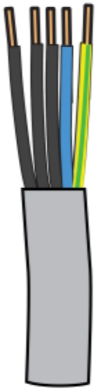
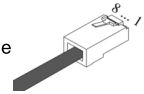
swatten
Powered by Sieyuan

Quick Start Guide

SiH-5/6/8/10kW-TH (Global)

Version 2.0
2025-03-30

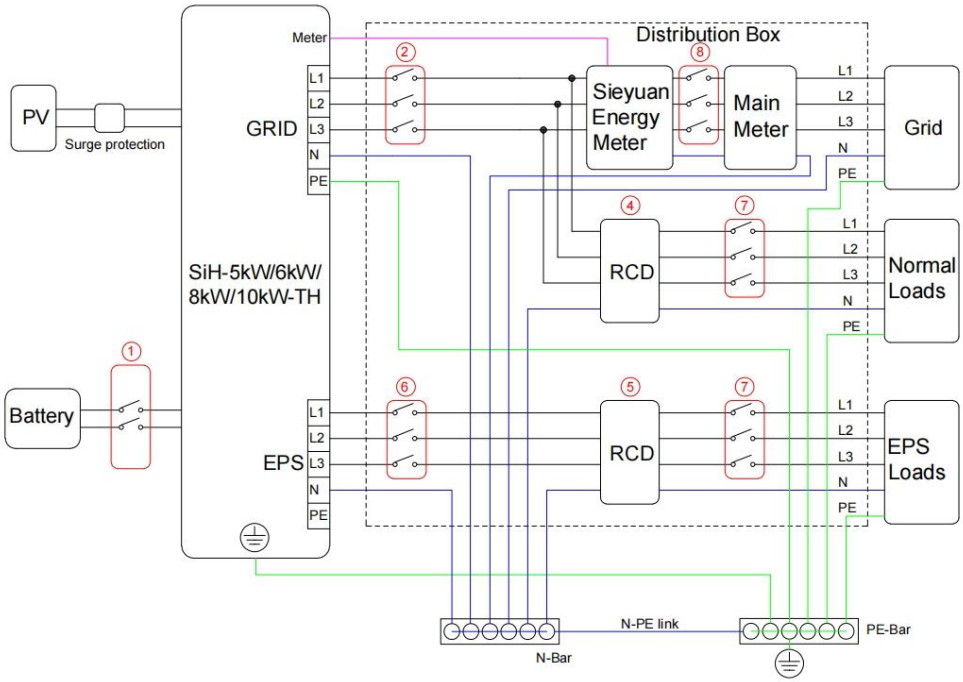
Additionally required wires

No.	Required Materials		Type	Cross-section
1	DC 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	6mm², the same as that of the PE wire in the AC cable.
3	Inverter Grid cable		Outdoor 5-core copper wire cable	**6-10mm²** (10mm² ONLY if need AC CHG)
4	EPS Loads cable		Outdoor 5-core copper wire cable	**2.4-4mm²**
5	NORMAL loads cable		Outdoor 5-core copper wire cable	Depending on the NORMAL loads.
6	Main Grid cable		Outdoor 5-core copper wire cable	Depending on Maximum loads (EPS+ NORMAL) and Maximum Taking Power setting in APP.
7	Smart meter power cable			**0.5-1.5mm²**
8	Communication cable		CAT 5E outdoor, shielded network cable	**0.08-0.2mm²**

Electrical Connection Overview

For AU/NZ/SA

For Australia and New Zealand, the neutral cable of GRID side and EPS side must be connected together. Otherwise EPS function will not work.



NO.	SiH-5kW/6kW/8kW/10kW-TH
①	40A/600V DC breaker*
②	32A/400VAC breaker
④⑤	30mA RCD (Comply with local regulation)
⑥	25A/400VAC breaker
⑦	Depends on loads
⑧	Depends on household loads and inverter capacity

Note 1: *If the battery already has an accessible internal DC breaker, there is no need for an additional DC breaker.

Note 2: The values provided in the table are recommendations and can be adjusted based on the specific conditions of the installation.

Note 3: It is suggested that the rated current of breaker ② is lower than that of breaker ⑤.

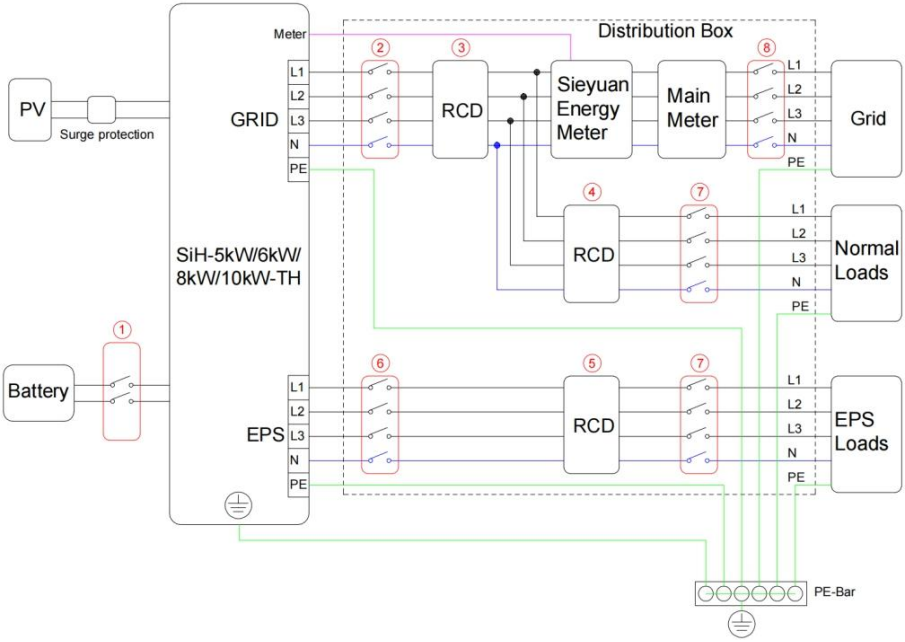
Note 4: If the rated current of the on-site power cables is lower than the recommended values mentioned above, it is important to consider the breaker specifications to match the power cables as a priority.

