



High-Reliability C&I Energy Storage

Liquid-Cooled All-in-One Cabinets & Modular Microgrid Solutions for Industrial Power Resilience

8,000+
CYCLE LIFE

261kWh
MODULAR UNIT

±2.5°C
LIQUID COOLING

5 MWh
CONTAINER BESS



KEY TECHNOLOGICAL INNOVATIONS

Engineered for Tropical & Unstable Grid Conditions

Tier-1 314Ah LFP Cells

Equipped with automotive-grade LiFePO4 cells delivering 8,000 deep discharge cycles with over 15-year design lifespan and zero thermal runaway risk.

Intelligent Liquid Cooling

Direct pack liquid thermal cooling keeps internal cell temperature variance within ±2.5°C, reducing parasitic consumption by 35% compared to air cooling.

Multi-Source Hybrid Integration

Seamlessly synchronizes Solar PV, Diesel Generators, and National Grid with sub-20ms black start switching to safeguard critical industrial loads.

Multi-Tier Fire Suppression

Pack-level aerosol + Perfluorohexanone (NOVEC 1230) gas flooding with triple-stage combustible gas and smoke detection for complete safety.

FLAGSHIP ALL-IN-ONE C&I STORAGE CABINETS

Standardized Turnkey Factory Integration

GRID-TIE PEAK SHAVING

CHGL-HL261-125 (125kW / 261kWh)

Standard C&I liquid-cooled all-in-one storage cabinet designed for factory peak-valley arbitrage, transformer demand charge reduction, and power quality stabilization.

Rated Power: 125 kW AC (3P+N+PE)
Rated Energy: 261.1 kWh (314Ah LFP)
Dimensions: 940 × 1350 × 2300 mm (2,400 kg)
Protection: IP54 Outdoor / Liquid Cooling



PV-STORAGE-DIESEL HYBRID

CHGL-HL261-60H (60kW / 261kWh)

Integrated hybrid cabinet featuring dual 38.4kW MPPT solar inputs, built-in diesel generator synchronization, and autonomous microgrid islanding capability.

Rated Power: 60 kW AC / 76.8 kW PV Input
Rated Energy: 261.1 kWh (314Ah LFP)
Solar MPPT: 2 Trackers (200V~800V DC)
Switching: ≤20ms UPS Grade Seamless Backup





COMPREHENSIVE ELECTRICAL & MECHANICAL DATASHEET

Factory Tested to IEC 62619, IEC 62477, UN38.3 & CE

Model Series	CHGL-HL261-125	CHGL-HL261-60H (Hybrid)	CHGL-HA241-125 (Air-Cooled)
System Type	Grid-Tied Liquid-Cooled BESS	Solar-Storage-Diesel Hybrid BESS	Standard Air-Cooled BESS
DC BATTERY SIDE PARAMETERS			
Battery Cell Chemistry	LiFePO4 (Lithium Iron Phosphate)	LiFePO4 (Lithium Iron Phosphate)	LiFePO4 (Lithium Iron Phosphate)
Cell Specification	3.2V / 314Ah Prismatic Cell	3.2V / 314Ah Prismatic Cell	3.2V / 314Ah Prismatic Cell
Battery Configuration	260S1P	260S1P	240S1P
Nominal Energy Capacity	261.1 kWh	261.1 kWh	241.1 kWh
Rated DC Voltage	832 V DC	832 V DC	768 V DC
DC Operating Voltage Range	650 V ~ 949 V DC	650 V ~ 949 V DC	600 V ~ 876 V DC
Max Continuous Charge/Discharge	192 A (0.5P)	192 A (0.5P)	180 A (0.5P)
Cycle Life (25°C, 0.5C/0.5C, 80% EOL)	≥ 8,000 Cycles	≥ 8,000 Cycles	≥ 6,500 Cycles
AC GRID & OUTPUT PARAMETERS			
Rated AC Output Power	125 kW	60 kW	125 kW
Rated AC Output Current	181 A	87 A	181 A
Nominal Grid Voltage	400V / 230V AC (3P + N + PE)	400V AC (3P + N + PE)	400V / 230V AC (3P + N + PE)
Grid Frequency Range	50 Hz / 60 Hz (±2.5 Hz)	50 Hz / 60 Hz (±2.5 Hz)	50 Hz / 60 Hz (±2.5 Hz)
Power Factor Range	0.8 leading ~ 0.8 lagging	0.8 leading ~ 0.8 lagging	0.8 leading ~ 0.8 lagging
Total Harmonic Distortion (THDu)	< 3% (Linear load)	< 3% (Linear load)	< 3% (Linear load)
Peak PCS Efficiency	98.50%	98.50%	98.20%
SOLAR PV INPUT (HYBRID MODEL ONLY)			
Max Recommended PV Array Power	N/A (External PCS)	76.8 kW (38.4 kW + 38.4 kW)	N/A (External PCS)
Max DC Input Voltage (Voc)	N/A	850 V DC	N/A
MPPT Operating Range	N/A	200 V ~ 800 V DC	N/A
MPPT Trackers / String Inputs	N/A	2 MPPTs (64A + 64A Max)	N/A
SYSTEM ARCHITECTURE, SAFETY & MECHANICAL			
Dimensions (W × D × H)	940 × 1350 × 2300 mm	940 × 1350 × 2300 mm	1050 × 1350 × 2300 mm
Total System Weight	2,400 kg	2,450 kg	2,350 kg
Thermal Management	Intelligent Liquid Cooling	Intelligent Liquid Cooling	Industrial Air Conditioning
Fire Suppression System	Automated Perfluorohexanone (FK-5-1-12)	Automated Perfluorohexanone (FK-5-1-12)	Aerosol + Novec 1230 Multi-Stage
Ingress Protection Rating	IP54 Outdoor Enclosure	IP54 Outdoor Enclosure	IP54 Outdoor Enclosure
Operating Ambient Temperature	-15°C to +55°C	-15°C to +55°C	-10°C to +50°C
Operating Altitude	≤ 4,000 m (Derating > 2,000 m)	≤ 4,000 m (Derating > 2,000 m)	≤ 3,000 m
Communication Interfaces	Ethernet, RS485, CAN, Modbus-TCP	Ethernet, RS485, CAN, 4G / Cloud	Ethernet, RS485, CAN
Certifications & Standards	IEC 62619, IEC 62477-1, IEC 61000-6-2/4, UN38.3, CE, UL 9540A Verified		



