



**Long Lasting Backup
With the BEST
Inverter Battery!!**



User Manual

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1. Product overview

1.1 Introduction:

The model LiFePO₄ battery pack is designed specifically for energy storage systems, with higher efficiency and higher reliability. With the intelligent battery management system, the intelligent battery detection system. This model of LiFePO₄ battery pack is ideal for off-grid and hybrid utilization, providing a long-term built solution, and has the ability to deploy and use in a variety of scenarios, such as homes, farms, factories, data rooms, hotels, etc.

1.2 Features:

- ★ LiFePO₄ chemicals give batteries a safer performance, longer life and energy density
- ★ The fully intelligent battery management system (BMS) protects the battery pack and the battery from over-discharge, over-charge, over-current, and high/low temperature
- ★ The intelligent monitoring system, which can monitor and download the data to the computer in real time
- ★ The battery comes with a balance function that greatly extends the service life of the battery
- ★ The battery has no memory effect, and can deeply charge and release the battery
- ★ The self-discharge consumption is very small, more than 24 hours without the battery will automatically enter the low power mode
- ★ Environmentally friendly, free of heavy metals and harmful substances, and meets the ROHS requirements
- ★ The battery can be used in parallel for any scenario requiring a large power backup
- ★ Battery do not require active maintenance, one-time purchase guarantees life (assuming you use the right battery and follow the guidelines)
- ★ Cell meets IEC62619 and ROHS requirements

1.3 Specification and Performance:

1.3.1 Parameters

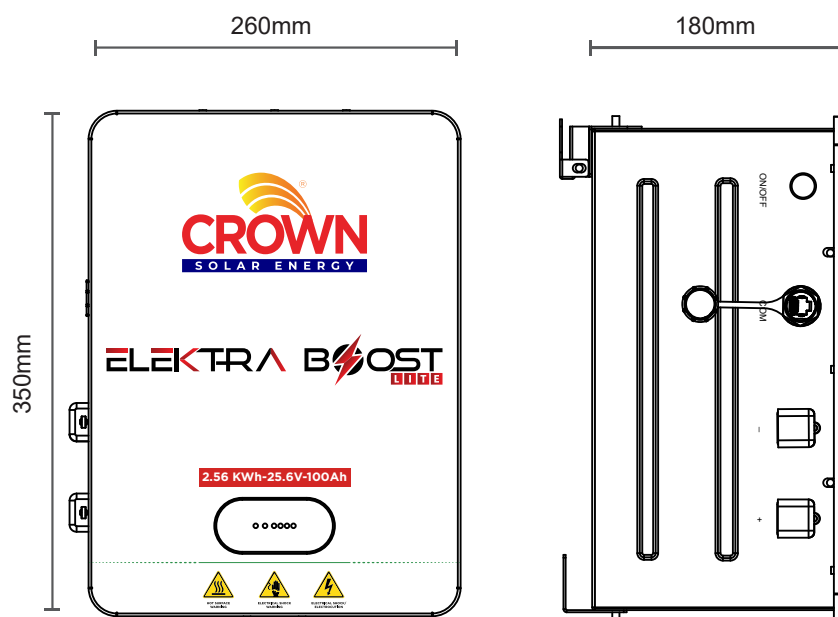
Project	Conventional Parameters
Battery Type	LiFePO ₄
Model	CSE-ESS-25.6V100Ah
Compound Mode	1P8S
Rated Capacity	100Ah
Nominal Voltage	25.6V
Energy	2.56kWh
Operation Voltage Range	20~29.2V
Maximum charge current	70A
Maximum discharge current	100A
Recommend Charge Current	50A
Operating Temperature Range	Charge:0~55℃, Discharge:-20~55℃
Storage Temperature Range	-10~55℃
Dimension (W*H*D)	260*350*180mm
Weight	20±1.5kg
SOC for Shipping	40%~60% SOC
Packaging Material	Carton
Communication	RS485/CAN

