

Version: EN-UM-1.0

USER MANUAL

Three-phase Grid-tied PV String Inverter

HISTORY

VERSION	ISSUED	COMMENTS
1.0	Oct. 2025	First release

Preface

About This Manual

This manual describes the installation, connection, the use of APP, commissioning, maintenance etc. of Three-phase Grid-tied PV String Inverter. Please read the manual and related documents carefully before using the product and keep them within the reach of installation, operation and maintenance personnel.

The illustration in this user manual is for reference only. This user manual is subject to change without prior notice. (Specific product please in kind prevail.)

Target Group

Three-phase Grid-tied inverters must be installed by professional electrical engineers who have obtained relevant qualifications.

Scope

This manual is applicable to the following inverters:

- SE-TH 100.0TL3
- SE-TH 110.0TL3
- SE-TH 125.0TL3

Conventions

The following safety instructions and general information are used within this user manual.

 DANGER	Indicates an imminently hazardous situation which, if not correctly followed, will result in serious injury or death.
 WARNING	Indicates a potentially hazardous situation which, if not correctly followed, will result in serious injury or death.
 CAUTION	Indicates a potentially hazardous situation which, if not correctly followed, could result in moderate or minor injury.
 NOTICE	Indicates a potentially hazardous situation which, if not correctly followed, could result in equipment failure or property damage.
 NOTE	Call attention to important information, best practices and tips: provide additional safety instructions for your better use of the Three-phase Grid-tied inverter to reduce the waste of you resource.

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1. Safety

Before using the inverter, please read all instructions and cautionary markings on the console and manual. Keep this manual within reach.

The three-phase Grid-tied PV String Inverter (hereinafter referred to as the inverter) strictly conforms to related safety rules in design and test. Please follow the local laws and regulations during installation, operation and maintenance. Incorrect operation may result in personal injury or death, inverter damage and properties damage to the operator or a third party.

1.1 Safety Instructions

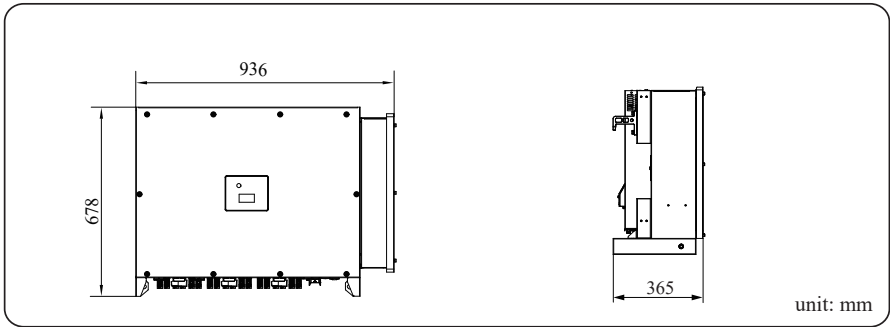
	Risk of electric shock The device contains high voltages, both alternating and direct, and high leakage currents may be generated during operation. To avoid risk of electric shock during maintenance or installation, make sure that all DC and AC connection terminals are disconnected. First connect the grounding wire to grounding and disconnect it for maintenance. Check proper phase and neutral connection. If the unit is used without following the specifications of the manufacture, the protection provided by the equipment may be impaired. Disconnect the inverter from the grid and from the photovoltaic generator before cleaning PV strings. An unexpected capacitive current from the surface of the strings may surprise operator and cause them to fall from the roof.
	Handling the inverter The inverter must be handled by qualified personnel. When the PV generator is exposed to sufficient light intensity, it generates a DC voltage and, when connected to the device, it charges the bulk capacitor. After having disconnected the inverter from the grid and the PV generator, an electric charge may remain in the bulk capacitor. Please wait at least 10 minutes after disconnecting from the grid before handing.
	Exclusively for the grid The inverter is designed for the sole purpose of converting from PV strings and injecting it into the grid. This inverter is not designed to be powered by sources of primary energy other than PV strings or to be connected to different loads other than the public grid.
	Hot surfaces Although it has been designed in accordance with international safety standards, the inverter may become hot during operation.
 NOTICE	Application for PV strings It is prohibited to connect all PV strings in parallel to a string inverter, such as in applications where string inverters are used to replace central inverters.

1.2 Safety Precaution

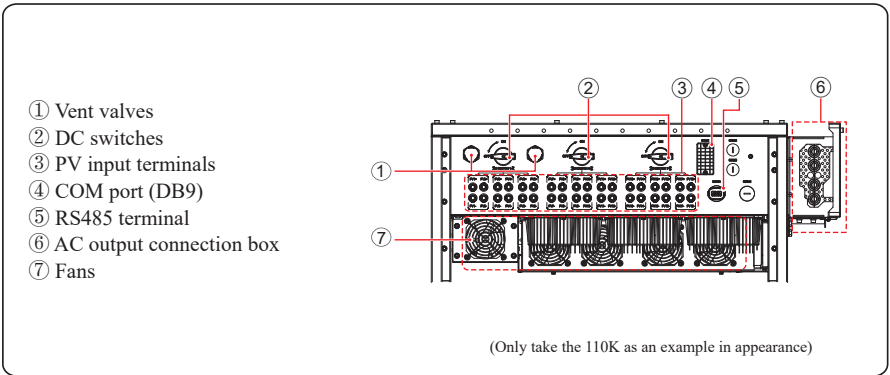
- a. Installation, maintenance and connection of inverters must be performed by qualified personnel and in compliance with electrical standards, wiring rules and requirements of local power authorities and/or companies.
- b. To avoid electric shock, DC input and AC output of the inverter must be terminated at least 10 minutes before performing any installation or maintenance.
- c. The temperature of some parts of the inverter may exceed 60°C during operation. DO NOT touch the inverter during operation to avoid being burnt.
- d. Ensure children are kept away from inverters.
- e. Take appropriate measures to avoid electric shock.
- f. DO NOT open the front cover of the inverter. Except performing work at the wiring terminal, touching or changing components without authorization may cause injury to people, damage to inverters and void the warranty.
- g. Ensure the output voltage of the proposed PV array is lower than the maximum input voltage of the inverter; otherwise the inverter may be damaged and the warranty annulled.
- h. When exposed to sunlight, the PV array generates dangerous high DC voltage. Please operate the inverter according to the user manual, otherwise, high-voltage may result in fatal injury.
- i. DO NOT insert or unplug the AC and DC terminals when the inverter is running.

2. Product introduction

2.1 Product Dimensions



2.2 Product Overview



2.3 Working Modes

There are three working modes of the inverter: standby, operating and shutdown.

Table below shows the conditions for the inverter to switch between working modes.

Modes	Description
Standby	The inverter enters the standby mode when: • The input voltage of PV Strings can enable auxiliary power supply to run, but cannot meet the inverter operation requirements. • The input voltage of PV Strings can meet the inverter start-up requirements, but cannot meet its minimum power requirements.
Operating	When the inverter is grid-tied and generates electricity, it : • tracks the maximum power point to maximize the PV string output. • converts DC power from PV strings into AC power and feeds the power to the power grid. The inverter will enter to the shutdown mode when detecting a fault or a shutdown command.
Shutdown	The inverter switches from standby or operating mode to shutdown mode when detecting a fault or a shutdown command. The inverter switches from shutdown mode to standby mode when receiving a Startup command or detecting a fault removal.

3. Storage

This chapter describes the storage requirements for the inverter.

If the inverter needs to be used later, please follow the storage instructions below:

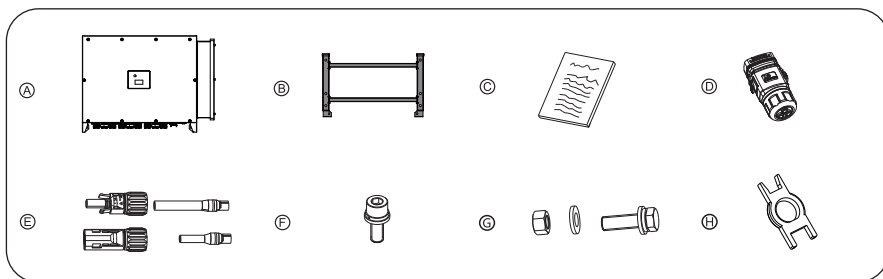
- DO NOT unpack the inverter (put desiccant in the original box if the inverter is unpacked).
- Store the inverter at a temperature range of -25°C to ~ 60°C and with the relative humidity of 0% ~100% (no condensing).
- The inverter should be stored in a clean and dry place and be protected from dust and water vapor corrosion.
- A maximum of four layers of inverters can be stacked.
- Conduct periodic inspection during storage. Replace the packing materials immediately if any rodent bites are found.
- After a long-time storage, an inspection and test of the inverter by qualified personnel before using is required.

