

Residential Energy Storage System**Lithium Battery Specification**

Mode: TB48100F-T110A



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1. Generation

This battery pack is basically designed for residential energy storage system, mainly install indoor (<2000m above sea). The battery can be charged by solar and grid, the stored energy can be supplied to home appliances. The pack can communicate with other devices via Can-bus and RS485. Through the APP and cloud platform the product status like how many solar generated, energy buy from grid etc. can be monitored.

2. Specification

No	Items	Description
Battery specification		
1	Nominal voltage	51.2V
2	Nominal capacity	100Ah
3	Nominal energy	5.12KWh
4	Chemistry	LiFePO4
5	Operation temperature	Discharge: -20°C-60°C (pack internal temperature)
		Charge: 0°C-45°C
6	Operation voltage range	43.2~58.4V
7	Normal charge voltage/Float charge voltage	3.65*16/3.45*16
8	Allowed Max charging power	5.12KW
9	Allowed MAX constant charge current	100A
10	Allowed Max discharging power	5.12KW
11	Allowed MAX constant discharge current	100 (>0.5H) max. continuous charge and discharge at 100A, peak 500A(3S), 750A(1S)
12	Lithium battery efficiency	Up to 95%
13	Cycle life (DOD100%)	≥2000cycles (DOD100%) ; ≥4000cycles (DOD80%)
14	Battery module size	L: 465mm
		W:210 mm

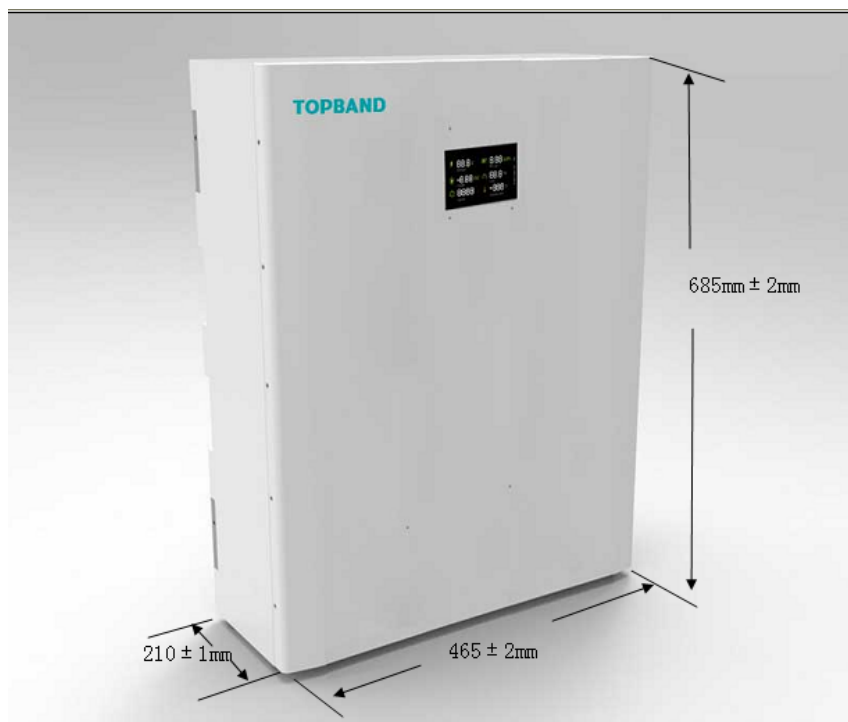
		H: 685mm
15	Battery module weight	About 75kg
16	Self-discharge rate	Residual capacity
		Reversible capacity
Environmental Conditions		
16	Humidity Range	10%~90%RH
17	Cooling method	Natural cooling
18	Storage Temperature & Humidity Range	-10~30℃, 45%~75%RH
19	Installation Altitude(above sea level)	<2,000m
Certification		
20	Cell	UN38.3, UL1642, CE
21	Battery	Comply UN38.3, UL1973, CE

3. BMS Function

No	Items	Description	
Battery Alarm &Protection			
1	Over charge	Over-charge alarm for each cell	3.55±0.03V
		Over-charge protection for each cell	3.75±0.03V
		Over-charge release for each cell	3.4±0.03V
		Over-charge alarm for total voltage	56.8V±0.5V
		Over-charge protection for total voltage	60.0V±0.5V
		Over-charge release for total voltage	54.4V±0.5V
		Over-charge release method	Under the release voltage
2	Over discharge	Over-discharge alarm for each cell	3.00±0.03V
		Over-discharge protection for each cell	2.70±0.03V
		Over-discharge release for each cell	3.10±0.03V
		Over-discharge alarm for total voltage	48.0V±0.5V
		Over-discharge protection for total voltage	43.2V±0.5V
		Over-discharge release for total voltage	49.6V±0.5V
		Over-discharge release method	Charge to recovery
3	Over current	Charge over current alarm	110±5A
		Charge over current protection	120±5A
		Protection delay time	5±1s
		Charge over current release method	Auto release after 1min;
		Discharge over current alarm	110±5A
		Discharge over current protection	120±10A
		Protection delay time	5±1s
		Over current release method	Auto release after 1min
4	Short circuit	1200A±200A, delay time 200~800us	
5	Charge over temperature	Alarm @50±3℃	
		Protect @55±3℃	

		Release @45±3℃	
6	Discharge over temperature	Alarm @60±3℃	
		Protection @65±3℃	
		Release @55±3℃	
7	Charge low temperature protection	Alarm @5±3℃	
		Protect @0±3℃	
		Release @5±3℃	
8	SOC	LOW SOC Alarm	10%
Monitor & Communication			
9	LCD	Customize the LCD screen	
10	Communication	Can-bus, RS485	
11	monitoring	WIFI, poll all of the WIFI enabled batteries on the same sub-network, Support max. 14pcs in parallel.	
12	Series &Parallel connection	No series connection; Support max. 14pcs in parallel.	

