

COREVA S

TECHNICAL BROCHURE



freedom
WON

Introducing the COREVA 5

Project-Ready Utility-Scale Energy Storage

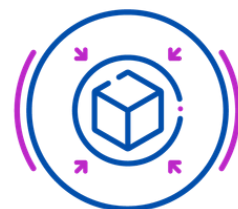
The COREVA 5 is a fully integrated 5MWh lithium iron phosphate (LiFePO₄) battery energy storage system engineered for commercial, industrial and utility-scale applications.

Housed within a 6m container, the system combines high energy density, advanced thermal management, integrated safety systems and scalable architecture to support grid services, renewable integration, peak demand management and energy shifting applications.



Key Features

The system is designed to simplify deployment while maintaining high levels of operational reliability and safety.



Compact Footprint

High energy density



Triple-layer Protection

Cell, module and system level monitoring for enhanced protection and control



Liquid Thermal Management

Integrated liquid heating and cooling



Seamless scalability

Expandable for larger project requirements

The COREVA 5 integrates:

- High-density LiFePO₄ battery modules
- Integrated liquid cooling
- Multi-layer fire detection and suppression
- Battery management system (BMS)
- Energy management system (EMS)
- Site-ready container architecture

Parameter	Value
Total Storage Capacity [kWh]	5.015
Nominal Voltage [V]	1331.2
Max/Min. Operating Voltage [V]	1497.6/1164.8
Max. Charge/Discharge Rate	0.5C @ 25°C
Max. Charging Power [kW]	2507.9 (0.5C)

Engineering Advantages

High Energy Density

The COREVA 5 delivers over 5MWh of storage within a standard 6m container footprint, allowing project developers to maximise energy capacity while reducing land utilisation and civil works requirements.

Benefits

- Reduced site footprint
- Lower balance-of-plant costs
- Increased energy density per square metre
- Simplified site layouts

