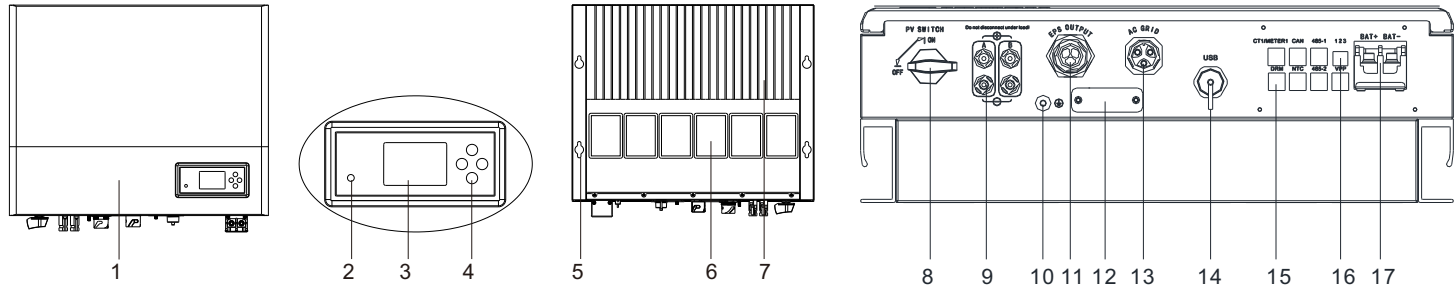


1. Overview

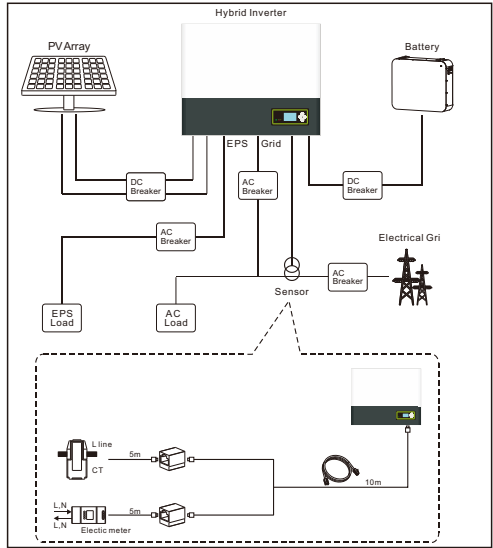


▲ Note:

1. This file will be updated from time to time due to product upgrades or other reasons. Unless otherwise agreed, this document is intended as a guide only. All information and suggestions do not constitute an express or implied warranty. The final interpretation of the content is at Growatt.
2. This document is for quick guidance installation only. For details, please refer to the User Manual.
3. Machine damage caused by failure to follow the content is not covered by the warranty.

2. Installation

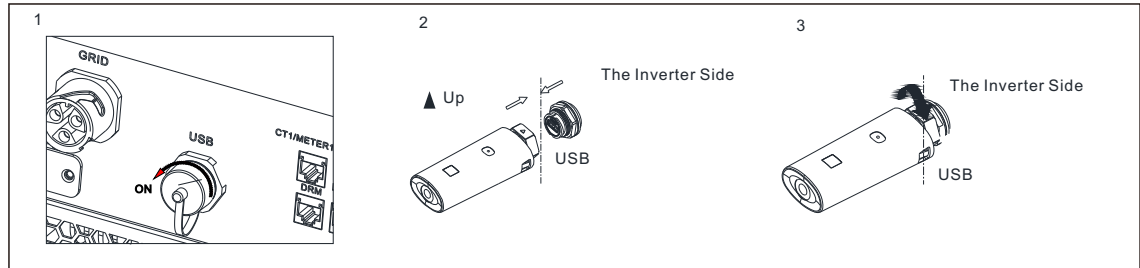
System Overview



▲ Note:

- 1.The installation of this hybrid system needs to comprehensively consider the position of the battery and the power collector.
- 2.You can choose CT or electric meter to connect to the inverter. If there are strict requirements on the limited output power, it is recommended to use an electric meter.

