

Corvus Dolphin NxtGen - Energy

The Corvus Dolphin NxtGen marine energy storage system energy variation is designed for applications that require a high-energy battery system where lightweight is essential.

The Dolphin NxtGen ESS energy variation offers outstanding energy density, reasonable power density, and the highest level of marine battery safety. The space-efficient, rack-free design enables flexible installation configurations to maximize utilisation of available battery room space.



Applications

Dolphin NxtGen - Energy 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

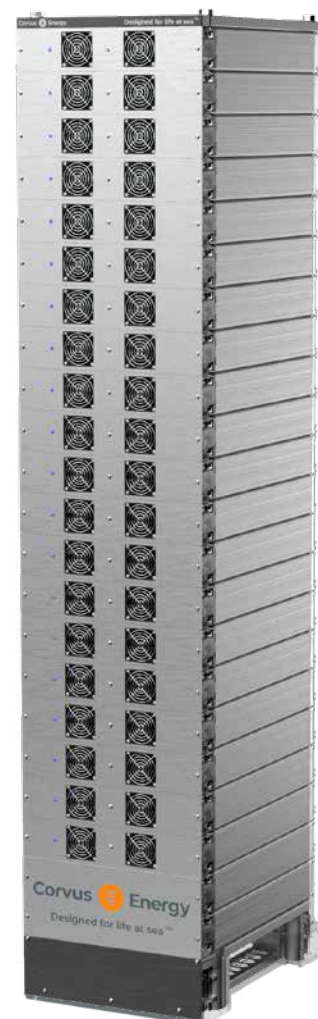
Features

- 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 NxtGen ESS - Energy

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

Battery Cell Chemistry	Lithium ion NCA
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
External Fire Suppression	Per SOLAS, class and Corvus recommendation
Disconnect Protection	Hardware-based fail-safe overcharge protection
Short Circuit Protection	Integrated cell-level fusing
Emergency Stop Circuit	Hard-wired
Ground Fault Detection	Integrated
Integral Disconnect Circuitry Rating ²	Full load

General Specifications

Class Compliance	DNV, Bureau Veritas, Lloyd's Register ³
Type Approval	DNV, Bureau Veritas, Lloyd's Register ⁴
Ingress Protection	IP66 ⁵
Cooling	Forced air

¹ Assuming four stacks deep

² Not compliant with IEC 60947-1

³ Project Approval

⁴ Type Approval pending

⁵ LV AC compartment of SIB is IP56

