V1.8-2025-12-22

Grid-Tied PV Inverter
GT Series

- **GW75K-GT-LV-G10**
- **GW100K-GT**
- **GW110K-GT**
- **GW125K-GT**

User Manual

GOODWE

Copyright Statement

Trademarks Authorization

NOTICE

The information in this user manual is subject to change due to product updates or other reasons. This guide cannot replace the product labels otherwise specified. All descriptions in the manual are for guidance only.

About This Manual

This document describes the product information, installation, electrical connection, commissioning, troubleshooting, and maintenance of the inverter. Read through this manual before installing and operating the products to understand product safety information and familiarize yourself with functions and features of the product. This manual is subject to update without notice. For more product details and latest documents, visit https://en.goodwe.com/.

Applicable Model

This manual applies to the listed inverters below:

No.	Nominal Output Power	Nominal Output Voltage
GW75K-GT-LV-G10	75kW	127/ 220,3L/N/PE or3/PE
GW100K-GT	100kW	380/ 400V, 3L/N/PE or 3L/PE
GW110K-GT	110kW	
GW125K-GT	125kW	

Target Audience

Only for use by professionals who are familiar with local regulations and standards, electrical systems, and who have received professional training and are knowledgeable about this product.

Symbol Definition

⚠DANGER

A situation with high potential danger, which will result in death or serious injury if not avoided.

⚠WARNING

A situation with moderate potential danger, which may result in death or serious injury if not avoided.

⚠CAUTION

A situation with low potential danger, which may result in moderate or minor injury to personnel if not avoided.

NOTICE

Highlights key information and supplements the texts. Or some skills and methods to solve product-related problems to save time.

Table of Contents

1 Safety Precautions

⚠WARNING

The products are designed and tested strictly to comply with related safety rules. Follow all the safety instructions and cautions before any operations. Improper operation might cause personal injury or property damage as the products are electrical equipment.

1.1 General Safety

NOTICE

- The information in this user manual is subject to change due to product updates or other reasons. This guide cannot replace the product labels otherwise specified. All descriptions in the manual are for guidance only.
- Read through this document before installation to learn about the product and the precautions.
- All operations should be performed by trained and knowledgeable technicians who are familiar with local standards and safety regulations.
- Use insulating tools and wear personal protective equipment (PPE) when operating the equipment to ensure personal safety. Wear anti-static gloves, wrist strips, and cloths when touching electronic devices to protect the equipment from damage.
- Unauthorized dismantling or modification may damage the equipment, the damage is not covered under the warranty.
- Strictly follow the installation, operation, and configuration instructions in this manual. The manufacturer shall not be liable for equipment damage or personal injury if you do not follow the instructions. For more warranty details, please visit https://en.goodwe.com/warranty.

1.2 DC Side

⚠DANGER

- Connect the inverter DC cables using the delivered DC connectors. The manufacturer shall not be liable for the equipment damage if DC connectors of other models are used.
- Confirm the following information before connecting the PV string to the inverter. Otherwise, the inverter may be damaged permanently or even cause fire and cause personal and property losses. Damage and injury caused by failure to operate in accordance with the requirements of this document or the corresponding user manual are not covered by the warranty.
  - Make sure that the positive pole of the PV string connects to the PV+ of the inverter. And the negative pole of the PV string connects to the PV- of the inverter.
  - For the GW100K-GT, GW110K-GT, and GW125K-GT, ensure that the open-circuit voltage of the PV string connected to each MPPT channel does not exceed 1100V. When the input voltage is between 1000V and 1100V, the inverter will enter standby mode. When the input voltage returns to 180V-1000V, the inverter will resume normal operating state.
  - For the GW75K-GT-LV-G10, ensure that the open-circuit voltage of the PV string connected to each MPPT channel does not exceed 800V.

⚠WARNING

- Ensure the PV Module frames and the bracket system are securely grounded.
- Ensure the DC cables are connected tightly, securely and correctly.
- PV modules used with inverters must comply with IEC 61730 Class A standard.
- The PV String connected to the same MPPT must use the same model and the same number of PV modules.
- To maximize the Inverter power Efficiency generation, ensure that the maximum Power point voltage of the series-connected PV modules falls within the MPPT Voltage Range at Nominal Power range of the Inverter.
- Ensure that the voltage difference between different MPPT channels is less than or equal to 150V.
- Ensure that the input current of each MPPT is less than or equal to Max. Input Current per MPPT of , Technical Data Inverter.
- When there are multiple PV strings, it is recommended to maximize the connections of MPPTs.

1.3 AC Side

⚠WARNING

- The voltage and frequency at the connecting point should meet the on-grid requirements.
- Additional protective devices like circuit breakers or fuses are recommended on the AC side. Specification of the protective device should be at least 1.25 times the rated AC output rated current.
- You are recommended to use copper cables as PE cables. If you prefer aluminum cables, remember to use copper to aluminum adapter terminals.

1.4 Inverter

DANGER

- Do not apply mechanical load to bottom terminals, otherwise the terminals may be damaged.
- All labels and warning marks should be visible after the installation. Do not cover, scrawl, or damage any label on the equipment.
- The warning labels on the inverter enclosure are as follows:

No.	Symbol	Description
1		Potential risks exist during the operation of the devices. Wear proper PPE during operations.
2		High voltage hazard. High voltage exist during the operation of the devices. Disconnect all incoming power and turn off the product before working on it.
3		High-temperature hazard. Do not touch the product under operation to avoid being burnt.
4		Delayed discharge. Wait 5 minutes after power off until the components are completely discharged.
5		Read through the user manual before any operations.
6		Do not dispose of the System as household waste. Deal with it in compliance with local laws and regulations, or send it back to the manufacturer.
7		Protective Grounding Connection Point.
8		CE Mark.

1.5 Personal Requirements

NOTICE

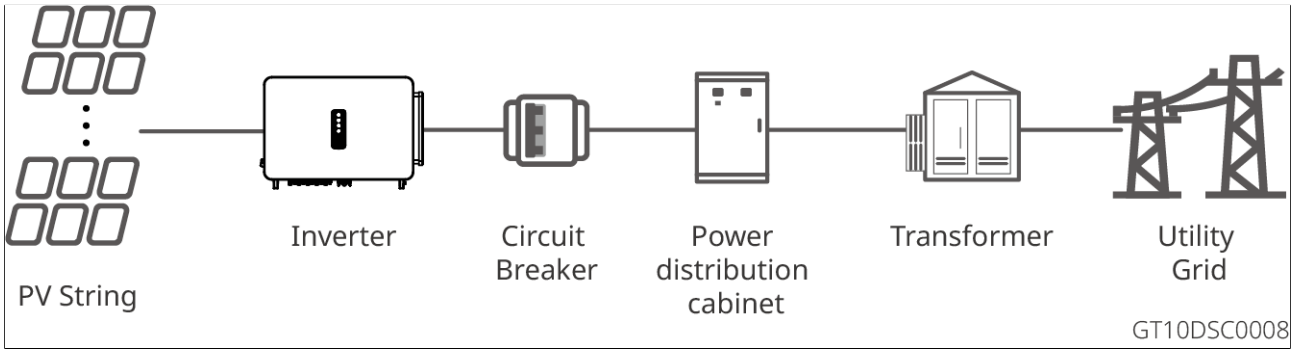
To ensure the safety, compliance, and efficiency throughout the transportation, installation, wiring, operation, and maintenance of the equipment, the work must be carried out by professionals or qualified personnel.

1. Professionals or qualified personnel include:
   - Personnel who have mastered the equipment's working principles, system structure, and knowledge of relevant risks and hazards, and have received professional operation training or possess rich practical experience.
   - Personnel who have received relevant technical and safety training, have certain operational experience, can be aware of potential dangers that specific operations may pose to themselves, and are able to take protective measures to minimize risks to themselves and others.
   - Qualified electrical technicians who meet the regulatory requirements of the country/region where they are located.
   - Personnel who hold a degree in electrical engineering/an advanced diploma in an electrical discipline or equivalent qualification/a professional qualification in the electrical field, and have at least 2/3/4 years of experience in testing and supervising in accordance with electrical equipment safety standards.
2. Personnel engaged in special tasks such as electrical operations, working at heights, and operation of special equipment must hold valid qualification certificates as required by the location of the equipment.
3. Operation of medium-voltage equipment must be performed by certified high-voltage electricians.
4. Replacement of the equipment and its components is only permitted to be carried out by authorized personnel.

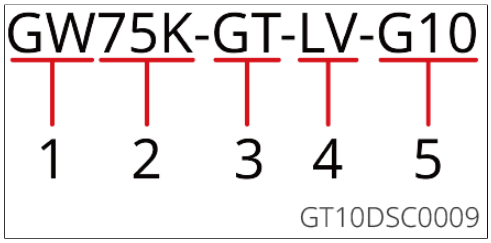
2 Product Introduction

2.1 Application Scenario

The GT inverter is a three-phase PV string grid-tied inverter. The inverter converts the DC power generated by the PV module into AC power and feeds it into the utility grid. The intended use of the inverter is as follows:



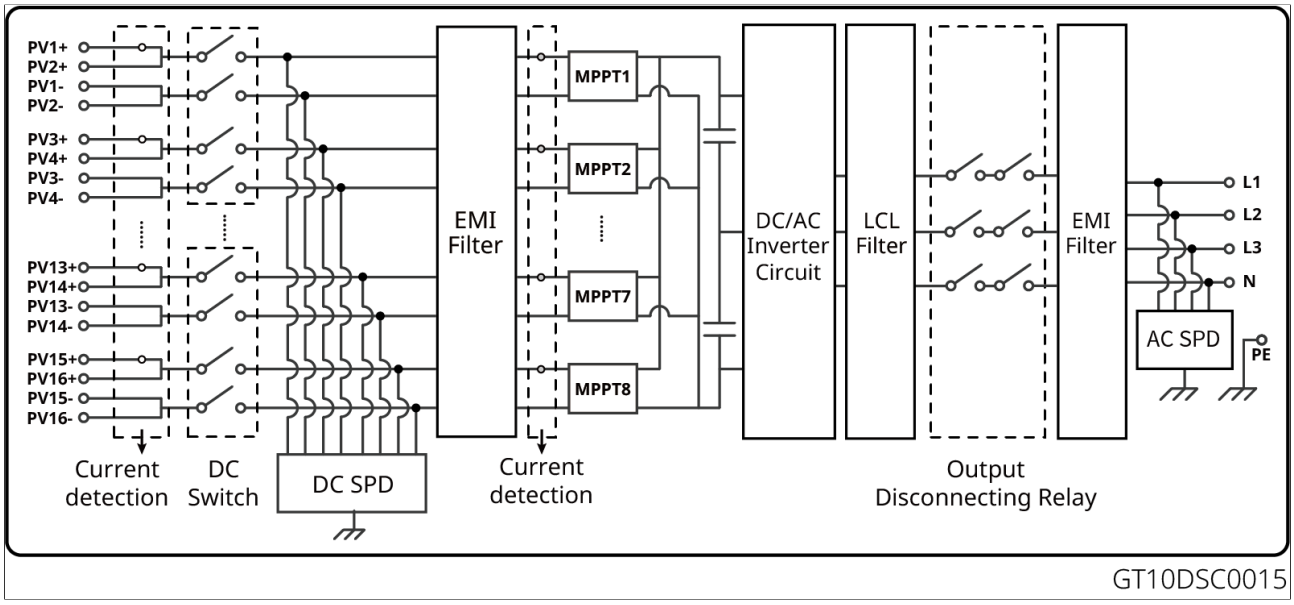
Model Description



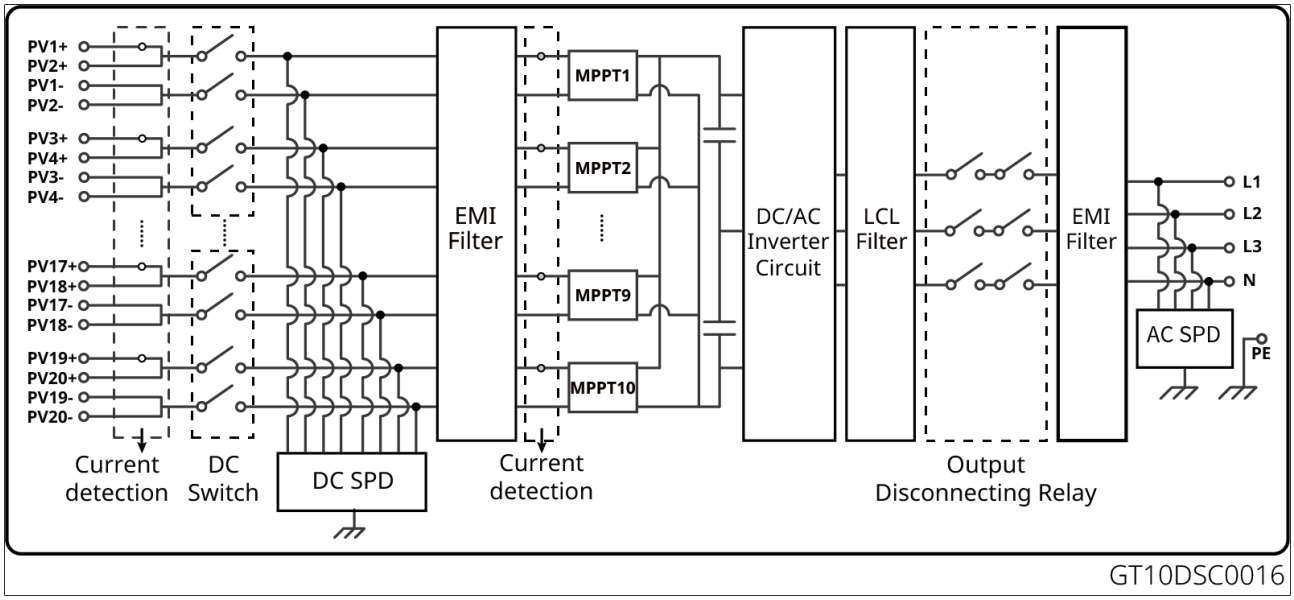
No.	Description	Instruction
1	Brand Code	GW: GoodWe
2	Nominal Power	75K: the nominal power is 75kW
3	Series Name	GT: GT Series
4	Grid Type	LV: Low Voltage Grid
5	Version Code	G10: The first-generation product

2.2 Circuit Diagram

Main Circuit Schematics of GW75K-GT-LV-G10 and GW100K-GT:



Main Circuit Schematics of GW110K-GT and GW125K-GT:

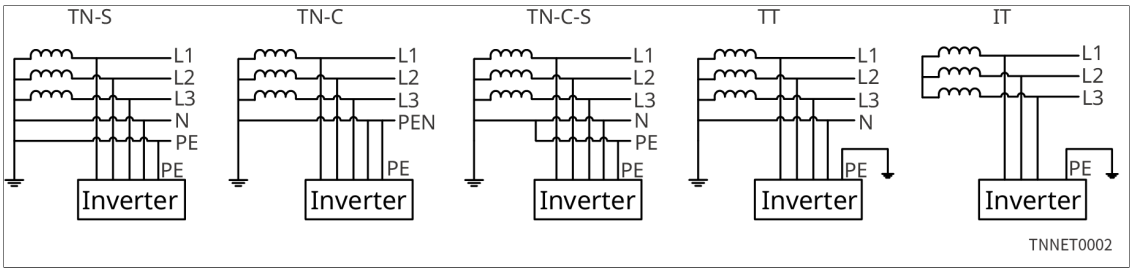


2.3 Supported Grid Types

The GW75K-GT-LV-G10, GW100K-GT, GW110K-GT, and GW125K-GT support the following grid topologies: TN-S, TN-C, TN-C-S, TT, and IT, as illustrated below:

NOTICE

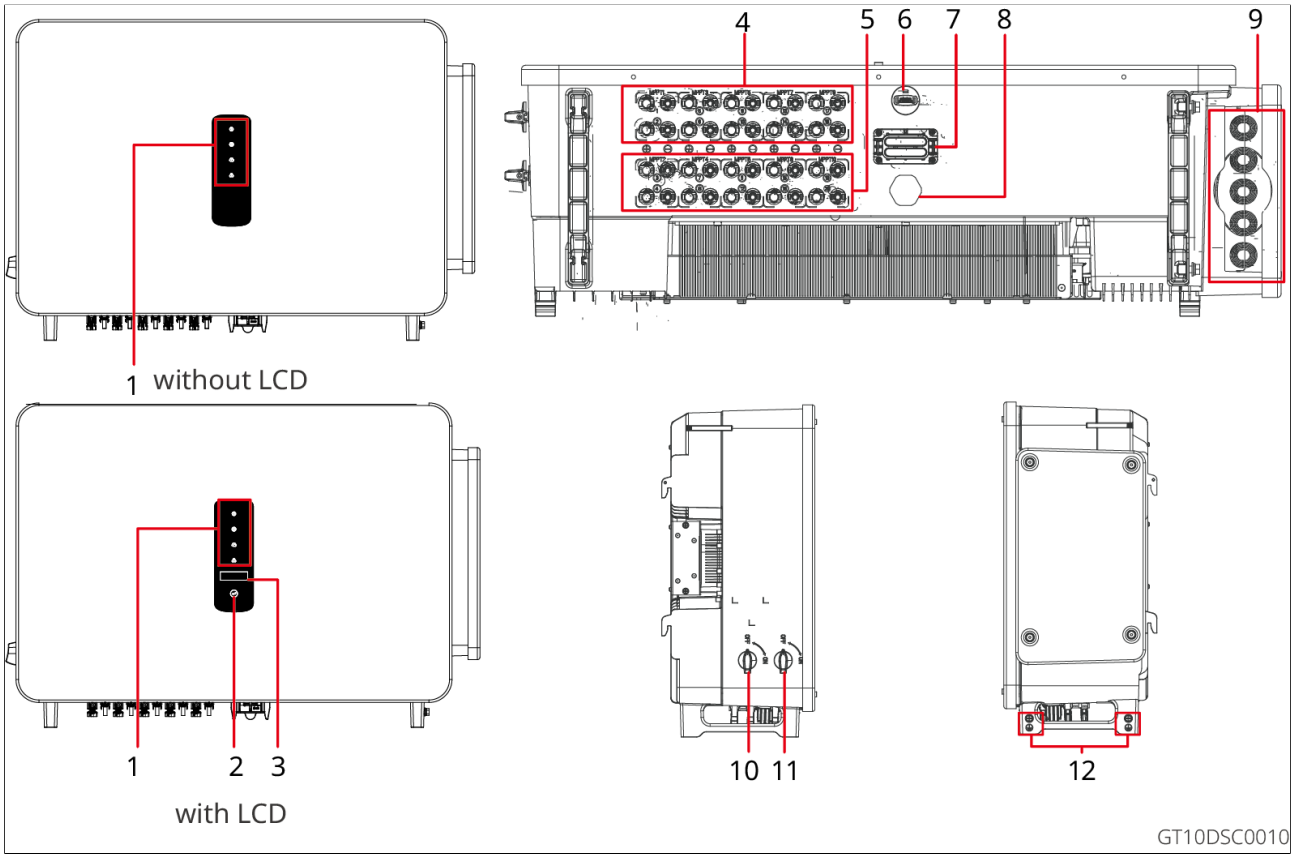
For the TT grid type with neutral wire, the N to ground voltage must be less than 20V.



2.4 Appearance&Dimensions

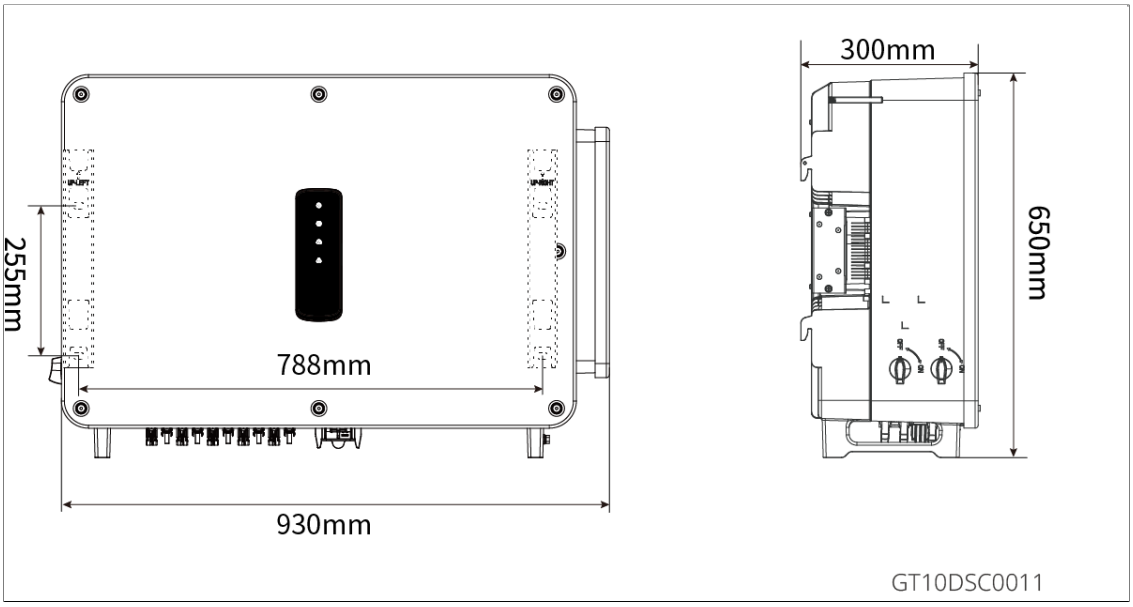
There may be differences in the appearance and color of the product, and it refer to the actual situation.

