

FENGRUI

# FENGRUI ENERGY

Smart Energy Solutions for Business


Energy on your terms, powered by smart storage

FENGRUI




Energy On Your Terms

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V2.0 (en-zh) Information might be subject to change without notice during product improving.



Green energy, better life.

# COMPANY PROFILE ABOUT FENGRUI

Energy On Your Terms — Powered by Smart Storage

Fengrui Energy is a global leader in advanced energy storage solutions, empowering businesses and communities worldwide to achieve energy independence and sustainability.

Leveraging cutting-edge R&D capabilities and integrated manufacturing excellence, Fengrui delivers comprehensive energy storage system (ESS) packages — from portable power stations to utility-scale installations — ensuring superior performance, flexibility, and long-term reliability across diverse applications.

## MISSION

To advance clean energy solutions, create long-term value, and grow together with our people.

## VISION

To accelerate the transition to clean energy and enable a more efficient and sustainable future.

## VALUES

Integrity | Pragmatism | Excellence | Collaboration

# Advancing green energy innovation

## Empowering customers worldwide



# Safety Assured, Quality Built to Last

Stringent extreme environment endurance assessment

82-Day Full-Load Environmental Reliability  
Benchmark Test for Residential ESS



**High Temperature**



**Rain Resistance Test**



**Freezing / Low Temperature Test**



**EMC Test**

Environmental  
Reliability Test

# Global Authoritative Certifications

Fully tested to CE, RoHs and other international standards, the product delivers stable and reliable performance

**6000+**  
safety cycle  
verifications

**500+**  
hours of continuous  
durability testing

**4,000+**  
reliability  
verifications

**1,200+**  
verification  
tests

**72+**  
hours of continuous  
full-load operation

**2-200Hz**  
2 hours of 3-axis contin-  
uous vibration

The product has obtained a number of international authoritative certifications including RoHs MARK, CE (LVD/EMC), UN38.3 and EU Battery Regulation, as well as test reports from CNAS/CMA accredited laboratories in China. It complies with both EU and domestic compliance standards, with traceable quality and guaranteed safety.



## Testing & Certification

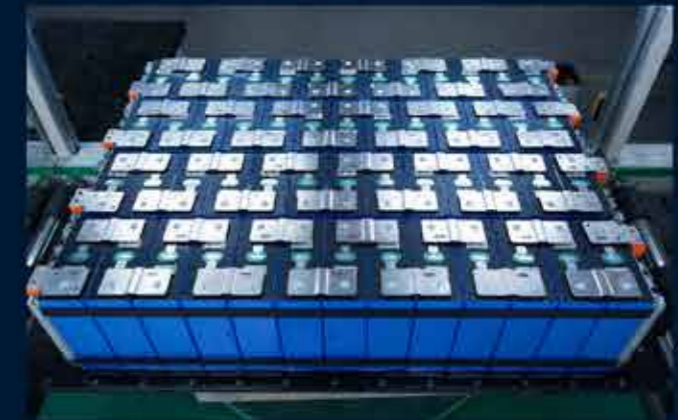
Tested to CE, RoHs and certified for reliable performance.

# Focused on Energy Storage

## Advanced Manufacturing Base

Fengrui Energy operates a state-of-the-art manufacturing base of over 8,000 m<sup>2</sup>, dedicated to high-performance energy storage production. With standardized production lines and strict quality control, the facility ensures reliable and consistent output aligned with international standards.

Backed by an experienced team, it supports both customized solutions and scalable delivery, driving Fengrui Energy's global growth.



# LV Residential ESS Series

## Features:

- Modular Scalability (100+kWh)
- Efficient Integration (>98%)
- Safe LFP
- Smart Management
- Multi-Installation

## Scenarios:

- Home Backup
- Shop Savings
- Off-Grid
- PV Optimization
- EV Charging



# Floor-Mounted All-in-one Residential ESS

MODEL: FGL48100  
5.22/10.44/15.66/20.88KWH



- Wide Application: Home, shop, small offices, off-grid ready
- Long Life: LFP cells, 6,000 cycles. Safe & Reliable: 95% DoD, stable & durable
- Easy Installation: Single-phase, quick setup. Flexible Expansion: 5.22–20.88kWh in 4 stacks
- Wide Application: Home, shop, small offices, off-grid ready. Smart Management: CAN/RS485 remote monitoring

