

# Quick Installation Guide

## SG15KTL-M/SG20KTL-M

## SG10KTL-MT

### PV Grid-Connected Inverter

**SUNGROW**

SG15\_20KTL-M&SG10KTL-MT-QIEN-Ver13 Version : 1.3

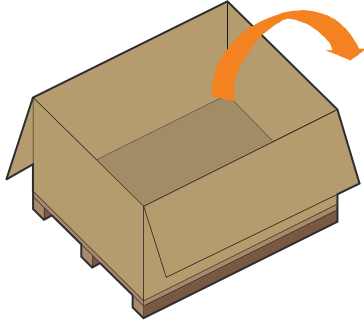


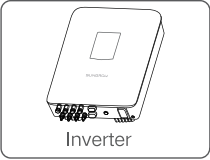
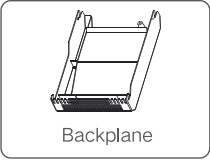
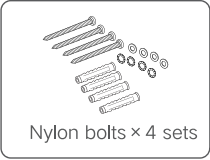
This guide provides a general instruction of the installation procedures of SG15KTL-M/SG20KTL-M/SG10KTL-MT.

**Notice**

- In no case shall this guide substitute for the user manual or related notes on the device.
- Make sure to read over, fully understand and strictly follow the detailed instructions of the user manual and other related regulations before installing the equipment.
- Any violation could result in personal death or injury or device damage.

# 1 Unpacking and Inspection



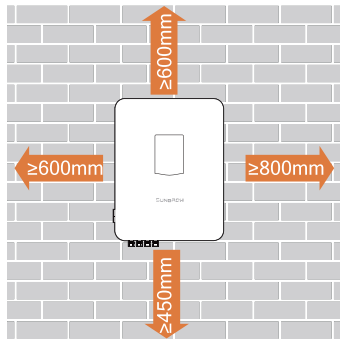
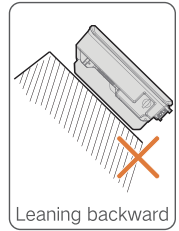
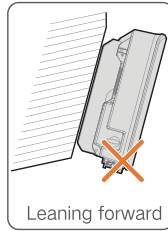
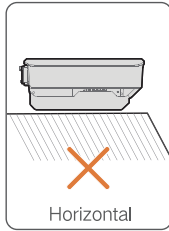
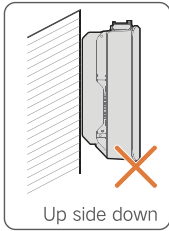
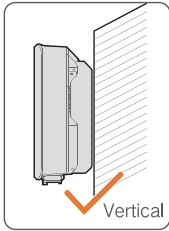
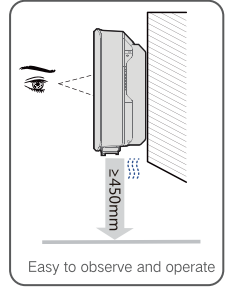
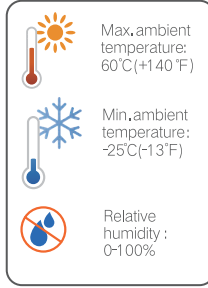
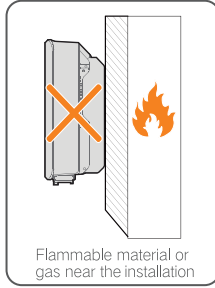
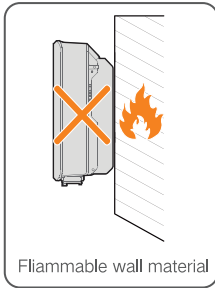
 <p>Inverter</p>	 <p>Backplane</p>	 <p>Nylon bolts × 4 sets</p>
	 <p>Screw × 2</p>	 <p>PV connectors × 4 pairs</p>
	 <p>Crimp Contact × 4 pairs</p>	 <p>Note1 Cord end terminal × 5 sets</p>
 <p>AC output connectors</p>	 <p>Note2 Communication connectors</p>	 <p>Documents</p>

• Images shown here are for reference only! Actual product you receive may differ.

- Note1** There are cord end terminals of two specifications (5 for each specification) used to connect AC cables. Select appropriate terminals according to the cable cross-section area.
- Note2** There are two communication port versions for the inverter: single port and dual ports. For details, refer to the product you receive. The inverter with single communication port is equipped with one set of communication connector, and the inverter with dual communication ports is equipped with two sets of communication connectors.

