

# Quick Installation Guide

## PV Grid-Connected Inverter

SG285HX / SG320HX / SG333HX / SG350HX



- 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.
- Make sure to read over, fully understand and strictly follow the detailed instructions of the user manual and other related regulations. Visit <http://www.sungrowpower.com/>, choose "PV Inverters" and search for the device model on the "Products" tab page to view or obtain the user manual.
- All operations can be performed only by qualified personnel, that must be trained in the installation and commissioning of the electrical system, as well as the dealing with hazards, have knowledge of the manual and of the local regulations and directives.
- Before installation, check that the package contents are intact and complete against the packing list. Contact SUNGROW or the distributor in case of any damaged or missing components.
- The cable must be intact and well insulated. Operation personnel must wear proper personal protective equipment (PPE) all the time.
- Any violation could result in personal death or injury or device damage, and will void the warranty.

## Safety

Please follow the safety instructions related to the PV strings and the utility grid. Otherwise, SUNGROW shall not be held liable for any damage caused.

### 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.
- 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.
- Do not open the enclosure at any time. Unauthorized opening will void guarantee 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.

### WARNING

All the warning labels and nameplate on the inverter body must be clearly visible and not be removed, covered or pasted.

### CAUTION

Risk of burns due to hot components!

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

### NOTICE













Only qualified personnel can perform the country setting.

Unauthorized alteration of the country setting may cause a breach of the type-certificate marking.

## Security Declaration

For details on the product's network security vulnerability response process and vulnerability disclosure, please scan the QR code on the right or visit the following website: <https://en.sungrowpower.com/security-vulnerability-management>



 <p>Disconnect the inverter from all the external power sources before service!</p>	 <p>There is a danger from a hot surface that may exceed 60°C.</p>
  <p>Danger to life due to high voltages! Do not touch live parts for 25 minutes after disconnection from the power sources. Only qualified personnel can open and maintain the inverter.</p>	 <p>Do not dispose of the inverter together with household waste.</p>  <p>UKCA mark of conformity.</p>
 <p>CE mark of conformity. EU/EEA Importer</p>	 <p>TUV mark of conformity.</p>
 <p>Additional grounding point.</p>	 <p>Read the user manual before maintenance!</p>
 <p>RoHS labeling The product complies with the requirements of the applicable EU directives.</p>	 <p>RCM mark of conformity.</p>

## EU Declaration of Conformity

within the scope of the EU directives

- Low Voltage Directive 2014/35/EU (LVD)
- Electromagnetic compatibility 2014/30/EU (EMC)
- Restriction of the use of certain hazardous substances 2011/65/EU and 2015/863/EU (RoHS)
- The radio equipment directive 2014/53/EU (RED)



SUNGROW confirms herewith that the products described in this document are in compliance with the fundamental requirements and other relevant provisions of the abovementioned directives. The entire EU Declaration of Conformity can be found at [support.sungrowpower.com](http://support.sungrowpower.com).

Radio technology	BLE5.0
Radio spectrum	2.4 GHz
Maximum transmission power	10 mW

\*Technical parameters listed above apply to EU countries only

- Die Inhalte können aufgrund der Produktweiterentwicklung regelmäßig aktualisiert oder überarbeitet werden. Die Informationen in diesem Handbuch können ohne vorherige Ankündigung geändert werden. Diese Anleitung ersetzt in keinem Fall das Benutzerhandbuch oder die entsprechenden Hinweise auf dem Gerät.
- Stellen Sie sicher, dass Sie die detaillierten Anweisungen des Benutzerhandbuchs und anderer zugehöriger Vorschriften lesen, vollständig verstehen und strikt befolgen. Besuchen Sie <http://www.sungrowpower.com/>, wählen Sie „PV-Wechselrichter“ und suchen Sie auf der Registerkarte „Produkte“ nach dem Gerätemodell, um das entsprechende Benutzerhandbuch anzuzeigen oder herunterzuladen.
- Alle Arbeiten dürfen nur von qualifiziertem Personal durchgeführt werden. Das Personal muss in der Installation und Inbetriebnahme der elektrischen Anlage sowie im Umgang mit Gefahren geschult sein und das Handbuch sowie die örtlichen Vorschriften und Richtlinien kennen.
- Vergewissern Sie sich vor der Installation, dass der Paketinhalt gemäß der Packliste vollständig und funktionsfähig ist. Wenden Sie sich an SUNGROW oder den Händler, wenn Sie beschädigte oder fehlende Komponenten feststellen.
- Das Kabel muss intakt und gut isoliert sein. Das Betriebspersonal muss stets eine angemessene persönliche Schutzausrüstung (PSA) tragen.
- Jede Zuwiderhandlung kann zum Tod, zu Verletzungen von Personen oder zur Beschädigung des Geräts führen und führt zum Erlöschen der Garantie.