Note 5: The AC port of the inverter is designed to receive power from the grid and should be set in accordance with the grid circuit breaker.

For other countries

For other countries with grid systems that do not have specific requirements for wiring connections, the following diagram serves as an example:

Please note that this diagram is provided as an example and may need to be adjusted based on the specific regulations and standards of the country in which the installation is taking place. It is important to consult local regulations and guidelines to ensure compliance and safety..



NO.	SiH-5kW/6kW/8kW/10kW-TH
①	40A/600V DC breaker*
②	32A/400VAC breaker
③	300mA RCD (Recommended)
④⑤	30mA RCD (Recommended)
⑥	25A/400VAC breaker
⑦	Depends on loads
⑧	Depends on household loads and inverter capacity (Optional)

Note 1: *If the battery already has an accessible internal DC breaker, there is no need for an additional DC breaker in the system.

Note 2: The values provided in the table are recommended values, but they can be adjusted to suit the actual conditions of the installation.

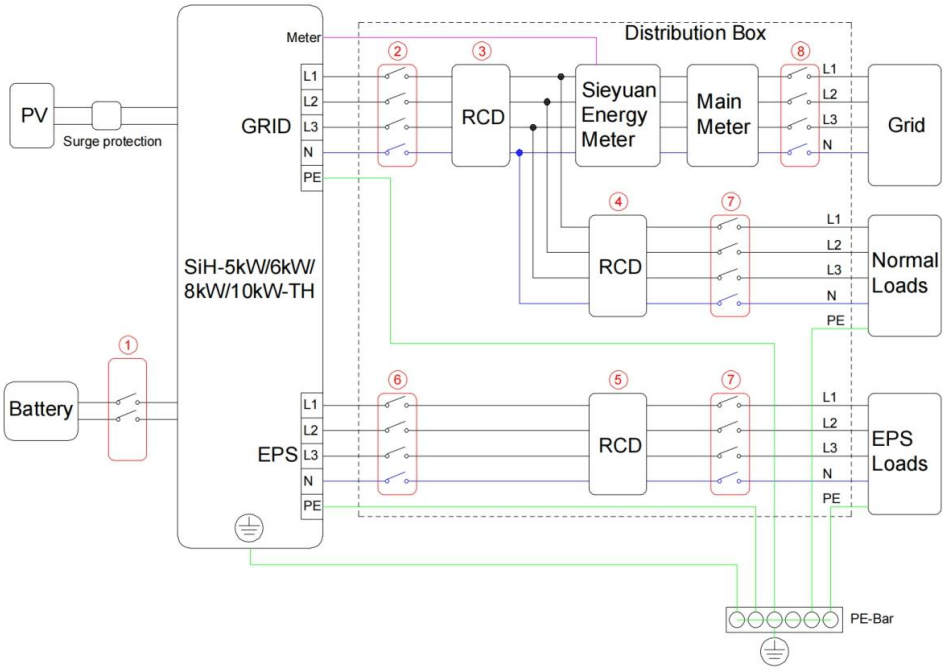
Note 3: It is suggested that the rated current of breaker ② be lower than the rated current of breaker ⑧ for proper protection and compatibility.

Note 4: If the rated current of the on-site power cables is lower than the recommended values mentioned above, it is important to consider the specifications of the breakers to ensure they match the power cables being used.

Note 5: The AC port of the inverter is designed to receive power from the grid. When connecting the inverter to the grid, the AC port should be set according to the specifications of the grid circuit breaker.

For TT system

In the TT system, : The diagram provided is an example for grid systems in the TT system. Please ensure compliance with local regulations and guidelines for wiring connections in your specific location.



NO.	SiH-5kW/6kW/8kW/10kW-TH
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④⑤	30mA RCD (Recommended)
⑥	25A/400VAC breaker
⑦	Depends on loads
⑧	Depends on household loads and inverter capacity (Optional)

Note 1: * If the battery has an accessible internal DC breaker, no additional DC breaker is required.

