SDongleA-03 Quick Guide (4G)

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NOTICE

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- SDongleA-03 Smart Dongle (the "Dongle" for short) is a smart communications expansion module that works with Huawei inverters to implement wireless communication between inverters and management systems through the 4G network.
- The Smart Dongle can be used for the RS485 device cascading (inverter cascading or inverter cascading with other devices). For the SUN2000-2KTL/3KTL/4KTL/5KTL-L0, only one inverter can be connected.
- When multiple inverters are cascaded, only one Smart Dongle or one SmartLogger is allowed.

Application Scenario of the SUN2000-(3KTL–20KTL) As the Master Inverter

1 Communication Scenario

NOTE

- Inverters with different appearances are used in the same communication scenario. The inverters in this document are used as an example.
- The inverter models are subject to change. The models listed in this document are for reference only.
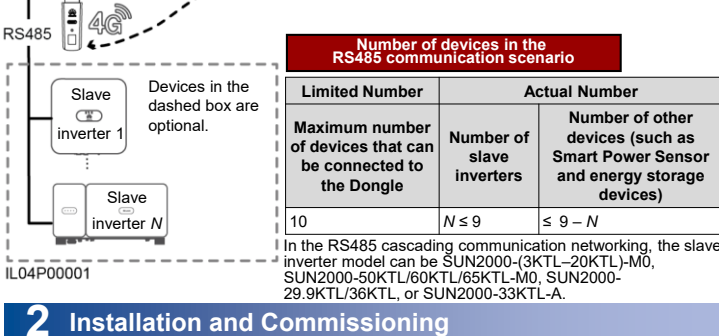
Limited Number	Actual Number	
Maximum number of devices that can be connected to the Dongle	Number of slave inverters	Number of other devices (such as Smart Power Sensor and energy storage devices)
10	N ≤ 9	≤ 9 – N

In the RS485 cascading communication networking, the slave inverter model can be SUN2000-(3KTL–20KTL)-M0, SUN2000-50KTL/60KTL/65KTL-M0, SUN2000-29.9KTL/36KTL, or SUN2000-33KTL-A.
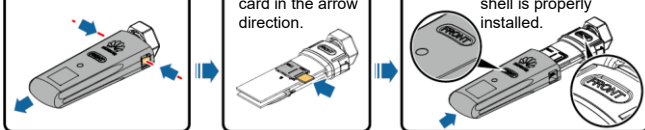
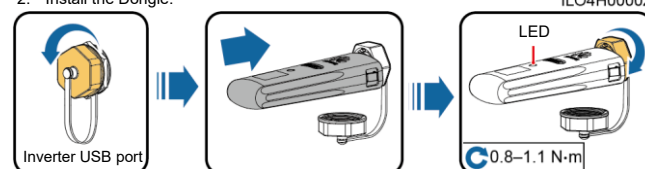### 2 Installation and Commissioning

1. Install a SIM card.

NOTE

- You need to prepare a standard SIM card (size: 25 mm x 15 mm; capacity: ≥ 64 KB). When connecting to Huawei Hosting Cloud, prepare a SIM card based on the traffic requirements in the following table.
- Before installing a SIM card, you need to remove the Dongle from an inverter.

| Monthly Traffic Requirement of SIM Cards		Traffic Support
Inverters	10 MB + 4 MB x Number of inverters	- Device performance data can be refreshed every 5 minutes. - The Dongle logs, inverter logs, and IV diagnosis data can be exported monthly. The Dongle and inverters can be upgraded monthly.
With Smart PV Optimizers	2 MB + 0.2 MB x Number of Smart PV Optimizers	
With Smart Power Sensor	3 MB x Number of Smart Power Sensor	

Install the SIM card in the arrow direction.

Ensure that the Dongle shell is properly installed.