## Sicherheit

Bitte beachten Sie die Sicherheitshinweise zu den PV-Strängen und dem Stromnetz. SUNGROW haftet nicht für Schäden, die durch derartige Veränderungen verursacht wurden.

### GEFAHR

Lebensgefährliche Spannung!

- PV-Stränge produzieren elektrischen Strom, wenn sie dem Sonnenlicht ausgesetzt sind, und können eine tödliche Spannung sowie einen Stromschlag verursachen.
- Nur qualifiziertes Personal darf die Verkabelung der PV-Paneele vornehmen.
- Alle elektrischen Anschlüsse müssen den örtlichen und nationalen Normen entsprechen.
- Der Wechselrichter kann nur mit Genehmigung des Stromversorgers an das Versorgungsnetz angeschlossen werden.
- Öffnen Sie das Gehäuse zu keiner Zeit. Unbefugtes Öffnen führt zum Erlöschen der Garantie- und Gewährleistungsansprüchen und in den meisten Fällen zum Erlöschen der Betriebslizenz.
- Wenn der Gehäusedeckel abgenommen wird, werden stromführende Komponenten freigelegt, deren Berührung zum Tod oder zu schweren Verletzungen durch einen Stromschlag führen kann.

### WARNUNG

Alle Warnschilder und das Typenschild am Gehäuse des Wechselrichters müssen gut sichtbar sein und dürfen nicht entfernt, abgedeckt oder überklebt werden.

### VORSICHT

Risiko von Verbrennungen aufgrund heißer Komponenten!

Berühren Sie keine heißen Teile (z. B. Kühlkörper) während des Betriebs. Lediglich der Gleichstromschalter kann jederzeit sicher berührt werden.

### HINWEIS













Die Ländereinstellung darf nur von qualifiziertem Personal durchgeführt werden.

Eine nicht autorisierte Änderung der Ländereinstellung kann einen Verstoß gegen die Musterzulassung darstellen.

## Sicherheitserklärung

Angaben zur Handhabung netzwerksicherheitsrelevanter Schwachstellen des Produkts und deren Meldung finden Sie über den nebenstehenden QR-Code und auf der folgenden Website: <https://en.sungrowpower.com/security-vulnerability-management>



 <p>Trennen Sie den Wechselrichter vor jeglichen Wartungsarbeiten von allen externen Stromquellen!</p>	 <p>Es besteht Gefahr durch heiße Oberflächen mit über 60 °C.</p>
  <p>Lebensgefahr durch Hochspannung! Berühren Sie spannungsführende Teile frühestens 25 Minuten nach dem Trennen von den Stromquellen. Der Wechselrichter darf nur von qualifiziertem Personal geöffnet und gewartet werden.</p>	 <p>Wechselrichter nicht über den Hausmüll entsorgen.</p>  <p>UKCA-Prüfzeichen.</p>
 <p>CE-Prüfzeichen. EU/EWR-Importeur.</p>	 <p>TÜV-Prüfzeichen.</p>
 <p>Zusätzlicher Erdungspunkt.</p>	 <p>Lesen Sie vor der Durchführung von Wartungsarbeiten unbedingt das Benutzerhandbuch!</p>
 <p>RoHS-Kennzeichnung Das Produkt erfüllt die Anforderungen der einschlägigen EU-Richtlinien.</p>	 <p>RCM-Prüfzeichen.</p>

## EU-Konformitätserklärung

im Rahmen der EU-Richtlinien



- Niederspannungsdirektive 2014/35/EU (NSD)
- Elektromagnetische Verträglichkeit 2014/30/EU (EMV)
- Beschränkung der Verwendung bestimmter gefährlicher Stoffe 2011/65/EU und 2015/863/EU (RoHS)
- Funkanlagendirektive 2014/53/EU (FAD)

SUNGROW bestätigt hiermit, dass die in diesem Dokument beschriebenen Produkte den grundlegenden Anforderungen und anderen einschlägigen Bestimmungen der vorstehenden Richtlinien entsprechen. Die vollständige EU-Konformitätserklärung kann unter [support.sungrowpower.com](http://support.sungrowpower.com) abgerufen werden.