4. Installation

 DANGER	DO NOT install the inverter in areas with flammable, explosive or corrosive materials.
 CAUTION	DO NOT install the inverter where its housing and heat sinks are easily accessible, since the high-voltage and heat generated during operation.

4.1 Checking the Outer Packaging

- When receiving the inverter, check the packaging of the inverter and ensure that the packaging is intact and undamaged. If there is any phenomenon of damage, please do not unpack the product and contact your dealer.
- Check the inverter model. If the inverter model is not what you requested, please do not unpack the product and contact your dealer.
- After unpacking, check the deliverables and ensure that they are complete, intact and consistent with your order list. If there is any phenomenon of damage, please contact your dealer.



Items	Deliverables
A	The inverter
B	Mounting bracket
C	File package
D	RS485 connector
E	PV connector group
F	M8 bolts
G	M12 Bolt group (including screw, nut) *4 (reserved for tightening the support and mounting bracket)
H	Removal tool for DC connectors

4.2 Moving the Inverter

After taking the inverter from packaging, move the inverter to the designated installation position vertically. Hold the inverter as shown in the following figure.

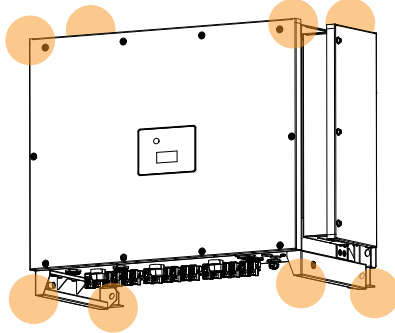


CAUTION

- The inverter is relatively heavy! To avoid device damage and personnel injury, four people are recommended to move the inverter and handle with care.
- DO NOT place the inverter with its bottom contacting the ground for the connecting ports at the bottom are not designed to support the weight of the inverter.
- When placing the inverter on the ground, cushion materials such as foam or paper should be placed on the bottom of the inverter to avoid damage to its housing.



min. 4



4.3 Identify the Inverter

After taking the inverter from packaging, identify its nameplate on the side of the inverter, which contains important product information: the model information, communications / technical specifications, and compliance symbols.

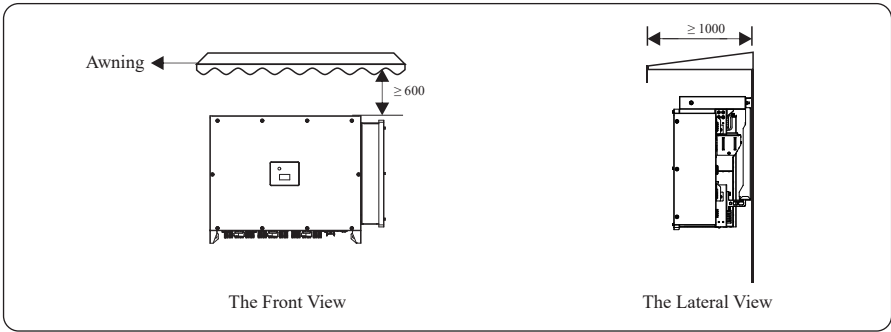
4.4 Installation Requirement

Basic Requirements

- a. With an IP65 protection rating, the inverter can be mounted indoors or outdoors.
- b. The installation method and position must be appropriate for the weight and dimensions of the inverter.
- c. The mounting location should be inaccessible to unrelated personnel since the housing and heat sinks are extremely hot during operation.
- d. DO NOT install the inverter in areas with flammable materials or gases.

Installation Environment Requirements

- a. To ensure optimum operation and a long service life, the ambient temperature should be -25°C~60°C.
- b. The inverter should be mounted in a well-ventilated environment to ensure good heat dissipation.
- c. To ensure long service life, the inverter should not be exposed to direct solar irradiation, rain, or snow. It is recommended that the inverter be mounted in a sheltered place. If there is no shelter available, build an awning, as shown in the following figure.



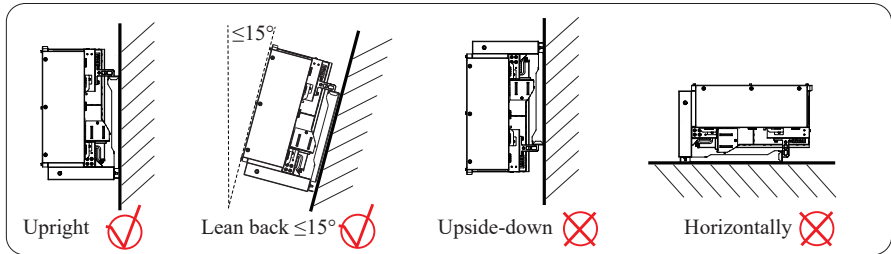
Installation Environment with Awning (unit:mm)

Installation Carrier Requirements

- a. The carrier where the inverter is mounted must be fire-proof. DO NOT mount the inverter on flammable building materials.
- b. The wall must be solid enough to bear the weight of the inverter.
- c. DO NOT install the inverter on a wall made of gypsum boards or similar materials with weak sound insulation to avoid noise disturbance in a residential area.

Installation Angle Requirements

Install the inverter upright or at a maximum back tilt of 15 degrees to facilitate heat dissipation.

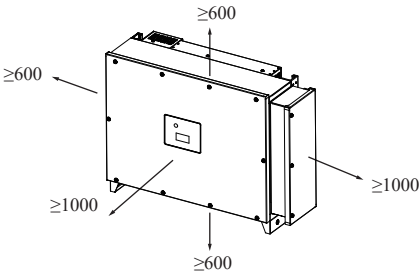


	NOTICE	Improper installation will lead to inverter operation failure.
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Installation Space Requirements

- a. It is recommended that the inverter be installed at eye level to facilitate operation and maintenance.
- b. Reserve enough clearance around the inverter to ensure sufficient space for installation and heat dissipation. Different mounting modes and their space requirements are shown as below.

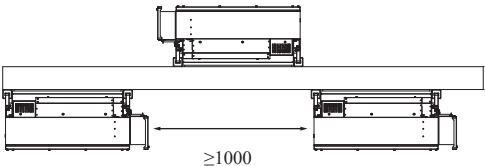
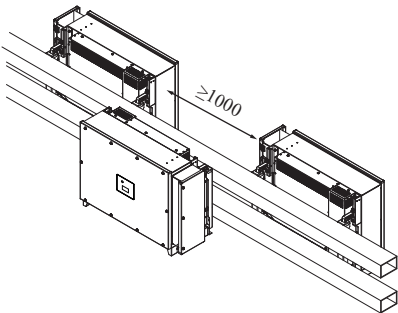
Mode A: Non-back-to-back Installation



Unit: mm

Note: the maintenance area of this inverter is on the right side.
Therefore, its clearance requirement must be no less than 1000mm.

Mode B: Back-to-back Staggered Installation



Unit: mm

4.5 Install the Inverter



DANGER

1. The installation walls must be fire-proof and non-flammable materials, otherwise there is a fire risk.
2. Before drilling holes, ensure that there is no electrical pipes or other pipes buried in the walls to avoid risks.

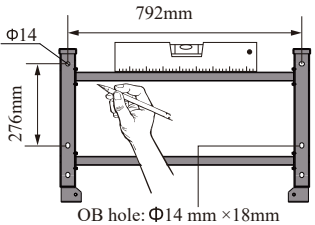
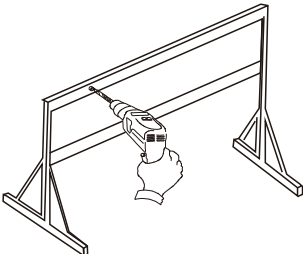
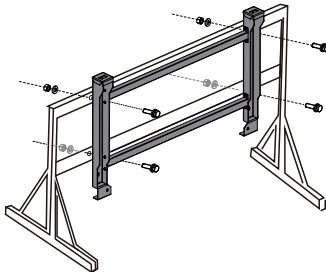
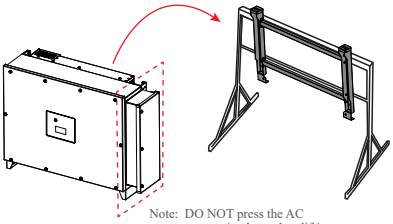
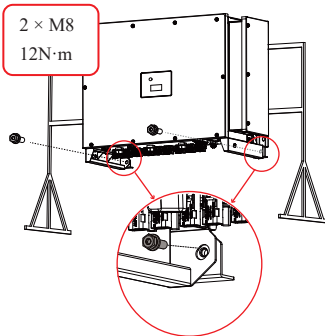
The inverter supports wall-mounted installation and support-mounted installation.

