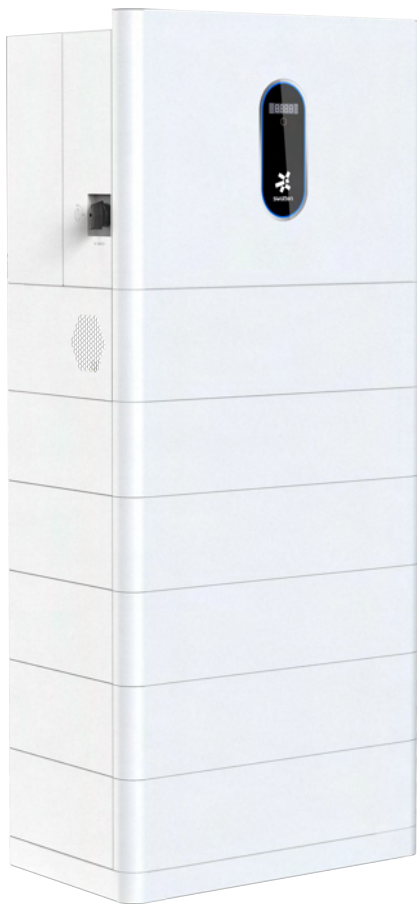
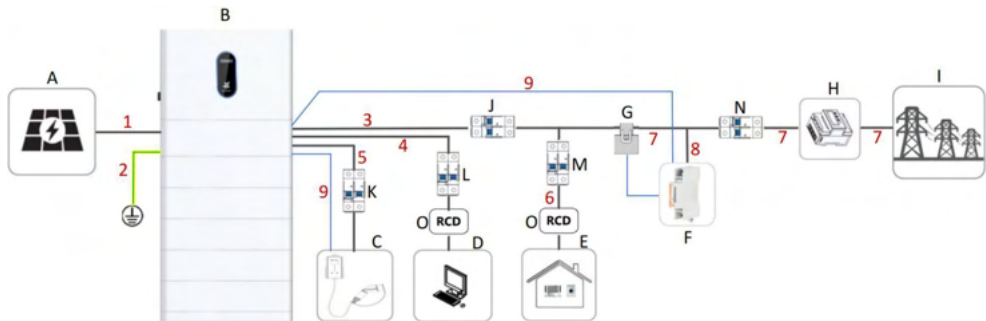




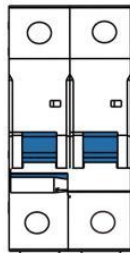
Quick Start Guide

All-in-one sys-8/10kW-SH

Electrical Connection Overview



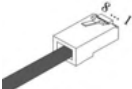
No.	Description	Reference
A	PV strings.	
B	All in one sys. (Inverter)	
C	AC charger.	
D	EPS loads, or named backup loads.	
E	NORMAL loads.	
F	Smart energy meter.	
G	Current Transformer (1 CT) of the smart energy meter.	
H	Main meter.	
I	Grid	
J	AC breaker of inverter GRID terminal.	≥63A. Depending on Maximum EPS loads and Maximum Taking Power setting in APP.
K	AC breaker of AC charger.	≥63A.
L	AC breaker of EPS loads.	≥63A. Depending on Maximum EPS loads.
M	AC breaker of NORMAL loads.	≥63A. Depending on the NORMAL loads.
N	AC breaker of Grid.	≥63A. Depending on Maximum loads(EPS+ NORMAL) and Maximum Taking Power setting in APP.
O	RCD	30mA, or refer to local regulation.



Note:

1. NORMAL loads include generators, such as another inverter.
2. All the AC breaker and RCD must Comply with local regulation.

Additionally required wires

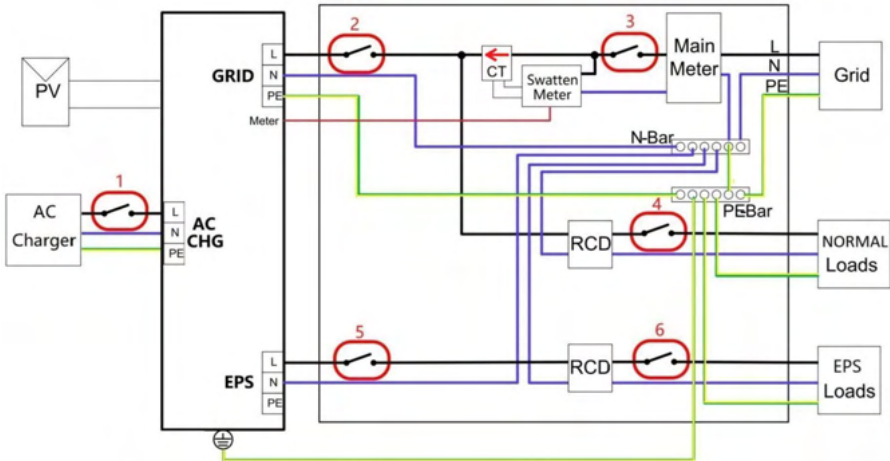
No.	Required Materials	Type	Cross-section
1	PV cable 	Outdoor multi-core copper wire cable complying with 600V and 16A standard.	4-6mm²
2	Grounding cable 	Outdoor single-core copper wire cable. Conventional yellow and green wire	6mm ² , the same as that of the PE wire in the AC cable.
3	Inverter Grid cable	Outdoor 3-core copper wire cable	10-16mm² (Recommend 16 mm ²)
4	EPS Loads cable	Outdoor 3-core copper wire cable	10-16mm² (Recommend 16 mm ²)
5	AC charger cable	Outdoor 3-core copper wire cable	10-16mm² (Recommend 16 mm ²)
6	NORMAL loads cable	Outdoor 3-core copper wire cable	10-16mm² (Recommend 10 mm ²)
7	Grid cable	Outdoor 3-core copper wire cable	10-16mm² (Recommend 16 mm ²)
8	Smart meter power cable		0.5-1.5mm²
9	Communication cable 	CAT 5E outdoor, shielded network cable	0.08-0.2mm²

Notice

In case local regulations impose specific requirements for cables, follow the cable specifications mandated by those regulations.

Cable selection should take into consideration factors such as rated current, cable type, routing method, ambient temperature, and maximum expected line loss.

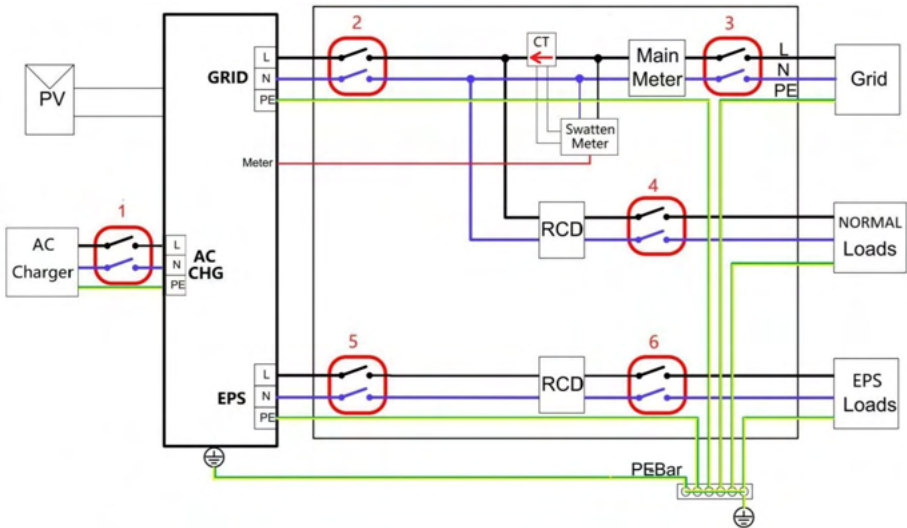
Backup Wiring Diagram (For AU / NZ / SA)



Note:

1. The PE wire of EPS terminal is not required for Australia, New Zealand and South Africa.
- 1-6: AC breaker, refer to Electrical Connection Overview.
3. All the AC breakers and RCD must comply with local regulation.
4. As shown in the above figure, the arrow on the CT must point to the load side.

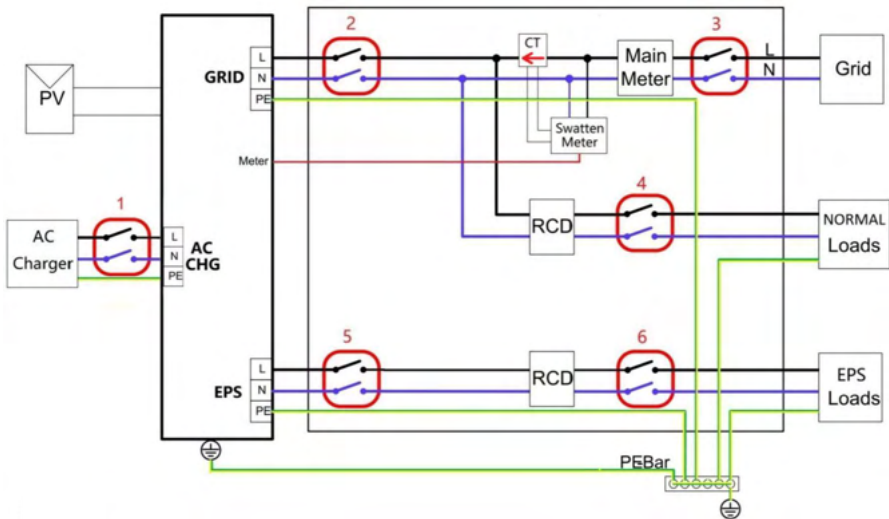
Backup Wiring Diagram (For Other Countries)



Note:

1. 1-6: AC breaker, refer to Electrical Connection Overview.
2. All the AC breakers and RCD must comply with local regulation.
3. As shown in the above figure, the arrow on the CT must point to the load side.

