SR PORTABLES

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Titan 5.12Kwh

Quick Installation Guide

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1. Safety

DANGER	• Do not touch uninsulated cable termination. • Do not dispose of batteries in fire. • Before performing any work on the storage unit, please disconnect the storage unit from all voltage sources as described in this document.
WARNING	• Installation, repair, recycling, and disposal of storage unit must be performed by qualified personnel in accordance with national and local standards and regulations. • Do not use wet hands to touch the system. • To ensure property and personal safety, the batteries and inverter shall be well grounded.
CAUTION	• Do not modify or tamper with storage unit and other compo nents of the system. • Batteries are heavy, Lifting and moved the products shall be conducted by more than one person.

2. Installation

2.1 Floor Mounting Packing List

			
Titan Battery Module × 1 Pcs	Cover Plate × 1 Pcs	Communication Network Wire × 1 Pcs	Circular Terminal RNB 22-6S × 4 Pcs
			
Circular Terminal RNB 5.5-4L × 1 Pcs	Screw M4-10 × 1 Pcs	Screw M4-10 × 1 Pcs	Qualified Certificate × 1 Pcs

2.2 Wall Mounting Packing List

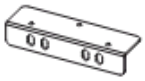
			
Titan Battery Module × 1 Pcs	Cover Plate × 1 Pcs	Fixed Bracket A × 1 Pcs	Fixed Bracket B × 1 Pcs
			
Communication Network Wire × 1 Pcs	Backing Pad × 2 Pcs	Screw M6-12 × 4 Pcs	Screw M4-10 × 1 Pcs

				
Screw M4-10 × 1 Pcs	Expansion Screw M8*50 × 2 Pcs	Circular Terminal RNB 5.5-4L × 1 Pcs	Circular Terminal RNB 22-6S × 4 Pcs	Qualified Certificate × 1 Pcs

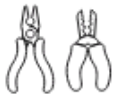
2.3 Stacked Mounting Packing List

			
Titan Battery Module × 1 Pcs	Support Bracket × 4 Pcs	Screw M4-10 × 16 Pcs	Positive Wire (Red) × 1 Pcs
			
Negative Wire (Black) × 1 Pcs	Grounding Wire × 1 Pcs	Communication Network Wire × 1 Pcs	Circular Terminal RNB 5.5-4L × 1 Pcs
			
Circular Terminal RNB 22-6S × 2 Pcs		Qualified Certificate × 1 Pcs	

2.4 Rack Mounting Packing List

			
Titan Battery Module × 1 Pcs	Circular Terminal RNB 5.5-4L × 1 Pcs	Communication Network Wire × 1 Pcs	Grounding Wire × 1 Pcs
			
Circular Terminal RNB 22-6S × 2 Pcs	Screw M4-10 × 1 Pcs	Screw M4-10 × 6 Pcs	Screw M6-16 × 4 Pcs
			
Install Ear Hooks × 2 Pcs	Negative Wire (Black) × 1 Pcs	Positive Wire (Red) × 1 Pcs	Qualified Certificate × 1 Pcs

2.5 Tools

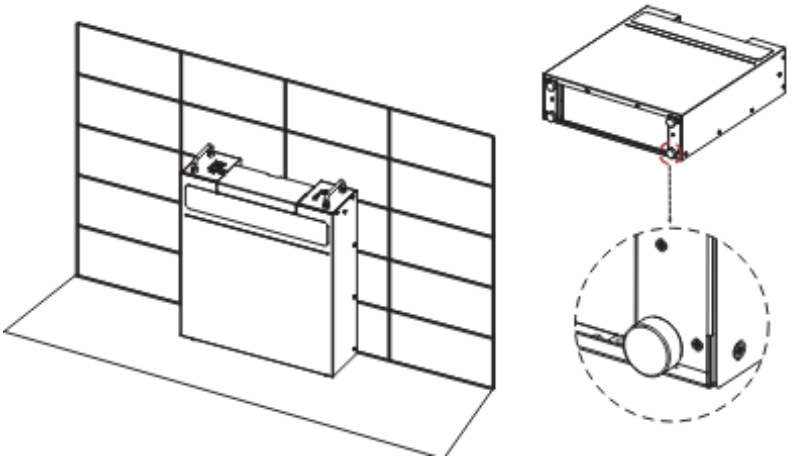
			
Wire Cutter/Stripper	Mark Pen	Knife	Electric Drill
			
Phillips Screwdriver	Terminal Crimping Tool	Spirit Level	Hammer

2.6 Installation

The unit should be installed indoors. The place where it is installed shall be able to ensure the stability and safety of the product. Choose a suitable location for the device, with no obstacles within 200 mm to avoid affecting heat dissipation. The Titan Battery can be installed in four ways: floor-mounted, wall-mounted, stacked or rack-mounted, but the accessories for each way will be different. The installation steps for each of the four ways are described below:

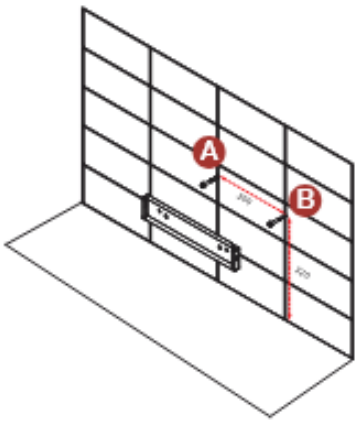
2.6.1 Floor Mounting

The Titan Battery has 4 feet pad on the bottom and can be placed directly against a wall on the floor when in use. Ensure that the ground is level during installation and the unit will not collapse.



2.6.2 Wall Mounting

Step 1: After determining the mounting position, punch holes in the wall according to the holes on the Fix Bracket A. And use the expansion screws to mount the Fix Bracket A firmly on the wall. Note that the height of the fix bracket holes from the floor should not be less than 320mm.

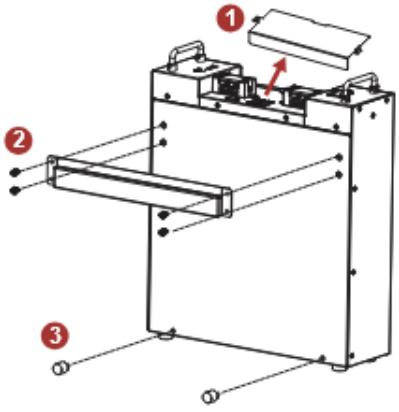


Step 2: Installation preparation

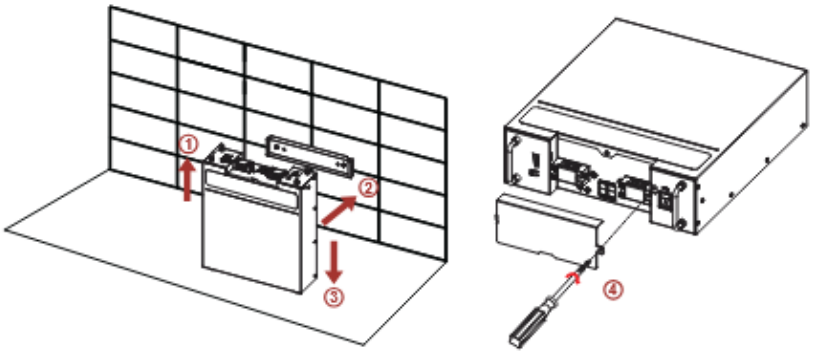
① Remove the small cover plate on top of the battery module.

② Install the Fix Bracket B onto the back of the battery module. Pay attention to the opening of the bracket facing downwards.

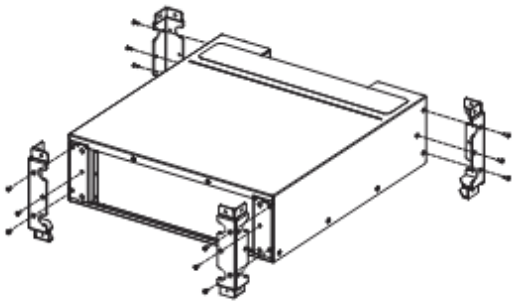
③ Install the backing pads on the bottom left and right sides of the back of the battery.



Step 3: Lift the unit higher than the position of Fixe Bracket A, align Fixe Bracket B with Fixe Bracket A and place it downwards, wait until both are fully fastened and The installation is completed by connecting the wiring and tightening the screws on the top cover.

