

# STACK 750

## POWIN'S INTEGRATED PLATFORM

Stack750 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, Stack750 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

Stack750'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

Stack750 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

Stack750'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 minimizes downtime and service costs. These advantages, paired 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 750 TECHNICAL SPECIFICATIONS

General	Collection Segment – Dimensions	8'1" D x 7'3" L x 11'3" H (2.44m x 2.21m x 3.43m)		
	Energy Segment – Dimensions	8'1" D x 5'2" L x 11'3" H (2.44m x 1.57m x 3.43m)		
	Weight (Collection Segment)	1,100lbs (499kg)		
	Weight (Energy Segment)	20,000lbs (9,074kg)		
	Enclosure type <sup>1</sup>	IP55 / Type 3RX		
	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 <sup>1</sup>	Field-swappable, high efficiency, air-cooled thermal management system with humidity control		
Battery Cell	Cell Chemistry	Lithium Iron Phosphate (LFP)		
	Cycle Life <sup>2,3</sup>	20 years		
	Calendar Life <sup>3</sup>	7,300 cycles		
	Depth of Discharge	100%		
	Battery Cell	1,210V to 1,491V		
Performance	Maximum Energy Capacity <sup>4</sup>	750 kWh DC per Energy Segment & 250 MWh per acre		
	Rated Duration of Discharge	2 hrs	3 hrs	4 hrs
	DC Power @Rated Duration <sup>5</sup>	369.5 kW	247.5 kW	185.1 kW
	DC Capacity @ Rated Duration <sup>6</sup>	733.5 kWh	736.9 kWh	740.4 kWh
Safety	Explosion Prevention and Mitigation	Off-gas detection with dedicated, fail-safe emergency ventilation system		
	Fire Detection	Smoke and/or heat detectors 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 6100-6-2, IEC 62477, UN 3480, UN 38.3, UL 1642		
Software	BMS + EMS + Environmental controls	Stack OS™		
	First Responder HMI	Powin HMI for First Responders™		
	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.

- <sup>1</sup> IP rating applicable only for the compartments containing batteries and electronics
- <sup>2</sup> Includes Stack level thermal management and controls
- <sup>3</sup> End of life depends both on BESS age and usage; actual lifetime may be less than 20 years for high cycle use cases
- <sup>4</sup> Assumes 1 full cycle per day and includes calendar aging
- <sup>5</sup> StackOS may automatically derate power at high/low ambient temperatures or after extended operation to maintain proper cell temperatures
- <sup>6</sup> Energy capacity is recorded at the DC bus and assumes near-symmetric cycle; capacity will be ~1-2% lower for symmetric cycle use case