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

Sungrow Developers India Private Limited
Add:No.85, Kaniminike Village, Kengeri Hobli,Bangalore South Taluk, Bangalore 560074, India
Web:www.sungrowpower.com
E-mail:service@in.sungrowpower.com
Tel:+91 080 41201350

M-H-001303

SUNGROW

Specifications are subject to changes without advance notice.

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Quick Installation Guide

SUNGROW

SG125HV
SG125HV-20

PV Grid-Connected Inverter

SG125HV(I)-V1-QIEN-Ver13-201908 Version:1.3

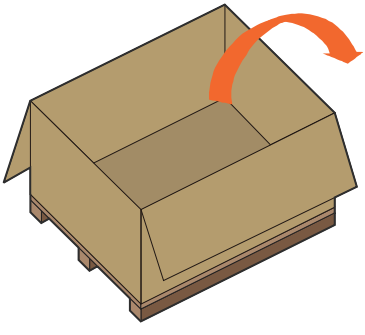


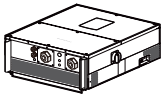
This guide provides a general instruction of the installation procedures of SG125HV/SG125HV-20.

NOTICE

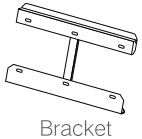
- In no case shall this guide substitute for the user manual or related notes on the device.
- Make sure to read over, fully understand and strictly follow the detailed instructions of the user manual and other related regulations before installing the equipment. The user manual can be downloaded by visiting the website at http://support.sungrowpower.com/; or it can be obtained by scanning the QR code on the side of the equipment or the back cover of this guide.
- Any violation could result in personal death or injury or device damage.

1 Scope of Delivery

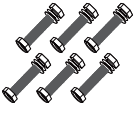




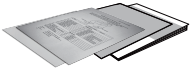
Inverter



Bracket



Fasten set ×6



Documents



Fix screw ×2

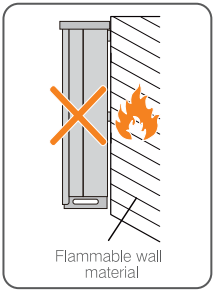


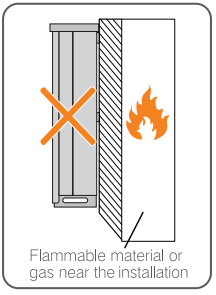
Big flat washer ×2

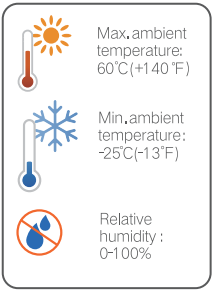
- Images shown here are for reference only! Actual product you receive may differ.

