



SUNGROW SG7.ORT 3-Phase PV Grid-Connected String Inverter Installation Guide

[Home](#) » [SUNGROW](#) » SUNGROW SG7.ORT 3-Phase PV Grid-Connected String Inverter Installation Guide 



**3-Phase PV Grid-Connected Inverter
Quick Installation Guide
SG5.ORT / SG6.ORT / SG7.ORT
SG8.ORT / SG10RT / SG12RT
SG15RT / SG17RT / SG20RT**



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

Safety

The inverter has been designed and tested strictly according to international safety regulations. Read all safety instructions carefully prior to any work and observe them at all times when working on or with the inverter. Incorrect operation or work may cause:

- injury or death to the operator or a third party; or
- damage to the inverter and other properties.

Please follow the safety instructions related to the PV strings and the utility grid.

DANGER

Lethal voltage!

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











NOTICE

Danger to life from electric shock due to lethal voltage!

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

Inverter

The icons on the inverter body are as follows.

 Disconnect the Inverter from all the external power sources before maintenance!	 Bum danger due to hot surface that may exceed 60 ° C.
 Danger to life due to high voltages! Do not touch live parts for 10 minutes after disconnection from the power sources. Only qualified personnel can open and service the inverter.	 Read the user manual before maintenance!
	 RCM mark of conformity.
 TUV mark of conformity.	 CE mark of conformity.
 Do not dispose of the inverter together with household waste.	 The inverter does not have a transformer.
 Additional grounding point.	

DANGER

Danger to life from electric shocks due to living voltage

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

Lethal danger from electric shock due to possibly damaged inverter

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



WARNING

Risk of inverter damage or personal injury

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



WARNING

All the warning labels and nameplates on the inverter body:

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



CAUTION

Risk of burns due to hot components!

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



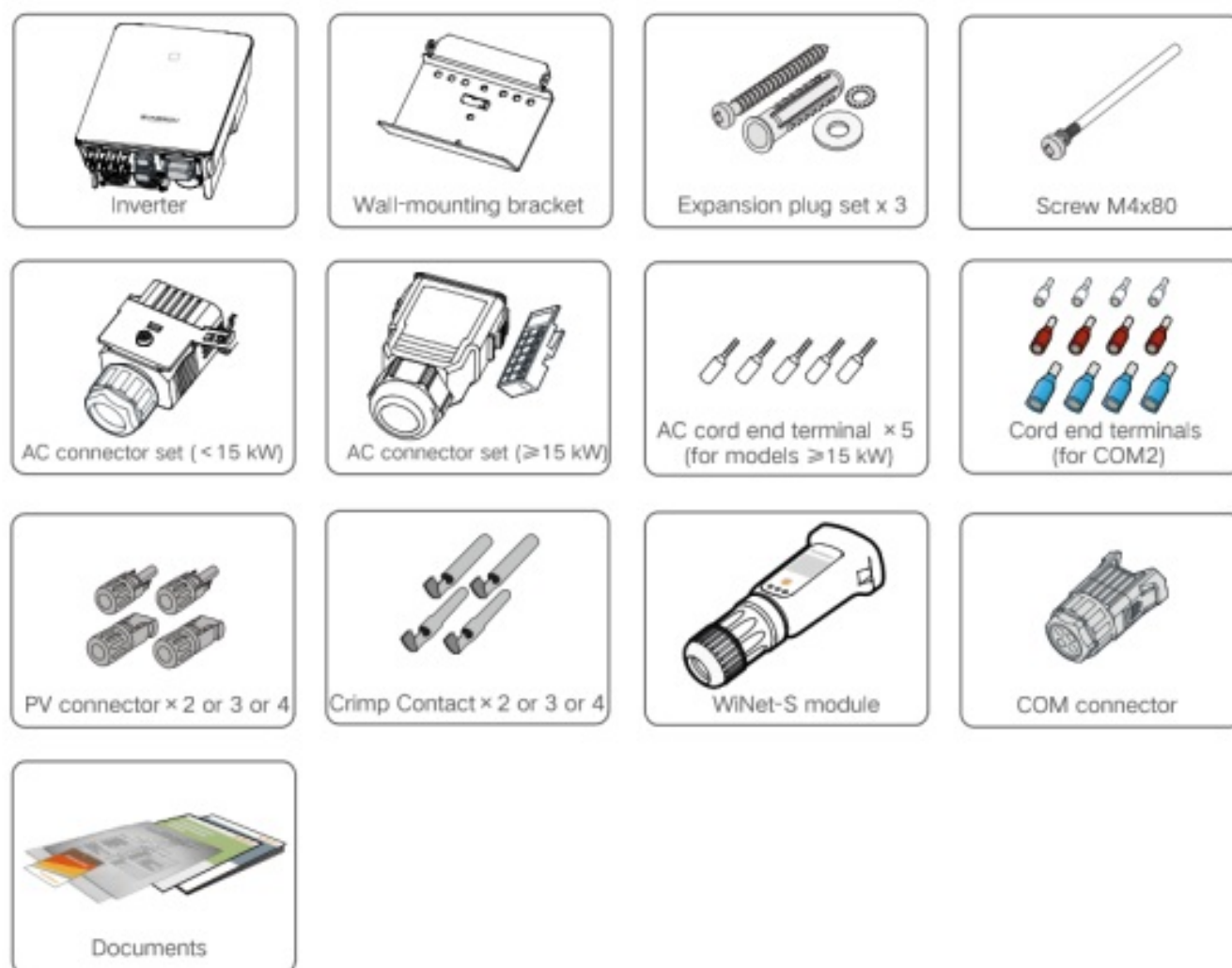
NOTICE

Only qualified personnel can perform in the country setting. The unauthorized alteration may cause a breach of the type-certificate marking.

