FLUENCE
A Siemens and AES Company

Fluence Gridstack Pro™

Built for the next era of utility scale energy storage

GRIDSTACK PRO OVERVIEW

As the industry shifts from MW-sized projects to GW-scale portfolios, storage systems must meet new standards in delivery, performance, and safety. Gridstack Pro provides utilities, developers, and independent power producers with a factory-built, configurable solution that delivers higher site density, easier maintenance, and lower operating costs. With GWh of systems operating, Fluence is trusted by leading power generators to deliver safe systems and reliable grid services on the largest, most complex storage projects.

Next-Level Flexibility

Diversified supply chain and Fluence Battery Management System (BMS) enable the right-fit solution and project delivery assurance

Total Intelligence

Enhanced performance and lower operating costs through improved State of Charge (SOC) accuracy, and pre-integrated Asset Performance Management (APM)

Optimised Design

The right balance of density, speed of installation, and ease of logistics, with uncompromised safety and security



Technical Specifications

BATTERY PACK OPTIONS	2000 SERIES	5000 SERIES	1000 Series Power/Energy Matching Augmentation
Battery Cells	305 Ah – 306 Ah	306 Ah – 530 Ah	306 Ah – 530 Ah
Energy Capacity (kWh)	2436 kWh	4888 kWh -5644 kWh	1411 kWh – 1629 kWh
Battery Enclosure Dimensions (H x L x D)	2550 x 7537 x 1734 mm (8.37 x 24.73 x 5.69 ft.)	2896 x 6820/6058 x 2438 mm (9.5 x 20/22.37 x 8 ft.)	2896 x 2991 x 2438 mm (9.50 x 9.81 x 8 ft.)
Battery Enclosure Weight without coolant	~ 22,400 kg - 23,300 kg	Up to 45,000 kg	up to 14,500 kg
Aux. Peak Load (kW)	16.7 (2-hr+); 9.5 (4-hr+)	34 (2-hr+); 17 (4-hr+)	8 (2-hr+); 4 (4-hr+)
Maximum C Rate	0.5	0.5	0.5 (306AH); 0.25 (530AH)
PERFORMANCE & SAFETY SPECS			
Discharge Duration	2 hours - 4 hours - 6 hours		
DC Voltage	Up to 1500V		
System Response Time	150ms		
Round Trip Efficiency	> 87%		
Availability	> 97%		
Grid Frequency	50-60 Hz		
Seismic Rating	Compliant with IEEE693 High, meets International Building Code (IBC), California Building Code (CBC) requirements per Seismic Design Category (SDC) D, Conforms to ASCE 7-10 standard		
Operating Temp. range	-20 °C to +50 °C (-4 °F to +122 °F)		
Certifications	UL/IEC		
Battery enclosure IP Rating	IP55		
Altitude	2,000 meters (without derating)		
Thermal Management	Liquid cooled		
Certifications and Codes	UL1741, UL1741SA/IEEE1547, UL 9540A Cell, Module, Unit		
SOFTWARE			
BMS, System Control and Market Applications	Fluence OS7		
Communication Protocol	Modbus, DNP3, and OPC UA		
Analytics and Optimisation platform	Nispera		
Bidding Optimisation Software	Mosaic*		

Note: Specifications in the above table are design estimates only and are not guaranteed. Contact Fluence for a project-specific estimate as final values depend on system design, location, and use case.

