

HLS-1X5/10/15/20K Residential ESS (LV)



**Extremely safe,
smart balance combined with heat module**



Flexible scalability

5 kWh modular design, scalable up to 20kWh



Easy installation

Plug & Play Connection



Extremely safe

LFP prismatic cell and 4-layers safety protection, anti-explosion and relief valve



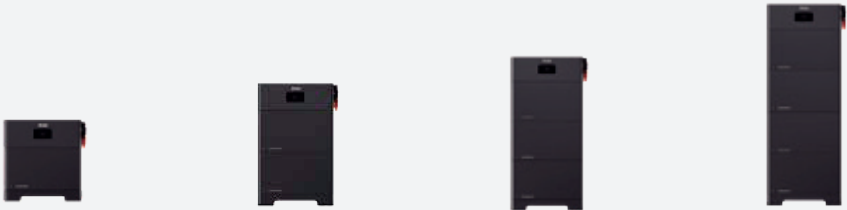
Smart balance

Automatic balance between old lower capacity and new battery module



Harsh environment

Operating temperature from -10°C to 50°C ^[1]

Model	HLS-1X5K	HLS-1X10K	HLS-1X15K	HLS-1X20K
Picture				
Cell type	LiFePO ₄ Prismatic Cell			
Battery module	B051100P03-H (5.12 kWh, 50 kg)			
Number of battery modules	1	2	3	4
Nominal energy	5 kWh	10 kWh	15 kWh	20 kWh
Usable energy (90% DoD)	4.5 kWh	9 kWh	13.5 kWh	18 kWh
Nominal charge/Discharge current	50 A / 50 A	100 A / 100 A	150 A / 150A	200 A / 200 A
Max charge/Discharge current	100 A / 100 A	180 A / 180 A	200 A / 200 A	200 A / 200 A
Nominal voltage	51.2 V			
Operating voltage range	44.8 ~ 55.2 V			
Communication	CAN / RS485 / (WiFi only for Maintenance use)			
Protection function	Charge overvoltage, discharge under-voltage, overcurrent, over-temperature, short circuit protection, heating film			
Cycle life	>6000 times (25°C, 0.5 C / 0.5 C, 90% DoD, 70% EoL)			
Protection rating	IP65			
Type of cooling	Natural convection			
Working temperature ¹	Charging: [-10, +50] °C Discharging: [-20, +50] °C			
Working environment humidity	10% ~ 95% (non condensation)			
Working altitude	≤2000 m (Derating over 2000m)			
Warranty	10 Years			
Operating conditions	Indoor or outdoor			
Installation	Ground Installation			
Certifications	UL1973, FCC, UL9540, IEC62619, CE			
Transportation	UN 38.3			
Size W x H x D (mm)	573 x 597 x 189	573 x 912 x 189	573 x 1227 x 189	573 x 1542 x 189
Weight (kg)	65	115	165	215

¹ Battery performance (Based on cell temperature)

When T > 45 °C or T ≤ 10 °C, the battery will reduce its charging or discharging power;

Charging

- When SOC ≥ 80%, the voltage protection strategy will start to execute and the battery charging power will decrease;
- When -10 °C < T ≤ 0 °C, before charging the battery cell needs to be heated to a temperature greater than 3 °C;
- When T > 45 °C, the battery cell will reduce power due to overheating, with a maximum temperature of 54 °C.

Discharging

- When T < 10 °C, the battery cell will reduce power due to low temperature, with a minimum temperature of -20 °C;
- When T > 45 °C, the battery cell will reduce power due to overheating, with a maximum temperature of 58 °C.

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