2.4.1 Appearance Description



No.	Component	Description
1	Indicator	Indicating the working status of the inverter and the SOC of the battery
2	Button (optional)	To operate the display screen
3	LCD (optional)	To check the parameters of the inverter
4	DC connector	To connect the PV module DC input cables GW75K-GT-LV-G10 and GW100K-GT: MPPT1/3/5/7; GW110K-GT and GW125K-GT: MPPT1/3/5/7/9
5	DC connector	To connect the PV module DC input cables GW75K-GT-LV-G10 and GW100K-GT: MPPT2/4/6/8; GW110K-GT and GW125K-GT: MPPT2/4/6/8/10
6	USB port	To connect the smart dongle such as WiFi, 4G, and so on.
7	Communication Port	Including multiple communication interfaces (e.g., RS485, DRED), which are used to connect communication cables for corresponding functions
8	Ventilation valve	Waterproof and Breathable, Balancing Internal and External Air Pressure
9	AC Cable Hole	The AC output cables pass through the hole
10	DC Switch 2	Start or stop MPPT2/4/6/8 or MPPT2/4/6/8/10 DC input.
11	DC Switch 1	Start or stop MPPT1/3/5/7 or MPPT1/3/5/7/9 DC input.
12	Protective Grounding Terminal	Connecting the PE Cable

2.4.2 Dimensions



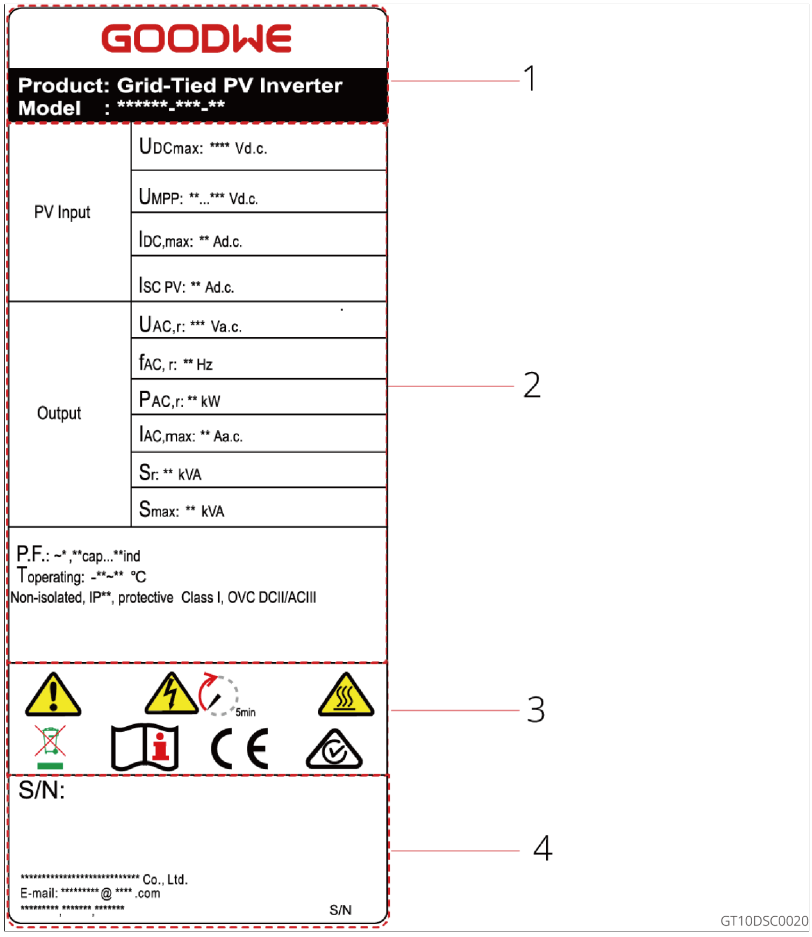
2.4.3 Indicator Description

Indicator	Status	Description
电源 Power		On: Equipment Power On
		Power Off: The equipment is power off.
运行 Running		On: THE INVERTER IS FEEDING POWER
		Power Off: THE INVERTER IS NOT FEEDING POWER
		SINGLE SLOW BLINKING SELF CHECK BEFORE CONNECTING TO THE GRID
		SINGLE FAST BLINKING CONNECTING TO THE GRID
Communication		On: WIRELESS IS CONNECTED/ACTIVE
		Blinks 1 time: WIRELESS SYSTEM IS RESETTING
		Blinks 2 times: WIRELESS IS NOT CONNECTED TO ROUTER OR BASE STATION
		Blinks 4 times: NOT CONNECTED TO MONITORING SERVER

		Blinks: RS485 communication normal
		Power Off: WIRELESS IS RESTORING FACTORY DEFAULT SETTING
故障 Fault		On: System Failure
		Power Off: No Fault

2.4.4 Nameplate Description

The nameplates are for reference only. The actual product may differ.



A	B	C	D
GW trademark, product type, and product model	Technical Parameters	Product Safety Symbols and Certification Marks	Contact Details, No. information

2.5 Features

AFCI

The inverter is integrated with an AFCI (Arc-Fault Circuit Interrupter) protection device used to detect arc faults and rapidly disconnect the circuit to avoid electrical fires.

Reason to occur electric arcs:

- Damaged connectors in PV or battery system.
- Wrong connected or broken cables.
- Aging of connectors and cables

Troubleshooting:

- The inverter has integrated AFCI function, and meets the IEC 63027 standard.
- When the inverter detects an electric arc, users can find the time of the fault and the detailed phenomenon through SolarGo App.
- After the inverter triggers the AFCI alarm, it will shut down for protection, and automatically reconnect to the grid to resume operation once the alarm is cleared.
  - Automatic reconnection: The alarm can be cleared automatically after 5 minutes, if the inverter triggers the AFCI alarm for less than 5 times within 24 hours, and the inverter will reconnect to the grid to resume operation.
  - Manual reconnection: The alarm must be cleared manually before the inverter can reconnect to the grid to resume operation, if the inverter triggers the 5th AFCI alarm within 24 hours. For more details, refer to the SolarGo App User Manual.

PID Restoration (Optional)

During the operation of a PV panel, a potential difference exists between its output electrodes and grounded frame. Over time, this causes reduced power generation efficiency, known as Potential Induced Degradation (PID).

The PID function of this device works by increasing the voltage difference between the photovoltaic (PV) panel and its frame to create a positive voltage difference (referred to as positive voltage elevation). This achieves the effect of PID suppression and is applicable to P-type PV panels as well as N-type PV panels that require positive voltage elevation to suppress the PID effect. For N-type solar panels that require negative voltage reduction to suppress the PID effect, it is recommended to disable this function. Please consult the module supplier to confirm whether the N-type

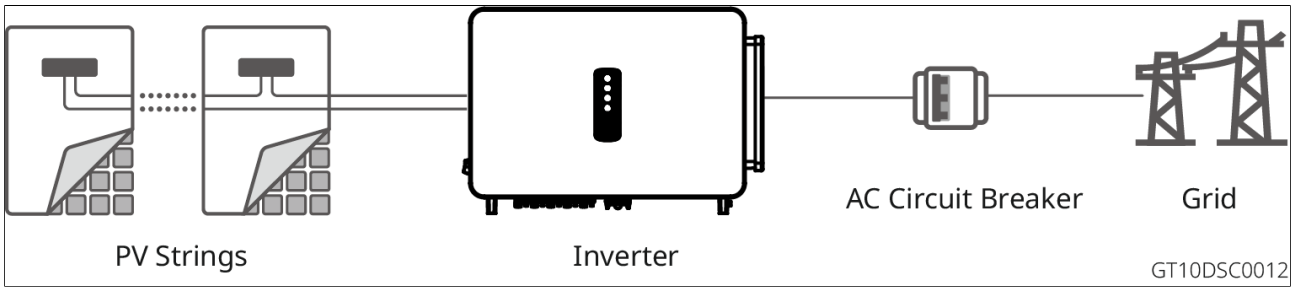
module belongs to the type that requires positive pressure elevation for PID suppression.

Night-time SVG (Optional)

The night-time SVG (Static Var Generator) function refers to the capability of an inverter to continue providing reactive power compensation during the night or when there is no solar energy input, thereby improving the power factor of the power grid, reducing grid losses, and maintaining voltage stability.

RSD（Optional）

When paired with a signal transmitter, the inverter can communicate with external standalone module-level rapid shutdown devices. In case of an emergency, the AC circuit breaker at the inverter's output terminal can be switched off to cut off the AC power supply to the transmitter, thereby stopping the transmitter from operating and further shutting down the output of the PV string.

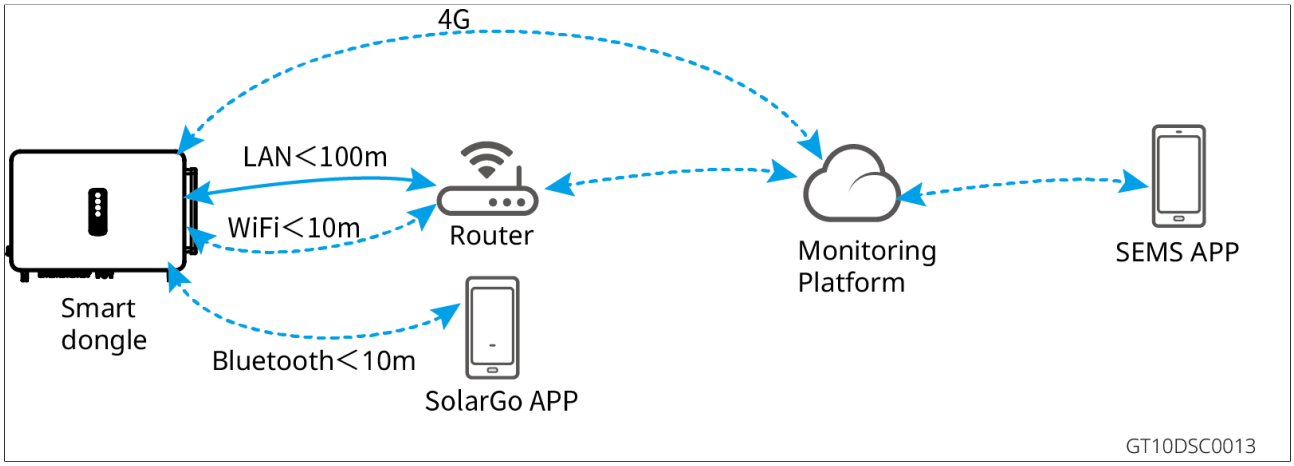


Communication

The inverter supports parameter configuration via Bluetooth through the SolarGoApp. It also supports connection to the SEMS Cloud Monitoring Platform via WiFi, 4G, or WiFi+LAN, enabling users to monitor the inverter's operating status, power plant operation, and other related data.

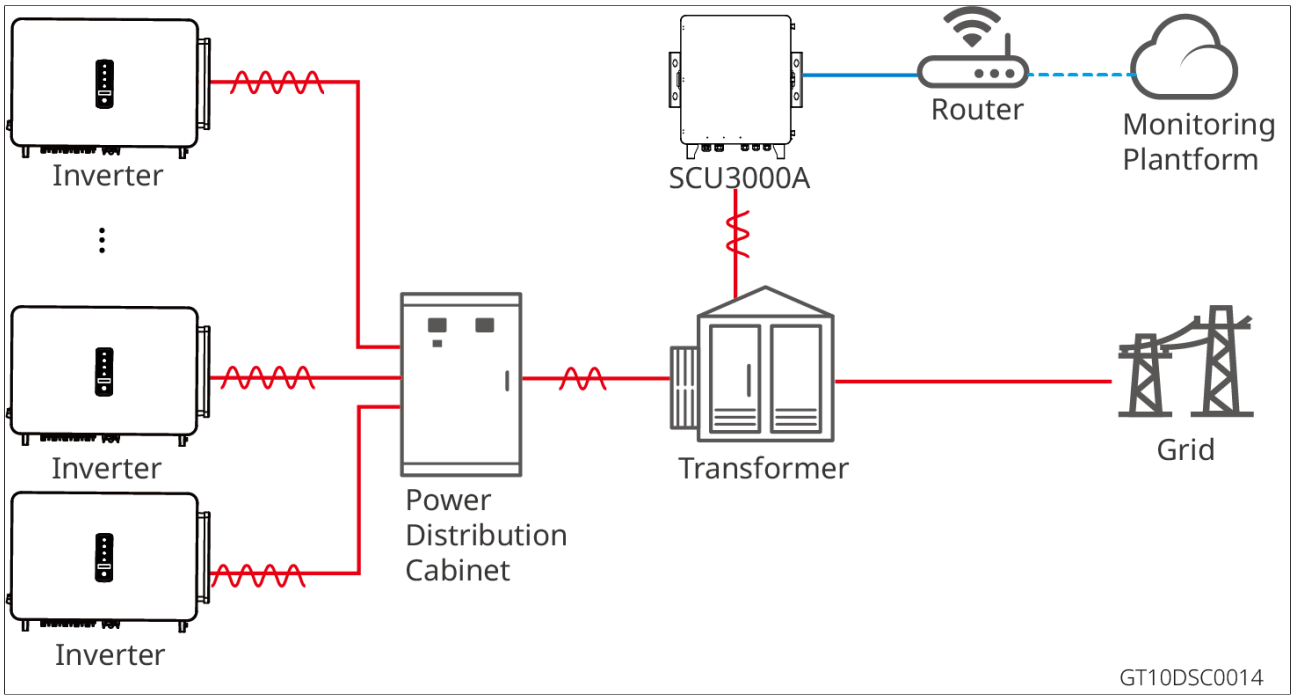
- Bluetooth: Compliant with Bluetooth 5.1 Standard
- WiFi: 2.4G frequency band is supported. Set the router to 2.4G or 2.4G/5G coexistence mode. User can set 40 bytes for router wireless signal name maximumly.
- LAN: connects the inverter to the router via LAN communication and then to the server.
- 4G: Supports server connection via 4G communication.

The specific communication method depends on the inverter model.



PLC (Optional)

Utilizing the existing power cable communication, no need for additional communication cable installation.



The maximum power cable communication distance between the inverter and the Smart Energy Controller (SCU3000A) is 1000 meters.

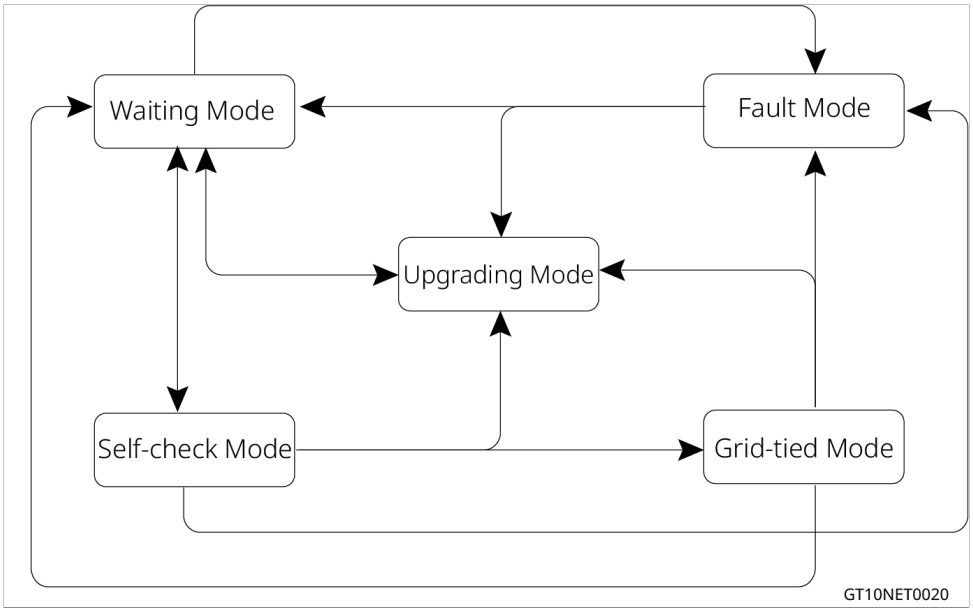
Fuse Detection (Optional, Korea Only)

- Detects whether the fuse at the PV terminal is disconnected. When the inverter detects a fuse disconnection, it will trigger off-grid protection. The fault type can be

viewed via the inverter's display screen or App.

- The fuse detection function is only available when all string inputs of the inverter are fully connected.

2.6 Operation Mode of Inverters



No.	Component	Description
1	Standby Mode	Standby stage after the machine is powered on. • When the conditions are met, enter self-check mode. • If a fault occurs, the inverter enters fault mode. • If an upgrade request is received, enter upgrade mode.
2	Self-check Mode	Before the inverter starts, it continuously performs self-checks, initialization, etc. • If the conditions are met, the on-grid mode is activated and the inverter starts grid connection operation. • If an upgrade request is received, enter upgrade mode. • If the self-check fails, the device enters fault mode. • The inverter enters standby mode upon receiving a shutdown command or when the BUS voltage is too low.

3	On-grid Mode	The inverter is normal and in the on-grid mode. • If a fault is detected, the system enters fault mode. • If an upgrade request is received, enter upgrade mode. • The inverter enters standby mode upon receiving a remote command.
4	Fault Mode	If a fault is detected, the inverter enters fault mode and waits until the fault is cleared before entering standby mode.
5	Upgrade Mode	The inverter enters this mode when the program is updated. When the program update is complete, enter standby mode.

3 Check and Storage

3.1 Check Before Receiving

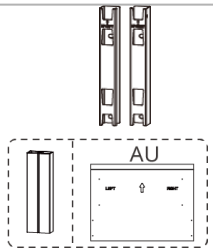
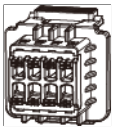
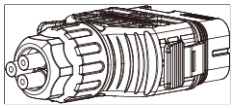
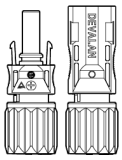
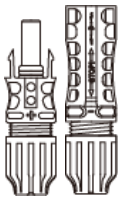
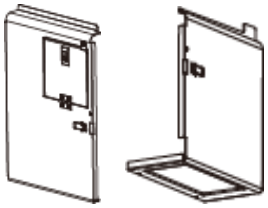
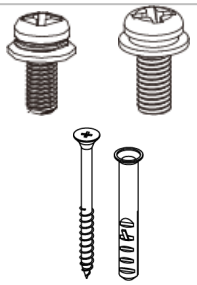
Check the following items before receiving the product:

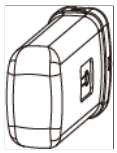
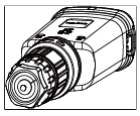
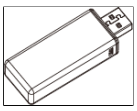
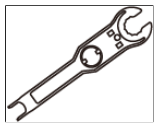
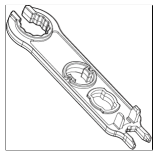
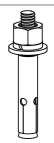
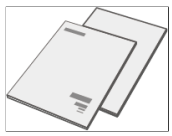
1. Check the outer packing box for damage, such as deformation, holes, cracks, and other signs that may cause damage to the equipment inside the package. Do not unpack the package and contact the supplier as soon as possible if any damage is found.
2. Check the inverter model. If the product model is not what you requested, do not unpack the product and contact the supplier.
3. Check the deliverables for correct model, quantity and intact appearance. Contact the supplier as soon as possible if any damage is found.

3.2 Deliverables

NOTICE
*1 Based on the selection of communication methods, the number of built-in modules is 1 or 2 respectively, while the number of tubular terminals ranges from 8 to 16. *2 Koera and Ausrtalia only. *3 Available smart dongle types include: WiFi/4G/Bluetooth/WiFi+LAN, etc. The actual delivered type depends on the selected inverter communication method. *4 The number of DC connectors is the same as the number of DC terminals of the inverter. You may confirm it according to the number of DC terminals of the inverter. *5 Koera model: N=3, other models: N=2 *6 Optional (Australia SIB); Standard (overseas); Optional (domestic, separate order required). *7 Australia only

Component	Quantity	Component	Quantity

	Inverter x 1		Mounting plate x 1 (AU*7)
	Communication Module x N*1		Communication connector x1
 or 	DC Connector x N* 4	  	PV Protection cover x 1 (AU*7)
	M3 bolt x 4 M5 bolt x 6 Expansion bolt x 4 (AU*7)		PIN Terminal x N* 2

 or  or 	Smart dongle x1*3	 or  or 	DC connector wrench x N*5
	M5 Hex Socket Screw x 2		Expansion bolt x 4
	Fuse*2 x N		Document x 1
	Handle x N* 6		

3.3 Storage

If the equipment is not to be installed or used immediately, please ensure that the storage environment meets the following requirements:

1. Do not unpack the outer package or throw the desiccant away.
2. Store the equipment in a clean place. Make sure the temperature and humidity are appropriate and no condensation.
3. The height and direction of the stacking equipment should follow the instructions on the packing box.

4. The equipment must be stacked with caution to prevent them from falling.
5. If the inverter has been stored for more than two years or has not been in operation for more than six months after installation, it is recommended to be inspected and tested by professionals before being put into use.
6. To ensure good electrical performance of the internal electronic components of the inverter, it is recommended to power it on every 6 months during storage. If it has not been powered on for more than 6 months, it is recommended to be inspected and tested by professionals before being put into use.

