SunESS H

Safe and Reliable

- 8 temperature sensors provide efficient coverage for 16 cells.
- Realtime Voltage and Temperature monitoring & active protection.

Energy Optimization

- Built-in DCDC energy optimizer, active inter-module balancing.
- lifecycle-compatible mixing of old and new modules without accelerated aging.

Flexible Expansion

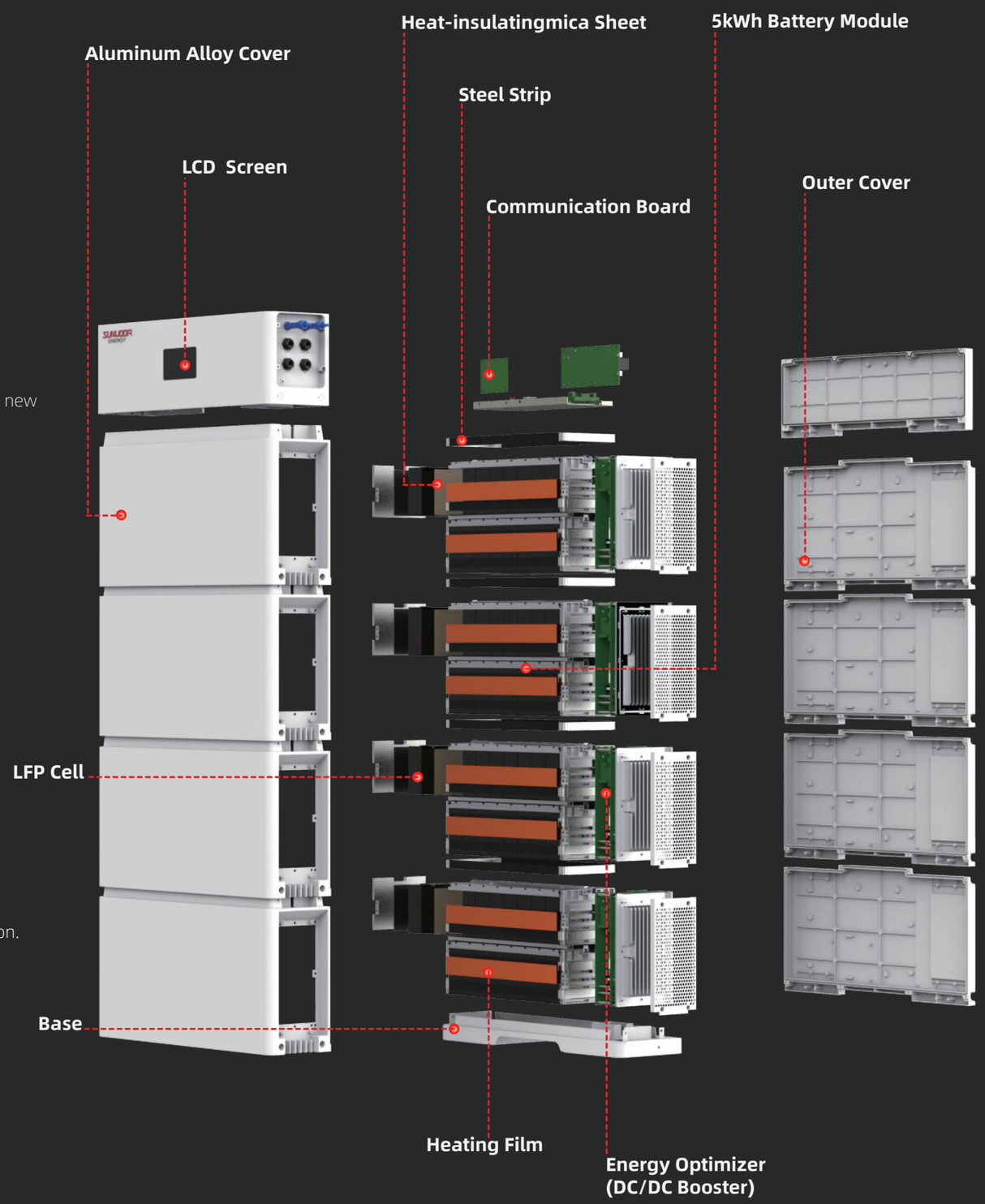
- Different SOCs can be mixed and used directly without reducing capacity.
- Plug-and-play design for quick, wiring-free installation.