Backup Wiring Diagram (For TT System)



Note:

- 1-6: AC breaker, refer to Electrical Connection Overview.
- All the AC breakers and RCD must comply with local regulation.
- As shown in the above figure, the arrow on the CT must point to the load side.

Notice

- The contents may be updated or revised periodically due to product development. The information within this guide is subject to change without prior notification. In no circumstances can this guide replace the user manual or associated notes of the device.
- Before installing the equipment, ensure that you carefully read, thoroughly understand, and strictly abide by the detailed instructions in the user manual and other relevant regulations. The user manual can be downloaded by accessing the website at www.swatten.com, or it can be acquired by scanning the QR code on the back cover of this guide.
- All operations must be carried out solely by qualified personnel. These personnel must have received training in the installation and commissioning of electrical systems, be capable of handling potential hazards, and possess knowledge of the manual as well as local regulations and directives.
- Before commencing installation, check that the items in the package are intact and complete in comparison with the packing list. In case of any damaged or missing components, contact Swatten or the distributor immediately.
- The cable used must be in good condition and well insulated. Operating personnel must wear appropriate personal protective equipment (PPE) at all times.
- Any violation may lead to personal injury, death, or damage to the device, and will invalidate the warranty.

Safety

The inverter has been designed and tested in strict accordance with international safety regulations. Read all safety instructions attentively before starting any work and adhere to them constantly when working on or with the inverter. Incorrect operation or work may cause:

- Injury or death to the operator or a third party;
- Damage to the inverter or other properties.

Please comply with the safety instructions related to the PV strings and the utility grid.

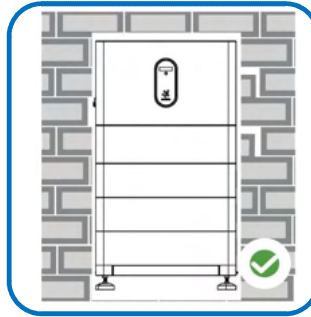
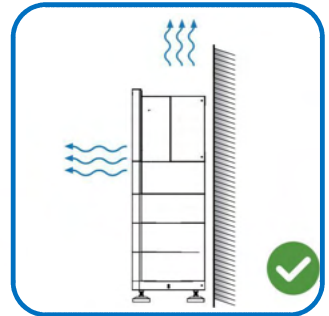
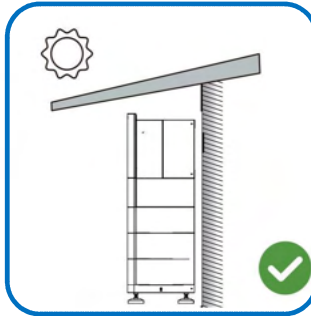
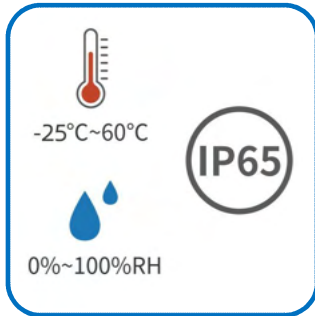
Installation Tool Requirements

The following tools are recommended when installing the equipment. Use other auxiliary tools on site if necessary.

				
Goggles	Safety shoes	Safety gloves	Dust mask	RJ45 crimping tool
				
Diagonal pliers	Wire stripper	Hammer drill	Heat gun	DC terminal crimping tool
				
Marker	Level	Heat shrink tube	Rubber hammer	DC wiring wrench
				
Multimeter	Cable tie	M3/M5 Torque wrench	Vacuum cleaner	

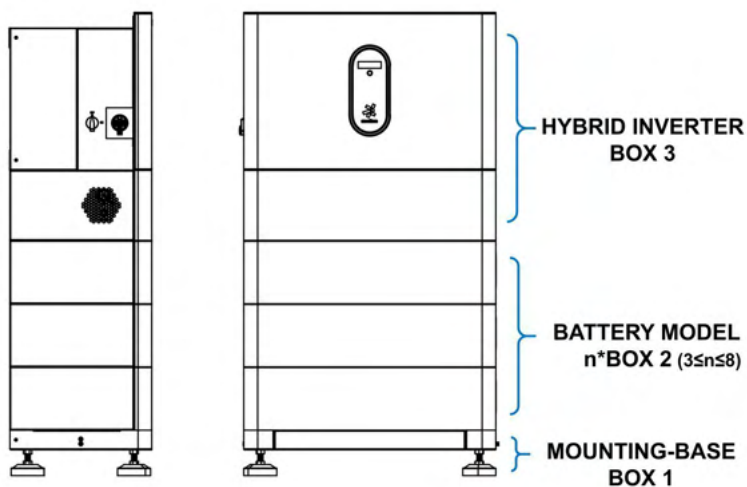
Installation Environment Requirements

1. Do not install the equipment in an area close to flammable, explosive, or corrosive materials.
2. Install the equipment on a surface that is solid enough to bear the equipment weight.
3. Install the equipment in a well-ventilated place to ensure good dissipation. Also, the installation space should be large enough for operations.
4. The equipment with a high ingress protection rating can be installed indoors or outdoors. The temperature and humidity at the installation site should be within the appropriate range.
5. Install the equipment in sheltered areas to provide protection from sunlight, rain, and snow.
6. Install the equipment in a place that is not accessible to children to ensure their safety. High temperature exists when the equipment is working. Do not touch the surface to avoid burning.
7. Install the equipment at a height that is convenient for operation and maintenance, electrical connections, and checking indicators and labels.
8. Install the equipment away from electromagnetic interference.

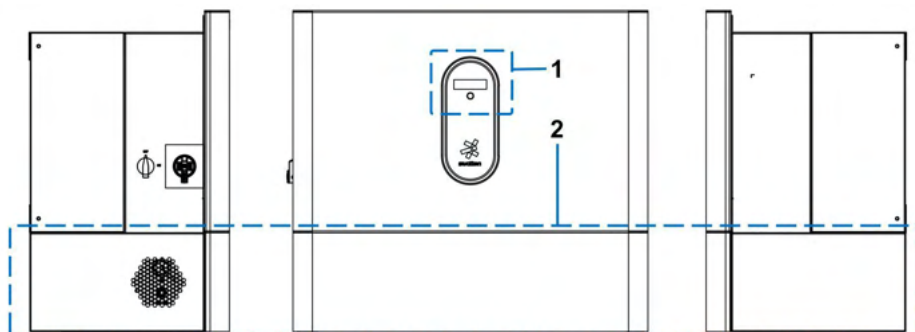


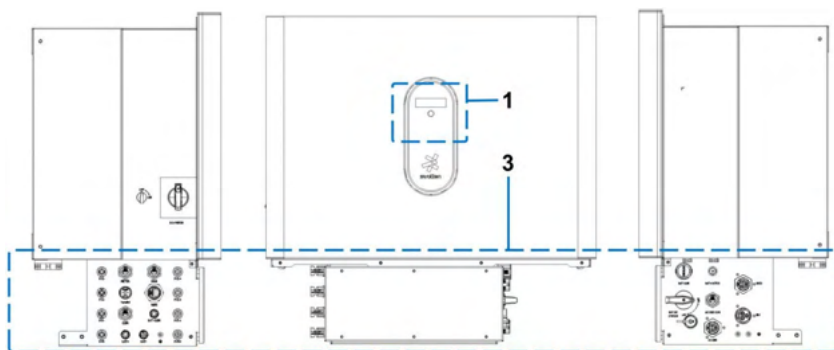
PRODUCT OVERVIEW

Appearance



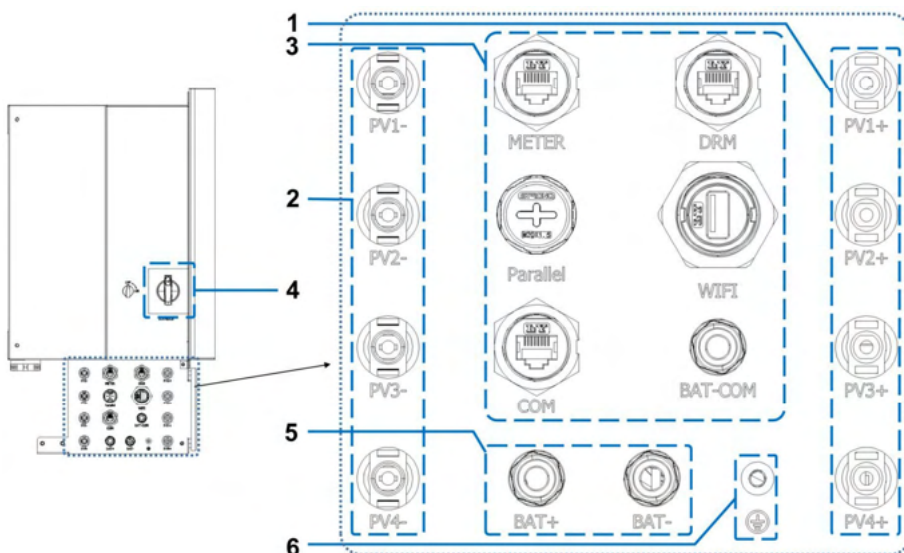
Item	Description
BOX 1	Including mounting-base, mounting bracket, cover plates for hybrid inverter.
BOX 2	Each All-in-one system requires at least 3 batteries and at most 8 batteries.
BOX 3	Including hybrid inverter, accessories box.