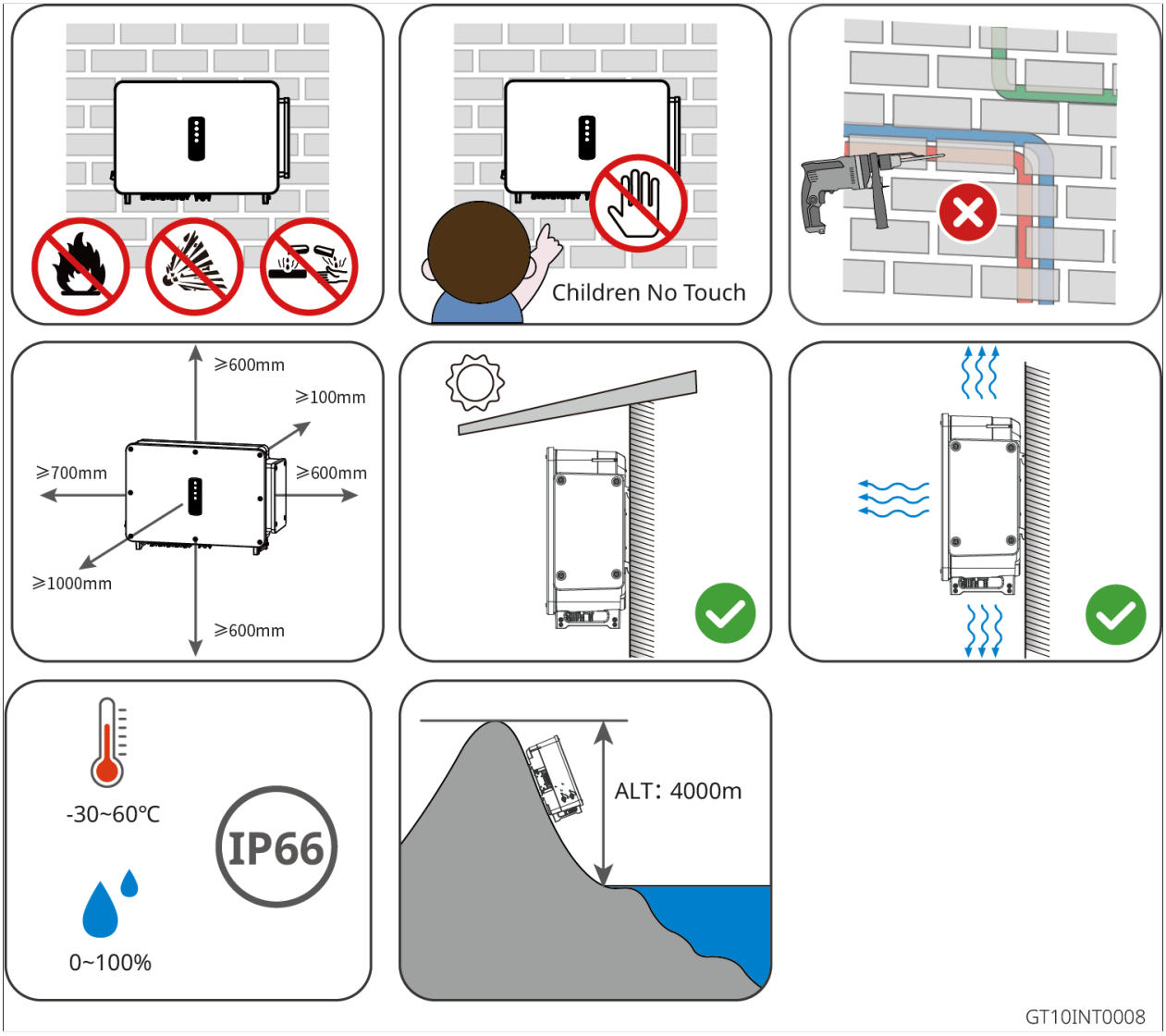
4 Installation

4.1 Installation Requirements

Installation Environment Requirements

1. Do not install the equipment in a place near flammable, explosive, or corrosive materials.
2. The mounting bracket is sturdy and reliable, capable of supporting the weight of the inverter.
3. The installation space must meet the device's ventilation and heat dissipation and the operating space requirements.
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 inverter in a sheltered place to avoid direct sunlight, rain, and snow. Build a sunshade if it is needed.
6. The installation site should be out of the reach of children and away from areas that are easily accessible. High temperatures may exist on the surface of the equipment during operation to prevent burns.
7. Install the equipment at a height that is convenient for operation and maintenance, ensure that the device indicators, all labels are easy to view, and the terminal blocks are easy to operate.
8. The altitude to install the equipment shall be lower than the maximum working altitude 4000m.
9. The inverter is easy to be corroded when installed in salt-affected areas. A salt-affected area refers to the region within 1000 meters offshore or affected by the sea breeze. The area prone to the sea breeze varies depending on weather conditions (e.g. typhoon, monsoon) or terrain (such as dams and hills).
10. Install the equipment away from electromagnetic interference. If there is any radio or wireless communication equipment below 30MHz near the equipment, you have to:

- Add a low pass EMI filter or a multi winding ferrite core to the DC input cable or AC output cable of the inverter.
- Install the inverter at least 30m far away from the wireless equipment.

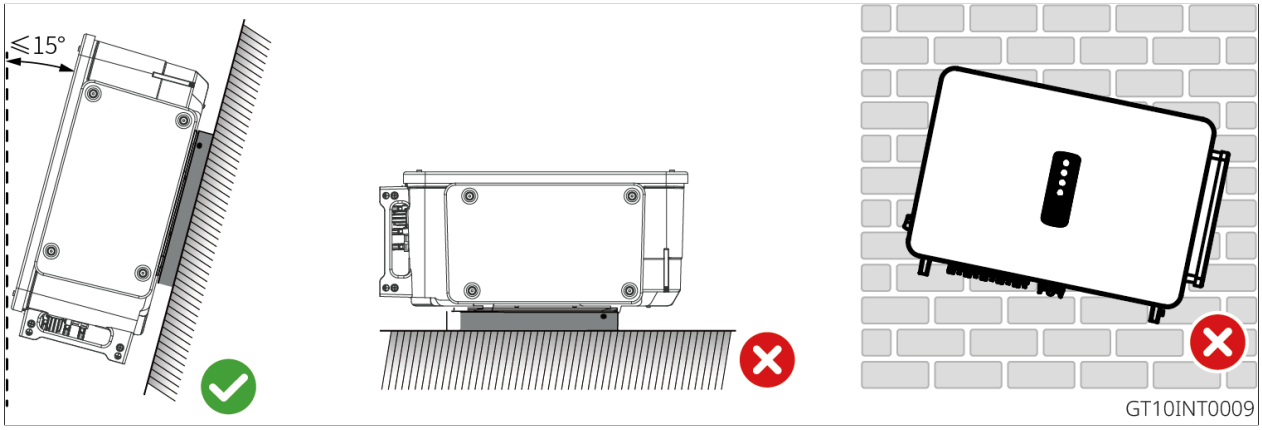


Installation Support Requirements

- The mounting support shall be nonflammable and fireproof.
- Make sure that the support surface is solid enough to bear the product weight load.
- Do not install the product on the support with poor sound insulation to avoid the noise generated by the working product, which may annoy the residents nearby.

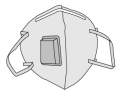
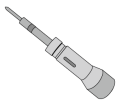
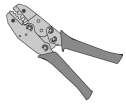
Installation Angle Requirements

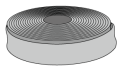
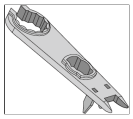
- Install the inverter vertically or at a maximum back tilt of 15 degrees.
- Do not install the inverter upside down, forward tilt, back forward tilt, or horizontally.



Installation Tool

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

Tool Type	Description	Tool Type	Description
	Insulating gloves, protective gloves		Dust mask
	Goggles		Safety shoes
	Torque wrench		Impact drill
	Diagonal pliers		Heat gun
	Wire stripper		DC terminal crimping tool

	Rubber hammer		Marker
	Multimeter		Heat shrink tube
	Vacuum cleaner		Level ruler
	Socket wrench		Unlock tool
	RJ45 crimping tool		Cable tie

4.2 Inverter Installation

4.2.1 Inverter Handling

⚠CAUTION

Move the inverter to the site before installation. Follow the instructions below to avoid personal injury or equipment damage.

1. Consider the weight of the equipment before moving it. Assign enough personnel to move the equipment to avoid personal injury.
2. Wear safety gloves to avoid personal injury.
3. Keep the equipment in balance to avoid its falling down during moving.

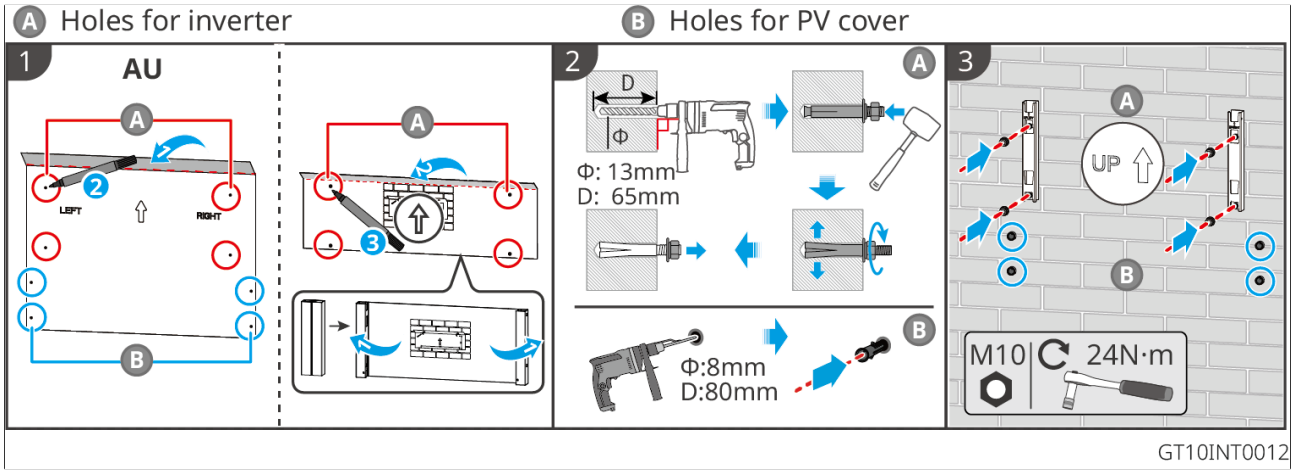
4.2.2 Inverter Installation

NOTICE

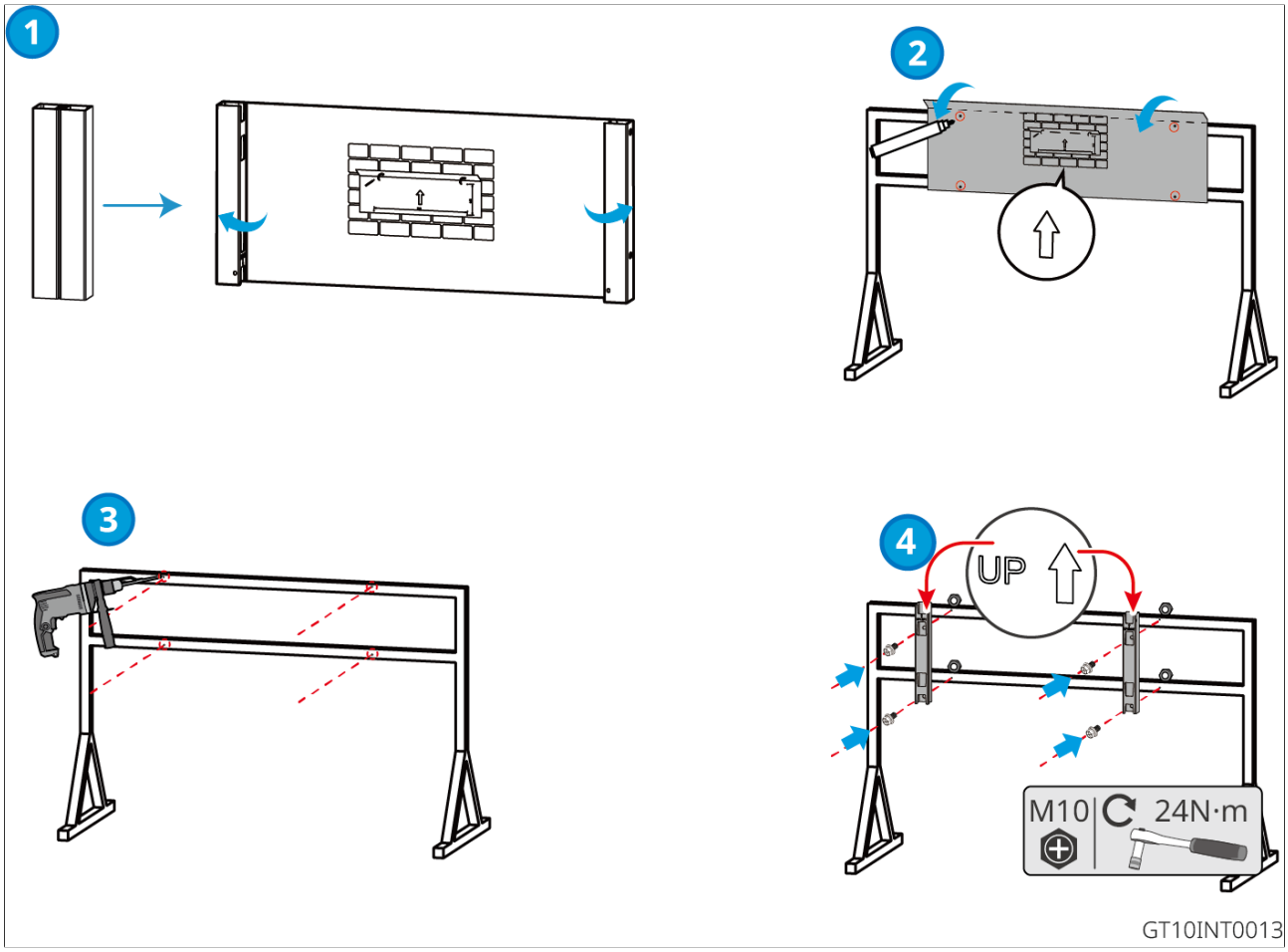
- Avoid the water pipes and cables buried in the wall when drilling holes.
- Wear goggles and a dust mask to prevent the dust from being inhaled or contacting eyes when drilling holes.

Installing the mounting plate

Step 1: Unfold the wiring board, place it horizontally on the wall or bracket, and mark the drilling positions with a marker pen.
Step 2: Drill holes to a depth of 65mm using the hammer drill. The diameter of the drill bit should be 65mm. Step 2: For the Australian version, drill the protective cover mounting holes using an 8mm-diameter hammer drill, ensuring a hole depth of approximately 80mm.
Step 3: Secure the mounting plate using the expansion bolts.
Wall-mounted Installation



Bracket Installation

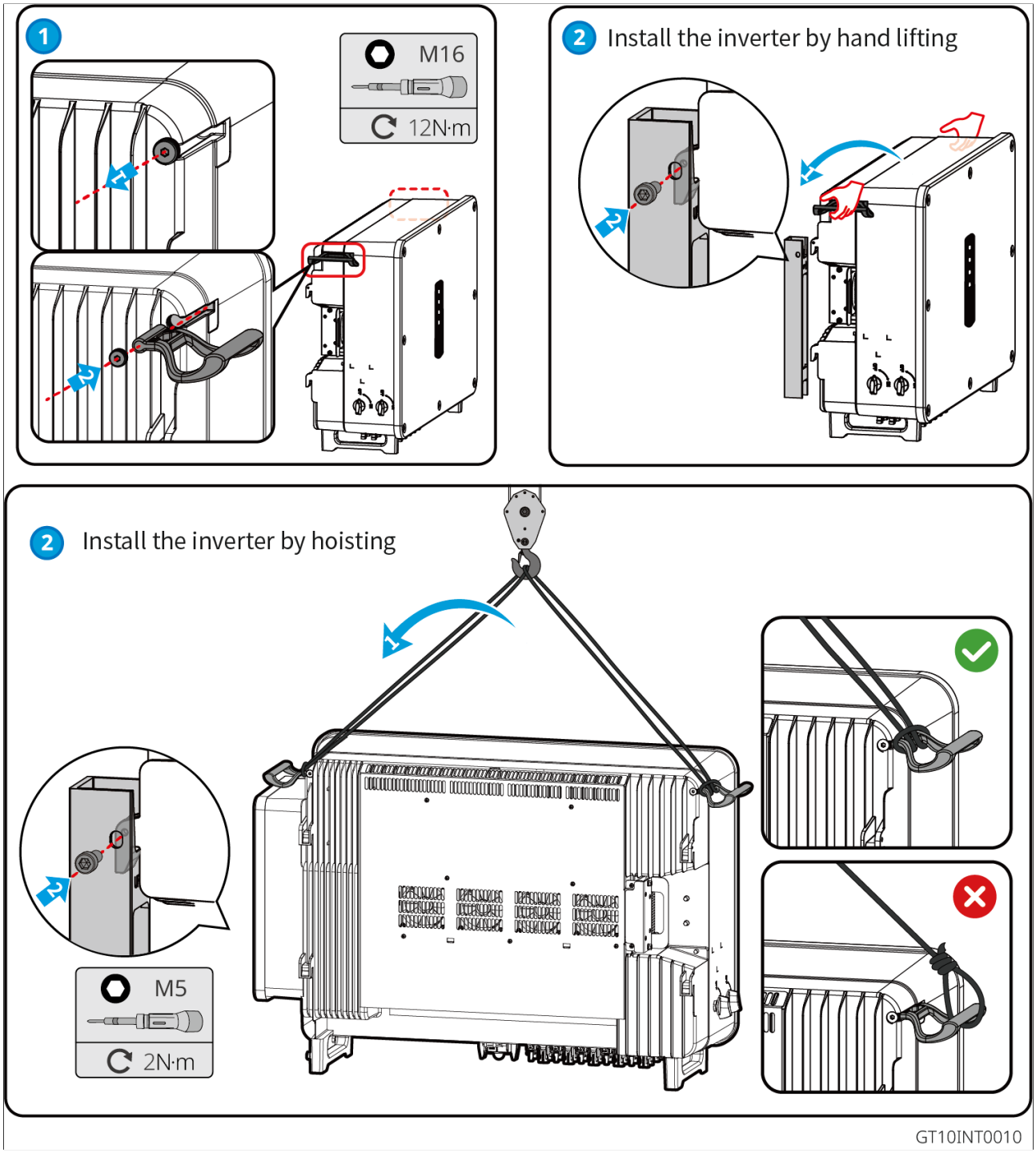


Inverter Installation

Type I: With handles

Step 1: Install the handle onto the corresponding mounting holes of the inverter and secure it firmly.

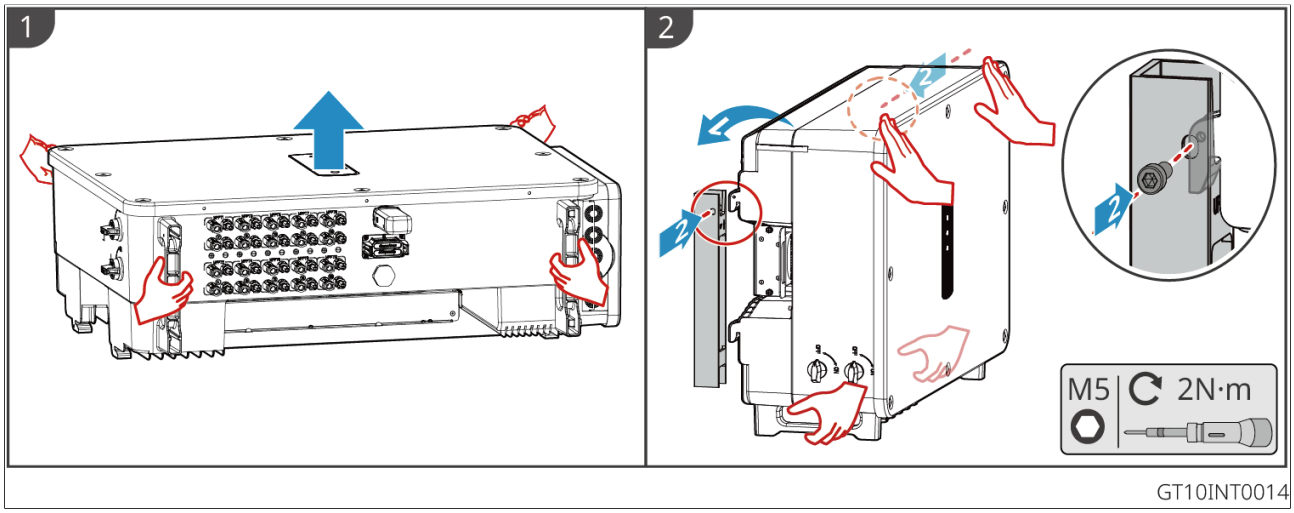
Step 2: Lift or hoist the inverter by the handle, hang it on the wall-mounted bracket, and secure the bracket to the inverter.



Type II: Without handles

Step 1: Place the inverter with its front facing upward, lift it by the four corners, and transport it horizontally.

