GOODWE

Scalable and flexible C&I all-in-one energy storage solution

- Faster installation time and lower commissioning cost
- Scalable and flexible deployment
- Enhanced protection, longer lifespan, and stable operation
- Flexible, intelligent energy optimization with microgrid compatibility

The GoodWe ESA Series introduces a new, all-in-one Energy Storage System (ESS) tailored for a wide range of Commercial and Industrial (C&I) applications. Featuring a modular design, the ESA Series enables flexible system expansion, streamlined transportation and installation, and simplified operations and maintenance (O&M). Engineered with multi-level protection and advanced safety features-including thermal management at the cell level-the system ensures reliable performance. Its intelligent hybrid cooling approach combines air cooling at the Power Conversion System (PCS) level with smart liquid cooling for the battery modules, all within an IP54-rated enclosure suitable for outdoor environments.
Equipped with integrated Energy Management System (EMS) functionality, the ESA Series supports parallel operation with grid-tied inverters for adaptable C&I deployments. Additionally, when paired with the upcoming GoodWe STS Box, it can operate in off-grid mode with grid-forming capability and Virtual Synchronous Generator (VSG) functionality.

- Supports up to 20 units in parallel (2.5MW/5.22MWh)
- 3S Coordination with self-developed PCS, BMS & EMS
- AI-driven battery diagnosis and health prediction
- Pack-level humidity monitoring with auto-dehumidification

ESA Series C&I Energy Storage System I 125kW / 261kWh **EMEA**

ESA Series

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Technical Data	GW125/261-ESA-LCN-G10	GW125/261-ESA-LCN-G11
Battery Data		
Cell Type	LFP ($LiFePO_4$)	
Cell Capacity (Ah)	314	
Module Nominal Energy (kWh)	52.25	
Number of Packs	5	
Rack Nominal Energy (kWh)	261.25	
Rack Usable Energy (kWh)	261.25	
Nominal Voltage (V)	832	
Operating Voltage Range (V)	676 ~ 936	
Max. Continuous Charge / Discharge Current (A)	188	
Max. Charge / Discharge Current (A)	198.5	
Max. Charge / Discharge Rate	0.5P	
Depth of Discharge	90% ~ 100% (90% Recommended)	
AC Output Data (On-grid)		
Nominal Output Power (kW)	125	
Max. Output Power (kW)	137.5@400V AC; 130.6@380V AC	
Nominal Apparent Power (kVA)	125	
Nominal Apparent Power Output to Utility Grid (kVA)	125	
Nominal Apparent Power from Utility Grid (kVA)	125	
Max. Apparent Power (kVA)	137.5@400V AC; 130.6@380V AC	
Max. Apparent Power Output to Utility Grid (kVA)	137.5@400V AC; 130.6@380V AC	
Max. Apparent Power from Utility Grid (kVA)	137.5@400V AC; 130.6@380V AC	
Nominal Output Voltage (V)	400 / 380, 3L / N / PE	
Output Voltage Range (V)	340 ~ 440 / 323 ~ 418	
Nominal AC Grid Frequency (Hz)	50 / 60	
AC Grid Frequency Range (Hz)	47.5 ~ 52.5 / 57.5 ~ 62.5	
Max. AC Output Current (A)	198.5	
Max. AC Current Output to Utility Grid (A)	198.5	
Max. AC Current from Utility Grid (A)	198.5	
Nominal Output Current (A)	180.4@400V AC; 189.9@380V AC	
Power Factor	~1 (0.8 lag to 0.8 lead)	
Max. Total Harmonic Distortion	<3%	
AC Output Data (Off-grid)		
Nominal Output Power (kW)	125	
Max. Output Power (kW)	137.5@400V AC; 130.6@380V AC	
Nominal Apparent Power (kVA)	125	
Nominal Output Apparent Power to Grid (kVA)	125	
Nominal Input Apparent Power from Grid (kVA)	125	
Max. Apparent Power (kVA)	137.5@400V AC; 130.6@380V AC	
Max. Output Apparent Power to Grid (kVA)	137.5@400V AC; 130.6@380V AC	
Max. Input Apparent Power from Grid (kVA)	137.5@400V AC; 130.6@380V AC	
Nominal Output Voltage (V)	400 / 380, 3L / N / PE	
Output Voltage Range (V)	340 ~ 440 / 323 ~ 418	
Nominal Output Frequency (Hz)	50 / 60	
AC Grid Frequency Range (Hz)	47.5 ~ 52.5 / 57.5 ~ 62.5	
Max. AC Output Current (A)	198.5	
Max. AC Current Output to Grid (A)	198.5	
Max. AC Current from Grid (A)	198.5	
Nominal Output Current (A)	180.4@400V AC; 189.9@380V AC	
Power Factor	~1 (0.8 lag to 0.8 lead)	
Output THDi (@Linear Load)	<3%	
Efficiency		
Max. PCS Efficiency	98.6%	
Max. System Efficiency	92.0%	
Protection		
Battery Reverse Polarity Protection	Integrated	
Anti-islanding Protection	Integrated	
AC Overcurrent Protection	Integrated	
AC Short Circuit Protection	Integrated	
AC Surge Protection	Type II	
General Data		
Operation Temperature Range (°C)	-25 ~ +55	
Derating Temperature (°C)	45	
Storage Temperature (°C)	-20 ~ +45 (One Month); 0 ~ +35 (One Year)	
Relative Humidity	10% ~ 95%	
Max. Operating Altitude (m)	4000 (2000 derating)	
Cooling Method	Pack: Liquid Cooling; PCS: Smart Fan Cooling	
User Interface	LED, WLAN + APP	
Communication Protocol	Modbus TCP, Modbus RTU	
Weight (kg)	2580	
Dimension (W × H × D mm)	1050 × 2250 × 1400	
Noise Emission (dB)	≤70	
Topology	Non-isolated	
Ingress Protection Rating	IP54	
Anti-Corrosion	C4 (C5 optional)	
Configuration of Safety	Aerosol + water-based fire suppression, explosion-proof fan + explosion-proof plates (optional)	
Charge / Discharge Switching Time	<60ms	

*: Please visit GoodWe website for the latest certificates.