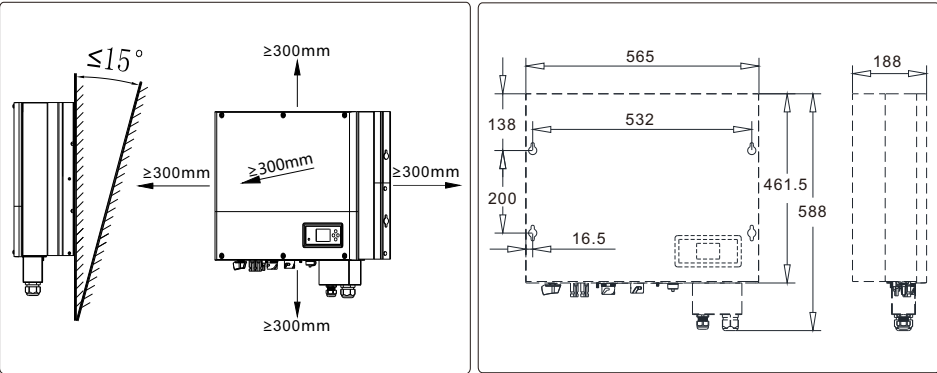
2.3 Monitoring device installation



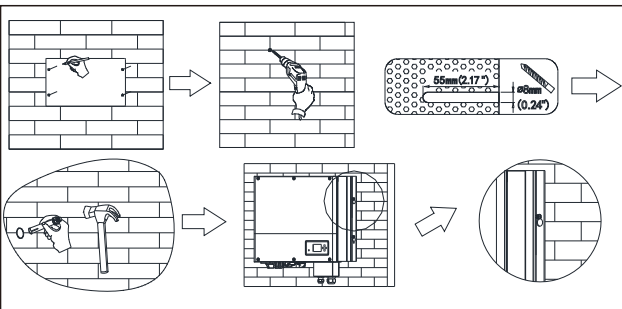
Follow the installation steps:

- 1.Remove the USB waterproof cover.
- 2.Plug in the communication module.
- 3.Lock the communication module.

2.1 Installation requirements



2. 2 Wall mounting



▲ Notes:

Be careful : Avoid water and electricity pipes when punching holes in the wall, otherwise it may be dangerous.

3. Connecting cables

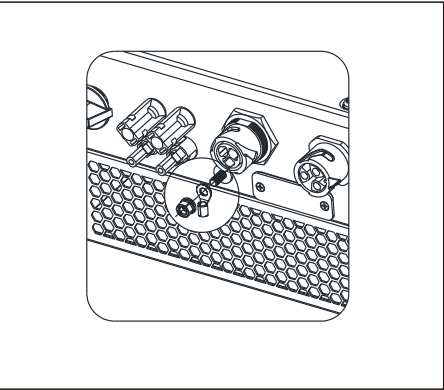
Please prepare the cable before connecting as follows.

Number	Cable name	Type	Recommend module
1	grounding cable	Single multi-core yellow-green copper cable	Cable diameter≥AWG10
2	AC output cable	Two or three different color multi-core copper cables	Cable diameter≥AWG10
3	PV input cable	Photovoltaic dedicated cable(such as PV1-F)	4mm ² - 6mm ²
4	Battery power cable	Red and black multi-core copper	Cable diameter≥AWG6
5	Other communication cable	CAT5E	/