For wall-mounted installation, the load-bearing capacity of the wall must be greater than 10 KN/m² and M12 x 60mm stainless steel pressure-burst expansion bolts are recommended.

Wall-mounted Installation

Set bracket level.	Ø: 14 mm Depth: 65mm
1 Mark the holes position on the wall. Expansion bolts group (M12; 4 sets) Note: please prepare the bolts yourself.	2 Drill the holes. (4xØ14mm) M12 42N·m
3 Note: DO NOT press the AC output connection box when lifting.	4 2 x M8 12N·m
5 Lift the inverter from the bottom and place it on the mounting-bracket.	6 Fix the inverter.

Support-mounted Installation

 1 Mark the holes position on the support.	 2 Drill the holes. (4 × 4mm)
 3 Secure the mounting bracket with bolts from delivery accessories. (4 × M12; 42N·m)	 4 Lift the inverter from the bottom and place it on the mounting-bracket. Note: DO NOT press the AC output connection box when lifting.
 5 Fix the inverter. 2 × M8 12N·m	

4.6 Installation Self-check

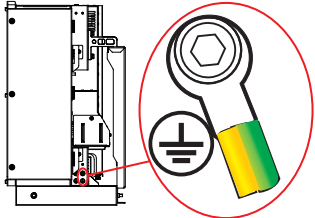
1. Ensure that the inverter is well fixed.
2. Ensure that the inverter is locked on the bracket with an anti-theft lock installed.

5. Electrical Connection

5.1 Safety Caution

 DANGER	Before performing any electrical connections, ensure that both DC and AC switches are OFF. Otherwise, high voltage may result in fatal injury.
 CAUTION	Grounding the PV strings needs below prerequisites: • An isolation transformer must be installed on the AC side of each inverter. Ensure that the neutral wire of the isolation transformer is disconnected from the external PE cable. • Install an isolation transformer for each inverter. Multiple inverters are not allowed to share one isolation transformer. Otherwise, circulating current generated by the inverters will lead to operation failure.

5.2 Connecting External PE Cables



Items	Remark
Screw	M8; 7N·m
PE cable	$S_P \geq S/2$

NOTE

S: cross-sectional area of AC cable

S_P : cross-sectional area of external PE cable

The S_P value is valid only when the PE cable and the AC cable are of the same material.

 NOTICE	External PE Cable connection can not replace PE cable connection to the AC output port. Ensure that both of the PE cables are grounding well. Otherwise, warranty will be void if damage is caused by incorrect electrical connection .
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5.3 Connecting AC Output Cables

AC Circuit Breaker

Connect the inverter to the power grid by installing an AC circuit breaker whose rated current is no less than 250A. Residual current protection function of square matrixes is internally installed. If local utility department requires leakage current protection function for AC circuit breaker, please set leakage current protection value no less than the corresponding value specified in the table below. This setting can prevent the inverter from performance failure.

Inverter Model	Residual current
100K	≥1110mA
110K	≥1230mA
125K	≥1390mA

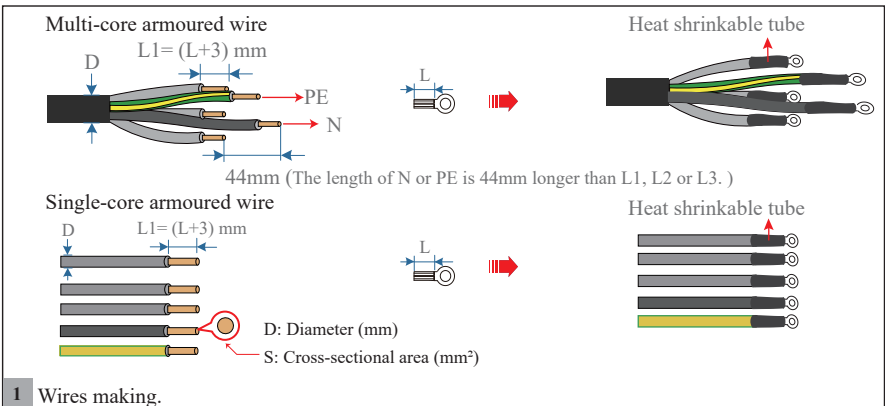
AC Cable Requirements:

Cable	Type	S (mm ²)	D (mm)
AC cable (Multi-Core)	Outdoor triple-core cable (L1, L2, L3) Outdoor four-core cable (L1, L2, L3, PE) Outdoor five-core cable (L1, L2, L3, PE, N)	• Copper wire cable -S: 70mm²~240mm² -SP ≥S/2 • Aluminum wire cable -S: 95mm²~240mm² -SP ≥S/2	24mm~69mm
AC cable (Single-Core)	Five single-core outdoor cables	• Copper wire cable -S: 70mm²~240mm² -SP ≥S/2 • Aluminum wire cable -S: 95mm²~240mm² -SP ≥S/2	14mm~32mm



NOTICE

For your operation and safety sake, please prepare multi-stranded wire, crimping terminals with a proper crimping tool before AC wiring.



OT/DT Terminal Requirements:

A

Copper wiring terminal

AC terminal block

Copper cable

B

Copper wiring terminal

AC terminal block

Copper-clad aluminum cable

C

Copper-to-aluminum wiring terminal

AC terminal block

Aluminum alloy cable

D

Aluminum wiring terminal

AC terminal block

Aluminum alloy cable

Copper-to-aluminum washer

E

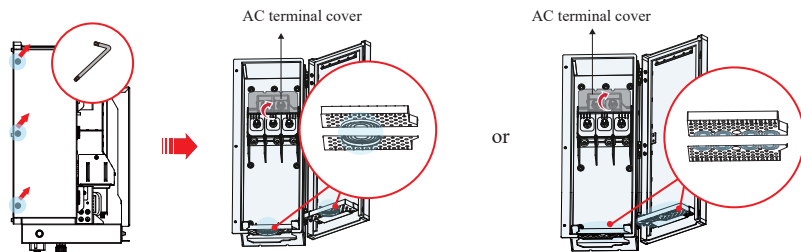
Aluminum wiring terminal

AC terminal block

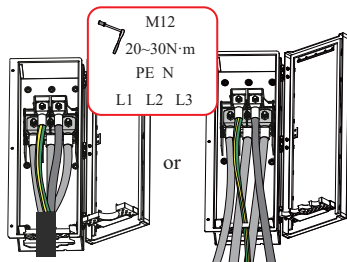
Aluminum alloy cable

NOTICE

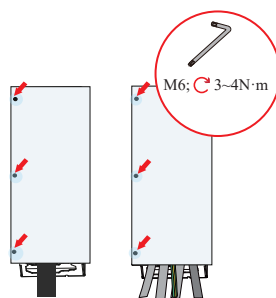
- Use copper wiring terminals when using copper cables.
- Use copper-to-aluminum wiring terminals when using aluminum alloy cables.



- 2 Unscrew and open the maintenance compartment door and AC terminal cover. Select the proper rubber module according to the wire diameter and remove the corresponding rubber ring.



- 3 Lock the AC cable to the corresponding AC terminals.



- 4 Close and lock the maintenance compartment door.

5.4 Connecting the PV Strings

PV Strings Installation Specification

PV strings installation for different models is shown in below table:

SE-TH 100.0TL3 totally 16 strings; SE-TH 110.0TL3/SE-TH 125.0TL3 totally 18 strings.

