

Quick Installation Guide

Hybrid Inverter

MG3.6RL



Backup Wiring Diagram(For TN system with N-Bar)

Loads Connected to the Grid:

①	②	③	④	⑤	⑥/⑦	⑧
≥150A/100V DC breaker *	≤40A/230V/400V AC breaker		Depends on loads	Depends on household loads and inverter capacity (Optional)	30mA RCD (Recommended)	300mA RCD (Recommended)

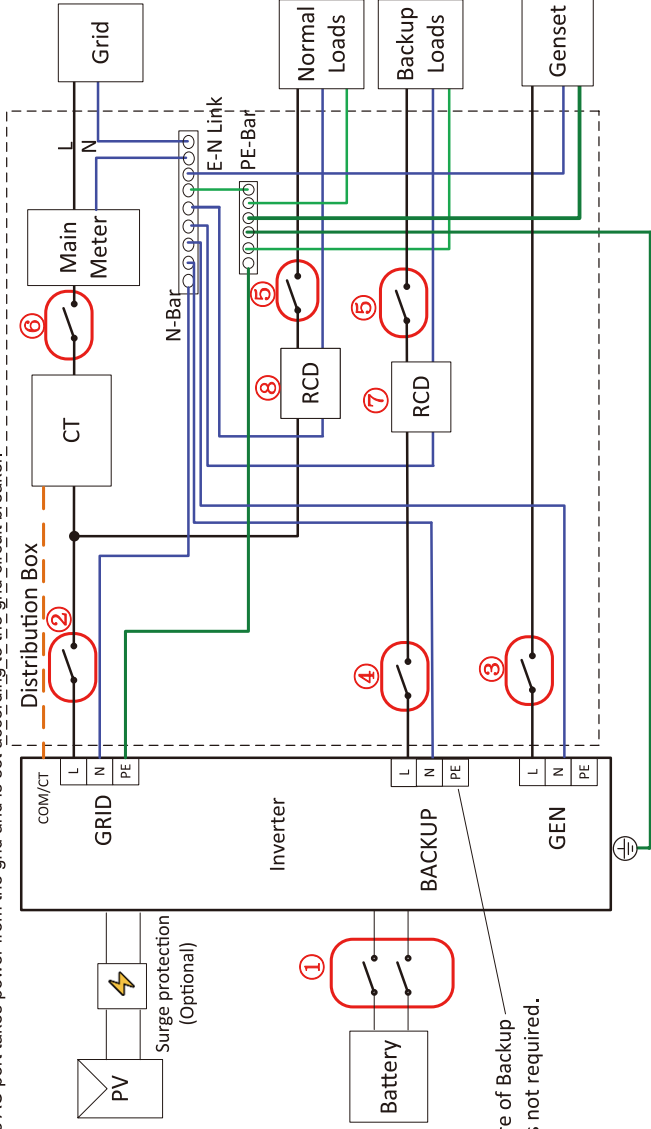
Note 1: * If the battery is integrated with a readily accessible internal DC breaker, no additional DC breaker is required.

Note 2: The recommended values in the table are for reference only. The actual values must comply with local standard and actual conditions.

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

Note 4: If the rated current of on-site power cables are lower than those recommended above, the breakers specification should be considered to match the power cables in first priority.

Note 5: The AC port takes power from the grid and is set according to the grid circuit breaker.



The PE wire of Backup terminal is not required.

Backup Wiring Diagram(For TN system without N-Bar)

Loads Connected to the Grid:

①	②	③	④	⑤	⑥⑦	⑧
≥150A/100V DC breaker *	≤40A/230V/400V AC breaker	Depends on loads	Depends on household loads and inverter capacity (Optional)	30mA RCD (Recommended)	300mA RCD (Recommended)	

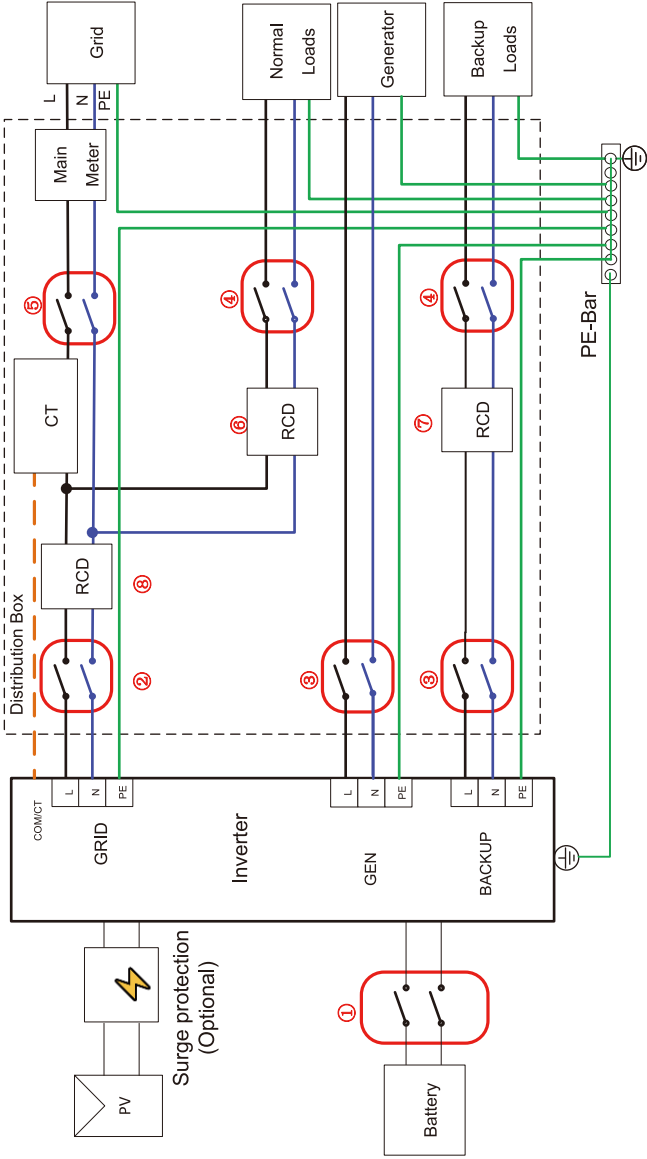
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Note 5: The AC port takes power from the grid and is set according to the grid circuit breaker.