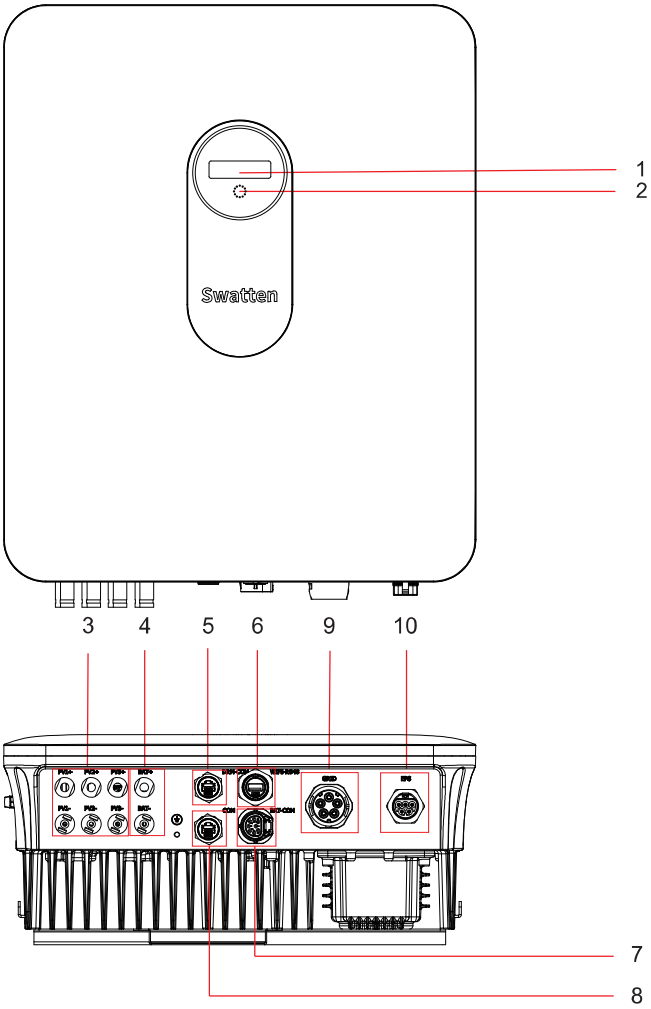
Note 2: The values provided in the table are recommendations and can be adjusted based on the actual conditions.

Note 3: It is suggested to set the rated current of breaker ② lower than that of breaker ⑤.

Note 4: If the rated current of the on-site power cables is lower than the recommended values, consider matching the breaker specifications to the power cables as a priority.

Note 5: The AC port of the inverter is designed to receive power from the grid and should be set according to the grid circuit breaker.

Product Introduction

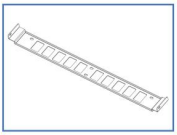


1. LED
2. Button
3. PV
4. BAT
5. DRM-COM
6. WIFI-RS485
7. BAT-COM
8. COM
9. GRID
10. EPS

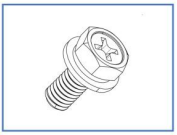
Deliverables

1. Inspect the outer packing box for damage, such as holes, cracks, deformation, and others signs of that might indicate equipment damage. If any damage is identified, do not unpack the package and contact the supplier.
2. Verify the inverter model. If the model does not match your order, do not unpack the product and contact the supplier promptly.


A


B


C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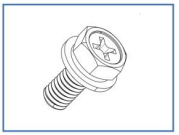
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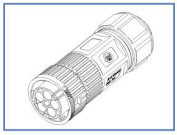
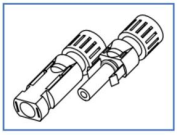

F


G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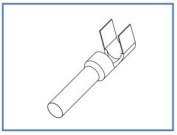
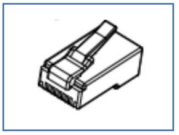

I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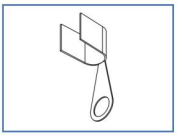
K


L


M


N


O

Item	Description	Qty
A	Inverter*	1
B	Wall-Mounting Bracket*	1
C	Expansion Plug Set	4
D	M5 Screws and Washers, M5×12	2
E	M4 Screws and Washers, M4×10	3
F	GRID connector	1
G	EPS connector	1
H	MC4 Positive & Negative Connector	3~4**
I	Crimp contact	3~4**
J	RJ 45	2
K	WiFi logger	1
L	Smart Energy Meter & Current Transformer (3 CTs)*	1
M	BAT-COM terminal	1
N	Grounding terminal	2
O	Quick Start Guide	1