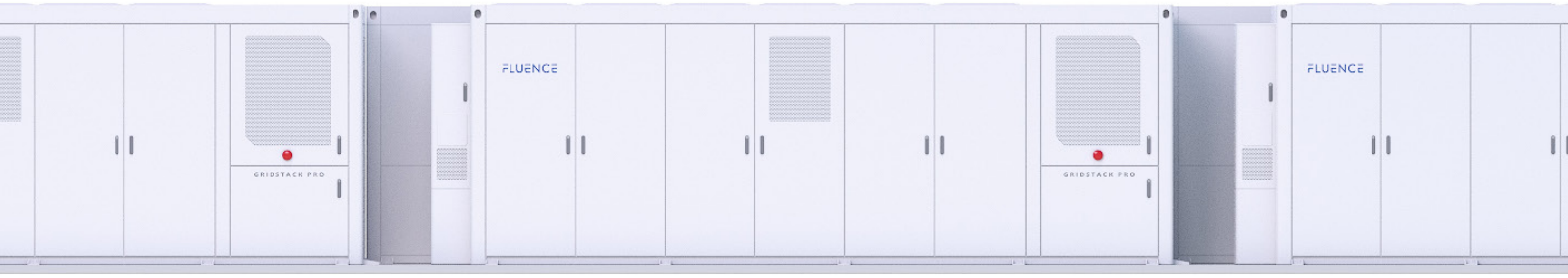
**Mosaic is an add-on currently available for assets in the NEM, CAISO, and ERCOT*

Next Level Flexibility

The Fluence-designed Battery Packs combine state-of-the-art battery modules, management systems, and monitoring equipment into a unified product architecture designed to improve operations through advanced thermal and state of charge (SOC) management. The integrated design ensures consistent product performance and safety at the system level while reducing the time it takes to introduce new battery technology from a growing base of global battery manufacturers.

With flexibility and reliability in mind, Gridstack Pro incorporates advanced features allowing for grid forming capabilities. This allows for optimization of sites and systems that operate entirely or partially off-grid, supporting storage, load, solar, and other generators.





Integrated Global Supply Chain

At Fluence we invest heavily in technology, systems engineering, product development, and R&D to strengthen our market leadership and enhance customer value. Gridstack Pro is built with Fluence Module, BMS, electronics, and software, free from components from countries of concern, safeguarding against cybersecurity and mitigating policy issues.