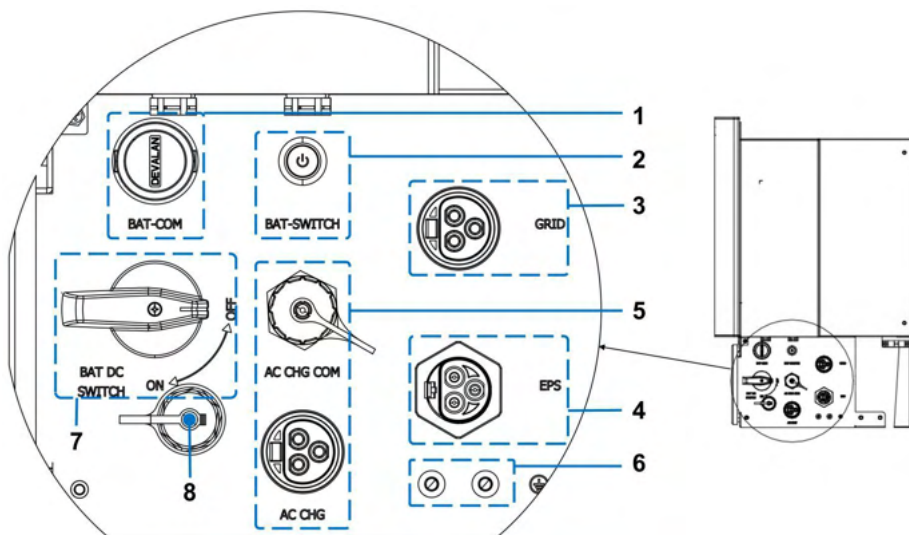
No.	Description
1	LED screen
2	Cover plates
3	Ports of hybrid inverter

Ports of Hybrid Inverter



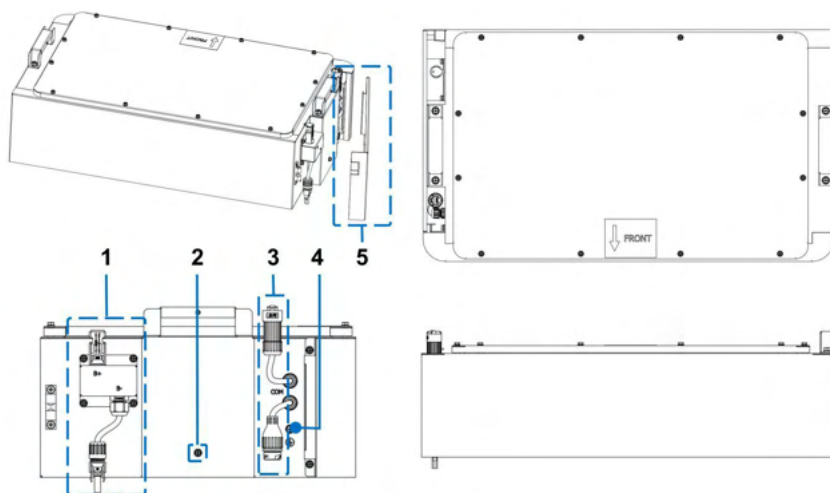
No.	Name	Description
1	PV1+,PV2+,PV3+, PV4+	PV positive terminals.
2	PV1-,PV2-,PV3-, PV4-	PV negative terminals.
3	METER	Swatten smart meter communication port.
	DRM	Communication port for DRM.
	Parallel	Reserved.
	WIFI	Communication port for WIFI module.
	COM	Reserved.
	BAT-COM	Communication port between Inverter and Battery Module.

4	PV Switch	Switch for PV on or off.
5	BAT+	Battery positive terminal between Inverter and Battery Module.
	BAT-	Battery negative terminal between Inverter and Battery Module.
6	Grounding	Grounding terminal



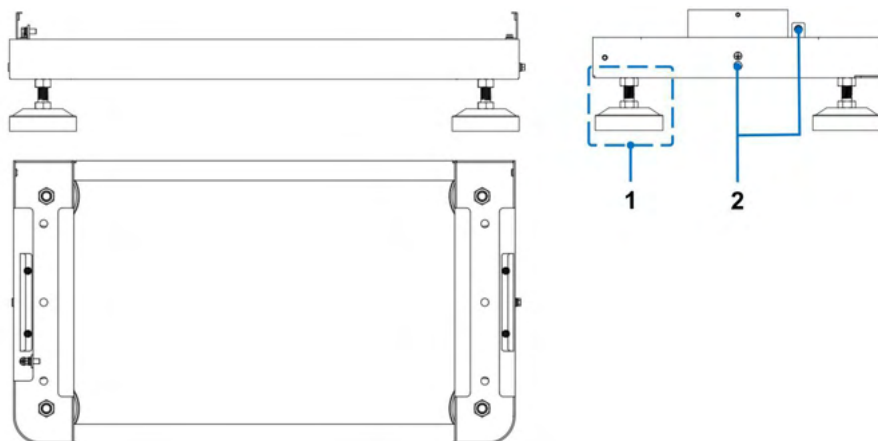
No.	Name	Description
1	BAT-COM	Reserved.
2	BAT-SWITCH	BMS power and alarm indicator.
3	GRID	Grid terminal.
4	EPS	Backup load terminal.
5	AC CHG COM	AC charger communication port.
	AC CHG	1Phase AC charger power terminal.
6	PE	Grounding terminal.
7	BAT DC SWITCH	Switch for battery's input and output.
8	REBOOT BUTTON	Press with tools such as a screwdriver to restart the BAT DC SWITCH.

Ports of Battery



No.	Description
1	Battery MC4 connector
2	Screw holes for fixation
3	Battery communication connector
4	Grounding terminal
5	Battery side cover plate

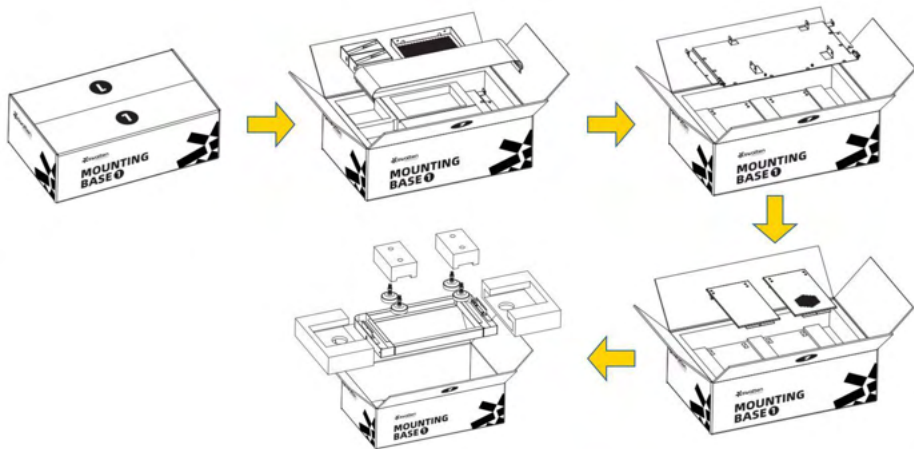
Ports of Mounting-Base



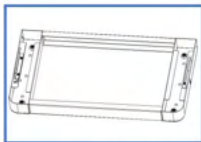
No.	Description
1	Base support feet
2	Grounding terminal

Installation: Unpacking and Inspection

BOX 1 MOUNTING-BASE (Open this box FIRST please.)