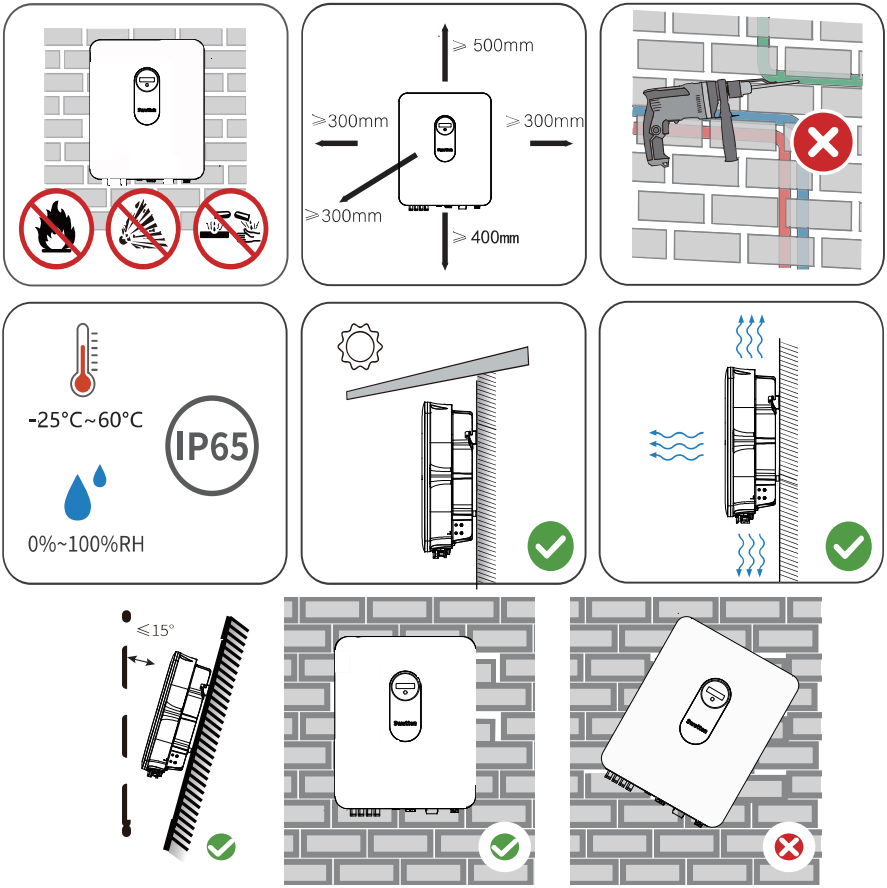
* All materials except A, B and L, are in the Accessory box.

** 3 terminals for SiH-5/6/8kW-TH, 4 terminals for SiH-10kW-TH.

Installation

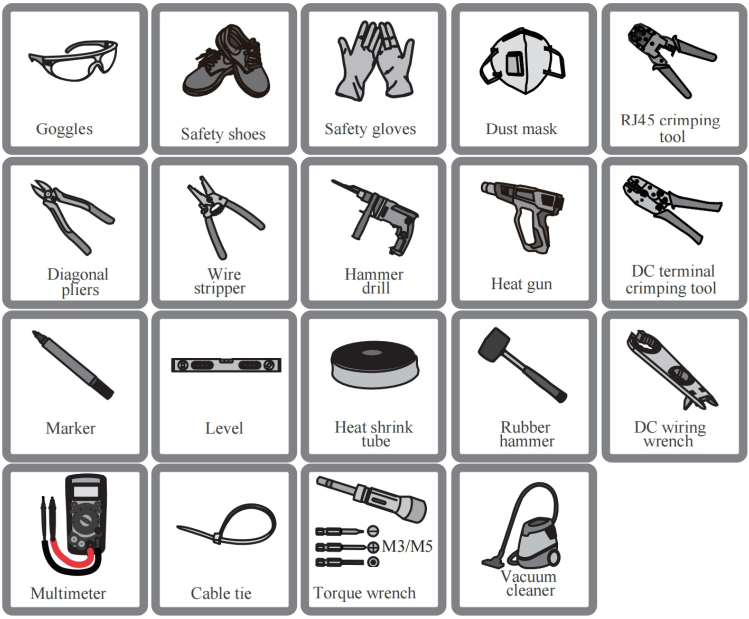
Installation Environment Requirements

1. Do not install the equipment in a place near flammable, explosive, or corrosive materials.
2. Install the equipment on a surface that is solid enough to bear the inverter 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 a sheltered place to avoid direct sunlight, rain, and snow. Build a sunshade if it is needed.
6. Do not install the equipment in a place that is easy to touch, especially within children's reach. 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.



Installation Tool Requirements

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



Notice

1. 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.
2. 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.
3. 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.
4. 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.
5. The cable used must be in good condition and well insulated. Operating personnel must wear appropriate personal protective equipment (PPE) at all times.
6. Any violation may lead to personal injury, death, or damage to the device, and will invalidate the warranty.

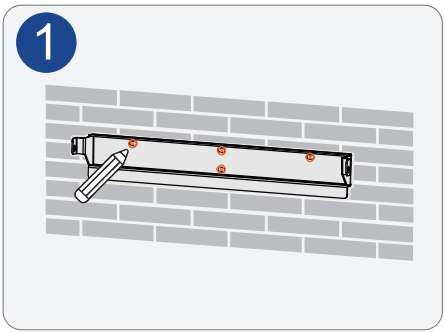
Safety

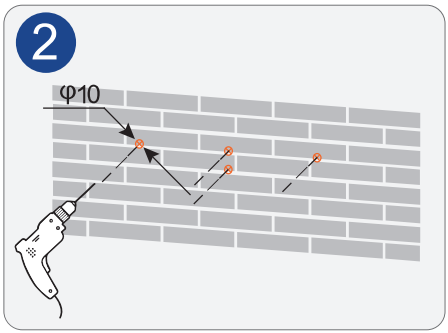
The inverter has been designed and tested in strict accordance with international safety regulations. Read all safety instructions attentively before starting any work and adhere to them constantly when working on or with the inverter. Incorrect operation or work may cause:

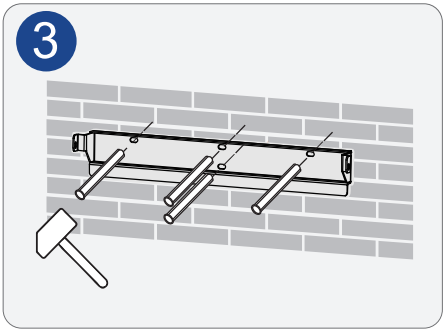
- Injury or death to the operator or a third party;
- Damage to the inverter or other properties.