## Battery Data

Model	F5-5K	F5-10K	F5-15K	F5-20K
Cell Chemistry	102Ah			
Rated Energy (kWh)	5.22kWh	10.44kWh	15.66kWh	20.88kWh
Pack Configuration	1P16S	2P16S	3P16S	4P16S
Rated Voltage (V)	51.2V			
Operating Voltage Range (VDC)	44.8-57.6VDC			

## PV Input

Max. PV Input Power (W)	5,000W
Max. PV Input Voltage (V)	500V
MPPT Voltage Range (V)	150-500V
Start-Up Voltage (V)	370V
Number of MPPTs (Pcs)	1
Max. PV Input Current per MPPT (A)	30A

## AC Input & Output

Rated Input/ Output Power (W)	5,000W
Rated Input/ Output Voltage (V)	220V/ 230V/ 240V (Adjustable)
Rated AC Frequency (Hz)	50/ 60Hz
Max. Output Current (A)	22A
Total Harmonic Distortion (THDi)	<3%
Power Factor	0.8 Leading to 0.8 Lagging
Grid Transfer Time (ms)	20ms
Grid Connection	Single Phase

## General Data

Dimensions (W*D*H) (mm)	634×170×771	634×170×1,146	634×170×1,521	634×170×1,896
Weight (kg)	72.8kg	124.8kg	176.8kg	228.8kg
Altitude (m)	4,000m (Derating above 2,000m)			
Display	LCD Display			
Safety Protection	High/Under Voltage Protection, Short Circuit Protection, Overload Protection.			
BMS Communication	CAN/RS485			
IP Rating	IP21			
Operating Temperature (°C)	-15~60°C (Battery: 0~40°C)			
Relative Humidity	20%~95% (No Condensing)			
Cycle Life	6,000 Cycles			
Installation Method	Floor-Standing			
Certifications	CE, RoHS, UN38.3			

This floor-mounted, low-voltage all-in-one ESS features a modular design with flexible capacity from 5.22 to 20.88kWh in four stacks, equipped with LFP cells and a single-phase inverter. It delivers efficient, adaptable energy storage and backup for home solar systems or small shops, supporting remote smart management.

# Wall-Mounted All-in-one Residential ESS

MODEL: WSL48100  
5.22/10.44/15.66/20.88KWH



- High Efficiency: THDi<3%, clean power
- Fast Transfer: Grid transfer in 20ms
- Modular Expansion: 5.22–20.88kWh in 4 stacks
- Integrated Design: Inverter & battery wall-mounted

## Battery Data

Model	W5-5K	W5-10K	W5-15K	W5-20K
Cell Chemistry	102Ah			
Rated Energy (kWh)	5.22kWh	10.44kWh	15.66kWh	20.88kWh
Pack Configuration	1P16S	2P16S	3P16S	4P16S
Rated Voltage (V)	51.2V			
Operating Voltage Range (VDC)	44.8-57.6VDC			

## PV Input

Max. PV Input Power (W)	5,000W
Max. PV Input Voltage (V)	500V
MPPT Voltage Range (V)	150-500V
Start-Up Voltage (V)	370V
Number of MPPTs (Pcs)	1
Max. PV Input Current per MPPT (A)	30A

## AC Input & Output

Rated Input/ Output Power (W)	5,000W
Rated Input/ Output Voltage (V)	220V/ 230V/ 240V (Adjustable)
Rated AC Frequency (Hz)	50/ 60Hz
Max. Output Current (A)	22A
Total Harmonic Distortion (THDi)	<3%
Power Factor	0.8 Leading to 0.8Lagging
Grid Transfer Time (ms)	20ms
Grid Connection	Single Phase

## General Data

Dimensions (W*D*H) (mm)	634×170×771	634×170×1,146	634×170×1,521	634×170×1,896
Weight (kg)	60.8kg	109.6kg	158.4kg	207.2kg
Altitude (m)	4,000m (Derating above 1,000m)			
Display	LCD Display			
Safety Protection	High/Under Voltage Protection, Short Circuit Protection, Overload Protection.			
BMS Communication	CAN/RS485			
IP Rating	IP21			
Operating Temperature (°C)	-15~60°C (Battery: 0~40°C)			
Relative Humidity	20%~95% (No Condensing)			
Cycle Life	6,000 Cycles			
Installation Method	Wall-Mounted			
Certifications	CE, RoHS, UN38.3			

Serving as a wall-mounted home energy hub, this all-in-one unit scales from 5.22 to 20.88kWh and integrates the inverter and PV input. It optimizes solar self-consumption for homes, secures power for villas or home offices, and switches to backup within 20ms during grid failures.