2. Install the Dongle.

Inverter USB port

LED

0.8–1.1 N·m

LED		Remarks	Description
Color	Status		
N/A	Off	Normal	The Dongle is not secured or is not powered on.
Yellow (blinking green and red simultaneously)	Steady on		The Dongle is secured and powered on.
Green	Blinking in a 2-second cycle (on for 0.1s and then off for 1.9s)	Normal	Dialing (duration < 1 min)
		Abnormal	If the dialing duration is longer than 1 min, the 4G parameter settings are incorrect. Reset the parameters.
	Blinking at long intervals (on for 1s and then off for 1s)	Normal	The dial-up connection is set up successfully (duration < 30s).
		Abnormal	If the duration is longer than 30s, the settings of management system parameters are incorrect. Reset the parameters.
	Steady on	Normal	Successfully connected to the management system.
	Blinking at short intervals (on for 0.2s and then off for 0.2s)	Normal	The inverter is communicating with the management system through the Dongle.
Red	Steady on	Abnormal	The Dongle is faulty. Replace Dongle.
	Blinking at short intervals (on for 0.2s and then off for 0.2s)	Abnormal	The Dongle has no SIM card or the SIM card is in poor contact. Check whether the SIM card has been installed or is in good contact. If not, install the SIM card or remove and insert the SIM card.
	Blinking at long intervals (on for 1s and then off for 1s)	Abnormal	The Dongle fails to connect to the management system because it has no signals, weak signal, or no traffic. If the Dongle is reliably connected, check the SIM card signal through the APP. If no signal is received or the signal strength is weak, contact the carrier. Check whether the tariff and traffic of the SIM card are normal. If not, recharge the SIM card or buy traffic.
Blinking red and green alternatively	Blinking at long intervals (on for 1s and then off for 1s)	Abnormal	No communication with the inverter - Remove and insert the Dongle. - Check whether inverters match the Dongle. - Connect the Dongle to other inverters. - Check whether the Dongle or the USB port of the inverter is faulty.

3. Install the FusionSolar app (2.3.5 or later) and perform **Setup Wizard**. For details, see the corresponding FusionSolar App Quick Guide. You can download the document by scanning the QR code, or search for the QR code. If the operation has been performed, ignore it.
   - Method 1: Search for **FusionSolar** in Google Play and install the app.
   - Method 2: Scan the QR code to download and install the app.

HUAWEI FusionSolar   Google Play   Quick Guide
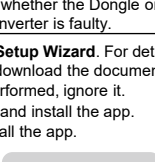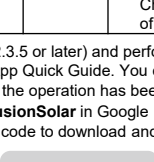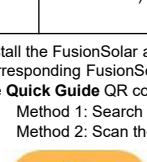
NOTE

- In Britain, only the FusionHome app can be used for commissioning.
- To obtain the FusionHome App, scan the QR code or search for **FusionHome** in Google play to download and install the app. The app version is 3.1.00.005 or later.

HUAWEI FusionHome   Google play

Application Scenario of a Commercial Smart Inverter As the Master Inverter
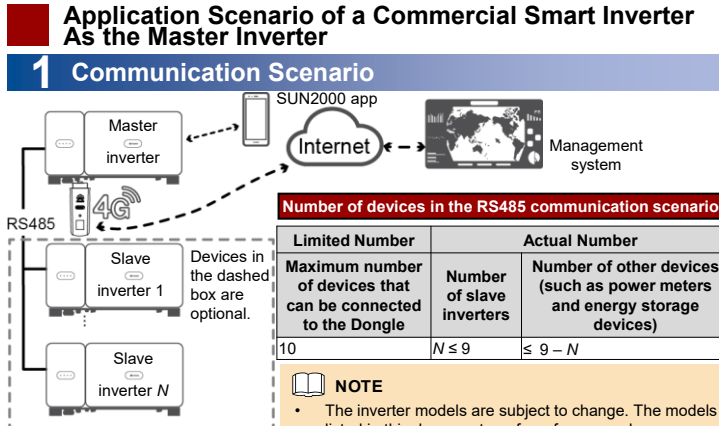
1 Communication Scenario

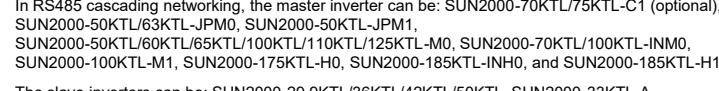| Limited Number	Actual Number	
Maximum number of devices that can be connected to the Dongle	Number of slave inverters	Number of other devices (such as power meters and energy storage devices)
10	N ≤ 9	≤ 9 – N

NOTE

- The inverter models are subject to change. The models listed in this document are for reference only.
- For details about communication scenario, see the *Distributed PV Plants Connecting to Huawei Hosting Cloud User Manual (Commercial Inverters + SDongleA + RS485 Networking Scenario)*.

