

## Residential Stackable Energy Storage Lithium Battery

### Base Model: Voltha-51100ST

Modifications:



51200ST



51300ST



51400ST

Issued Date	Version	Modified Content	Registered	
2023.01.05	V1.0	First release	Simon Chen	
2023.03.22	V1.1	Update product size, weight , picture and protective circuit specification	Simon Chen	
2023.07.19	V1.2	Modify the charge temperature and discharge temperature	Qiu Pengcang	
<b>VOLTHA</b>		Registered	Checked	Approved
		Qiu Pengcang	Liu Xuanang	Pop
Customer		Customer	Approved/Date	Checked/Date
Customer Model	Voltha 51100ST	Approved		

Voltha Srl

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## 1. Features

- ◆ High safety LiFePO4 battery with Long cycle life (≥6000cycles);
- ◆ Stack mounted;
- ◆ Ingress Protection grade: IP55;
- ◆ Support WIFI cloud and APP monitoring;
- ◆ Support parallel combine (Contact manufacturer for support), extending to 76.8kwh.

## 2. Specification parameters

NO.	Items	Voltha 51200ST	Voltha 51300ST	Voltha 51400ST
1	Cell type	LFP - Lithium iron phosphate (LiFePO <sub>4</sub> )		
2	Number of battery Modules	2	3	4
3	Nominal capacity	200Ah	300Ah	400Ah
4	Nominal energy	10.24KWh	15.36KWh	20.48KWh
5	Nominal voltage	51.2V		
6	Operation voltage range	48V~56V		
7	Max charge current	100A	150A	200A
8	Max discharge current	100A	150A	200A
9	Operating Temperature	Charging: 0~50°C (32~122°F)		
10		Discharging: -10~50°C (14~122°F)		
11	Communication to inverter	CAN/RS485		
12	WIFI	Support, optional IOT communication box		
13	Dimension(L*W*H)	690.54mm*444mm*587.3mm	690.54mm*444mm*742.5mm	690.54mm*444mm*897.7mm
14	Weight	115.37kg (254.3lb)	163.43kg (360.3lb)	211.49kg (466.3lb)
15	Attitude	≤4,000m		
16	Cycle life	6000 Cycles @25°C @80% DOD @70%EOL @0.2C charge & 0.5C discharge		
17	Relative humidity	5%~95%		
18	Protection rating	IP55		

19	Design life	15 years
20	Compatible inverters	SMA/Victron/Studer/Goodwe/Sunsynk/Sol-Ark/Growatt/Voltronic ALPHA-OUTBACK/Deye/Sofar/Solis
21	Certification	ETL(UL1973), CB(IEC62619), UN38.3, CE

### 3. Protective circuit specification for per battery module

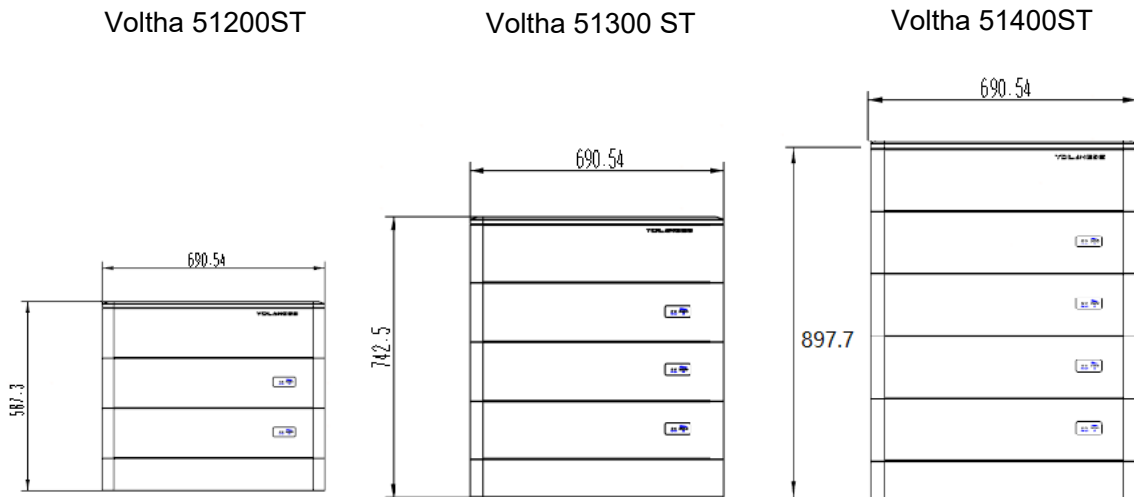
The Battery Management System (BMS) can monitor and optimized each single prismatic cell during charge & discharge, to protect the battery pack overcharge, over discharge, short circuit. Overall, the BMS helps to ensure safe and accurate running.