Excellent Performance

- Each battery pack has a rated power of 2.5 kW.
- Peak output power reaches 4.2 kW.

Intelligent Application

- APP & Web smart monitoring and remote maintenance.
- Features an upgrade reminders function.



Highlights

-20°C
Battery heating technology, -20°C extreme environment operation.

IP65
Rated for indoor and outdoor use.

4.2kW
Peak output power reaches 4.2 kW for 20s.

5~60kWh
Supports parallel capacity expansion.

10 Years
10-year warranty.

Mixed use
Mixed use of new and old batteries throughout their entire lifecycle.



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SunESS H

Case Sharing



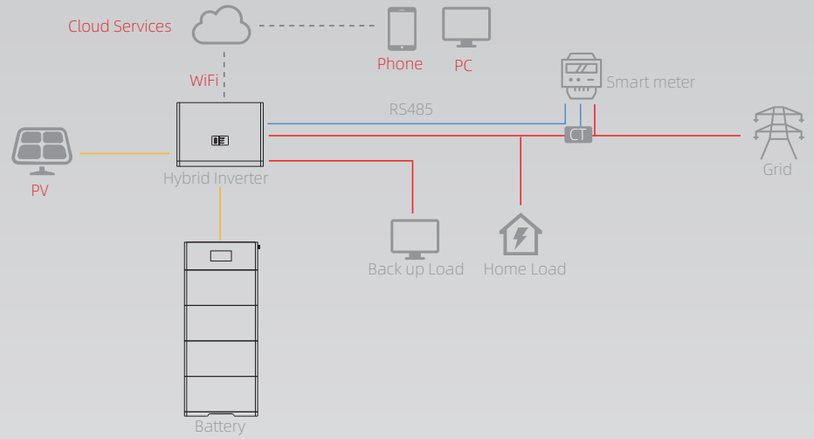
Sweden
SunESS H & Solinteg
10kw/15kwh
RESS Stackable SunESS H system
RESS for Residential Building



Sweden
SunESS H & Solinteg
10kw/15kwh
RESS Stackable SunESS H system
RESS for Residential Building



Portugal
SunESS H
30kW/40kWh
RESS Stackable SunESS H system
RESS for energy consumption



SunESS H

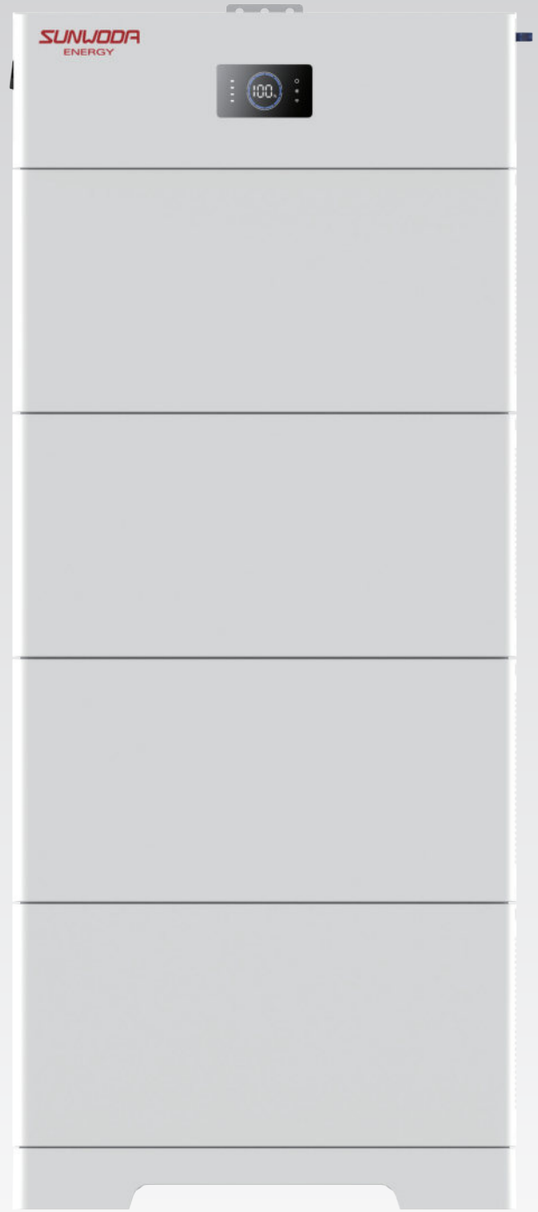
Model	SunESS-5H	SunESS-10H	SunESS-15H	SunESS-20H
Nominal energy	5kWh	10kWh	15kWh	20kWh
Usable energy (90% DOD) [1]	4.5kWh	9kWh	13.5kWh	18kWh
Rated voltage	400V	400V	400V	400V
Operating voltage range	350V~450V	350V~450V	350V~450V	350V~450V
Rated charge/discharge power [2]	2.5kW	5kW	7.5kW	10kW
Peak output power	4.2kW/20s	8.4kW/20s	12.6kW/20s	16.8kW/20s
Communication interface	CAN 2.0/RS485			
DC disconnect	Circuit breaker, 50A, 1000V rating			
Scalability [3]	Max. 3 in parallel, Max. 60 kWh			