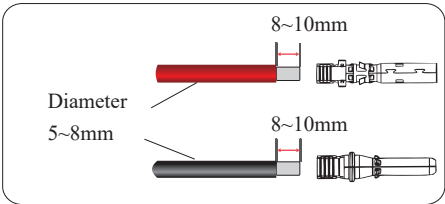
Model	MPPT1	MPPT2	MPPT3	MPPT4	MPPT5	MPPT6	MPPT7	MPPT8	MPPT9
SE-TH 100.0TL3	2strings	2strings	2strings	2strings	2strings	2strings	2strings	2strings	
SE-TH 110.0TL3/ SE-TH 125.0TL3	2strings	2strings	2strings	2strings	2strings	2strings	2strings	2strings	2strings



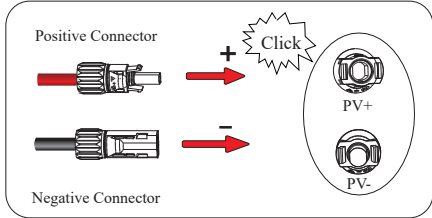
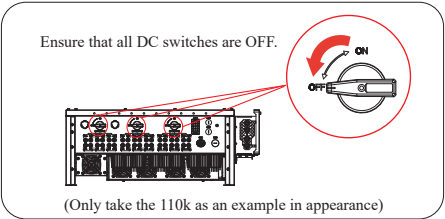
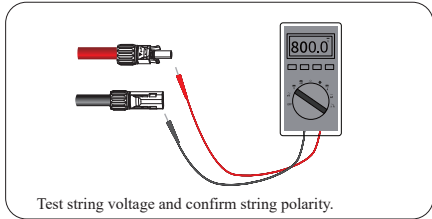
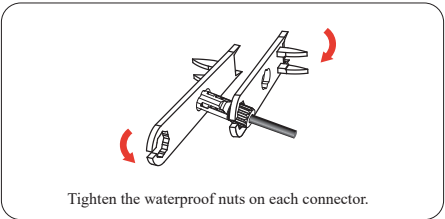
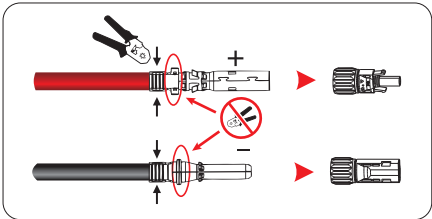
NOTE

Only use PV dedicated cable for PV connection. PV1-F cable (4~6mm²) is recommended.

Step 1 Strip an appropriate length of the insulation layer from the positive and negative power cables.



Step 2 Insert the exposed areas of the positive and negative cables into the metal terminals of the positive and negative connectors respectively and crimp them with a crimping tool. Then insert the crimped positive and negative cables into the corresponding positive and negative connectors.



Step 3 Insert the positive and negative connectors into the PV+/PV-port until a “click” sound is heard.

WARNING	When disassembly DC connectors, please ensure that PV Strings are disconnected. Otherwise, a fire can occur.
DANGER	1. Photovoltaic arrays exposed to sunlight will generate dangerous voltages! 2. Before connecting the DC terminal, ensure that both the AC terminal and the DC terminal are powered off and all DC switches are OFF. Otherwise there is a risk of high voltage shock. 3. Always check polarity of PV connectors! If polarity reversed, do not try to disconnect any PV connector until the irradiance declines and the DC currents fall below 0.5A! After that, you can disconnect the PV connectors and correct the polarity before reconnecting.

5.5 Connecting RS485 Communication Cables

5.5.1 RS485 Terminal Installation

RS485 Terminal Overview



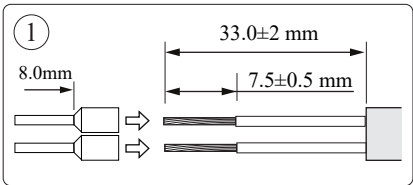


NOTE

Please connect the RS485 signal cables at the rear side of this terminal.

RS485 Installation Steps

Step 1 Prepare an RS485 communication cable.



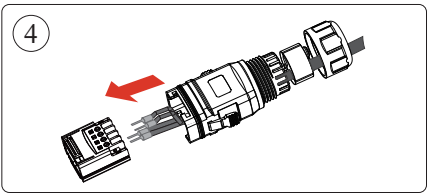
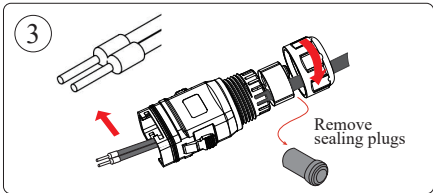
Step 2 Pull out the terminal's inner part (a 8-pin connector).

② rear side

Pin	Functions	Pin	Functions
1	NA	5	RS485_B
2	GND_S	6	RS485_A
3	RS485_B2 (reserved)	7	RS485_B
4	RS485_A2 (reserved)	8	RS485_A

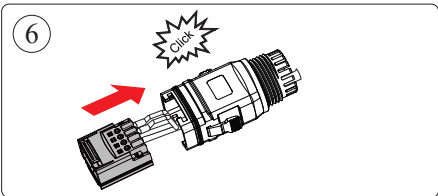
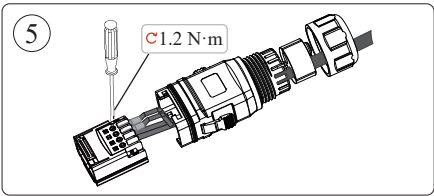
Step 3 Unscrew the waterproof nut at the end of the terminal. Remove sealing plugs and thread wires.

Step 4 Install signal cables into the 8-pin connector according to the definition table in step 2.



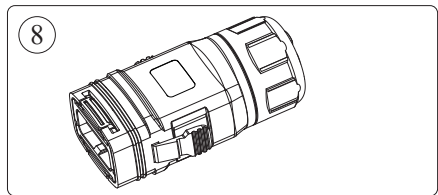
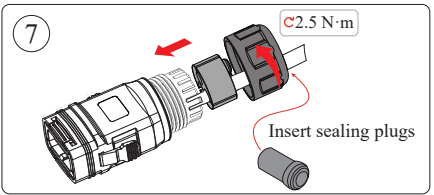
Step 5 Tighten signal cables with a screwdriver.

Step 6 Insert the 8-pin connector back.

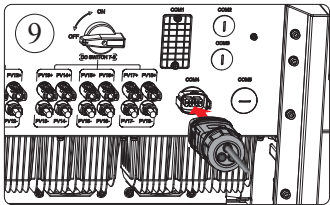


Step 7 Insert sealing plugs back and tighten the waterproof nut.

Step 8 The RS485 terminal is well-prepared.



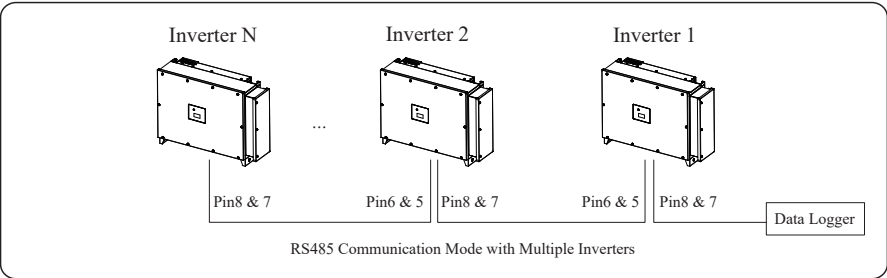
Step 9 Insert the assembled RS485 terminal into COM4 port of the inverter.



5.5.2 RS485 Communication Mode with Multiple Inverters

Connect the differential positive and negative signal wires of the first RS485 cable from the data logger (connected to the inverter 1) to Pin8 and Pin7 of the 8-Pin terminal respectively. If there is more than one inverter, connect Pin6 and Pin5 to Pin8 and Pin7 of another inverter. For the last inverter (inverter N), please enable the RS485 terminal resistor via APP.

It is recommended to use shield twisted pair cable.



5.5.3 Modbus Address Setting

To set modbus address, please perform the following steps:

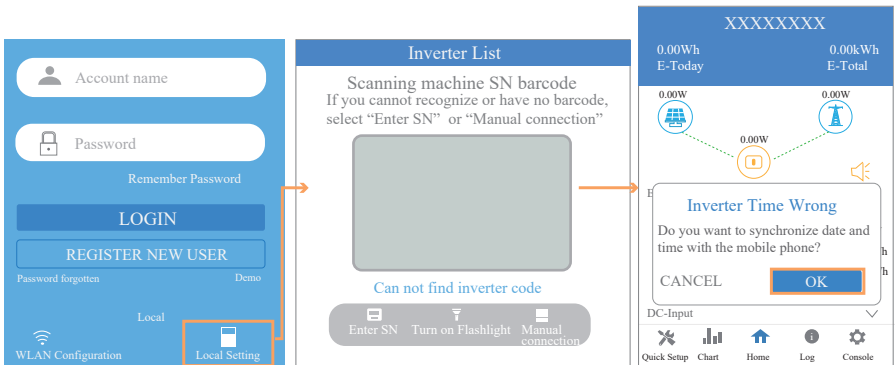
Step 1 Download the APP by either of the following ways:

- Scan the QR code on the inverter to download the APP.
- Download the APP from the App Store or Google Play.