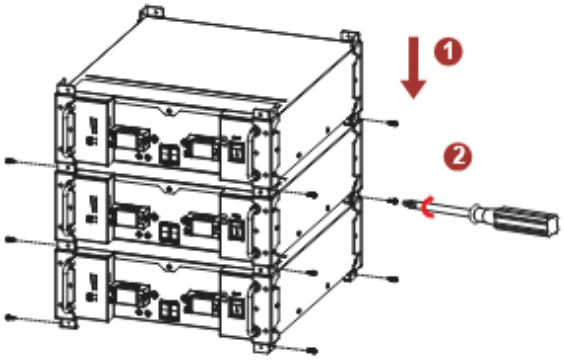


2.6.3 Stacked Mounting



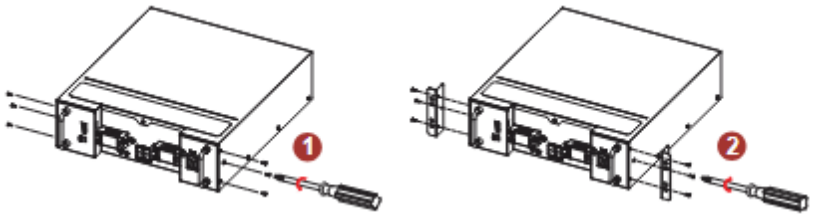
Step 1: Attach the Support Brackets to the four corners of the unit. Note that the screws securing the Support Brackets are already on the unit and need to be removed and reinstalled after securing the brackets.

Step 2: Stack the modules in order and then secure them with screws.

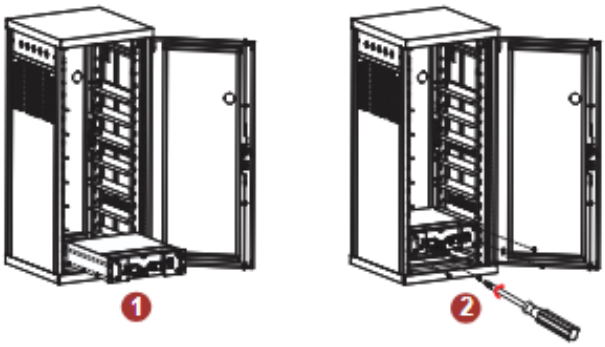


2.6.4 Rack Mounting

Step 1: Remove the screws on both sides, install the lugs on both sides and tighten the screws.



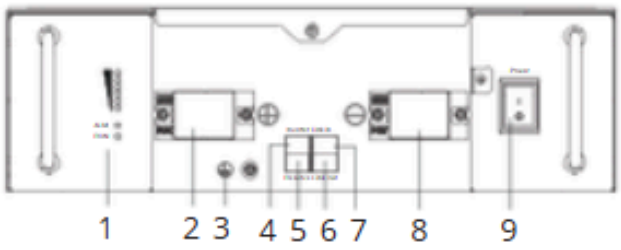
Step 2: Install the Titan into the rack and lock the set screws.



3. Electrical Connections

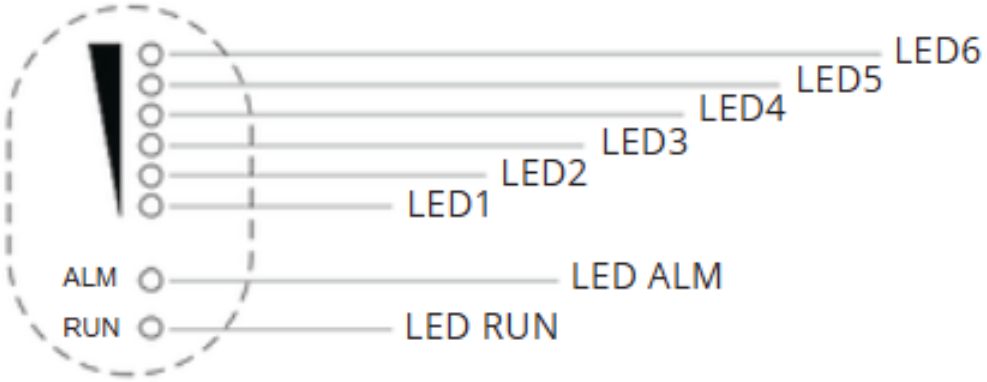
WARNING	● Titan product, Link in Link out interface is not available, does not support parallel.

3.1 Electrical Interface Description



Object	Description	Object	Description
1	Battery indicator LEDs	6	BMS parallel
2	Battery+	7	BMS parallel
3	Grounding	8	Battery- Power
4	Inverter communication	9	On/Off Switch
5	Reserve	/	/

3.2 Battery Indicator LEDs



Discharging								
SOC	**LED1**	**LED2**	**LED3**	**LED4**	**LED5**	**LED6**	**LED RUN**	**LED ALM**
0-16%	Lighting	Off	Off	Off	Off	Off	Lighting	Off
16-33%	Lighting	Lighting	Off	Off	Off	Off	Lighting	Off
33-50%	Lighting	Lighting	Lighting	Off	Off	Off	Lighting	Off
50-66%	Lighting	Lighting	Lighting	Lighting	Off	Off	Lighting	Off
66-83%	Lighting	Lighting	Lighting	Lighting	Lighting	Off	Lighting	Off
83-100%	Lighting	Lighting	Lighting	Lighting	Lighting	Lighting	Lighting	Off