Operating conditions	
Installation location	Outdoor or indoor
Ambient Temperature [4]	-4°F to 122°F (-20°C to 50°C)
Humidity	5% to 95% (no condensation)
Dimensions (W*H*D, mm)	653*(553/868/1183/1498)*189
Weight	65kg/117kg/169kg/221kg
Enclosure protection rating	IP65
Altitude	< 4000m
Cooling	Natural convection
Noise emission	< 29dB
Warranty	10 year [5]
Certifications	IEC62619/CE/UN38.3/VDE 2510-50/CEI 0-21/FCC/UL1973

1.Test conditions: 90% DOD, 0.2C charge & discharge at 25°C.
2.The power is affected by temperature and SOC.
3.Optional Data box supports three-cluster parallel operation,refer to the user manual for details.
4.Low-temperature operation reauires the inverter to respond battery's heating requests.
5.For warranty instructions, please refer to the warranty terms.

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SunESS H

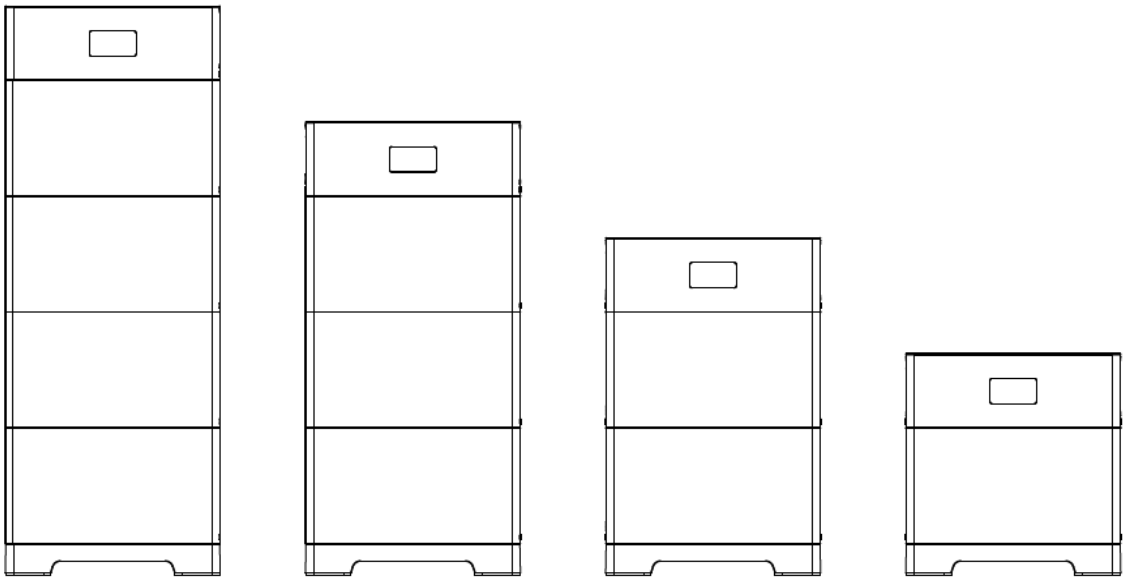


2 Product description

SunESS-H is a plug-in energy storage system. The battery module can convert high voltage direct current (HVDC) into low voltage direct current (LVDC) through DC to DC conversion inside the battery and stores the power in batteries, it can also convert LVDC into HVDC and send the power to the grid through the inverter.

2.1 Product introduction

- Residential energy storage system with lithium iron phosphate (LFP) technology
- Modular design, single battery system with 5 to 20kWh (1 – 4 pcs battery)
- Single battery module is equipped with DC to DC conversion, which increases the output voltage to 350~450V
- Supports power expansion, and the single battery system with power 2.5 to 10kW
- Expandable to 60kWh (3 SunESS-H connected in parallel)
- Support the mixing of new and old batteries.
- Indoor or outdoor installation (IP65)
- PCS communication interface: CAN or RS485
- Bluetooth and WiFi for Mobile APP (PowerLite)
- Advanced battery management system (BMS) provides data acquisition, status monitoring and control to ensure the safe and reliable operation of the system.