Accessories



A



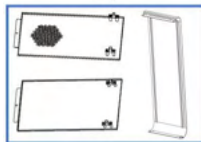
B



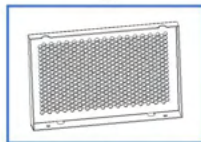
C



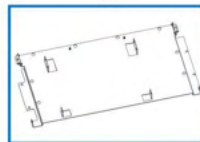
D



E



F



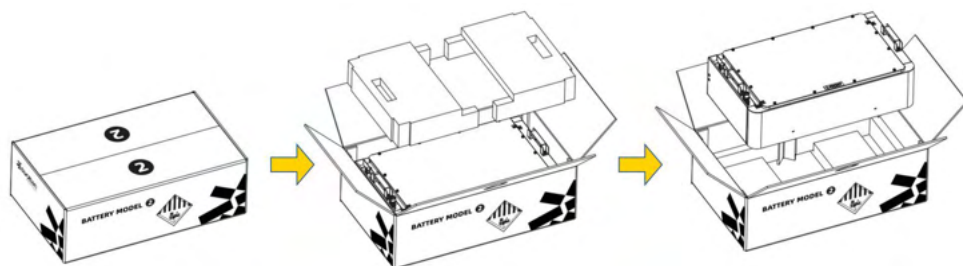
G



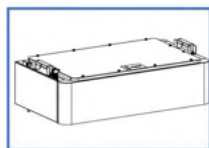
H

Item	Description	Qty
A	Mounting-base	1
B	Base support feet	4
C	Grounding cable	1
D	Secure bracket	4
E	Side cover plate	3
F	Secure plate on the back of the inverter	1
G	Secure plate on the bottom of the inverter	1
H	Quick start guide	1

BOX 2 Battery



Accessories



A



B



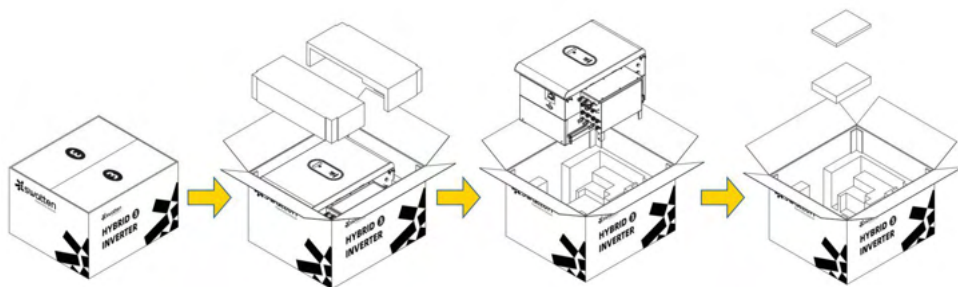
C



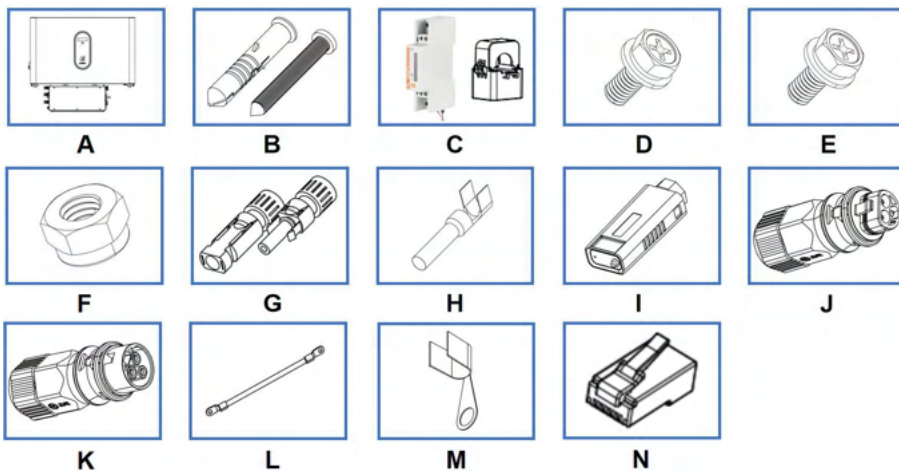
D

Item	Description	Qty
A	Battery module	1
B	Grounding cable	1
C	M5 SCREWS (M5x12 for grounding cables secure)	1
D	M4 SCREWS (M4x10 for battery modules secure)	1

BOX 3 Hybrid Inverter

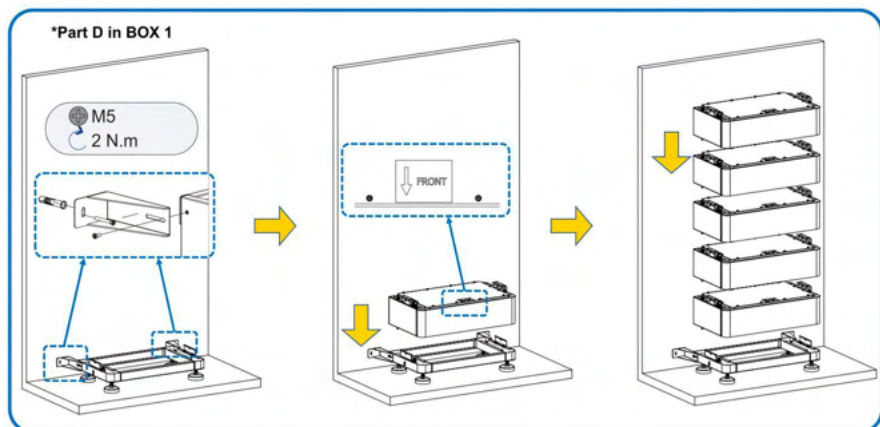
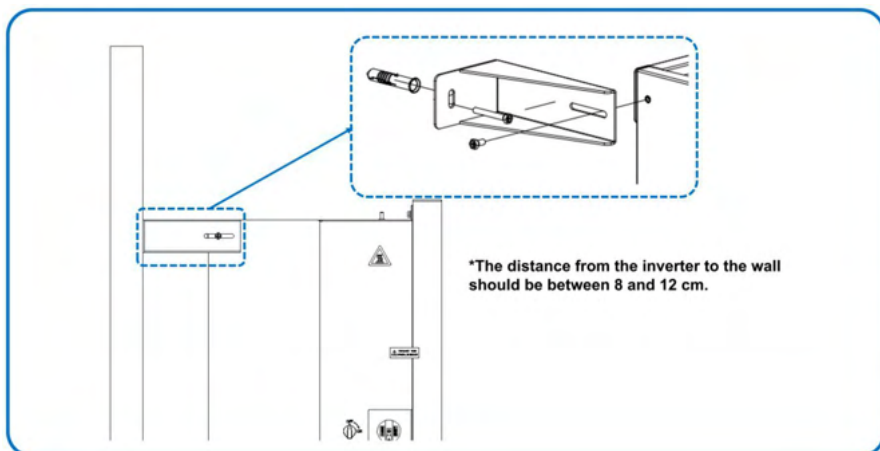
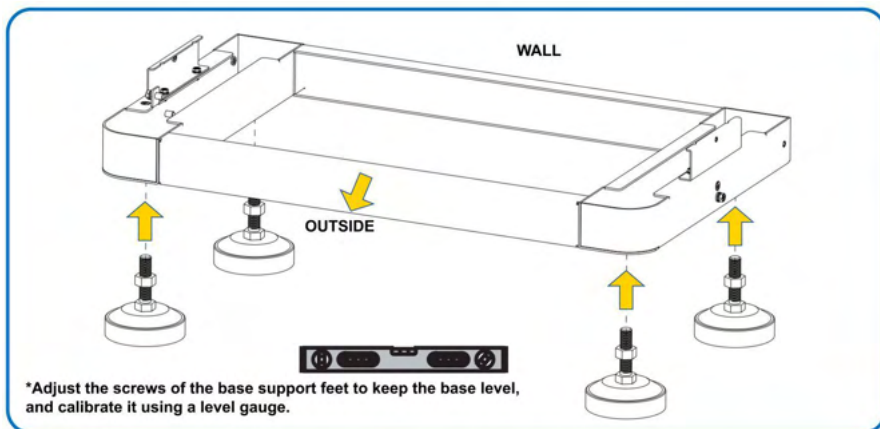


Accessories



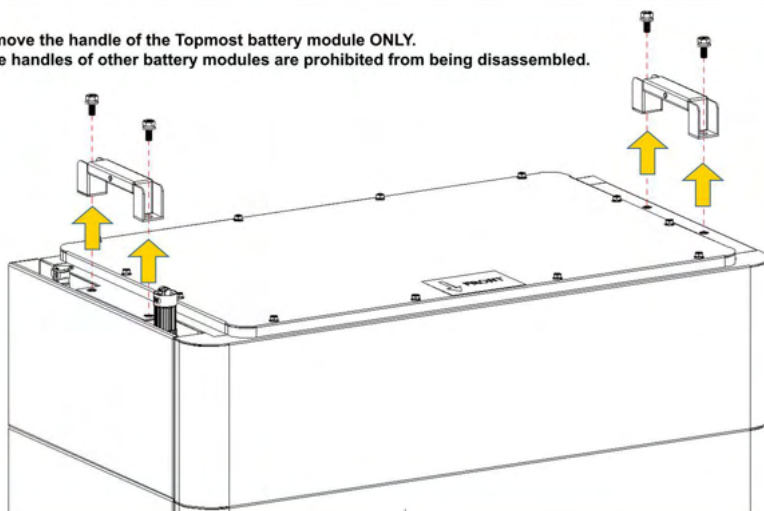
Item	Description	Qty
A	Inverter	1
B	Expansion Plug Set	4
C	Smart Energy Meter & Current Transformer (1 CT)	1
D	M5 Screws and Washers, M5×12	15
E	M4 Screws and Washers, M4×10	5
F	M5 Nuts	3
G	MC4 Positive & Negative Connector	4 pairs
H	Crimp contact	8
I	WiFi Logger	1
J	GRID/AC CHG terminal	2
K	EPS terminal	1
L	Grounding cable	1
M	Grounding terminal	2
N	RJ45 (2 standard, 2 IP65 waterproofed for parallel cable use)	5