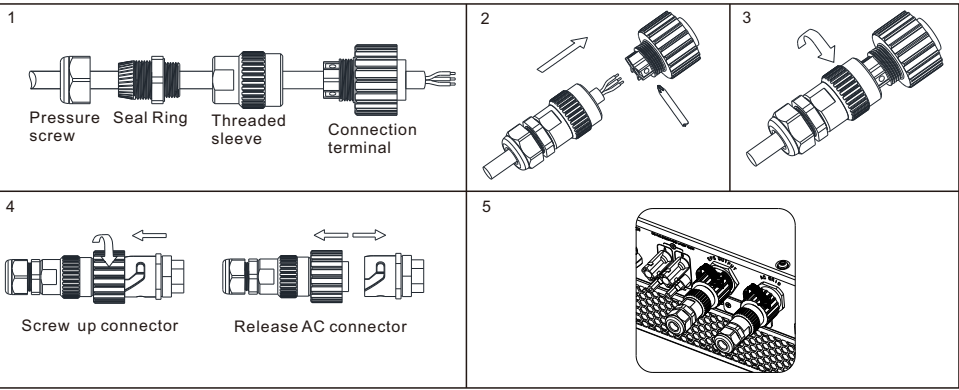
▲ Notice:

- 1.Lithium battery has its own power line and communication line, so use them.
- 2.Hybrid inverter include the basic communication line. So use them directly.
- 3.Please make sure all the switches off before connection. For your safety, please do not operation when power on.

