Fluence Gridstack™

FLUENCE
A Siemens and AES Company

Grid-scale, industrial-strength energy storage system designed for the most demanding market applications with industry-leading reliability, scalability, and safety.

About Gridstack

Gridstack's industrial-strength design is built for the most demanding applications including Flexible Peaking Capacity, Frequency Regulation, Renewable Integration, T&D Enhancement, and more. The system is highly configurable to meet your specific operational requirements and can be cost-effectively augmented over time to maximize asset value.

Gridstack is built using our 6th generation technology stack, which incorporates more than 12 years of design and deployment experience.

Features

Easily Configurable: Gridstack's flexible architecture lets you configure key components from pre-qualified Tier 1 suppliers to best meet your deployment requirements. Enhance your system for specific market applications with a range of optimized dispatch algorithms.

Highly Scalable: Gridstack brings repeatability to large energy storage deployments. The scale-out design drives efficiencies in project permitting and delivery to reduce your implementation risk, while consistency across project locations simplifies training, operations, and maintenance.

Total System Safety: Gridstack comes equipped with comprehensive safety features throughout the integrated technology stack. The factory-built design brings consistent quality control to your storage system for the highest level of safety.

Fluence Cube is your building block for better energy storage.

Fluence Cube's factory-built, modular form factor is the building block for safe, cost-effective systems configurable with the latest storage component technologies.

- Cost-effective systems with maximum quality control
- Fast procurement and contracting process
- Simple system design, engineering, and permitting
- Rapid delivery, construction, and commissioning
- Latest safety features and storage components

Gridstack™ Specifications

Gridstack System

Rated AC Power (50°C)	2 MW – 500+ MW		**Availability**	>97.0%
Discharge Duration	1 – 6+ hours		**Altitude**	De-rated over 1,000 meters
Grid Frequency	50Hz and 60Hz		**Seismic Rating**	Seismic options available
Reactive Power	Four-quadrant control, 0.9 leading to 0.9 lagging at rated power (reactive capability available over full real power range)*		**System Response Time**	Max capacity change in 1,000 ms
			Standard Temperature Range	-30°C to 45°C ***

Auxiliary Power Usage	**MAX AUX LOAD:** 7.6 kW (short duration) 4.1 kW (long duration)	**AVERAGE AUX LOAD:** 1.5 - 3.0 kW (short duration)** 1.2 - 2.0 kW (long duration)**

Fluence Cube

Cube Dimensions (H x W x D)
Long Duration: 2,549 x 2,578 x 2,160 mm
Short Duration: 2,549 x 2,578 x 2,257 mm

Cube Weight (total) lb/kg
Long Duration: 18,320 / 8,328
Short Duration: 19,020 / 8,646

Enclosure Rating
NEMA Type 3R

IP Rating
IP55

Cooling
Air or liquid cooled

Battery Chemistry
Advanced lithium ion sealed cells

Safety Features
Emergency shutdown, fire detection and suppression system (solid aerosol), gas detection (carbon monoxide), deflagration panels, lockable disconnect switch, open door sensor, gas spring damper, sliding door lock

Installation
Forkliftable from all 4 sides. Crane compatible and includes vertical stabilization.

Fluence OS

Fully-integrated operating system for comprehensive control, asset management, and system visibility.

Operation Modes
Automatic Resource Control, Manual Dispatch, Idle, Disconnect, Reset

System KPIs
Real and reactive power dispatch, state of charge, cell voltage and temperature, auxiliary system details, core and node status, fire system and E-Stop status, and more

External Control Interface
SCADA and EMS integration available via common protocols including DNP3 and Native Modbus TCP/IP
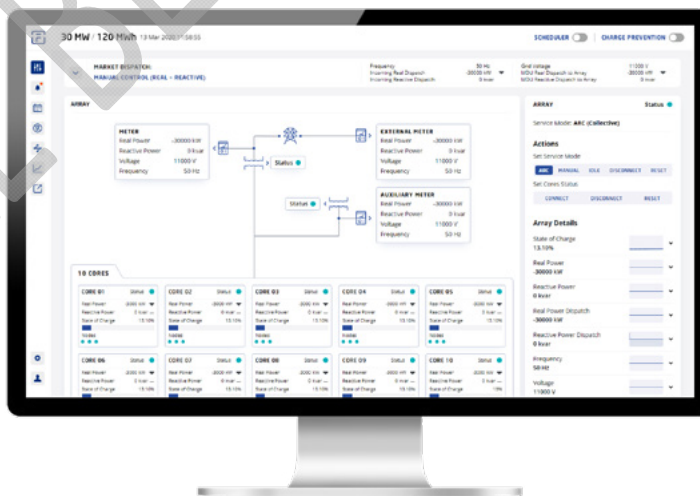
Fluence IQ

Extensible digital intelligence improves system decision-making, asset performance, and operating costs with data-driven insights and dispatch algorithms.

Market Dispatch Algorithms
– Primary and secondary frequency control, peak shaving, power factor regulation, AGC, SOC management, and more
– Application stacking with priority designation

Performance Reporting****
System availability, state of health, discharge cycles, and more

*Additional reactive capability upon request   **Utilization and temperature dependent   ***Can vary depending on cooling system, low temperature kits required below -10 degrees
****Available under Fluence Service Agreement*