



# Vertical Stack

**ES 10KWh-30KWh**

LITHIUM-ION BATTERY  
PRODUCT SPECIFICATION

Up to **81.92KWh**  
in parallel



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# 1. Advantages

The battery module system consists of single LFP cells, wire, BMS and container.

- Packed with high performance LFP single cell, long life, safety and wide temperature range
- High energy density, small size, light weight, no pollution
- Packing with single cell container, fire retardant wire and laser welding, stable and safe
- Built-in BMS, with battery voltage, current, temperature and health management
- LCD Screen display the battery voltage, current, temp.,SOC detail information
- Set different communication protocols through LCD touch screen
- Support communicate with solar inverter by CAN or RS485
- Support 16nos in parallel and communicate by RS485/CAN
- Integrated with fire extinguishing module inside, Prevention of fire
- More than 15 years design life
- Stable performance, maintenance-free



# 2.VLES vertical stack system parameter table

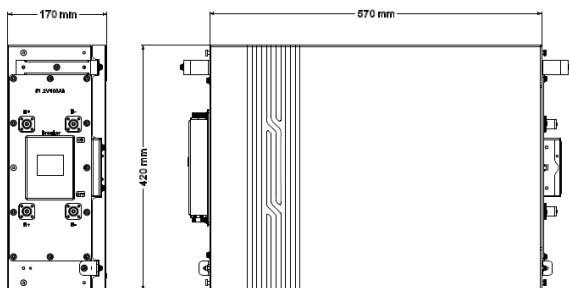
	VLES5000V S2	VLES5000V S3	VLES5000V S4	VLES5000V S5	VLES5000V S6	
Battery Module Type	VLES5000VS					Standard module
Module Number	2	3	4	5	6	Up to 16pcs modules in parallel
Rated Voltage[V]	51.2					
Voltage Range[V]	44.8~56.0					
Rated Energy[KWh]	10.24	15.36	20.48	25.6	30.72	Up to 81.92kWh in parallel
Current[A]	Maximum charge / discharge current: 200					
Dimension: [H*W*D, mm]	1100*674*170	1520*674*170	1310*1348*170	1520*1348*170	1520*1348*170	
Weight[kg]	122	176	233	290	343	
Communication	CAN / RS485					Compatible with inverter
Environment Parameter						
Round-Trip Efficiency	> 95%					
IP Level	IP55					
Operation Temperature Range	Charge: 0°C ~45°C Discharge: -20°C ~60°C					
Installation Method	Floor-mounted					
Service Life						
Cycle Life	> 6000 (0.5C @25°C, 80% DOD)					
Design Life [Year]	15					
Certification						
Safety & Certification	UL1973 , CB (TUV- IEC62619) , CE , UL9540A					
Transportation	UN38.3					

### 3. Battery module specification

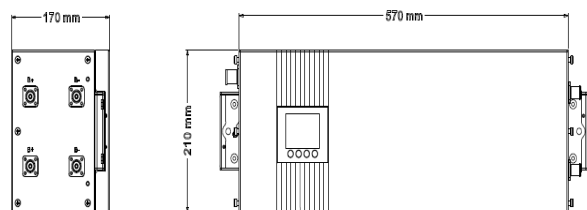
Item		Specification	Conditions
Nominal	Voltage	51.2V	25°C ,0.2C
	Capacity	100Ah	
Module weight		54.6kg	±0.5kg
Dimensions(W*D*H), mm		570*170*420	±2mm
Operating parameters	Charging Voltage	56.0+/-0.8V	
	End-off Voltage	44.8V	
	Charging current	Max constant charge: 100A	Recommended 30A
	Discharging current	Max constant discharge: 100A	
Temperature	Charge range	0°C ~45°C	
	Discharge range	-20°C ~50°C	
	Storage range	-20°C ~50°C	
BMS	Built-in BMS	Voltage, current, temperature management & cell balance	RS485
Service life	Design life	>15years	25°C
	Cycle life	>6000 times, 0.5C, 80%DOD	