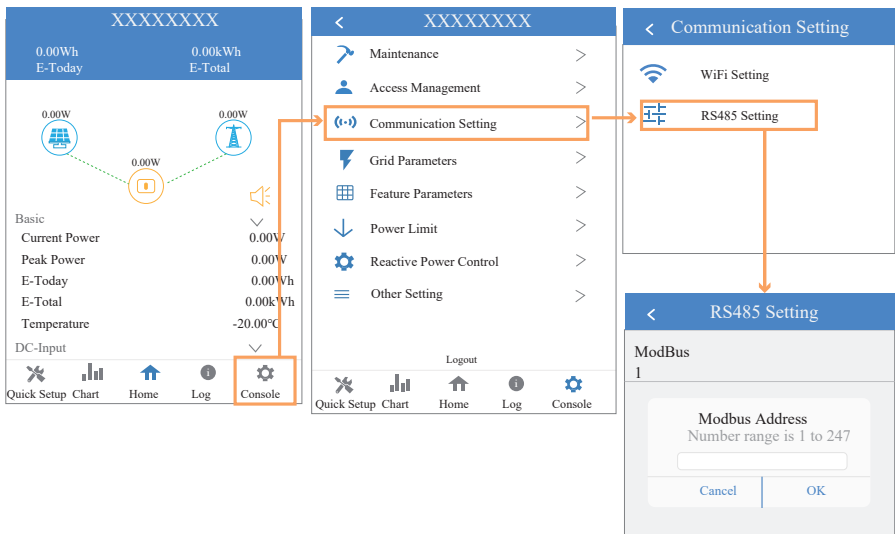
Note: You need to grant all access rights in all pop-up windows when installing the APP or setting your phone.

Step 2 Power on the inverter.

Step 3 Connect the Inverter. Enable the Bluetooth on your phone, then open the APP and follow the instructions below.



Step 4 Go to **Console** > **Communication Setting** > **RS485 Setting** > **Modbus** Page, check the Modbus address (the default value is 1), and click to modify the address as required if necessary.

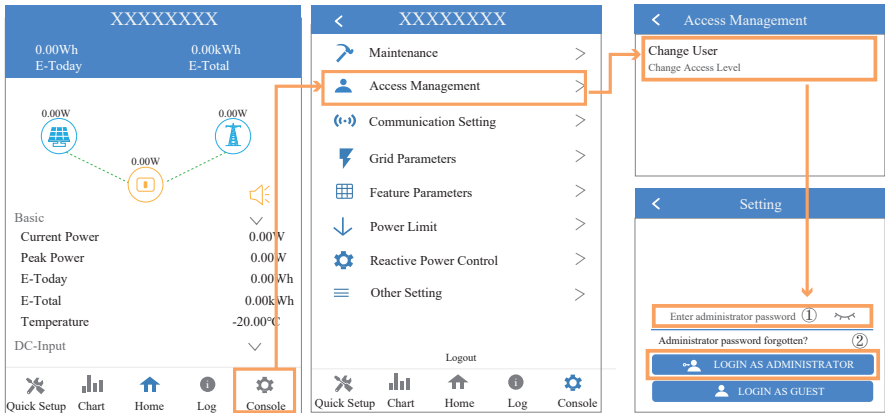


5.5.4 Terminal Resistor Setting

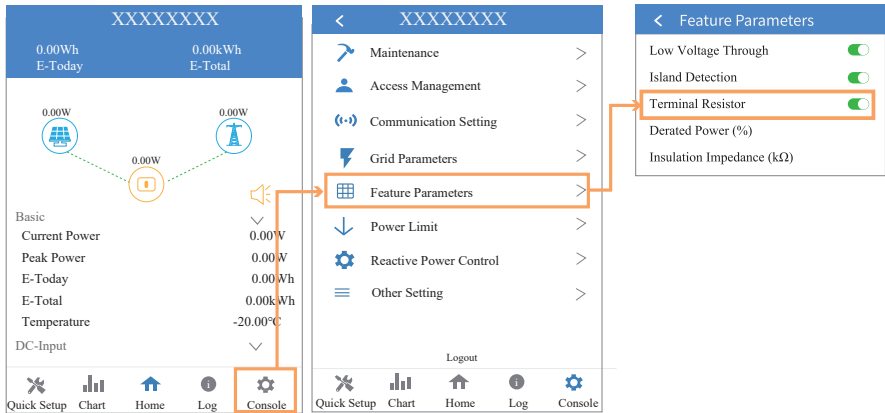
To set terminal resistor, please perform the following steps:

Step 1~3 are the same as modbus address setting, please refer to [5.5.3 Modbus Address Setting](#).

Step 4 Log in as administrator (please contact the customer service for initial password).

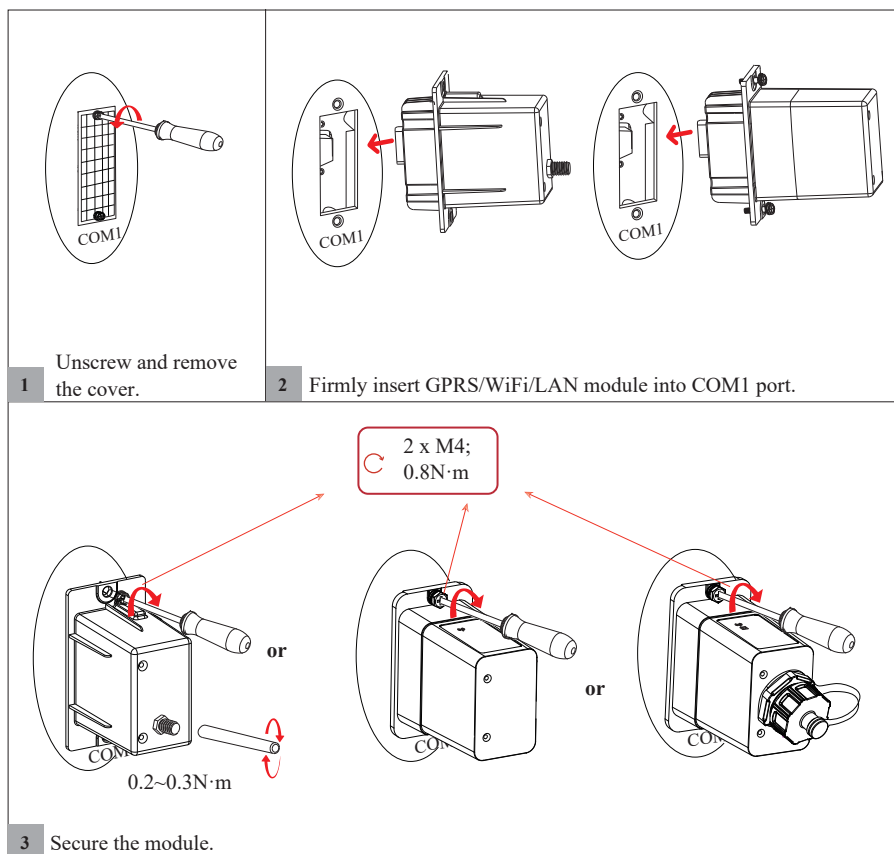


Step 5 Go to **Console > Feature Parameters** page, enable Terminal Resistor.