# LOW-VOLTAGE

## Integrated PV -Storage-Charging-Diesel ESS

Model:MESS-10-16K  
10kW/ 16kWh



- Fast Transfer: Grid/off-grid in 10ms
- Large & Scalable: Support 10 units in parallel to 160kWh.
- Plug & Play: Wheeled, easy to move.EV Charging: Integrated 32A port
- Dual MPPT: Up to 12kW PV input。 Wide Temperature: -10° C to 55° C

### Battery Data

Cell Chemistry	LFP 314Ah
Rated Energy (kWh)	16kWh
Expandable Capacity	16-160 kWh (1-10 Battery Packs)
Pack Configuration	16S1P Per Pack
Standard Charge and Discharge Current	50-100A
Max. Output Current (A)	200A
Rated Voltage (V)	51.2V
Operating Voltage Range (VDC)	44.8V-57.6V

### PV Input

Max. PV Input Power (W)	6,000W + 6,000W (Dual MPPT)
MPPT Voltage Range (V)	90-450 VDC
Number of MPPTs (Pcs)	2
Max. PV Input Current per MPPT (A)	22A

### AC Input & Output

Rated Input/ Output Power (kW)	10 kW
Expandable Capacity (kW)	10-60kW (1-6 Inverters)
Rated Input/ Output Voltage (V)	220V/ 230V/ 240V (Adjustable)
Rated AC Frequency (Hz)	50Hz/ 60Hz
Grid Transfer Time (ms)	10ms
Grid Connection	Single Phase
EV Charging Port (A)	32A Max
Max Charging Current (Configurable)	150A

### General Data

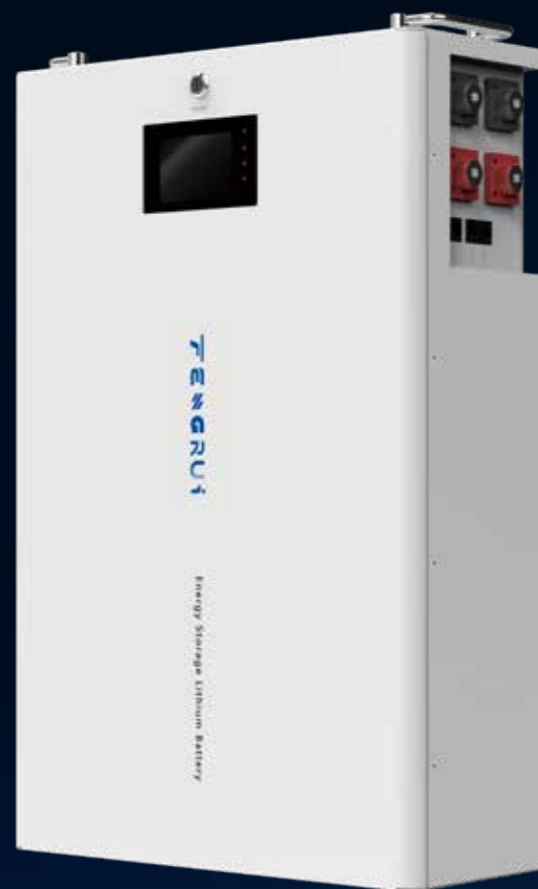
Display	LCD Display
IP Rating	IP20
Altitude (m)	4,000m (Derating above 2,000m)
Operating Temperature (°C )	-10° C to 55° C (Derating above 45° C)
Relative Humidity	5% to 95% (Conformal Coating Protection)
Cycle Life	6,000 Cycles
Safety Protection	Reverse Polarity, PV Night Reverse-Current, Over/Under Voltage, Short Circuit, Overload, Over Current, Over Temperature, Parallel Connection Error, Synchronization Signal Fault Protection.
BMS Communication	USB/RS485(/WiFi/GPRS)/Dry Contact
Installation Method	Plug & Play
Inverter Dimensions (mm)	L695 × W270 × H400
Battery Pack Dimensions (mm)	L695 × W270 × H495
Wheel Height (mm)	85mm
Weight (kg)	~148kg
Certifications	CE, RoHS, UN38.3

This wheeled, low-voltage integrated unit combines solar, storage, and EV charging, with 16kWh per unit expandable by connecting up to 10 in parallel. Its wheels and plug-and-play design enable quick deployment to provide clean mobile power and charging for homes, outdoor events, or pop-up shops.