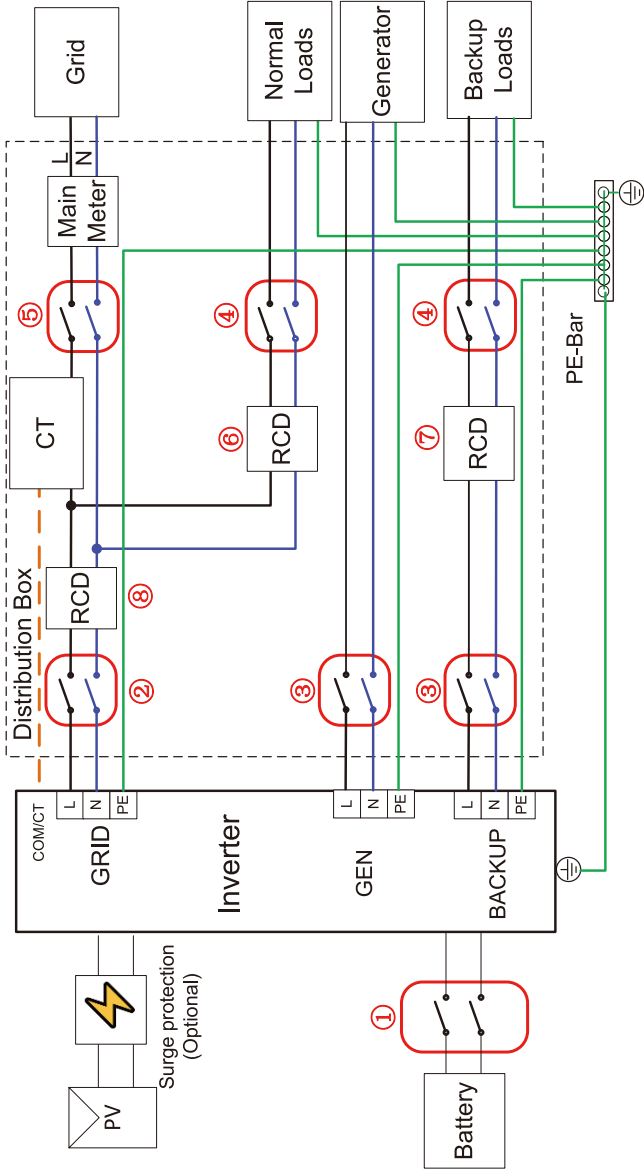


Backup Wiring Diagram (For TT system)

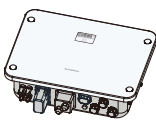
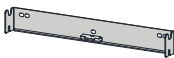
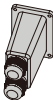
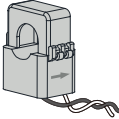
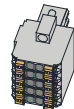
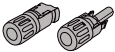
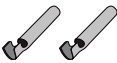
Loads Connected to the Grid:

①	②	③	④	⑤	⑥	⑦	⑧
≥150A/100V DC breaker *	≤40A/230V/400V AC breaker	Depends on loads	Depends on household loads and inverter capacity (Optional)	30mA RCD (Recommended)	300mA RCD (Recommended)		

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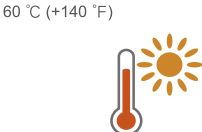
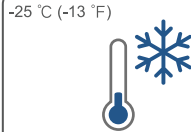
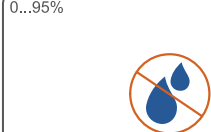
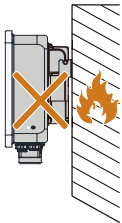
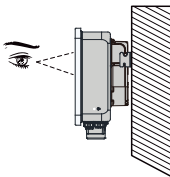
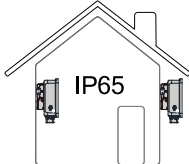


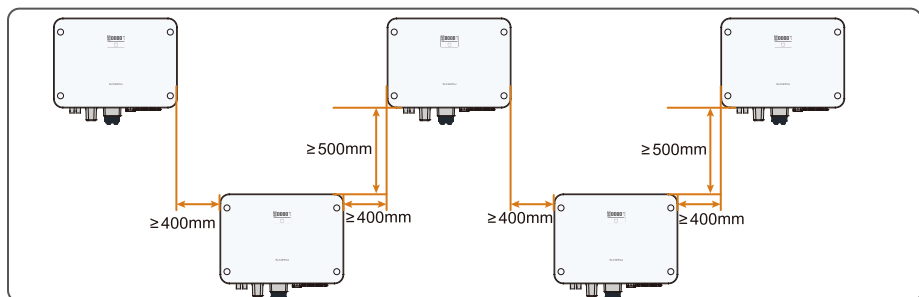
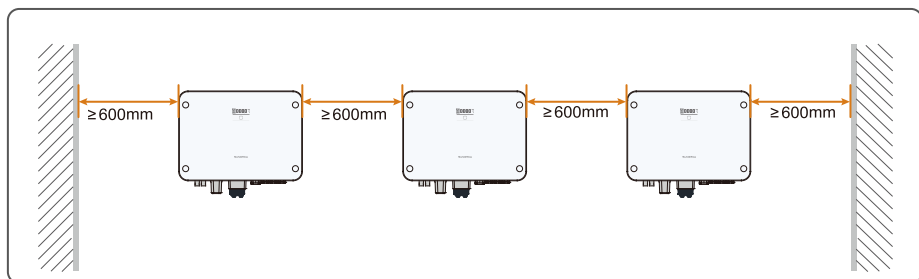
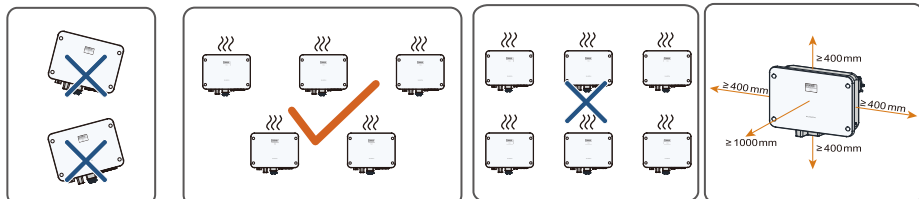
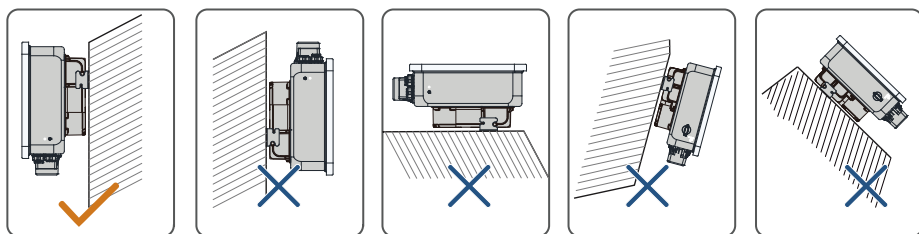
Scope of delivery