Funktechnologie .....BLE5.0

Funkspektrum .....2,4 GHz

Maximale Sendeleistung .....10 mW

\*Die oben aufgeführten technischen Parameter gelten nur für EU-Länder

- O conteúdo pode ser periodicamente atualizado ou revisado devido ao desenvolvimento do produto. As informações contidas neste guia estão sujeitas a alterações sem aviso prévio. Sob nenhuma circunstância este guia deve substituir o manual do usuário ou avisos relacionados ao dispositivo.
- Leia, compreenda totalmente e siga rigorosamente as instruções detalhadas contidas no manual do usuário e outras regulamentações. Acesse <http://www.sungrowpower.com/>, selecione "Inversores FV" e pesquise o modelo do dispositivo na página da guia "Produtos" para visualizar ou obter o manual do usuário.
- As operações descritas neste documento só devem ser realizadas por profissionais qualificados, familiarizados com a instalação e comissionamento de sistemas elétricos, com a documentação do produto e com as normas e diretrizes aplicáveis.
- Antes de instalar, verifique se o conteúdo da embalagem está intacto e completo na lista da embalagem. Entre em contato com a SUNGROW ou com o distribuidor em caso de componentes danificados ou faltando.
- O cabo deve estar intacto e bem isolado. Todos os profissionais envolvidos no processo de instalação e comissionamento devem utilizar integralmente o equipamento de proteção individual adequado.
- Qualquer violação pode causar ferimentos, morte ou danos ao dispositivo e anulará a garantia.

## Segurança

Siga as instruções de segurança relacionadas às strings FV e à rede elétrica pública. Caso contrário, a SUNGROW não se responsabiliza por qualquer dano causado.

### PERIGO

Tensão letal!

- As strings FV produzirão energia elétrica quando expostas à luz do sol, podendo causar choques elétricos fatais.
- Apenas profissionais qualificados podem realizar a conexão dos módulos FV.
- Todas as conexões elétricas devem estar de acordo com as normas locais.
- O inversor só poderá ser conectado à rede de distribuição com permissão da concessionária responsável.
- Não abra a tampa do inversor em nenhum momento. A abertura não autorizada anulará a garantia e reclamações de garantia e, na maioria dos casos, rescindir a licença de operação.
- Quando a tampa do compartimento for removida, será possível tocar nos componentes ativos, o que pode causar mortes ou ferimentos graves por choques elétricos.

### ADVERTÊNCIA

Todas as etiquetas de advertência e placas de identificação no corpo do inversor devem estar claramente visíveis e não podem ser removidas, cobertas ou coladas.

### CUIDADO

Risco de queimadura devido a componentes quentes!

Não toque nas partes quentes (como os dissipadores de calor) enquanto o dispositivo estiver funcionando. Apenas o interruptor CC pode ser tocado com segurança a qualquer momento.

### AVISO

Apenas pessoas qualificadas podem realizar a configuração do país.




A alteração não autorizada da configuração do país pode violar a certificação do dispositivo.

## Declaração de segurança

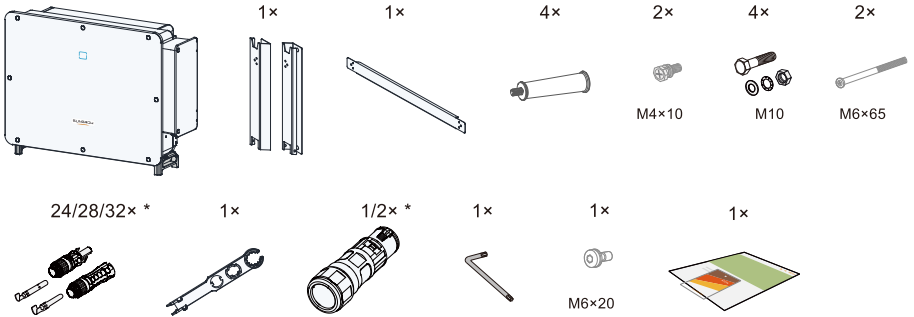
Para obter detalhes sobre o processo de resposta a vulnerabilidades na segurança da rede e sobre a descoberta de vulnerabilidades do produto, escaneie o código QR à direita ou acesse este site:

<https://en.sungrowpower.com/security-vulnerability-management>



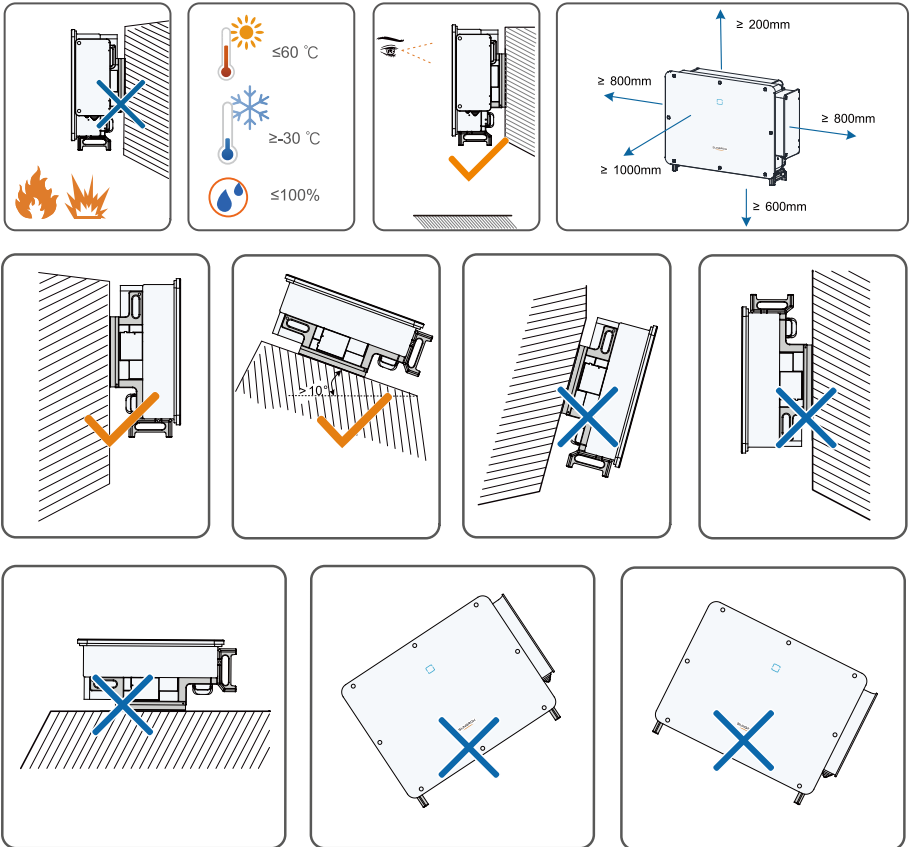
 <p>Desconecte o inversor de todas as fontes de energia externas antes de realizar a manutenção!</p>	 <p>Superfícies quentes acima de 60 °C podem ser perigosas.</p>
  <p>Perigo à vida devido a altas tensões!      Não toque nas peças energizadas durante 25 minutos após desconectar das fontes de energia. Apenas pessoas qualificadas podem abrir e realizar a manutenção do inversor.</p>	 <p>Não descarte o inversor junto com o lixo residencial.</p>  <p>Marca UKCA de conformidade.</p>
 <p>Marca CE de conformidade.      Importador da UE/EEE</p>	 <p>Marca TUV de conformidade.</p>
 <p>Ponto de aterramento adicional.</p>	 <p>Leia o manual do usuário antes da manutenção!</p>
 <p>Etiqueta RoHS      O produto cumpre os requisitos das diretivas aplicáveis da UE.</p>	 <p>Marcação de conformidade RCM.</p>

## Scope of Delivery / Escopo de entrega

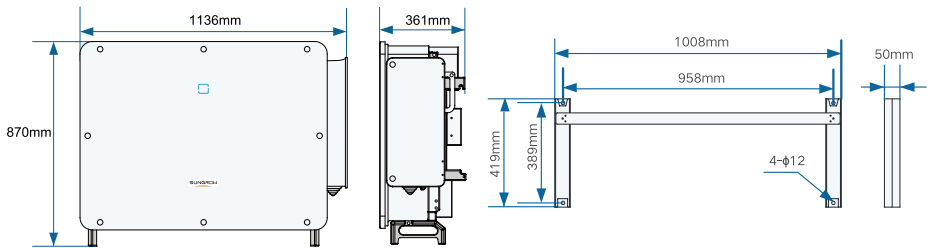


\* The images shown here are for reference. The actual product and quantity are based on delivery.