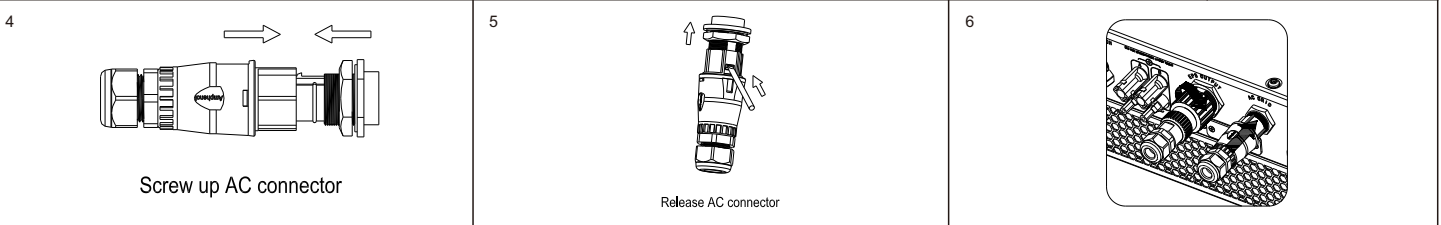
3. 1 Grounding



3.2 AC GRID and UPS output connection

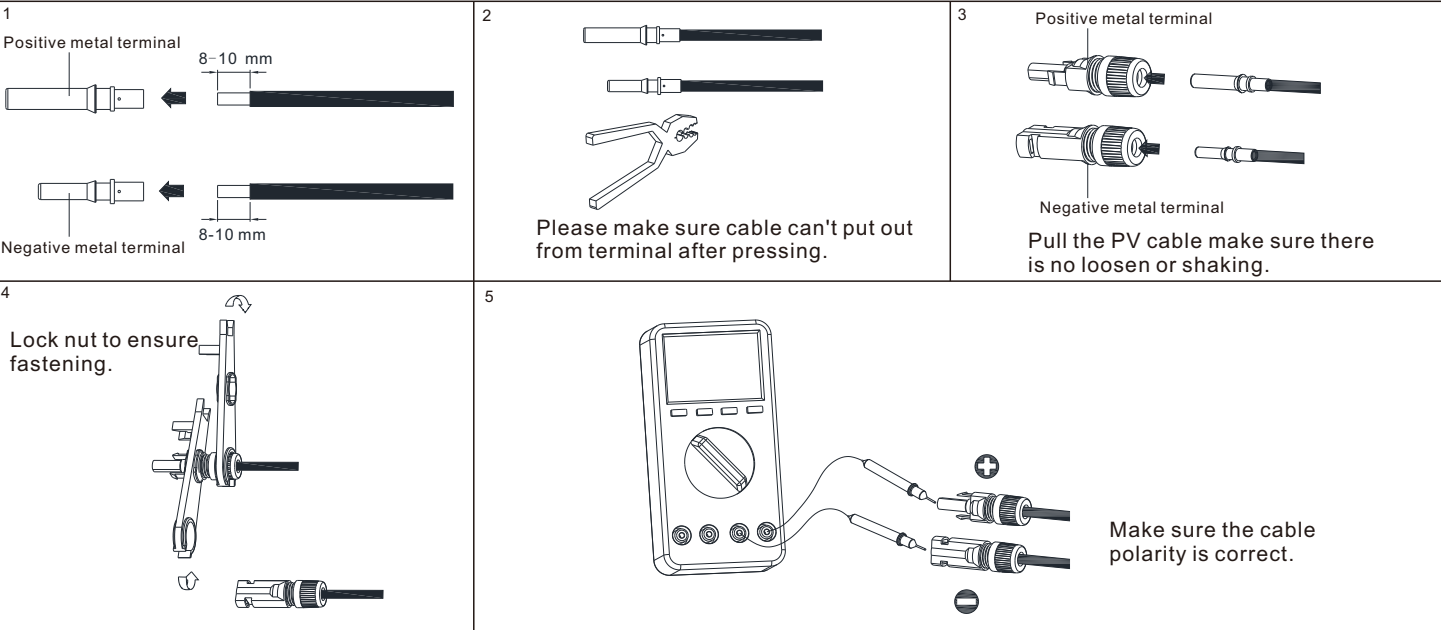


The following diagram shows the AC output terminal of the Australian machine connection steps, EPS output terminal connection steps consistent with the above steps.



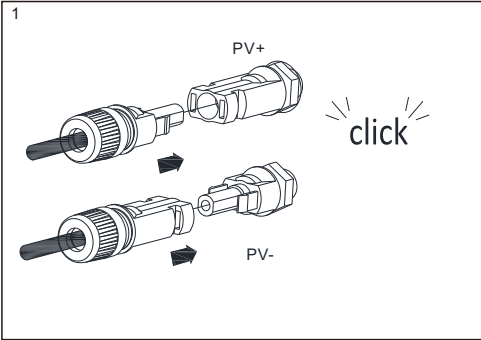
3.3 DC connection

3.3.1 PV input terminal installation

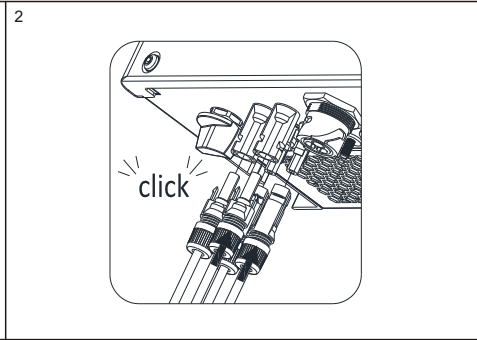


3.3.2 Plug in PV terminal

1



2



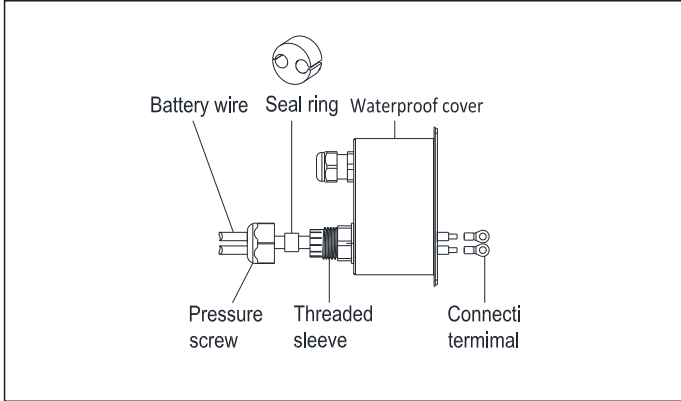
Notes:

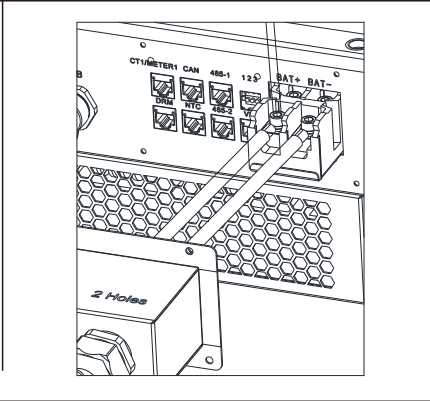
1.Please make sure the PV input voltage/current not beyond the specification before plug in.