4. Mechanical drawing



5. Installation

5.1 Required accessory list

No	Items	Description	QTY	Unit	Remark
1	Battery module	48V-100Ah-SPCC	1	pcs	
2	INVERTER COM Cable		1	pcs	
3	CAN communication line for Battery module		1	pcs	
4	Lift handles		2	pcs	
5	Expanding screw M8*60		12	pcs	
6.	Communication Debug cable ^{Note}		1	pcs	
7	Wall mounting bracket		1	Pcs	

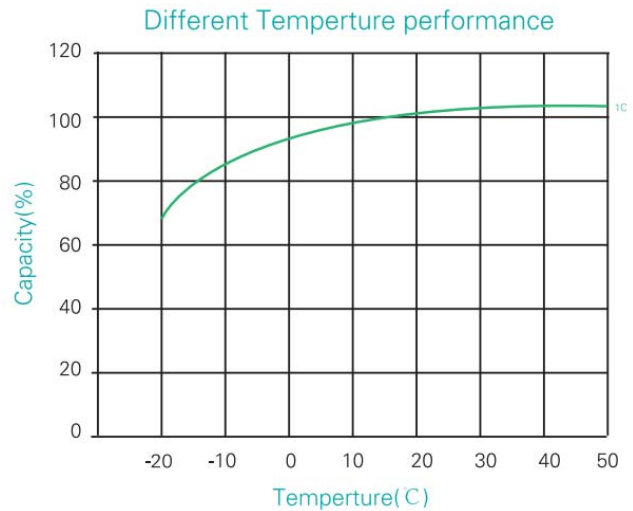
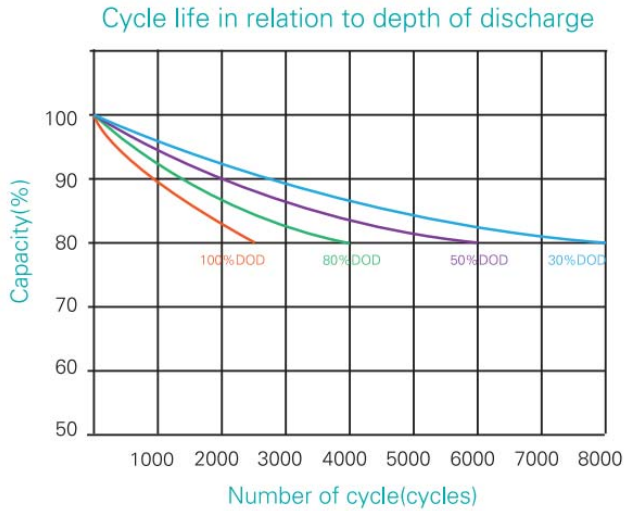
Note : Debug cable is non-standard parts, and supplied only for sampling debugging.

5.2 Installation

Step	Operation	Instruction
1	Check before install	Before open the package, please check if any broken of the package; after open the package, please check if all the accessories available, and any obvious external damage.
2	Prepare the tool	Before installation, please prepare all the tools, so as to install and connect smoothly.
3	Choose the installation position	Please choose proper installation position, so as to ensure the machine work normally and effectively.
4	Move the product to defined position	Please move the machine to the defined position, to make it easy to open the package and install.
5	Open the package	Please open the package and check if all the accessories available, if any damage of the machine
6	Punch the installation hole on the ground	Punch 12 installation holes on the wall
7	Fixed the bracket	fix the bracket on the wall with screws

8	Install the battery pack	Place the battery pack on the fixed bracket, then secure with additional screws to fix the battery pack. Better to keep the ambient temp. at 25°C
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6. Battery performance curve



7. Operation Instructions

This product is of air-cooling. For long time use, please clean the dust of the product periodically, so as not to reduce the radiator efficiency due to dust or other objects accumulated on it. It is recommended to clean the product every month. After installation, if the product has not been using for long time, please make sure to charge the battery every three months.

8. Transportation & Storage

- ◆ For long-term storage of this product, it need to be placed in a dry, clean, well-ventilated indoor environment;
- ◆ This product needs to be stored and transported with around 60% SOC;
- ◆ For long-term storage, product need to be charged once every 6 months;
- ◆ During transport, no drop, no pile up, no turning, and make sure to place upward.

9. Warning & Cautions

Please read the specification carefully before using this product. Improper use of this product may damage the product. SHENZHEN TOPBAND BATTERY CO., LTD. shall be exempt from any responsibility for accidents caused by the usage without following the specification.

Warning!

- ◆ The battery must be far away from heat source, high voltage, and avoided to be exposed in sunshine for long time;
- ◆ Never throw the battery into water;
- ◆ Never connect the positive and negative of battery with metal;
- ◆ Never transport or store battery together with metal;
- ◆ Never disassemble the battery without manufacturer's permission and guidance.

Cautions!

Please do not use or store the battery at high environment temperature, otherwise it will lead to overheat, fire or lifecycle reduction;

- When battery run out of power, please charge the battery timely (≤ 15 day);
- Please stop using the battery if there is peculiar smell, color change, noise, leakage, severe distortion or other abnormal situations.
- If the battery leaks and gets into the eyes or skin, do not wipe, instead, wash it with running clean water and go to hospital immediately;
- Do not put scraped battery into water or fire.