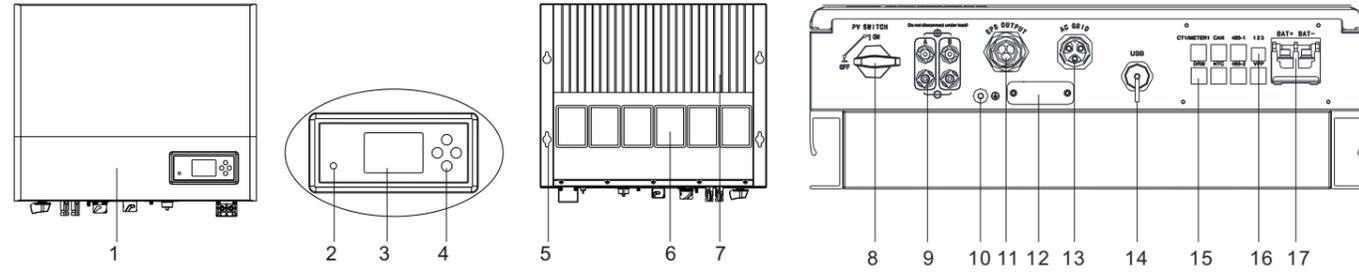


1. Overview

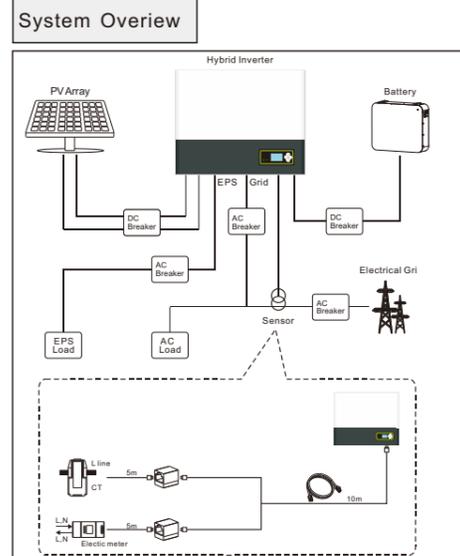


- 1. Front panel
- 2. Double color LED
- 3. LCD screen
- 4. Push button
- 5. Wall hole
- 6. Magnetic devices
- 7. Heat sink
- 8. PV switch
- 9. PV connector
- 10. Grounding screw
- 11. EPS connector
- 12. Reserved hole
- 13. AC grid connector
- 14. USB port
- 15. communication ports
- 16. DIP and Dry connector
- 17. Battery power terminal

⚠ Note:

