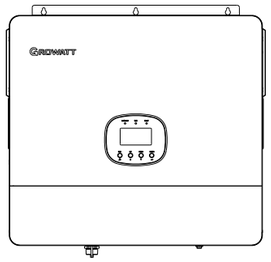
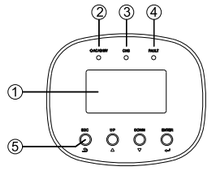
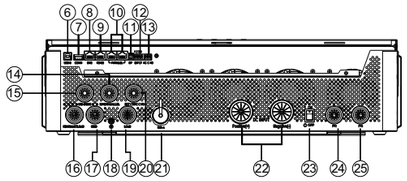
GROWATT

SPE 6000-12000 US Quick Guide

1. General information-specification







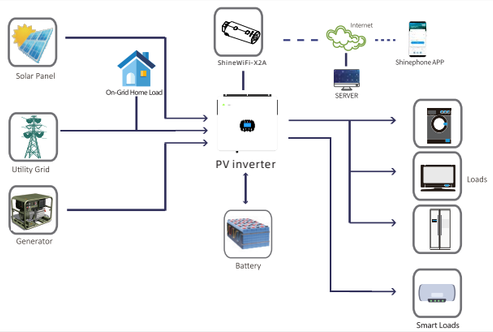
Panel operation	1. LCD display 2. Status indicator 3. Charging indicator 4. Fault indicator 5. Function buttons
Communication port	6. USB 8. BMS (support CAN/RS485) 9. RS485(Reserved, not lithium battery communication) 10. Parallel communication 11. Parallel DIP 12. NC 13. Dry contact 12. WIFI / 4G
Connection port	16. Generator input/ Smart load 17. Grid input 18. PE 19. Load 22. Battery input 24. PV1 input 25. PV2 input
Other	23. Power on/off switch

⚠ Note

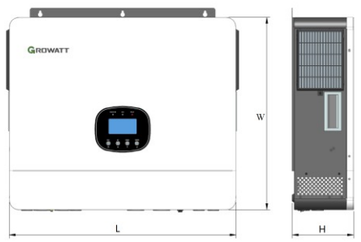
1.Before installing the device, check that the package contents are intact and complete against the packing list. If any damage is found or any component is missing, contact your dealer.
2.This fie will be updated from time to time due to product upgrades or other reasons. Unless otherwise agreed, this 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.
3.This document is for quick guidance installation only. For details, please refer to the User Manual.
4.Machine damage caused by failure to follow the content is not covered by the warranty.

2. Installation

System Overview

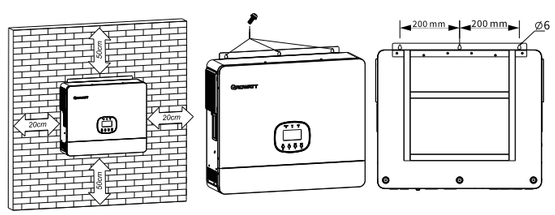


2.1Installation requirements



Dimension	L(mm/inch)	W(mm/inch)	H(mm/inch)
SPE 6000-12000 US	550/21.65	500/19.69	150/5.91

2.2 Wall mounting



1. The ambient temperature should be between -10°C and 50°C to ensure optimal operation.
2. The recommended installation position is to be adhered to the wall vertically.
3.Do not install in too narrow confined space and pay attention to ventilation.
4. Be sure to keep other objects and surfaces as shown in the right diagram to guarantee sufficient heat dissipation and to have enough space for removing wires
5. Suitable for mounting on concrete or other non-combustible surface only.
6. Install the unit by screwing three screws. It's recommended to use M4 or M5 screws.

3. Electronic connection

Please prepare the cable before connecting as follows.

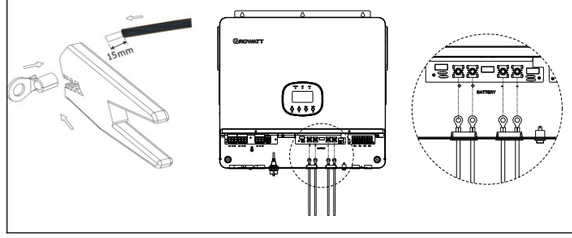
No.	Cable name	Type	Recommend model
1	Battery input wire	Red and black multi-core copper	2*2AWG(12KW/10KW) 2*4AWG(8KW/6KW)
2	AC（Grid 、GEN、 Load） wire	Two different color multi-core copper wires	6AWG
3	PV input wire	Photovoltaic dedicated cable	10AWG
4	Grounding wire	Single multi-core yellow-green copper wire	10AWG
5	Other communication	CAT5E suggested	/

⚠ Note

Please make sure all switches are OFF before wiring.
For personal safety, please do not operate with electricity.

