



Altus-350[®] Lithium Iron Phosphate (LiPePo₄) Energy Storage System Datasheet

The Altus-350[®] Lithium Iron Phosphate Energy Storage System represents a shift in the maritime industry. This technology offers 7,500 life cycles, Safe (no risk of thermal runaway) and practically no maintenances. High quality manufacturing facility located in Canada.

When launched in 2020, Altus- 350° combined +5 years of industry-leading research and development efforts backed by Canadian Scientists and engineers with years of experience, offering unparallel after sale 24/7 service and remote monitoring, from our R&D facility located in BC. Canada. We have built the industry's safest, most reliable, high performing and cost-effective maritime ESS.

Applications:

Altus-350[®] is ideal for applications that are in need of both energy and a high amount of power, moving large amounts of energy at an inexpensive lifetime cost per kWh. Typical vessel-types are:

- Ferries
- Cruise ships
- Ro/Ro Ro/Pax
- Yachts

- Offshore vessels
- Rigs
- Tugs
- Fishing vessels
- Merchant vessels
- Port cranes
- Shore charging
- Fish farms

Features:

- High C-Rate up to 3C continuous
- Designed for voltages up to 2000 VDC
- Low installation and commissioning time
- Can be assembled on vessels with limited access
- Uses standard 19inch IT Racks
- Very Low life cycle cost
- Flexible and modularised design
- Hot swipe-able modules
- Scalable capacity and voltage according to vessel requirements
- Innovative and user-friendly Module Management System(MMS)
- Remote monitoring capabilities



Spar Power Technologies Inc._____



Technical Specifications | Altus-500®

Performance Specifications	
C-Rate - Peak (Discharge / Charge)	Up to 3C
C-Rate - Continuous (Discharge /	Up to 3C / 3C
Charge)	
System Specifications	
Single Module Size / Increments	3.07 and 6.144kWh, 48 VDC (40-57 Vdc)
Single Module Range	3.07-6.144kWh
Dimensions	450X560X222.5mm (wxdxh)
Weight	33 and 56 kgs
Max Gravimetric Density - Module	110 Wh/kg
Max Volumetric Density - Module	111 Wh/l
Racks	
Energy per Unit	61.44 kWh
Maximum number of modules per /unit/rack	10 (Ten)
Voltage	Max: 540 VDC Nom: 480 VDC Min: 360 VDC
Dimensions – 61.44 kWh	Height: 2200 mm Width: 485 mm Depth: mm 610
Example System – 1.229MWh	
Energy	1,228 kWh
Number of Racks	20
Voltage	Configurable based on the Vessel requirements
Dimensions – 61.44 X20 kWh	Height: 2,200 mm Width: 9700 mm Depth: 610 mm 11,200 Kg
Safety Specifications	
Thermal Runaway Anti-Propagation	Not Required
Fire Suppression	Standard fire suppression for electrical equipment
Cell Balancing	Passive cell balancing
Safety Protection	Over/Under temperature, Over/Under string voltage,
	overcurrent, Over/Under cell voltage with cell voltage protection
Short Circuit Protection	Solid-state protection, System Shut down
Emergency Stop Circuit	Hard-wired (Optional)
Ground fault Detection	System level
Disconnect switchgear rating	Optional
General Specifications	
Type Approval	ABS
Ingress Protection	Ventilated Enclosure NEMA 12
Environmental	-20 to +45 Deg. C (Ambient) R. Humidity <95% non condensing
Cooling	Convection
Note: Specifications may change without notice	