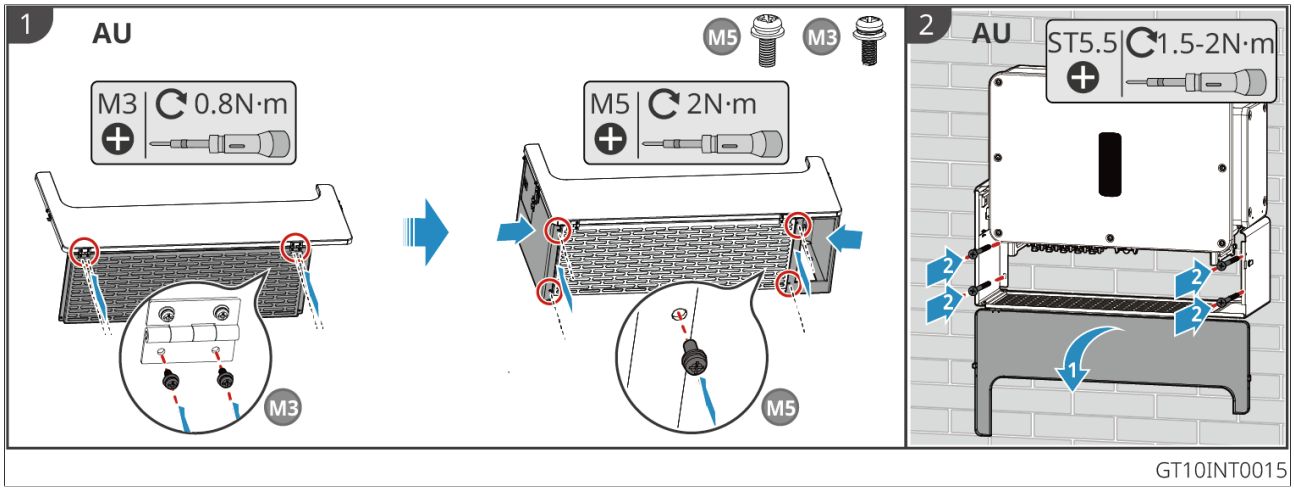
Step 2: Support the bottom of the inverter, lift it up, hold it securely, hang it on the wall-mounted bracket, and fasten the bracket to the inverter.



Install the PV Protective Cover (Australia-only)

Step 1: Assemble the PV protective cover using the correct type of screws and hinges.

Step 2: Secure the PV cover to the wall, ensuring the PV protective cover is firmly installed.



5 Electrical Connections

5.1 Safety Precautions

⚠DANGER

- Disconnect the DC switch and the AC output switch of the inverter to power off the inverter before any electrical connections. Do not work with power on. Otherwise, an electric shock may occur.
- All operations, cables and parts specification during the electrical connection shall be in compliance with local laws and regulations.
- If the cable bears too much tension, the connection may be poor. Reserve a certain length of the cable before connecting it to the Inverter cable port.

NOTICE

- Wear personal protective equipment like safety shoes, safety gloves, and insulating gloves during electrical connections.
- All electrical connections should be performed by qualified professionals.
- Cable colors in this document are for reference only, the cable specifications shall meet local laws and regulations.
- The GW100K-GT, GW110K-GT, and GW125K-GT models differ only in the number of MPPT trackers; their wiring methods are identical. This manual uses the GW110K-GT for wiring illustrations as an example.

Cable Specification Requirement

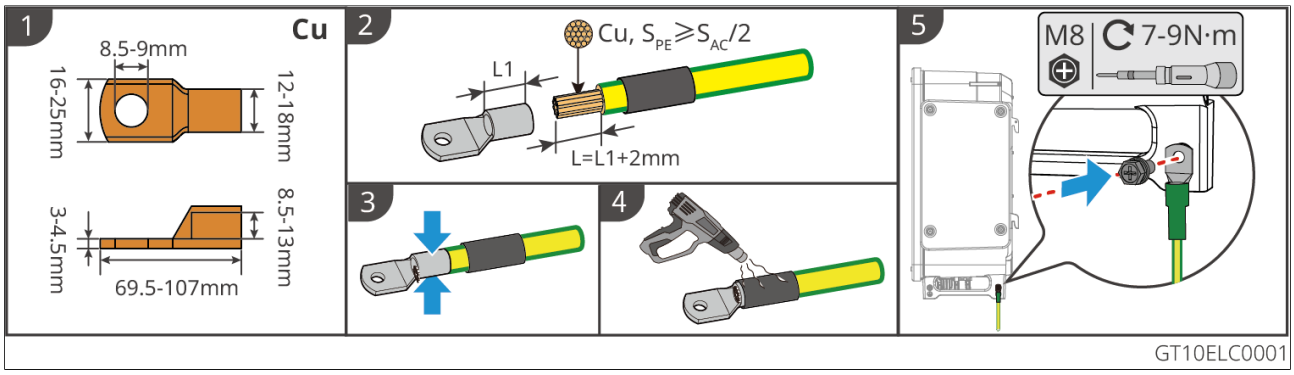
Cable	Type	Cable Specification
PE Cable	Outdoor copper cable	Outer diameter: 11~ 30mm Conductor cross-sectional area:$S_{PE} \geq S/2$*1

AC Cable (Multi-core)	Multi-core Outdoor Cable	Cable Outer Diameter: 35~69mm Copper Core Cable Conductor Cross-Sectional Area (S): 70~240mm^2 Aluminum Alloy Cable or Copper-Clad Aluminum (CCA) Cable Conductor Cross-Sectional Area (S): 95~240mm^2 Protective Earth (PE) Conductor Cross-Sectional Area $S_{PE} \geq S/2$*1
	Single-core outdoor copper cable	Cable Outer Diameter: 11~30mm Copper Core Cable Conductor Cross-Sectional Area (S): 70~240mm^2 Aluminum Alloy Cable or Copper-Clad Aluminum (CCA) Cable Conductor Cross-Sectional Area (S): 95~240mm^2 Protective Earth (PE) Conductor Cross-Sectional Area $S_{PE} \geq S/2$*1
DC Cable	PV cable that meets 1100V standard	Outer diameter: 4~ 7mm Conductor cross-sectional area: 2.5-6mm^2
RS485 Communication	Outdoor Shielded Twisted-Pair Cable Meeting Local Standards	Outer diameter: 4.5~ 6mm Conductor Cross-Sectional Area: 0.2~0.5mm^2 Total Length: not exceed 1000m
Note: *1: S_{PE} refers to the cross-sectional area of the protective earth (PE) conductor, and S refers to the cross-sectional area of the AC cable conductor. *2: Overall length of communication cable cannot exceed 1000m. The values in this table are valid only when the external protective grounding conductor is made of the same metal as the phase conductor. Otherwise, the cross-sectional area of the external protective grounding conductor should be selected to ensure that its conductivity is equivalent to that specified in this table.		

5.2 Connecting the PE Cable

⚠WARNING

- The PE cable connected to the enclosure of the inverter cannot replace the PE cable connected to the AC output port. Make sure that both of the two PE cables are securely connected.
- Make sure that all the groundings are tightly connected. When there are multiple inverters, make sure that all the grounding points on the enclosures are equipotential bonding.
- To improve the corrosion resistance of the terminal, it is recommended to apply silica gel or paint on the ground terminal after installing the PE cable.
- PE cable and terminal should be prepared by customers according to the recommended specifications.
  Ground wires of other sizes that meet local standards and safety regulations can also be used for grounding connections. The manufacturer shall not be liable for the damage thereby.



5.3 Connecting the AC Output Cable

⚠WARNING

- Do not connect loads between the inverter and the AC switch directly connected to the inverter.
- The Residual Current Monitoring Unit (RCMU) is integrated into the inverter. The inverter will disconnect the utility grid rapidly once it detects any leak current over the permissible range.

Decide whether to install RCD (Residual Current Device) according to local laws and regulations. A type RCD shall be added to protect the equipment when the DC component of the leakage current exceeds limits. Recommended RCD specifications:

Inverter Model	RCD Specification
GW75K-GT-LV-G10	≥750mA
GW100K-GT	≥1000mA
GW110K-GT	≥1100mA
GW125K-GT	≥1250mA

NOTICE

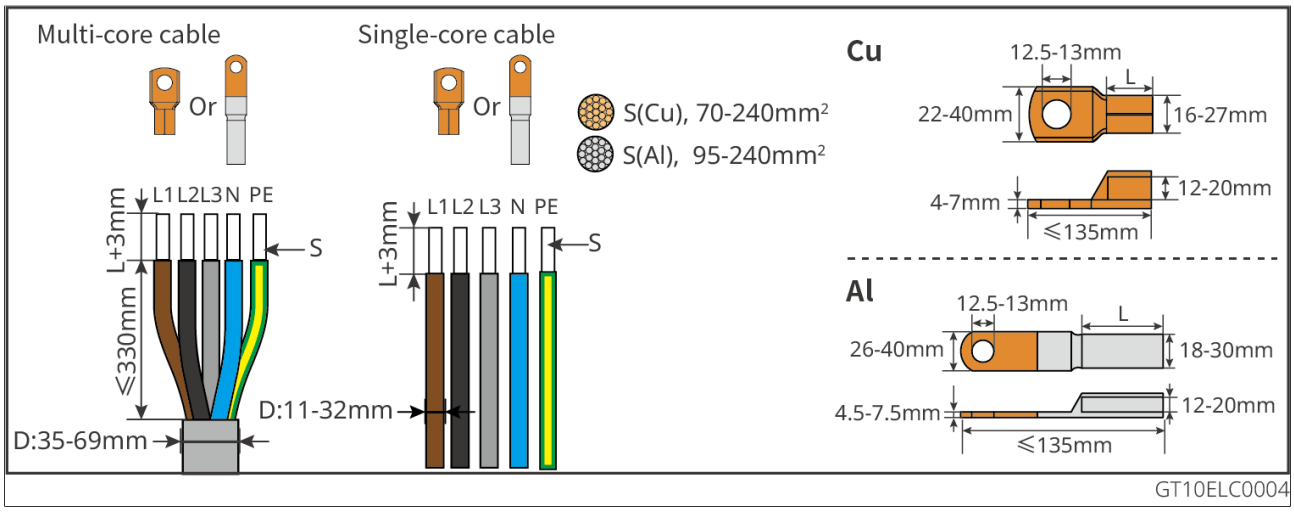
Install one AC output circuit switch for each inverter. Multiple inverters cannot share one AC circuit switch.

An AC circuit breaker shall be installed on the AC side to make sure that the inverter can safely disconnect the grid when an exception happens. Select the appropriate AC circuit switch in compliance with local laws and regulations. The following switch specifications are for reference:

Inverter Model	AC Circuit Breaker Specification
GW100K-GT	200A
GW110K-GT	225A
GW75K-GT-LV-G10、GW125K-GT	250A

⚠WARNING

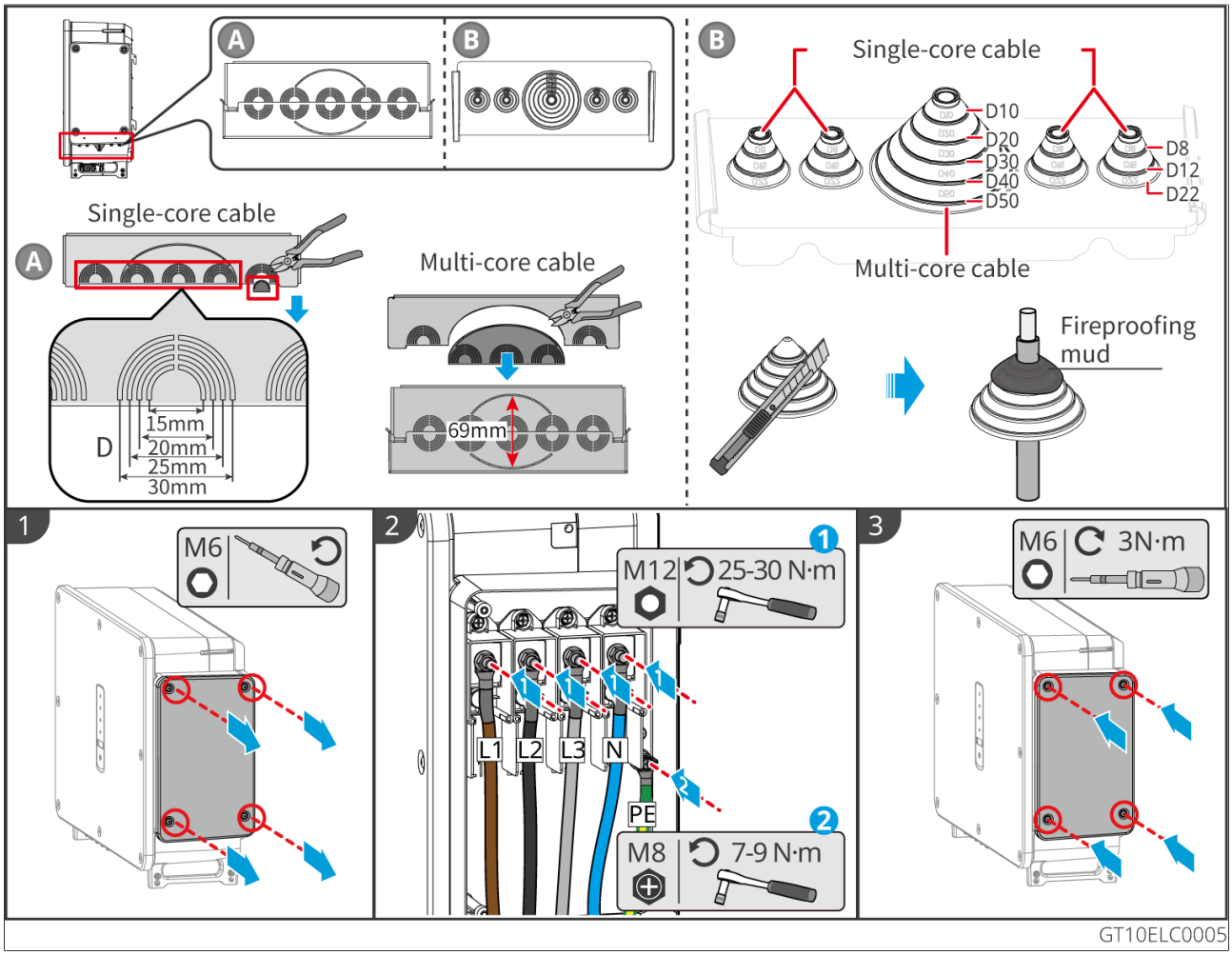
- When wiring, the AC output wires must be fully matched with the "L1", "L2", "L3", "N", and "PE" port of the AC terminal. Incorrect wire connection will cause damage to the inverter.
- Make sure that the whole cable cores are inserted into the AC terminal holes. No part of the cable core can be exposed.
- Make sure that the cables are connected securely. Otherwise, the terminal may be too hot to damage the inverter when the inverter is working.
- The AC output terminal supports both three-phase four-wire and three-phase five-wire connection configurations; the actual wiring configuration should depend on the specific installation scenario. In this document, the three-phase five-wire configuration is described as an example.
- Ensure that extra length is reserved for the protective grounding conductor, so it will be the last conductor to bear stress if the AC output cables experience tension due to force majeure.
- The waterproof rubber gaskets for AC outlet holes are supplied with the inverter and located in the inverter's AC junction box. Please select the corresponding hole position on the rubber gasket according to the actual specification of the cable used.
- Please prepare the AC wiring OT terminals by yourself.
- If aluminum cables are used. remember to connect copper to aluminum transition terminals.



NOTICE

- After completing the wiring, verify the correctness and tightness of the connections, and clean up any construction debris left in the AC junction box for maintenance purposes.
- The AC output terminals shall be sealed to ensure the machine's protection level.
- The inverter's AC side can be connected to both single-core and multi-core cables. This manual uses single-core cables for wiring illustrations as an example.

Step 1: Select the corresponding hole size based on the AC cable diameter specification, cut out the appropriate size of rubber gasket or plastic conical sleeve, and thread the cable through the rubber gasket or conical sleeve.
Step 2: Disassemble the AC connector.
Step 3: Crimp the OT terminals onto the AC wires to make the AC output cables. Fasten the AC cables to the inverter.
Step 4: Fasten the AC cables cover plate.



5.4 Connecting the DC Input Cable

⚠DANGER

1. Do not connect the same PV string to multiple inverters at the same time. Otherwise, the inverters may be damaged.
2. The PV strings cannot be grounded. Ensure the minimum insulation resistance of the PV string to the ground meets the minimum insulation resistance requirements before connecting the PV string to the inverter.
3. Connect the inverter DC cables using the delivered DC connectors.
4. Confirm the following information before connecting the PV string to the inverter. Otherwise, the inverter may be damaged permanently or even cause fire and cause personal and property losses. Damage and injury caused by failure to operate in accordance with the requirements of this document or the corresponding user manual are not covered by the warranty.

- Make sure that the positive pole of the PV string connects to the PV+ of the inverter. And the negative pole of the PV string connects to the PV- of the inverter.
- For the GW100K-GT, GW110K-GT, and GW125K-GT, ensure that the open-circuit voltage of the PV string connected to each MPPT channel does not exceed 1100V. When the input voltage is between 1000V and 1100V, the inverter will enter standby mode. When the input voltage returns to 180V-1000V, the inverter will resume normal operating state.
- For the GW75K-GT-LV-G10, ensure that the open-circuit voltage of the PV string connected to each MPPT channel does not exceed 800V.

⚠WARNING

- The PV String connected to the same MPPT must use the same model and the same number of PV modules.
- To maximize the Inverter power Efficiency generation, ensure that the maximum Power point voltage of the series-connected PV modules falls within the MPPT Voltage Range at Nominal Power range of the Inverter.
- Ensure that the voltage difference between different MPPT channels is less than or equal to 150V.
  Ensure that the input current of each MPPT is less than or equal to Max. Input Current per MPPT of , Technical Data Inverter.
- When there are multiple PV strings, it is recommended to maximize the connections of MPPTs.

DC terminal connection method

•:Connect one PV string

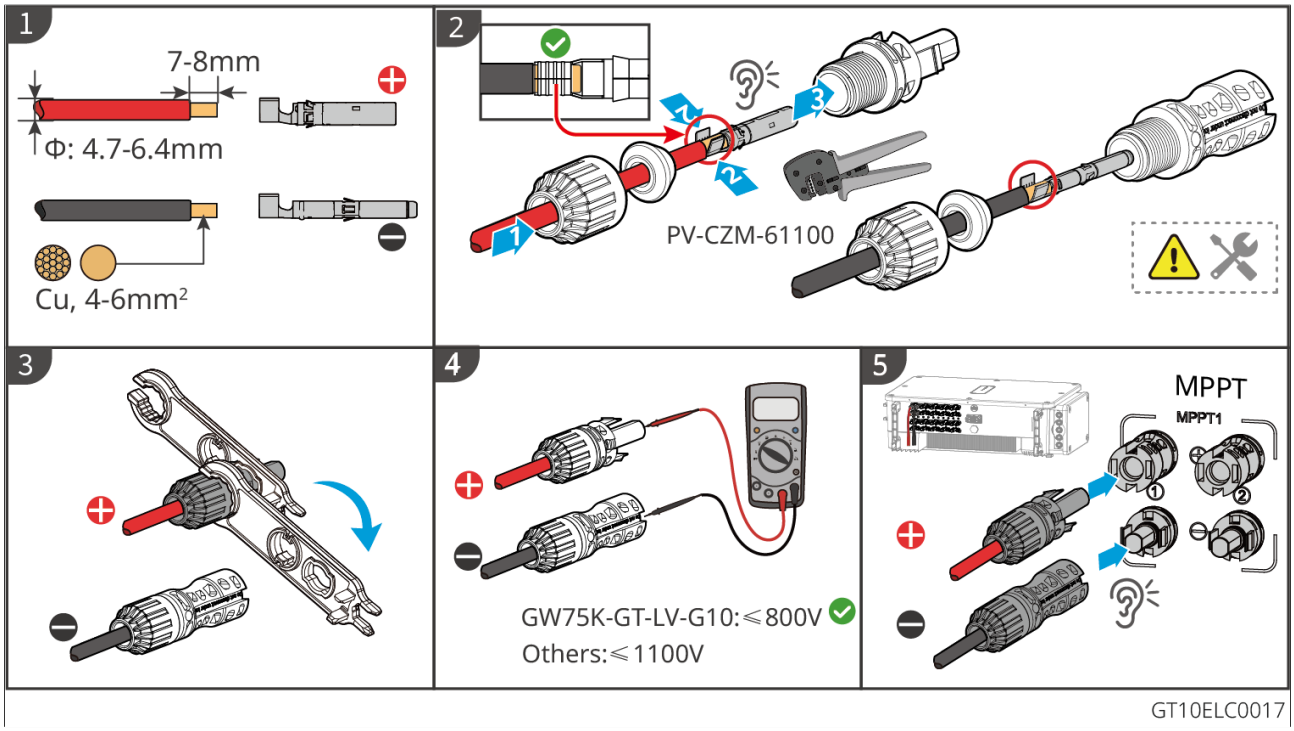
••:Connect two strings of PV modules

PV String Numbers	MPPT1	MPPT2	MPPT3	MPPT4	MPPT5	MPPT6	MPPT7	MPPT8	MPPT9	MPPT10
8-9	•	•	•	•	•	•	•	•	•	
10-11	••	•	•	•	•	•	•	•	•	•
12-13	••	•	••	•	••	•	•	•	•	•
14-15	••	•	••	•	••	•	••	•	••	•
16-17	••	••	••	••	••	•	••	•	••	•
18-19	••	••	••	••	••	••	••	••	••	•

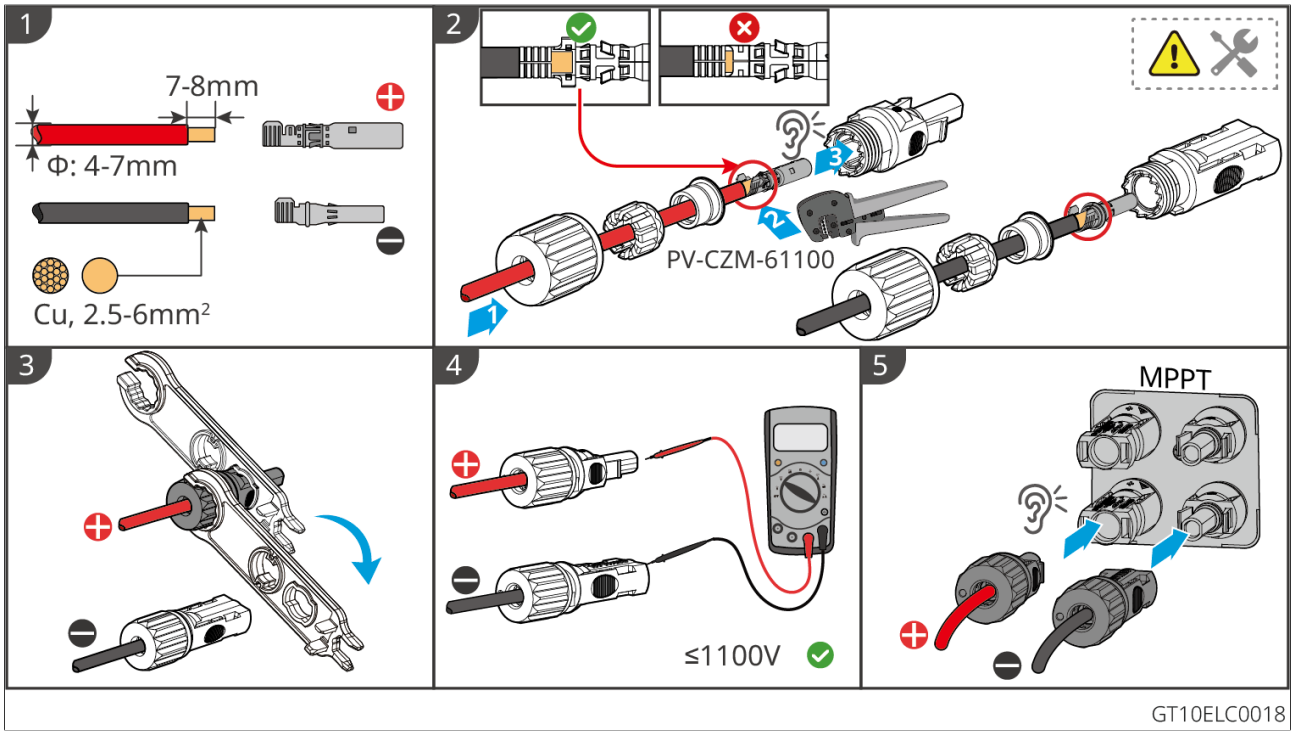
Connecting the DC Input Cable

Step 1: Prepare DC cables.