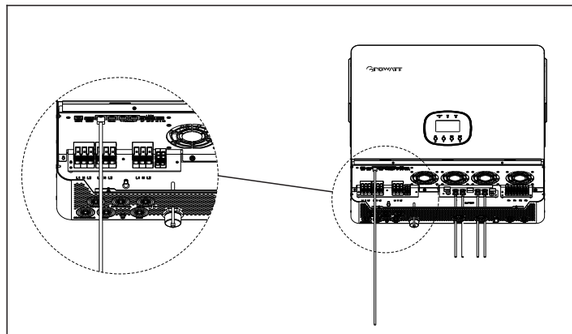
3.1 Battery module connection

3.1.1 Battery connection



1. Strip 0.59 inches (15 mm) of the battery cable insulation.
2. Insert the battery cable into the open crimping pliers.
3. Insert the tubular terminal and press the crimping pliers to remove the battery cable.
4. According to the labels on the terminal blocks (BAT+, BAT-), connect the battery cable to the corresponding terminal blocks.
5. Use a suitable screwdriver to install the battery cable and tighten the tightening bolts in a clockwise direction.
Note: It is strictly forbidden to connect the positive and negative poles of the battery input terminals reversely!

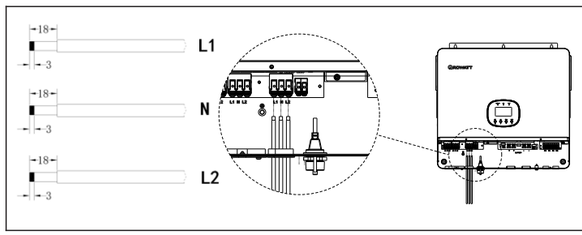
3.1.2 BMS communication connection



1.Connect one end of the BMS communication cables to the BMS communication port in the inverter junction box.
Note1: Lithium battery communication can only be connected to the BMS port (support CAN/RS485), Cannot connect to RS485 port, the RS485 port is a reserved communication port.
Note2: In order to ensure the normal communication of lithium battery BMS, please set the battery type as "Li" in program 5, and then LCD will automatically switch to program 36 to select the communication protocol. You can Choose RS485 communication protocol which is from L01 to L50, and you can also choose CAN Communication protocol which is from L51 to L99. (About the specific protocol address of the inverter, please consult the dealer or manufacturer to choose which communication protocol to match the BMS).

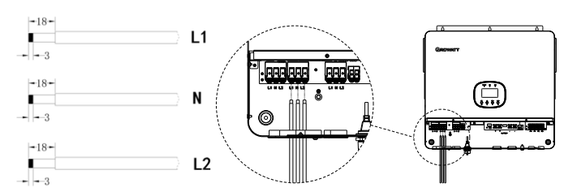
3.2 AC input and output connection

3.2.1 Load connection



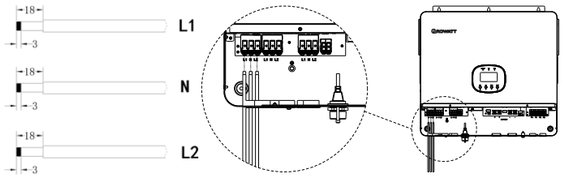
The AC circuit breaker must be turned off before connecting the generator, grid and load ports.
1. Strip 0.7 inches (18 mm) of the AC cable insulation.
2. According to polarities indicated on terminal block and ensure that the buckle presses the wire tightly.

3.2.2 Grid connection



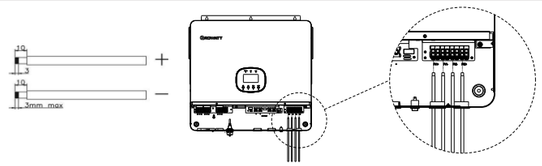
The AC circuit breaker must be turned off before connecting the generator, grid, load and smart load ports.
1. Strip 0.7 inches (18 mm) of the AC cable insulation.
2. According to polarities indicated on terminal block and ensure that the buckle presses the wire tightly.

3.2.3 Generator or Smart load connection



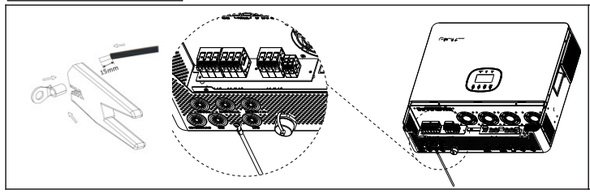
The AC circuit breaker must be turned off before connecting the generator, grid, load and smart load ports.
1. Strip 0.7 inches (18 mm) of the AC cable insulation.
2. According to polarities indicated on terminal block and ensure that the buckle presses the wire tightly.