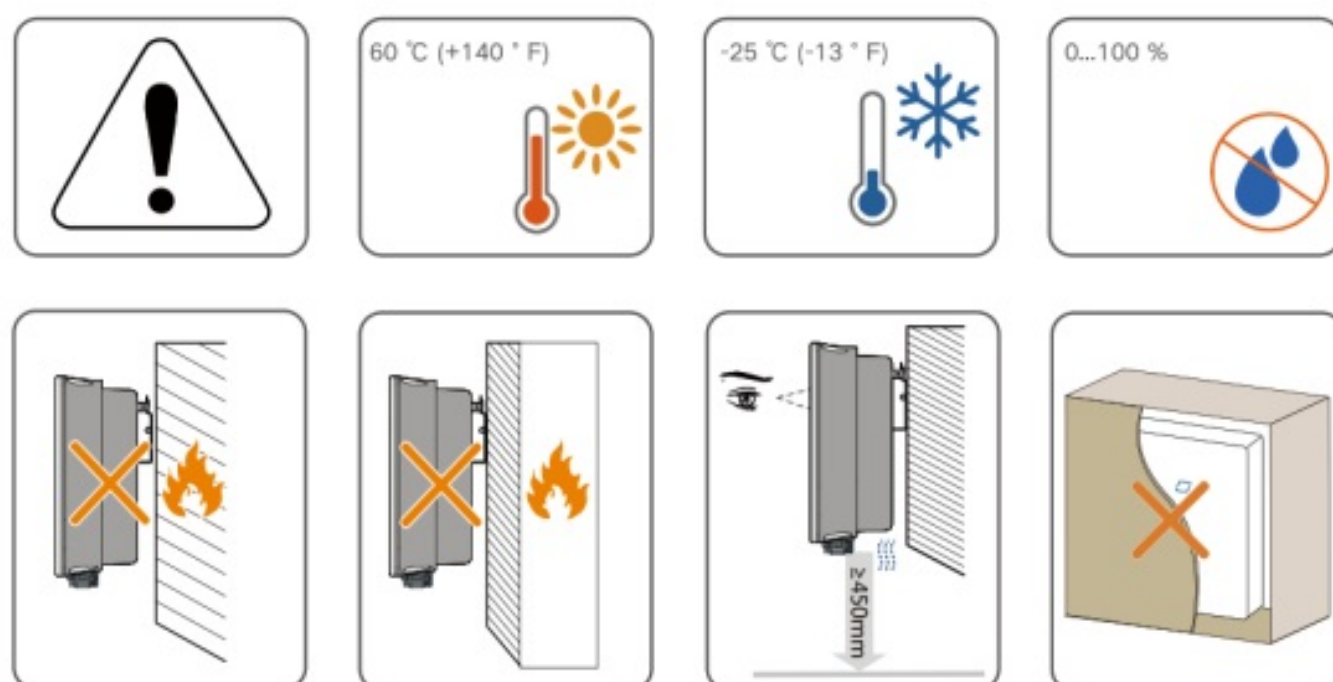
Risk of inverter damage due to electrostatic discharge (ESD)! By touching the electronic components, you may damage the inverter. For inverter handling, be sure to:

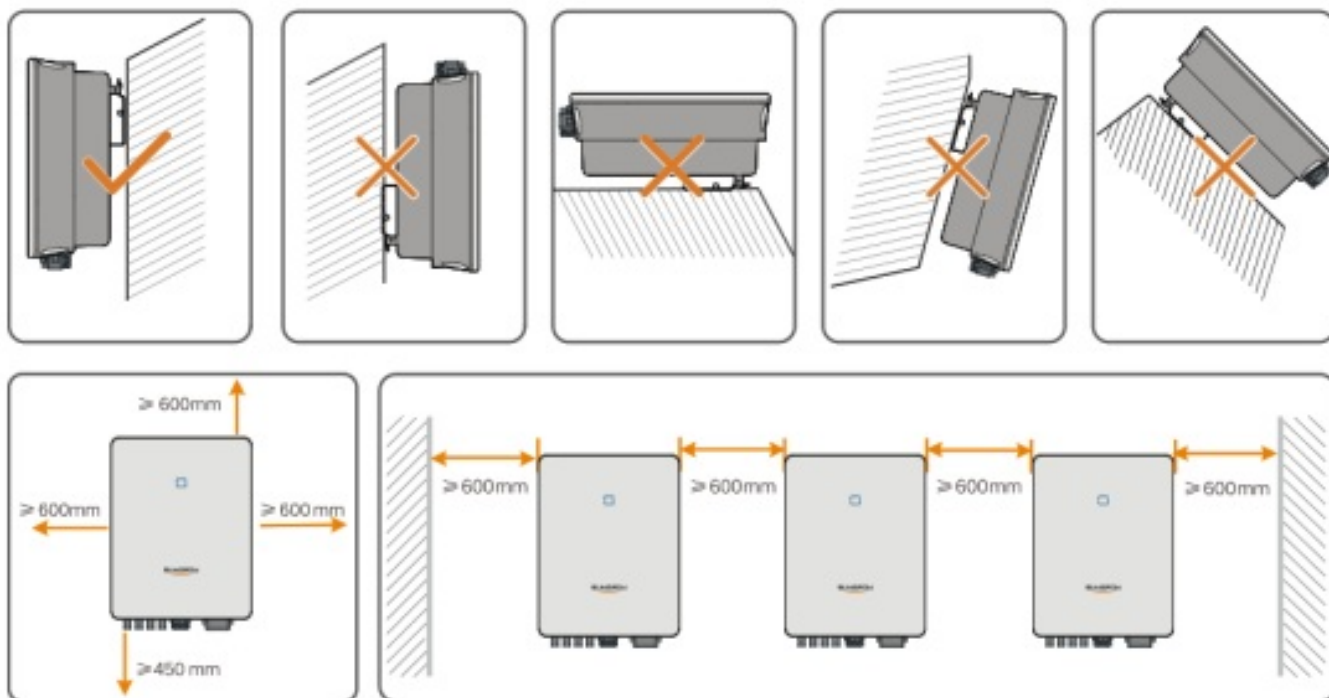
- avoid any unnecessary touching; and
- wear a grounding wristband before touching any connectors.