### 4. Combiner box information

Item		Specification	Conditions
Module weight		10.0kg	±0.5kg
Dimensions(W*D*H), mm		570*170*210	±2mm
Operating parameters	Operation Voltage Range	30V~60V	
	Support maximum current	Constant 200A	
	Operation temperature range	-20°C ~50°C	
Communication		Compatible with various inverter	CAN, RS485
LCD		Display and select protocol	
Design life		>15years	25°C



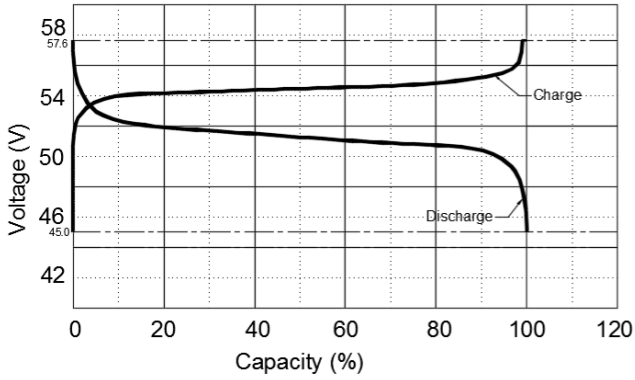
Battery module



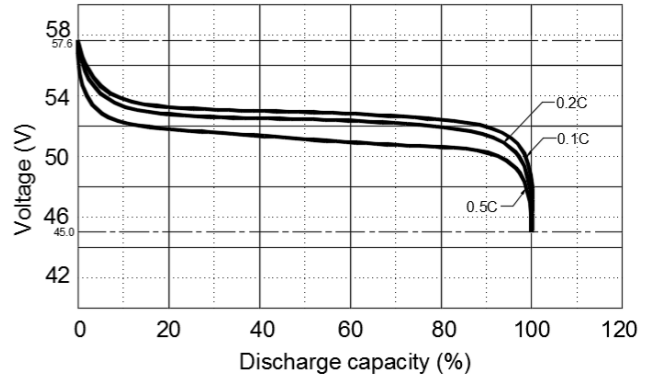
Combiner box information

## 5.VLES5000VS standard module performance Curve

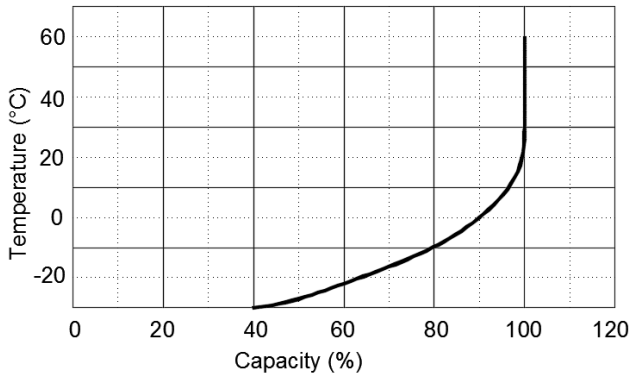
Charge & Discharge curve with 0.5C @ 25°C



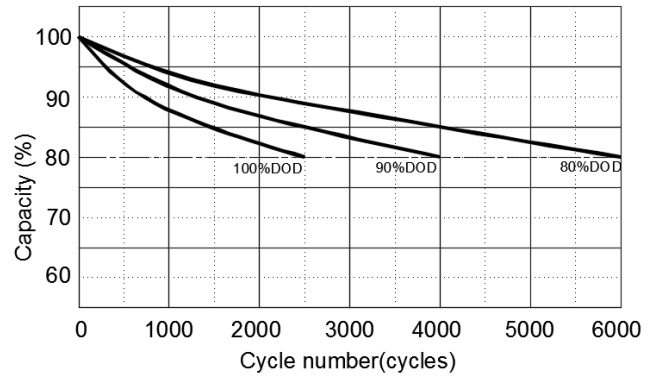
Discharge performance with different rate @ 25°C



Discharge capacity with different temperature @ 0.5C



Cycle life with DOD @ 0.5C, 25°C



Self-discharge @ different temperature

