ESPEN TECHNOLOGY

GRIDARK

UTILITY GRADE BATTERY ENERGY STORAGE SYSTEM

DECENTRALIZE, STABILIZE AND CAPITALIZE ON THE LATEST IN MICROGRID TECHNOLOGIES WITH GRIDARK

Espen Technology's GRIDARK is a cutting edge AI Powered All-In-One 20 FT Container sized Battery Energy Storage System (BESS) designed to store renewable energy, stabilize power supply, and increase reliability and create remote decentralized MicroGrids.

ORDERING

G-ARK / 3MW

SERIES — BATTERY CAPACITY

SERIES	
G-ARK	GRID ARK Battery Energy Storage System
BATTERY SYSTEM CAPACITY	
3MW	3.42 Mega Watt Hours Rated Capacity

INTEGRATED CONTAINER SOLUTION

FEATURES

Price Optimization
- Utilize highly advanced Energy Optimization algorithms to hedge price volatility and lower your costs.

Demand Response
- Real-time, aggregated control of available energy resources to meet supply and demand.

Congestion Management
- Perform batch setting on inverter's parameters to avoid grid overload.

Renewable Energy Integration
- Green Energy production from renewable sources can often be sporadic based on wind and weather. Smooth out the curve and store renewable energy for when you need it most.

Data Services, Energy and Battery Management Systems (EMS & BMS)
- Intelligent real-time monitoring/reporting 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
- Automated HeptaFluoropropane system for swift fire suppression.

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. Maintains a +/-7°C temperature range.

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

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SUPPORT

Planning and Consulting
- Dedicated software tools for project planning
- Outstanding Project Simulations
- LCOE & ROI Analysis
- Engineering Support

Implementation
- Design Validation
- Hands-On Training
- Installation Checklists
- On-Site Support
- Remote Access
- Automated Commissioning Report

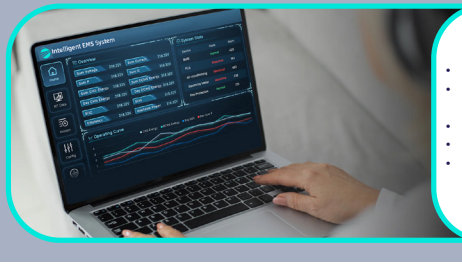
Operations and Maintenance
- Fleet Management
- Precise Location for alerts
- Performance Monitoring
- Module Level Analysis
- Remote Troubleshooting
- Automated Reports

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

BATTERY SPECS	Chemistry	LiFePO4
	Nominal Capacity of Cell	300 Ah
	Charge/Discharge Rate	0.5C
	Battery Pack Configuration	1P44S
	Battery System Configuration	9P396S
	System Rated Voltage	1267 VDC
	Operating Voltage Range	1109 - 1425.6 VDC
SYSTEM SPECS	Rated Energy Storage	3.42 MWh
	Cycle Life	7000+ Cycles
	Cooling Method	Intelligent Liquid Cooling
	Fire Protection	Pack Grade (Aerosol / perfluorohexane) + Cluster Grade (Aerosol / perfluorohexane + Water Spray)
	Communication Methods	CAN/RS485/Ethernet
	Ingress Protection	Container: IP54 Battey Pack: IP67
	Dimensions	6058 x 2438 x 2896 mm 20 x 8 x 9.5 Feet
	Certifications	UL1973, UL9540A, UL9540



SOFTWARE

- Complete Software Ecosystem
- Real-time overview of your Energy Storage System
- Single Inutitive Platform
- Data Driven insdights an control
- Optimizes energy consumption patterns for immediate operational cost savings

UTILITY STORAGE SYSTEM SOLUTION SCHEMATIC