Scope of Delivery



Mounting location

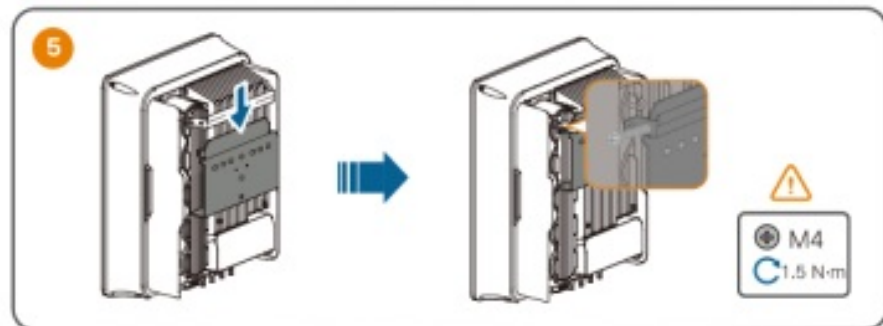
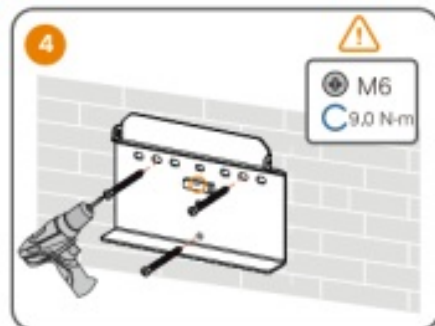
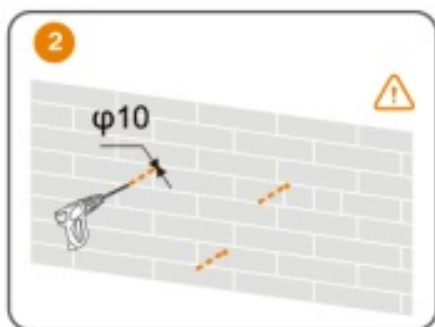
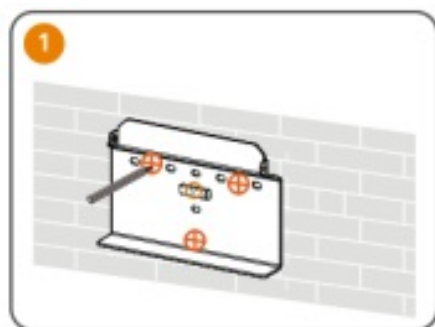




Installation tools

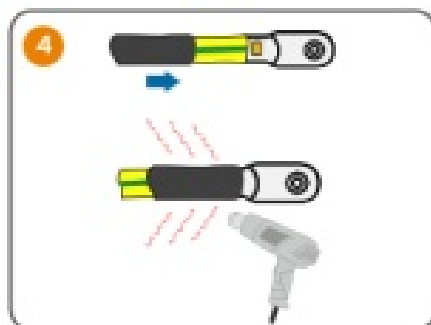
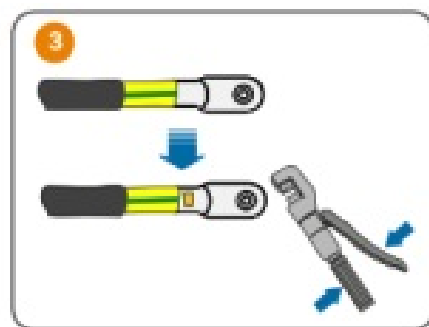
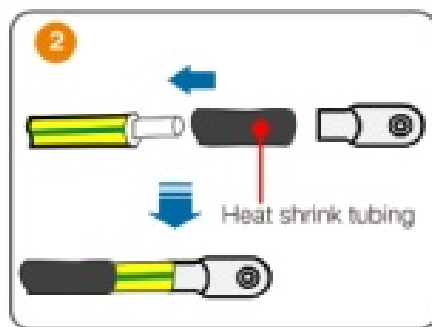
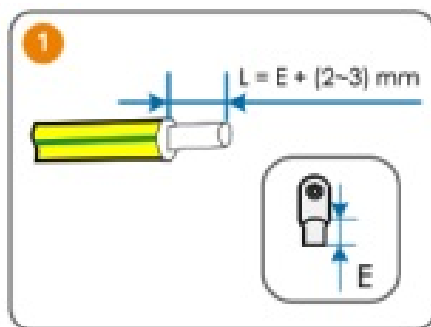


Mounting

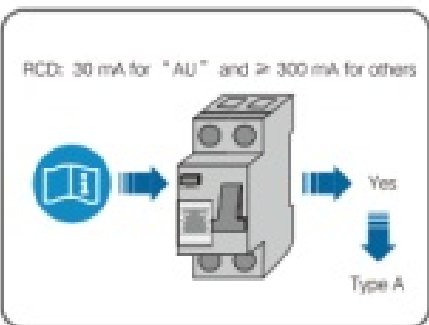
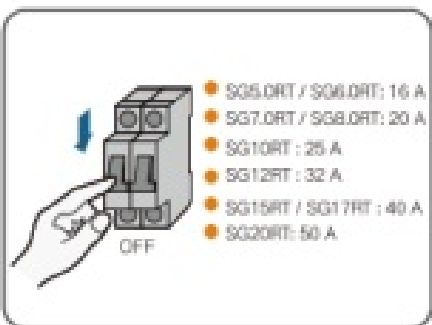
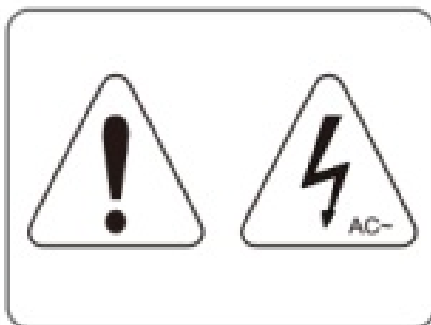


- Use appropriate mounting hardware for wall type.