1.3.2 Interface Definition

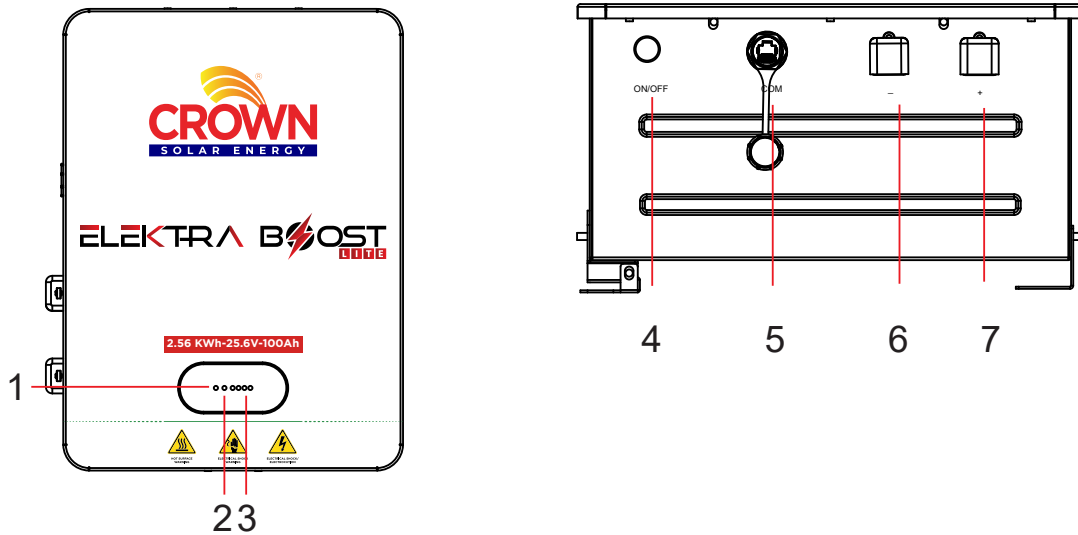
A) Battery Appearance



B) Battery Size

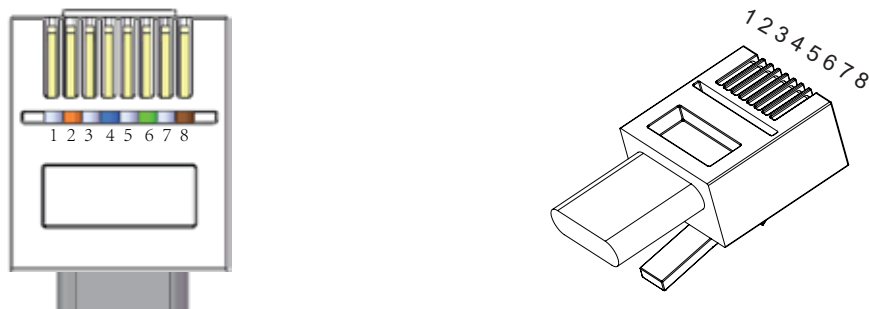


c) Panel Interface Refer to the Following Figure

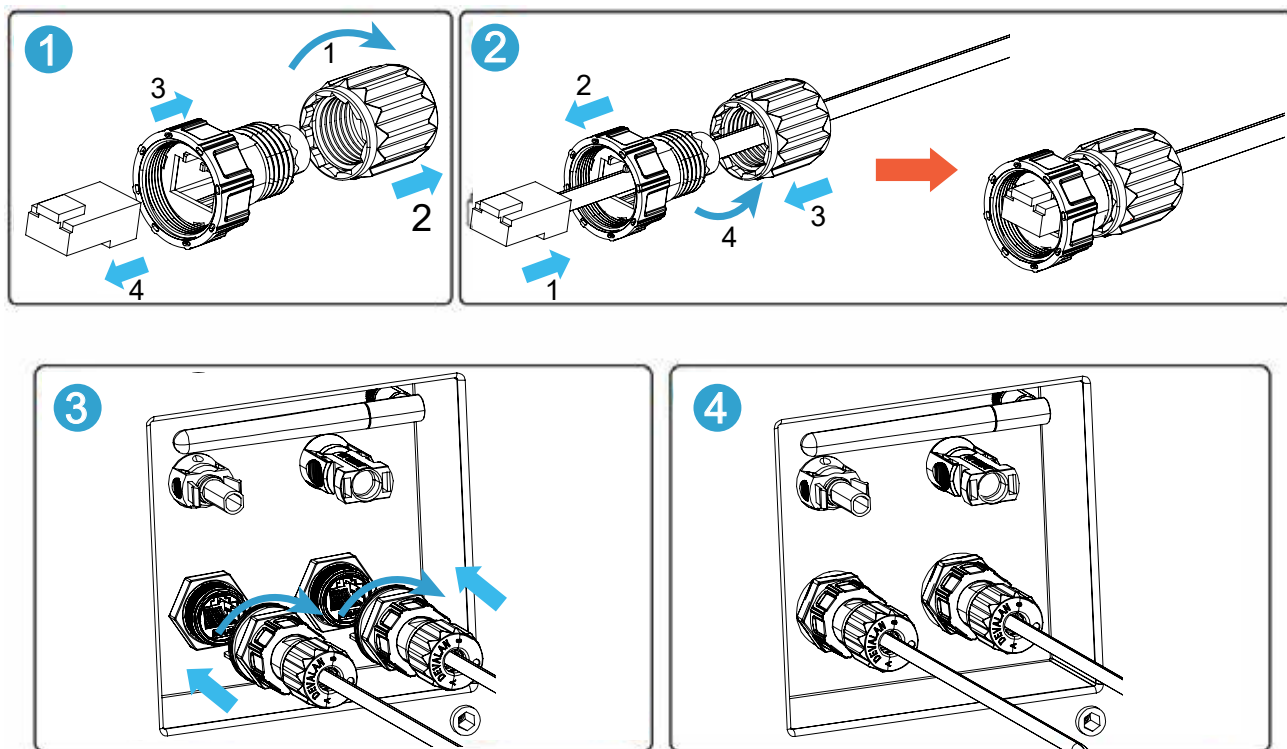


1. Running Indicator
2. Fault Indicator
3. SOC Indicator
4. Button Indicator
5. Communication Terminal
6. Negative Terminal
7. Positive Terminal

1.3.3 Connecting the Communication Cable