Step 2: Crimp the DC input terminals.
Step 3: Tighten the DC connectors.
Step4: Detect the DC input voltage.
Step5: Connect the DC connector to the DC terminal of the inverter.
Type I :



Type II:

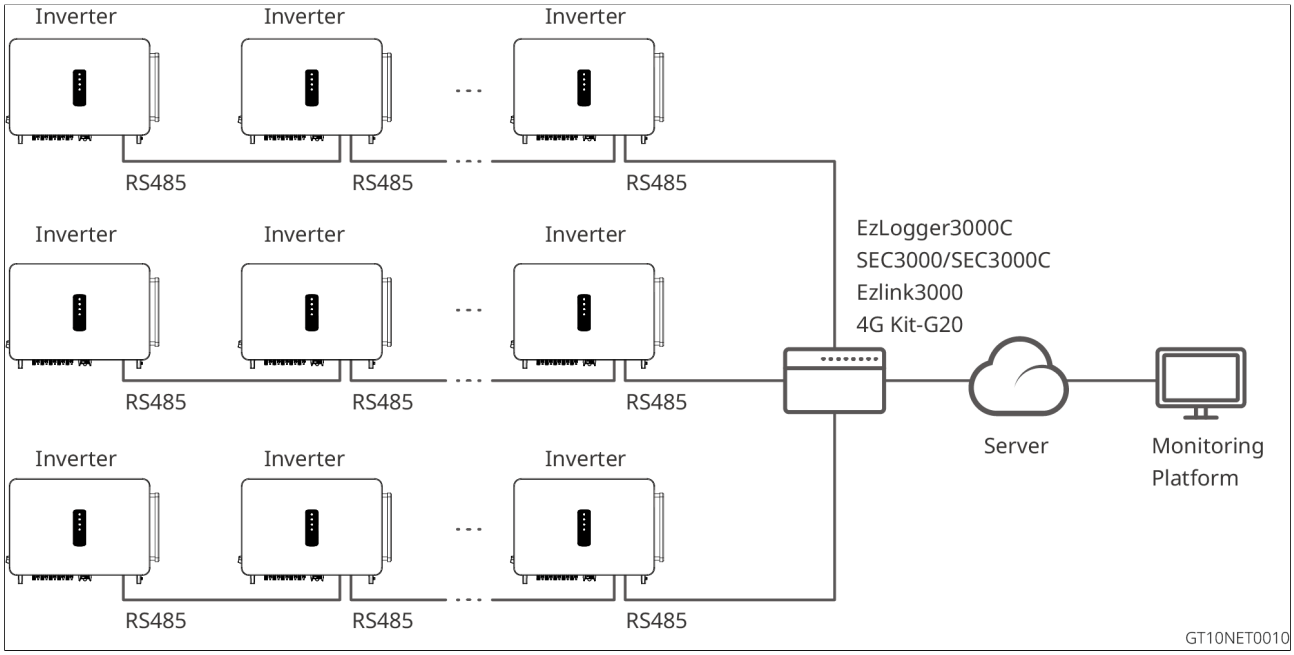


5.5 Communication Connection

5.5.1 RS485 Communication Networking

NOTICE

- When multiple inverters are connected to a data logger for RS485 networking, each COM port of the data logger can support a maximum of 20 inverters, and the total length of the RS485 cable for each COM port shall not exceed 1000m.
- Preferably use shielded communication cables, and ensure the shielding layer is grounded during wiring.
- The 4G card supplied with the smart dongle provides 5GB of annual data and supports parallel operation for up to 4 inverters. To expand the system to 10 inverters in parallel, it is recommended to upgrade the 4G data plan by yourself. An additiona1.2GB of data per year should be allocated for each extra inverter added to the paraallel configuration.



5.5.2 The On-grid Power Limit

When all loads in a photovoltaic system are unable to consume the electricity generated by the system, the remaining electricity is fed into the grid. At this point, a smart meter and data logger can be integrated to monitor the system's power generation and control the power fed into the grid.

⚠WARNING

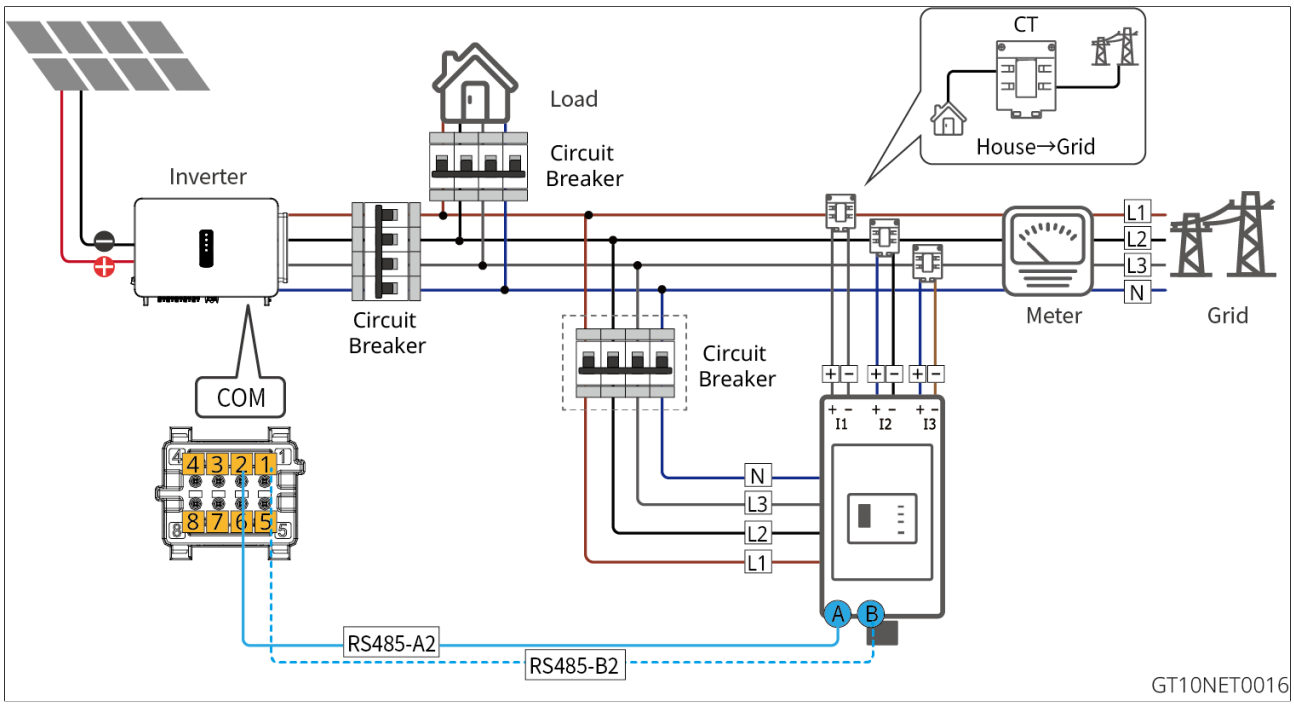
1. The place to snap fit the CT shall be near the grid connection point and the installation direction must be right. “-->” of CT refers that the inverter current flows to the Grid. The inverter will be triggered with an alarm if CT is installed reversely. It is unable to realize the power limit function.
2. The aperture of the CT should be larger than the outer diameter of the AC power line to ensure that the AC power line can pass through the CT.
3. For specific CT wirings, please refer to the documents provided by the respective manufacturer, to ensure that the wiring direction is correct and CT is able to work properly.
4. CT shall be snap fitted on Cable L1, L2, L3. Do not fit it on Cable N.
5. CT Specification requirement:
   - Selecting nA/5A for the current transformation ratio specification of the CT. (nA: For primary current of the CT, n ranges from 200 to 5000.Set the current value depending on the actual needs. 5A: CT Secondary side output voltage.)
   - For the accuracy of the CT, it is recommended to select 0.5, 0.5s, 0.2, 0.2s to ensure that the current sampling error of the CT is <= 1%.
6. To ensure the current detection accuracy of the CT, it is recommended that the length of the CT cable should not exceed 30m and the current-carrying capacity of the cable be 6A.

NOTICE

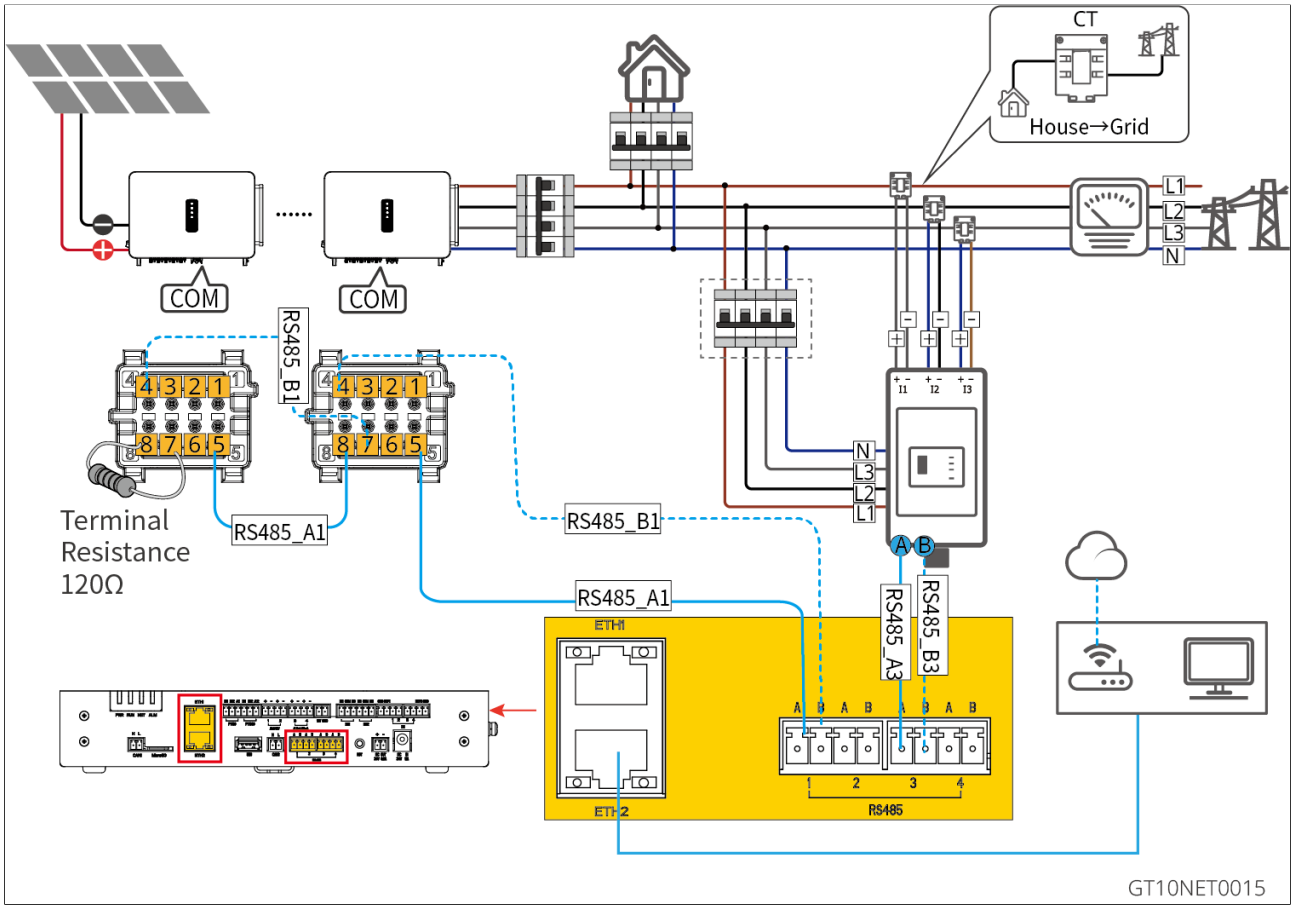
1. Ensure that the wiring and phase sequence of the smart meter are correct. Recommended cross-sectional area of the smart meter input power cable: 1mm^2(18AWG).
2. Only applicable to GM330：

- Setting the CT ratio via SolarGo App. For example: set the CT ratio to 40 if a 200A/5A CT is selected.
- If the networking scenario is three-phase three-wire, it is necessary to short-circuit the N wire and L2 wire on the electric meter side.
- Detailed steps, refer to SolarGo App User Manual

Single-unit Power LimitNetwork networking scheme(GM330)

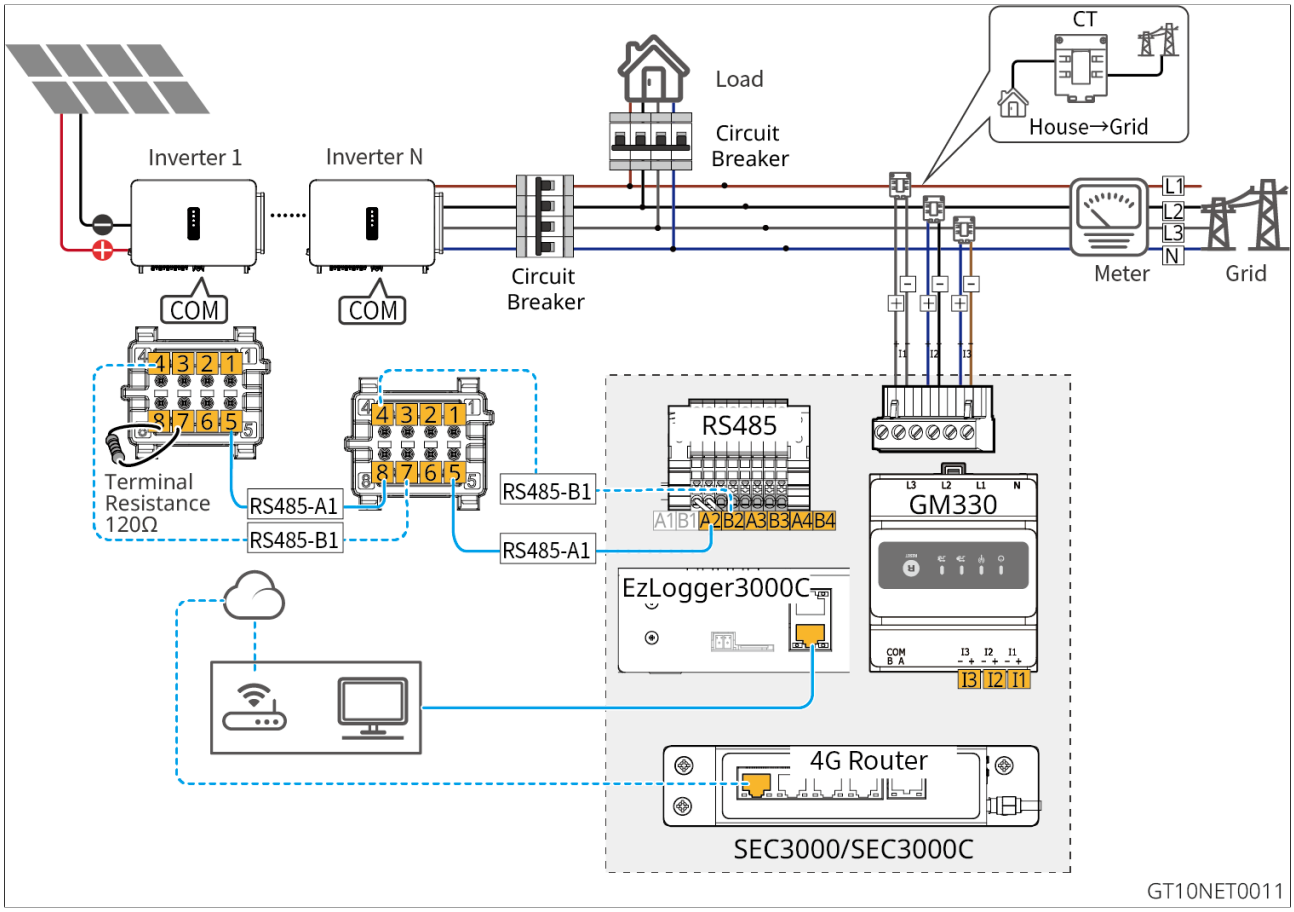


Multi inverters power limitation networking scheme (EzLogger3000C+GM330)

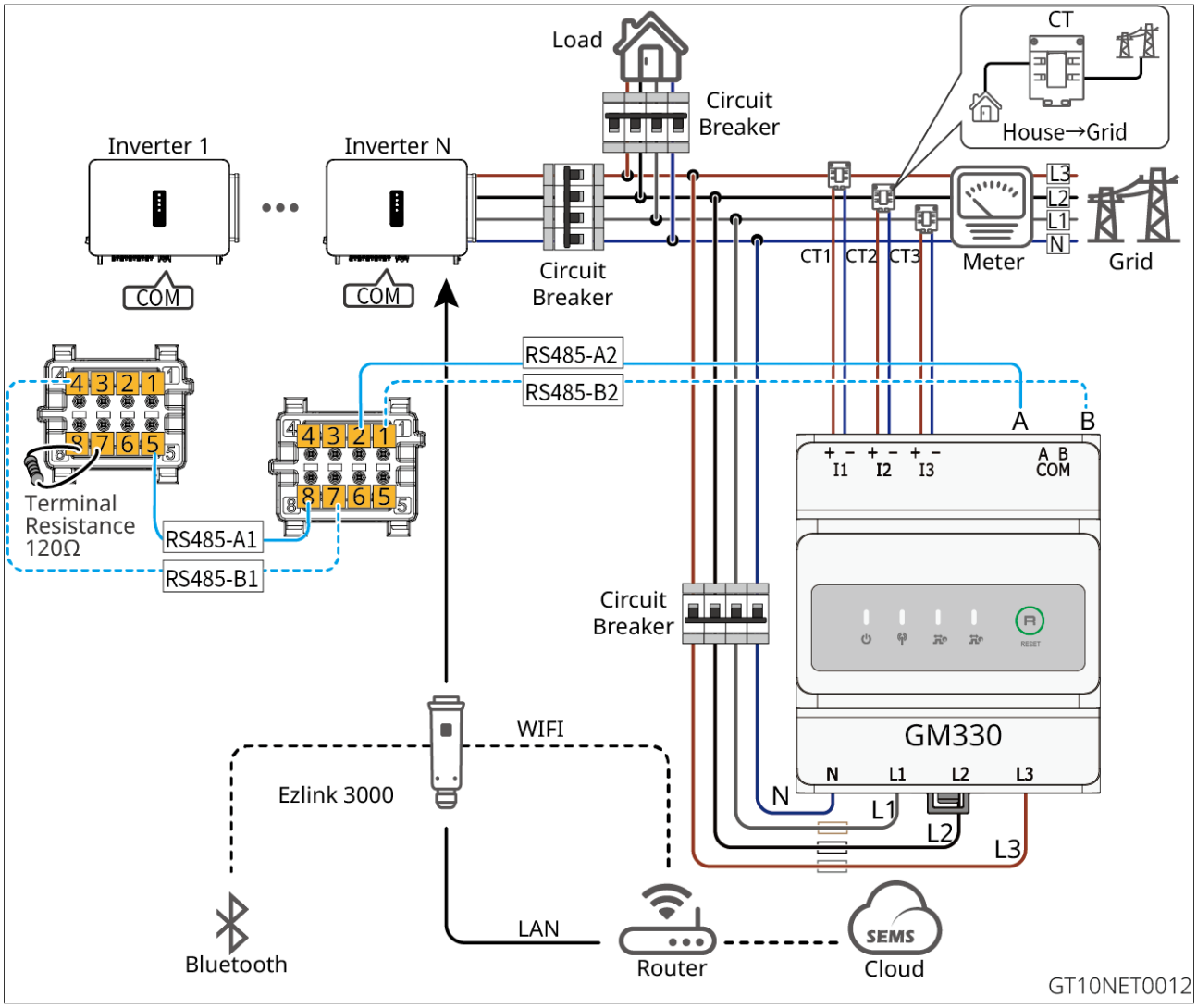


After completing the wiring, relevant parameters can be configured via the SolarGo App, LCD display, or the EzLogger3000C embedded web interface.