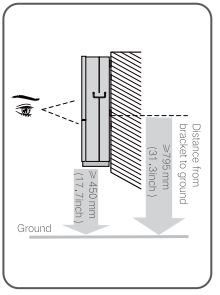
2 Mounting

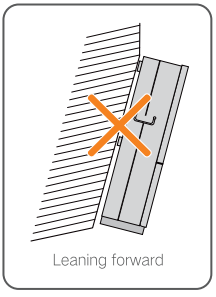
2-1 Installation Site Selection

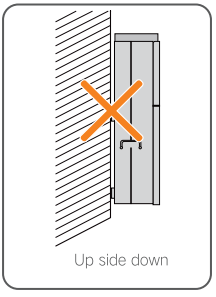


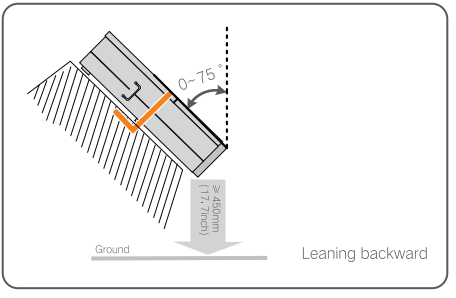


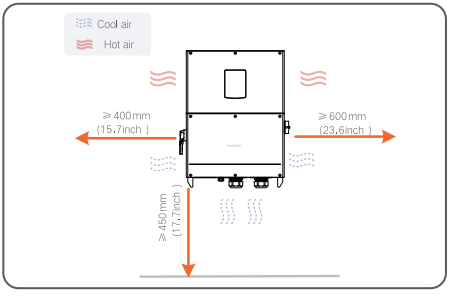


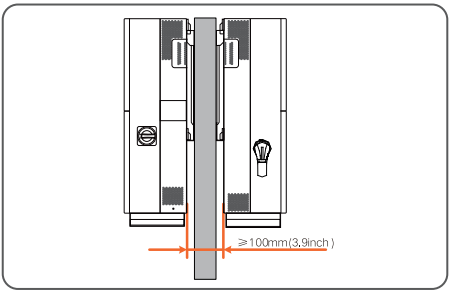




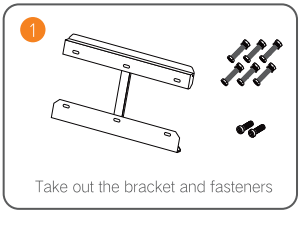


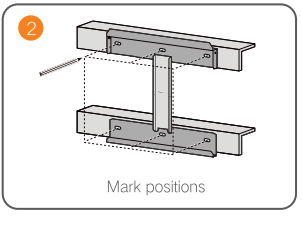


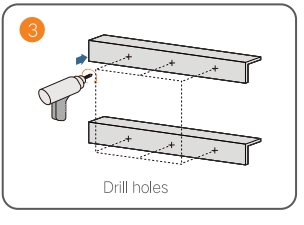


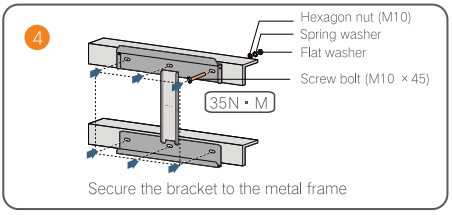


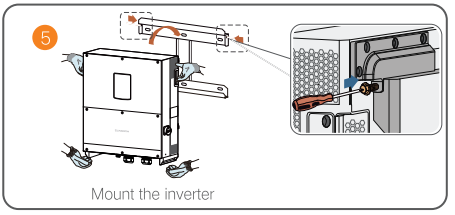
2-2 Installation











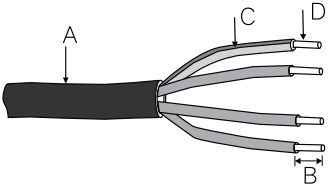
3 Electrical Connection

⚠ DANGER

- Death hazards due to high voltage existing inside the inverter!
- Make sure all the DC and AC cables are voltage-free before starting electrical connections.
- Do not turn on the AC side or DC side circuit breakers until all electrical connections have been completed.

3-1 Cables Selection

- AC Cable



No.	Description	Remark
A	Protective layer.	-
B	Length of insulation to be stripped off.	Stripping length depends on the specifications of the lug
C	Insulation layer	-
D	Cross section of AC cables	Range: 70~185mm^2

- DC cables

Cross-sectional area	Cable External diameter	Max. withstand voltage	Max. input current for each PV string
70~185mm^2	20~26mm	1500V	120A

- Second PE Cable

The cross-sectional area of the grounding cable should not be less than half of the PE cable of the AC cable.

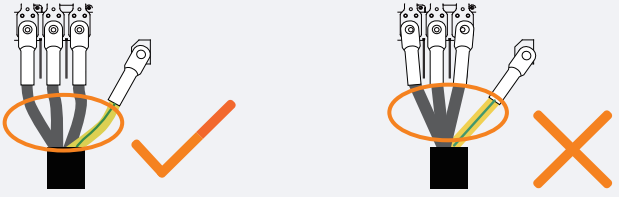
- RS485 communication cables

Shielded twisted pair cables or Shielded twisted pair Ethernet cable.

