GOODWE

ESA Series

29.9kW/60kWh
C&I Energy Storage System

GoodWe's ESA 29.9kW/60kWh all-in-one outdoor cabinet, designed for small to medium size commercial and industrial (C&I) energy storage applications, is a compact, easy-to-install, and high-performance turnkey solution energy storage system. The ESA Series seamlessly integrates battery, inverter*, and BMS/EMS components into a single cabinet, complemented by air-conditioning units, along with fireproof and explosion-proof features.
Its modular design ensures minimal disruption in case of local failures, facilitating quick and effortless module replacement. Multiple cabinets can be connected in parallel to expand the size of the energy storage system, enabling flexible configurations.

Smart Control & Monitoring

· Remote monitoring & updates
· Smart energy management system

All-in-one Design

· Compact, easy-to-install design for reduced installation and O&M costs
· Modular design with high power and energy density

Superb Safety & Reliability

· Reliable LFP technology with high cycle stability for long-term performance
· IP55 and C4 corrosion protection for indoor & outdoor installation
· Fire suppression and explosion prevention design

Efficient & Flexible Applications

· Supports a multi-cabinet parallel connection and easy system expansion
· Integrated BMS/EMS, suitable for various applications

*: The ET29.9kW hybrid inverter must be purchased separately.

ESA Series

Technical Data	GW29.9/60-ESA-ACPN-G10
Battery System Data	
Cell Type	LFP (LiFePO4)
Module Nominal Energy (kWh)	5.76
Number of Modules	11
System Usable Energy (kWh)	60
Nominal Voltage (V)	633.6
Operating Voltage Range (V)	554.4 ~ 712.8
PV String Input Data	
Max. Input Power (kW)[*2]	45
Max. Input Voltage (V)[*3]	1000
MPPT Operating Voltage Range (V)	200 ~ 850
Start-up Voltage (V)	200
Nominal Input Voltage (V)	620
Max. Input Current per MPPT (A)	30
Max. Short Circuit Current per MPPT (A)	38
Number of MPP Trackers	3
Number of Strings per MPPT	2 / 2 / 2
AC Output Data (On-grid)	
Nominal Output Power (kW)	29.9
Nominal Apparent Power Output to Utility Grid (kVA)	29.9
Max. Apparent Power Output to Utility Grid (kVA)	29.9
Max. Apparent Power from Utility Grid (kVA)	30
Nominal Output Voltage (V)	380 / 400, 3L / N / PE
Output Voltage Range (V)[*4]	0 ~ 300
Nominal AC Grid Frequency (Hz)	50 / 60
AC Grid Frequency Range (Hz)	45 ~ 65
Max. AC Current Output to Utility Grid (A)	43.3
Max. AC Current from Utility Grid (A)[*5]	43.3
Power Factor	~1 (Adjustable from0.8 leading~0.8 lagging)
Max. Total Harmonic Distortion	≤3.05%
AC Output Data (Back-up)	
Back-up Nominal Apparent Power (kVA)	29.9
Max. Output Apparent Power without Grid (kVA)[*6]	30 (36@60s)
Max. Output Apparent Power with Grid (kVA)	29.9
Max. Output Current (A)	45.5 (54.5@60s)
Nominal Output Voltage (V)	380 / 400
Nominal Output Frequency (Hz)	50 / 60
Output THDv (@Linear Load)	<3%
Efficiency	
Max. Efficiency	98.0%
European Efficiency	97.5%
Protection	
PV String Current Monitoring	Integrated
PV Insulation Resistance Detection	Integrated
Residual Current Monitoring	Integrated
PV Reverse Polarity Protection	Integrated
Battery Reverse Polarity Protection	Integrated
Anti-islanding Protection	Integrated
AC Overcurrent Protection	Integrated
AC Short Circuit Protection	Integrated
AC Overvoltage Protection	Integrated
DC Switch[*7]	Integrated
DC Surge Protection	Type II
AC Surge Protection	Type III
AFCI	Optional
Rapid Shutdown	Optional
Remote Shutdown	Integrated

Technical Data	GW29.9/60-ESA-ACPN-G10
General Data	
Environment Temperature (°C)	-25 ~ +55
Relative Humidity	0 ~ 95%
Max. Operating Altitude (m)	3000
Cooling Method	Smart Fan Cooling
User Interface	LED
Communication	RS485, WiFi + LAN + Bluetooth
Communication Protocol	Modbus-RTU, Modbus-TCP / IP
Weight (kg)	972 1029.5 (Expansion)
Dimension (W × H × D mm)	808 × 2050 × 1111.5 1108 × 2050 × 1111.5 (Expansion)
Topology	Non-isolated
Ingress Protection Rating	IP55 (Battery Cabinet)
Anti-Corrosion Class*1	C4 (Optional upgrade to C5)
Fire Safety Equipment	Package level aerosol, Cluster level perfluorohexane

*1: Excluding locks.
*2: In Australia, for most of the PV module, the max.Input power can achieve 2*Pn, Such as the Max.Input Power of GW29.9 / 60-ESA-ACPN-G10 can achieve 60kW. Besides, Max. Input Power, not continuous for 1.5*normal power.
*3: For 1000V system, Maximum operating voltage is 950V.
*4: Output Voltage Range: phase voltage.
*5: When the load is connected to the inverter's backup port, the Max. AC Current From Utility Grid can reach to 50A.
*6: Can be reached only if PV and battery power is enough.
*7: DC Switch: GHX6-55P (for Australia).
*: Please visit GoodWe website for the latest certificates.

C&I Energy Storage Solution

The energy storage system of the ESA 29.9kW / 60kWh series is composed of the GoodWe hybrid inverter ET 29.9kW series and GWH60KWH-D-10 battery system.

Extension of the Energy Storage Solution

The energy storage system can be expanded by connecting up to two additional extension batteries (model GW60KWH-D-10-Extension), resulting in 180kWh battery capacity.

Parallel connection of the hybrid inverter will enable further system expansions.

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