			
Inverter	Wall-mounting bracket	Battery connector	AC connector (x3)
			
Expansion plug set (x 3)	M5×12 screw set (x 2)	M4×16 screw set(x 4)	Current transformer (CT)
			
DO plug-in connector	Signal plug-in connector	Wire ferrule (×9)	Wire ferrule (DIN end) (×12)
			
PV connector (×2 set)	Crimp contact (×2 set)	Removal tool	Desiccant
			
WiNet-S2	Documents		

* The images shown here are for reference. The actual product and quantity are based on delivery.

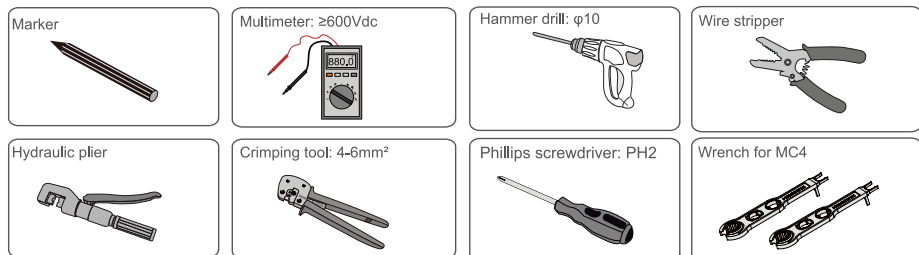
Mounting location

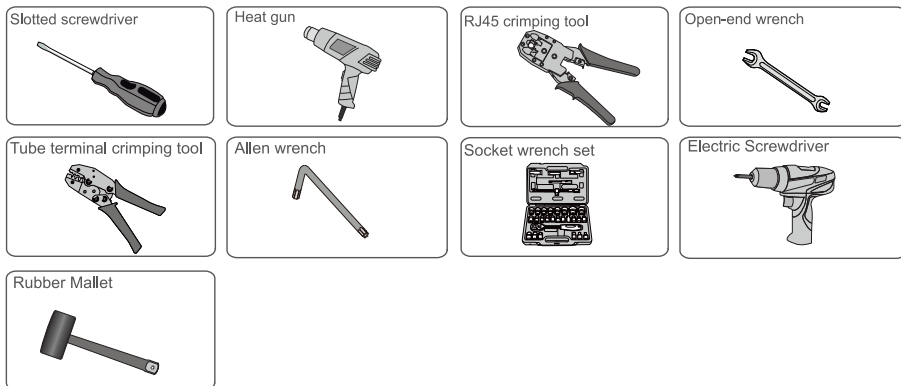
			
	60 °C (+140 °F)	-25 °C (-13 °F)	0...95%
			
	Avoid direct sunlight		IP65



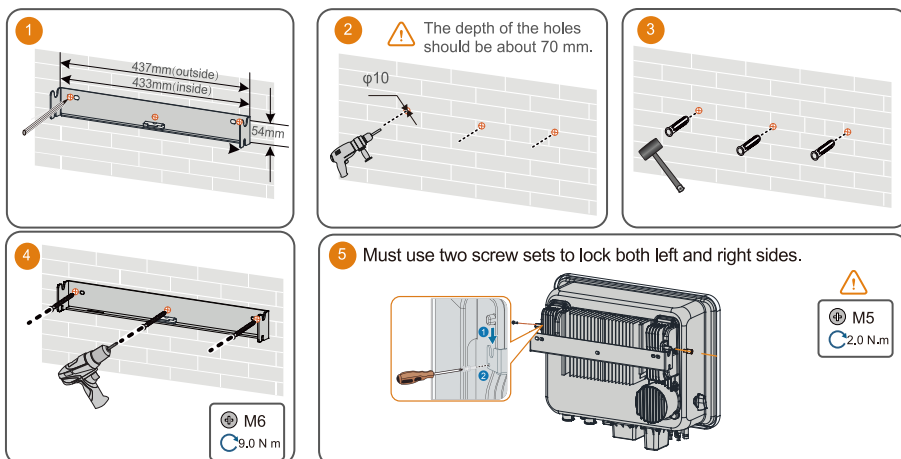
For more information about mounting location, please contact SUNGROW.