Installation: Stack and Secure



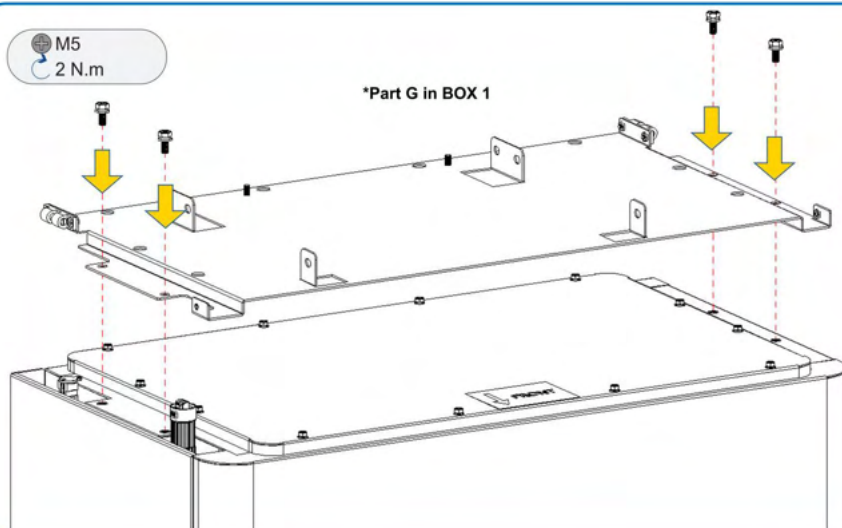
***Remove the handle of the Topmost battery module ONLY.**

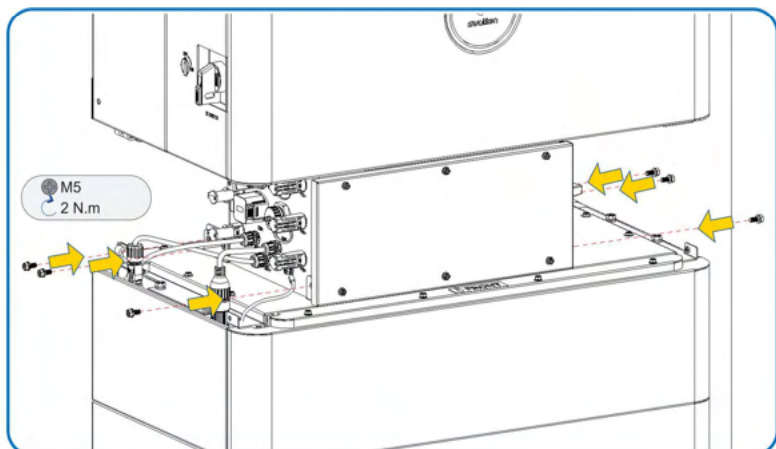
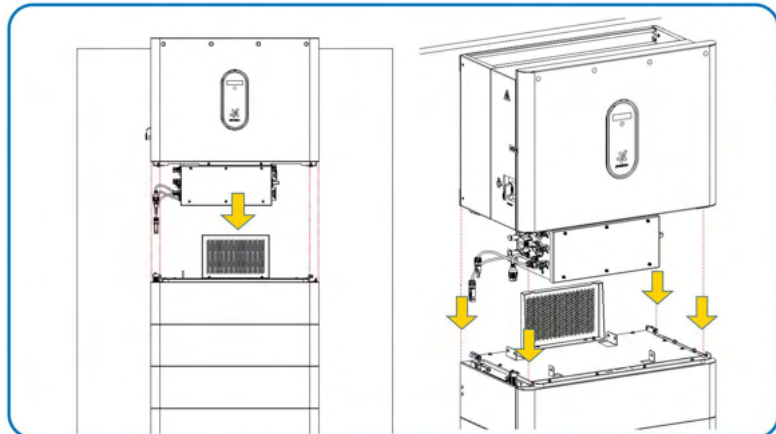
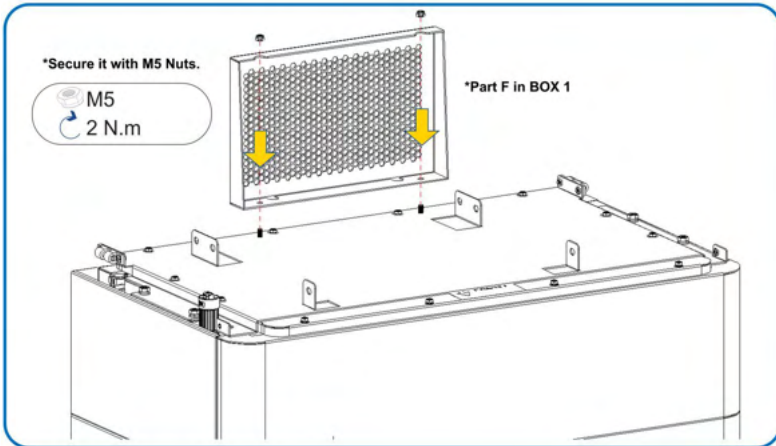
****The handles of other battery modules are prohibited from being disassembled.**

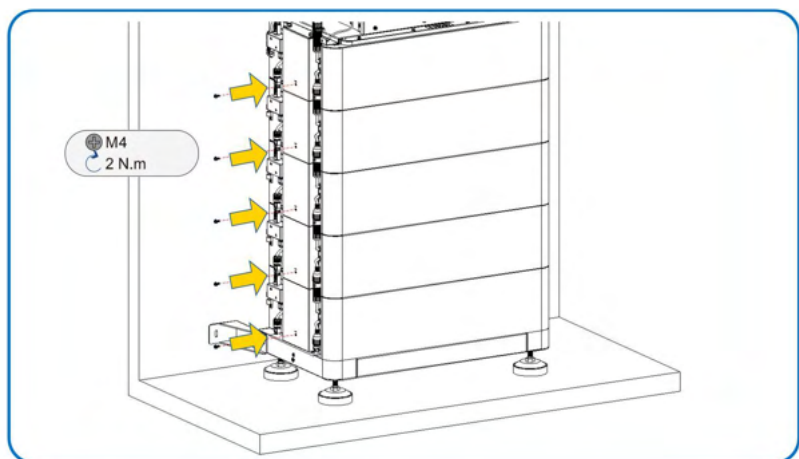
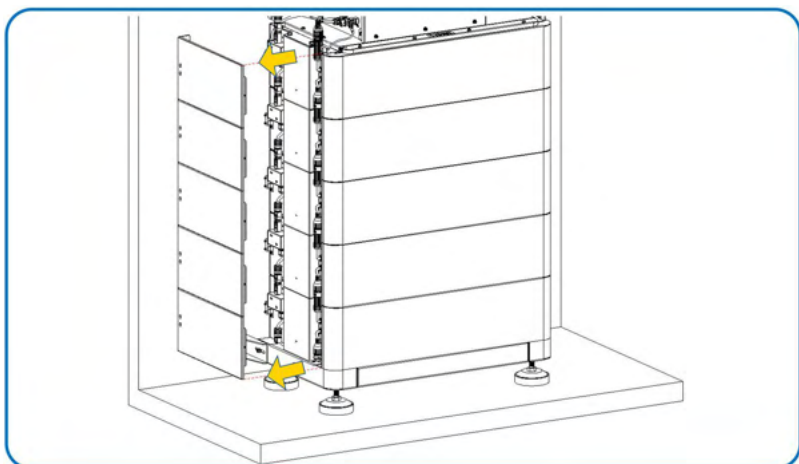
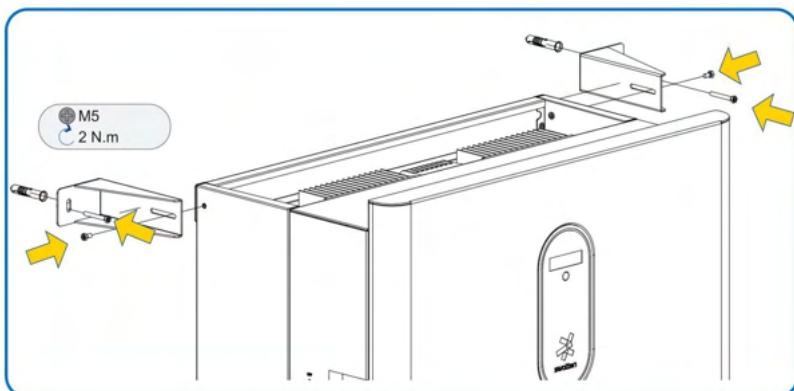