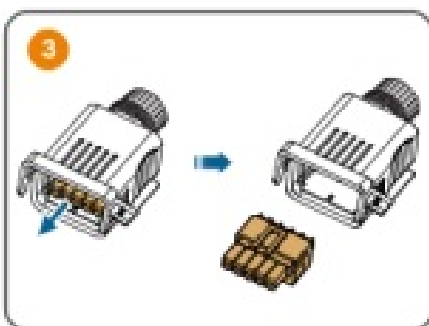
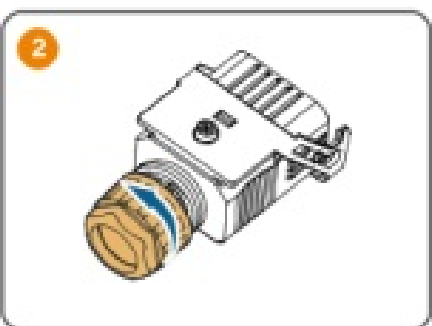
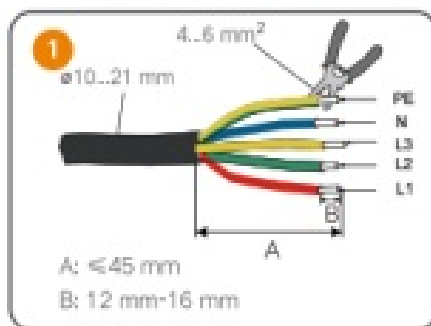
PE

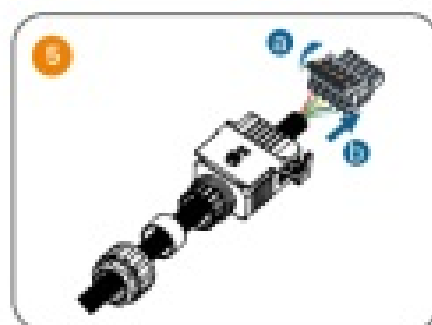
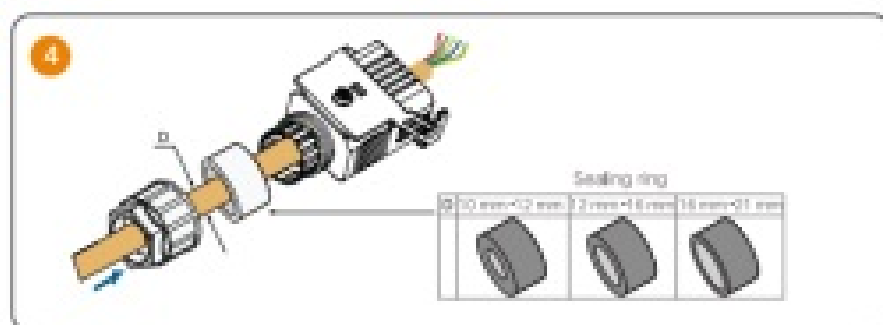


AC

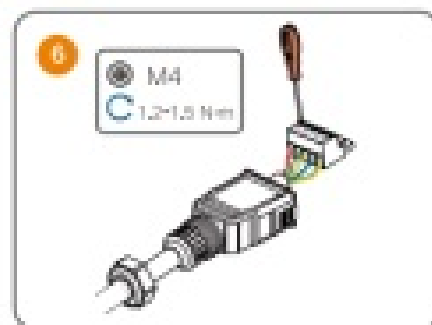
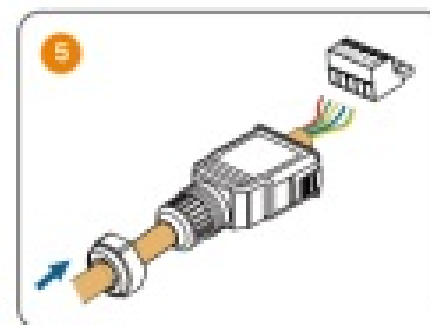
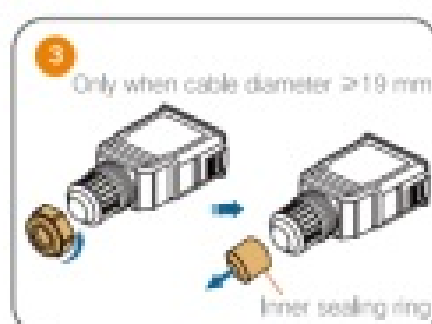
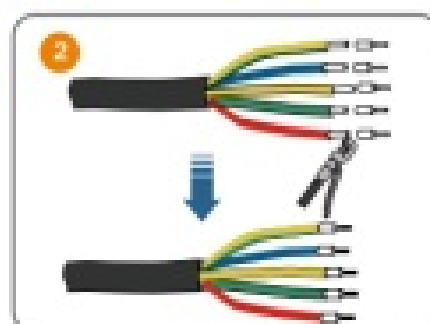
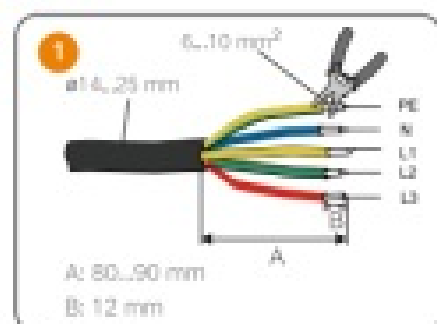