## 2 Mounting Inverter onto the wall

### 2-1 Installation Site Selection

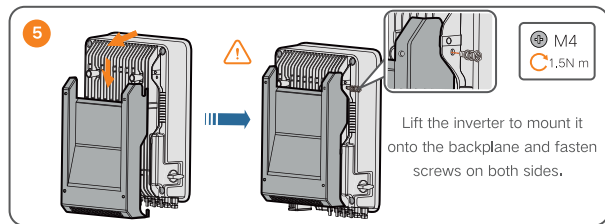
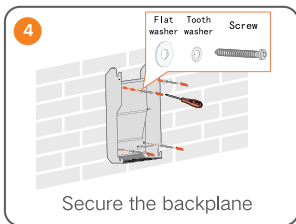
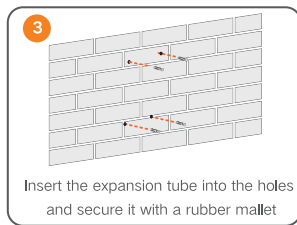
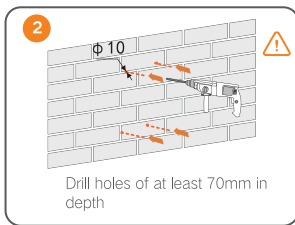
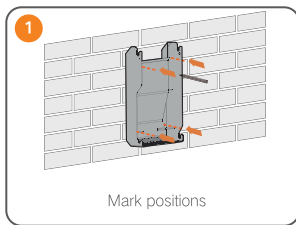


Requirement for installation space.

### 2-2 Installation

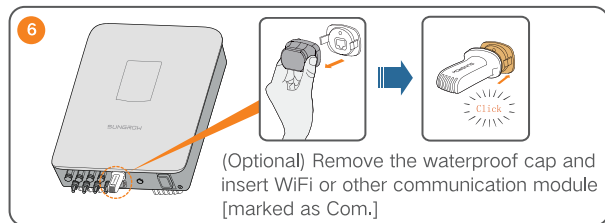
#### DANGER

- Check to ensure that there is no other electronic or plumbing installed inside the wall before drilling holes.
- Until the inverter is securely mounted to the backplane, the operator can release the device with both hands.



**i NOTE**

- For detailed connection description of the communication module, refer to related user manual.



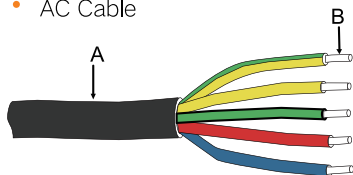
## 3 Electrical Connection

### **⚠ DANGER**

- Death hazards due to high voltage existing inside the inverter!
- Make sure that all the DC and AC cables to the inverter are not live before you start the electrical work.
- Do not turn on the AC side or DC side circuit breaker until all inverter electrical connections have completed.

### 3-1 Cables Selection

- AC Cable



NO.	Description	Remark
A	Protective layer	Accepted cable external diameter ranges from 14mm to 25mm.
B	Cross-section Area	6~10mm <sup>2</sup> Recommended: 10mm <sup>2</sup>

- DC Cable

Cross-sectional area	Cable External diameter	Max. withstand voltage	Max. input current for each PV string
2.5~6mm <sup>2</sup>	6~9mm	1100V	15A

\* The DC cable must be multi-core cable.

- Second PE Cable

The cross-sectional area of the second PE cable shall be exactly the same with that of the PE cable of the AC cable.

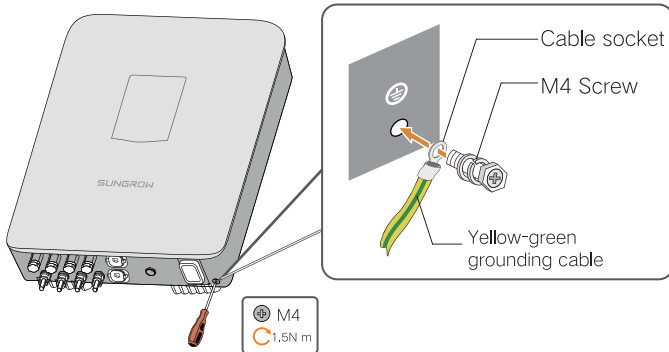
- RS485 communication cables

The shielded twisted pair cable or Ethernet cable are applicable to outdoor installation.

### 3-2 Second Protective Earth Terminal

#### ⚠ DANGER

- The ground connection of this second PE terminal cannot replace the connection of the PE terminal of the AC cables. Make sure the two PE terminals are all grounded reliably.
- Due to the transformer-less design of the inverter, neither the DC positive pole nor the DC negative pole of the PV string can be grounded.