M5
2 N.m

***Part G in BOX 1**

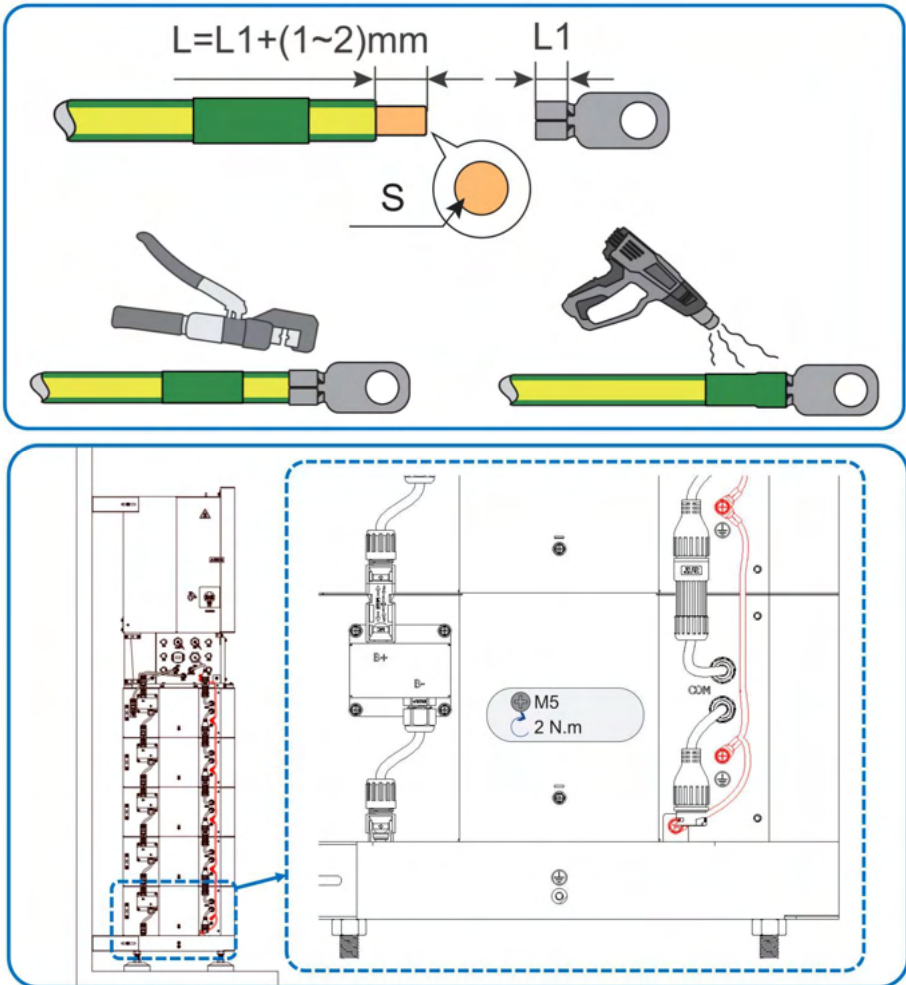




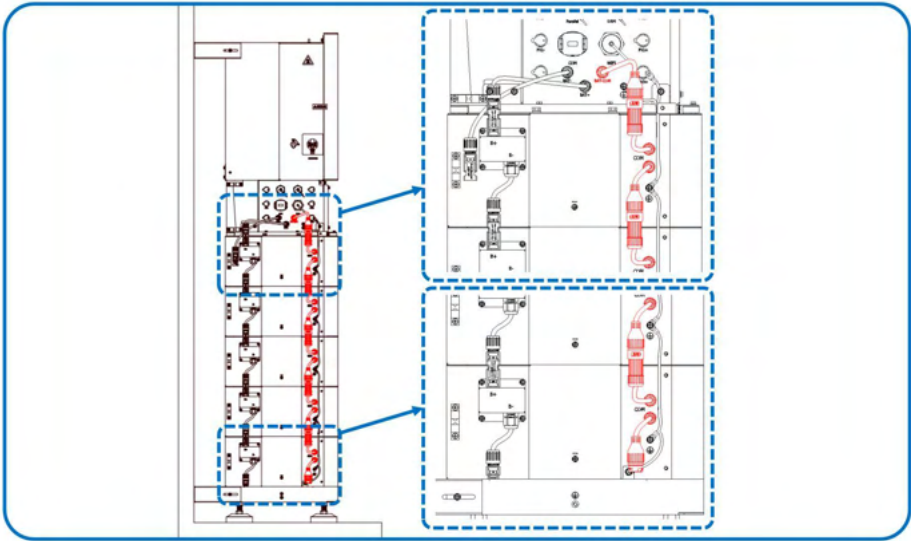


Installation: Connecting and Wiring

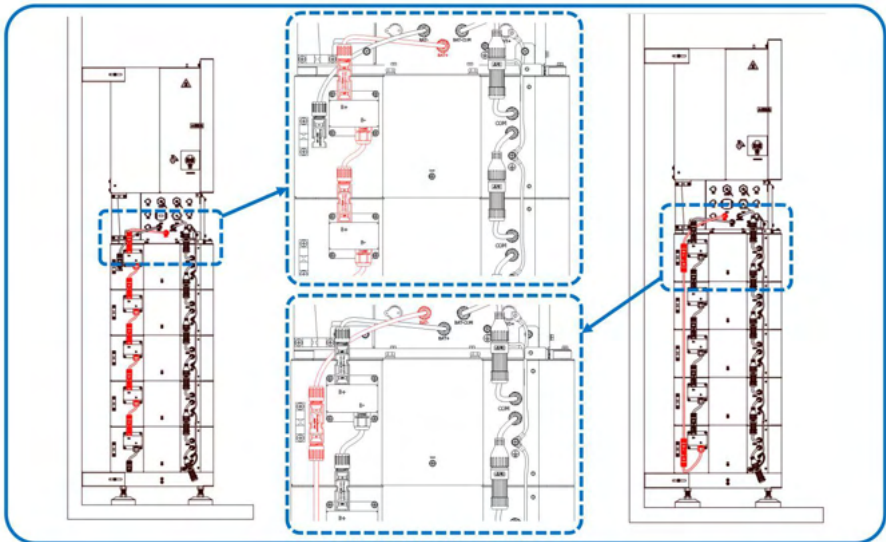
Grounding cable connection



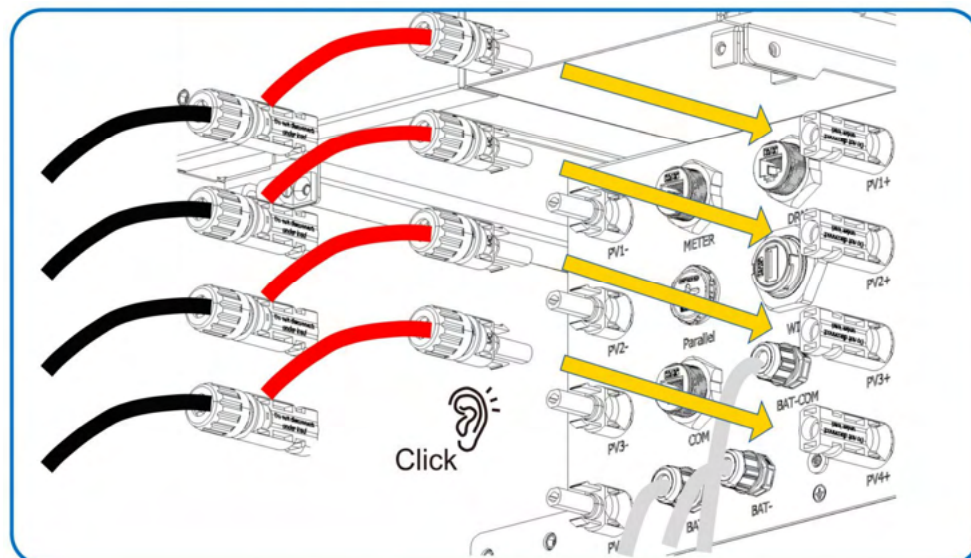
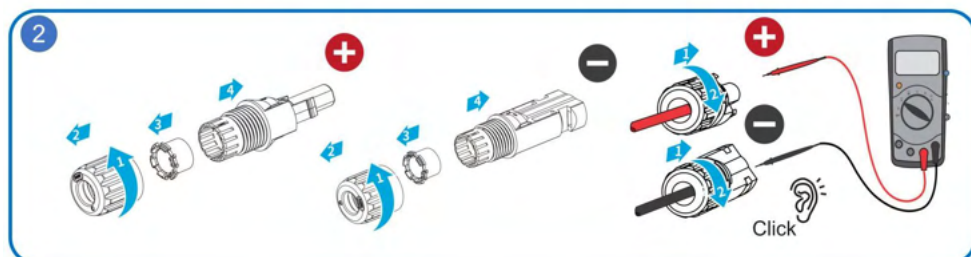
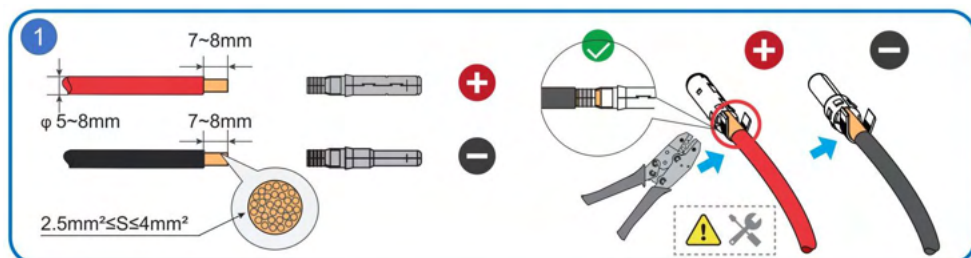
Battery communication cable connection