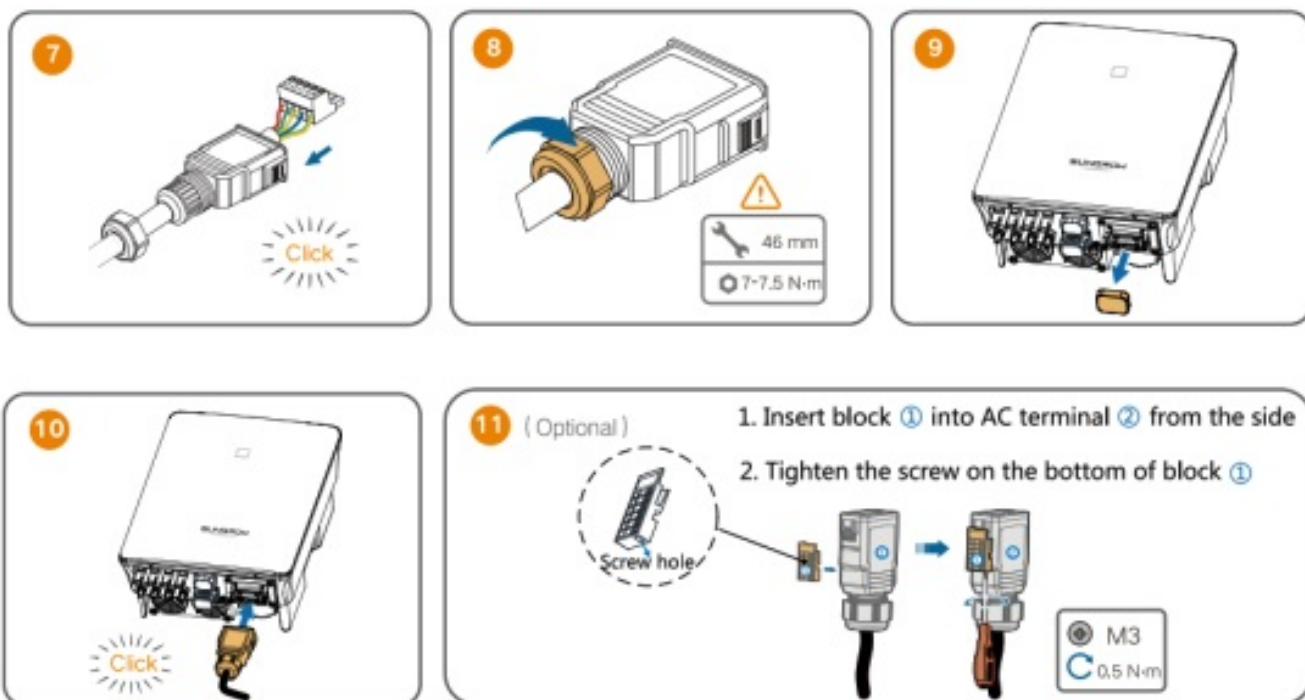
For inverter models < 15 kW





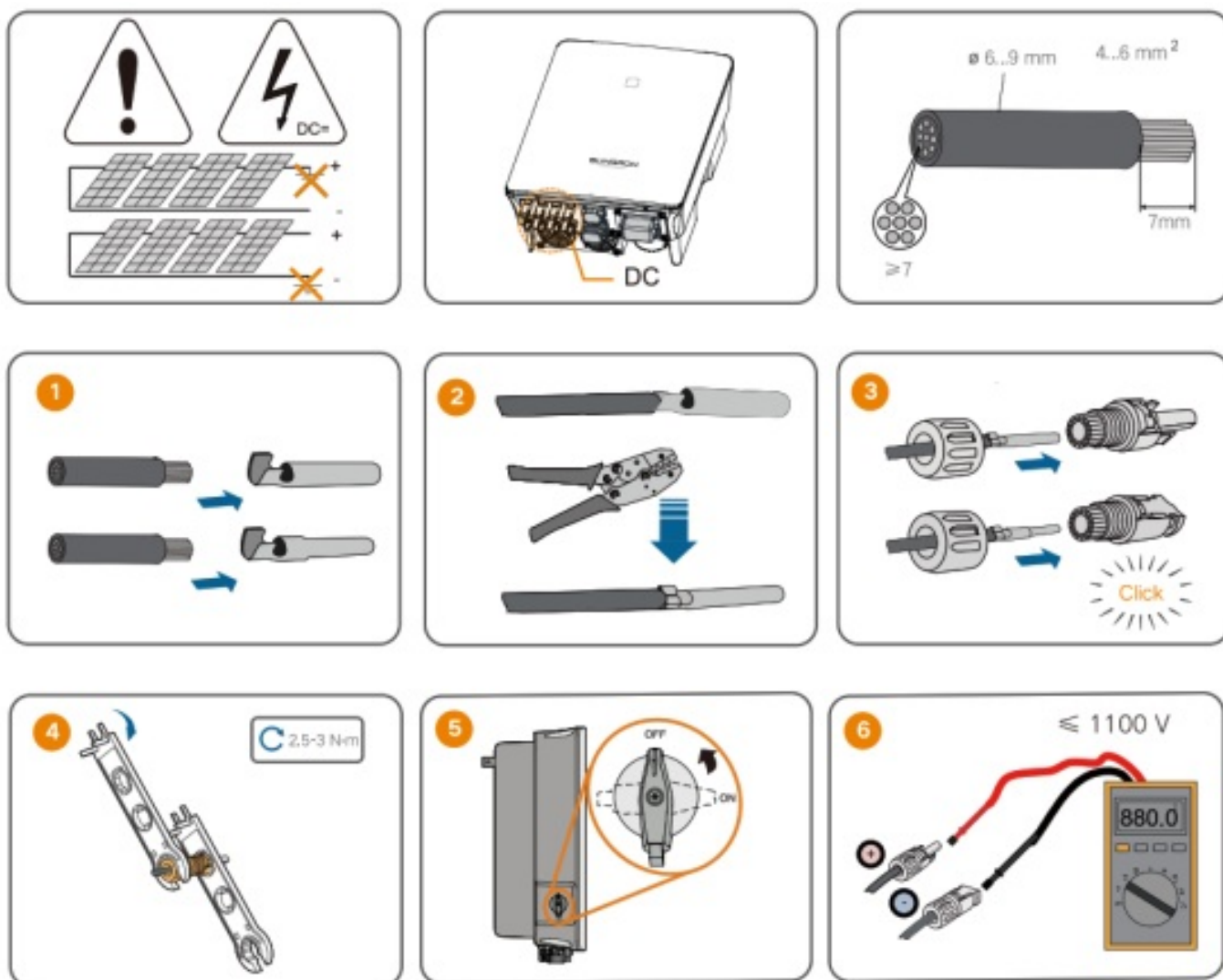
For inverter models ≥ 15 kW

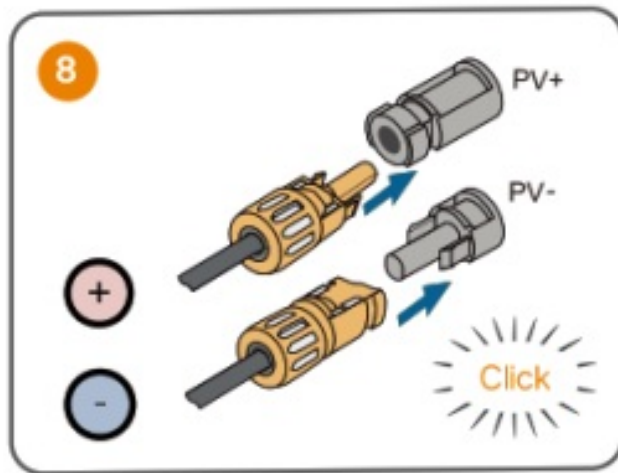
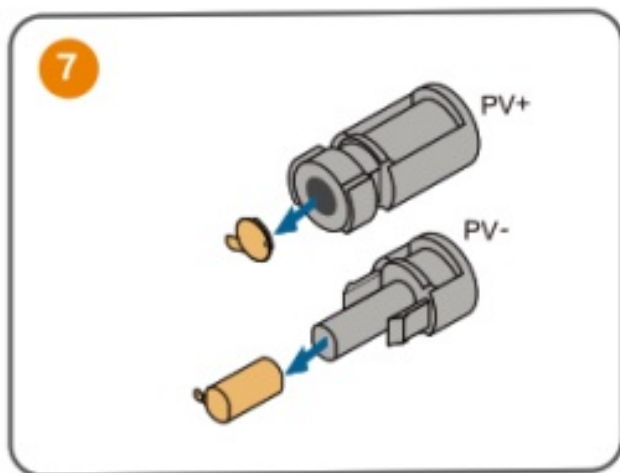




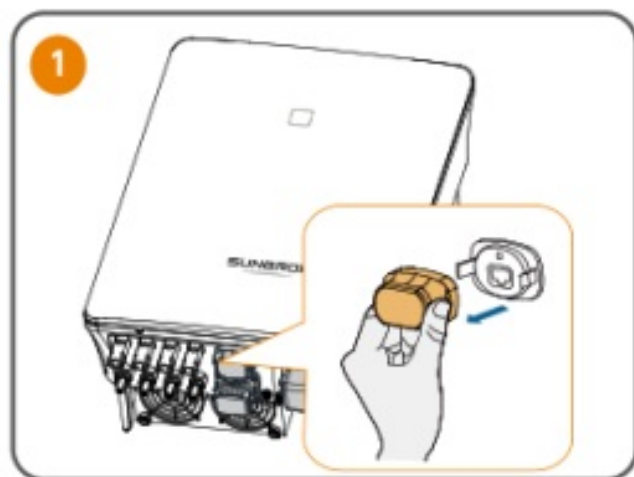
DC

If the DC protection cover delivered separately needs to be installed