Charging								
SOC	**LED1**	**LED2**	**LED3**	**LED4**	**LED5**	**LED6**	**LED RUN**	**LED ALM**
0-16%	Running Light						Lighting	Off
16-33%	Lighting	Running Light					Lighting	Off
33-50%	Lighting	Lighting	Running Light				Lighting	Off
50-66%	Lighting	Lighting	Lighting	Running Light			Lighting	Off
66-83%	Lighting	Lighting	Lighting	Lighting	Running Light		Lighting	Off
83-100%	Lighting	Lighting	Lighting	Lighting	Lighting	Running Light	Lighting	Off

Alarm	Time duration	LED ALM flashing frequency
Turn off	Off	Off
Overdischarge/Discharge lockout	10s	1s On/ 1s Off
Discharge high and low temperature	5s	0.5s On/ 0.5s Off
MOS high temperature	6s	0.5s On/ 0.5s Off
Short circuit	4s	0.25s On/ 0.25s Off
Overcurrent/Overcurrent lockout	5s	0.25s On/ 0.25s Off
Cell abnormal/NTC abnormality	6s	0.25s On/ 0.25s Off
BUCK circuit failure	7s	0.25s On/ 0.25s Off
AFE initialization abnormality	9s	0.25s On/ 0.25s Off
AFE operation abnormality	10s	0.25s On/ 0.25s Off
Overcharge	Lighting	/

3.3 Wiring

WARNING	• Ensure Battery switch is off during installation to avoid the risk of short circuit caused by wrong operation during battery wiring.

3.3.1 Wire Processing

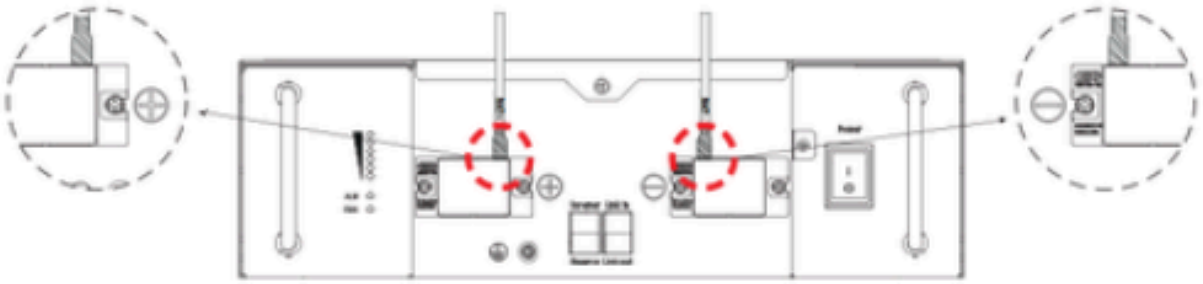
Step 1: Prepare the cables, the cable wire diameter is listed below. Use wire strippers to strip out the core of the cable by about 15mm.

Cable type	Conductor cross-sectional area (mm)	
	Outside diameter (mm)	Conductor core section (mm)
4 AWG	10	6.8

Step 2: Apply the cable into the crimping position. Use a special tool to crimp the cable to ensure that the crimping is intact.

Cable	Color
BAT+	Red
BAT-	Black

Step 3: Remove the screws from the terminals, install the positive and negative battery wires and then re-secure them with screws.

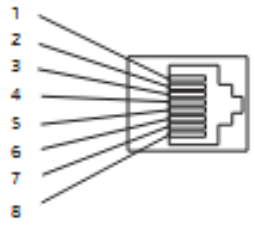


Step 4: The other end is selected according to the wiring of the inverter.

3.3.2 Communication

Battery RJ45 pins are defined in the following table, please make sure that the battery communication is the same as the inverter communication and the wire sequence is the same.

