ES-51.2V135Ah-Wall Mounted

LITHIUM-ION BATTERY PRODUCT SPECIFICATION

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1. Advantages

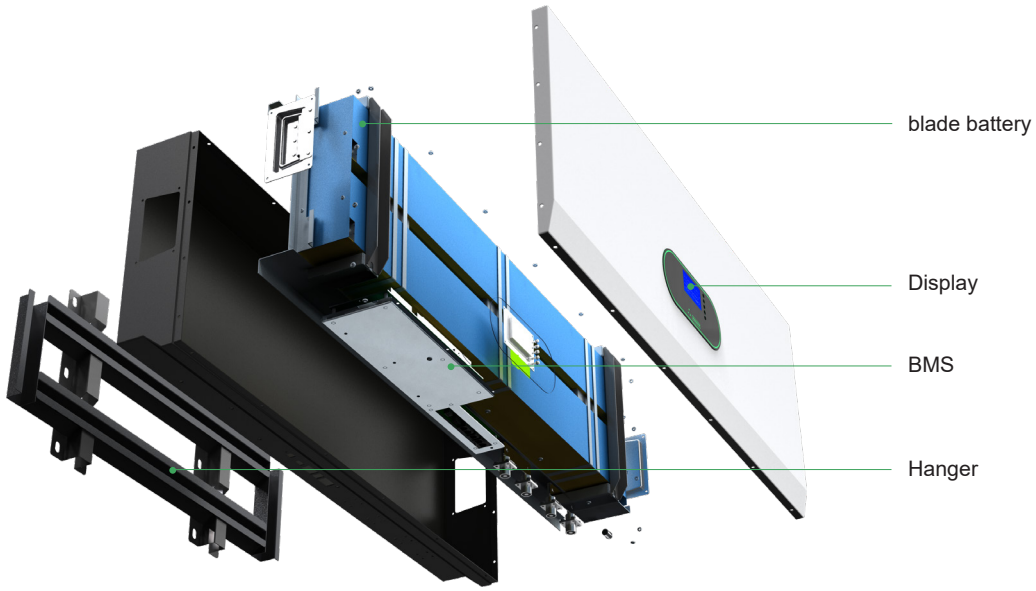
The battery module consists of single LFP cells, wire, BMS and container.

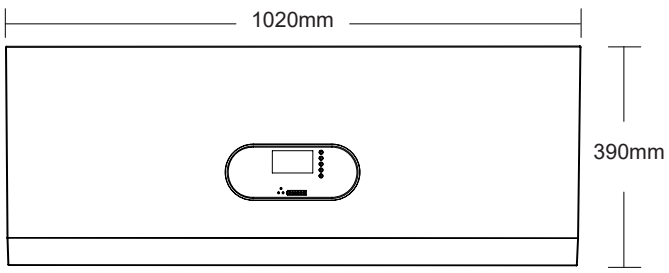
- Packed with high performance LFP single cell, long life, safety and wide temperature range
- High energy density, small size, light weight, no pollution
- Packing with single cell container, fire retardant wire and laser welding,stable and safe
- Built-in BMS, with battery voltage, current, temperature and health management
- LED indicate the battery SOC and operating status
- LCD Screen display the battery voltage, current, temp.,SOC detail information
- Support communicate with solar inverter bu CAN or RS485
- Update software by RS485 port
- Flexible customization of dimensions
- Stable performance, maintenance-free

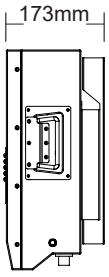
2. Battery module specification

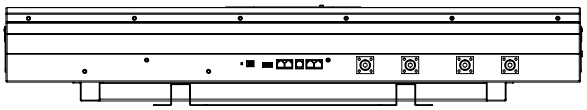
No.	Item	Specification		Conditions
1	Combination method	16S1P		
2	Rated Capacity	Typical	135Ah	Standard discharge after Standard charge(package)
		Minimum	130Ah	
3	Factory Voltage	51V-55V (40-60%)		Mean Operation Voltage
4	Voltage at end of Discharge	43.2V		Discharge Cut-off Voltage
5	Charging Voltage	58.4V		
6	Internal Impedance	≤30mΩ		Internal resistance measured at AC 1KHZ after 50% charge The measure must uses the new batteries that within one week after shipment and cycles less than 5 times
7	Standard charge	Constant Current 30A Constant Voltage see No.5 0.02CA cut-off		Charge time : Approx 5.5 h
8	Standard discharge	Constant current:30A end voltage see NO.4		
9	Maximum Continuous Charge Current	100A		
10	Maximum Continuous Discharge Current	120A		
11	Operation Temperature Range	Charge: 0~45^{0}C		60±25%R.H.Bare Cell
		Discharge: -20~55^{0}C		
12	Storage Temperature Range	Less than 12 months : -10~35^{0}C		60±25%R.H.at the shipment state
		less than 3 months: -10~45^{0}C		
		Less than 7 day : -20~65^{0}C		
13	Battery box size	1020*390*173 mm		229.5 Including fixing plate
14	System weight	~85kg		