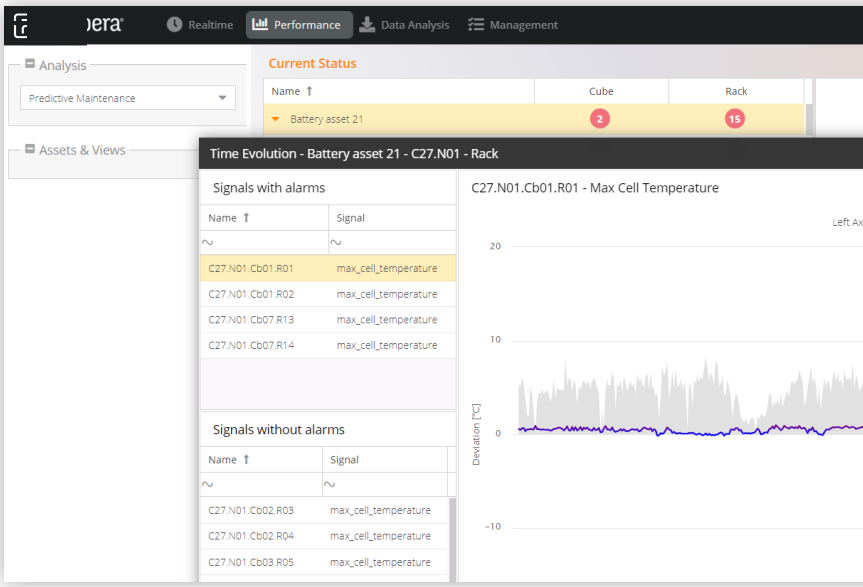


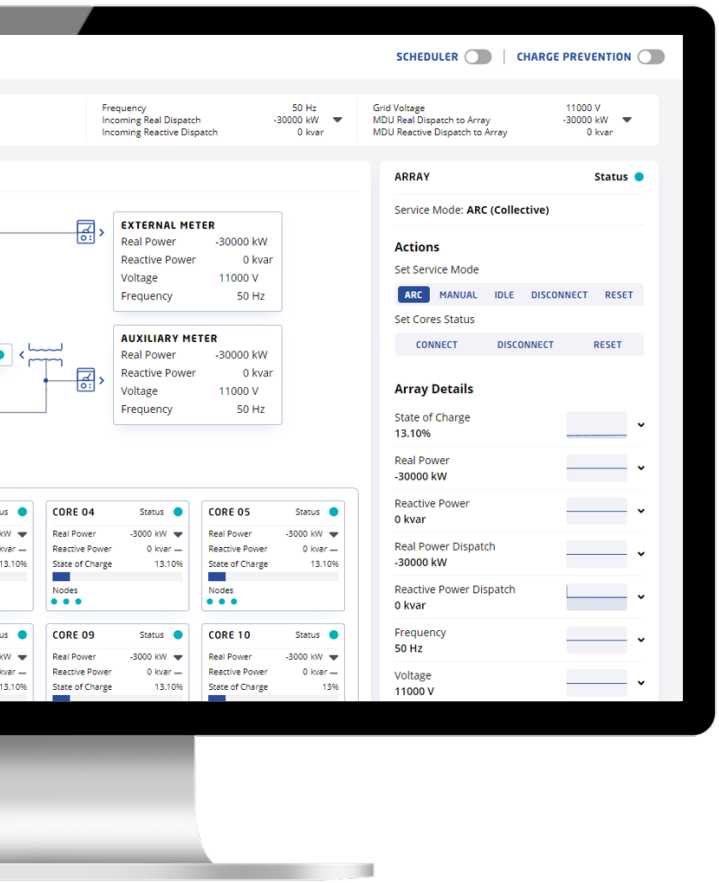
Total Intelligence

Enhanced Performance

Gridstack Pro delivers granular data access and plug- and-play API connectors for our cloud-based software - Nispera.

Pre-integration with Nispera enables customers to drive down costs and increase revenue through advanced asset performance management and predictive maintenance software. With access to the Nispera executive dashboard and real-time insights, alongside predictive maintenance features, customers can gain valuable oversight of their assets, facilitating pro-active decision-making and streamlined operations.





Fluence OS

Fully integrated controls with over 3 million operating hours – standard with all Gridstack Pro systems

SYSTEM CONTROL

Fully integrated controls system, including hardware and software, for the day-to-day management and dispatch of your storage system

SYSTEM MONITORING

Comprehensive data collection at every level of the storage system continuously monitors, detects, and alerts operators to potential anomalies

EXTERNAL INTEGRATION

Integration with external systems (ISO's, customer EMS, historian software, etc.) and 3rd party software applications via APIs and common protocols

ASSET PROTECTION

Enterprise-class network security and firewall capabilities keep critical grid infrastructure secure and support international cybersecurity standards

Optimised Design Balancing Density, Installation, and Maintenance

The right balance of density, speed of installation, and ease of logistics: the Gridstack Pro system is designed to maximise density, enabling more MWh per square foot. Gridstack Pro lowers balance of system costs while maintaining ease of shipping and installation by optimising systems to reduce connections, inverters, transformers, and associated medium voltage (MV) infrastructure. Additionally, a two-thirds reduction in chillers minimises preventative maintenance requirements. Gridstack Pro delivers up to 40% improved density for a 100MW, 4hr project, enabling more MWh in less space.

Gridstack Pro can be paired with a 2-rack Series 1000 for better energy-matching and flexibility of delivery.