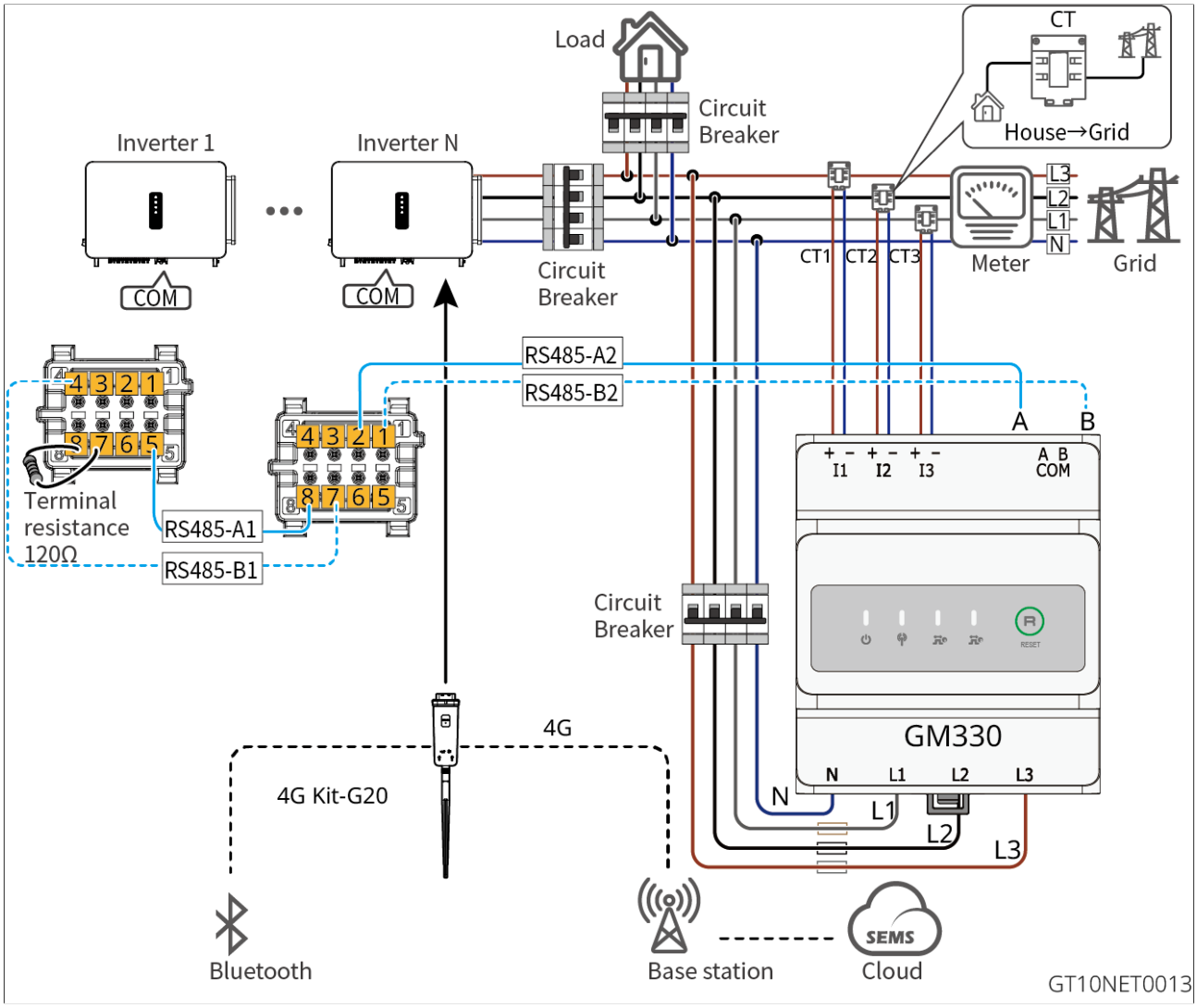
Multi Inverters Power Limit Networking (SEC3000/ SEC3000C)



Multi Inverters Power Limit Networking (Ezlink3000)



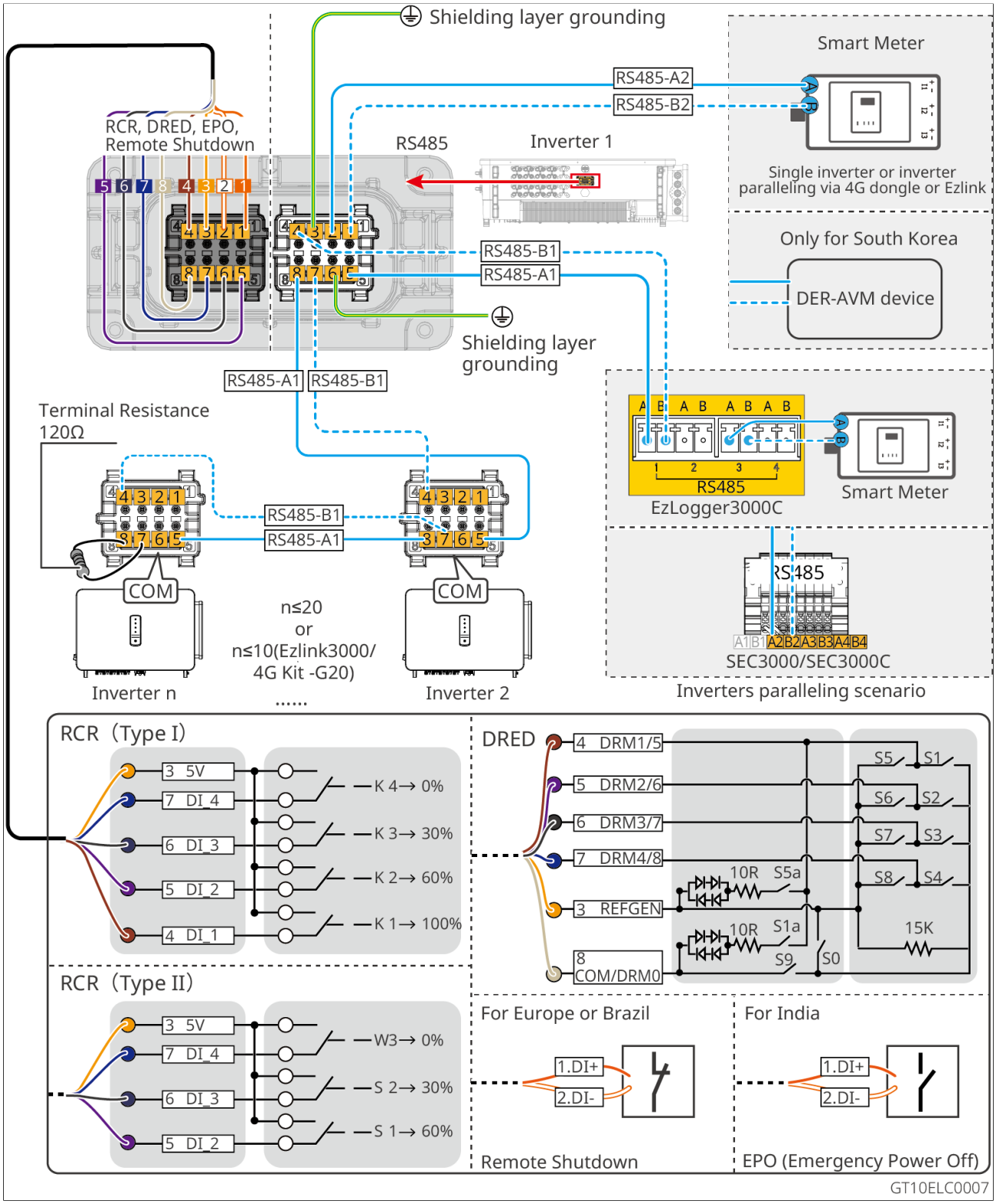
Multi inverters power limit networking (4G Kit- G20)



5.5.3 Connect the Communication Cable

NOTICE

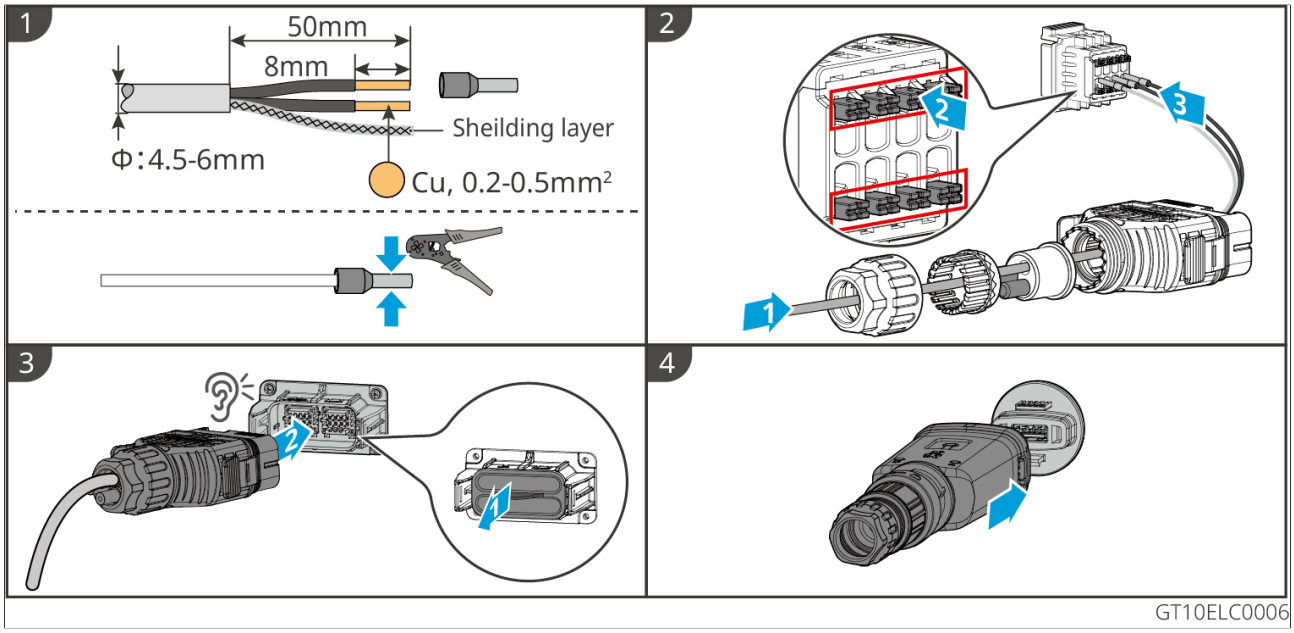
- Based on the regulatory requirements of different regions, the inverter's integrated communication ports can be configured differently.
- The remote shutdown and, EPO functions are disabled in default. Enable it via SolarGo App if needed. Detailed steps, refer to《SolarGo APP User Manual》.
- When connecting the communication cable, make sure that the wiring port definition and the equipment are fully matched, and the cable alignment path should avoid interference sources, power cables, etc., so as not to affect signal reception.
- The communication connector is equipped with three wire holes, each corresponding to a separate plug. Remove the appropriate number of plugs as needed. Unused wire holes must be sealed with the plugs to avoid compromising the inverter's protection performance.
- The communication ports for different regions are as follows:



Function	No.	Name	Description
	1	RS485-B2	Used to connect the Smart Meter.

RS485	2	RS485-A2	
	3	Ground	Used for connecting multiple inverters, data loggers, or terminal resistors.
	4	RS485-B1	
	5	RS485-A1	
	6	Ground	
	7	RS485-B1	
	8	RS485-A1	
Remote Shutdown&Emergency Shutdown	1	DI+	Connect the remote shutdown device (for European models only), and the emergency shutdown device (for Indian models only).
	2	DI-	
RCR	3	5V	Connect the RCR device. (Europe only)
	4	DI_1(K1)	
	5	DI_2(K2)	
	6	DI_3(K3)	
	7	DI_4(K4)	
DRED	3	REFGEN	Connect the DRED device. (Australia only)
	4	DRM1/5	
	5	DRM2/6	
	6	DRM3/7	
	7	DRM4/8	
	8	COM/DRM0	

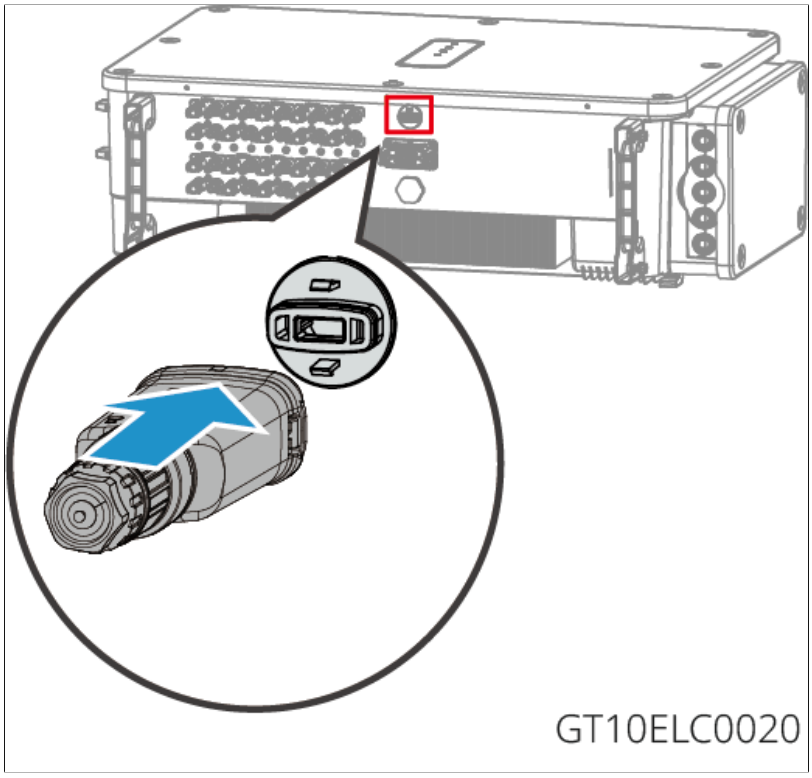
Communication Cable



5.5.4 Install Smart dongle

The inverter supports connecting to mobile phones or WEB interfaces via communication modules such as 4G, WiFi, Bluetooth, or WiFi+LAN to configure device-related parameters, view device operation information and error messages, and timely monitor the system status.

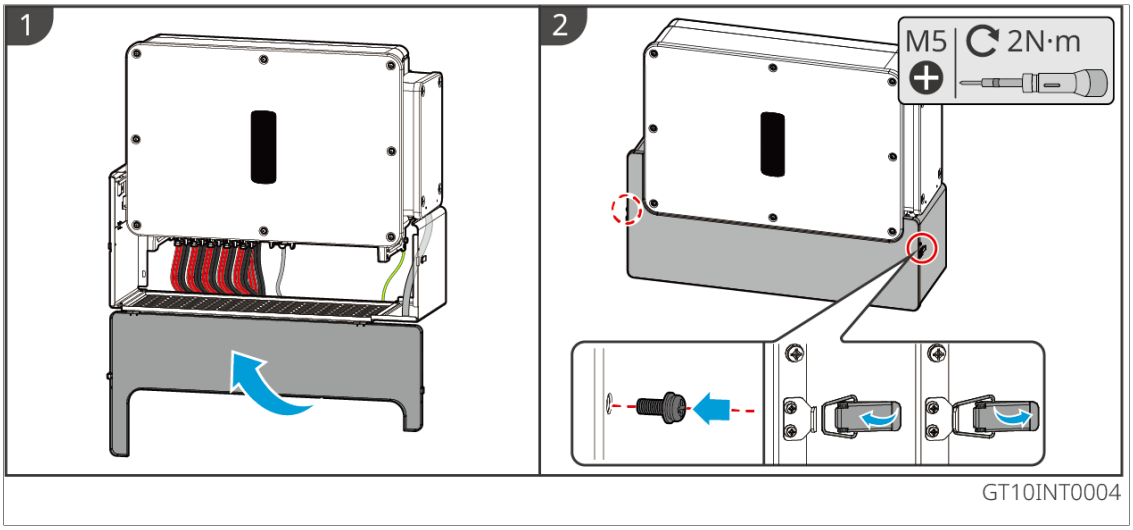
NOTICE
Refer to the delivered communication module user manual to get more introduction to the module. For more detailed information, visit www.goodwe.com.



5.5.5 Post-Wiring Handling (Australia Only)

NOTICE
For installations in the Australian market, it is recommended to route the AC cables through the AC cable trunking after fitting the PV protective cover.

Step 1: Close the PV protective cover.
Step 2: Ensure the screws are securely installed and engage the safety latch.


1
2
M5
2N·m
GT10INT0004

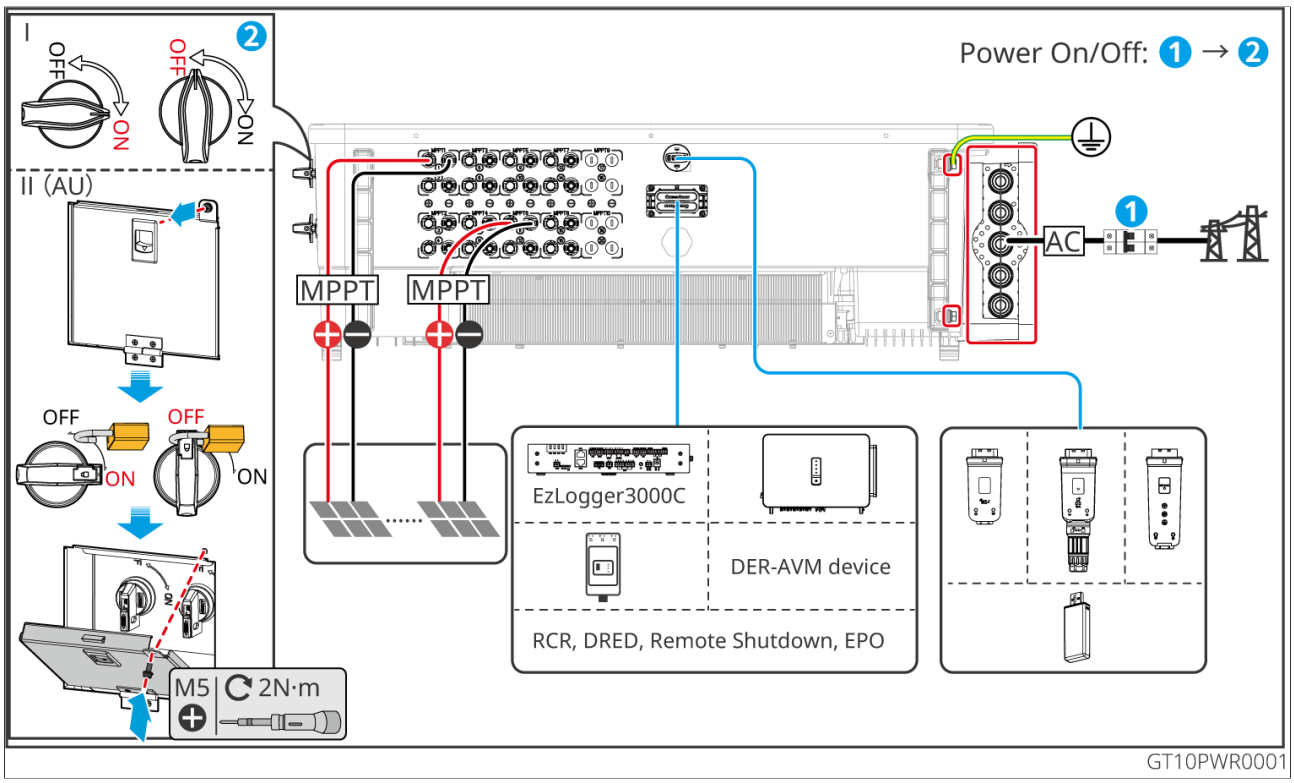
6 Equipment Commissioning

6.1 Check Before Power On

No.	Check Item
1	The inverter shall be installed securely. The installation location shall allow easy operation and maintenance, the installation space shall facilitate ventilation and heat dissipation, and the installation environment shall be clean and tidy.
2	The PE, DC input, AC output, communication cables are connected correctly and securely.
3	The cable binding shall comply with routing requirements, with reasonable distribution and no damage.
4	Unused ports and terminals are sealed.
5	The voltage and frequency at the connection point meet the inverter grid connection requirements.

6.2 Equipment Power On

Step 1: Turn on the AC switch between the inverter and the utility grid.
Step 2: Turn on the DC switch of the inverter.