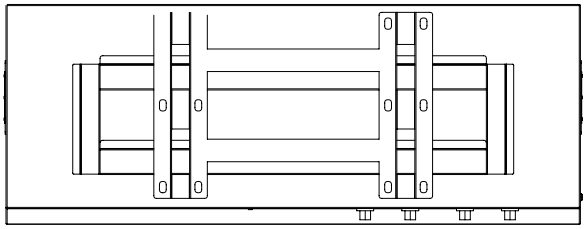
3. Dimension Drawing

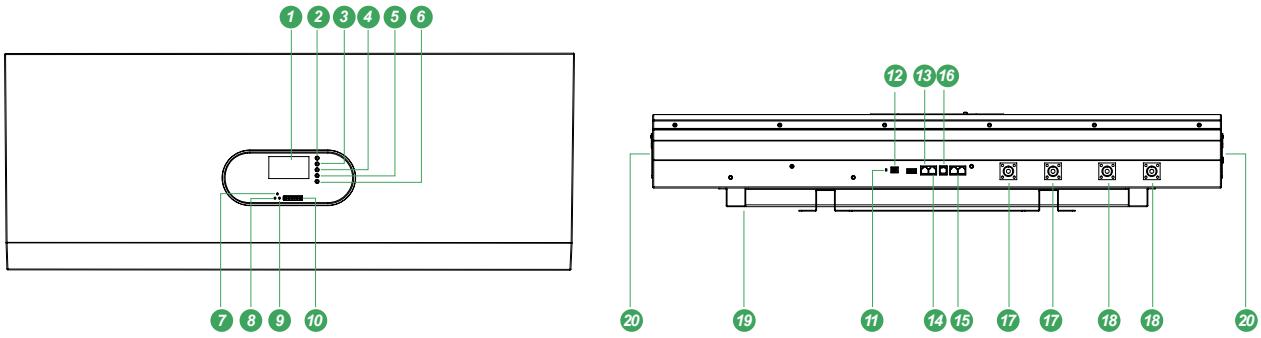












4. Panel Description

No.	Item	Description	Remarks
1	Display	/	
2	MENU	MENU	
3	ENTER	ENTER	
4	UP	UP	
5	DOWN	DOWN	
6	ESC	ESC	
7	Main switch	ON/OFF	
8	LED	RUN	
9	LED	ALM	
10	LED	CAPACITY	
11	Reset button	RST	
12	Dial switch	ADS	
13	CAN	CAN	
14	RS485	RS485	
15	RS485 port	RS485	
16	RS232	RS232	
17	Barrier terminal block	+	
18	Barrier terminal block - Neg	-	
19	Hanger	/	
20	Handle	/	

5. BMS specification

BMS provides complete management and protection for the battery.

- Voltage warning and protection for module and each single cell.
- Current warning and protection, and the maximum operating current can be customized.
- Temperature warning and protection, 4 sensors for battery pack and 1 sensor for BMS.
- Battery module SOC and SOH calculation, display the accurate battery status.
- Communicate with inverter or PC monitor, report the battery data.
- Pre-charge/discharge logic, make sure safety use in whole process.
- Switch-off mode, sleep mode, and operating mode, different mode for different condition.

BMS parameters.

Item	Parameters	Condition
Cell overcharge protection	Overcharge detection voltage	3.65±0.025V
	Overcharge detection delay time	Typical:1.0s
	Overcharge release voltage	3.38±0.02V
Cell over-discharge protection	Over-discharge detection voltag	2.7±0.02V
	Over-discharge detection delay time	Typical:1.0s
	Over-discharge release voltage	2.9±0.02V or charge release
Over-current protection	discharge Over-current protection current1	100A
	discharge Over-current detection delay time 1	1S
	discharge Over-current protection current2	120A
	discharge Over-current detection delay time2	100mS
Short protection	Short protection current	≥200A
	Protection condition	Load short
	Detection delay time	≤300us
	Protection release condition	Charging release
Temperature(T) protection	Charge high T protection	55±3^{0}C
	Charge high T recover	50±5^{0}C
	Discharge high T protection	65±5^{0}C
	Discharge high T recover	60±5^{0}C
	Charge low T protection	-5±5^{0}C
	Charge low T recover	0±5^{0}C
	Discharge low T protection	-20±5^{0}C
	Discharge low T recover	-15±5^{0}C
Balance	Balance threshold voltage	3.45V
Communication	It has RS232 ,Can and RS485 standard communication interface, it can real-time monitoring the capacity of battery bank, the voltage, current, environment temperature, and charging/discharging current.	
Alarm	It has over-temperature, over charge, under-voltage, over-current, short circuit alarm Function.	