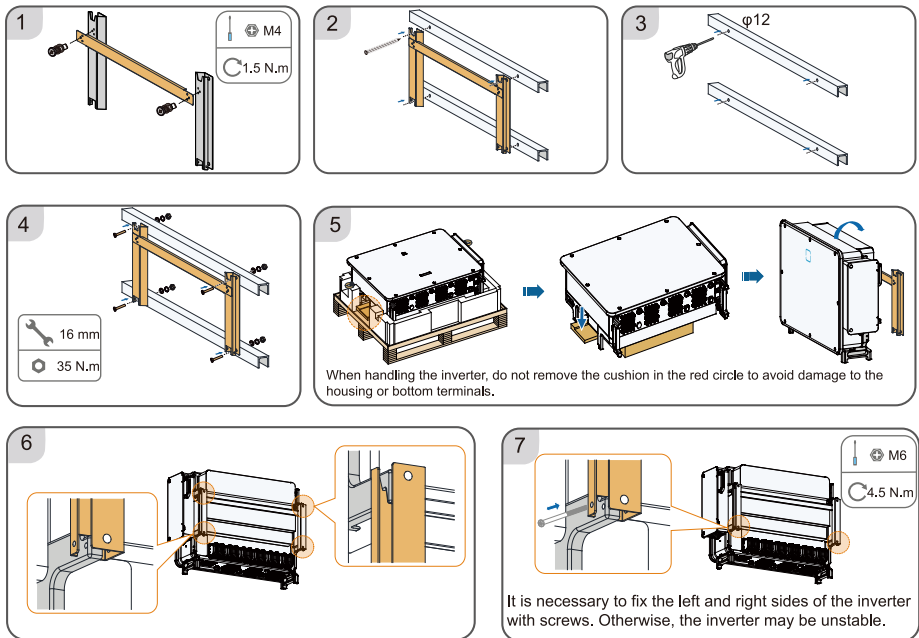
## Mounting location / Local de instalação



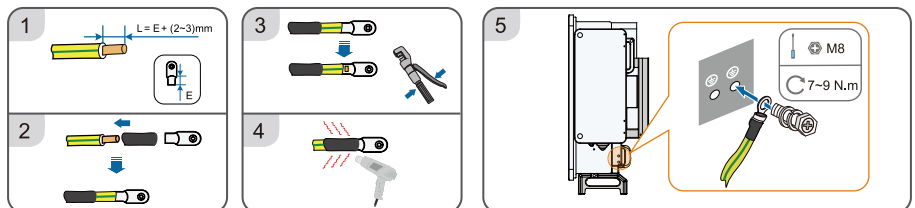
## Dimenson / Dimensão



## Mounting / Montagem



## PE Connection / Conexão PE



# Connection Procedure of One Wire per Phase with Multi-core Cable / Procedimento de conexão de um fio por fase com cabo de vários núcleos

The description is given by using four-core cable as an example.

**1** AC  
OFF

**2**

**3**

**4**

75 mm  
>65mm  
>50mm  
>40mm

**5** 50mm

**6** T30  
C 4.2~4.5N.m

**7**

**8** Copper cable  
D: 40~75mm  
L=E+(2~3)mm  
L1 L2 L3  
C: 70~185mm<sup>2</sup>  
C

**9**

**10**

**11**

**12**

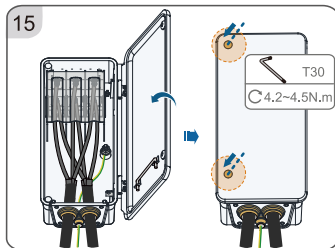
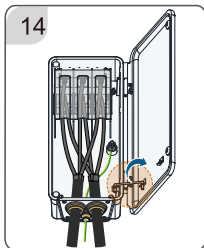
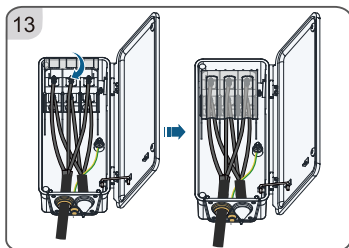
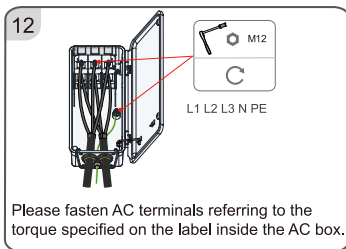
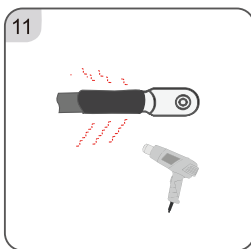
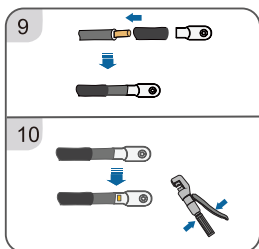
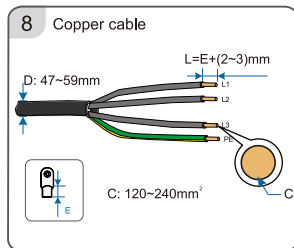
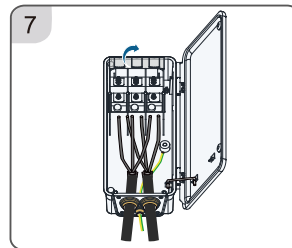
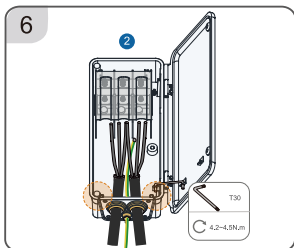
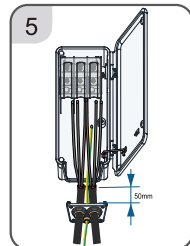
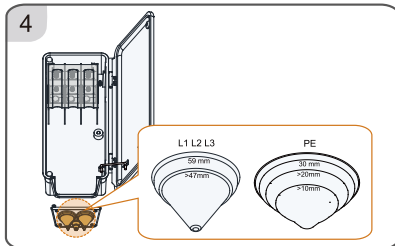
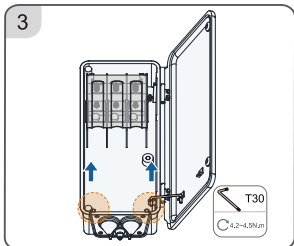
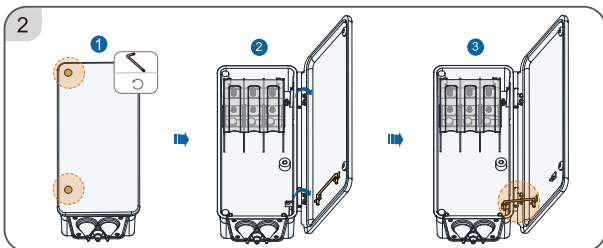
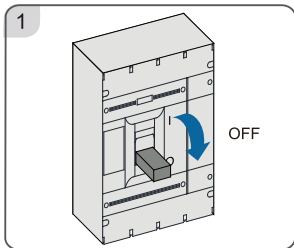
**13** M12  
C L1 L2 L3 PE  
Please fasten AC terminals referring to the torque specified on the label inside the AC box.

