



Corvus Dolphin Energy

The Dolphin Energy ESS is specifically designed for lightweight applications. Dolphin Energy 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 flexible design of the Dolphin Energy allows the system to be stacked in various directions enabling high space efficiency in compact installations.

Applications

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

Typical vessels are:

- Tourist vessels
- Canal boats
- Cruise ships
- Sightseeing vessels
- Ferries

Features

- Low C-rate for slow charge and discharge
- Low weight
- Designed for voltages up to 1000 VDC
- Flexible installation
- Low life cycle cost
- Easy and safe plug and play connections
- Very flexible and modularised 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

Performance Specifications

C-Rate - Peak (Discharge / Charge)	1,1C / 1,0C for 10 seconds
C-Rate - Continuous (Discharge / Charge)	0,5C / 0,4C

System Specifications

Single Module Size / Increments	11 kWh / 128 VDC
Single Pack Range	11-88 kWh / 128-1024 VDC
Max Gravimetric Density - Pack	177 Wh/kg 5,6 kg/kWh
Max Volumetric Density - Pack	100 Wh/l

Example Pack - 7 Modules

Energy	77 kWh
Voltage	Max: 896 VDC Nom: 805 VDC Min: 672 VDC
Dimensions (Vertical)	Height: 2380 mm Width: 655 mm Depth: 500 mm 436 kg

Example System - 4 Packs

Energy	308 kWh
Voltage	Max: 896 VDC Nom: 805 VDC Min: 672 VDC
Dimensions - 4 x 77 kWh	Height: 2380 mm Width: 2620 mm Depth 500 mm 1743 kg

Safety Specifications

Thermal Runaway Anti-Propagation	Passive cell-level thermal runaway isolation
Fire Suppression	Per SOLAS, class and Corvus recommendation
Disconnect Circuit	Cell individual fail-safe for over-temperature and over-voltage
Short Circuit Protection	Fuses included on cell, module and pack level
Emergency Stop Circuit	Hard-wired
Ground Fault Detection	Integrated
Disconnect Switchgear Rating	Full load

General Specifications

Class Compliance	DNV GL, Lloyds Register, Bureau Veritas, ABS, RINA
Type Approval	DNV GL (Pending)
Ingress Protection	System: IP23
Cooling	Forced air
Vibration and Shock	UNT38.3, DNV 2.4
EMC	IEC 60945-9