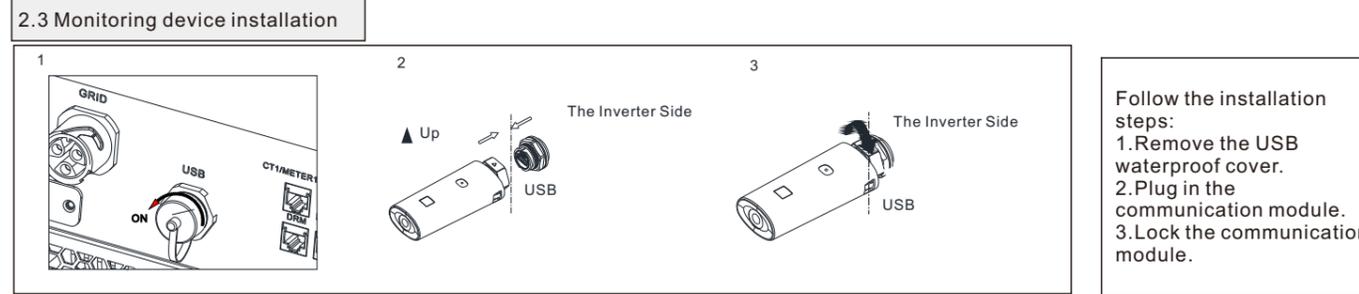
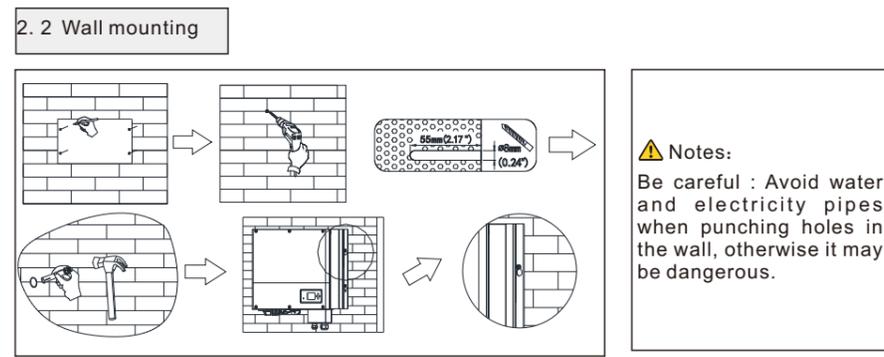
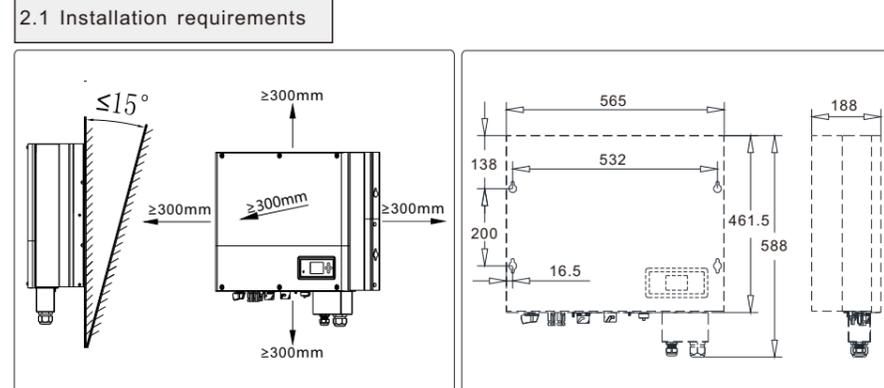
1. This file will be updated from time to time due to product upgrades or other reasons. Unless otherwise agreed, this document is intended as a guide only. All information and suggestions do not constitute an express or implied warranty. The final interpretation of the content is at Growatt.
2. This 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



⚠ 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.