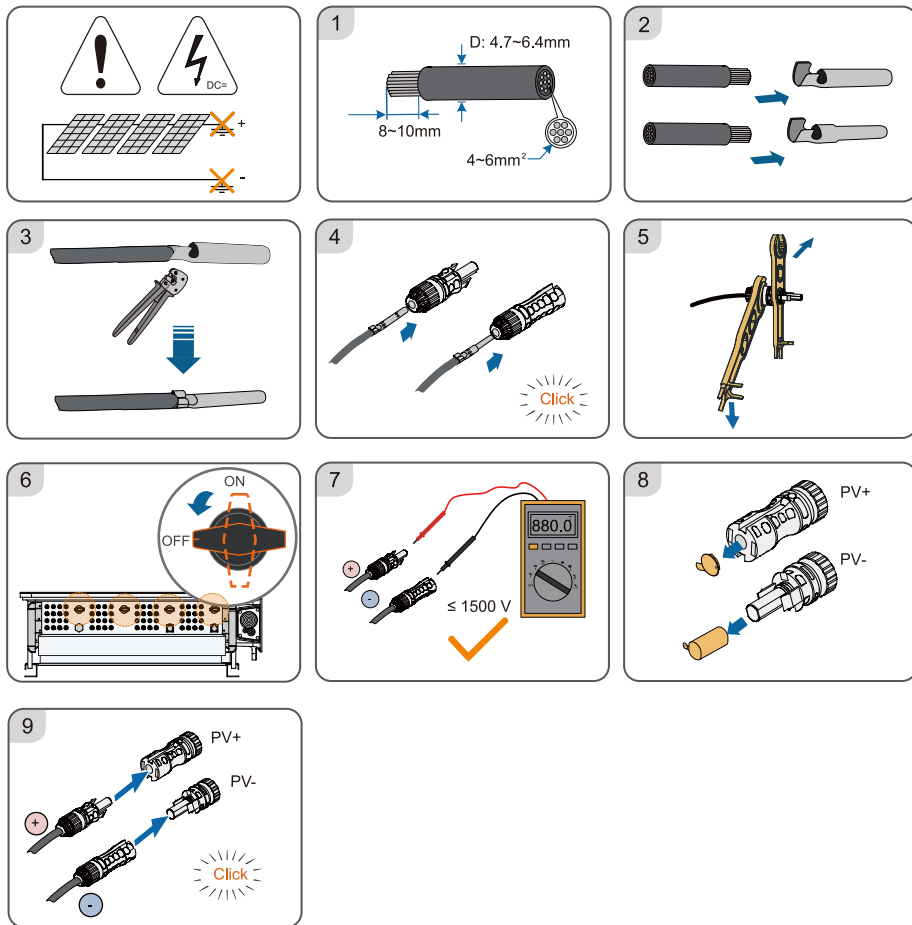
**14**

**15**

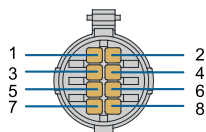
**16** T30  
C 4.2~4.5 N.m

Connection Procedure of Two Wires per Phase with Multi-core Cable / Procedimento de conexão de dois fios por fase com cabo de vários núcleos