# LOW-VOLTAGE

## Wall-Mounted Lithium Energy Storage Battery

Model: LB-W5K, LB-W10K  
5.12/ 10.24kWh



- Dual Capacity: 5.12kWh / 10.24kWh
- High Discharge: 100A/200A continuous
- Space-Saving: Wall-mounted, no floor space
- Easy Installation: Standard wall-mount, quick setup

### Battery Data

Model	LB-W5K	LB-W10K
Cell Chemistry	LFP	
Pack Configuration	1P16S	
Rated Energy (Wh)	5,120Wh	10,240Wh
Rated Capacity (Ah)	100Ah	200Ah
Rated Voltage (V)	51.2V	
Operating Voltage Range (VDC)	44.8-57.6V	
Max. Continuous Charge/ Discharge Current (A)	50A	
BMS Communication	100A	200A
Depth of Discharge (%)	CAN/RS485	

### General Data

Dimensions(L*W*H) (mm)	400x170x610	500x178x890
Packaging Dimensions(L*W*H) (mm)	494x270x704	620x275x1,000
Weight (kg)	42kg	90kg
Packaging Weight (kg)	48kg	95kg
Altitude (m)	4,000m (Derating above 2,000m)	
Display	LCD	
Safety Protection	Over Charge/Discharge Protection, High/Low Temperature Protection, Over Current Protection, Short Circuit Protection, Cell Voltage Balancing.	
IP Rating	IP20	
Operating Temperature (°C )	-20 ~ 60 ° C	
Relative Humidity	0 ~ 95% Non-condensing	
Cycle Life	6,000 Cycles	
Installation Method	Wall-Mounted	
Certifications	CE, RoHS, UN38.3, MSDS	

Its wall-mounted design saves floor space and offers two capacities: 5.12kWh or 10.24kWh. Designed for apartment balconies, home backup, or small convenience stores, it installs easily to store excess solar power or provide backup for critical loads during outages.



# Low-Voltage Rack-Mounted Lithium Energy Storage Battery

Model: FJ48100  
5kWh



- Series/Parallel: Flexible expansion
- Standard Rack: Easy cabinet integration.
- High Density: 5.22kWh in compact size. Protection: IP21, indoor use
- Wide Voltage: 44.8–58.4V, 48V compatible. Smart BMS: CAN/RS485 monitoring

## Battery Data

Cell Chemistry	LFP/102Ah			
Pack Configuration	51.2V			
Rated Energy (KWh)	1	2	3	4
Rated Capacity (Ah)	5.22	10.44	15.66	20.88
Rated Voltage (V)	590x390x145	590x390x290	590x390x435	590x390x 580
Operating Voltage Range (VDC)	46.8kg	93.6kg	140.4kg	187.2kg
Max. Continuous Charge/ Discharge Current (A)	44.8-58.4V			
BMS Communication	50A			
Depth of Discharge (%)	100A			
Serial and Parallel Quantities	CAN/RS485			
Depth of Discharge (%)	2-10 Pcs			

## General Data

Dimensions(L*W*H) (mm)	590×390×145
Packaging Dimensions(L*W*H) (mm)	694×476×256
Weight (kg)	~46.8kg
Packaging Weight (kg)	~48.8kg
Altitude (m)	<4,000m (Derating above 2,000m)
Safety Protection	Over Charge/Discharge Protection, High/Low Temperature Protection, Over Current Protection, Short Circuit Protection, Cell Voltage Balancing.
IP Rating	IP20
Operating Temperature (°C )	Charge 0~55°C / Discharge -10~55°C
Relative Humidity	0 ~ 95%, Non-condensing
Cycle Life	6,000 Cycles
Installation Method	Rack-Mounted
Certifications	CE, RoHS, UN38.3

Featuring a standard rack-mounted design, each module offers 5.22kWh and supports flexible series/parallel expansion. It easily integrates into storage cabinets or UPS systems to provide reliable, scalable modular energy storage for telecom base stations, microgrids, or home battery walls.