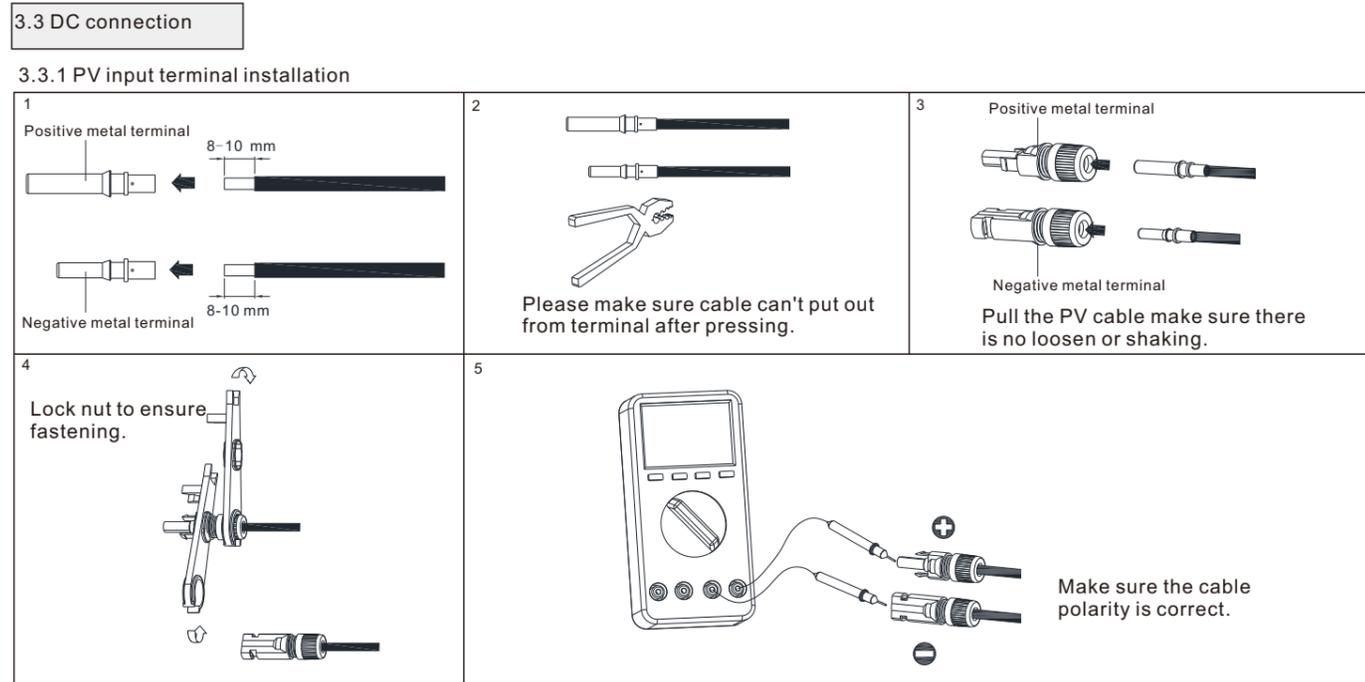
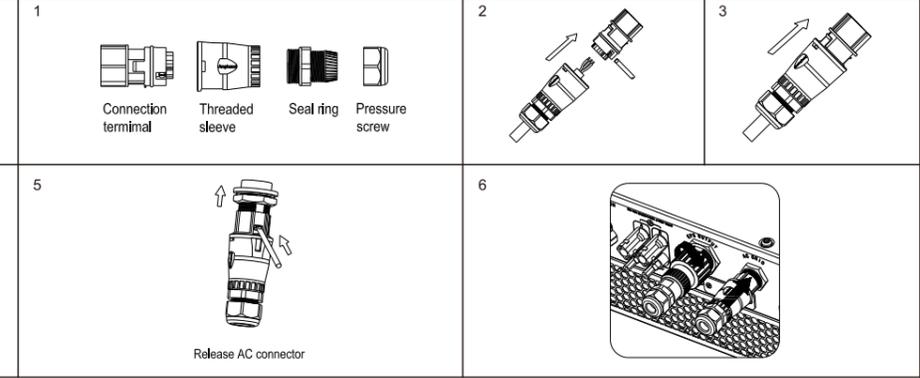
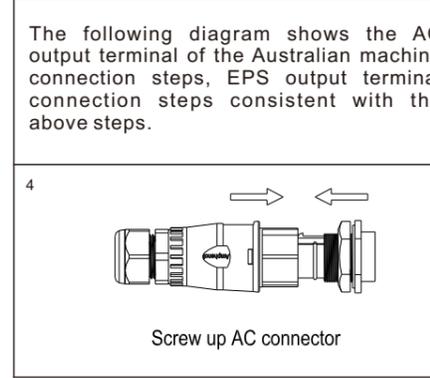
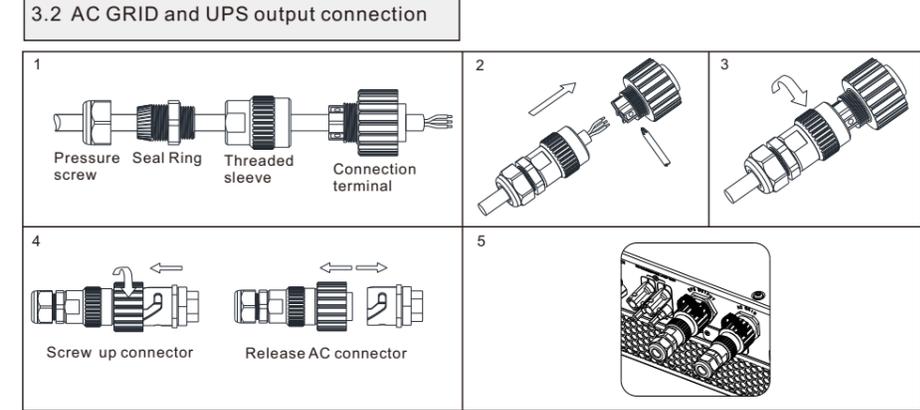
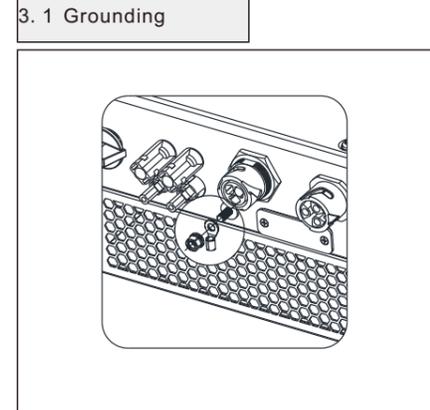
3. Connecting cables

Please prepare the cable before connecting as follows.