PIN	CAN	/	Description
1	RS485B	/	Connects to the invert BMS-RS485 communication port to communication with the invert
2	RS485A	/	
3	/	/	
4	CANH	/	Connects to the invert BMS communication port to communication with the invert
5	CANL	/	
6	/	/	/
7	/	/	/
8	/	/	/

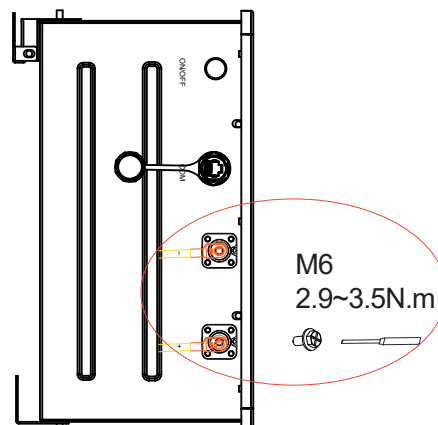
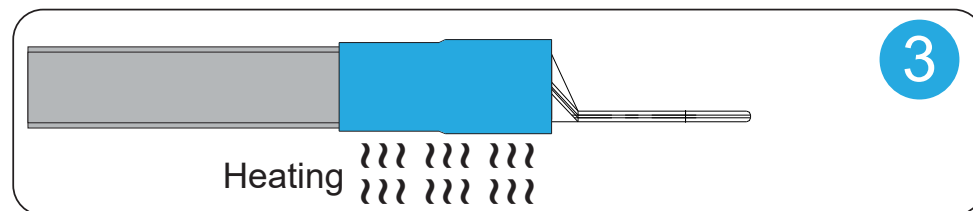
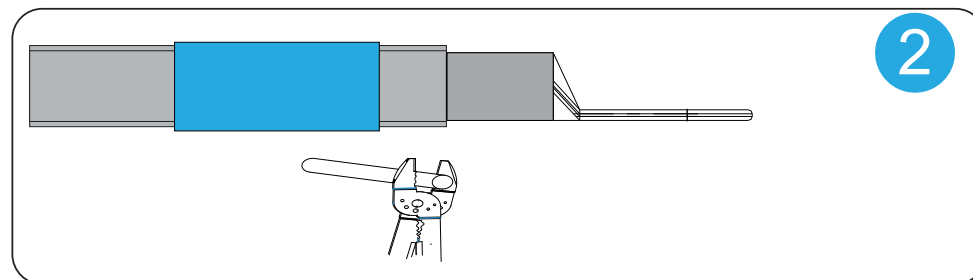
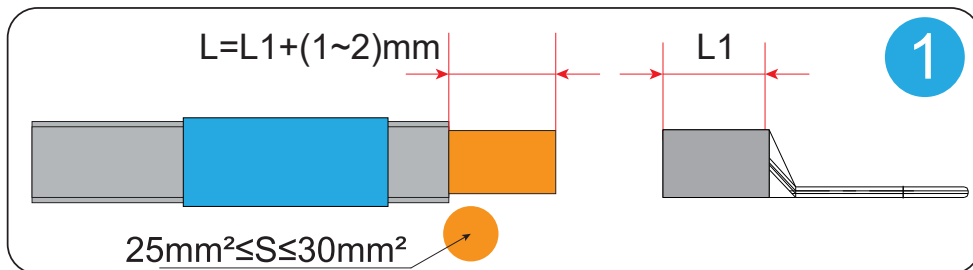