Battery power cable connection



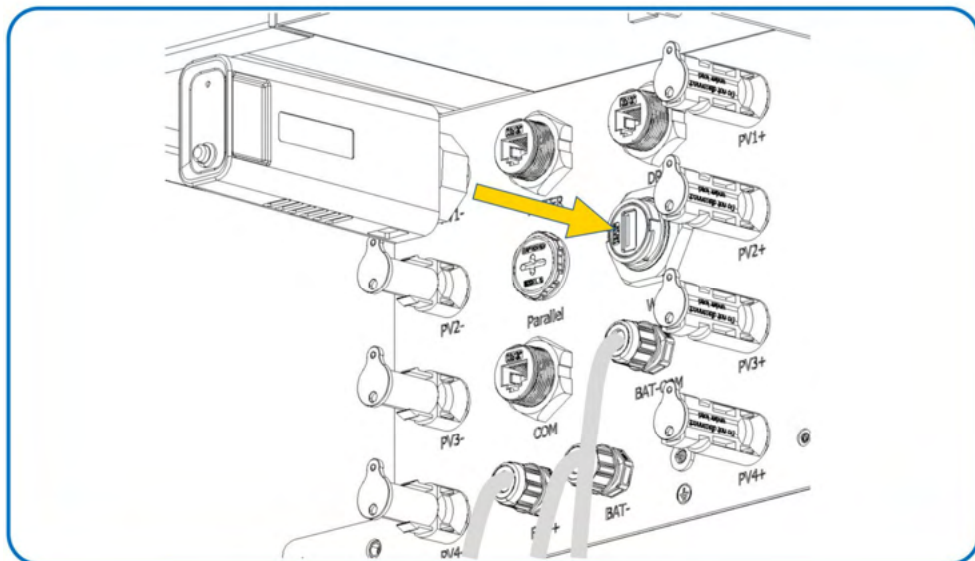
PV cable connection



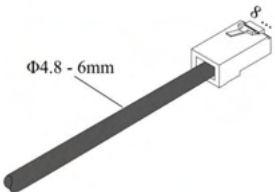
Notice

PV1, PV2, PV3 and PV4 are all independent MPPT.

WiFi logger connection



DRM/METER communication cable connection

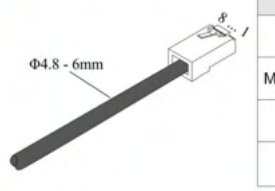


Φ4.8 - 6mm

DRM			
01	02	03	04
DRM1/5	DRM2/6	DRM3/7	DRM4/8
05	06	07	08
3V3_DRM	COM/DRM0	NC	NC



DRM

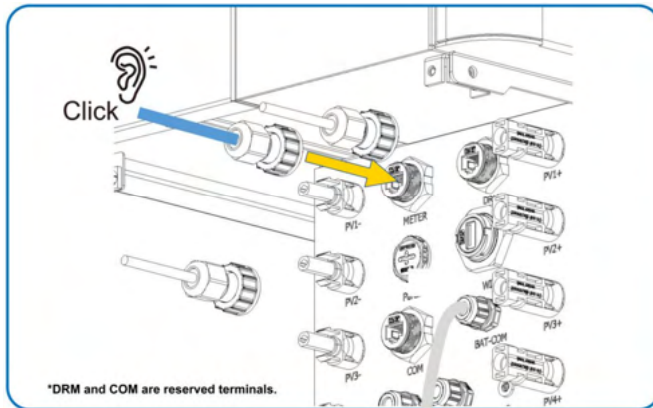


Φ4.8 - 6mm

METER			
01	02	03	04
METER_RS485_A	METER_RS485_B	NC	NC
05	06	07	08
NC	NC	NC	NC

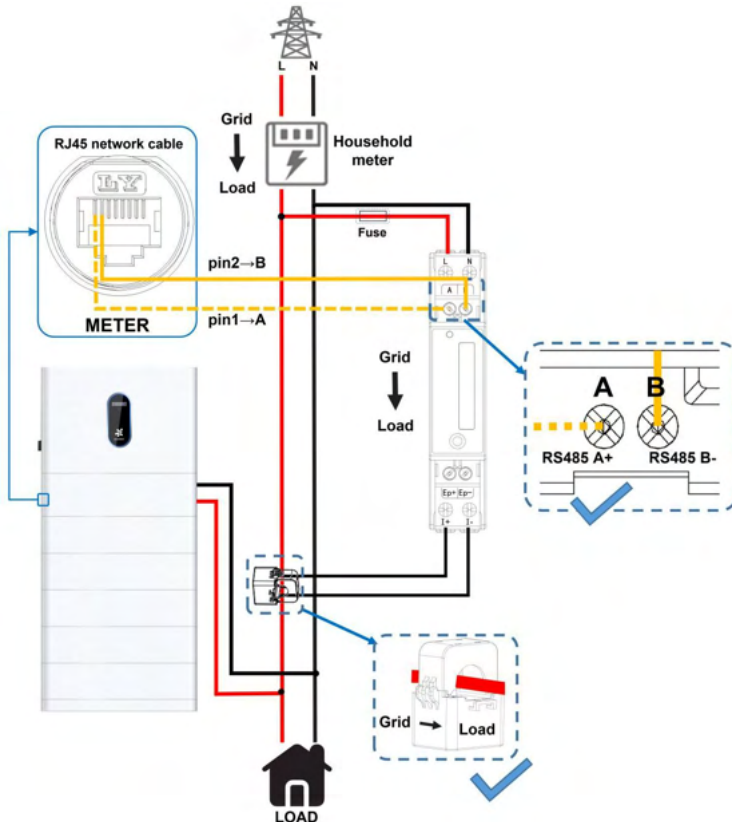


METER



Step 1: Turn off the PV panel switch, the load switch, the battery switch and other power switches, and ensure that they cannot be reconnected.

Step 2: Connect pin 1 and pin 2 of the inverter's **METER** port to terminal A and terminal B on the Smart Meter.



Step 3: Connect each wire to the terminals on the Smart Meter.

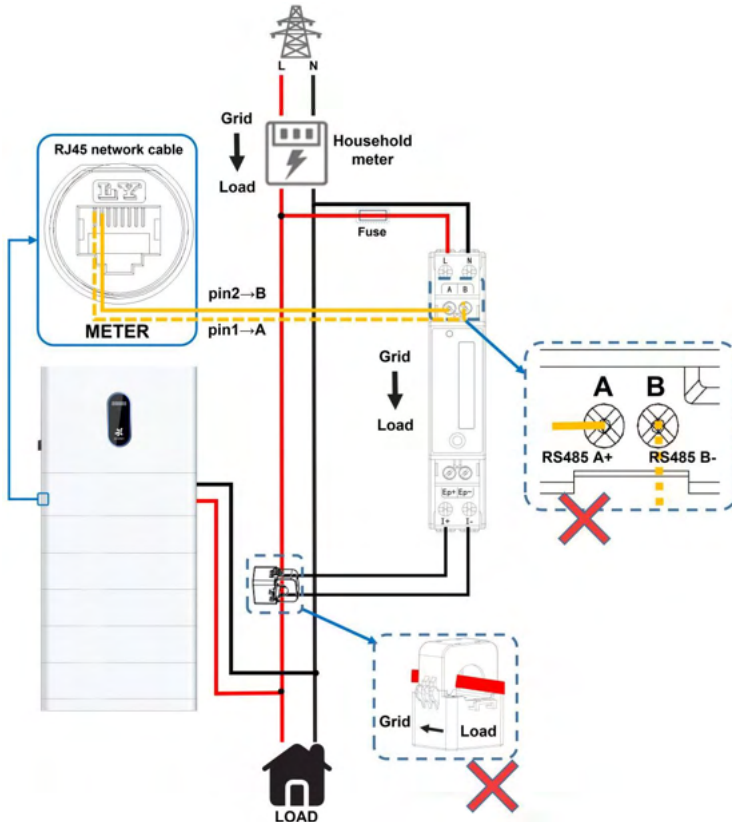
Step 4: After the meter is connected, it is necessary to carefully inspect the CT direction and cable installation. The arrow on the CT **MUST** always point to the **LOAD** side.