Installation tools

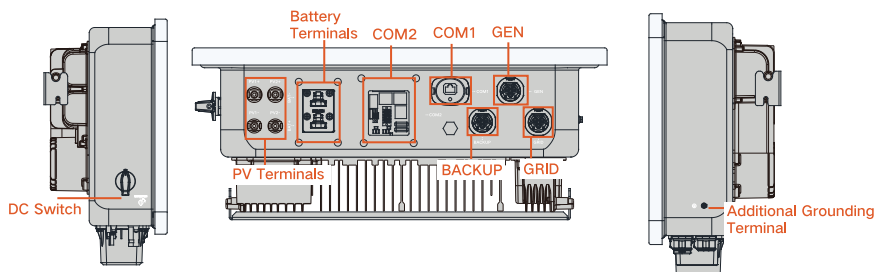




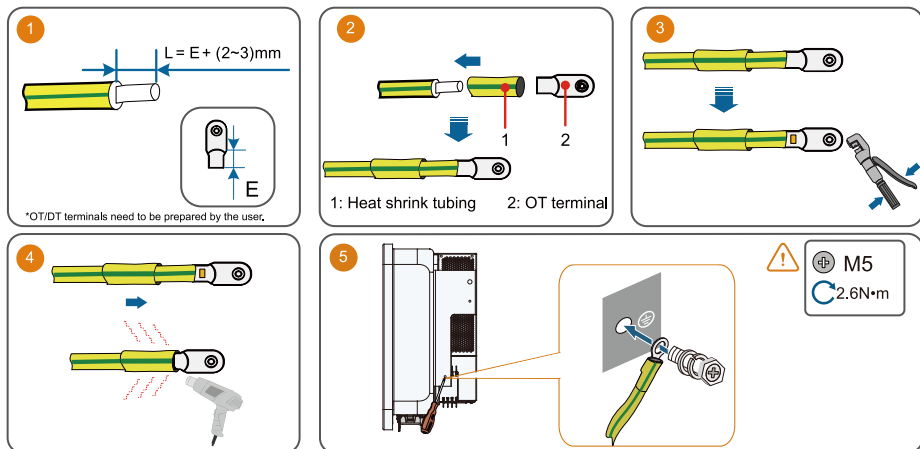
Mounting



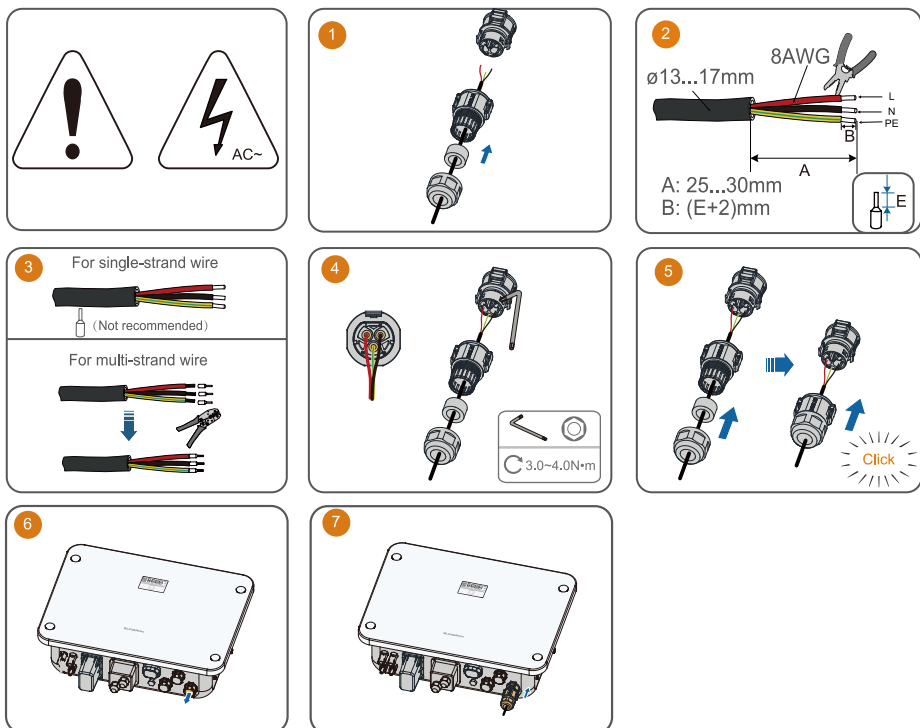
Terminal description



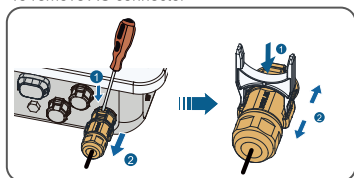
PE connection



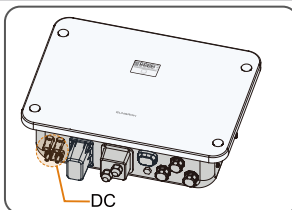
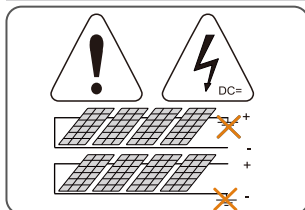
AC cable connection



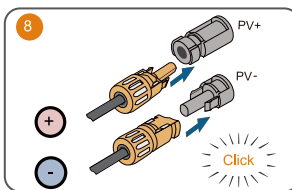
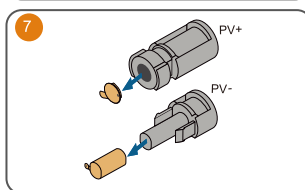
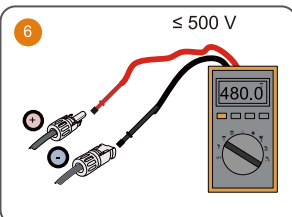
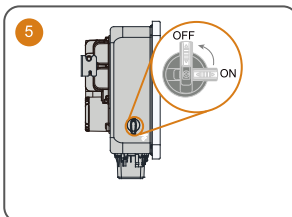
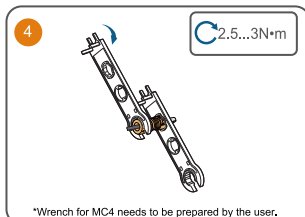
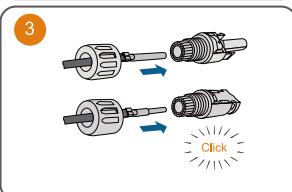
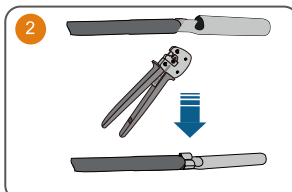
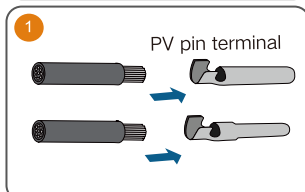
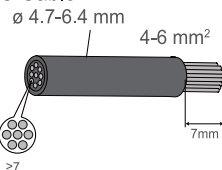
*To remove AC connector