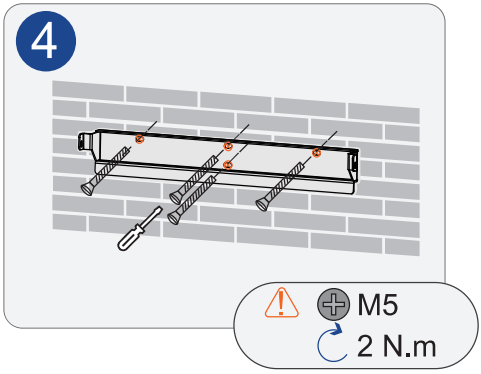
Please comply with the safety instructions related to the PV strings and the utility grid.

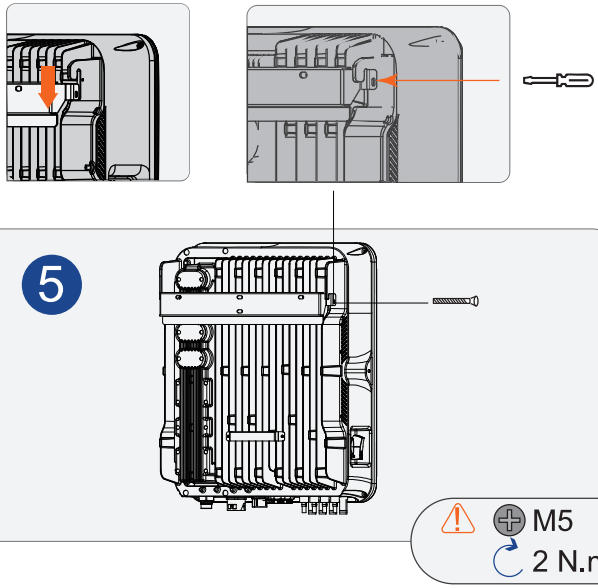
Installing the Inverter
Step 1 Put the mounting plate on the wall horizontally and mark positions for drilling holes.
Step 2 Drill holes to a depth of 80mm using the hammer drill. The diameter of the drill bit should be 10mm.
Step 3 Secure the mounting plate using the expansion bolts.
Step 4 Install the inverter on the mounting plate.
Step 5 Tighten the nuts to secure the mounting plate and the inverter.

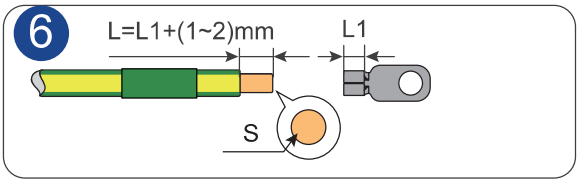


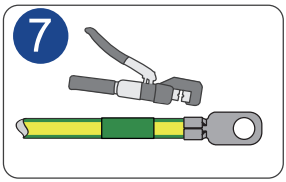







5
M5
2 N.m


6
L=L1+(1~2)mm
L1
S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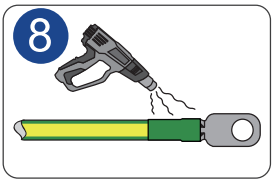
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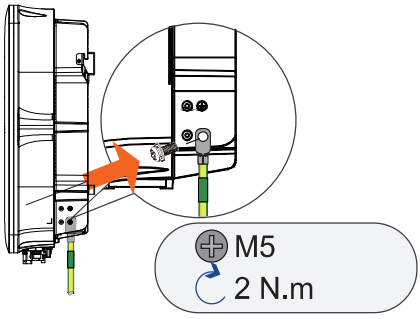
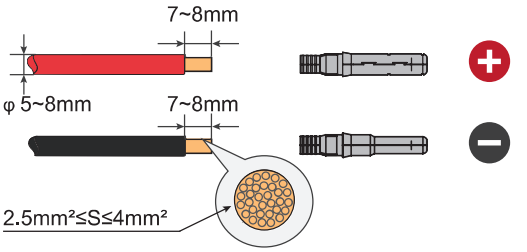
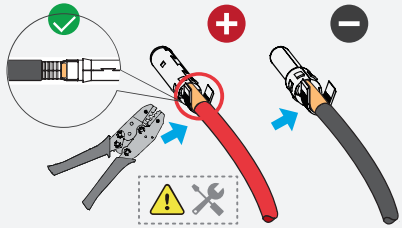

