

Fluence Siestorage® Energy Storage

Lightning fast energy.
Trusted for critical loads.



About Siestorage

The Fluence Siestorage platform is honed to provide fast responding power for critical networks, black start of gas turbines, and industrial-scale energy use applications. Siestorage's proprietary power converter design includes tight control integration down to the level of the power semiconductors, which enables extremely rapid response times required for black start, microgrid, and critical power applications. The Siestorage architecture allows the system to be grid-forming while at the same time operating in parallel with an existing grid.

Features



Ultra Fast: Essential fast response for power quality, black start, frequency response, and backup applications.



Grid Support Capability: Can provide grid support services and be grid forming, enabling customers to operate in island mode when the network becomes unavailable.



Embedded Experience: Our deep experience from years of serving customers in the power sector is embedded in the Siestorage architecture to deliver best-in-class performance.

Siestorage Applications

- Black Start
- Critical Power
- Microgrids & Islands
- Frequency Regulation
- Capacity Peak Power
- Generation
- Enhancement
- Renewable Integration
- Energy Cost Control

Siestorage® Energy Storage Specifications

Siestorage® Specifications

Rated AC Power (40°C)

2 MW–100+ MW

Grid Voltage

11kV, 13.8kV, 20kV, 34.5kV (other options available)

Grid Frequency

50Hz / 60Hz

Reactive Power

Full four-quadrant operation

Auxiliary Power Usage

<10 kW/MW typical (application dependent)

Availability

>97% (higher availability available per application requirements)

Operating Temperature

-5°C to 40°C

Overrate

2.5x the nominal current for up to 3 seconds

Altitude

De-rated over 2,000 meters

Seismic Rating

Tested to Zone 4

Design Lifetime

Up to 25 years with battery augmentation, usage dependent

Operation Modes

Automatic Resource Control (ARC), Autonomous Dispatch, Manual Dispatch, Grid Forming U/f Control

Operational Capabilities

Microgrid, Critical Power, Ramp Rate Limiting, Frequency Regulation, Primary Frequency Response, Automatic Voltage Regulation, Contingency Response

Critical Power Response Time

Voltage regulation response in <10 milliseconds

System Response Time

Max capacity change in <1 second

Control & Monitoring

Controls include patented performance algorithms, autonomous dispatch under U/F mode, grid-stabilization mode, and when operating several power converters in parallel

External Control Interface

SCADA and EMS integration available via common protocols including IEC 60870-5-103/104 and IEC 61850

Standards Compliance

Conformity: (LV-D 2006/95/EC) CE, System standard converter system: EN 61439, System standard batteries: EN 50178, EN 50272-2, EMC immunity system: EN 61000-6-2, EMC emission system: EN 61000-6-4, Degree of protection: (EN 60529) IP20, Protection class: (EN 61140) 1, EN 61000-6-5 tested. Certificate available., Seismic tested. Certificate available, compliant to Risk Category: IV (essential facilities)

Battery Specifications

Battery Duration

20 minutes - 2 hours

Round Trip Efficiency

(AC to AC Including Isolation Transformer)

Varies by configuration

Enclosure Dimensions

Standard ISO containers or customized to project requirement

Cooling

Air-to-air DX

Fire Suppression

Non-aqueous (i.e. inert gas or aerosol)

Battery Monitoring

Including state of charge, state of health, max/min cell voltage, max/min cell temperature, power limits, current limits, component failures, ground fault

Battery Chemistry

Advanced lithium ion sealed cells or similar

** Additional reactive capability upon request*



About Fluence™

Fluence Energy, Inc. (Nasdaq: FLNC) is a global market leader in energy storage products and services, and digital applications for renewables and storage. With a presence in 30 markets, industry-leading safety, and cutting-edge technology, Fluence's ecosystem of scalable storage products, comprehensive services, and AI-enabled applications help customers drive the clean energy transition.

© 2022 Fluence. All rights reserved.

fluenceenergy.com

TS-003-02-EN