5.6 WIFI/GPRS/LAN Module Installation (Optional)

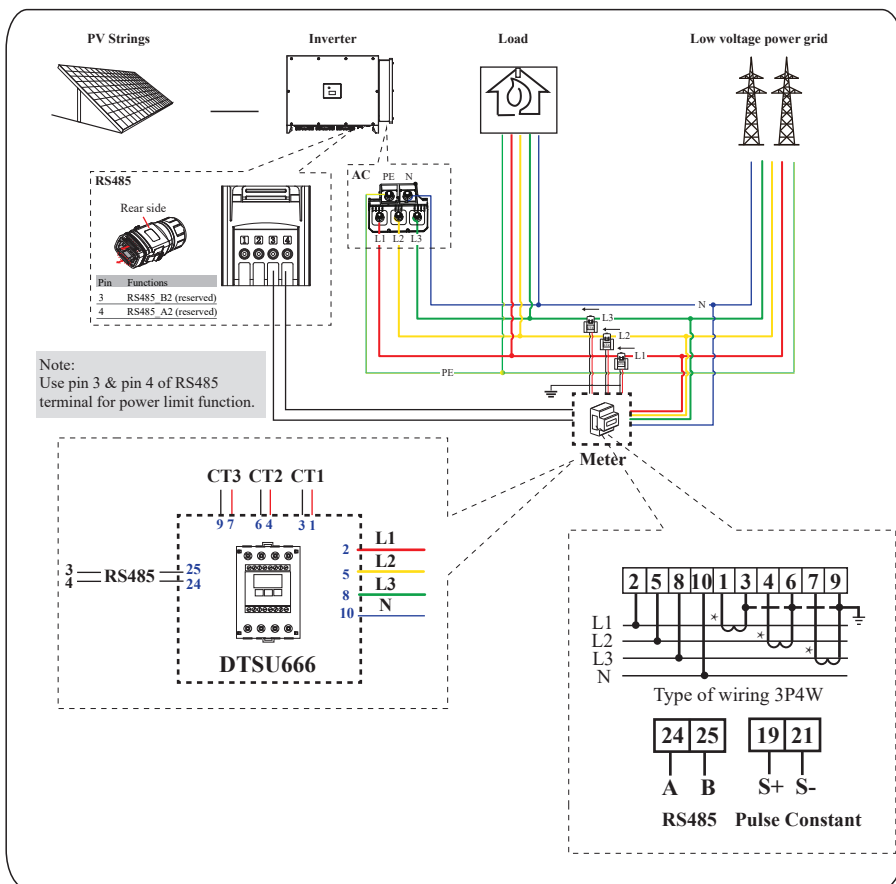
For details, please refer to the corresponding Module Installation Guide in the packing. The appearance of modules may be slightly different. The figure shown here is only for illustration.



5.7 Power Limit

5.7.1 Wiring Diagram

The wiring diagram below is applicable to meter CHINT(PV) DTSU666 3x230/400V 1.5(6)A 4P only. When wiring, please refer to the nameplate of the actual meter.



5.7.2 Settings via App

Go to [Console > Power Limit](#) page, select the options according to your demands.

< Power Limit

Power Control

Disable

Meter location

On Grid

Power flow direction

From inverter to grid

Maximum feed in grid power (W)

0

< Power Limit

Power Control

Digital Power Meter

Meter location

On Grid

Meter Type

CHINT/DTSU666

Power flow direction

From inverter to grid

Digital meter modbus address

1

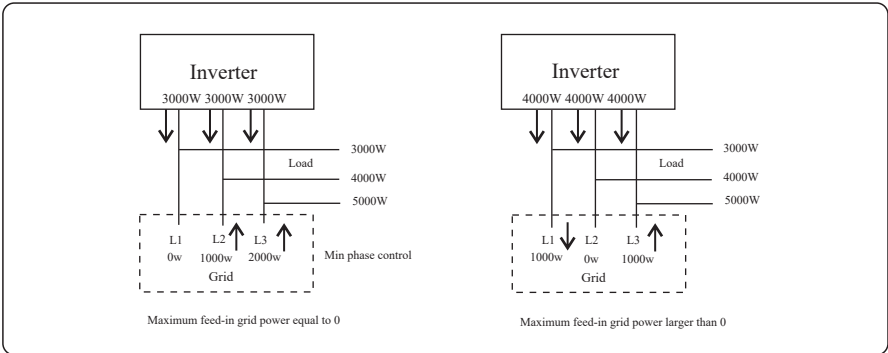
Maximum feed in grid power (W)

0

- Set the “Power control” to “Digital Power Meter”
- Set the “Meter location” base on the meter installed On Load or On Grid
- Set the “Meter Type”
- Set the “Power flow direction”
- Set the “Digital meter modbus address”
- Set “Maximum feed in grid power(W)” if needed

When “Power limit function” is set to “Digital Power Meter”, the RS485 of inverter will turn into a Host that communicates with digital meter via Modbus-RTU protocol (9600 BPS, 8 data bits, 1 stop bit, no parity data format) through communication address 1. Please make sure that the meter is set to Modbus-RTU, 9600, 8-N-1 with address 1. For details of digital meter settings, please refer to the meter user manual.

Power control methods base on “Maximum feed-in grid power”.



6 . System Operation

6.1 System Operation

Turn on the AC circuit breaker and set all DC switches of the inverter to ON. Observe status of grid-connecting lights on the inverter for a while. Blue LED lights on indicating that the inverter has successfully grid-connected. Any query during operating the PV inverter, please call your dealer.

To shut down the Inverter, turn off the AC circuit breaker and set the DC Switch to OFF, and ensure that all switches are OFF.



WARNING

After the inverter power is off, the remaining electricity and heat may still cause electrical shock and burns. Please wait at least 10 minutes before servicing the inverter.

6.2 Startup / Shutdown the System

Inspection

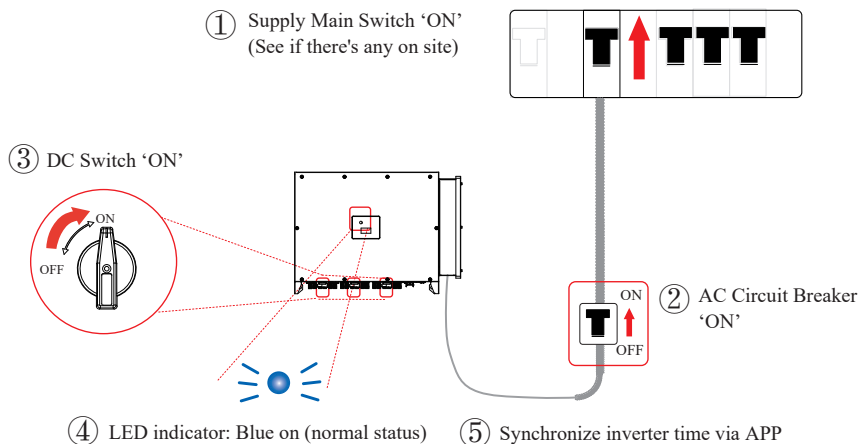
No.	Items
1	The inverter is firmly installed.
2	There is enough heat dissipation space, no external objects or parts left on the inverter.
3	It is convenient for operation and maintenance.
4	The wiring of the system is correct and firm.
5	Check whether the DC and AC connections are correct with a multimeter, and ensure there is no short circuit, break, or wrong connection.
6	Check whether the waterproof nuts of each part are tightened.
7	The vacant ports have been sealed; all gaps at the cable inlet and outlet holes have been plugged with fireproof/waterproof materials, such as fireproof mud.
8	All safety labels and warning labels on the inverter are complete and without occlusion or alteration.



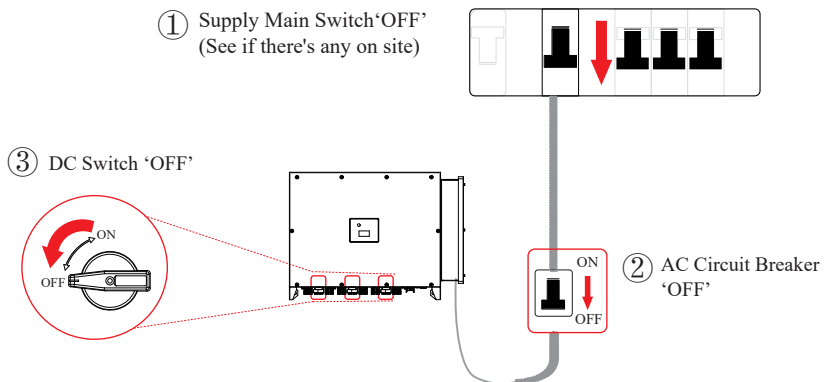
DANGER

After the inverter is powered off, the remaining electricity and heat may still cause electrical shock and body burns. If you need to disconnect the inverter cables, please wait at least 10 minutes before touching these parts of inverter.