1.3.4 Connecting the Power Cable

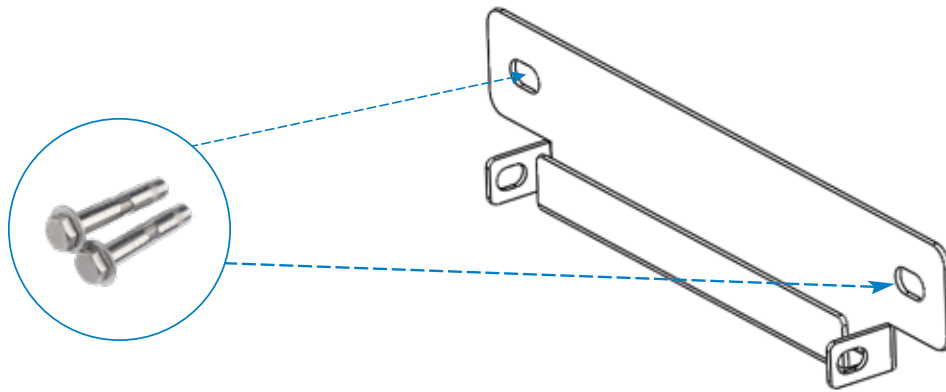
NOTICE

The power cable can be prepared by the customer. Recommended specifications:

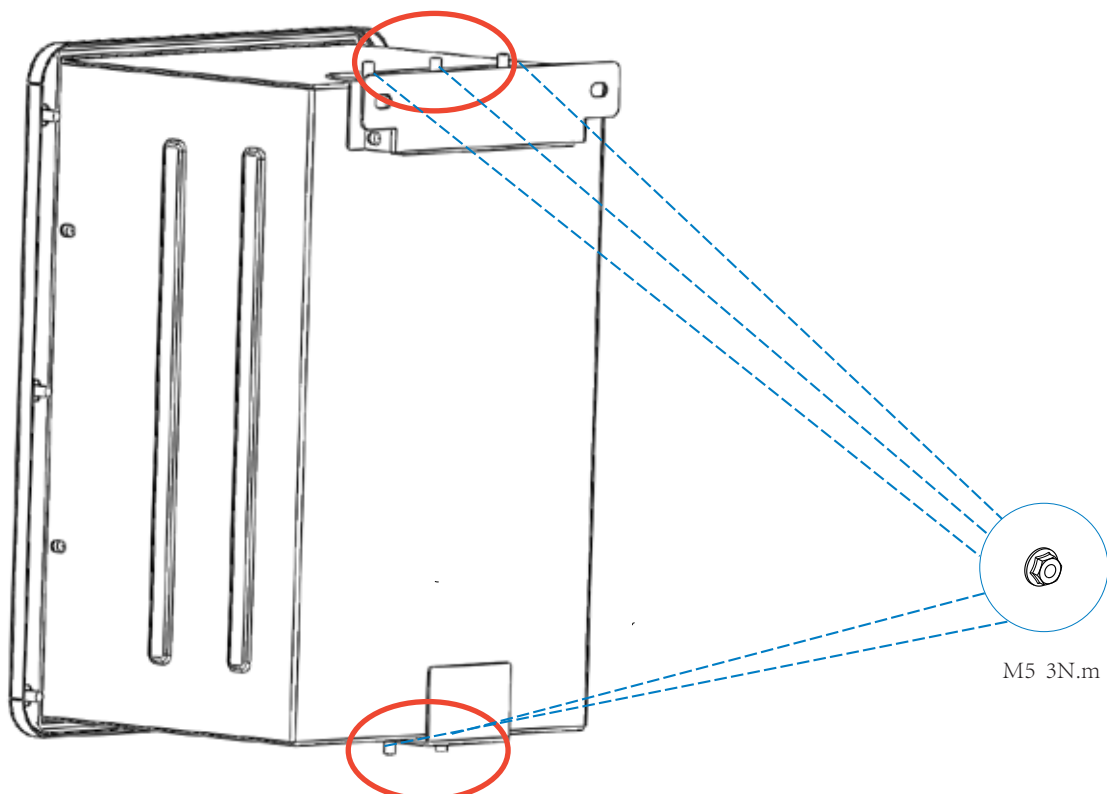
- Type: single-core outdoor copper cable
- Cross-sectional area: $25\text{mm}^2 \leq S \leq 30\text{mm}^2$