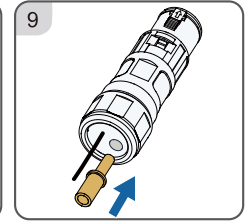
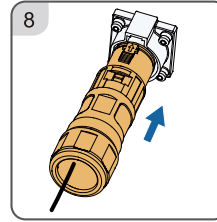
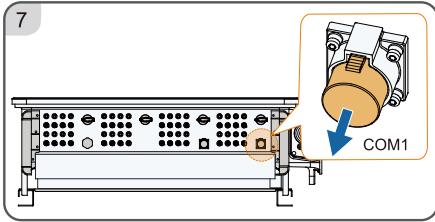
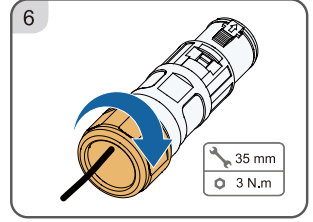
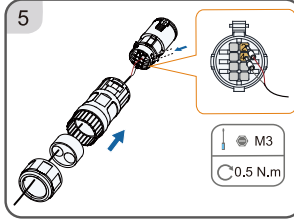
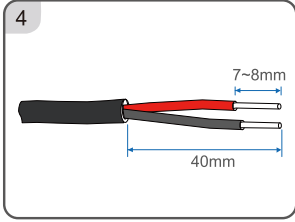
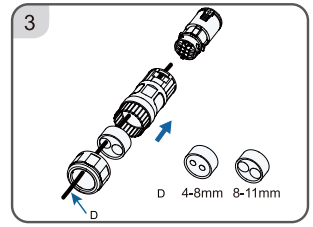
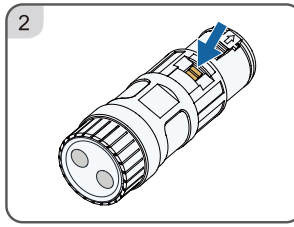
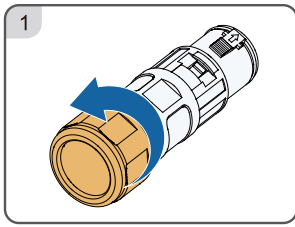




RS485 Communication Connection(COM1) / Conexão da comunicação RS485 (COM1)

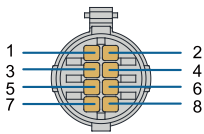


Port	PIN	Definition	Description
RS485_1	1	RS485A IN, RS485 differential signal+	Used for cascading inverters or connecting to devices such as the Data Logger.
	2	RS485A IN, RS485 differential signal+	
	3	RS485B OUT, RS485 differential signal-	
	4	RS485B OUT, RS485 differential signal-	
PE	5	PE, shielding ground	—
	6	PE, shielding ground	
RS485_2	7	RS485A, RS485 differential signal+	Communication device for connection to the tracking system
	8	RS485B, RS485 differential signal-	

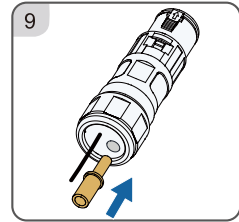
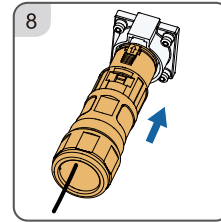
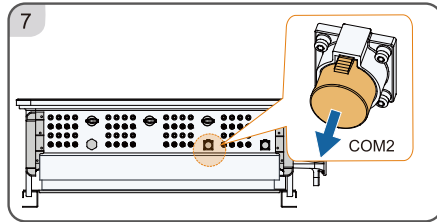
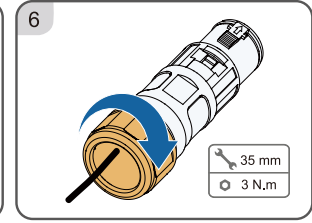
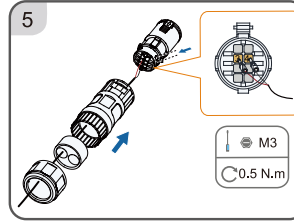
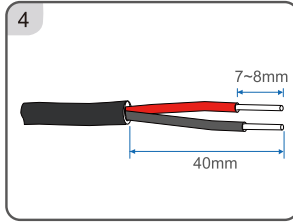
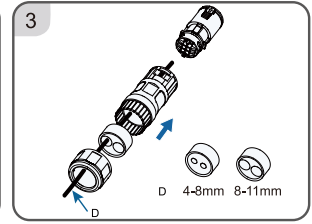
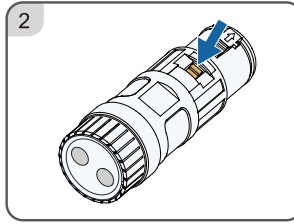
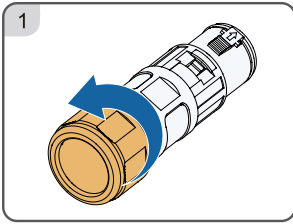