I
OFF
ON
OFF
ON
2
II (AU)
OFF
ON
OFF
ON
M5
2N·m
Power On/Off: 1 → 2
MPPT
MPPT
AC
1
EzLogger3000C
DER-AVM device
RCR, DRED, Remote Shutdown, EPO
GT10PWR0001

7 System Commissioning

7.1 Indicators and Buttons Introduction

Indicator	Status	Description
电源 Power		On: Equipment Power On
		Power Off: The equipment is power off.
运行 Running		On: THE INVERTER IS FEEDING POWER
		Power Off: THE INVERTER IS NOT FEEDING POWER
		SINGLE SLOW BLINKING SELF CHECK BEFORE CONNECTING TO THE GRID
		SINGLE FAST BLINKING CONNECTING TO THE GRID
Communication		On: WIRELESS IS CONNECTED/ACTIVE
		Blinks 1 time: WIRELESS SYSTEM IS RESETTING
		Blinks 2 times: WIRELESS IS NOT CONNECTED TO ROUTER OR BASE STATION
		Blinks 4 times: NOT CONNECTED TO MONITORING SERVER
		Blinks: RS485 communication normal
		Power Off: WIRELESS IS RESTORING FACTORY DEFAULT SETTING
故障 Fault		On: System Failure
		Power Off: No Fault

7.2 Setting Inverter Parameters via LCD

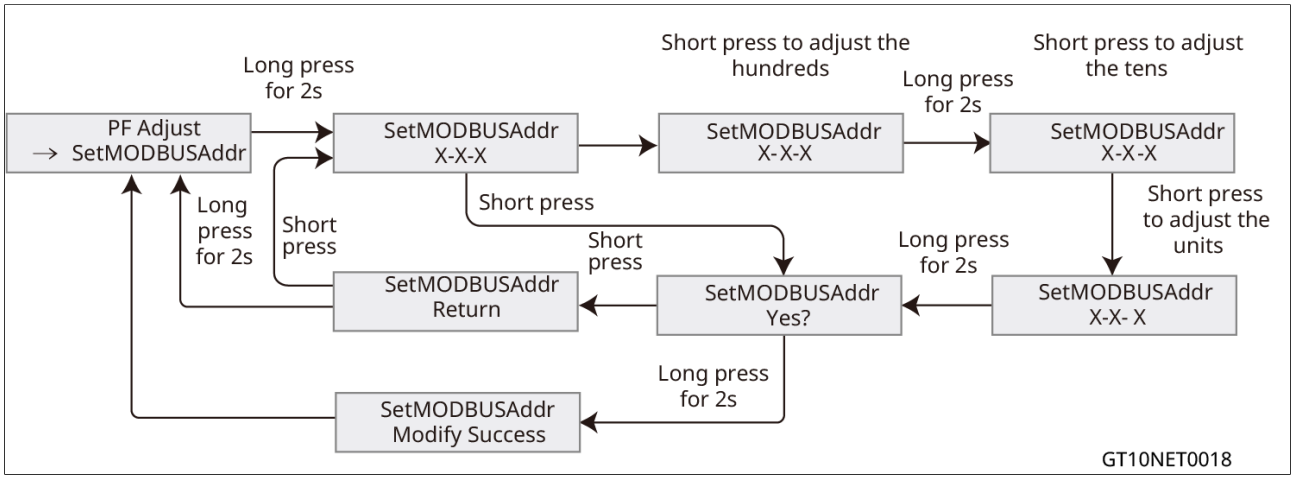
NOTICE

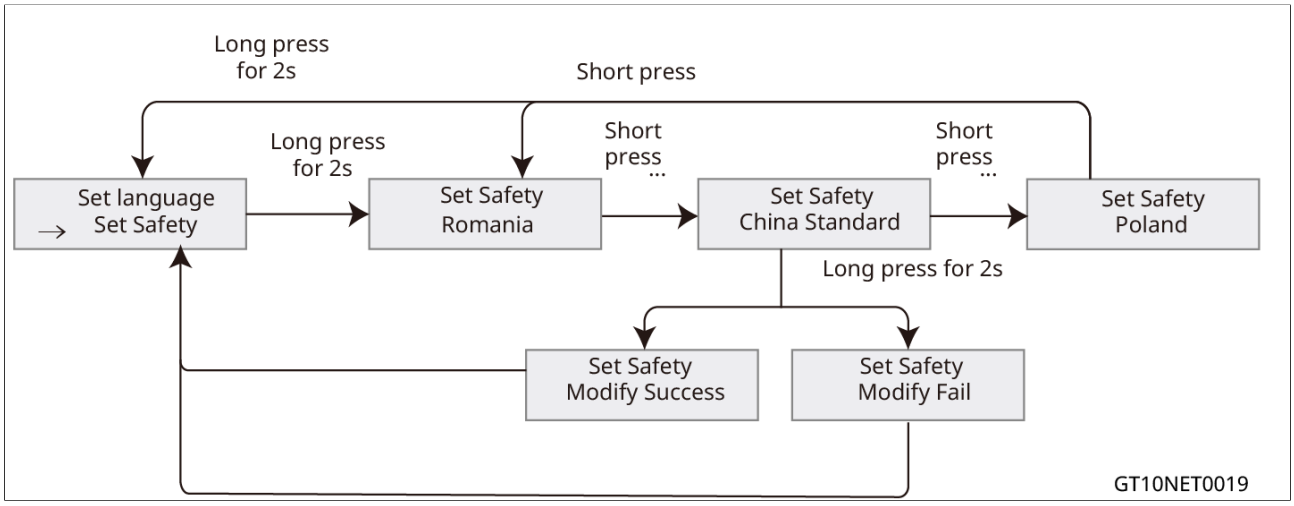
- The interface images in this manual correspond to the inverter software version V1.01.01. The interfaces are for reference only, the actual product shall prevail.
- The names, ranges, and default values of parameters may be changed or adjusted in the future; please refer to the actual display for details.
- Power parameters of the inverter shall be set by qualified professionals to prevent the generating capacity from being influenced by wrong parameters.

LCD and Button Description

- Stop pressing the button for a period on any page, the LCD will get dark and go back to the initial page.
- Short press the button to switch menu or adjust parameter values.
- Long press the button to enter the submenu. After adjusting the parameter values, long press to successfully set the parameter; enter the next submenu.

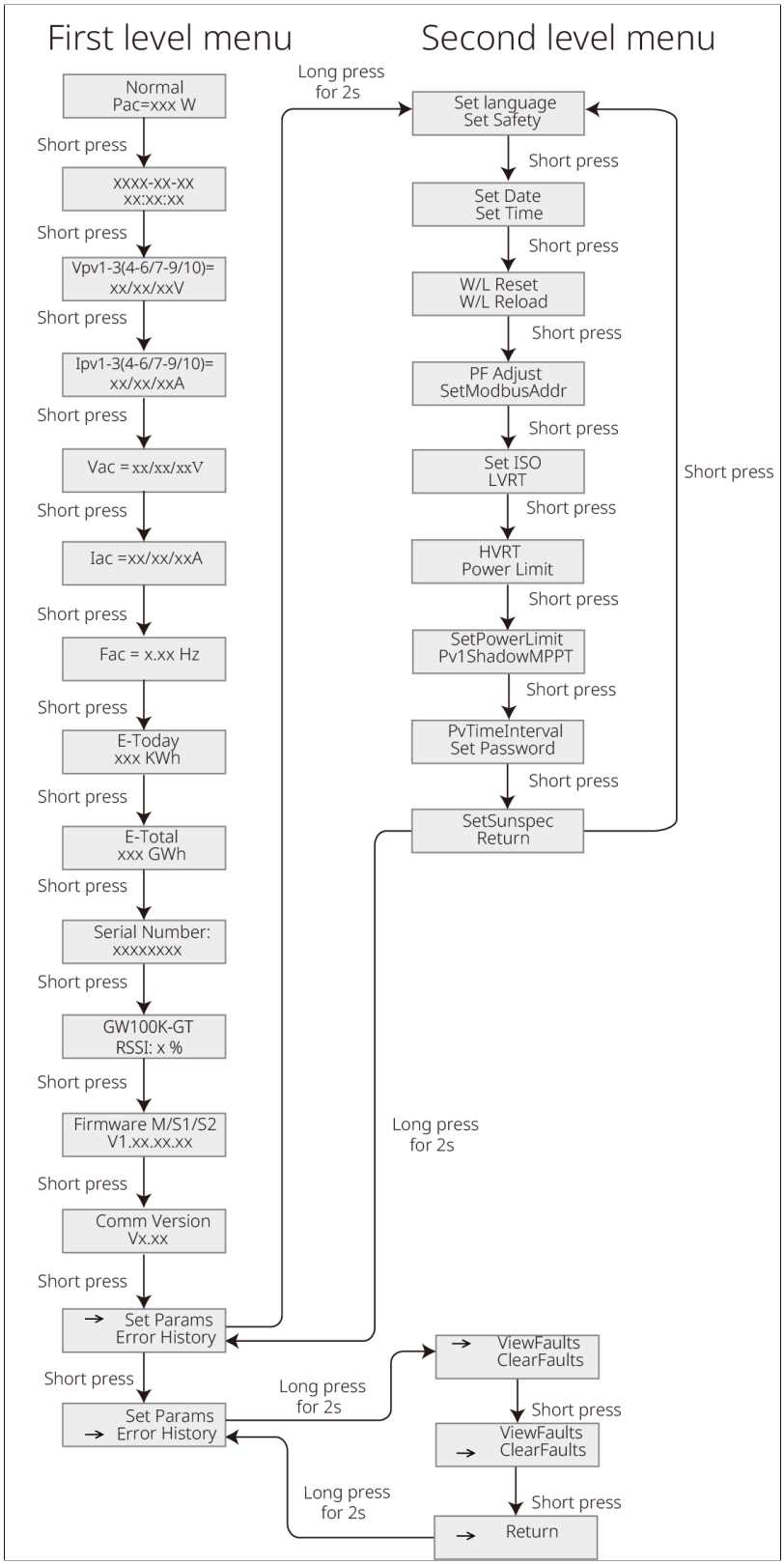
Example:





7.2.1 LCD Menu Overview

This part describes the menu structure, allowing you to view inverter information and to set parameters more conveniently.


First level menu
Second level menu
Normal
Pac=xxx W
Short press
XXXX-XX-XX
XX:XX:XX
Short press
Vpv1-3(4-6/7-9/10)=
xx/xx/xxV
Short press
Ipv1-3(4-6/7-9/10)=
xx/xx/xxA
Short press
Vac = xx/xx/xxV
Short press
Iac =xx/xx/xxA
Short press
Fac = x.xx Hz
Short press
E-Today
xxx KWh
Short press
E-Total
xxx GWh
Short press
Serial Number:
xxxxxxxx
Short press
GW100K-GT
RSSI: x %
Short press
Firmware M/S1/S2
V1.xx.xx.xx
Short press
Comm Version
Vx.xx
Short press
Set Params
Error History
Short press
Set Params
Error History
Long press
for 2s
Set language
Set Safety
Short press
Set Date
Set Time
Short press
W/L Reset
W/L Reload
Short press
PF Adjust
SetModbusAddr
Short press
Set ISO
LVRT
Short press
HVRT
Power Limit
Short press
SetPowerLimit
Pv1ShadowMPPT
Short press
PvTimeInterval
Set Password
Short press
SetSunspec
Return
Short press
Long press
for 2s
Long press
for 2s
ViewFaults
ClearFaults
Short press
ViewFaults
ClearFaults
Short press
Return
Long press
for 2s

7.2.2 Inverter Parameter Introduction

Parameters	Discription
Connected to the grid Power= 0W	Home page. Indicates the real-time power of the inverter.
Date Time	Check the date and time of the country/region where the inverter is located.
Input Voltage	Check the DC input voltage of the inverter.
Vpv2= xxx V	Check the DC input current of the inverter.
Vac	Check the voltage of the utility grid.
Iac	Check the AC output current of the inverter.
Fac	Check the frequency of the utility grid.
E-Today	Check the system's power generation for the current day.
E-Total	Check the total power generation of the system.
Serial Number	Check the serial number of the inverter.
GW100K-GT RSSI:	Check the signal strength of the Smart Dongle (xx%).
Firmware M/S	Check the firmware version.
Comm Version	Check the ARM software version of the inverter.
Setting the safety regulations	Set the safety country/region in compliance with the local grid standard and application scenario of the inverter.
Setting the date	Set time according to the actual time in the country/region where the inverter is located.
Set the System Time	
W/L Reset	Power off and restart the Smart Dongle.

Parameters	Discription
W/L Reloading	Restore the factory settings of the Smart Dongle. Reconfigure the Smart Dongle network parameters after restoring the factory settings.
PF Adjustment	Set the power factor of the inverter according to the actual situation.
Set Modbus Address	Set the actual Modbus address.
Set ISO	Indicates PV- PE resistance threshold value. When the detected value is under the set value, the IOS fault occurs.
LVRT	After being activated, the inverter will stay connected with the utility grid after a short-term utility grid low voltage exception occurs.
HVRT	After being activated, the inverter will stay connected with the utility grid after a short-term utility grid high voltage exception occurs.
Power Limit	Set the power fed back into the utility grid according to the actual situation.
Set Power Limit	
Shadow MPPT	Enable the shadow scan function if the PV panels are shadowed.
Set Password	The password can be adjusted. Please record the new password and if you lose the password, please contact the after-sales service center. After changing your password, please remember it. If you forget your password, please contact the GOODWE after-sales service center for assistance.
Set Sunspec	Set the Sunspec based on the actual communication method.
View Faults	Check historical alarm records of the inverter.
Clear Faults	Clear historical alarm records of the inverter.

7.3 Setting Inverter Parameters via App

The SolarGo App is a mobile application software that can communicate with inverters via the Bluetooth, WiFi, WiFi/LAN, 4G, or GPRS modules. Commonly used

functions are as follows:

1. Check the operating data, software version, alarms of the inverter, etc.
2. Set grid parameters and communication parameters of the inverter.
3. Equipment maintenance.

For more details, refer to the SolarGo App User Manual. Get the user manual from the official site or by scanning the QR code below.

SolarGo App

SolarGo App User Manual

7.4 Monitoring via SEMS Portal

SEMS Portal is a monitoring platform that can communicate with devices via WiFi, LAN or 4G. Commonly used functions are as follows:

1. Managing Organizations or user information
2. Adding and monitoring information of power station
3. Equipment maintenance.

For more details, refer to the SEMS User Manual. Get the user manual from the official site or by scanning the QR code below.

8 System Maintenance

8.1 Power Off the Inverter

⚠DANGER

- Power off the inverter before operations and maintenance. Otherwise, the inverter may be damaged or electric shocks may occur.
- After the inverter is powered off, its internal components require a certain amount of time to discharge. Please wait until the device is fully discharged in accordance with the time requirement indicated on the label.

Step 1: (Recommended) Issue a command to the inverter for halting the grid connection.
Step 2: Turn off the AC switch between the inverter and the utility grid.
Step 3: Turn off the DC switch of the inverter.

8.2 Removing the Inverter

⚠WARNING

- Make sure that the inverter is powered off.
- Wear proper PPE before any operations.

Step 1: Disconnect all the cables, including DC cables, AC cables, communication cables, the communication modules, and PE cables.
Step 2: Handle or hoist the inverter to take it down from the wall or the mounting plate.
Step 3:Remove the mounting plate.
Step 4:Store the inverter properly. If the inverter needs to be used later, ensure that the storage conditions meet the requirements.

8.3 Disposing of the Inverter

If the inverter cannot work anymore, dispose of it according to the local disposal requirements for electrical equipment waste. Do not dispose of it as household waste.

8.4 Troubleshooting

Perform troubleshooting according to the following methods. Contact the after-sales service if these methods do not work.
When contacting the after-sales service center, please collect the following information to facilitate the quick resolution of the problem.

1. Inverter information, such as: serial number, software version, installation date, fault time, fault frequency, etc.
2. Installation environment, including weather conditions, whether the PV modules are sheltered or shadowed, etc. It is recommended to provide some photos and videos to assist in analyzing the problem.
3. Grid situation

No.	Fault	Causes	Solutions
1	Utility Grid Power Off	1. Utility Grid Power Fails. 2. The AC circuit or the AC breaker is disconnected.	1. The alarm automatically disappears after the grid power supply is restored. 2. Check if the AC circuit or the AC breaker is disconnected.

2	Grid Overvoltage Protection	The grid voltage exceeds the permissible range, or the duration of high voltage exceeds the requirement of HVRT.	1. If occurs occasionally, it may be caused a short term grid abnormality. The inverter will recover automatically after the grid is normal. 2. If it occurs frequently, please check whether the grid voltage is within the allowed range. • Contact the local power company if the grid voltage exceeds the permissible range. • If the grid voltage is within the allowable range, please modify the grid voltage with the consent of the local power operator. 3. Check whether the AC breaker and the output cables are connected securely and correctly if the problem persists.
3	Grid Rapid Overvoltage Protection	The fault triggered by abnormal or ultrahigh grid voltage	1. If occurs occasionally, it may be caused a short term grid abnormality. The inverter will recover automatically after the grid is normal. 2. If it occurs frequently, please check whether the grid voltage is within the allowed range. • Contact the local power company if the grid voltage exceeds the permissible range. • If the grid voltage is within the allowable range, please modify the grid voltage with the consent of the local power operator. 3. Check whether the AC breaker and the output cables are connected securely and correctly if the problem persists.

4	Grid Undervoltage Protection	The grid voltage is lower than the permissible range, or the duration of low voltage exceeds the requirement of LVRT.	1. If occurs occasionally, it may be caused a short term grid abnormality. The inverter will recover automatically after the grid is normal. 2. If it occurs frequently, please check whether the grid voltage is within the allowed range. • Contact the local power company if the grid voltage exceeds the permissible range. • If the grid voltage is within the allowable range, please modify the grid voltage with the consent of the local power operator. 3. Check whether the AC breaker and the output cables are connected securely and correctly if the problem persists.
5	10min Overvoltage Protection	The sliding average value of the grid voltage exceeds the range specified in safety regulations within 10 minutes.	1. If occurs occasionally, it may be caused a short term grid abnormality. The inverter will recover automatically after the grid is normal. 2. Check if the grid voltage is running at a high voltage for a long time. If it occurs frequently, please check if the grid voltage is within the allowable range. • Contact the local power company if the grid voltage exceeds the permissible range. • If the grid voltage is within the allowable range, please modify the 10min overvoltage protection value with the consent of the local power operator.

6	Grid Overfrequency Protection	Utility grid abnormality. The actual grid frequency exceeds the requirement of the local grid standard.	1. If occurs occasionally, it may be caused a short term grid abnormality. The inverter will recover automatically after the grid is normal. 2. If it occurs frequently, please check whether the grid frequency is within the allowed range. • If no, please contact local power operator. • If the grid voltage is within the allowable range, please modify the Grid Underfrequency protection value with the consent of the local power operator.
7	Grid Underfrequency Protection	Utility grid exception. The actual grid frequency is lower than the requirement of the local grid standard.	1. If it occurs occasionally, it may be a short-term grid abnormality. The inverter will resume normal operation after detecting that the grid is normal, and no manual intervention is required. 2. If it occurs frequently, please check whether the grid frequency is within the allowed range. • If no, please contact local power operator. • If the grid voltage is within the allowable range, please modify the Grid Underfrequency protection value with the consent of the local power operator.

8	Anti-islanding	The utility grid is disconnected. The utility grid is disconnected according to the safety regulations, but the grid voltage is maintained due to the loads.	The inverter will automatically reconnect to the grid once the grid returns to normal.
9	VRT Undervoltage Fault	Utility grid abnormality. The duration of the utility grid abnormality exceeds the set time of LVRT.	1. If it occurs occasionally, it may be a short-term grid abnormality. The inverter will resume normal operation after detecting that the grid is normal, and no manual intervention is required. 2. If it occurs frequently, please check whether the grid voltage is within the allowed range. If no, please contact local power operator. If the grid voltage is within the allowable range, please contact the dealer or the after-sales service.
10	VRT Overvoltage Fault	Utility grid abnormality. The duration of the utility grid abnormality exceeds the set time of HVRT.	
11	30mAGfci Protection	The input insulation impedance to the ground becomes low when the inverter is working.	1. If occurs occasionally, it may be caused by a external cable abnormality. The inverter will recover automatically after the problem is solved, no manual intervention is required. 2. If it occurs frequently or fails to recover for a long time, please check whether the insulation resistance of the PV string to ground is too low.
12	60mAGfci Protection		
13	150mAGfci Protection		
14	Gfci Slow Change Protection		
15	DCI Protection L1 Protection		

16	DCI Protection L2 Protection	The DC component of the output current exceeds the safety range or default range.	1. If the abnormality is caused by an external fault (such as grid abnormality, frequency abnormality, etc.), the inverter will automatically resume normal operation after the fault is eliminated, and no manual intervention is required. 2. If the alarm occurs frequently and affects the normal power generation of the power station, please contact the dealer or the after-sales service.
17	Low Insulation Resistance	1. The PV string is short-circuited to PE. 2. The PV string installation environment remains humid for a long time, and the cables have poor insulation to the ground.	1. Check the resistance of the PV string to the ground. If there is a short circuit phenomenon, please check the short circuit point and rectify it. 2. Check whether the PE cable is connected correctly. 3. If it is confirmed that the resistance is indeed lower than the default value in cloudy and rainy days, please reset the "insulation resistance protection value".
18	System Grounding Abnormality	1. The PE cable of the inverter is not connected. 2. When the output of the PV string is grounded, there is no isolation transformer connected to the output side of the inverter.	1. Please check whether the PE cable of the inverter is properly connected. 2. If the output of the PV string is grounded, please confirm whether an isolation transformer is connected to the output side of the inverter.

