flexibility and supports cost optimization and business continuity.

Scalable to MW

Modular design enabling phased investment and future expansion, protecting long-term capital allocation.

Minutes ahead thermal event detection

Industry-leading predictive thermal detection with a multi-minute response window, reducing escalation risk.

Thermal and fire resilience

Controlled airflow and two-hour fire resistance for enhanced thermal protection, reducing fire-related risk.

Smart energy optimization

The integrated eEMS reduces energy costs and protects critical operations.

THE TOP 10 BENEFITS FOR EPCS AND BUSINESSES

- 1 REDUCED ENGINEERING COMPLEXITY AND FASTER PROJECT EXECUTION
- 2 LOWER INSTALLATION RISK AND IMPROVED TENDER COMPETITIVENESS
- 3 HIGHER OPERATIONAL SAFETY AND REDUCED ESCALATION RISK
- 4 IMPROVED INSURABILITY AND REGULATORY ACCEPTANCE
- 5 REDUCED LONG-TERM MAINTENANCE EXPOSURE
- 6 SEAMLESS INTEGRATION INTO EXISTING COMMERCIAL INFRASTRUCTURE
- 7 FLEXIBLE INVESTMENT PLANNING WITH FUTURE EXPANSION CAPABILITY
- 8 LOWER ELECTRICITY COSTS THROUGH INTELLIGENT ENERGY OPTIMIZATION
- 9 INCREASED OPERATIONAL CONTINUITY AND PROTECTION OF CRITICAL LOADS
- 10 LONG-TERM INVESTMENT SECURITY IN A RAPIDLY EVOLVING ENERGY MARKET