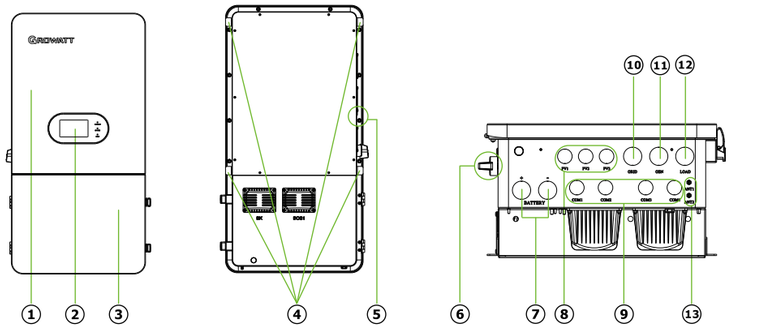
SPH 10000TL-HU-US(B) Quick Guide

1. General Information-specification



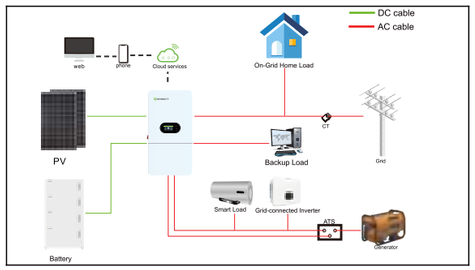
(1). Host panel
(2). LCD display
(3). Wiring box cover
(4). Wall mounting hole
(5). Power On/Off button
(6). PV switch
(7). Battery input port
(8). COM port
(9). PV input port
(10). GRID port
(11). GEN port
(12). LOAD port
(13). Antenna port

Note:

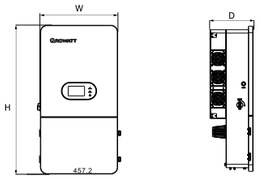
1.Before installing the device, check that the package contents are intact and complete against the packing list If any damage is found or any component is missing, contact your dealer.
2.This guide will be updated from time to time due to product upgrades or other reasons. Unless otherwise agreed this document is intended as a quide only. All information and suggestions do not constitute an express or implied warranty. The final interpretation of the content is at Growatt's discretion.
3.This document is for quick installation guide 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

2.1 System Overview



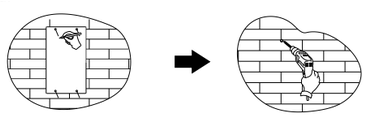
2.2 Installation requirements



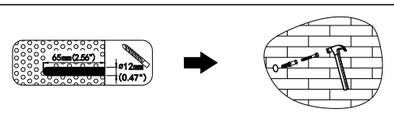
Dimension	W(mm/inch)	H(mm/inch)	D(mm/inch)
SPH 10000TL-HU-US(B)	457.2/18.00	855.0/34.41	257.0/10.07

2.3 Wall mounting

1. Please make sure that the thickness of the wall for inverter installation is more than 70mm.
2. Place the mounting template horizontally on the wall, Make sure it is aligned.



3. Please mark the holes in the 4 mounting holes of hole pattern.
4. Drill a 65 mm deep hole at the marking with a 12 mm drill bit.



5. Please knock the expansion screw rubber sleeve into the hole on the wall, and then screw on the Expansion screw.
6. Please hang the inverter on the expansion screws, and then tighten the expansion screws.



3. Electronic connection

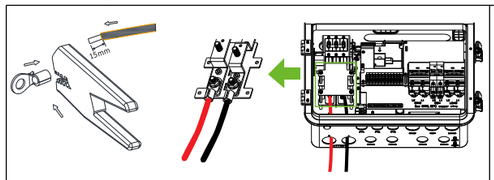
Please prepare the cable before connecting as follows.

NO.	Cable name	Type		Recommend model
1	Battery input wire	Red and black multi-core copper		2/0AWG or 4/0AWG
2	AC (Grid, GEN, Load) wire	Two different color stranded wire		6AWG
3	PV input wire	Photovoltaic dedicated cable		10AWG
4	Grounding wire	Single yellow-green stranded wire		12AWG
5	Meter communication cable	RS485 A+	Min.3-wire shielded twisted pair	0.2-1 ㎟/ 24-18 AWG
		RS485 B-		
6	Other communication	CAT5E suggested		/