RJ45



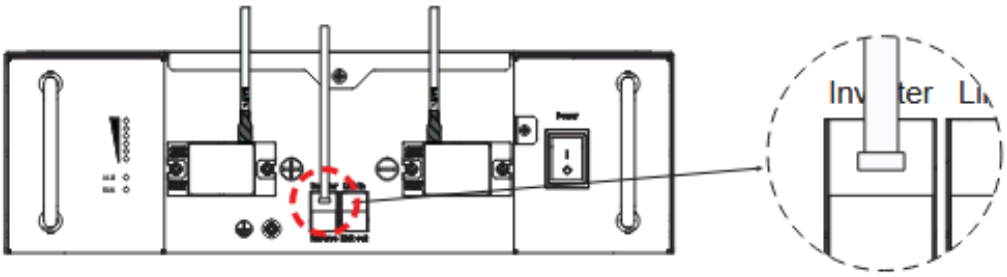
RJ45 female connector

Inverter communication

Object	Description	Object	Description
1	485 B	5	CAN L
2	485 A	6	NC
3	NC	7	NC
4	CAN H	8	NC

BMS parallel

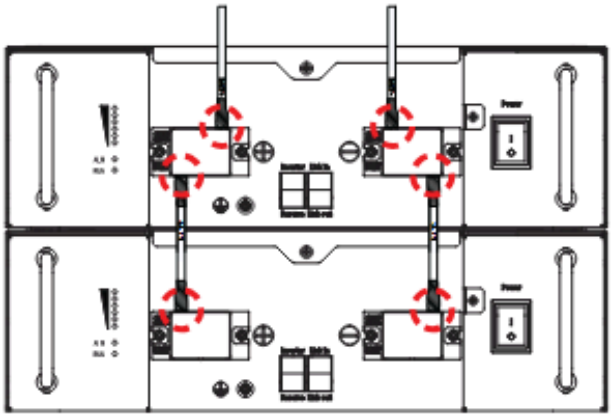
Object	Description	Object	Description
1	CAN H	5	NC
2	CAN L	6	NC
3	NC	7	NC
4	NC	8	NC



The battery communicates with the inverter using the "Inverter" communication port on the machine.

3.4 Parallel

WARNING	• Due to the battery terminal current-carrying each 200A, parallel use of the maximum output power of 10kW, if you need to output more power, you need to replace the wiring, not directly connected to the battery terminal.

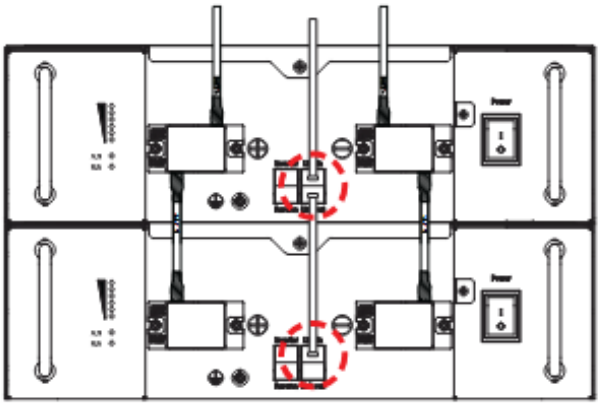


Step 1: Power Wiring

When batteries are used in parallel, the positive terminal of the battery is connected to the positive terminal and the negative terminal of the battery is connected to the negative terminal.

Step 2: Communication wiring

Use the network cable to connect the Link in and Link out of the battery communication interface.



4. Technical Parameters

Model	Titan 5.12-24	Titan 5.12
Electrical Parameter		
Battery Type	$LiFePO_4$	
Battery Capacity per Kit [Wh]	5.12kWh	
Usable Energy [Wh]	4.6kWh	
Rated Voltage [V]	25.6V	51.2V
Voltage range [V]	22.4V~28.8V	44.8V-57.6V
Max. Charging and Discharging Rate	200A	100A
Depth Of Discharge [DOD]	≤90%	
Cycle Life (25℃ ,0.5C)	≥6000 times,80% Capacity retention	
Scalability	No	Yes
General Data		
Communication Mode	RS485	RS485/CAN2.0
Operating Temperature Range	0~50°C (Charge)/-10~50°C(Discharge)	
Storage Temperature Range	-15°C~60°C	
Cooling Method	Natural Convection	
Altitude	<1000m	
Ambient Humidity	20-95% non-condensing	
Noise[dBA]	<25	
Ingress Protection	IP54	
Dimensions [H*W*D]	500*440*135mm	
Weight	45kg	
Installation Methods	Floor Standing, Wall Mounted, Rack Mounted, Stacked Mounting	

5. Operational

5.1 Start up the Battery

The system shall be turned on in the correct sequence as follows:
1) If there is an access circuit breaker, you need to turn on the battery circuit breaker first.
2) Turn on the Power On Switch on the unit.
3) Turn on the Inverter.

5.2 Shut Down the System

System shall be turned OFF in the correct sequence as follows:
1) Turn off the Inverter.
2) Turn off the Power On Switch on the unit.
3) If there is an access circuit breaker, you need to turn off the battery circuit breaker at last.