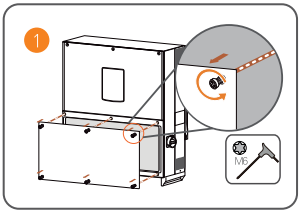
3-2 AC Connection

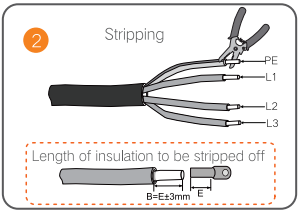
NOTICE

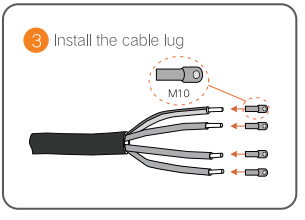
- It is unnecessary to distinguish between phases during AC cable connection for the inverter has self-adaptive capacity.
- Observe the pin assignment of AC terminal block. If a phase wire is connected to the "PE" terminal, it may permanently damage the inverter.
- Please avoid squeezing the cable insulation layer into the AC terminal. Improper connection may affect the normal operation of the inverter.
- During AC cable connection, the cables inside the lower part of the device should be bended to be surplus in length. In this way, cable dropping or loosening, which can cause arc or other problems impairing functionality of the device, due to self-weight of the cables in case of land subsidence is avoided.

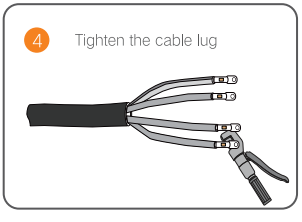


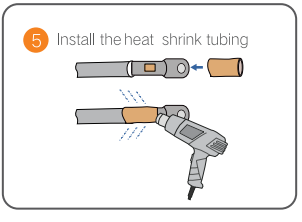
- For torque specifications, refer to Tab. 3-1 Tightening Torques.

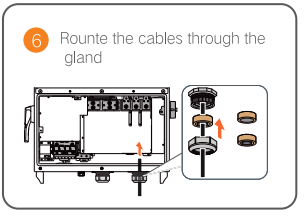


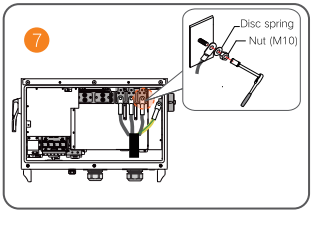












3-3 DC Connection

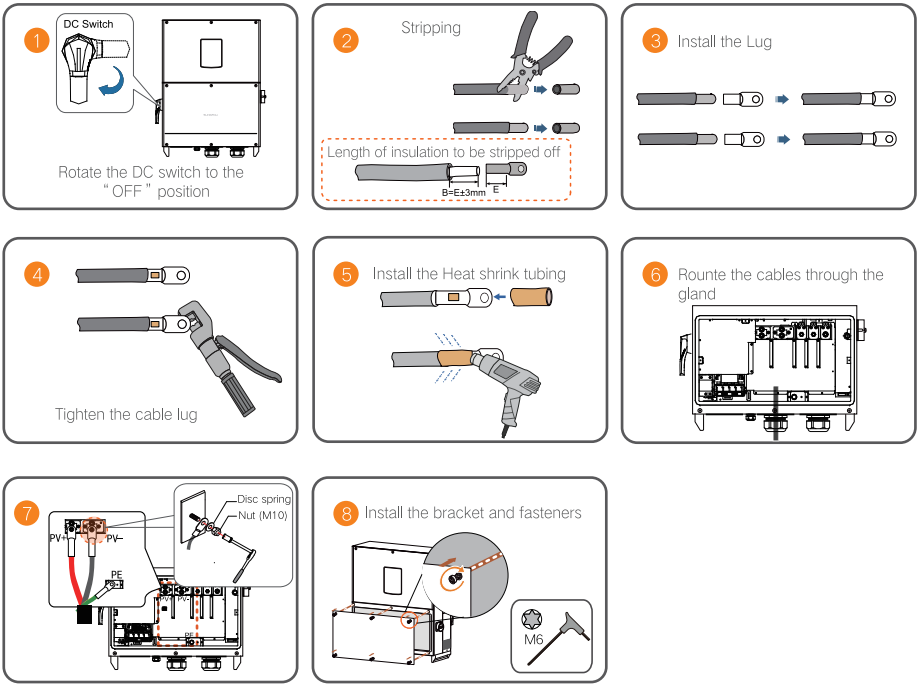
⚠ WARNING

- When accessing the positive and negative cable, it is necessary to ensure the insulation requirements between the positive access and the negative access. Once positive and negative inputs are short-circuited, it can cause unrecoverable damage to the inverter. Sungrow shall hold no liability for any possible consequences caused by ignorance of this warning.