LARGE-SCALE UTILITY & MEGAWATT SOLUTIONS 2.5 MWh ~ 5 MWh Standard ISO Container Architecture

CHGL 5MWh Liquid-Cooled Container Energy Storage System

Standard 20ft/40ft high-cube ISO shipping container package integrating 314Ah high-density cells, bidirectional centralized/string PCS, dual-loop liquid cooling, and full-cabin clean agent fire suppression. Ideal for thermal power plant auxiliary frequency regulation, utility grid substations, and mega industrial parks.

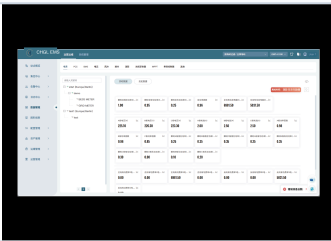
Capacity: 5.016 MWh

Max Power: Up to 2.5 MW

Scalability: Up to 50MWh



CHGL SMART CLOUD EMS & MICROGRID CONTROLLER Intelligent AI Telemetry & Automatic Dispatch



Intelligent Fleet Management & Revenue Optimization

CHGL EMS provides end-to-end telemetry across cell, module, pack, and system levels. Incorporating dynamic electricity tariff schedules, load prediction, and renewable generation forecasting to maximize owner returns.

- **AI Peak-Valley Shaving:** Automated charging during off-peak and discharging at tariff peaks.
- **Demand Limiting (Peak Flattening):** Mitigates capacity penalties by capping maximum transformer load.
- **Millisecond Black Start:** Immediate microgrid voltage support during national grid dropouts.

APPLICATION SCENARIOS & ENGINEERING DELIVERY Tested & Proven in Severe Operating Environments

Solar + Storage Offset

Stores surplus rooftop daytime solar energy to elevate self-consumption rate above 92% and lower overall industrial electricity bills.

Diesel Genset Reduction

Replaces spinning reserve generators; cuts fuel expenditure by 40-60% while mitigating diesel exhaust pollution.

Critical UPS Power

Guarantees zero downtime for garment spinning machines, high-precision metallurgy, cleanrooms, and data server racks.

Solar + EV Fast Carports

Supports 60kW~180kW DC ultra-fast EV charging plazas without expensive local transformer utility upgrades.



Solar Carport & BESS Microgrid Commercial Logistics Park (1.2MW PV + 2.5MWh BESS)

Integrated rooftop PV array, liquid-cooled battery bank, and dual 120kW DC fast chargers. Achieved 100% green charging during daytime and zero grid capacity overruns.



Textile & Manufacturing Facility Industrial Zone (2.25MW / 4.7MWh Turnkey Project)

Full-scope EPC installation providing demand peak shaving, continuous power continuity for 3,500 loom spindles, and full investment payback achieved in 3.6 years.