Gridstack Pro is designed for ease of transportation and logistics:

- Standard ISO sized containers for smooth logistics
- Manage of load sizes for ease of transport according to site regulations
- Global procurement and supply chain support throughout the whole logistics process
- Designed for crane transportation allowing easy maneuvering on site



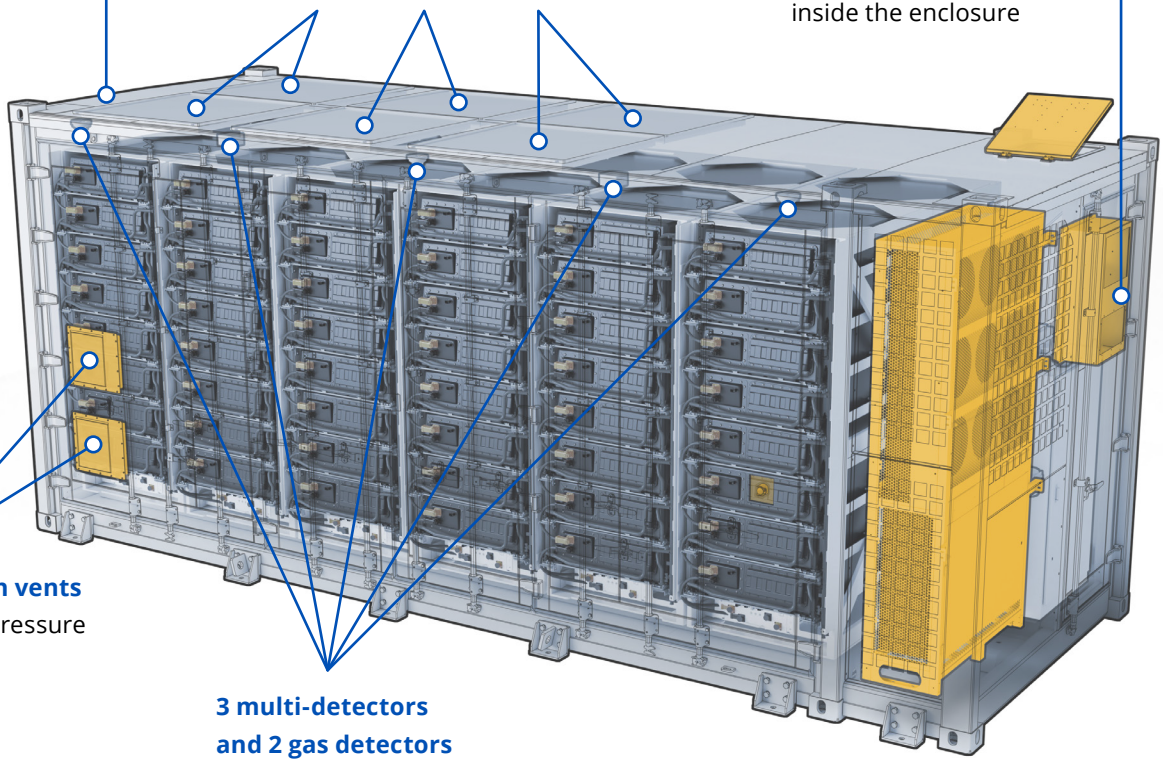
Uncompromising Safety

Gridstack Pro is designed to meet and exceed industry standards in safety certification and fire testing, including UL9540, UL9540A, NFPA-855, large scale burn testing, and more. With more than a decade of experience deploying and operating energy storage systems for our customers globally, the Fluence fleet has more than 2.5 million hours of operation with a strong safety and availability record.

Steel outer structure & **fiberglass insulation** for thermal performance

6 deflagration panels (positioned) for explosion protection per NFPA 68 and large-scale tested

Chiller and HVAC System aids battery cooling and maintains ambient temperature and humidity inside the enclosure



Active ventilation vents create a positive pressure during off gassing

3 multi-detectors and 2 gas detectors for CO/smoke/heat/H2

Fluence (Nasdaq: FLNC) is a global market leader in energy storage products and services, and cloud-based software for renewables and storage. Fluence provides an ecosystem of offerings to drive the clean energy transition, including modular, scalable energy storage products, comprehensive service offerings, and the Fluence IQ Platform, which delivers AI-enabled SaaS products for managing and optimising renewables and storage from any provider. The company is transforming the way we power our world by helping customers create more resilient and sustainable electric grids.

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