### 3-3 AC Connection

#### ⚠ NOTICE

- Pay attention to the layout of AC wiring. The phase line and neutral line cannot be inversely connected. Otherwise, the inverter cannot operate normally.

**1** Stripping

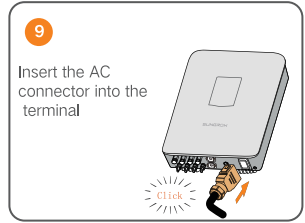
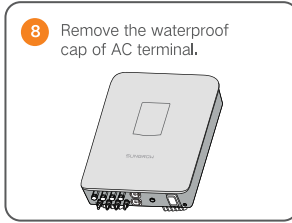
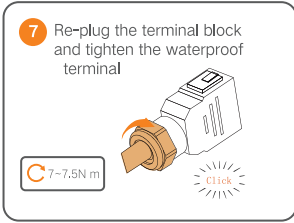
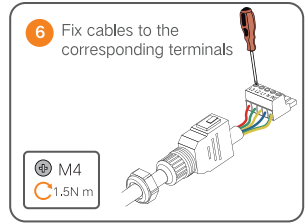
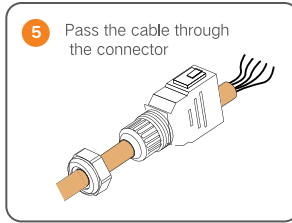
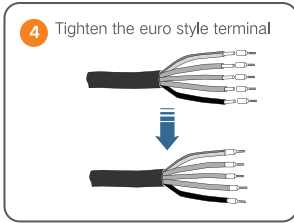
A: ≈35mm  
B: ≈12mm

**2** Unscrew the waterproof terminal

( Optional ) when the external diameter ≥19mm remove the internal rubber

Internal rubber

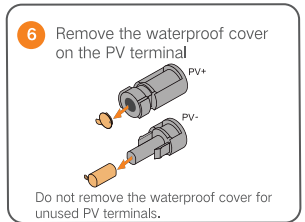
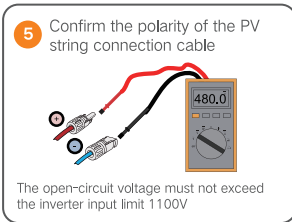
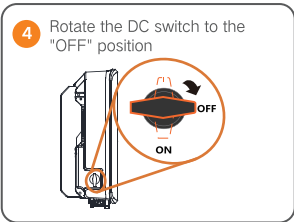
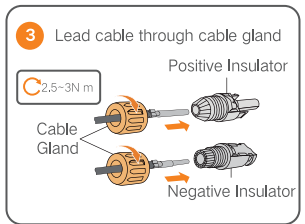
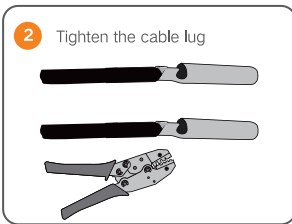
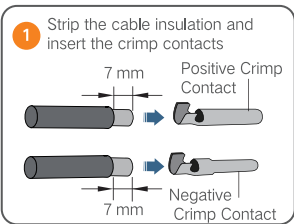
**3** Squeeze the fastener to take out the cable connection terminal



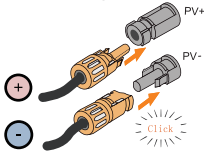
### 3-4 DC Connection

#### **⚠ DANGER**

- The inverter will not function properly if the DC polarities are reversed.
- Check the positive and negative polarity of the PV strings. After confirmation, you can insert the DC connectors into the input terminals on the bottom of the inverter.
- If the PV connectors are not assembled into place, it may cause an arc or overheat. The loss caused by this issue will void the warranty.

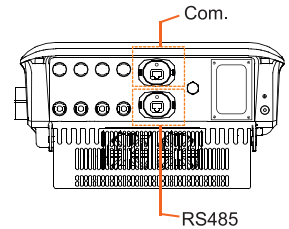
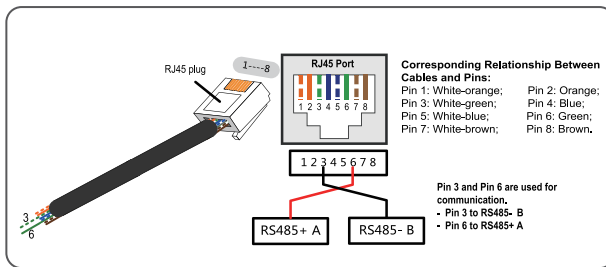


- 7 Insert the PV connectors into the corresponding PV terminals

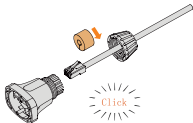


### 3-5 Communication Connection/Meter Connection

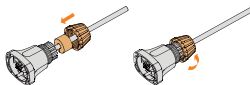
The core pin is defined as shown below.



