

Avalon Battery

Industrial-Duty Energy Storage

The Avalon Flow Battery (or “AFB”) is the world’s most advanced energy storage solution for power management at commercial and industrial facilities, as an integral part of renewable generation plants, and inside microgrids. The AFB outperforms conventional technologies and consistently delivers value by:

- Operating for decades with zero degradation
- Employing safe, fault-tolerant battery technology with no fire risk
- Being deployed as redundant, high-reliability arrays
- Arriving on site as a turn-key, fully integrated solution.



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Avalon's AFB incorporates the world's most advanced flow battery technologies, delivering stable, reliable energy storage through decades of service.

Avalon's vanadium flow-based chemistry outperforms all other types, with zero derating of system capacity, round trip efficiency or power output for 20 years or more.

Modular, redundant arrays of AFBs – with up to 1MW per array, and unlimited arrays per site – are an ideal foundation for applications from reducing demand charges to regulating utility-scale renewable generation projects.

The AFB arrives on-site as a turn-key device, requiring no external cooling, electrolyte management, secondary containment, power conversion or controls.

Battery Specifications

Model	AFB3.10 (1000 V)	AFB3.10 (1500 V)
Energy Storage Capacity, Rated	40 kWh	
Continuous DC Power, Max	12 kW	
DC Power, Rated	10 kW	
Energy Storage Duration, Nominal	4 hours	
Operating Voltage, Nominal	850 V	1300 V
Voltage Range, Full power	750 to 950 V	1200 to 1400 V
Min. Voltage	750 V	1200 V
Max. Voltage	1000 V	1500 V
Current, Rated	± 16 A	± 10 A
Energy Storage Capacity, Annual Degradation ¹	< 0.5% per year	
Battery Energy Efficiency, Round-Trip (DC)	> 75%	
Energy Efficiency, Annual Degradation ¹	< 0.1% per year	

Physical

Battery Dimensions (L x W x H), not including Power Converter	1.76m x 1.33m x 2.08m [70" x 52.5" x 82"]
Mass (flooded)	3,900kg [8,600lbs]

Environmental

Ambient Operating Temperature Range	-5 to 45°C
Cooling	Integrated, forced air
Extended Ambient Operating Temperature Range, with Optional Cold Weather Kit	-25 to 45°C
Storage Temperature Range	-25 to 50°C

Certification / Standard Compliance

Safety	UL 1973*
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¹ On the basis of 130 full depth-of-discharge cycles per year

* Pending