on-site, please firstly lead the DC cables through the waterproof terminal on the DC protection cover and then assemble the DC connectors.



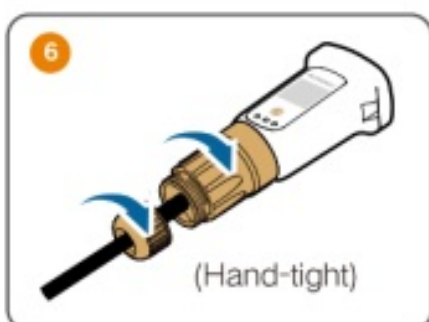
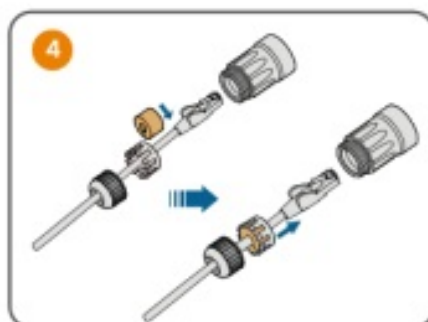
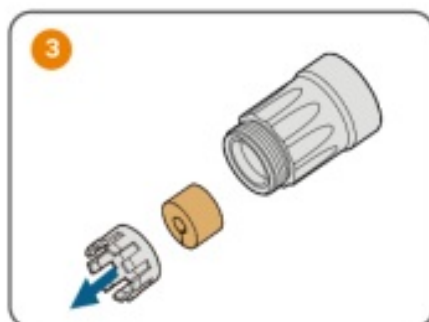
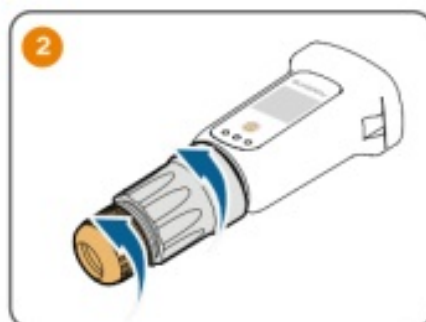
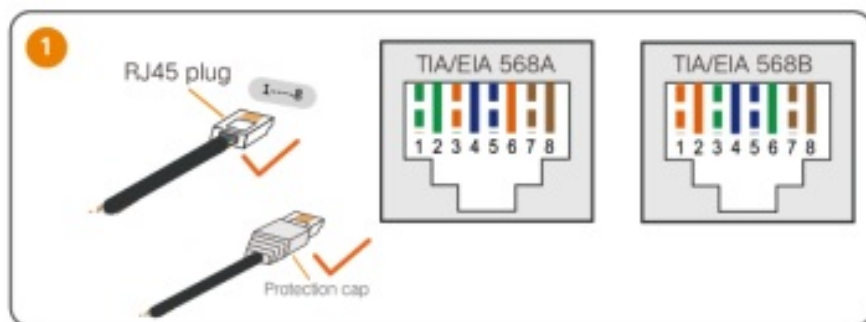


