COREVA 5

TECHNICAL BROCHURE

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WON

Introducing the COREVA 5

Project-Ready Utility-Scale Energy Storage

The COREVA 5 is a fully integrated 5MWh lithium iron phosphate ($LiFePO_4$) battery energy storage system engineered for commercial, industrial and utility-scale applications.

Housed within a standard 6m container footprint, 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
Robust safety features

Liquid cooling
Intelligent climate control

Active Cell Balancing
Maximise usable capacity

Seamless scalability
Scale on demand

The COREVA 5 integrates:

- High-density $LiFePO_4$ battery modules
- Active cell balancing
- Integrated liquid cooling
- Multi-layer fire detection and suppression
- Battery management system (BMS)
- Energy management system (EMS)
- Site-ready container architecture

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Parameter	Value
Energy Capacity	5.015 MWh
Nominal Voltage	1331.2 V
Operating Voltage Range	1164.8 – 1497.6 V
Maximum Charge/Discharge Rate	0.5C
Maximum Charging Power	2.5 MW

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

Active Cell Balancing

The system incorporates active cell balancing technology to continuously optimise cell performance and maximise usable energy capacity.

Engineering Benefits

- Enhanced pack consistency
- Improved state-of-charge accuracy
- Reduced cell drift
- Increased usable energy
- Longer service life

Safety Architecture

High Energy Density

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

Pack-Level Suppression

Submerged fire extinguishing technology provides direct intervention at battery pack level.

Aerosol Fire Suppression

Integrated aerosol suppression provides additional protection within the container environment.

Optional Water Sprinkler System

Available to support project-specific fire protection requirements.

Thermal Event Management

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

Control and Integration

Flexible Communications

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

United States Standards

- UL1642
- UL1973
- UL9540
- UL9540A
- NFPA 68
- NFPA 69
- NFPA 855

International Standards

- IEC 62619
- IEC 62477-1
- IEC 61000-6-2
- IEC 61000-6-4
- IEC 62933-5-2
- IEC 62620
- IEC 61427-1

Transport Compliance

- UN38.3
- UN3536

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
COMMUNICATION	
Communication Method	CAN, RS485, Ethernet
Communication Protocol	CAN, Modbus-TCP/IP, Modbus RTU, IEC104
Integration and Control	System controlled by Freedom Won EMS
FIRE PROTECTION	
Detection	Temperature, Smoke, Off-gas
Pack Level Suppression	Submerged fire extinguishing
Aerosol Suppression	Included
Water Sprinkler Suppression	Optional
CONTAINER SPECIFICATIONS	
Dimensions (HxWxD) [mm]	2896x6058x2438 (dimensions as per 6m shipping container)
Weight [Tons]	≈ 44
ADDITIONAL INFORMATION	
Cell Balancing Method	Active
Standard Warranty	5 years
Extended Warranty	10 years
Service Level Agreement	Available for maintenance plans up to 20 years

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Let's Connect

We're here to power your energy future.

Phone
+27 (0) 10 597 7794

E-mail
enquiries@freedomwon.co.za

Website
www.freedomwon.co.za

Follow us on