

# Fluence Advancion® Energy Storage

Unmatched dependability.  
Designed to evolve.



## About Advancion

The Fluence Advancion platform is built on more than 10 years of experience and has a unique parallel system architecture that delivers unmatched dependability and solves the technology evolution problem. Advancion's industrial-strength design is built for the most demanding applications including Capacity Peak Power, Frequency Regulation, Renewable Integration, and T&D Enhancement.

The Advancion architecture is component-agnostic which enables seamless integration of the best available technologies now and into the future. Advancion's comprehensive patented control algorithms enable optimal operational performance and ensure reliable and safe operation over the lifetime of the asset.

## Features



**Unmatched Dependability:** Advancion delivers industry-leading reliability and uptime, with safety designed into every layer.



**Embedded Experience:** 10 years of experience in developing, owning, and operating energy storage systems in markets worldwide is embedded in the Advancion architecture.



**Future Proof:** Advancion's unique open architecture incorporates the best available technology now and in the future.

Advancion systems can be efficiently and cost-effectively augmented as needed with additional capacity over the life of the asset.

## Designed for the long haul

Advancion is a complete, fully-architected and integrated solution designed with the long-term owner operator in mind, with industry-leading reliability, uptime, and years of safe operation.

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**99%** FLEET  
UPTIME\*

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Proprietary and confidential. Do not distribute. Information in this document is subject to change without notice. Performance may vary depending on use, conditions, applications, and specific configuration.

\* Advancion fleet performance in 2017. Technical Availability (At): Availability considering forced outages or derates caused by Advancion equipment, or environmental control equipment. Excludes planned downtime for all maintenance and planned and forced downtime caused by BOP components. EAF will vary based on contractual obligations.

# Advancion® Energy Storage Specifications

## Advancion® System

### Rated AC Power (50°C)

2 MW–100+ MW

### Grid Voltage

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

### Grid Frequency

50Hz / 60Hz

### Reactive Power

Four-quadrant control, 0.9 leading to 0.9 lagging at rated power (reactive capability available over full real power range)\*

### Auxiliary Power Usage

<10 kW/MW typical (application dependent)

### Availability

>97.0%

### Operating Temperature

-20°C to 50°C

### 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

### Operational Capabilities

Real and Reactive Power Dispatch, Primary Frequency Control (Droop Response), Secondary Frequency Control (Automatic Generation Control), Contingency Response, Spinning Reserves, Automatic Voltage Regulation (Voltage Droop, Constant Power Factor, Dispatchable VARs), Renewable Ramp Control, Transmission & Distribution Deferral

### System Response Time

Max capacity change in <1 second

### Control & Monitoring

Controls include HMI, SCADA, Data Historian, Application Agents, and Patented Performance Algorithms

### External Control Interface

SCADA and EMS integration available via common protocols including DNP3

### Standards Compliance

NEC, UL1741, Rule 21, other common grid codes, IEEE519, UL1973, UL1642, UL9540

## Battery Specifications

### Battery Duration

30 minutes – 8 hours

### Round Trip Efficiency

(AC to AC Including Isolation Transformer)

Varies by configuration

### Enclosure Dimensions

Containers (standard ISO or customized to project requirement) or building (customized to project requirement)

### Cooling

Air-to-air DX or similar

### Fire Suppression

Included, aqueous or non-aqueous based on system configuration

### 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.

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TS-002-03-EN