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

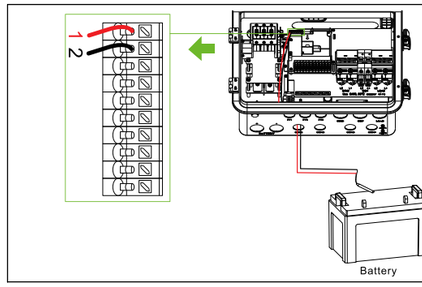
3.1 Battery module connection

3.1.1 Battery connection



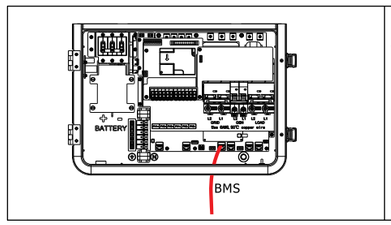
1.Strip 0.59 inches (15 mm) of the battery cable insulation.
2.Insert the battery cable into the open crimping pliers.
3.Insert the tubular terminal and press the crimping pliers.
4. According to the labels on the terminal blocks(BAT+ BAT-),connect the battery cable to the corresponding terminal blocks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

3.1.2 Temperature sensor connection for lead-acid battery



1. Connect one end of the temperature sensor cable to the function port(1 red 2 black) in the wiring box.
2.Take the other end of the temperature sensor cable from hole com1 and attach it to the lead-acid battery.
The connection steps are shown on the left.
Note: Only for Lead-acid battery.

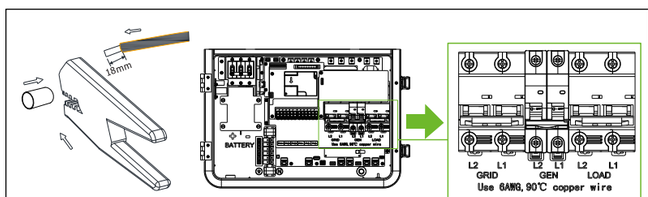
3.1.3 RS485 and CAN connection



1.Connect one end of the BMS communication cables to the BMS communication port in the inverter wiring box.
2.Lead the other end of the BMS communication cables from hole COM2 and connect it to the lithium battery communication port.
The connection steps are shown on the left.

Note: Only for lithium battery.

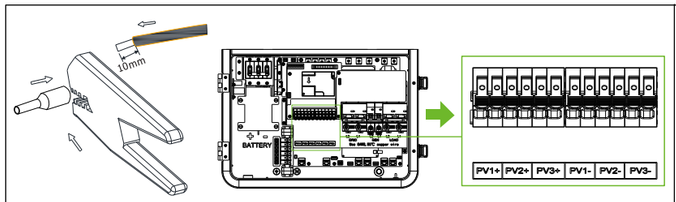
3.2 Grid connection, generator connection and load connection



The AC circuit breaker must be turned off before connecting the grid, load and generator ports.
1.Strip 0.7inches(18 mm)of the AC cable insulation.
2.Insert the AC cable into the open crimping pliers.
3.Insert the tubular terminal and press the crimping tool.
4. According to the labels on the terminal blocks (Grid - L1, N, L2)(GEN -L1,N, L2)(Load - L1, N, L2), insert the AC cable directly into the corresponding terminal block through the circular opening.

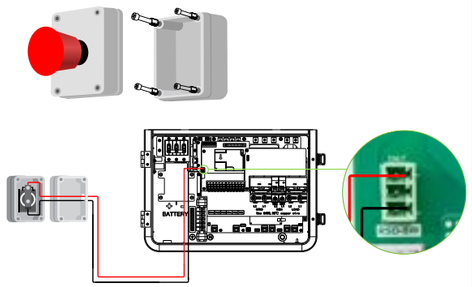
3.3 PV Module connection

3.3.1 PV connection



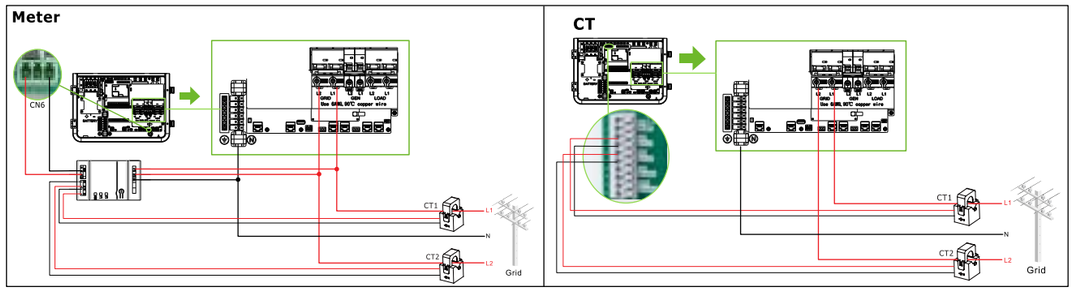
1.Strip 0.39 inches(10 mm) of PV cable insulation.
2.Insert the PV cable into the open crimping pliers.
3.Insert the tubular terminal and press the crimping pliers.
4. According to the labels on the terminal blocks (PV1+, PV1-)(PV2+, PV2-)(PV3+, PV3-), insert the PV cable directly into the corresponding terminal block through the circular opening.
Note: It is strictly forbidden to connect the positive and negative poles of the PV input terminals reversely.