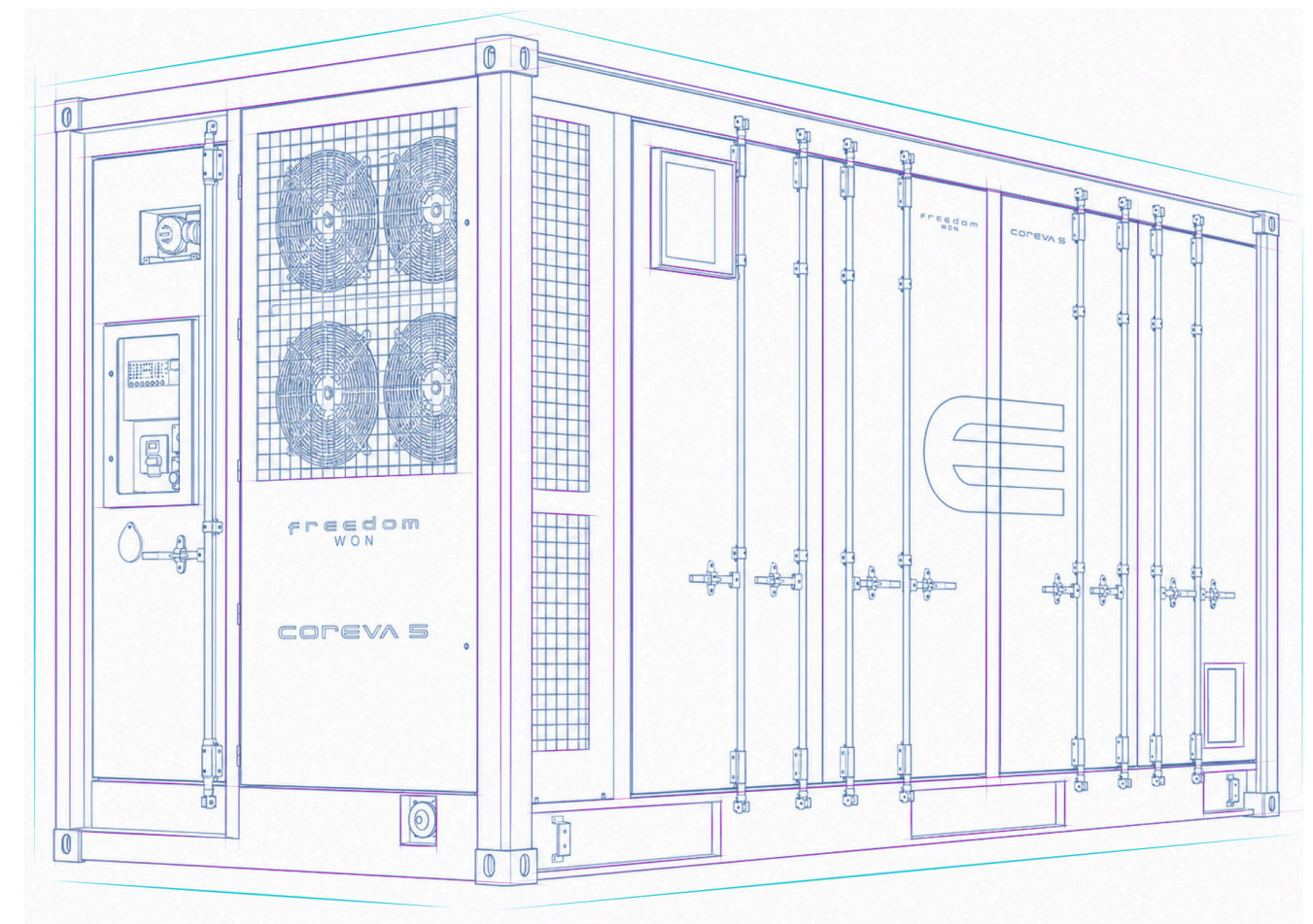
Intelligent Thermal Management

Integrated Liquid Cooling

The liquid cooling system uses optimised flow distribution and intelligent thermal control to maintain consistent cell temperatures across the battery system. This minimises temperature gradients and supports long-term cell performance.

Engineering Benefits

- Improved thermal stability
- Reduced cell degradation
- Increased system efficiency
- Extended operational lifespan
- Consistent performance across varying ambient conditions



Safety Architecture

Multi-Layer Protection Strategy

Safety is incorporated at multiple levels through continuous monitoring, early event detection and automated suppression systems.

Detection Systems

- Temperature monitoring
- Smoke detection
- Off-gas detection

Suppression Systems

Aerosol Fire Suppression

Integrated aerosol suppression provides additional protection within the container environment.

Water Sprinkler System

Suppresses prolonged thermal events and assists first responders.

Thermal Event Management

Cell-level monitoring and thermal isolation strategies assist in detecting, managing and containing thermal events at source.

Control and Integration

Flexible Communication

The COREVA 5 supports integration with utility, industrial and microgrid control systems through:

- CAN
- RS485
- Ethernet

Supported Protocols

- Modbus TCP/IP
- Modbus RTU
- CAN
- IEC104

EMS Integration

System operation is coordinated through the Freedom Won Energy Management System (EMS), enabling advanced control, monitoring and optimisation strategies.

Compliance and Certification

International Standards

- IEC 62619
- IEC 62477-1
- IEC 61000-6-2
- IEC 61000-6-4
- IEC 63056



Transport Compliance

- UN38.3
- UN3536

Backed by a 5-year warranty. Engineered to outlast it.

Standard Warranty:
5 years (Warranty extension available)

Specifications

ELECTRICAL SPECIFICATIONS	
Cell Capacity [Ah]	314
Battery Chemistry	Lithium Iron Phosphate (LiFePO4)
Total Storage Capacity [kWh]	5015
Nominal Voltage [V]	1331.2
Max/Min. Operating Voltage [V]	1497.6/1164.8
Max. Charge/Discharge Rate	0.5C @ 25°C
Max. Charging Power [kW]	2507.9 (0.5C)
ENVIRONMENTAL PARAMETERS	
Storage Temperature [°C]	-20°C to 25°C (long term - max. 6 months); -20°C to 40°C (short term - max. 3 months)
Operating Temperature [°C]	-30°C to 55°C
Operating Humidity [%]	≤95
Altitude [m]	≤3000
Ingress Protection	IP55
Cooling Method	Integrated liquid cooling and heating
COMMUNICATION	
Communication Method	CAN, RS485, Ethernet
Communication Protocol	CAN, Modbus-TCP/IP, Modbus RTU, IEC104
Integration and Control	Top-level control by Freedom Won EMS
FIRE PROTECTION	
Detection	Temperature, Smoke, Off-gas
Pack Level Suppression	Aerosol + water misting system
CONTAINER SPECIFICATIONS	
Dimensions (HxWxD) [mm]	2896x6058x2438 (dimensions as per 6m shipping container)
Weight [Tons]	41.8
ADDITIONAL INFORMATION	
Standard Warranty	5 years
Extended Warranty	10 years
Service Level Agreement	Available for maintenance plans up to 20 years

Contact Us

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Technical queries and product support



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