No	Items	Description	
1	Over charge	Over-charge alarm for each cell	3.60±0.03V
		Over-charge protection for each cell	3.65±0.03V
		Over-charge release for each cell	3.45±0.03V
		Over-charge alarm for total voltage	57.0±0.3V
		Over-charge protection for total voltage	57.6±0.3V
		Over-charge release for total voltage	56.0±0.3V
		Protection delay time	3±1s
		Over-charge release method	Under the release voltage
2	Over discharge	Over-discharge alarm for each cell	2.95±0.03V
		Over-discharge protection for each cell	2.70±0.03V
		Over-discharge release for each cell	3.2±0.03V
		Over-discharge alarm for total voltage	49.0±0.3V
		Over-discharge protection for total voltage	44.8±0.3V
		Over-discharge release for total voltage	51.2±0.3V
		Protection delay time	3±1s
		Over-discharge release method	Charge to recovery
3	Over current	Charge over current alarm	60±5A
		Charge over current protection	70±5A
		Protection delay time	15±3s
		Charge over current release method	Auto release after 1min;
		Discharge over current alarm	60±5A
		Discharge over current protection	70±5A
		Protection delay time	15±3s
		Over current release method	Auto release after 1min
4	Charge over temperature	Alarm @60±3°C, Protect @62±3°C, Release @50±3°C	
		Protection delay time: 2±1s	
5	Discharge over	Alarm @60±3°C, Protection @65±3°C, Release @55±3°C	

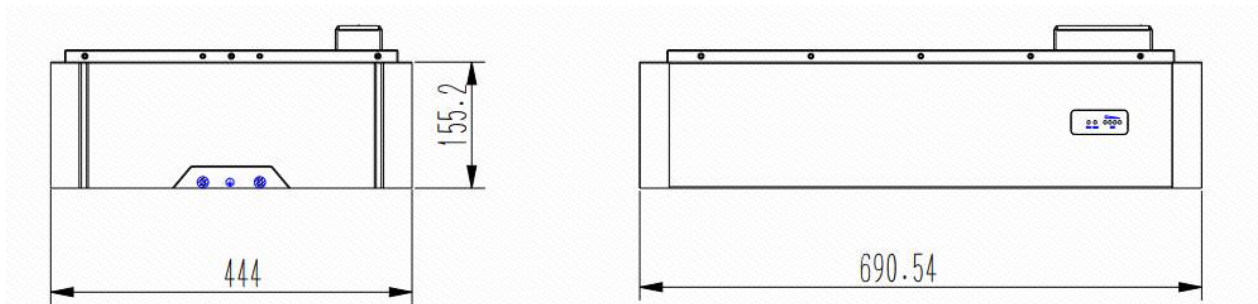
	temperature	Protection delay time: 2s	
6	Charge low temperature	Alarm @-5±3°C, Protect @-8±3°C, Release @0±3°C	
		Protection delay time: 2s	
7	SOC	LOW SOC Alarm	10%

## 4. 4. Product dimension

### 4.1 System



### 4.2 Battery module (Unit: mm)



### 4.3 BMS module (Unit: mm)