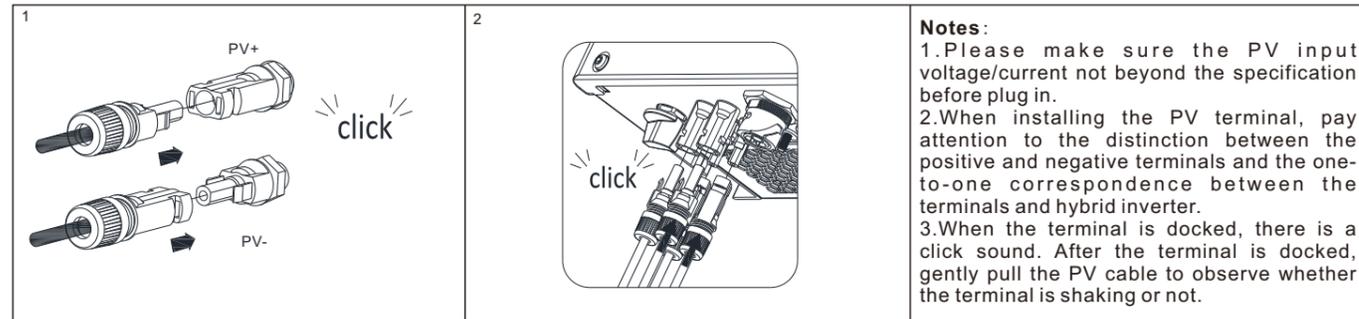
Number	Cable name	Type	Recommend module
1	grounding cable	Single multi-core yellow-green copper cable	Cable diameter ≥ AWG10
2	AC output cable	Two or three different color multi-core copper cables	Cable diameter ≥ AWG10
3	PV input cable	Photovoltaic dedicated cable (such as PV1-F)	4mm ² - 6mm ²
4	Battery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

⚠ Notice:

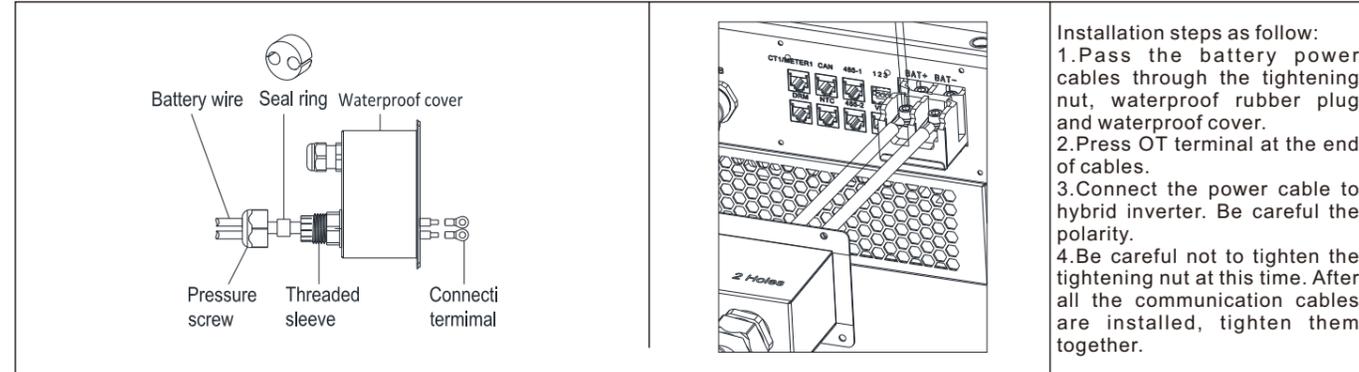
1. Lithium battery has its own power line and communication line, so use them.
2. Hybrid inverter include the basic communication line. So use them directly.
3. Please make sure all the switches off before connection. For your safety, please do not operation when power on.