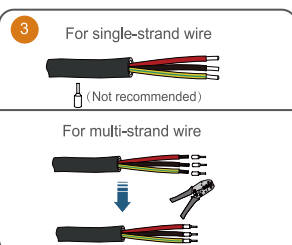
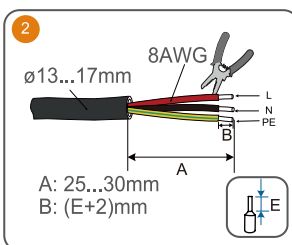
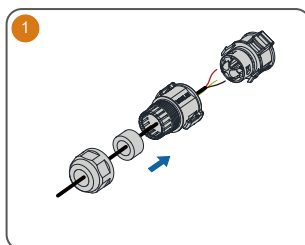
DC cable connection

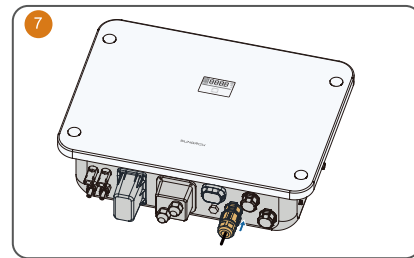
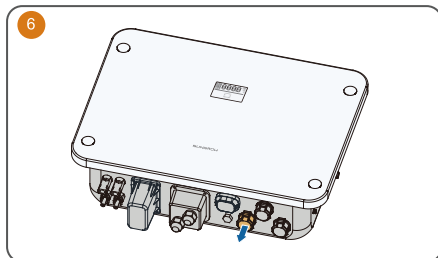
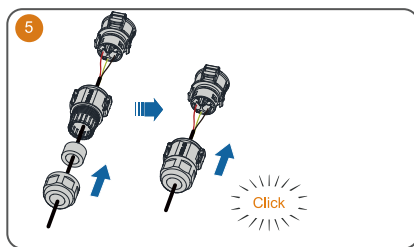
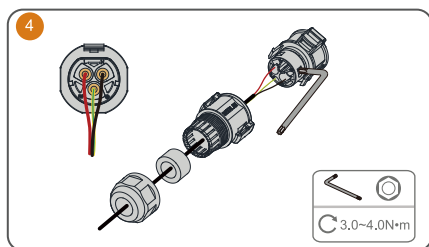


DC Cable

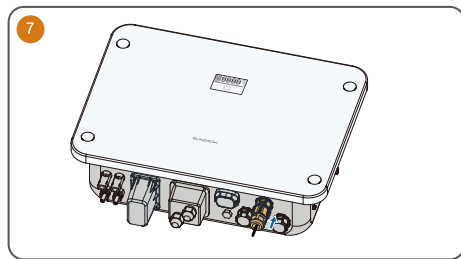
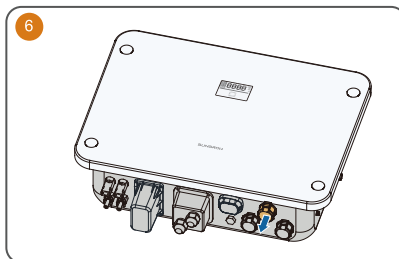
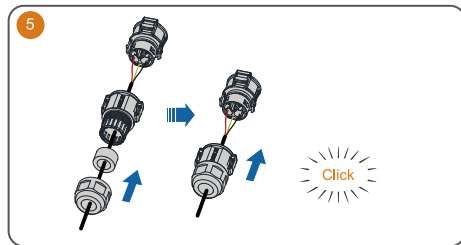
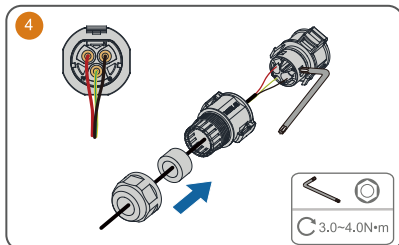
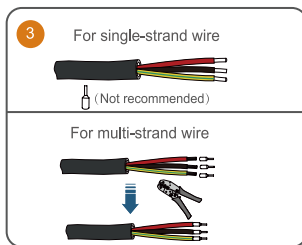
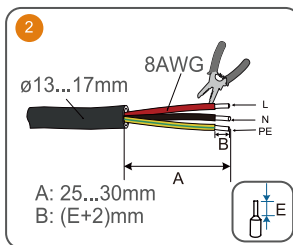
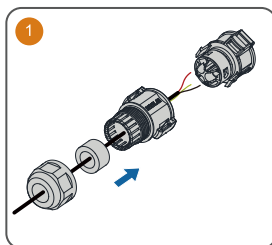


BACKUP connection





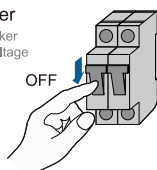
GEN connection



Battery connection

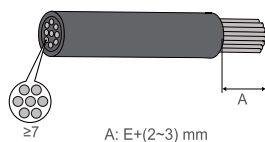
Battery DC Breaker

Recommended DC Breaker
 $V > \text{Maximum battery voltage}$
 Recommended: 150A

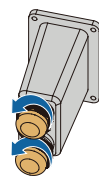


*If the battery does not have a readily accessible internal DC breaker, an additional DC breaker is required.