3.3 PV Module connection



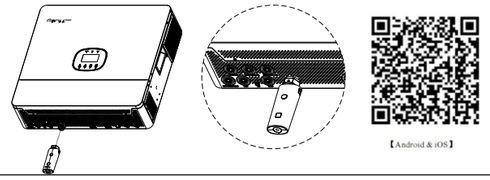
The PV circuit breaker must be turned off before connecting the PV ports
1.Strip 0.39 inches (10 mm) of PV cable insulation
2. According to polarities indicated on terminal block (PV1+, PV1-) (PV2+, PV2-), and ensure that the buckle presses the wire tightly.
Note: It is strictly forbidden to connect the positive and negative poles of the PV input terminals reversely.

3.4 Grounding



The Ground cable should be connected to the ground terminal to prevent electric shock.
1. Strip 0.39 in. (10 mm) of the ground cable insulation.
Open the bolt, connect the ground cable and tighten the bolt clockwise with screwdriver.
Note: Make sure the Ground cable is connected to the ground terminal

3.5 WIFI Connection



WIFI Monitoring
Plug cube WIFI into the USB-A port. Scan the QR code below to download, ShinePhone, also you can search ShinePhone in iOS or Google Play Store, download and install it.
Note:
1. Make sure you download the latest version.
2. For further information please visit server. growatt.com

4. Checking before power on

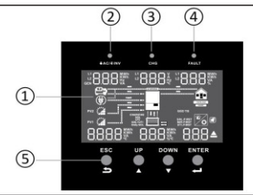
No	Check Item	Acceptance Criteria
1	Inverter installation	The inverter is installed correctly, securely and reliably.
2	Cable layout	Cables are routed properly as required by the customer.
3	Cable tie	Cable ties are secured evenly, with no sharp protrusions.
4	Grounding	The ground cable is connected correctly securely, and reliably.
5	Cable connections	The battery cable, AC cable, PV cable, Ground cable, and other signal cable are connected correctly, securely, and reliably.
6	The cleanliness of the wiring box	Please make sure the wiring box is clean and tidy.
7	Installation environment	An appropriate installation space has been chosen, and the installation environment is clean and tidy.

5. Power on/off the inverter

Before power on, please make sure all of the voltage and current are in the range of specification of the inverter. Otherwise it will be damage to the inverter.
The steps of turn on the inverter as follow:
1. Turn on the switch between battery and the inverter.
2. Turn on the inverter switch, wait about 40 seconds, inverter output.
3. Turn on the switch between PV and the inverter.
4. Turn on the switch between Grid and the inverter.
5. If need to setup the inverter, please turn to user manual of the inverter for detail description.
6. The shutdown steps are opposite to the above order.

6. Display Panel Introduction

The operation and display panel, shown in below chart, is on the front panel of the inverter. It includes three indicators, four function keys and a LCD display, indicating the operating status and input/output power information.



① LCD display
② Status indicator
③ Charging indicator
④ Fault indicator
⑤ Function buttons

LED Indicator			Messages
AC / INV	Green	Solid On	Output is powered by utility in Line mode.
		Flashing	Output is powered by battery or PV in battery mode.
CHG	Green	Solid On	Battery is fully charged.
		Flashing	Battery is charging.
⚠ FAULT	Red	Solid On	Fault occurs in the inverter.
		Flashing	Warning condition occurs in the inverter.

7. Routine Maintenance

To ensure the long-term and good operation of the energy storage system, it is recommended to perform the routine maintenance as described in this section (Cleaning and maintenance of the inverter must be carried out with the power supply disconnected to ensure personal safety.)

Items	Methods	Maintenance interval
System cleanliness for inverter	Regularly check the surface of the inverter for dust or other debris and clean it with a dust sponge.	Once every six months to one year
	Regularly check that radiators and vents are not covered with dust and clean them with a soft brush or compressed air. Remove the dustproof cotton at the air inlet and clean it.	Once every 3 months.
Electrical connection	Check if any cable connection is off or loose.	Half a year after first debugging and testing, and once every six months to one year thereafter.
	Check if any cable is damaged, and especially if there are cuts on the sheath where the cable contacts with the metal surface.	
	Check the internal circuit boards and components of the inverter for abnormalities, such as damage, discoloration, etc., and repair and replace them in a timely manner.	
Grounding reliability	Check if the grounding cable is grounded reliably.	
Normal operation	Periodically check the input voltage、output voltage and current of the inverter to ensure that it is operating within its rated range.	
	Regularly check the operating status and performance parameters of the inverter via the inverter's monitoring system or display.	
Other Maintenance	Ensure that the inverter is installed in a dry, well-ventilated environment, protected from humidity, heat or excessive dust. If the energy storage is installed in areas with salt damage, it will be corroded and may cause fire. Therefore, do not install it outdoors in areas with salt damage. The areas with salt damage are defined as the areas which are not 500m away from shore or will be affected by sea breezes. The areas affected by the sea breezes vary depending on meteorological conditions (e.g. typhoons, monsoons) or topographical conditions (dams, hills).	

8. Display Panel Introduction

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