M5
2 N.m

9


7~8mm
φ 5~8mm
7~8mm
2.5mm²≤S≤4mm²

10



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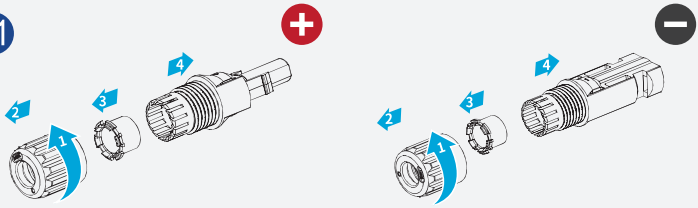

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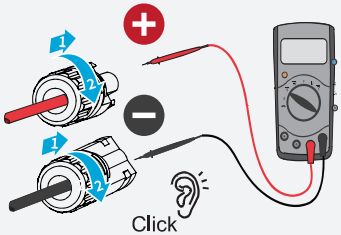
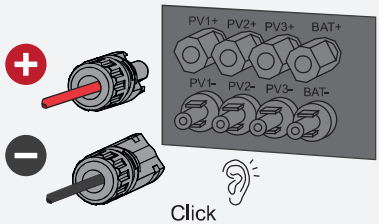
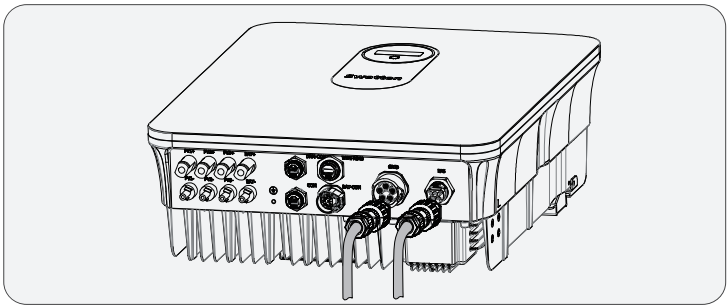
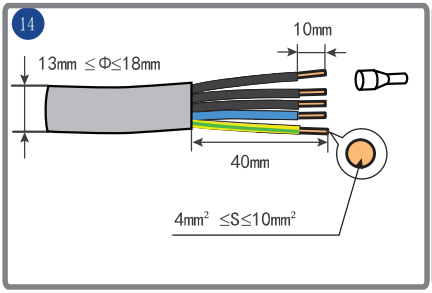
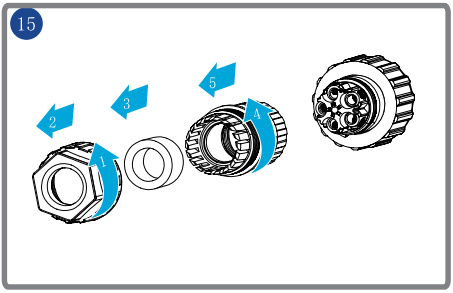

