

Prevalon™

Battery Energy Storage Platform



Prevalon HD511 Integrated Platform: High-Density

The Prevalon High-Density (HD) 511 Integrated Platform is a modular AC battery system that provides unparalleled site energy density, safety, cyber security, and use case flexibility. The system is purpose-built to provide rapid, cost-effective project deployment with straightforward maintenance and envisions simplified future augmentations from project onset.



Dense, Modular, Scalable

At 360 MWh per acre, the HD511 achieves best-in-class energy density. The modular design allows the system to deploy in 2 hr. to 8 hr. durations while also expanding from MWh to GWh sized projects. At the platform's core is an energy-dense liquid-cooled LFP battery module designed with performance and safety in mind, providing 5.11 MWh per 20 ft. ISO enclosure.



Quality, Safety, Security

The system is factory integrated and tested before delivery to the site as complete assemblies, including factory installed battery modules. Our proven Prevalon EMS provides seamless controls integration through a utility grade system that is US designed and built and maintains the highest standards in cyber security compliance.



Constructible, Maintainable, Expandable

The building blocks of the system are designed around the 20 ft. ISO container format, supporting smooth logistics and rapid system deployment in a cost effective manner. The single side access to modules, reduces footprint via back-to-back and side-to-side installation of the enclosures that reduce foundation and cabling requirements. Thoughtful design and configuration of the hardware and software allows for optimal maintainability throughout the life of the asset. Augmentation of the system is planned at the onset and options allow for both DC or AC future additions.

Prevalon HD511 Integrated Platform Specifications

	2 hr. - 8 hr. Applications		
Project Energy Density	>= 360 MWh per Acre (890 MWh per hectare) ¹		
MVT Voltage	12 - 34.5 kVAC		
Inverter AC Voltage	550 VAC for 2,750 kVA, 690 VAC for 5,000 kVA		
DC Voltage Range	800-1,500 VDC for 2,750 kVA, 1,000 - 1,500 VDC for 5,000 kVA		
Rated AC Power (Charge and Discharge)	2,750 kVA, 5,000 kVA		
Nameplate DC Energy Capacity	2 hr. / 0.5C = 5,111 kWh	4 hr. / 0.25C = 10,222 kWh	8 hr. / 0.125C = 15,333 kWh
Auxiliary Power Configuration	480V 3P5W (ANSI) / 400V 3P3W (IEC)		
Battery Enclosure Cooling Type	Liquid cooling, central chiller with 60kW cooling capacity		
Battery Enclosure Explosion Detection and Prevention	Detection and ventilation system compliant with NFPA69		
Cycle Life	> 8,000 full cycles to 65% SOH		
Rated Lifecycle	20 Years		
Cell Chemistry	320Ah Lithium Iron Phosphate (LFP)		
Battery Enclosure Weight (each)	≤44,000 kg		
Battery Enclosure Dimensions (each)	20' L x 8' W x 9'5" H (6058*2438*2896mm)		
Inverter-MVT skid Weight	16,000 kg		
Inverter-MVT skid Dimensions	20' L x 8' W x 9'5" H (6058* 2438*2896mm)		
Ambient Operating Temperature Range	-30°C to 50°C		
Standards Compliance	UL1973, UL9540A ed4, UL9540, UL1741, IEEE1547, UN38.3, NFPA855, NFPA70		
Transportation	20 ft. ISO enclosure format. DC block shipped fully populated with battery modules		
Seismic	Compliant with IEEE 693 Moderate with option for High Seismic Level		
Monitoring and control	Built in BMS and Inverter-MVT skid monitoring platform providing thermal management control, failure detection, and monitoring of broad range of parameters. TCP/IP based interface with EMS (copper or fiber)		
Energy Management System	Cabinet-mounted Power Plant Controller, HMI, Data Historian, and networking equipment required to integrate and operate the Energy Storage System		
Grid Support Functions	Frequency-Watt, Volt-Watt, Volt-Var, Watt and Var ramp rate and power control, H/L Voltage/Frequency Ride through		
Applications	Microgrid, Black Start, Grid Forming, Energy Shifting, Ancillary Services, Renewables Integration, and ESS plus Solar/Wind.		

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

1. The project energy density represents the fully installed AC System including inverter-MVT, auxiliaries and includes augmentation for an assumed 7,300 cycle life.