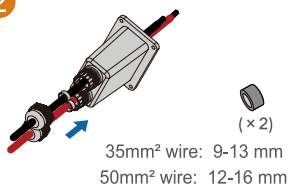
Battery Cable



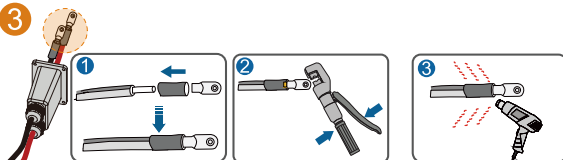
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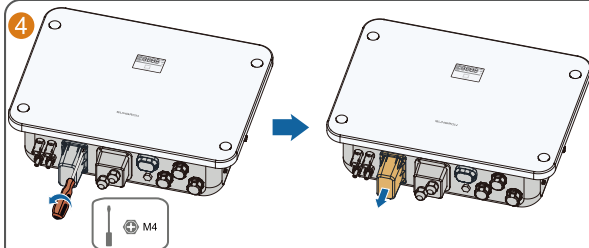
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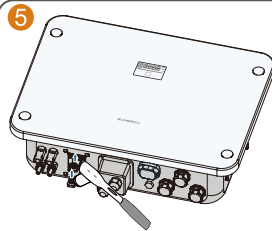
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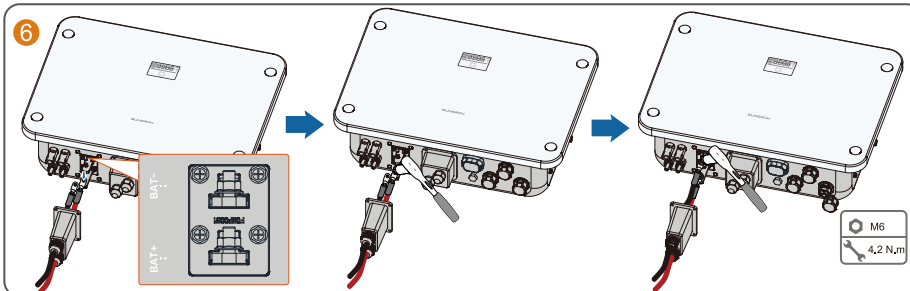
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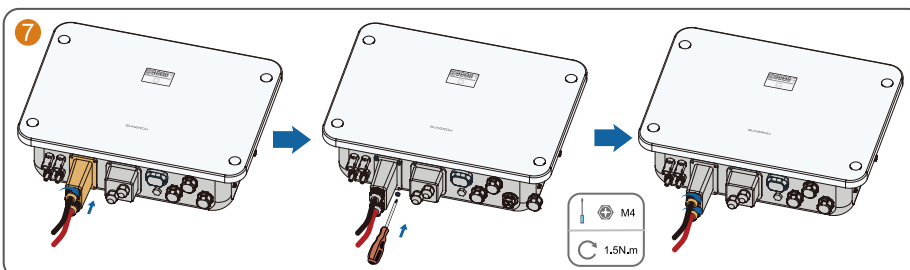


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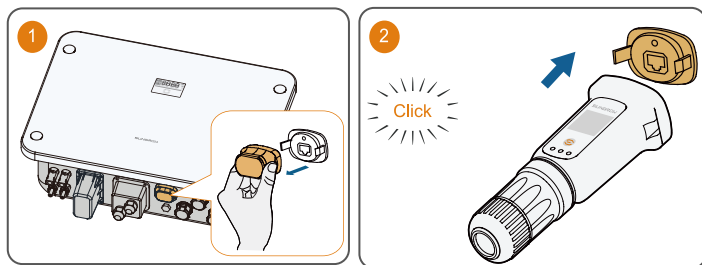
⚠ Do not reverse the positive and negative terminals of the battery, otherwise the inverter may be damaged.