After the meter is connected, it is necessary to check the following items:

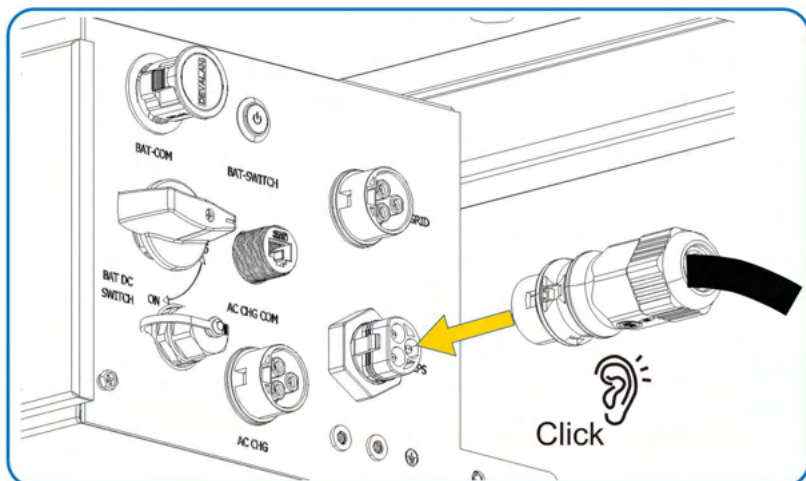
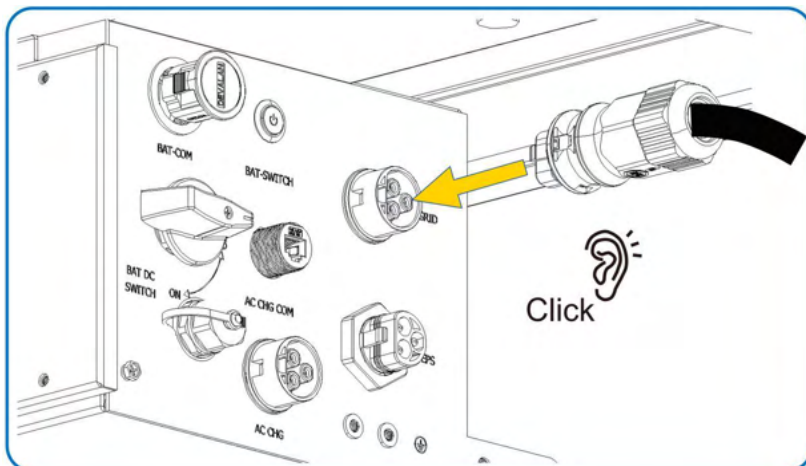
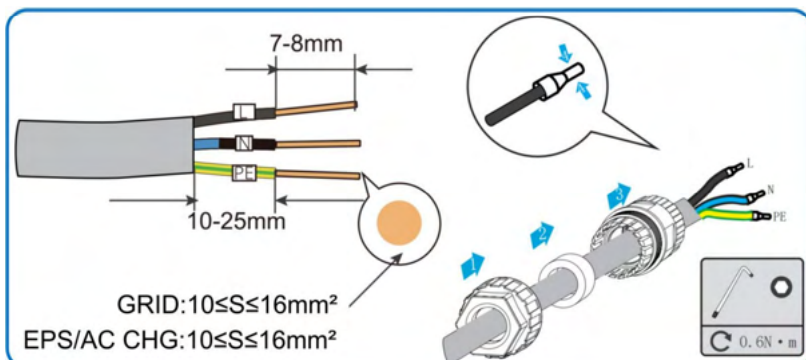
1. The arrow on the CT should be directed towards the **LOAD** side.
2. Ensure that the clips are perfectly engaged without any deviation. Otherwise, the measurement of current may not be accurate.



3. Carefully check whether the wiring sequence of the Smart Meters and CTs are correct.

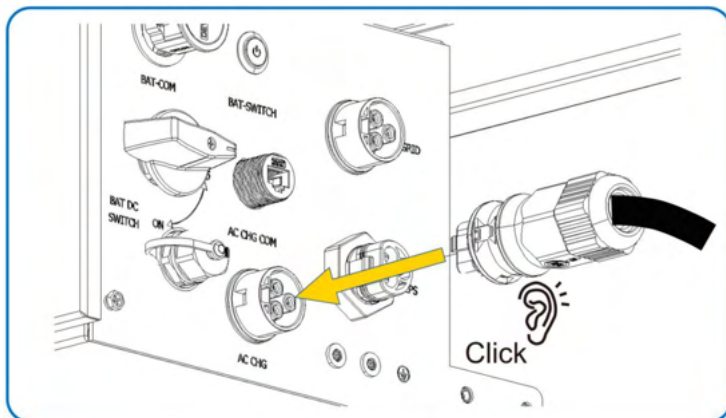


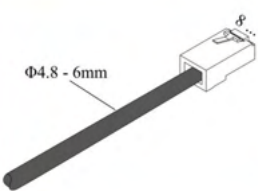
GRID/EPS power cable connection



AC CHG: Power cable & COM cable connection

According to the actual installation situation, AC Charger can also be used as a normal load and connected to the Grid terminal of inverter.



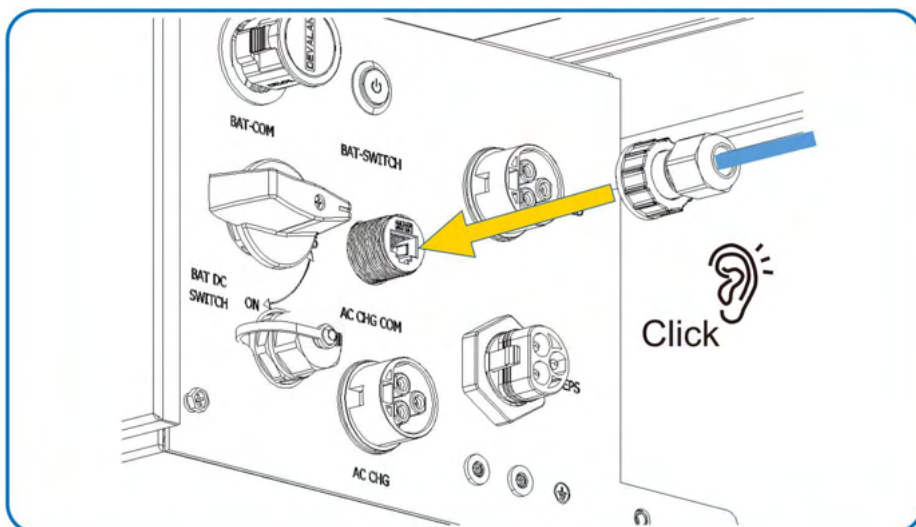


Φ4.8 - 6mm

AC CHG COM			
01	02	03	04
NC	NC	ARM_485_B	ARM_485_A
05	06	07	08
NC	NC	NC	NC

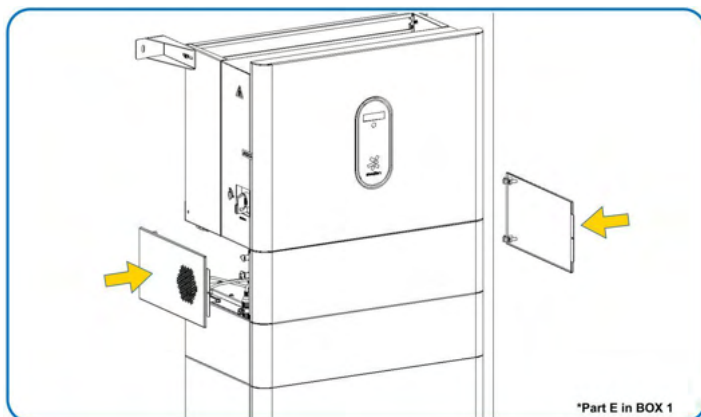
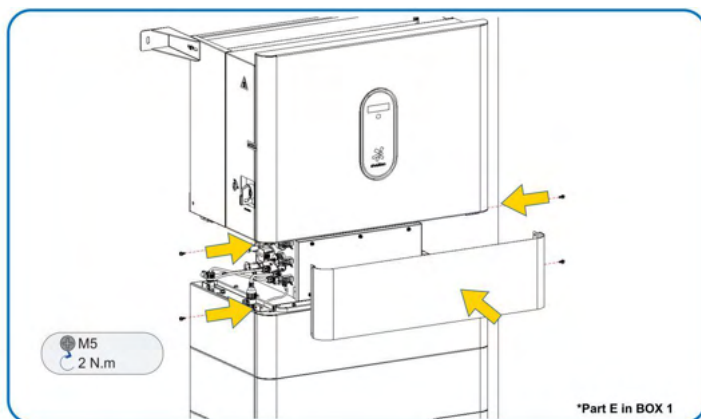
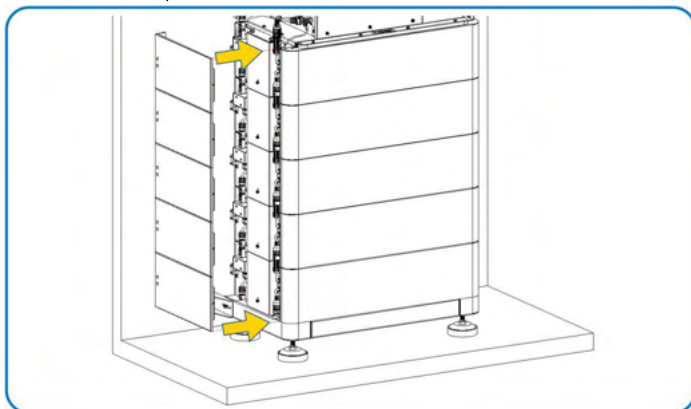


AC CHG COM



Install the side cover plate of inverter

Before installing the cover plates, please power on the system. After verifying that the wiring is correct, power off the system and then install all the cover plates.



App

Scanning the QR code for inverter App download and commissioning.



App Download



Commissioning Steps

LED indicator

LED Color	State	Definition
 Green	ON	The inverter is operating normally.
	Flashing	The inverter is at standby or startup state (without on/off-grid operation).
 Red	ON	A system fault has occurred.
 Grey	OFF	Both the AC and DC sides are powered down.

Shanghai Sieyuan Watten Technology Co., Ltd.

Address: No. 3399 Huaning Rd.
 Minhang District,
 Shanghai 201100
 P. R. China

Website: <https://www.swatten.com>



Installation Video



User Manual
Download



www.swatten.com