WLAN

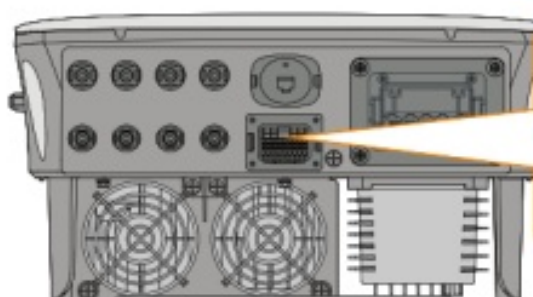


Ethernet

(Cannot be used simultaneously with A1 and B1 terminals for RS485 daisy chain)



COM2

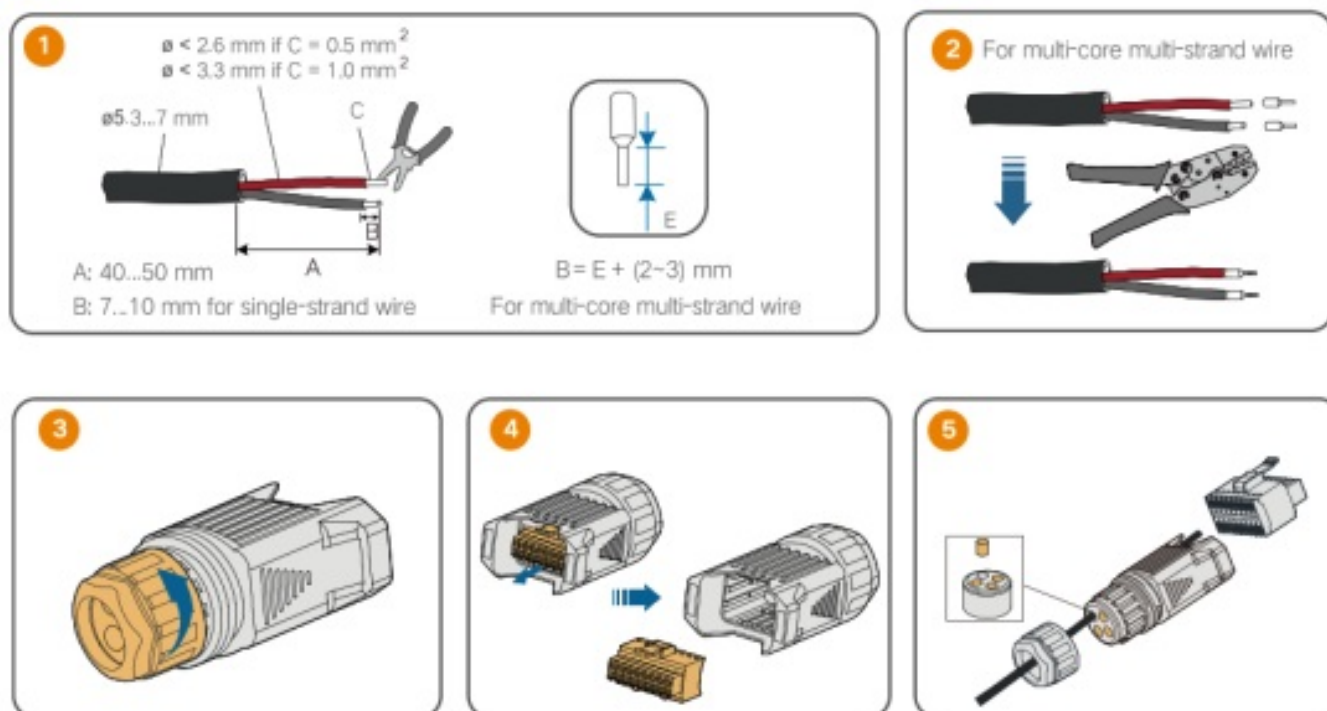


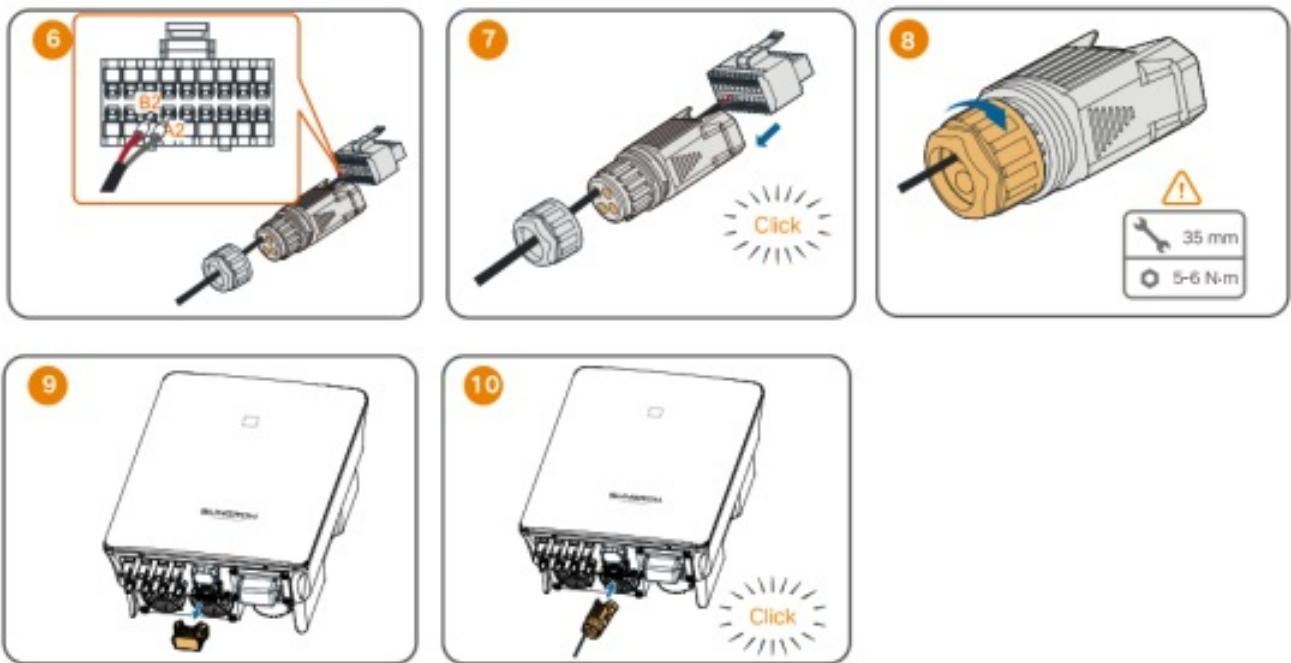
RSD		NS		DRM			RS485-1	DO
RSD-1	RSD-2	NS-1	NS-2	D1/5	D3/7	R	A1	NO
B3	A3	B2	A2	D2/6	D4/8	C	B1	COM
RS485-3		Meter						