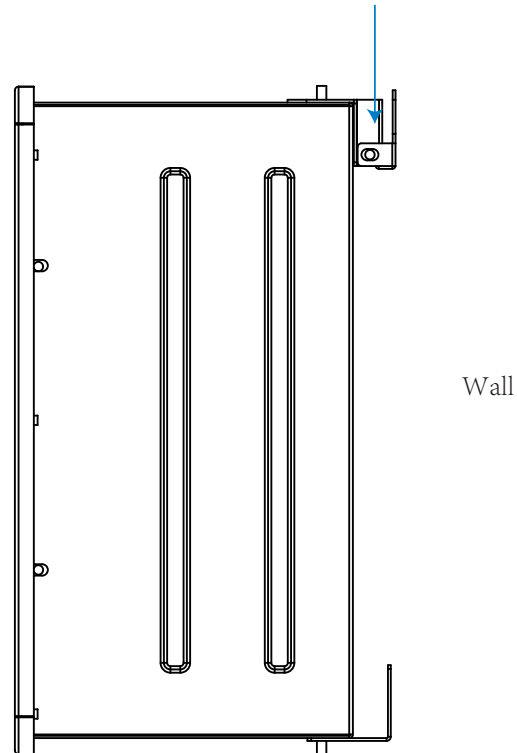
1.3.5 Wall-mounted installation instructions



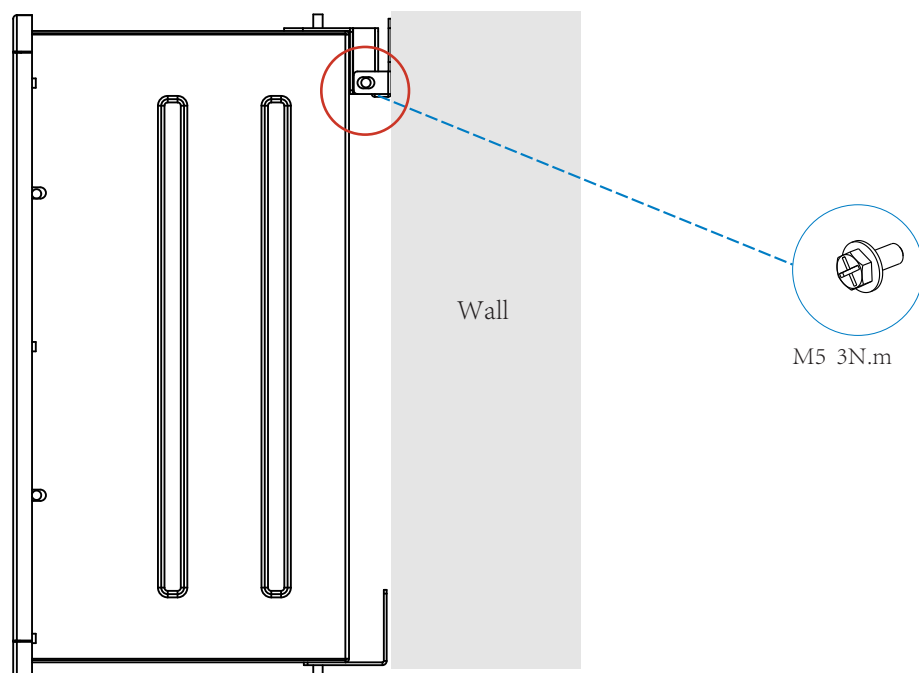
Step 1: Secure the wall bracket to the wall using expansion bolts M6*70 , Tighten to a torque of 12 N.m.



Step 2: Use the M5 Nuts install the hanging board on the back of the battery, Tighten to a torque of 3.5N.m.