Click

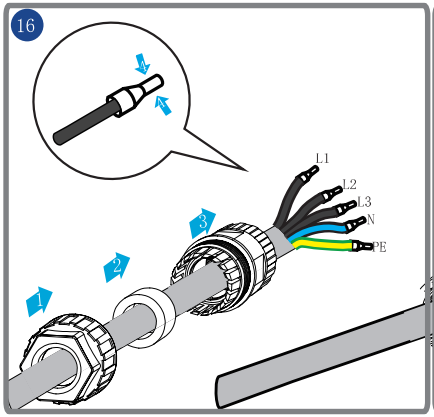
13

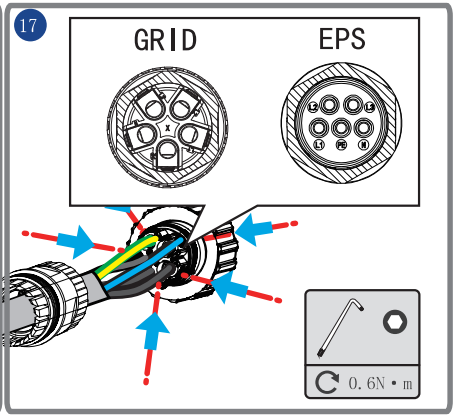

PV1+ PV2+ PV3+ BAT+
PV1- PV2- PV3- BAT-
Click

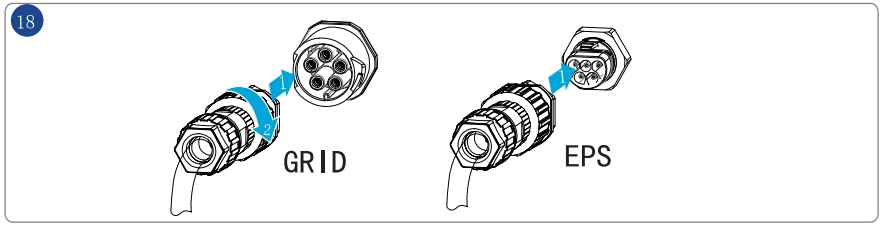



14
10mm
13mm ≤Φ≤18mm
40mm
4mm² ≤S≤10mm²

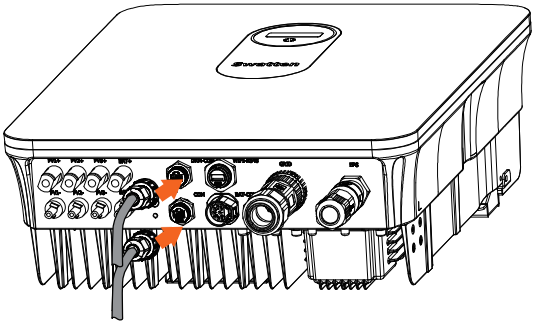

15
1
2
3
4
5


16
L1
L2
L3
N
PE
1
2
3


17
GRID
EPS
0.6N • m


18
1
2
GRID
1
EPS

18



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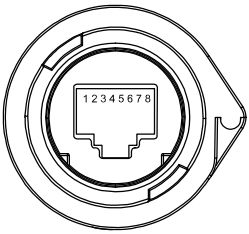
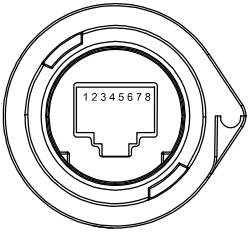


DRM-COM

NO.	Function
1	RSD_2
2	RSD_1
3	COM/DRM0
4	3V3_DRM
5	DRM4/8
6	DRM3/7
7	DRM2/6
8	DRM1/5

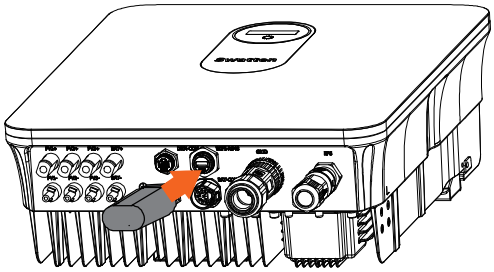
20



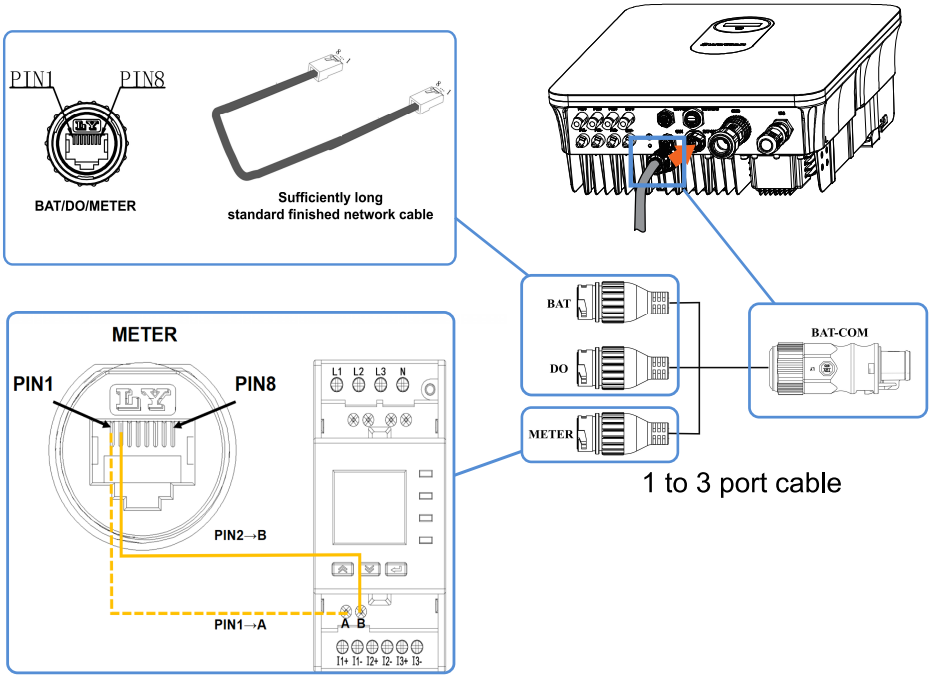
COM

NO.	Function
1	ARM_485_B
2	ARM_485_A
3	GND_24V
4	SYN2
5	SYN1
6	GND_24V
7	DSP_CAN_L
8	DSP_CAN_H

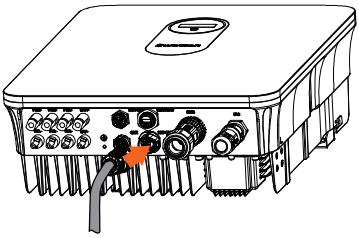
21



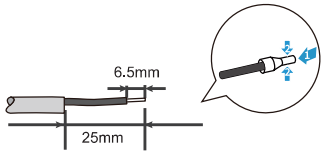
Use the "1 to 3 port cable" to complete the communication. (Optional)



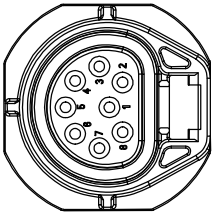
Use the "BAT-COM terminal" to complete the communication. (standard)



