

Plug into the current future with



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## SPECIFICATION SHEET- Lite Marine

### LiFePO4 ENERGY STORAGE for MARINE applications

The following specifications pertain to the **Lite Marine** range of lithium iron phosphate batteries manufactured by Freedom Won specifically designed for corrosive and moist environments.

Lite Marine	5/4	10/7	20/14	30/21	40/28
Total Energy Capacity	5kWh	10kWh	20kWh	30kWh	40kWh
Nominal Voltage	Available in 13V, 26V and 52V options				
Max Current	Available in 125A, 250A, 375A and 500A options				
Daily DoD Suggested (average)	70%DoD				
70% DoD Energy	4kWh	7kWh	14kWh	21kWh	28kWh
Max DoD allowed	90%DoD				
Design Life – Cycles <sup>(1)</sup>	5500-7000 cycles				
Design Life – Years <sup>(2)</sup>	16-20 years				
End of Life Definition [% of as new capacity] <sup>(3)</sup>	70%				
Round Trip Efficiency	96-97%				
Height	310mm				
Width	390mm			590	
Length (excluding handles)	416mm	760mm	1 360mm	1 000mm	1 680mm
Total Weight	55kg	110kg	205kg	300kg	400kg
Enclosure	3mm thick Aluminium, powder coated, tamper proof, water proof IP65, corrosion resistant, handles, fixing plates				
External Interface <sup>(4)</sup>	CAN Bus				
External Contactor Pre-Charge <sup>(5)</sup>	Pre-charge relay and contactor control outputs				
On-board Management	Full battery management system and internal trip protection				
Human Interfaces	Serial RS232 Plug for Programming and data access with PC, main breaker, error reset button Optional: State of Charge Display (0 to 100%), Error light				
Protection	Shunt Trip Circuit Breaker sized to suit max current, can be tripped by BMS if critical fault, manual reset. Protection for overcurrent, cell under and over voltage, temperature, weak cell detection and other critical events				
Battery Chemistry	Lithium Iron Phosphate (LiFePO4)				
Form Factor	Large Format ultra heavy duty prismatic cells of 200Ah each and 3,2V nominal voltage, fully sealed in plastic casing with bolt on electrode connections				
Battery Cooling	Natural Convection (heat generation is negligible inside the battery)				
Suitable Ambient Temp [°C]	0°C to +40°C				
Extreme Operating Temp [°C] <sup>(6)</sup>	-20°C to +60°C				
Remote Monitoring	Optional: Real time data logging and transmission via WiFi to online portal of key battery information				

See Notes on next page.

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Notes to Specification Sheet:

1. Warranty is 10 years or 3500 cycles, 70% capacity guaranteed by end of warranty.
2. Based on one cycle per day. If two cycles per day divide years by two. For low duty cycling applications life is 20+ years.
3. Continued use of the battery after the capacity has dropped to 70% or below is possible, which extends the service life until the actual usable capacity is too low for the requirements of the system.
4. Potential free contacts and analogue outputs also available on request for several control features (details on request).
5. Contactor box complete with integrated pre-charge resistor and relay available from Freedom Won as optional external equipment
6. Charging below 0°C not permitted. Extended time above 45°C not recommended for optimal battery life.