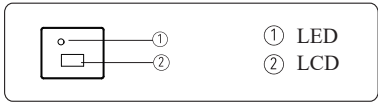
Startup Inverter



Shutdown Inverter



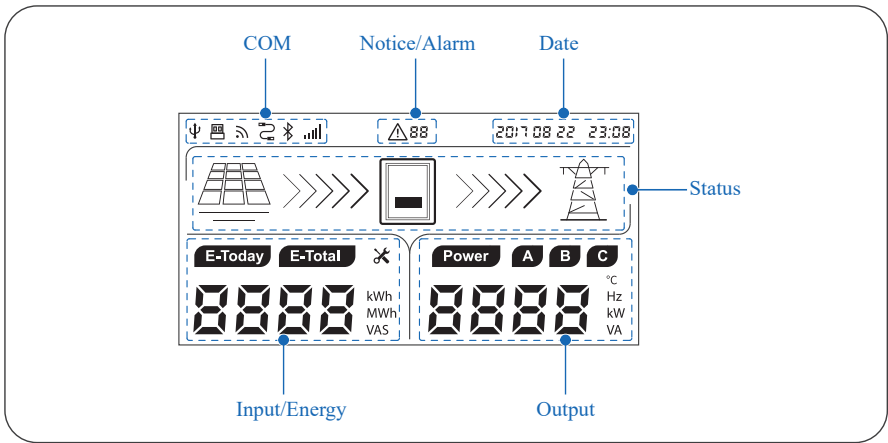
7. Interface



7.1 LED Indicator

LED status	Descriptions
Blue led blink slowly 1s/time	Both DC and AC side are powered on and the inverter is in standby or startup status (not feeding power into the grid).
Blue led on	Grid-tied status
Green led on	Power limited status
Red led blink slowly 1s/time	Output side fault
Red led blink quickly 0.25s/time	Input side fault
Red led on	System internal fault
Red/Green/Blue light alternately (1 color /0.25s)	Burning code(Master/Slave) Control power set up (lasts 1 second) LED self-check status
White led (three leds all on) blink quickly 0.25s/time	CSB and DSP communication abnormal (only AC power on)

7.2 LCD Screen



7.3 LED status and Warning code

Status	Details	Warning code
Red blink slowly 1s/time	Grid over voltage	A0
	Grid under voltage	A1
	Grid absent	A2
	Grid over frequency	A3
	Grid under frequency	A4
	Grid abnormal	A6
	Grid high average voltage	A7
	Grid N abnormal	A8
Red blink quickly 0.25s/time	PV over voltage	B0
	PV Insulation resistance abnormal	B1
	Leakage current abnormal	B2
	PV Strings reverse	B7
	PV under voltage	B4
Red on	Control power abnormal	C0
	Arc fault	C1
	High DC component of output current	C2
	Inverter relay abnormal	C3
	Inverter over temperature	C5
	Leakage current HCT abnormal	C6
	System type error	C7
	DC link voltage unbalanced	C9
	DC link over voltage	CA
	Internal communication error	CB
	Software incompatibility	CC
	EEPROM error	CD
	Consistent warning	CE
	Inverter abnormal	CF
	Boost abnormal	CG
	Master lost	CH
	Meter lost	CJ
Blue blink slowly 1s/time	Fan abnormal	C8
	Remote off	CN

Note: If your inverter is equipped with a LCD screen, the warning code will be displayed on the LCD screen. If not, please go to the app to view the corresponding warning code.

8. Maintenance

Check periodically heat sink and the inlet/outlet of external FAN, clean them, and ensure that they are free from dust and blockage. If any abnormality with the FAN, please replace it.

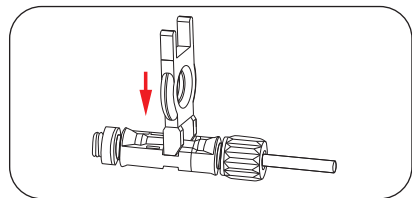
8.1 Routine Maintenance

Items	Check Content	Maintain Content	Maintenance Interval
Inverter output status	Statistically maintain the status of electrical yield, and remotely monitor its abnormal status.	N/A	Weekly
Inverter running status	• Check if the inverter is damaged or deformed. • Check if normal sound emitted during inverter operation. • Check if all inverter communications are running well.	If there is any abnormal phenomenon, replace the relevant parts.	Monthly
Inverter electrical connections	• Check if that all AC, DC and communication cables are securely connected; • Check if that external PE cables are securely connected; • Check if that all cables are intact and free from aging.	If there is any abnormal phenomenon, replace the cable or re-connect it.	Semiannually
Inverter cleaning	Check if the heat sink is free from dust and blockage regularly.	Clean the heat sink.	Yearly

8.2 Inverter Uninstall

Inverter uninstall requires below procedures:

Step 1 Disconnect all electric connections including communications cables, DC input cables, AC output cables and the external PE cables.



When uninstalling DC input connectors, insert removal wrench into the bayonet shown in the Figure, press the wrench down, and take out the connector.

Step 2 Remove the inverter from its rear panel.

Step 3 Remove the rear panel.



WARNING

Before uninstalling DC input connector, please ensure that all DC Switches are set to OFF to avoid equipment damage or personal injury.

8.3 Inverter troubleshooting

If any abnormal phenomenon occurs, refer to below table for trouble shooting. If failed, call your dealer for help.

Issue	Solution
No display	1. Check if the DC switch of inverter is on 2. If there is PV combiner box, check fuse, terminal, wires
No generation	1. Check if the AC breaker is on 2. Wait stronger sunshine 3. Check the number of PV panel 4. To operate according to inverter's manual
Inverter abnormal	1. Disconnect both AC and DC breakers 2. Wait at least 10 minutes and turn on AC and DC breaker 3. Check whether inverter runs normally or not
Power generation is less than expected	1. Ensure that inverter is free from direct sun exposure and in good ventilation 2. Ensure that inverter is free from dust clogging and fans run normally 3. Ensure enough installation distance between inverters

Alarm Information	Measures Recommended
A0-Grid over voltage	1. If the alarm occurs accidentally, possibly the power grid is abnormal accidentally. No extra action is needed. 2. If the alarm occurs repeatedly, contact the local power station. After receiving approval of the local power bureau, revise the electrical protection parameters setting on the inverter through APP. 3. If the alarm persists for a long time, please confirm: 1) The AC circuit breaker does not jump frequently (the instantaneous high voltage); 2) If the line of communication is followed by the user manual, the cable impedance will cause the power grid to rise; 3) The three-phase machine measures whether the voltage between the zero line and the ground line exceeds 30V; More than the wiring of the grid; If there is no problem, please contact the customer service center.
A1-Grid under voltage	1.If the alarm occurs accidentally, possibly the power grid is abnormal accidentally. No extra action is needed. 2.If the alarm occurs repeatedly, contact the local power station. After receiving approval of the local power bureau, revise the electrical protection parameters setting on the inverter through APP. 3.If the alarm persists for a long time, please confirm: 1) AC circuit breaker is disconnect or not; 2) Whether the AC circuit breaker is damaged (whether the voltage in the closed state is consistent with the voltage of the outlet); 3) The AC terminals are in good contact. If the actual measuring voltage is within the specification range, please contact the customer service report repair.
A2-Grid absent	1. If the alarm occurs accidentally, possibly the power grid is abnormal accidentally. No extra action is needed. 2. If the alarm occurs repeatedly, contact the local power station. After receiving approval of the local power bureau, revise the electrical protection parameters setting on the inverter through APP. 3. If the alarm persists for a long time, please confirm: 1) AC circuit breaker is disconnect or not; 2) Whether the AC circuit breaker is damaged (whether the voltage in the closed state is consistent with the voltage of the outlet); 3) The AC terminals are in good contact; 4) Whether the power supply line failure. If exclude all possibility, please contact the customer service report repair.
A3-Grid over frequency	1. If the alarm occurs accidentally, possibly the power grid is abnormal accidentally. No extra action is needed. 2. If the alarm occurs repeatedly, contact the local power station. After receiving approval of the local power bureau, revise the electrical protection parameters setting on the inverter through APP. 3. If the alarm persists for a long time, please contact the customer service center.
A4-Grid under frequency	1. If the alarm occurs accidentally, possibly the power grid is abnormal accidentally. No extra action is needed. 2. If the alarm occurs repeatedly, contact the local power station. After receiving approval of the local power bureau, revise the electrical protection parameters setting on the inverter through APP. 3. If the alarm persists for a long time, please contact the customer service center.
A6-Grid abnormal (Only for three-phase inverter)	1. If the alarm occurs accidentally, possibly the power grid is abnormal accidentally. No extra action is needed. 2. If the alarm occurs repeatedly, please: 1) Measuring three-phase voltages (L1-N, L2-N,L3-N) and check whether the inbalance is more than 30%. If yes, please contact energy company. 2) Measuring three-phase voltages at input and output sides of AC circuit breaker to check whether breaker is damaged. If yes, please replace a new breaker. 3) Short circuit input and output ports of neutral wire on AC breaker, then check the alarm status. If it returns normal, please replace a 3-pole breaker and keep neutral wire shorting. If not, please contact service center.

