

GridSpan™ by Syntropic Power

Configurable Energy & Power Storage Platform

GridSpan is Syntropic's **flexible-duration utility-scale storage platform**, designed to support configurable power and energy profiles from **20 minutes to 20 hours**. Built on **sodium-chromium-oxide cell (NCO) technology**, a unified DC architecture, and platform-standard controls, GridSpan supports a wide range of project requirements through two operating configurations: energy-optimized, using the GridSpan module, and power-optimized, with the GridSurge™ module.

- **Unified DC platform integrating configurable energy and power layers within a single system architecture**
- **DC-native architecture with unified DC control and isolated DC/DC auxiliaries**
- **Built off of a third-party validated cell chemistry, engineered for high-cycle durability and long service life.**
- **Common-DC design eliminates separate power subsystems, reducing system complexity and integration overhead**



Technical Specifications

CATEGORY	SPECIFICATION
Core Architecture	Sodium-Chromium-Oxide (NaCrO ₂) Cell Chemistry
Voltage Window	1200 - 1500Vdc
Energy Block	1.5MWh DC Block
Round-Trip Efficiency	≥ 97.9%
Cell Cycle Life	20,000+ cycles
Calendar Life	25 years
Operating Temp Range	-40°C to 60°C
Altitude Capability	Up to 2,000m without derate
Thermal Management	Passive; SelfTherm™ endothermic cooling
Fire Safety	Abuse-tested Thermal Stability
Enclosure Type	Non-walk-in, modular, field-swappable
Auxiliary Power	All auxiliaries on DC/DC from main DC bus
Approximate Dimensions	8 ft × 8 ft × 10 ft (L x W x H)
Standards Alignment	Cell UL9540A testing successfully completed Pending at system-level: UL1973 and UL9540 and UL9540A testing



Configurable Energy & Power Modules within GridSpan™

The shared platform supports both **energy-optimized** and **power-optimized** operation through modular configurations within a single GridSpan enclosure.

GridSpan™ Energy Module

ENERGY-OPTIMIZED CONFIGURATION

The default GridSpan configuration: high-capacity sodium-ion cells tuned for sustained discharge and long-duration duty.

- Optimized for 20 min to 20 hour energy shifting, resilience runtime, and long-duration grid services
- Low cell degradation eliminates costly augmentation over the system lifetime
- Predictable thermal and electrical behavior for permitting and operational planning
- Shares a common DC bus and enclosure with the Power Module – no separate subsystem

GridSurge™ Power Module

POWER-OPTIMIZED CONFIGURATION

Power cells tuned for high-cycle, high-power duty within the same GridSpan enclosure.

- Built for high-cycle, high-power operation alongside sustained energy delivery
- Sub-cycle response for transient events, ride-through, and grid-stability support
- Common-DC integration – no separate power subsystems or conversion layers
- Reduced augmentation profile compared with conventional lithium high-cycle systems



Operating Profiles Enabled by Module Configuration

CATEGORY	ENERGY MODULE (GRIDSPAN)	POWER MODULE (GRIDSURGE)
Max C-Rate Discharge	1C pulse C/2 charge	3C continuous 5C pulse
Response Time	< 10ms	< 10ms
Nominal Duration Range	20 minutes to 20 hours (Configurable)	20 minutes+
Primary Application Profile	Energy shifting, long-duration storage, multi-hour resilience	Frequency response, ride-through, high-cycle dynamic loads



*Pending UL1973, UL9540, and system-level UL9540A
Renderings are illustrative and may change