2.When installing the PV terminal, pay attention to the distinction between the positive and negative terminals and the one-to-one correspondence between the terminals and hybrid inverter.

3.When the terminal is docked, there is a click sound. After the terminal is docked, gently pull the PV cable to observe whether the terminal is shaking or not.

3.3.3 Battery power line connection





Installation steps as follow:

1.Pass the battery power cables through the tightening nut, waterproof rubber plug and waterproof cover.

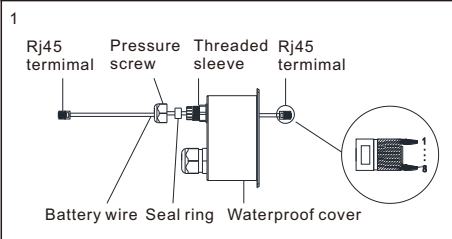
2.Press OT terminal at the end of cables.

3.Connect the power cable to hybrid inverter. Be careful the polarity.

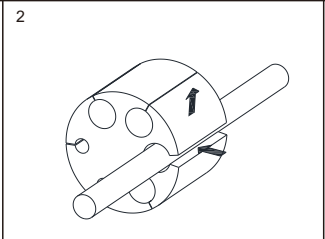
4.Be careful not to tighten the tightening nut at this time. After all the communication cables are installed, tighten them together.

3.3.4 Communication cables installation

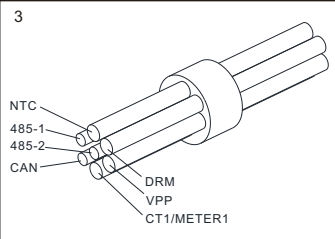
1



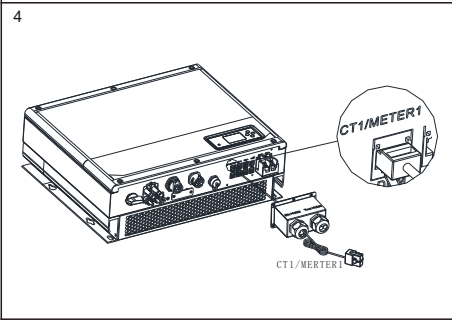
2



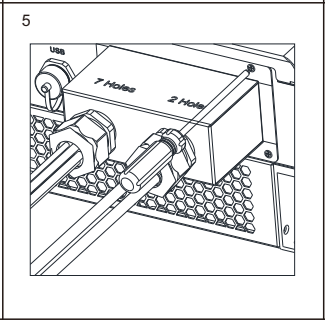
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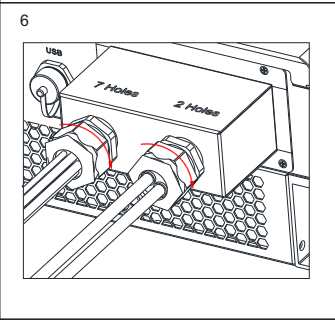
4



5



6



When all the communication lines are installed, push the waterproof cover into the bottom, lock the screws fixed to the frame, and finally lock the waterproof cap.

4. Post-installation check

Number	Acceptance Criteria	Number	Acceptance Criteria
1	Hybrid inverter is installed correctly and firmly	2	shineWiFi-X or shinelink-X or shine4G-X is installed correctly and firmly.
3	Cable wiring is reasonable, meets the requirements, no broken skin, etc.	4	The ground wire confirms the connection and is reliable.
5	All switches off	6	All wires are correct and securely connected.
7	Cable tie port trimming, no sharp corners, etc.	8	All exposed terminals are well protected, no vacant ports.
9	Pay attention to packing all the residual materials.		

5. On off hybrid inverter

Notes:

Before power on, please make sure all of the voltage and current are in the range of specification of hybrid inverter. Otherwise it will be damage to hybrid inverter.