19	L-PE Short Circuit	Low resistance or short circuit between the output phase cable and PE.	Check the resistance between the output phase cable and PE, locate the position with low resistance, and repair it.
20	Anti Reverse Power Failure	Abnormal fluctuation of load	1. If the abnormality is caused by an external fault, the inverter will automatically resume normal operation after the fault is eliminated, and no manual intervention is required. 2. If this alarm occurs frequently and affects the normal power generation of the power station, please contact the dealer or after-sales service center.
21	Internal Comm Loss	1. Chip has not be powered on 2. Chip Program Version Fault	Disconnect the AC output switch and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.
22	AC HCT Check Abnormality	The sampling of the AC HCT is abnormal.	Disconnect the AC output switch and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.
23	GFCI HCT Check Abnormality	The sampling of the GFCI HCT is abnormal.	Disconnect the AC output switch and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.

24	Relay Check Abnormality	1. The relay is abnormal (short-circuited) 2. The control circuit is abnormal 3. AC Side Wiring Abnormality (possible loose connection or short circuit)	Disconnect the AC output switch and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.
25	Internal Fan Abnormality	1. The fan power supply is abnormal. 2. Mechanical Fault (locked rotor) 3. The fan is aging and damaged.	Disconnect the AC output switch and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.
26	External Fan Abnormality		
27	Flash Read/Write Fault	The internal Flash storage is abnormal	Disconnect the AC output switch and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.
28	DC Arc Fault	1. The DC terminal is not firmly connected. 2. The DC wiring is damaged.	Check whether the string connection cables are in normal condition, properly connected, and in good contact.
29	AFCI Self-test Fault	AFCI detection equipment is abnormal.	Disconnect the AC output switch and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.

30	INV Block Over-temperature Mode	1. The inverter is installed in a place with poor ventilation. 2. The ambient temperature is too high. 3. Internal Fan Abnormal Operation.	1. Check whether the installation location of the inverter has good ventilation and whether the ambient temperature exceeds the maximum allowable ambient temperature range. 2. If there is poor ventilation or the ambient temperature is too high, please improve its ventilation and heat dissipation conditions. 3. If both the ventilation and the ambient temperature are proper, please contact the dealer or after-sales service.
31	1.5V Ref Abnormality	The reference circuit is abnormal.	Disconnect the AC output switch and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.
32	0.3V Ref Abnormality	The reference circuit is abnormal.	
33	BUS Overvoltage		Disconnect the AC output switch and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.
34	P-BUS Overvoltage		
35	N-BUS Overvoltage		
36	BUS Overvoltage (Secondary CPU1)		

37	PBUS Overvoltage (Secondary CPU1)	1. The PV voltage is too high. 2. Inverter BUS Voltage Sampling Abnormality 3. The isolation of the transformer of the inverter is poor, so two inverters influence each other when connected to the grid. One of the inverters reports DC overvoltage.	
38	NBUS Overvoltage (Secondary CPU1)		
39	PV Input Overvoltage	The PV array configuration is not correct. Too many PV panels are connected in series in the PV string.	Check the series configuration of the corresponding PV array strings. Ensure that the open-circuit voltage of the strings does not exceed the maximum operating voltage of the inverter.
40	PV Continuous Hardware Overcurrent	1. The PV configuration is not proper. 2. The hardware is damaged.	Disconnect the AC output switch and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.
41	PV Continuous Software Overcurrent	1. The PV configuration is not proper. 2. The hardware is damaged.	Disconnect the AC output switch and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.

42	String Reversed (String 1~String 16)	PV String Reversed	Check whether PV strings are connected reversely.
43	The PV voltage is low	Sun light is weak or changing abnormally.	1. If it occurs occasionally, the reason might be abnormal sun light. The inverter will recover automatically without manual intervention. 2. If it occurs frequently, please contact the dealer or after-sales service center.
44	The BUS voltage is low	Sun light is weak or changing abnormally.	1. If it occurs occasionally, the reason might be abnormal sun light. The inverter will recover automatically without manual intervention. 2. If it occurs frequently, please contact the dealer or after-sales service center.
45	BUS Soft Start Failure	Boost Driver Circuit Abnormality	Disconnect the AC output switch and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.
46	BUS Voltage Imbalance	1. The inverter sampling circuit is abnormal. 2. Abnormal Hardware.	Disconnect the AC output switch and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.
47	Gird Phase Lock Failure	Grid Frequency Instability	Disconnect the AC output switch and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.

48	Inverter Continuous Overcurrent	A short-term sudden change in the power grid or load causes control overcurrent	If it occurs occasionally, no action is required; If it occurs frequently, please contact the dealer or after-sales service center.
49	Inverter Software Overcurrent		
50	R Phase Inverter Hardware Overcurrent		
51	S Phase Inverter Hardware Overcurrent		
52	T Phase Inverter Hardware Overcurrent		
53	PV Single Hardware Overcurrent	Sun light is weak or changing abnormally.	Disconnect the AC output switch and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.
54	PV Single Software Overcurrent		

55	PV HCT Fault	Disconnect the AC output switch and DC input switch, then connect them 5 minutes later. Contact the dealer or the after-sales service if the problem persists.	Turn off the AC output side switch and DC input side switch. After 5 minutes, turn on the AC output side switch and DC input side switch. If the fault still exists, please contact the dealer or our company's customer service center.
56	Cavity Overtemperature	1. The inverter is installed in a place with poor ventilation. 2. The ambient temperature is too high. 3. A fault occurs in the internal fan of the inverter.	1. Check whether the ventilation at the inverter installation location is good and whether the ambient temperature exceeds the maximum allowable ambient temperature range. 2. If there is poor ventilation or the ambient temperature is too high, please improve the ventilation and heat dissipation conditions. 3. Contact the dealer or after-sales service if both the ventilation and the ambient temperature are proper.
58	PV String Lost (String 1~String 16)	String fuse disconnected (if applicable).	Check if the fuse is disconnected

8.5 Routine Maintenance

⚠ DANGER
Power off the inverter before operations and maintenance. Otherwise, the inverter may be damaged or electric shocks may occur.

Maintenance Content	Maintenance Method	Maintenance Cycle
System Cleaning	Check whether the heat sinks and air inlets/outlets are free of foreign objects and dust.	Once every 6 months to once a year

Fan	Check the fan for proper working status, low noise, and intact appearance.	Once a year
DC Switch	Turn the DC switch on and off ten consecutive times to make sure that it is working properly.	Once a year
Electrical Connections	Check whether electrical connections are loose, and whether the cable appearance is damaged or has exposed copper.	Once every 6 months to once a year
Sealing	Check whether the sealing of the equipment's cable entry holes meets the requirements; if there are excessively large gaps or unblocked areas, re-seal them.	Once a year

Fan Maintenance

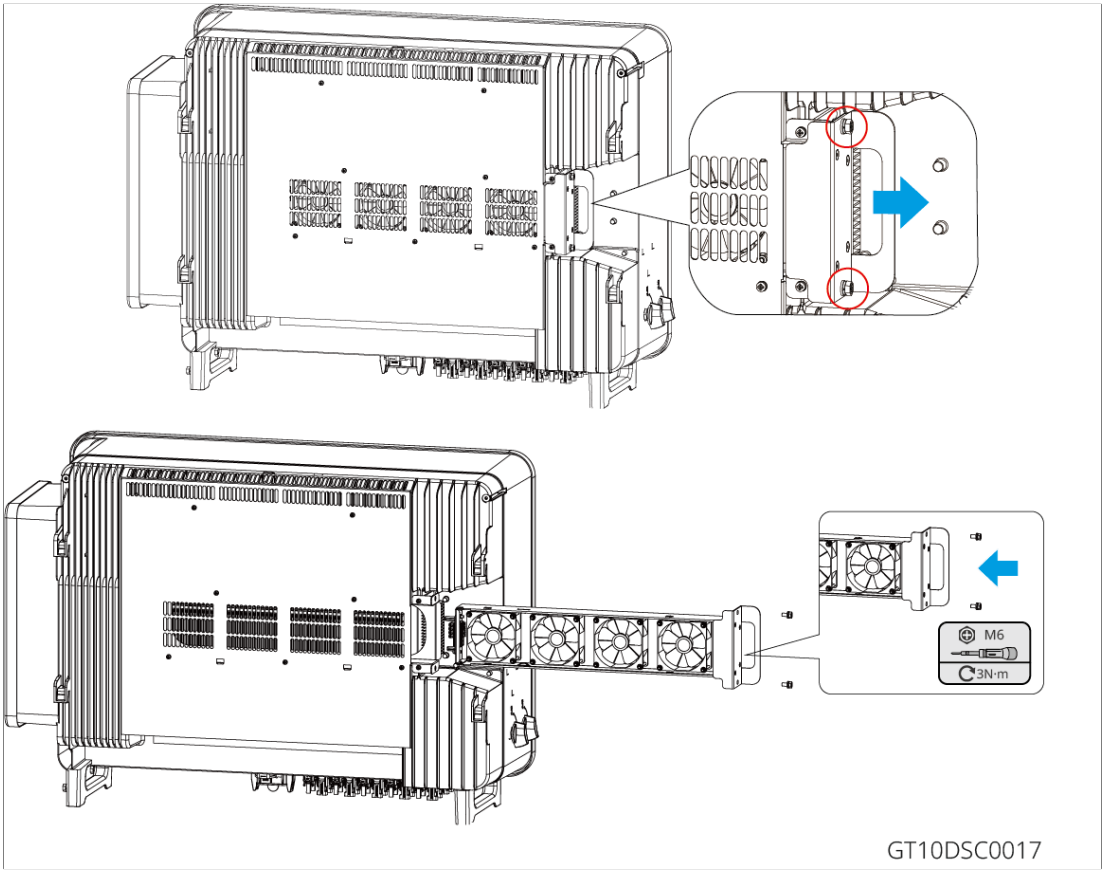
For fan maintenance, refer to the specific steps below:

The GT series inverter is equipped with an external fan module, which is inserted into the back of the inverter from the left side. This fan requires cleaning with a vacuum cleaner annually. For thorough cleaning, pull out the fan from the unit first.

1. Turn off the AC switch between the inverter and the power grid, and turn off the DC switch of the inverter.
2. Wait until the residual voltage is completely discharged (as required by the label) and the fan stops running.
3. Clean the fan.

- Remove the screws with a screwdriver and pull out the fan;
- Pull out the entire external fan module, do not pull out individual fans.

4. Use a soft bristle brush, cloth, or vacuum cleaner.
5. After cleaning, reassemble the fan and tighten the screws securely.


M6
3N·m
GT10DSC0017

9 Technical Parameters

Technical Data	GW75K-GT-LV-G10
Input	
Max. Input Power (kW)	150
Max. Input Voltage (V)	800
MPPT Operating Voltage Range (V)	180~800
MPPT Voltage Range at Nominal Power (V)	250~650
Start-up Voltage (V)	200
Nominal Input Voltage (V)	370
Max. Input Current per MPPT (A)	42
Max. Short Circuit Current per MPPT (A)	52.5
Max. Backfeed Current to The Array (A)	0
Number of MPP Trackers	8
Number of Strings per MPPT	2
Output	
Nominal Output Power (kW)	75

Nominal Output Apparent Power (kVA)	75
Max. AC Active Power (kW)*3	75*6
Max. AC Apparent Power (kVA)*3	75
Nominal Power at 40℃ (kW)	75
Max. Power at 40℃ (Including AC Overload) (kW)	75
Nominal Output Voltage (V)	127/220,3L/N/PE or 3L/PE*7
Output Voltage Range (V)	176~245
Nominal AC Grid Frequency (Hz)	50/60
AC Grid Frequency Range (Hz)	45~55/ 55- 65
Max. Output Current (A)*5	196.9
Max. Output Fault Current (Peak and Duration) (A)	364A @5μs
Inrush Current (Peak and Duration) (A)	120A @1μs
Nominal Output Current (A)	196.9
Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)

Max. Total Harmonic Distortion	<3%
Maximum Output Overcurrent Protection (A)	340
Efficiency	
Max. Efficiency	98.80%
European Efficiency	98.30%
Protection	
PV String Current Monitoring	Integrated
PV Insulation Resistance Detection	Integrated
Residual Current Monitoring	Integrated
PV Reverse Polarity Protection	Integrated
Anti-islanding Protection	Integrated
AC Overcurrent Protection	Integrated
AC Short Circuit Protection	Integrated
AC Overvoltage Protection	Integrated
DC Switch	Integrated
DC Surge Protection	Type II
AC Surge Protection	Type II
AFCI	Optional[*8]
Rapid Shutdown	Optional

Remote Shutdown	Integrated
PID Recovery	Optional
Power Supply at Night	Optional
I-V Curve Dianosis	Optional
General Data	
Operating Temperature Range (℃)	-30~ +60
Storage Temperature (℃)	-40~ +70
Operating Environment	Outdoor
Relative Humidity	0~100%
Max. Operating Altitude (m)	4000
Cooling Method	Smart Fan Cooling
User Interface	LED, LCD (Optional), WLAN+APP
Communication	RS485, WiFi+LAN
Communication Protocols	Modbus-RTU (SunSpec Compliant)
Weight (kg)	88
Dimension (W×H×D mm)	930×650×300
Noise Emission (dB)	<70
Topology	Non-isolated
Self-consumption at Night (W)	<1
Ingress Protection Rating	IP66
Anti-corrosion Class	C4, C5 (Optional)

DC Connector	MC4 (4~ 6mm^2)
AC Connector	OT/DT terminal (Max. 240 mm^2)
Environmental Category	4K4H
Pollution Degree	III
Overvoltage Category	DCII / ACIII
Protective Class	I
The Decisive Voltage Class (DVC)	PV: C
	AC: C
	com: A
Active Anti-islanding Method	AFDPF + AQDPF
Country of Manufacture	China

Technical Data	GW100K-GT	GW110K-GT	GW125K-GT
Input			
Max. Input Power (kW)	150	165	187.5
Max. Input Voltage (V)	1100*11	1100*11	1100*11
MPPT Operating Voltage Range (V)*12	180~1000		
MPPT Voltage Range at Nominal Power (V)	500~850V @380V/400Vac, 600~850V @480Vac		
Start-up Voltage (V)	200		

Nominal Input Voltage (V)	600V @380/400Vac, 720V @480Vac		
Max. Input Current per MPPT (A)	42		
Max. Short Circuit Current per MPPT (A)	52.5		
Max. Backfeed Current to The Array (A)	0		
Number of MPP Trackers	8	10	10
Number of Strings per MPPT	2		
Output			
Nominal Output Power (kW)	100*1	110	125
Nominal Output Apparent Power (kVA)	100*1	110	125
Max. AC Active Power (kW)*3	100*1	121*4	137.5*2
Max. AC Apparent Power (kVA)*3	100*1	121*4	137.5*2
Nominal Power at 40℃ (kW)	100	110	125
Max. Power at 40℃ (Including AC Overload) (kW)	100	110	125
Nominal Output Voltage (V)	220/380, 230/400, 277/480, 3L/N/PE or 3L/PE		

Output Voltage Range (V)	304~528		
Nominal AC Grid Frequency (Hz)	50/60		
AC Grid Frequency Range (Hz)	45~55/ 55- 65		
Max. Output Current (A)*5	167.1@380V 158.8@400V 132.3@480V	183.4@380V 174.7@400V 145.5@480V	199.4@380V 198.5@400V 165.4@480V
Max. Output Fault Current (Peak and Duration) (A)	364: 5μs		
Inrush Current (Peak and Duration) (A)	120: 1μs		
Nominal Output Current (A)	152.0@380V 145.0@400V 120.3@480V	167.1@380V 159.5@400V 132.3@480V	189.9@380V 181.2@400V 150.4@480V
Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)		
Max. Total Harmonic Distortion	<3%		
Maximum Output Overcurrent Protection (A)	340		
Efficiency			
Max. Efficiency	98.8%	98.8%	99.0%
European Efficiency	98.4%	98.4%	98.5%
CEC Efficiency	98.3%	98.3%	98.4%
Protection			

PV String Current Monitoring	Integrated	Integrated	Integrated
PV Insulation Resistance Detection	Integrated	Integrated	Integrated
Residual Current Monitoring	Integrated	Integrated	Integrated
PV Reverse Polarity Protection	Integrated	Integrated	Integrated
Anti-islanding Protection	Integrated	Integrated	Integrated
AC Overcurrent Protection	Integrated	Integrated	Integrated
AC Short Circuit Protection	Integrated	Integrated	Integrated
AC Overvoltage Protection	Integrated	Integrated	Integrated
DC Switch	Integrated	Integrated	Integrated
DC Surge Protection	Type II (Type I+II Optional)		
AC Surge Protection	Type II		
AFCI	Optional*9	Optional*9	Optional*9
Emergency Power Off	Optional	Optional	Optional
Rapid Shutdown	Optional	Optional	Optional
Remote Shutdown	Optional	Optional	Optional
PID Recovery	Optional	Optional	Optional
Reactive Power Compsation at Night	Optional	Optional	Optional

Power Supply at Night	Optional*10	Optional*10	Optional*10
I-V Curve Scan	Optional	Optional	Optional
I-V Curve Diagnosis	Optional	Optional	Optional
General Data			
Operating Temperature Range (℃)	-30~ +60		
Storage Temperature (℃)	-40~ +70		
Operating Environment	Outdoor		
Relative Humidity	0~100%		
Max. Operating Altitude (m)	4000		
Cooling Method	Smart Fan Cooling		
User Interface	LED, LCD (Optional), WLAN+APP		
Communication	RS485, WiFi+LAN or 4G or PLC(Optional)		
Communication Protocols	Modbus-RTU (SunSpec Compliant)		
Weight (kg)	85	88	88
Dimension (W×H×D mm)	930×650×300		
Noise Emission (dB)	<70		
Topology	Non-isolated		
Self-consumption at Night (W)	<2		
Ingress Protection Rating	IP66		

Anti-corrosion Class	C4, C5 (Optional)
DC Connector	MC4 (4~ 6mm^2)
AC Connector	OT/DT terminal (Max. 240 mm^2)
Environmental Category	4K4H
Pollution Degree	III
Overvoltage Category	DCII / ACIII
Protective Class	I
The Decisive Voltage Class (DVC)	PV: C AC: C com: A
Active Anti-islanding Method	AFDPF + AQDPF
Country of Manufacture	China

*1: For Australia is 99.99kW/KVA.
*2: For VDE4105 Max. AC Active Power(kW) and Max. AC Apparent Power(kVA) : GW125K-GT is 134.9.
*3: For Chile, Brazil and Sri Lanka Max AC Active Power (kW) and Max. AC Apparent Power (kVA): GW100K-GT is 100; GW110K-GT is 110; GW125K-GT is 125.
*4: For Australia is 110kW/kVA.
*5: For Australia Max. Output Current (A): GW100K-GT is 145; GW110K-GT is 159.5.
*6: For Colombia Max.AC Active Power (kW) : GW75K-GT-LV-G10 is 70.9@208V.
*7: For Colombia Nominal Output Voltage (V) : GW75K-GT-LV-G10 is 120/208, 3L/N/PE or 3L/PE.
*8: For Brazil and Colombia is Integrated.
*9: For Australia , Brazil and Mexico, GW100K-GT/GW110K-GT/GW125K-GT AFCI: Integrated.
*10: For Australia, GW100K-GT/GW110K-GT/GW125K-GT Power Supply at Night: Integrated.
*11: When the input voltage ranges from 1000V to 1100V, the inverter will enter the standby state. When the input voltage returns to the MPPT operating voltage range,

the inverter will resume normal operating state.
*12: Please refer to the user manual for the MPPT Voltage Range at nominal Power.

10 Explanation of Terms

Overvoltage Category Definition
Overvoltage Category I: connects to equipment connected to a circuit where measures have been taken to reduce transient overvoltage to a low level;
Overvoltage Category II: energy-consuming equipment powered by fixed power distribution devices. Such equipments include appliances, portable tools, and other household and similar loads. If there are special requirements for the reliability and applicability of such equipment, Voltage Category III shall be adopted.
Category III: fixed downstream equipment, including the main distribution board. Such equipments include switchgear in fixed power distribution devices and industrial equipment permanently connected to fixed power distribution devices;
Category IV: applied to the upstream equipment in the power supply of the distribution device, including measuring instruments and upstream over-current protection devices.

Humid Scenarios Category Definition

Environment Parameters	Level		
	3K3	4K2	4K4H
Temperature Range	0~+40℃	-33~+40℃	-33~+40℃
Humid Range	5%~85%	15%~100%	4%~100%

Overvoltage Category Definition:
Outdoor Inverter: The ambient air temperature range is -25 to +60℃, and it is suitable for environments with pollution degree 3;
Indoor Type II Inverter: The ambient air temperature range is -25 to +40℃, and it is suitable for environments with pollution degree 3;
Indoor Type I Inverter: The ambient air temperature range is 0 to +40℃, and it is suitable for environments with pollution degree 2.

Pollution Class Category Definition
Pollution Degree 1: No pollution or only dry non-conductive pollution;
Pollution Degree 2: In general, there is only non-conductive pollution, but the transient conductive pollution caused by occasional condensation must be taken into account;
Pollution Degree 3: There is conductive pollution, or the non-conductive pollution becomes conductive pollution due to condensation;
Pollution Degree 4: Persistent conductive pollution, such as pollution caused by conductive dust or rain and snow.

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