Step 3: Match the battery with the wall bracket, Hang the battery over the wall bracket, move the battery close to the wall and match it on the wall bracket



Step 4: Lock the joint between hanging board and wall bracket with M5 combination screw (Torque:3.5N.m)

1.3.6 Packing list

No.	Project	Description
1		Main Unit*1
2		User Manual*1 Size:A4 210*295mm
3		SC25-6*4
4		SC6-6*2
5		RJ45 Connector*2
6		M6*70 Expansion Screw*2
7		M5 *16 Bolt*2
8		M6*12 Screw*2
9		M5 Nuts*5
10		Hanging Board*1
11		Wall Bracket*1
12		Positive Paddle Insulation Cover*1
13		Negative Paddle Insulation Cover*1
14		Crown Battery Warranty Policy (English-Urdu) Size: A4 210*295mm
15		Elektra Boost Product Certificate Card Size:80*130mm
16		Elektra Boost Warranty Card Size:95*130mm
17		CSE-Posters Size:A5 148*210mm
18		Battery positive terminal cable*1 Size:16mm ² Length: 1m
19		Battery negative terminal cable*1 Size:16mm ² Length: 1m
20		Battery Communication Wire*1 Length: 1.5m

2. Battery management system

2.1 Description of the LED indicator light

State	Normal /Report an emergency /protect	RUN	ALM	Battery Indicator LED				illustrate
				L4	L3	L2	L1	
		●	●	●	●	●	●	
Shutdown Status	Resting State	OFF	OFF	OFF	OFF	OFF	OFF	ALL OFF
Stand By	Normal	Flashing 1	OFF	According to the electricity instruction				position in readiness
	Report an emergency	Flashing 1	Flashing 3					Module Low Voltage
Charge	Normal	ON	OFF	According to the electricity instruction (Top indicator LED flashing 2)				Maximum battery LED flashing (flashing 2), ALM does not flash when overcharging alarm occurs
	Report an emergency	ON	Flashing 3					
	overcharge protection	ON	OFF	ON	ON	ON	ON	If there is no urban electricity, The indicator light is in standby mode
	Over current Protection	OFF	ON	OFF	OFF	OFF	OFF	Stop Charging
Discharge	Normal	Flashing 3	OFF	According to the electricity instruction				
	Report an emergency	Flashing 3	Flashing 3					
	Undervoltage Protection	OFF	OFF	OFF	OFF	OFF	OFF	Stop Discharge
	Over current Protection	OFF	ON	OFF	OFF	OFF	OFF	Stop Discharge
Lose Efficacy		OFF	ON	OFF	OFF	OFF	OFF	Stop Charging And Discharging

2.2 Status indication

Stand By		Charging				Discharge			
Capacity indicator light		L4●	L3●	L2●	L1●	L4●	L3●	L2●	L1●
Quantity of electricity	0% ~ 25%	OFF	OFF	OFF	Flashing2	OFF	OFF	OFF	ON
	25% ~ 50%	OFF	OFF	Flashing2	ON	OFF	OFF	ON	ON
	50% ~ 75%	OFF	Flashing2	ON	ON	OFF	ON	ON	ON
	75% ~ 100%	Flashing2	ON	ON	ON	ON	ON	ON	ON
Run The Indicator light, the●		ON				Flashing 3			

2.3 The LED Indicator Light Flashing Description

Flashing Mode	ON	OFF
Flashing1	0.25S	3.75S
Flashing2	0.5S	0.5S
Flashing3	0.5S	1.5S

3. Battery Use Instructions

3.1 Charging

- ★ Charging current: cannot exceed the maximum charging current specified in this specification
- ★ Charging voltage: shall not exceed the maximum charging voltage specified in this specification
- ★ Charging temperature: The battery must be charged within the ambient temperature range specified in this specification
- ★ The battery adopts constant current and constant pressure charging mode, and forbids reverse charging. If the positive electrode of the battery meets the negative electrode in the opposite, it will damage the battery

3.2 Discharging

- ★ Discharge Current: the discharge current shall not exceed the maximum discharge current specified in this instruction. Excessive current discharge will reduce the battery capacity and cause the battery to heat up.
- ★ If the battery enters over discharge protection, it should be charged within 3 days. If it could not be charged in a timely manner, all connections on the battery must be disconnected.

3.3 Discharging Temperature

Battery discharge must be within the temperature range specified in this specification. Immediately charging after a short time of excessive discharge will not affect the use, but a long time of excessive discharge will lead to the loss of battery performance and battery function.