7

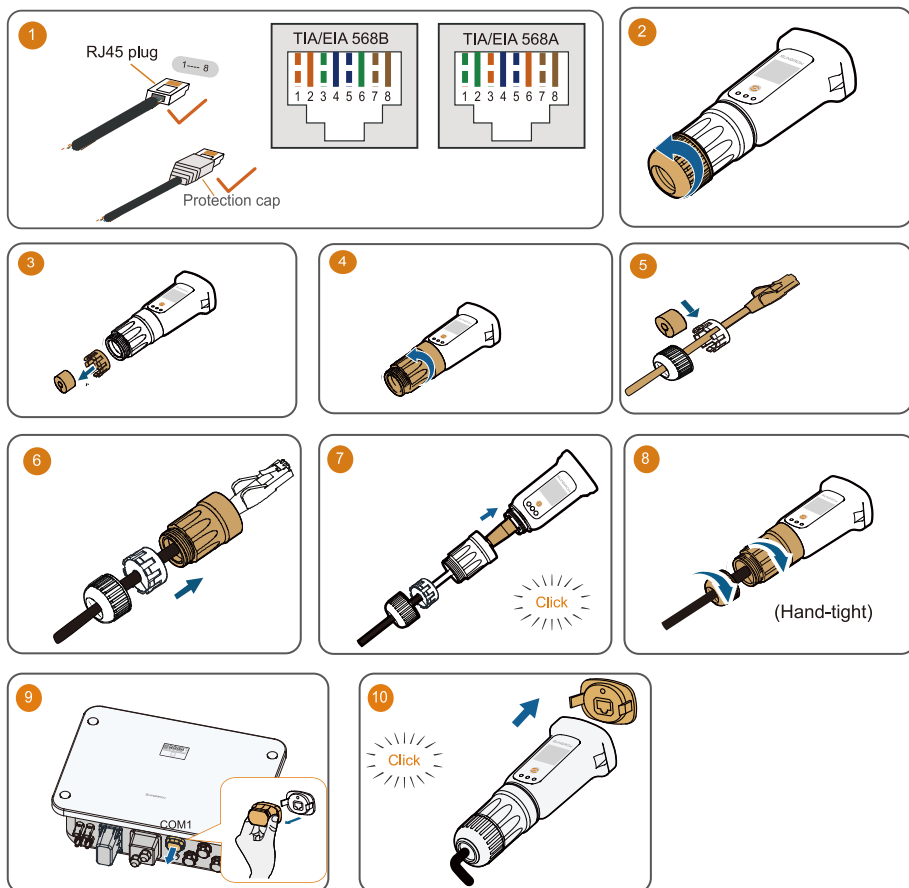


WiNet-S2 connection

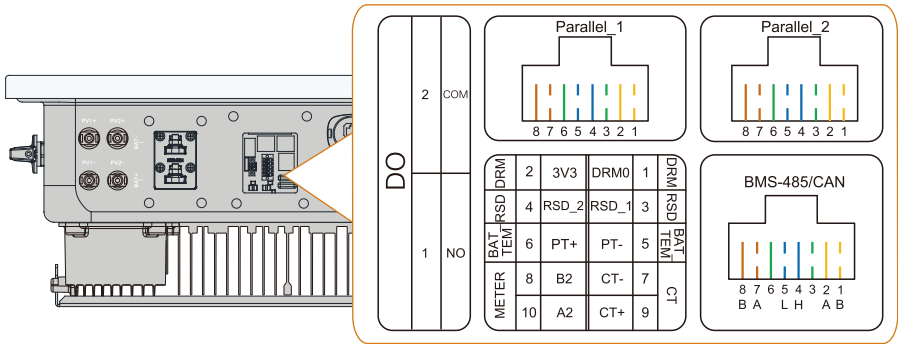
• WLAN communication



• Ethernet communication



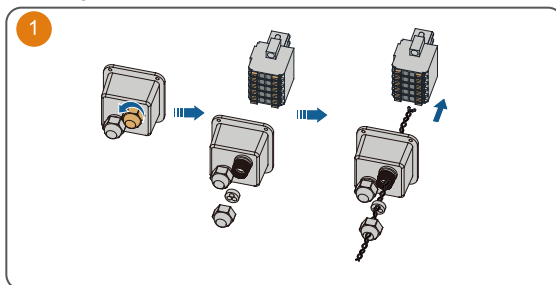
COM2 terminal communication connection

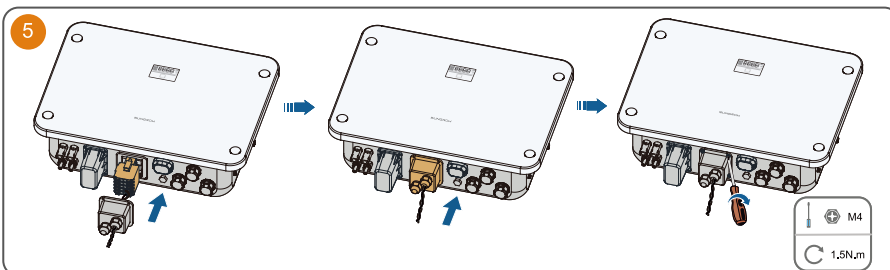
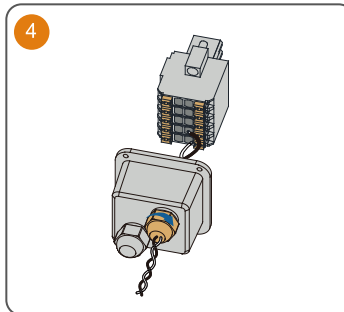
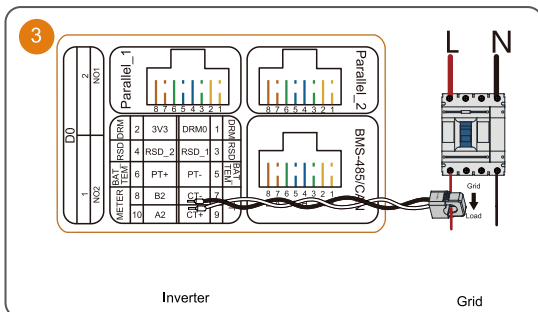
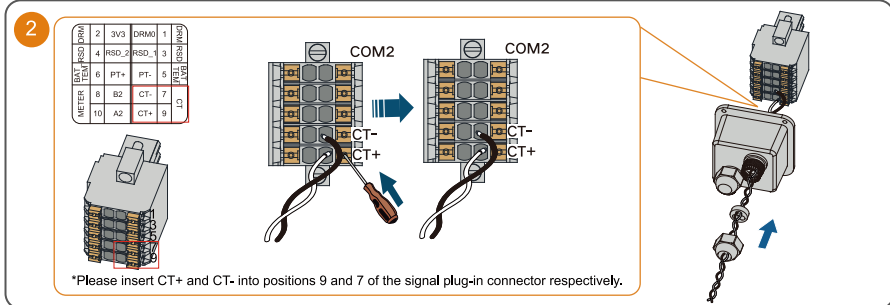


Label	Description
DO(NO/1, COM/2)	For ground fault alarm, intelligent load control or generator control.
Parallel_1	For master-slave parallel communication.
Parallel_2	For master-slave parallel communication.
DRM(3V3, DRM0)	Reserved (Detail availability contact SUNGROW)
RSD(RSD_1, RSD_2)	Reserved (Detail availability contact SUNGROW)
BAT_TEM(PT-, PT+)	Reserved (Detail availability contact SUNGROW)
METER(A2,B2)	For smart energy meter
CT	For grid CT signal sampling
BMS-485/CAN	Only 4/H and 5/L are used for battery communication via CAN protocol, RS485 protocol is reserved.

CT connection

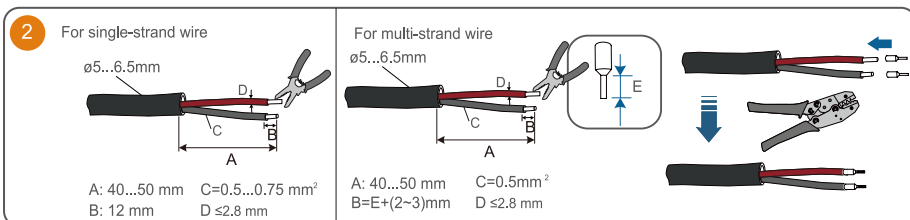
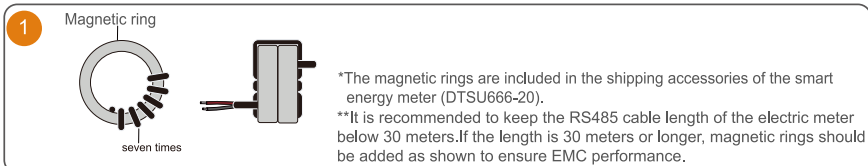
* The length of CT cable is 5m.