# Low-Voltage Energy Storage Battery

Model: FN310  
16 kWh



- Mobile: Wheeled, flexible placement
- Standard Comms: CAN/RS485 compatible
- High DoD: Supports 95% DoD. Large Capacity: 16kWh LFP cells
- Wide Temperature: Charge/discharge -10~55° C. Long Cycle Life: > 6,000 cycles

## Battery Data

Cell Chemistry	LFP
Pack Configuration	1P16S
Rated Energy (KWh)	16kWh
Rated Capacity (Ah)	314Ah
Rated Voltage (V)	51.2V
Operating Voltage Range (VDC)	44.8-57.6V
Max. Continuous Charge/ Discharge Current (A)	157A
BMS Communication	CAN/RS485

## General Data

Dimensions(L*W*H) (mm)	500×270×820
Packaging Dimensions(L*W*H) (mm)	540×310×860
Weight (kg)	118kg
Packaging Weight (kg)	122kg
Altitude (m)	4,000m (Derating above 2,000m)
Display	LCD
Safety Protection	Over Charge/Discharge Protection, High/Low Temperature Protection, Over Current Protection, Short Circuit Protection, Cell Voltage Balancing.
IP Rating	IP20
Operating Temperature (°C )	Charge 0~55°C / Discharge -10~55°C
Relative Humidity	0 ~ 95% Non-condensing
Cycle Life	>6,000 Cycles
Installation Method	Floor-Standing (with Wheels)
Certifications	CE, RoHS, UN38.3, IEC62619

This is a 16kWh mobile storage unit with castors for easy relocation, supporting 95% depth of discharge. It is suitable for providing night-time irrigation power to agricultural greenhouses, serving as temporary clean power on construction sites, or expanding existing PV systems to increase self-consumption.

# HV Residential Storage Series

## Features:

- HV Platform (150V+)
- 3-Phase Output
- Rugged
- Large Capacity (15~60kWh)
- Long Warranty

## Scenarios:

- Villa Power
- Production Backup
- Community ESS
- Commercial Arbitrage
- Outdoor Projects



# High-Voltage Stacked Energy Storage Battery

Model: HB-M2K  
10kW/ 11kWh-16.5kWh



- IP65 protection with CE, RoHS, and UN38.3 certification support.
- Suitable for homes, villas, shops, clinics, offices, and solar backup systems.
- Flexible matching with different high-voltage inverter brands and power ratings.
- High-voltage platform for better system efficiency and high-voltage inverter compatibility.

## Battery Data

Model	M2K-11K	M2K-13K	M2K-16K
Cell Chemistry	LFP 54Ah		
Rated Energy (kWh)	11.05kWh	13.82kWh	16.58kWh
Pack Configuration	1P64S	1P80S	1P96S
Rated Voltage (V)	204.8V	256V	307.2V
Operating Voltage Range (VDC)	179.2-233.6VDC	224-292VDC	268.8-350.4VDC
Max. Continuous Charge/ Discharge Current (A)	50A		
BMS Communication	CAN/ RS485		
Dimensions (L*W*H) (mm)	727*170*1,066.5	727*170*1,266.5	727*170*1,466.5
Weight (kg)	136.8kg	167.8kg	198.8kg

## General Data

Safety Protection	Reverse Polarity Protection, Over Current/Voltage Protection
IP Rating	IP65 (Inverter) / IP65(Battery)
Operating Temperature (°C )	-25 to 60°C
Relative Humidity	0-100%
Cycle Life	6,000 Cycles
Installation Method	Wall-Mounted (Inverter) + Floor-Standing (Battery)
Certifications	CE, RoHS, UN38.3

The HB-M2K is a high-voltage stacked lithium energy storage battery using safe and stable LFP cells, with capacity options from 11.04kWh to 16.56kWh. It supports CAN/RS485 communication and can be flexibly matched with high-voltage inverters or energy storage PCS, making it suitable for residential energy storage, small commercial backup power, solar self-consumption, and backup power systems.