22



23



NO.	Function
1	BAT_CAN_H
2	BAT_CAN_L
3	NC OR GND
4	NC OR +12V
5	METER_RS485_B
6	METER_RS485_A
7	DO_NO
8	DO_COM

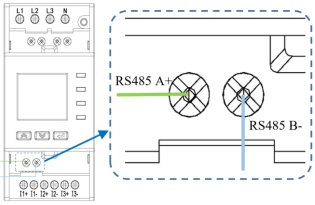
Installation

Smart meter connection

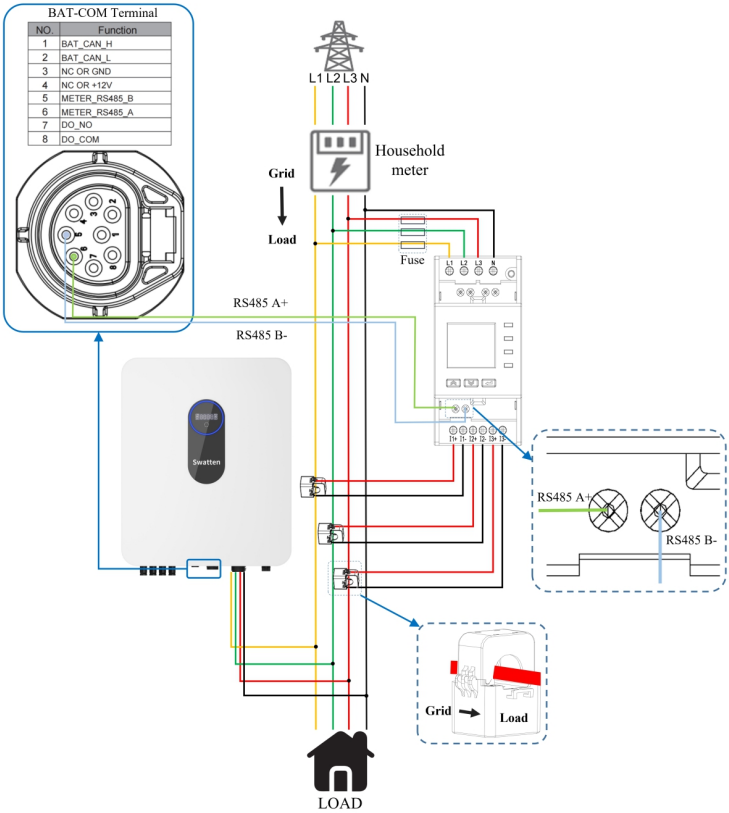
Wiring must be correct!!!

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 terminals 6 and 5 of inverter's BAT-COM port to terminal A and terminal B on the Smart Meter.



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



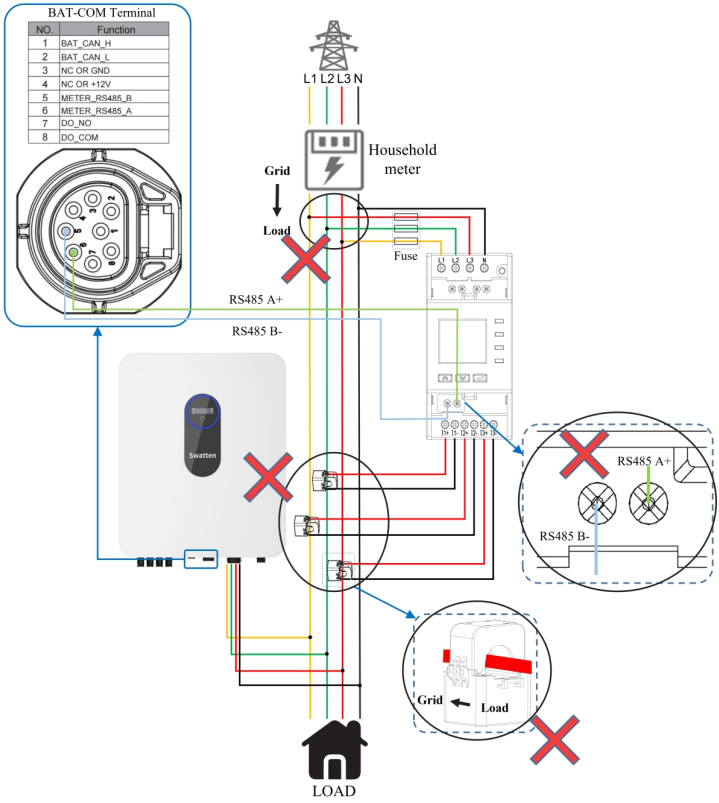
Step 4: After the meter is connected, it is necessary to carefully inspect the CT direction and cable installation. The arrow on the CT **MUST** always point to the load side.

Installation

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

1. Whether the direction of the CT is correct. The arrow on the CT should be directed towards the load side.
2. Whether the CTs are connected to the correct cables. The CT corresponding to I1+ and I1- should be connected to cable L1. The CT corresponding to I2+ and I2- should be connected to cable L2. The CT corresponding to I3+ and I3- should be connected to cable L3.
3. Whether the cables connected to the L1, L2, L3, and N terminals of the meter are correct.
4. Carefully check whether the clips of the upper and lower parts of the CT are properly snapped into place. Ensure that the clips are perfectly engaged without any deviation. Otherwise, the measurement of current may not be accurate.

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



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 occured.
Grey	OFF	Both the AC and DC sides are powered down.

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Installation Video

User Manual Download

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