20kWh 15kWh 10kWh 5kWh

Figure 2-1-1 SunESS-H configurations

PCS/INVERTER

2.2 Appearance description

- Appearance of the whole system

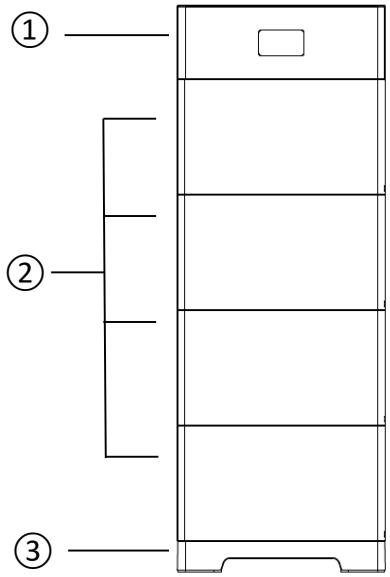


Figure 2-2-1 Appearance of the whole machine

① Control module ② Battery module ③ Mounting the base

- Control module

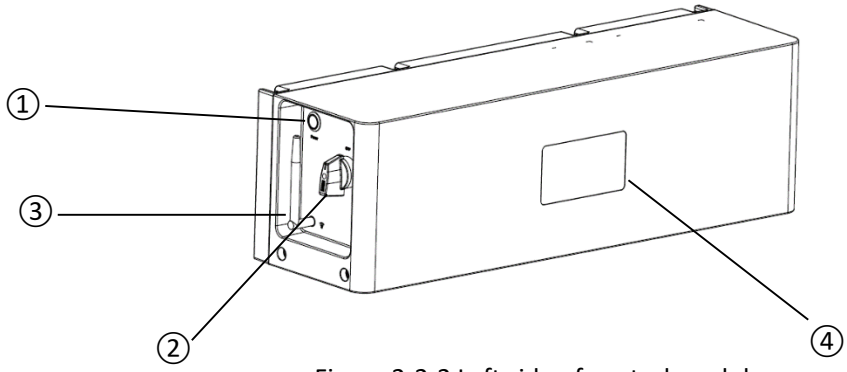
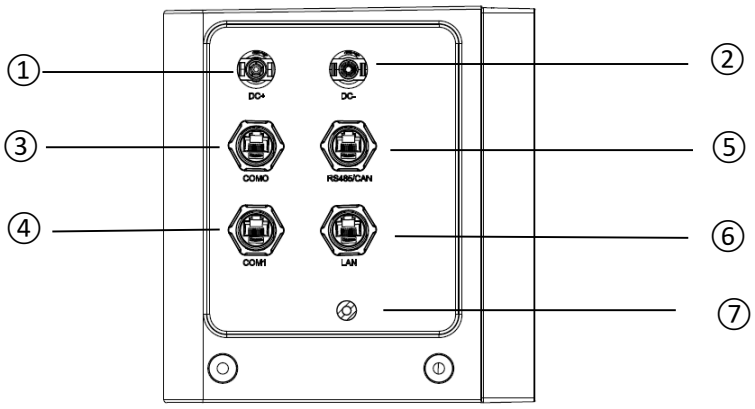
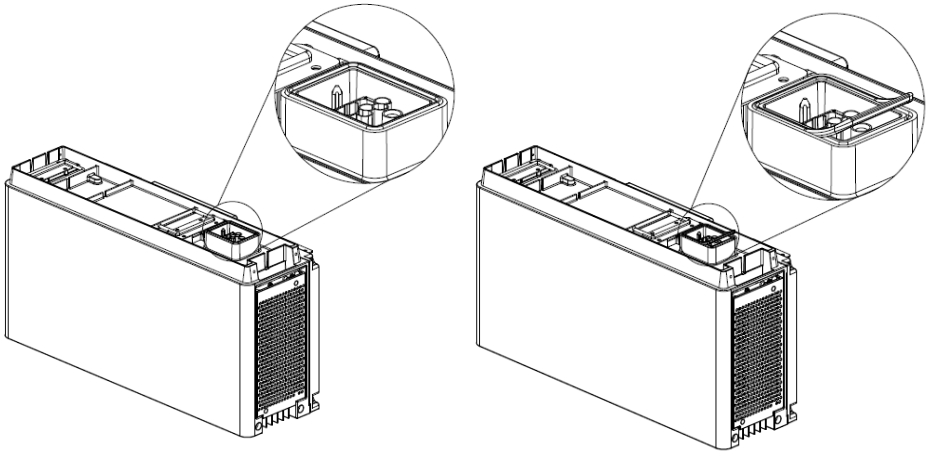
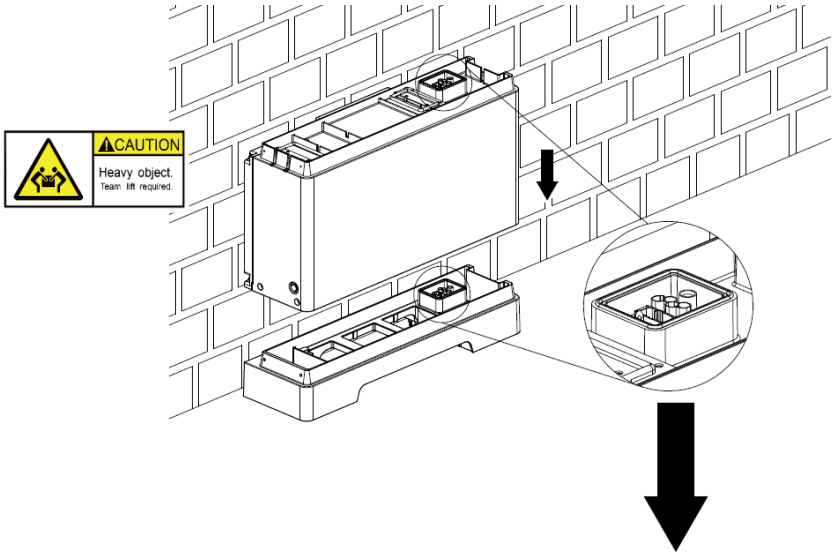