# High-Voltage Stacked Energy Storage Battery

Model: HB-M5K  
15.36kWh-40..96kWh



- Cost-Effective: 100Ah cells, high value
- High Power: 7.68–20.48kW continuous,
- Modular Expansion: 15.36–40.96kWh flexible, Long Life: 8,000 cycles, 5-year warranty
- Versatile Installation: Stationary or mobile. Industrial Tolerance: Harsh environment ready

## Battery Data

Model	M5K-15K	M5K-20K	M5K-25K	M5K-30K	M5K-35K	M5K-40K
Cell Chemistry	LFP/ 100Ah					
Pack Configuration	1P48S	1P64S	1P80S	1P96S	1P112S	1P128S
Rated Energy (kWh)	15.36kWh	20.48kWh	25.60kWh	30.72kWh	35.84kWh	40.96kWh
Rated Voltage (V)	153.6V	204.8V	256V	307.2V	358.4V	409.6V
Operating Voltage Range (VDC)	134.4-172.8V	179.2-230.4V	224-288V	268.8-345.6V	313.6-403.2V	358.4-460.8V
Max. Continuous Charge/ Discharge Current (A)	50A					
Dimensions (L*W*H) (mm)	620*375*755	620*375*930	620*375*1,105	620*375*1,280	620*375*1,455	620*375*1,630
Weight (kg)	205kg	261kg	317kg	373kg	429kg	485kg
BMS Communication	CAN/ RS485					
Depth of Discharge (%)	90%					

## General Data

IP Rating	IP65
Operating Temperature (°C )	-20 ~ 60°C
Relative Humidity	0 ~ 95% Non-condensing
Altitude (m)	<3,000m
Cycle Life	6,000 Cycles
Safety Protection	Over Charge/Discharge Protection, High/Low Temperature Protection, Over Current Protection, Short Circuit Protection, Cell Voltage Balancing.
Installation Method	Stationary/ with Wheels
Certifications	CE, RoHS, UN38.3

A cost-effective high-voltage storage cabinet with capacity from 15.36 to 40.96kWh and an 8,000-cycle life. It helps SMEs cut peak electricity charges through load shifting and also serves as reliable backup for convenience store refrigerators or data center UPS systems.

# Residential Lithium-ion Battery System

Model: HB-5K  
20.48-51.20kWh



- Massive Capacity: 20.48–61.44kWh per unit
- Ultimate Scalability: 32 in parallel to ~2MWh
- High Voltage: Up to 691.2V, low loss. Long Life: 8000 cycles, 10-year warranty
- Flexible Deployment: Stationary or mobile. Wide Temperature: Discharge down to -20° C

## Battery Data

Model	RM5K-20K	RM5K-25K	RM5K-30K	RM5K-35K	RM5K-40K	RM5K-45K	RM5K-50K
Cell Chemistry	LFP 100Ah						
Pack Configuration	1P64S	1P80S	1P96S	1P112S	1P128S	1P144S	1P160S
Rated Energy (kWh)	20.48kWh	25.60kWh	30.72kWh	35.84kWh	40.96kWh	46.08kWh	51.20kWh
Rated Voltage (V)	204.8V	256V	307.2V	358.4V	409.6V	460.8V	512V
Operating Voltage Range (VDC)	179.2-230.4	224-288	268.8-345.6	313.6-403.2	358.4-460.8	403.2-518.4	448-576
Max. Continuous Charge/ Discharge Current (A)	60A						
Dimensions (L*W*H) (mm)	553*503*1,011	553*503*1,620		553*503*2,230			
Weight (kg)	236.8kg	278kg	319.2kg	360.4kg	401.6kg	442.8kg	484kg
BMS Communication	CAN						
Depth of Discharge (%)	90%						
Serial And Parallel Quantities	8 Units in parallel						

## General Data

Display	LED
IP Rating	IP20
Operating Temperature (°C )	Charge: 0 - 55° C/ Discharge: -20 ~ 60° C
Relative Humidity	0 ~ 95%, Non-condensing
Altitude (m)	4,000m (Derating above 2,000m)
Cycle Life	6,000 Cycles
Safety Protection	Over Charge/Discharge Protection, High/Low Temperature Protection, Over Current Protection, Short Circuit Protection, Cell Voltage Balancing.
Installation Method	Stationary/ with Wheels
Certifications	CE, RoHS, UN38.3

This high-voltage modular storage cabinet offers 20.48-51.20kWh per unit and supports large-scale parallel connection up to 1.6MWh. It provides large-capacity, long-life (8,000 cycles) core storage solutions for high-consumption villas, SME microgrids, or community energy storage stations.