- 1 Insert the RJ45 plug into the front plug connector until it makes a clicking sound



- 2 Connect the front and rear parts and tighten the waterproof terminal clockwise



- 3 Insert the corresponding communication terminal according to the silkscreen mark



- Before starting the inverter, you should check the following items.

Items	
The inverter is firmly installed.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Proper ventilation.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
The AC/DC switch of the inverter is disconnected	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
The specification of the AC circuit breaker is appropriate for its intended use.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
AC and DC cables are connected reliably	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Cables are routed safely place and protected against mechanical damage	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
The inverter is clean and free of debris.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Inverter cover bolts are tightened	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
The gland at the bottom of the inverter has been tightened	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Warning signs & labels are suitably affixed and durable.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>

- If all of the items mentioned above meet the requirements, proceed as follows to start up the inverter for the first time.






- Step 1 Close the external AC circuit breaker.
- Step 2 Rotate the DC and AC switch to the "ON" position.
- Step 3 Use the Sun Access App to establish the communication connection with the inverter through Bluetooth to set the initial parameters. When the device is initialized, send start instructions via the App. For details, please refer to "10.3 Logging Sun Access APP" in User Manual.

Provided there is sufficient sunlight:

- PV arrays initialize and supply DC power to inverter;
- DC-link starts to charge and check the state of the utility grid;
- If the conditions are OK, the inverter feeds AC power to the grid and enters into the running state.

Step 4 Observe the status of LED indicator panel.



LED indicator	LED color	LED state	Definition
Bluetooth 	Blue	ON	The Bluetooth communication is connected, the communication channel has no data interaction
		OFF	No device connected to the inverter through the Bluetooth.
		Periodical flash	The Bluetooth communication is connected and there is data communication
Communication 	Blue	OFF	The RS485 communication cable is not connected or the communication channel has no data interaction
		Periodical flash	The RS485 communication cable is connected and the communication channel has data interaction
Fault/PID 	Red	OFF	No alarm or fault has occurred and PID function is not enabled
		ON	A fault occurred and the device cannot connect to the grid
		Periodical flash	Fault recovery
	Green	ON	PID function is running
		Periodical flash	PID function exception
Earth impedance abnormal 	Red	OFF	No fault occurred
		ON	An earth impedance short-circuit fault occurred (the device cannot connect to the grid)
Normal operation 	Green	OFF	Both the AC and DC is powered down, or a fault occurs
		Periodical flash	The DC or AC is powered on and the device is in standby or startup state (not feeding power to the grid)
		ON	The device is connected to the grid and operating normally

### • About This Guidance

This guidance describes how to use SunAccess APP to set country and local protection parameters for the PV grid-connected inverter SG15KTL-M, SG20KTL-M, SG10KTL-MT researched by Sungrow.

### ⚠ NOTICE

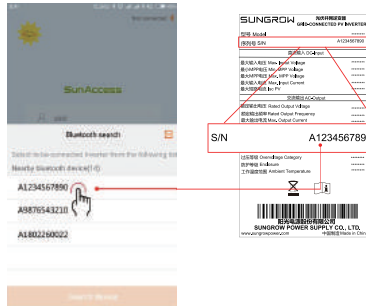
- Only authorized professional personnel can perform related operations according to this guidance. If there are any questions, contact Sungrow.
- Setting steps

Step 1 Scan the following QR code or refer to the chapter "10.2 Acquire and install Sun Access APP" in the user manual to download and install the APP of latest version.

Step 2 Click "Open" after the app is installed to open the APP. Alternatively, open the APP by tapping its icon on the home screen.



Step 3 Open the APP, after which the Bluetooth search screen pops up automatically, and select the to-be-connected inverter according to the SN on the nameplate of the inverter. The Bluetooth indicator is on once the connection is established.



Step 4 Enter the login screen after the Bluetooth connection is established. The username is "admin" and the password is "111111" by default. Tap the button Login, and then enter the home page.

### ⚠ NOTICE

- If the password is wrong, contact Sungrow to get the latest dynamic password.
- Unauthorized personnel are not allowed to log in with this account. Otherwise, Sungrow shall not be held liable for any damages caused.

Step 5 Perform settings according to the figures below.



**NOTICE**

- For the setting range and default value of the protection parameters, refer to chapter "10.7.5 Protection Parameters" in the user manual.
- The set values in the figures are indicative only. Specifically, the parameters should be set according to the requirements of local utility company. If there are any questions, contact Sungrow.



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

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Specifications are subject to changes without advance notice.