If the battery is not used for a long time, it may be in a certain discharge state due to its self-power consumption characteristics. In order to prevent the occurrence of over discharge, the battery should maintain a certain amount of electricity.

4. Notes For Product Use

4.1 Warnings

- ★ Do Not Put The Battery Into The Water Or Wet It.
- ★ Forbids Charging And Using The Battery Outside Our Specified Temperature Range; DoNot Store, Charge, And Use The Product Near The Fire Sources Or Heat Sources.
- ★ When The Battery Pack Emits An Odor Or Leakage, It Should Immediately Stop Using Or Stop Charging, And Move To The Open And Ventilated Place, Stay Away From The Fire Source, And Contact Us In Time.
- ★The Optimal Service Temperature Of Products Is 25 ~ 5°C, If The Product Is Not In This Temperature Range During Use.
- ★ Load Use, Do Not Connect Positive And Negative Poles.
- ★ Do Not Short-circuit The Positive And Negative Electrodes Of The Battery Pack With A

Metal Conductor.

- ★ Do Not Fire The Battery Pack Or Heat It.
- ★ It Is Strictly Prohibited To Dissect The Battery Pack, Puncture The Battery Pack With Nails Or Sharp Objects, Use Hammers Or Other External Forces, And Trample Or Fall The Battery Pack.
- ★ Strictly Prohibited Putting Battery Packs In A Microwave Or Pressure Vessel.

4.2 Charging and Discharging

- ★ The Battery Must Be Charged Using An Appropriate Charger.
- ★ Do Not Use A Modified Or Damaged Charger.
- ★ During Charging And Use, Please Stop Charging And Using It Immediately.

4.3 Storage

- ★ Store The Battery In A Cool, Dry, And Well-ventilated Place. If More Than Three Months Of Long Storage, It Is Recommended That You Should Charge The Battery Extra.

4.4 Processing

- ★ Different Countries Have Different Regulations, Please Handle According To The Local Regulations.

If There Is Any Fault Or Abnormality During Use, Please Contact Us And Do Not Remove The Battery Pack Without Permission.

Installation Environment Requirements

- The battery is intended to be used indoor only.
- The installation and use environment must meet relevant international, national, and local standards for lithium batteries, and are in accordance with the local laws and regulations.
- Ensure that the battery is not accessible to children and away from daily working or living areas, including but not limited to the following areas: studio, bedroom, lounge, living room, music room, kitchen, study, game room, home theater, sunroom, toilet, bathroom, laundry, and attic.
- When installing the battery in a garage, keep it away from the drive way. It is recommended that the battery be mounted on the wall higher than the bumper to prevent collision.
- During the warranty period, the product should be used and operated in an environment where 95% of the conditions remain within 70% of the maximum temperature specified on the nameplate label.
- When installing the battery in a basement, keep good ventilation. Do not place flammable or explosive materials around the battery. It is recommended that the battery be mounted on the wall to avoid contact with water.
- Install the battery in a dry and well-ventilated environment. Secure the battery on a solid and flat surface.
- Install the battery in a sheltered place or install an awning over it to avoid direct sunlight or rain.
- Install the battery in a clean environment that is free from sources of strong infrared radiation, organic solvents, and corrosive gases.
- For areas prone to natural disasters such as floods, debris flows, earthquakes, and typhoons/hurricanes, take corresponding precautions for installation.
- Keep the battery away from fire sources. Do not place any flammable or explosive materials around the battery.
- Keep the battery away from water sources such as taps, sewer pipes, and sprinklers to prevent water seepage.
- Do not install the battery in a position where it is easy to touch as the temperature of the chassis and heat sink is high when the battery is running.
- To prevent fire due to high temperature, ensure that the vents and the cooling system are not blocked when the battery is running.
- The operating temperature for the battery is designed to be 0 to 50 degrees Celsius, however, it is recommended to keep the battery below 25 degrees Celsius to maximise the design life and life cycle of the battery. The cycle life cannot be guaranteed if the battery is operated in temperatures exceeding 25 degrees Celsius
- Do not expose the battery to flammable or explosive gas or smoke. Do not perform any operation on the battery in such environments.
- Do not install the battery outdoors in salt-affected areas because it may corrode. A salt-affected area refers to the region within 500 meters from the coast or prone to sea breeze. The regions prone to sea breeze vary with weather conditions (such as typhoons and monsoons) or terrains (such as dams and hills).



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