COREARK

COMMERCIAL BATTERY ENERGY STORAGE SYSTEM

TAKE CHARGE AND POWER THROUGH UNCERTAINTY WITH COREARK

Espen Technology's COREARK is a cutting edge AI Powered All-In-One Battery Energy Storage System (BESS) designed to store renewable energy, stabilize power supply, and reduce costs for Commercial and Industrial businesses. Secure your operations and have the power you need when you need it.

ORDERING

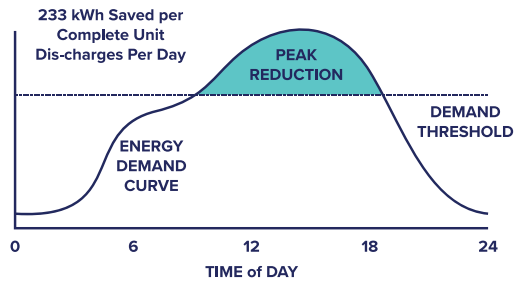
C-ARK / 233

SERIES — BATTERY CAPACITY

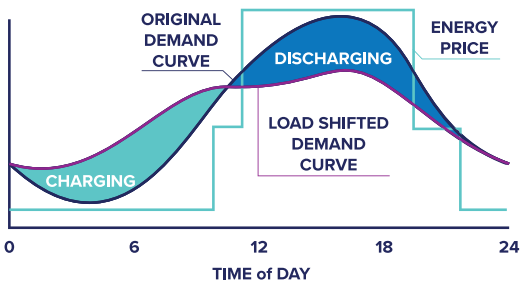
SERIES	
C-ARK	Core ARK Battery Energy Storage System
BATTERY SYSTEM CAPACITY	
233	233 kWh Rated Capacity

APPLICATION DIAGRAMS

PEAK SHAVING



LOAD SHIFTING



FEATURES

Power Conversion System (PCS)
- 125 kW PCS, Max 135 kW
- Static VAR Generator (SVG) Technology for rapid reactive power compensation improving efficiency, stability and power quality on the Grid.
- Three Phase 4-wire system

Energy and Battery Management Systems (EMS & BMS)
- Intelligent real-time monitoring of battery system
- Cloud based platform allows access online or mobile app.
- Advanced BMS algorithms to maximize safety and early warning of potential safety issues.

Fire Protection System
- Fire resistant design with Three-level fire protection system
- Multi-sensor system with early warning system

Liquid Cooling
- Intelligently controlled liquid cooled temperature management system maintains high battery efficiency of 97% PV energy conversion.
- Dynamically adjusts based on operational status, current weather conditions, and historical data to optimize charge/discharge operations.

Battery Cell Modules
- Lithium Iron Potassium Battery cells
- Thermal runaway propagation
- Short-circuit Protection

Virtual Power Plant (VPP) Funtions
- Integrates seamlessly into Virtual Power Plants for optimized energy dispatch.
- Maximizes revenue through energy market participation and peak demand support.
- Balances renewable energy with smart, grid-coordinated storage.

Firm Frequency Response (FFR) Functions
- Delivers Firm Frequency Response in under 1 second to stabilize the grid.
- Supports frequency control with rapid charge/discharge precision.
- Earns income by providing reliable grid stability services.

www.EspenEV.com

CORE ARK

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APPLICATIONS

Peak Shaving & Load Management
- Reduces utility demand charges by up to 30% through strategic discharge during peak periods
- Optimizes energy consumption patterns for immediate operational cost savings

Backup Power & Resilience
- Ensures critical business operations continue during grid outages with seamless transition
- Provides up to 8 hours of backup for essential equipment to prevent revenue loss

Grid Support & Stabilization
- Protects sensitive equipment from voltage fluctuations and power quality issues
- Enables participation in utility demand response programs for additional revenue

Renewable Energy Integration
- Maximizes return on solar investments by storing excess generation for later use
- Increases self-consumption of on-site renewable energy, reducing grid dependence

Microgrid Formation
- Creates energy independence options for locations with unreliable grid connections
- Supports sustainable business operations with stable power supply in all conditions

TECHNICAL SPECS

OUTPUT SPECS	Rated AC Power	125 kW
	Rated Current	150 A
	Output Voltage	480 VAC
	Overload Capacity	110%
BATTERY SPECS	Chemistry	LiFePO4
	Nominal Capacity	280 Ah
	Power Rate	0.5P
	Battery Pack Configuration	1P52S
	Battery Rack Configuration	1P260S
	System Rated Voltage	832 VDC
	Operating Voltage Range	728 - 936 VDC
SYSTEM SPECS	Rated Energy Storage	233 kWh
	Cycle Life	6000 Cycles @ (0.5C/0.5C, DOD90%, 70% EOL)
	Cooling Method	Intelligent Liquid Cooling
	Fire Protection	Pack Grade (Aerosol) + Cluster Grade (Aerosol + Water Spray)
	Communication Methods	CAN/RS485/Ethernet
	Ingress Protection	Cabinet: IP54 Battey Pack: IP67
	Weight	2800 kg / 6173 lbs
	Dimensions	1400 x 1380 x 2385 mm 55.11 x 54.33 x 93.9 Inches
	Certifications	UL1973, UL9540A, UL9540

SYSTEM SCHEMATIC