Alarm Information	Measures Recommended
A7-Grid over mean voltage	1. If the alarm occurs occasionally, the inverter can be automatically recovered. No action is required. 2. If the alarm occurs repeatedly, the inverter cannot work properly. Please contact the customer service center.
A8-Grid N abnormal	1. If the alarm occurs occasionally, the inverter can be automatically recovered. No action is required. 2. If the alarm occurs repeatedly, the inverter cannot work properly. Please contact the customer service center.
B0-PV over voltage	Check whether the maximum voltage of a single string of input PV modules exceeds the MPPT voltage range. If the maximum voltage is higher than the standard voltage, modify the number of PV module connection strings.
B1-PV insulation abnormal	1. If the alarm occurs accidentally but the inverter can generate power, check the component and the installation environment of wires are wet or not. Please improve the installation environment. 2. If the alarm occurs repeatedly and the inverter can generate electricity occasionally, check whether the positive and negative polarity of the PV component are short circuit or not. And check if the component is damaged or the connection line is broken. 3. If the alarm continues and equipment cannot generate power, please contact customer service vrepair.
B2-Leakage current abnormal	1. If the alarm occurs accidentally but the inverter can generate power, probably the power grid causes. The inverter can be automatically recovered. No extra action is needed. 2. If the alarm occurs frequently and is accompanied by an insulation impedance alarm. Check the abnormal alarm of the insulation. 3. If the alarm continues and the equipment cannot generate electricity, please contact customer servicereport repair.
B4-PV under voltage	1. If occurs when the light is weak (such as the early morning or evening, rainy weather and dust storms), the component voltage is lower than normal. No extra action is needed. 2. If there is a weak condition of light, please check whether the group to have a short circuit and open circuit or not.
B7-PV string reverse	Check and modify the positive and negative polarity of the input of the circuit string.
C0-Internal power supply abnormal	1. If the alarm occurs occasionally, the inverter can be automatically recovered. No action is required. 2. If the alarm occurs repeatedly, the inverter cannot work properly. Please contact the customer service center.
C1-Electric arc abnormal	If the alarm occurs, the inverter cannot work properly. Please contact the customer service center.
C2-Inverter over dc-bias current	1. If the alarm occurs occasionally, the inverter can be automatically recovered. No action is required. 2. If the alarm occurs repeatedly, the inverter cannot work properly. Please contact the customer service center.
C3-Inverter relay abnormal	1. If the alarm occurs occasionally, the inverter can be automatically recovered. No action is required. 2. If the alarm occurs repeatedly, the single-phase inverter check whether the live line and neutral line of the contact connection is reversed. The three-phase inverter check the voltage of the live line to neutral line and the voltage of the live line to the ground. If the grid side is normal, please contact the customer service report repair.
C5-Inverter over temperature	1. If the alarm occurs occasionally, the inverter can be automatically recovered. No action required. 2. If the alarm occurs repeatedly, please check whether the installation site for direct sunlight, good ventilation, and high ambient temperature (such as installed on the parapet) or not. If the ambient temperature is lower than 45° C and the heat dissipation is good, please contact the customer service center.
C6-GFCI abnormal	1. If the alarm occurs occasionally, it could have been an occasional exception to the external wiring. The inverter can be automatically recovered. No action required. 2. If it occurs repeatedly or cannot be recovered for a long time, please contact the customer service center.
C7-System type error	If the alarm occurs, the inverter cannot work, please restart the inverter. If the alarm continues, please contact the customer service center.

Alarm Information	Measures Recommended
C9-Unbalance DC-link voltage	1. If the alarm occurs occasionally, the inverter can be automatically recovered. No action is required. 2. If the alarm occurs repeatedly, the inverter cannot work properly. Please contact the customer service center.
CA-Dc-link over voltage error	1. If the alarm occurs occasionally, the inverter can be automatically recovered. No action is required. 2. If the alarm occurs repeatedly, the inverter cannot work properly. Please contact the customer service center.
CB-Internal communication	1. If the alarm occurs occasionally, the inverter can be automatically recovered. No action is required. 2. If the alarm occurs repeatedly, the inverter cannot work properly. Please contact the customer service center.
CC-Software incompatibility error	1. If the alarm occurs occasionally, the inverter can be automatically recovered. No action is required. 2. If the alarm occurs repeatedly, the inverter cannot work properly. Please contact the customer service center.
CD-Internal storage	1. If the alarm occurs occasionally, the inverter can be automatically recovered. No action is required. 2. If the alarm occurs repeatedly, the inverter cannot work properly. Please contact the customer service center.
CE-Data inconsistency	1. If the alarm occurs occasionally, the inverter can be automatically recovered. No action is required. 2. If the alarm occurs repeatedly, the inverter cannot work properly. Please contact the customer service center.
CF-Inverter abnormal	1. If the alarm occurs occasionally, the inverter can be automatically recovered. No action is required. 2. If the alarm occurs repeatedly, the inverter cannot work properly. Please contact the customer service center.
CG-Boost abnormal	1. If the alarm occurs occasionally, the inverter can be automatically recovered. No action is required. 2. If the alarm occurs repeatedly, the inverter cannot work properly. Please contact the customer service center.
CH-Master lost	If the alarm occurs occasionally, the inverter can be automatically recovered. No action is required. If the alarm occurs repeatedly, the inverter cannot work properly: 1) If the alarm occurs , please check the RS485 connection. If it is abnormal, please revise the connection; 2) Please contact the customer service.
CJ-Meter lost	If the alarm occurs, please check the RS485 connection. If it is abnormal, please revise the connection; if it is normal, please contact the customer service center.
C8-Fan abnormal	1. If the alarm occurs occasionally, please restart the inverter. 2. If it occurs repeatedly or cannot be recovered for a long time, check whether the external fan is blocked by foreign objects. Otherwise, please contact the customer service center.

9. Technical Specification

MODEL	SE-TH 100.0TL3	SE-TH 110.0TL3	SE-TH 125.0TL3
Input(PV)			
Max. PV power voltage (V)	1100V		
Rated input voltage (V)	600V		
Max. input current (A)	40A*3+ 32A*5	40A*3+ 32A*6	
Max. short-circuit current (A)	50A*3+ 45A*5	50A*3+ 45A*6	
Starting voltage/Min. operating voltage	250V/200V		
MPPT operating voltage range	200V-1000V		
Max. numbers of input strings	16(2*8)	18(2*9)	
Numbers of MPPT input	8	9	
Output(Grid)			
Rated output power	100kW	110kW	125kW
Max. apparent power	111kVA	123kVA	125kVA
Max. output current	168.8A	187A	181A
Rated ouput voltage (V)	380/400/415V/3W+N+PE		400V/3W+N+PE
AC voltage range	187V-300V/322V-520V		
Rated grid frequency	50Hz/60Hz		
Grid frequency range	45Hz-55Hz/55Hz-65Hz		
THDI	<3% (Rated power)		
DC current injection	<0.5%In		
Adjustable power factor range	>0.99@full load power (adjustable 0.8LG-0.8LD)		
Protection			
DC switch	Support		
Anti-islanding protection	Support		
AC Overcurrent protection	Support		
AC short circuit protection	Support		
DC reverse connection	Support		
Overvoltage category	DC Type II ; AC Type II		
Insulation impedance detection	Support		
Leakage current protection	Support		

MODEL	SE-TH 100.0TL3	SE-TH 110.0TL3	SE-TH 125.0TL3
General			
Topology	Non-transformer		
Protection grade	IP66		
Power consumption at night	<5W		
Cooling type	Air-cooling		
Operating temperature range	-25℃-60 ℃ (Maximum 45℃ derating)		
Operating relative humidity range	0~100%		
Max. operation altitude	4000m		
Noise emission (Typical)	65dB(air-cooling)		
Dimensions (W*H*D)	936*678*365		
Weight (kg)	91.5 kg	92 kg	
Display & Communication			
Display	LED/LCD(Optional)		
Communication	Bluetooth&WiFi, RS485/GPRS/4G (Optional)		



NOTE

Due to the multi-supplier strategy for some parts, the actual weight may deviate by about $\pm 8\%$. Please refer to the delivered products.

As technology is constantly updated and improved, the technical parameters in this document are for reference only. The contents (including technical parameters) herein are subject to change without prior notice.