

ES60 Liquid-Cooled Energy Storage System

60 kW | 128 kWh | Integrated Cabinet | Auto Grid/Off-Grid Switching



Vertical Segregated Architecture

- Top-to-bottom PCS/battery separation reduces thermal interaction.
- Front-door access allows maintenance without disassembly.
- Low CG for better seismic stability and handling.



Precise Thermal Regulation

- Industrial-grade liquid cooling keeps cell-to-cell temp difference $\leq 2.5^{\circ}\text{C}$ across -30°C to 60°C .
- Automatic coolant management reduces manual maintenance.



Industrial-Grade Safety Design

- IP67/IP54 ratings protect against dust and water.
- High-strength Q235A steel ensures structural durability.
- Intelligent fire suppression with real-time alerts.



AI-Driven Energy Management

- Grid capacity expansion avoids the need for utility transformer upgrades.
- Continuous diagnostics provide early alerts, minimizing downtime and O&M.
- Single EMS coordinates PV, storage, and microgrid operation on- or off-grid.



Integrated Flexibility, Rapid Deployment

- PCS, BMS, and EMS integrated to simplify installation and operation.
- DC-coupled PV + battery boosts overall system efficiency.
- Only 1.8 tons — installable with a manual pallet jack, no crane required.



Professional Project Oversight

- Local warehousing and field teams shorten lead times and speed installation.
- Dedicated PMO manages project schedule, scope, and performance outcomes.

Model	ES60
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PV Side

Max. Input Power	76.8 kW
Operating Voltage	200 V to 800 V
Max. Input Voltage	850 V
No. of MPP Trackers/Strings	2/2
Max. Input Current	64 A $\times$ 2

AC Side (On-Grid)

Rated AC Power	60 kW
Rated AC Current	87 A
Max. Output Power	66 kW
Max. Output Current	95.7 A
Grid Voltage	400 V, 3W+N+PE/3W+PE
Grid Frequency	50 Hz
Power Factor	-1 (lagging) to +1 (leading)
THDi	< 3% (at load > 30%)

AC Side (Off-Grid, STS Optional)

Rated Output Power	60 kW
Rated Output Current	87 A
Max. Output Power	66 kW
Max. Output Current	95.7 A
Output Voltage	400 V, 3W+N+PE/3W+PE
Output Frequency	50 Hz
THDu (Linear Load)	< 3%
Overload Capability	1.1 times rated power (continuous)
On-Grid/Off-Grid Switchover Time	< 20 ms

Battery Side

Battery Chemistry	LiFePO ₄
Rated Capacity	128 kWh
Battery Voltage	358.4 V to 460.8 V
Configuration	1P $\times$ 64S $\times$ 2S
Max. Charge/Discharge Current	150 A (subject to BMS strategy)

General

Max. Parallel Units	On/Off-grid:6 pcs
Operating Temperature	-25°C to 55°C (derating above 45°C)
Relative Humidity	0 to 95%
Operating Altitude	$\leq 4,000$ m (derating above 2,000 m)
Protection Rating	IP67 (battery compartment)/IP54 (electrical compartment)
Cooling Method	Liquid cooling
Noise	≤ 65 dB
Electrical Protection	Ground fault circuit interrupter (GFCI) Insulation resistance monitoring Anti-islanding protection Output overcurrent protection Short-circuit protection
Protection Class	Class I
Weight	Approx. 1,800 kg
Dimensions (W $\times$ D $\times$ H)	1,820 $\times$ 1,120 $\times$ 1,350 mm
Packaging Dimension	2,020 $\times$ 1,270 $\times$ 1,540 mm
Warranty	5 years/10 years(optional)

Certifications

Standard	IEC 62619, EN/IEC 62109-1, EN/IEC 62109-2, EN/IEC 62477-1, IEC/EN60529, IEC/EN 61000-6-4, EN/IEC 61000-6-2, UN 38.3
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Note: Specifications are subject to change without notice.