Label	Description
RSD (RSD-1, RSD-2)	Reserved
NS (NS-1, NS-2)	For NS protection ("DE")
DRM (D1 /5, D2/6, D3/7, D4/8, R, C)	For external Demand Response Enabling Device ("AU"/"NZ")
RS485-1 (A1, B1)	For inverter daisy chain (Cannot be used simultaneously with CO M1 port for WiNet-S)
DO (NO, COM)	For external alarm, e.g. light indicator and/or buzzer The external DC voltage should not be higher than 30 V and the current not higher than 1 A.
RS485-3 (B3, A3)	Reserved
Meter (B2, A2)	For the Smart Energy Meter

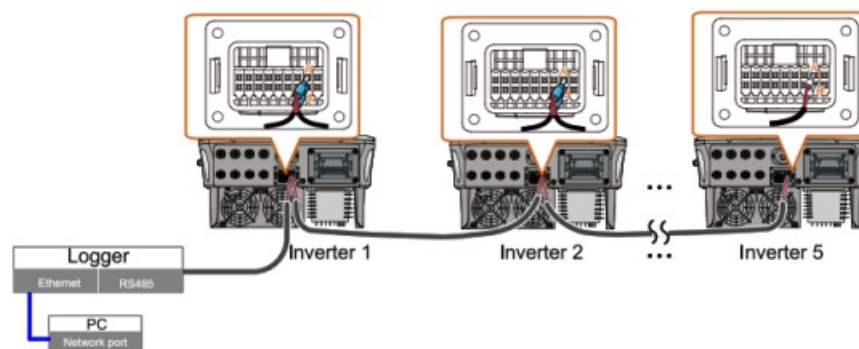
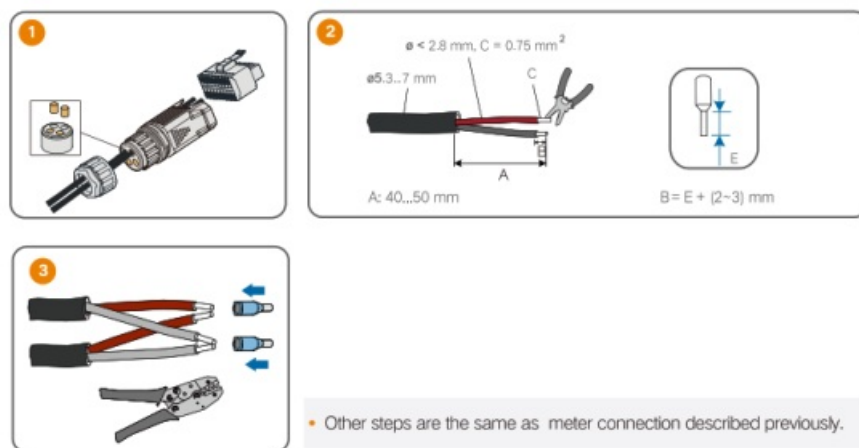
Meter, RS485, NS, DO, DRM

- The connections for NS, RS485 (single inverter), DO, DRM, and meter are the same. Take meter connection as an example.

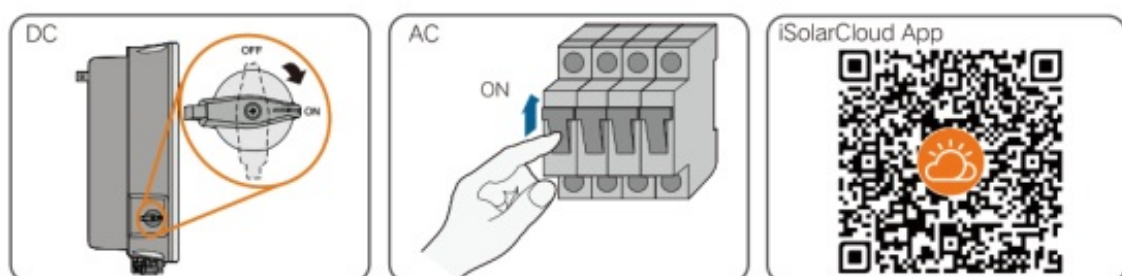







Inverter RS485 Daisy Chain (≤ 5)



Power on



LED indicator

LED indicator	LED state	Definition
	ON	The inverter is normally running.
	Flashing	The DC or AC side is powered on and the device is in standby or start-up state (not feeding power into the grid).
	ON	A system fault has occurred.
	OFF	Both the AC and DC sides are powered down.




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

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Contents
1 Documents / Resources
2 Related Posts

Documents / Resources

 <p>3-Phase PV Grid-Connected String Inverter Quick Installation Guide SG5.ORT / SG6.ORT / SG7.ORT SG8.ORT / SG10RT / SG12RT SG15RT / SG17RT / SG20RT SG21RT / SG22RT / SG23RT</p>	<p>SUNGROW SG7.ORT 3-Phase PV Grid-Connected String Inverter [pdf] Installation Guide SG5.ORT I, SG6.ORT I, SG7.ORT, SG8.ORT, SG10RT, SG12RT, SG15RT, SG17RT, SG20RT, SG7.ORT 3-Phase PV Grid-Connected String Inverter, 3-Phase PV Grid-Connected String Inverter</p>
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