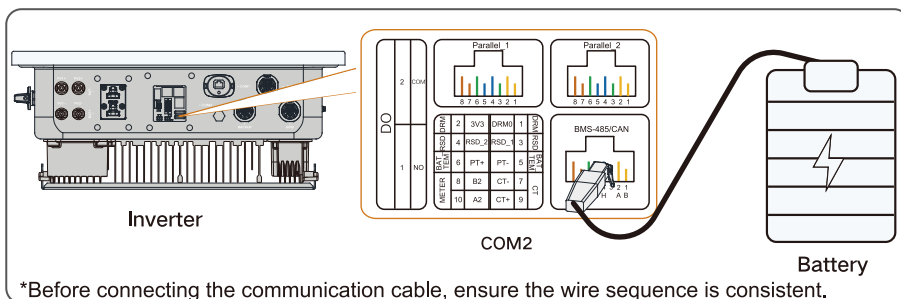


Smart Energy Meter Connection

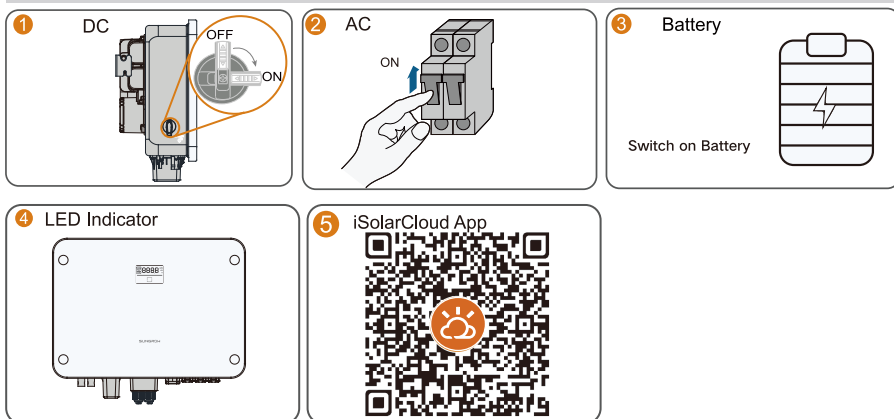
*The smart energy meter is not included as standard delivery but is available for separate purchase.



Battery Communication



Power on



- Wait 5 minutes after completing the previous step before proceeding to the next one.

LED indicator

LED indicator	LED state	Definition
	ON	The inverter is running in the on/off-grid mode.
	Twinkling	The inverter is at standby or startup state (without on/off-grid operation).
	ON	A system fault has occurred.
	OFF	Both the AC and DC sides are powered down.

1. Contents may be periodically updated or revised due to product development. The information in this guide is subject to change without notice. In no case shall this guide substitute for the user manual or related notes on the device.
2. Make sure to read over, fully understand and strictly follow the detailed instructions of the user manual and other related regulations before installing the equipment. The user manual can be downloaded by visiting the website at <http://support.sungrowpower.com/>; or it can be obtained by scanning the QR code on the side of the equipment or the back cover of this guide.
3. All operations can be performed only by qualified personnel, that must be trained for installation and commissioning of electrical system, as well as dealing with hazards, have knowledge of the manual and of the local regulations and directives.
4. Before installation, check that the package contents are intact and complete compared to the packing list. Contact SUNGROW or the distributor in case of any damaged or missing components.
5. The cable used must be intact and well insulated. Operation personnel must wear proper personal protective equipment (PPE) all the time.
6. Any violation could result in personal death or injury or device damage, and will void the warranty.

Safety

The inverter has been designed and tested strictly according to international safety regulations. Read all safety instructions carefully prior to any work and observe them at all times 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 follow the safety instructions related to the PV strings and the utility grid.

DANGER

Lethal voltage!

- PV strings will produce electrical power when exposed to sunlight and can cause a lethal voltage and an electric shock.
- Only qualified personnel can perform the wiring of the PV panels.

NOTICE

Danger to life from electric shock due to lethal voltage!

- All electrical connections must be in accordance with local and national standards.
- Only with the permission of the local utility grid company, the inverter can be connected to the utility grid.

Inverter

The warning label on the inverter body are as follows.



Disconnect the inverter from all the external power sources before maintenance!



Do not touch live parts for 10 minutes after disconnection from the power sources.



Burn danger due to hot surface that may exceed 60 °C.



Danger to life due to high voltages!
Only qualified personnel can open and maintain the inverter.



Read the user manual before maintenance!



The inverter does not have a transformer.



Do not dispose of the inverter together with household waste.



Read the user manual before maintenance!



RCM mark of conformity.



Additional grounding point.

Users may also attach other warning signs as per the requirements of the local standards or installation specifications.

DANGER

Danger to life from electric shocks due to live voltage

- Do not open the enclosure at any time. Unauthorized opening will void warranty and warranty claims and in most cases terminate the operating license.
- When the enclosure lid is removed, live components can be touched which can result in death or serious injury due to electric shock.

Lethal danger from electric shock due to possibly damaged inverter

- Only operate the inverter when it is technically faultless and in a safe state.
- Operating a damaged inverter can lead to hazardous situations that can result in death or serious injuries due to electric shock.

WARNING

Risk of inverter damage or personal injury

- Do not pull out the PV connectors and AC connector when the inverter is running. Disconnect the AC circuit breaker, the circuit breaker of battery and set the DC load-break switch of the inverter to OFF. Wait 10 minutes for the internal capacitors to discharge. Verify that there is no voltage or current before pulling any connector.

WARNING

All the warning labels and nameplate on the inverter body:

- must be clearly visible.
- must not be removed, covered or pasted.

CAUTION

Risk of burns due to hot components!

- Do not touch any hot parts (such as the heat sink) during operation. Only the DC switch can safely be touched at any time.

NOTICE

Only qualified personnel can perform the country setting. Unauthorized alteration may cause:

- A breach of the type-certificate marking.

Risk of inverter damage due to electrostatic discharge (ESD)!

By touching the electronic components, you may damage the inverter. For inverter handling, be sure to:

- avoid any unnecessary touching.
- wear a grounding wristband before touching any connectors.

Battery

DANGER

Batteries deliver electrical power, resulting in burns or a fire hazard when they are short circuited, or wrongly installed.

Lethal voltages are present in the battery terminals and cables in the inverter. Severe injuries or death may occur if the cables and terminals in the inverter are touched.

NOTICE

Improper settings or maintenance can permanently damage the battery.
Incorrect inverter parameters will lead to the premature aging of battery.

Security Declaration

For details on the product's network security vulnerability response process and vulnerability disclosure, please visit the following website:
<https://en.sungrowpower.com/security-vulnerability-management>

For more information on network security, please refer to the user manual of the communication module or the Data Logger that comes with the product.





More information in the QR code or
at <http://support.sungrowpower.com/>

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Sungrow Power Supply Co., Ltd.

www.sungrowpower.com



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