



CSSUN LPW48V200H-sc 51.2V 200Ah Powerwall LiFePO4 Battery Technical Review

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High-Performance Energy Storage Solution

The CSSUN LPW48V200H-sc stands out in residential energy storage with its 51.2V 200Ah configuration, delivering 10.24kWh capacity through automotive-grade LiFePO4 cells. Unlike traditional lead-acid batteries that resemble gas-guzzling cars, this unit operates like a hybrid vehicle - efficient, durable, and low-maintenance.

Key Technical Specifications

Nominal Voltage: 51.2V DC

Energy Capacity: 10.24kWh

Cycle Life: 6,000+ cycles at 80% DoD

Operating Temperature: -20°C to 55°C

Wall-mounted design: 750x550x250mm footprint

Smart Battery Management System (BMS)

Equipped with a 3-level protection BMS that monitors cell voltage like a nervous system tracking vital signs. The system prevents:

Overcharge (>58.4V cutoff)

Deep discharge (<40V protection)

Thermal runaway (>65°C shutdown)

Real-World Performance Data

In field tests across 20 Guangdong households, the battery maintained 94.7% round-trip efficiency after 1,500 cycles. Compare this to the industry average of 92% for similar LiFePO4 systems.

Solar Integration Capabilities

Designed for seamless integration with 2-5kW solar arrays. The modular design allows parallel connection of up to 16 units (163.84kWh total capacity). Compatible with major hybrid inverters including:

Huawei SUN2000-5KTL-L1

Growatt MIN 5000TL-X

Deye SUN-5K-SG01LP1



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Safety Certifications

Certified to UL1973, IEC62619, and UN38.3 standards - the "triple crown" of battery safety. The UL certification process alone involves 21 separate abuse tests including nail penetration and thermal shock evaluations.

Economic Analysis

At current pricing (CN¥4,345/unit for bulk orders), the levelized cost of storage (LCOS) calculates to:

- CN¥0.42/kWh over 10-year lifespan
- 56% lower than lead-acid alternatives
- 23% savings versus comparable LiFePO4 systems

The wall-mounted installation reduces floor space requirements by 40% compared to rack-mounted alternatives. Maintenance needs? About as frequent as watering a cactus - the self-balancing BMS requires only annual visual inspections.

Technical Support & Warranty

Backed by a 7-year performance guarantee covering:

- 80% capacity retention after 3,500 cycles
- Free replacement for BMS failures
- 48-hour emergency response service

Future-Proof Design Features

Incorporates RS485/CAN communication ports for smart grid integration. The battery's firmware supports OTA updates, allowing compatibility with emerging standards like IEEE 2030.5 for demand response programs.

Web: <https://www.sphoryzont.edu.pl>