⚠ NOTICE

- Check the positive and negative polarity of the PV cells. After confirmation, you can insert the DC connectors into the input terminals on the bottom of the inverter.
- For the connection to the same MPPT, reversing the polarity of a single string is prohibited. A permanent failure of the system or inverter may occur.

- For torque specifications, refer to Tab. 3-1Tightening Torques.



3-4 Second Protective Earth Terminal

⚠ DANGER

- The connection of second PE terminal is optional. Whether to connect the terminal is determined according to local standards or regulations, but connection is recommended.

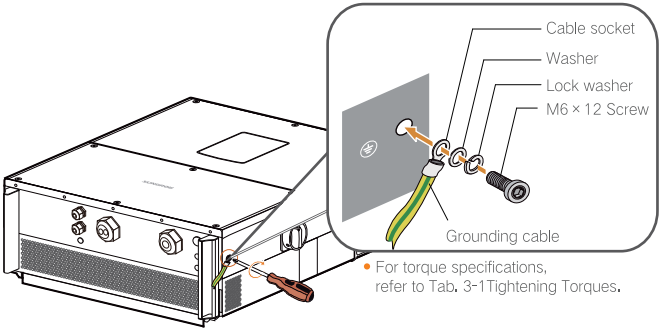
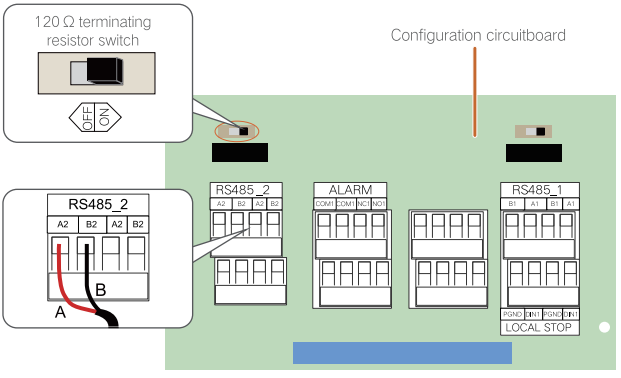


Fig. 3-1 Second PE terminal

3-5 Communication Connection

- There are two communication waterproof connection terminals on the bottom of the inverter. Two RS485 A/B terminals and RS485 interface are provided on the configuration circuit board of the junction box (RS485_2 is preferred) . A 120Ω terminating resistor can be connected between the A and B communication cable through the dip switch.



3-6 Completing Installation

- Seal the gaps between the cables and the glands inside the lower part of the cabinet by duct seal. Inspect before commissioning and reassemble the front cover of the connection cabinet.

⚠ NOTICE

- Seal the gap between the cable and the gland/conduit with duct seal or other suitable materials to prevent the entry of foreign bodies or moisture and ensure long-term and normal operation of the inverter.

- Tab. 3-1 Tightening Torques

Bolt location	Specification	Torque	
		Nm	ft-lb
Enclosure	M6	4.2-4.5	3.1~3.3
PC protection plate	M4	1.2-1.4	0.9~1.0
AC cable connection terminal	M10	34-40	25.1~29.5
AC ground terminal	M10	12-14	8.8~10.3
DC cable connection terminal	M10	34-40	25.1~29.5
DC ground terminal	M10 (Left)	12-14	8.8~10.3
	M6 (Right)	4.2-4.5	3.1~3.3
Second PE terminal	M6	4.2-4.5	3.1~3.3

4 Commissioning

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

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

- 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 iSolarcloud 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 "10.4.2 Login Steps" 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 	–	OFF	No alarm or fault has occurred and PID function is not enabled
	Red	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