Figure 2-2-2 Left side of control module

①Power button ② DC breaker ③ Wi-Fi antenna ④ display

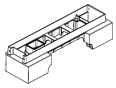




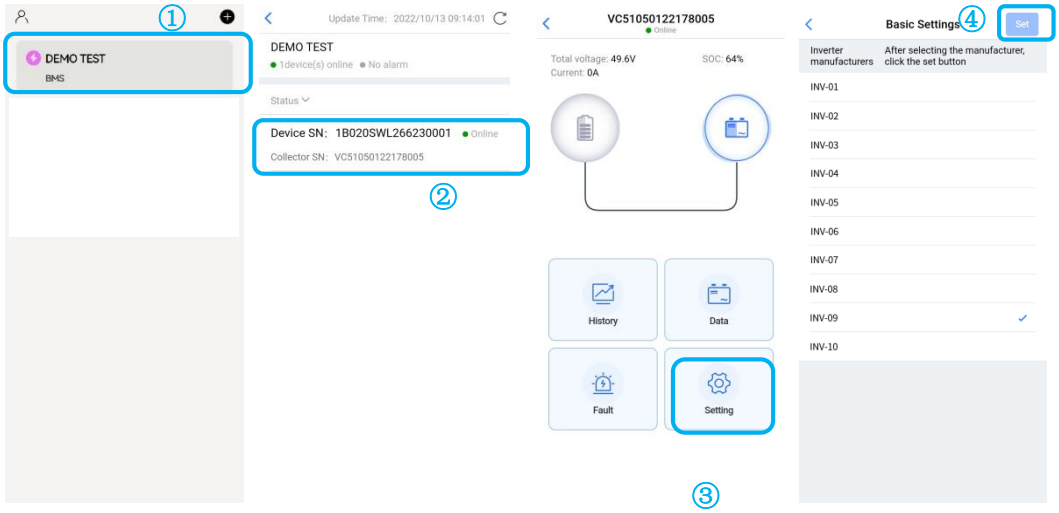


Unit weights 50kg (110.2lbs). Two or more people are necessary. Align the connector side first, then stack gently to avoid damaging the connector!

Fasten the installed battery module

Fixing screw	M5*12	4 pcs	
Screw cover	plastic	4 pcs	

configuration is completed.



Please refer to the table below to set inverter manufacturer parameters.

Note: “Default” refers to using the SunESS-H standard CAN protocol.

Inverter manufactures	APP setting
Ferroamp ESO	INV-02
Goodwe ET	INV-03
Solis HV/Deye HV	INV-07
Default	INV-08

6 Maintenance and troubleshooting

6.1 Routine maintenance

- Maintenance charge every 6 months

From the date of manufacturer shipment, the battery shall be maintained every 6 months. Action must be taken in case SOC reaches 0%.

Ambient temperature	**Must be recharged within**
(45, 50] °C	7 days
(35, 45] °C	15 days
≤35°C	30 days

- Disconnect the battery if not being used

  BMS consumes power even when the battery is not being used. Disconnect the battery output to prevent the battery from becoming empty. For store-away, make sure the SOC is between 45% and 55% before disconnect.

- Check the battery system regularly. Contact your support if any anomaly detected.

- Do expose the battery to high temperatures or direct sunlight.
- Do not expose batteries to high humidity or corrosive environments.

Contact supplier or original manufacturer for disposal options.

9 Detailed specifications

Item	**Parameter**			
Control module model	H0K6050P03			
Operating voltage	250~550V			
Max. current	50A			
Battery module model	B40012DP03			
Cell Type	LFP			
Rated Voltage	400V, with DC-DC power module built-in			
Rated energy	5kWh			
Group method	16S1P			
System model	SunESS-5H	SunESS-10H	SunESS-15H	SunESS-20H
No. of batt. module	1	2	3	4
Rated energy	5kWh	10kWh	15kWh	20kWh
Rated power	2.5kW	5kW	7.5kW	10kW
Max. charge current	6A	12A	18A	24A
Max. discharge current	6.5A	13A	19.5A	26A
Dimensions W*H*D, mm	653*597*189	653*912*189	653*1227*189	653*1542*189
Net weight	67kg	119kg	171kg	223kg
Rated voltage	400V			
Operating voltage	350V~450V			
External communication	CAN/RS485/WiFi/LAN/Bluetooth			
WiFi Frequency range	2412-2472MHz			
WiFi Max. Transmission power range	＜20dBi			
Bluetooth Frequency range	2402-2480MHz			
Bluetooth Max. Transmission power range	＜8dBi			
Warranty/Cycle life	10 years/6000 times (25°C, 0.5C/0.5C, 90%DOD, 70% EOL）			
Scalable	Up to 3 cabinets in parallel			