3.3.2 Rapid shutdown



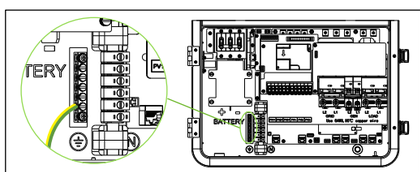
1. Mounting the RSD initiation switch
a. Using a Philips head screwdriver, unscrew the 4 plastic screws of the assembled RSD initiation switch to open the enclosure.
b. Use the base of the enclosure to mark 4 holes on the wall and drill the holes out. Insert the wall anchors into the holes.
c. Align the holes of the RSD initiation switch base with the holes in the wall. Using a Philips screwdriver, screw the self tapping screws through the enclosure base into the wall anchors.
2. Wiring the RSD initiation switch
a. Install RSD switch wire to the COM input ,use appropriate conduit fittings and bond where necessary. Run the signal wire.
b. Connect the wire to the RSD switch as shown.
c. Reinstall the RSD initiation switch cover and tighten the plastic screws to secure.
d. Remove the 3-pin connector from terminal CN17 and remove the jumper across the pins.
e. Insert the wire in the 3-pin conductor's positions 1 and 3, as shown.
f. Replace the connector in the terminal CN17 and replace the inverter wire box cover.

3.4 Meter or CT Connection



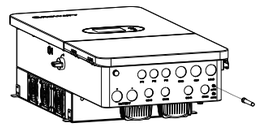
CT connection note:
Connect the white line of CT1 to the functional port No. 3, and the black line to the functional port No, 4. Before installing the CT to the live wire, please make sure that the CT is connected to the inverter port correctly. Connect CT1 to Grid L1 and make sure that the arrow points from CT to load.
Connect the white line of CT2 to the functional port No, 5, and the black line to the functional port No, 6. Before installing the CT to the live wire, please make sure that the CT is connected to the inverter port correctly. Connect CT2 to Grid L2 and make sure that the arrow points from CT to load.
The default CT direction is the arrow on the CT pointing from the grid to the machine.
The CT direction is settable.

3.5 Grounding



The Ground cable should be connected to the ground terminal on the grid side to prevent electric shock.
1. Strip 0.39 in.(10 mm) of the ground cable insulation.
2.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.

3.6WIFI Connection



1.Take out the antenna from the inverter accessory bag.
2.Install the antenna to the position marked in the picture on the left.

4.Checking before power on

No	Check Item	Acceptance Criteria	No	Check Item	Acceptance Criteria
1	Inverter installation	The inverter is installed correctly, securely and reliably.	6	Cable connections	The battery cable, AC cable,PV cable, Ground cable, and other signal cable are connected correctly, securely, and reliably.
2	Cable layout	Cables are routed properly as required by the customer.	7	Unused terminals and ports	Unused terminals and ports are fitted with waterproofing bolts or watertight caps or drill guide unopened.
3	Cable tie	Cable ties are secured evenly, with no sharp protrusions.	8	Cable routing pipe sealing	All cable routing pipes at the bottom of the enclosure are sealed.
4	Grounding	The ground cable is connected correctly securely,and reliably.	9	The cleanliness of the wiring box	Please make sure the wiring box is clean and tidy
5	Switches	Switches connecting to the SPH 10000TL-HU-US are in the OFF position.	10	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 breaker between battery and the inverter.
2. Turn on the PV switch.
3. Turn on the backfeed breaker between Grid and the inverter.
4. If need to setup the inverter, please refer to chapter 7 of inverter's user manual for details.
5. The shutdown steps are opposite to the above order.

6.Status of the inverter

Inverter comes with three LED indicators. From the front cover top to bottom, it shows the indicator of AC/INV Charge and Fault.

LED Indicator			Messages
AC/INV	GREEN	Light	Powered by AC
		Flicker	Powered by DC
CHARGE	GREEN	Light	Full battery
		Flicker	Charging
FAULT	RED	Light	Error
		Flicker	Warning

7.Service and contact

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