STACK 800
POWIN'S INTEGRATED PLATFORM

Stack800 is Powin's modular battery energy storage platform, purpose-built for the most grueling environments and use cases. Designed to dramatically increase site energy density, decrease installation times and simplify capacity augmentation, Stack800 is ready to perform a diverse set of market applications including frequency response/regulation, T&D deferral, flexible peaking capacity, renewable integration and more.

Modular, Scalable and Configurable

Stack800's modular design allows you to easily scale up your project size from a single standalone unit to gigawatt hours per project site.

It utilizes Powin's field-proven Stack hardware and StackOS software platform to ensure continuity and familiarity between Powin's product lines to perform a variety of simple and advanced market applications.

Enhanced Safety and Quality

Stack800 combines Powin's safest-in-class LFP Stack hardware and integrated enclosures into one standardized, factory-built, outdoor product to ensure maximum quality control.

Each Centipede unit includes a comprehensive package of explosion prevention and fire safety features such as hydrogen detection and active ventilation, fire detection, fireproof insulation, and optional clean agent fire suppression.

End-to-End Cost Savings

Stack800's factory-built and tested design allows for units to be installed on site in a fraction of the time it takes for traditional enclosure-based systems to be installed. The increased energy density also reduces the amount of land that is required to install a system per MWh.

The highly serviceable design includes field-swappable components that minimize downtime and service costs. These advantages, combined with Powin's diverse supply chain and Tier 1 cell procurement strategy, give Powin's customers continual cost advantages upfront and over the lifespan of a system.

STACK 800 TECHNICAL SPECIFICATIONS

General	Collection Segment – Dimensions	8'1" x 7'4" x 10'9" (2.44m x 2.23m 3.27m)
	Energy Segment – Dimensions	8'1" x 5'2" x 10'10" (2.44m x 1.57m x 3.3m)
	Weight (Collection Segment)	12,125lbs (5500kg)
	Weight (Energy Segment)	18,400lbs (8350kg)
	Enclosure Type [1]	IP55
	Ambient Operating Temperature Range	-30°C to 50°C
	Relative Humidity	0% to 100% non-condensing
	Auxiliary Power Input	3P3W, 480VAC 60Hz or 3P3W, 400VAC 50Hz
	Heating and Cooling [1]	Field-swappable, high efficiency, air-cooled thermal management system with humidity control
Battery Cell	Cell Chemistry	Lithium Iron Phosphate (LFP)
	Cycle Life [2,3]	20 years
	Calendar Life [3]	7,300 cycles
	Depth of Discharge	100%
	Operating Voltage	1,210V to 1,491V
Performance	Maximum Energy Capacity [4]	800 kWh DC per Energy Segment & 270 MWh per acre
	Rated Duration of Discharge	4 hrs
	DC Power @ Rated Duration [5]	201.7 kW
	DC Capacity @ Rated Duration [6]	800 kWh
Safety	Explosion Prevention and Mitigation	Off-gas detection with dedicated, fail-safe emergency ventilation system
	Fire Detection	Smoke and hydrogen detector
	Fire Suppression (optional)	Fire department connection dry standpipe or Stat-X clean agent
	Codes and Compliance	UL 9540A, UL 1973, NFPA 69, NFPA 855, IEC 62619, IEC 61000-6-2, IEC 62477, UN 3480, UN 38.3, UL 1642
Software	BMS + EMS + Environmental Controls	Stack OS™
	Communications Interface	Modbus TCP & REST API

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

1 IP rating applicable only for the compartments containing batteries and electronics

2 Includes Stack level thermal management and controls

3 End of life depends both on BESS age and usage; actual lifetime may be less than 20 years for high cycle use cases

4 Maximum Energy Capacity at BOL

5 StackOS may automatically derate power at high/low ambient temperatures or after extended operation to mantain proper cell temperatures

6 Energy capacity is recorded at the DC bus and assumes near-symmetric cycle; capacity will be ~1-2% lower for symmetric cycle use case