### Dry Contact Connection(COM2) / Conexão do contato seco (COM2)

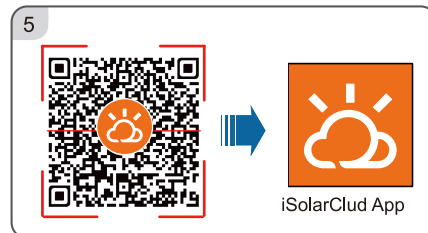
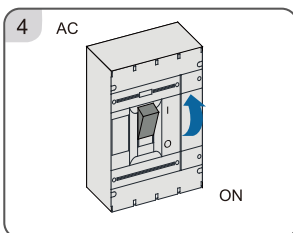
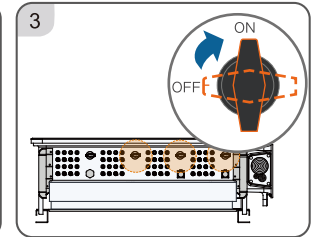
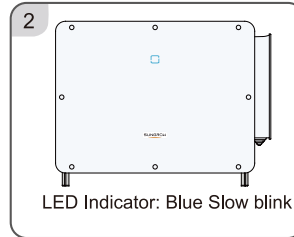
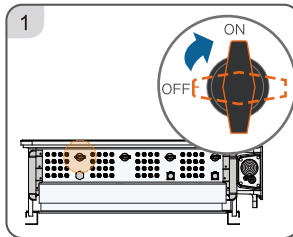
Communication terminal COM2 is optional, subject to actual product received.



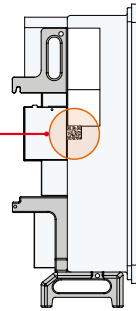
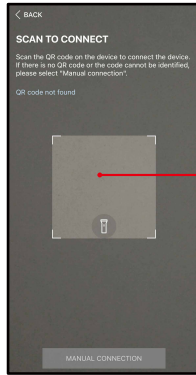
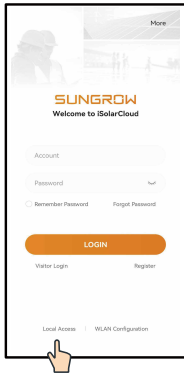
Port	PIN	Definition	Description
/	1	/	
/	2	/	
DI	3	DI	emergency stop dry contact
	4	PGND	
D0	5	COM	fault output dry contact
	6	NC	
	7	NO	
/	8	/	



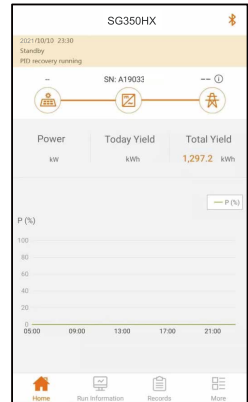
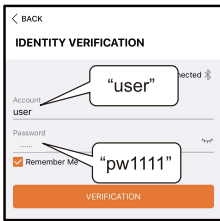
## Power on / Ligar



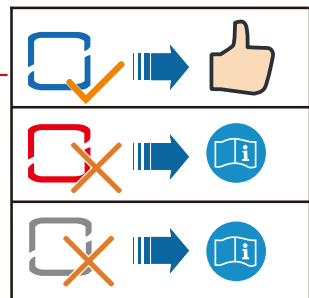
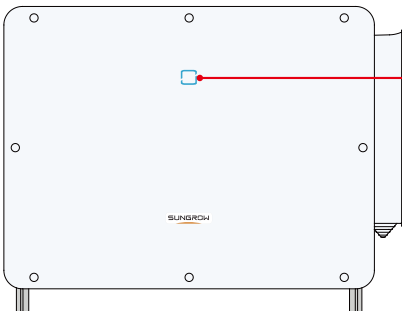
6



7



LED Indicator / Indicador LED





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

