

Corvus Dolphin Energy NxtGen

The Dolphin Energy NxtGen ESS is specifically designed for lightweight applications. It combines outstanding energy density and a reasonable power density with the highest level of safety, setting new industry standards for maritime energy storage systems.

The high-energy, compact, rack-free building blocks and the decoupling of voltage and height allow for high flexibility in stacking and full utilisation of available battery room space.



Applications

Dolphin Energy NxtGen is ideal for ships with long, slow charges and discharges where lightweight is essential.

Typical Vessel Types:

- Tourist vessels
- Canal boats
- Yachts
- Sightseeing vessels
- Ferries

Features

- Low C-rate for slow charge and discharge
- Low weight
- Designed for voltages up to 1200 VDC
- Flexible installation
- Low life cycle cost
- Easy and safe plug and play connections
- Very flexible and modularized design
- Passive single-cell Thermal Runaway protection
- Scalable capacity and voltage according to vessel requirements
- Industry-proven Battery Management System (BMS)
- Remote monitoring capabilities
- Enhanced EMI immunity design for maritime environments

Corvus Energy Safety Innovations

Passive Single-cell-level Thermal Runaway (TR) Isolation

- True cell-level thermal runaway isolation
- TR does not propagate to neighbouring cells
- Isolation NOT dependant on active cooling



Technical Specifications | Corvus Dolphin Energy NxtGen

Performance Specifications	
C-Rate - Peak (Discharge / Charge)	1,0C / 1,0C for 10 seconds
C-Rate - Continuous (Discharge / Charge)	0,5C / 0,5C
System Specifications	
Single Module Size / Increments	8,2 kWh / 50 VDC
Single String Range	33 ± 197 kWh / 130 ± 1205 VDC
Max Gravimetric Density - String	168 Wh/kg 5,96 kg/kWh
Max Volumetric Density - String	212,5 Wh/l
Example Pack - 24 Modules	
Energy	197 kWh
Voltage	Max: 1205 VDC Nom: 1046 VDC Min: 864 VDC
Dimensions	Height: 2775 mm Width: 500 mm Depth: 666 mm 1163 kg
Example System - 30 Strings	
Energy	3941 kWh
Voltage	Max: 797 VDC Nom: 697 VDC Min: 576 VDC
Dimensions	Height: 1975 mm Width: 3980 mm Depth: 4026 mm ¹ 23867 kg
Safety Specifications	
Thermal Runaway Anti-Propagation	Passive cell-level thermal runaway isolation
Fire Suppression	Per SOLAS, class and Corvus recommendation
Disconnect Circuit	Hardware-based fail-safe for over-temperature and over-voltage
Short Circuit Protection	Fuses included on cell level
Emergency Stop Circuit	Hard-wired
Ground Fault Detection	Integrated
Disconnect Switchgear Rating	Full load
General Specifications	
Class Compliance	DNV, Lloyds Register, Bureau Veritas ²
Ingress Protection	IP55
Cooling	Forced air
Vibration and Shock	UNT38.3, DNV 2.4
EMC	DNV-CG-0339
¹ Assuming four stacks deep	
² Bureau Veritas project approval	

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