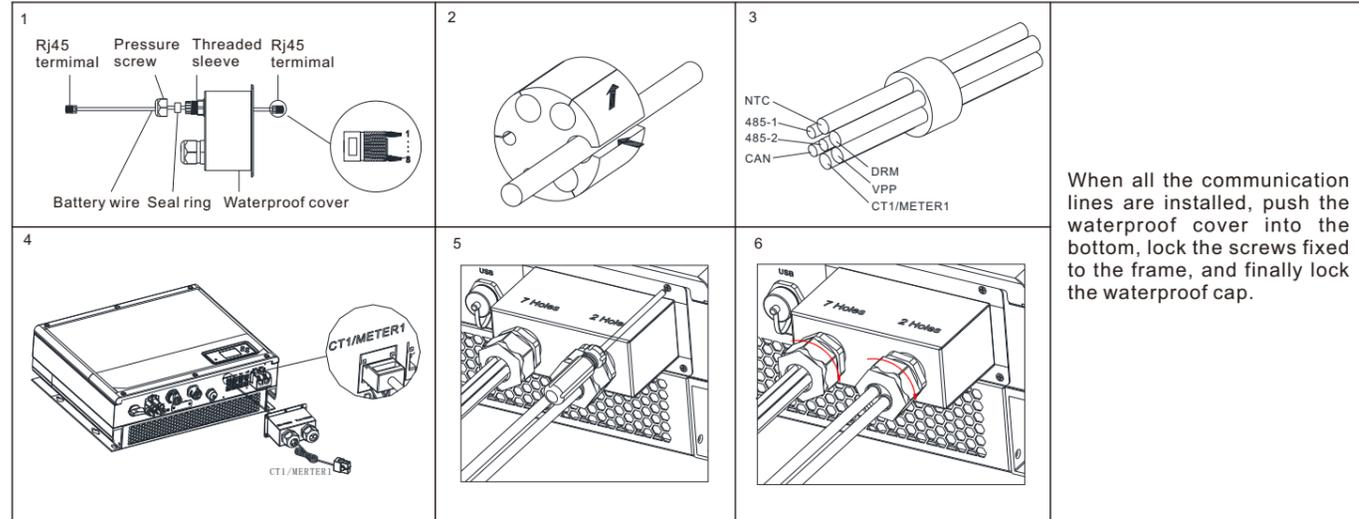
3.3.2 Plug in PV terminal



3.3.3 Battery power line connection



3.3.4 Communication cables installation



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

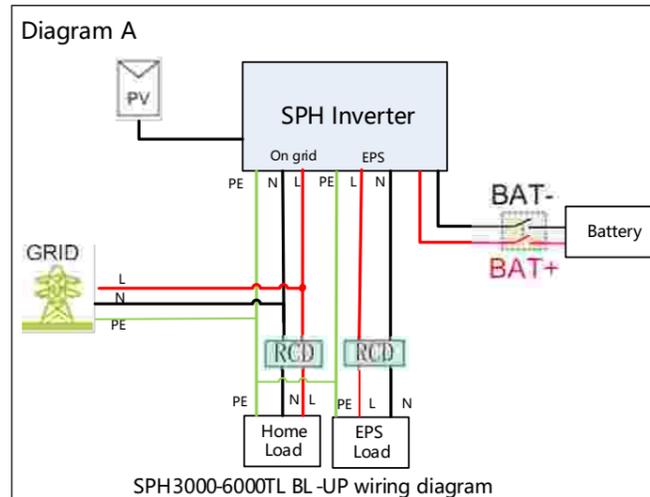
Notes:
 Before power on, please make sure all of the voltage and current are in the range of specification of hybrid inverter. Otherwise it will be damage to hybrid inverter.
 Follow are the steps of turn on actions:
 1. Turn on PV switch.
 2. Turn on the switch between Grid and hybrid inverter..
 3. 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

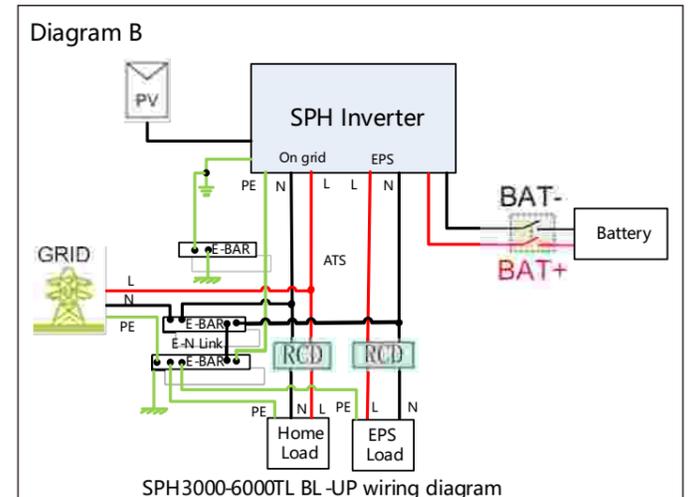
Customer can read more information by push button. Follow are the instruction of button and LED.

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



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).



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

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