Follow are the steps of turn on actions:

1.Turn on PV switch.

2.Turn on the switch between Grid and hybrid inverter..

3.Turn on the switch between battery and hybrid inverter and wake up battery.

4.If need to setup hybrid inverter. Please turn to user manual of hybrid inverter for detail description.

5.The shutdown steps are opposite to the above order.

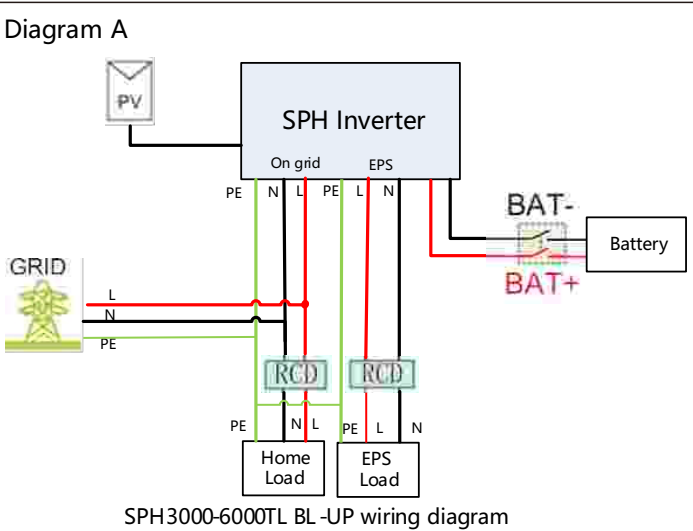
6. Status of hybrid inverter

Customer can read more information by push button. Follow are the instruction of button and LED.

Mark	Description	Explanation	
	Push-button	Operation of display screen and set system	
	Status symbol of SPH	Green light on	SPH run normally
		Red light on	Fault state
		Green light blinking	Alarm state
		Red light blinking	1.Bypass state 2.Software updating

7. Example diagram of N-wire grounding method

Diagram A

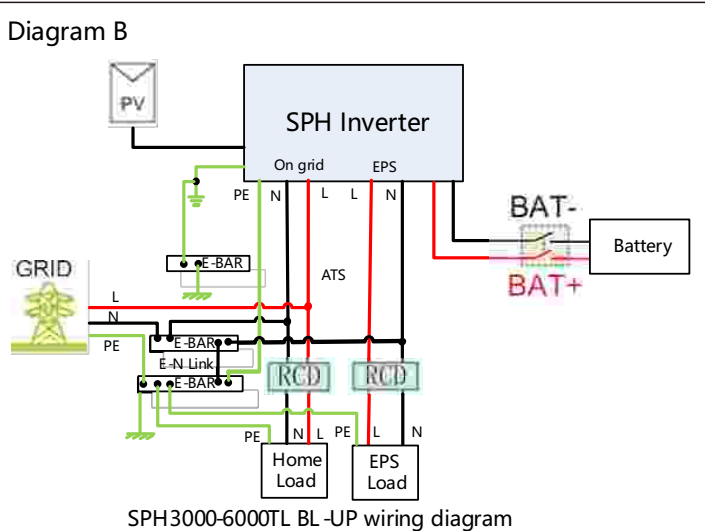


SPH3000-6000TL BL-UP wiring diagram

Note:
This diagram A is an example for grid system without special requirement on electrical wiring connection.

Note:
We suggest you choice the AC breaker of specification 40A/230V and the DC breaker of specification 25A/780V(PV) or 120A/70V(BAT).

Diagram B



SPH3000-6000TL BL-UP wiring diagram

Note:
This diagram B is an example for Australian and New Zealand grid system where neutral line can't be switched.

Note:
You must choose a Type A RCD breaker with the rating residual current more than 300mA.

8. Service and contact

Shenzhen Growatt New Energy Co., Ltd
4-13/F,Building A,Sino-German(Europe) Industrial Park,
Hangcheng Ave, Bao'an District, Shenzhen, China
T +86 0755 2747 1942
E service@ginverter.com
W www.ginverter.com



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