In RS485 cascading networking, the master inverter can be SUN2000-70KTL/75KTL-C1 (optional), SUN2000-50KTL/63KTL-JPM0, SUN2000-50KTL-JPM1, SUN2000-50KTL/60KTL/65KTL/100KTL/110KTL/125KTL-M0, SUN2000-70KTL/100KTL-INM0, SUN2000-100KTL-M1, SUN2000-175KTL-H0, SUN2000-185KTL-INH0, and SUN2000-185KTL-H1; The slave inverters can be: SUN2000-29.9KTL/36KTL/42KTL/50KTL, SUN2000-33KTL-A, SUN2000-33KTL/40KTL-JP, SUN2000-43KTL-IN-C1, SUN2000-50KTL/70KTL/75KTL-C1, SUN2000-50KTL/63KTL-JPM0, SUN2000-50KTL-JPM1, SUN2000-50KTL/60KTL/65KTL/100KTL/110KTL/125KTL-M0, SUN2000-70KTL/100KTL-INM0, SUN2000-100KTL-M1, SUN2000-175KTL-H0, SUN2000-185KTL-INH0, and SUN2000-185KTL-H1.

2 Installation and Commissioning

Start → Install the Dongle (Optional) → Set inverter parameters at the local router using the SUN2000 app → Install the Dongle → Deploy plants in a remote management system using the FusionSolar app → End

NOTE

- If the SIM card of the Dongle has a PIN code, install the Dongle first. Otherwise, skip the first step. You can obtain the PIN code from the carrier.
- When connecting to the Huawei FusionHost management system, you do not need to set parameters for connecting inverters to the management system on the SUN2000 app.
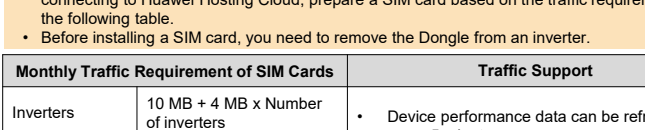
2.1 Installing the Dongle (Optional)
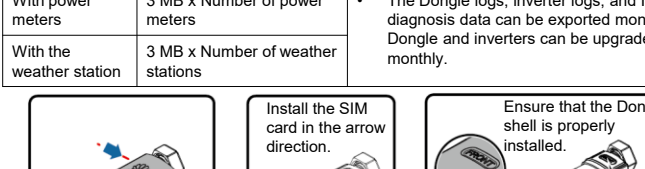
1. Install a SIM card.

NOTE

- You need to prepare a standard SIM card (size: 25 mm x 15 mm; capacity: ≥ 64 KB). When connecting to Huawei Hosting Cloud, prepare a SIM card based on the traffic requirements in the following table.
- Before installing a SIM card, you need to remove the Dongle from an inverter.

Monthly Traffic Requirement of SIM Cards		Traffic Support
Inverters	10 MB + 4 MB x Number of inverters	- Device performance data can be refreshed every 5 minutes. - The Dongle logs, inverter logs, and IV diagnosis data can be exported monthly. The Dongle and inverters can be upgraded monthly.
With power meters	3 MB x Number of power meters	
With the weather station	3 MB x Number of weather stations	

Install the SIM card in the arrow direction.

Ensure that the Dongle shell is properly installed.

2. Install the Dongle.


Inverter USB port

0.8–1.1 N·m

3. When the LED indicator is green and blinks in a 2-second cycle (on for 0.1s and then off for 1.9s), remove the Dongle.

2.2 Setting Inverter Parameters at the Local Router Using the SUN2000 App

NOTICE

Before setting parameters, ensure that the following conditions are met:
1. To obtain the SUN2000 App, scan the QR code or search for **SUN2000** in Google play to download and install the app. The app version is 3.2.00.001 (Android) or later.
2. Ensure that the AC or DC side of the inverter has been powered on.
3. Connect the Bluetooth model, WLAN model, or USB data cable to the inverter USB port to ensure that inverters can communicate with the SUN2000 app.
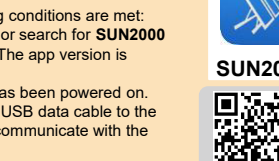
The following describes how to set the SUN2000 app (3.2.00.001) on the Android UI.

SUN2000   Google play
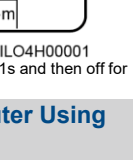
Bluetooth/WLAN Connection   **USB Connection**

Inverter USB port

Android   Android
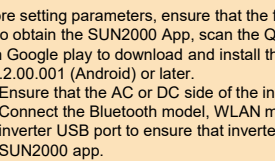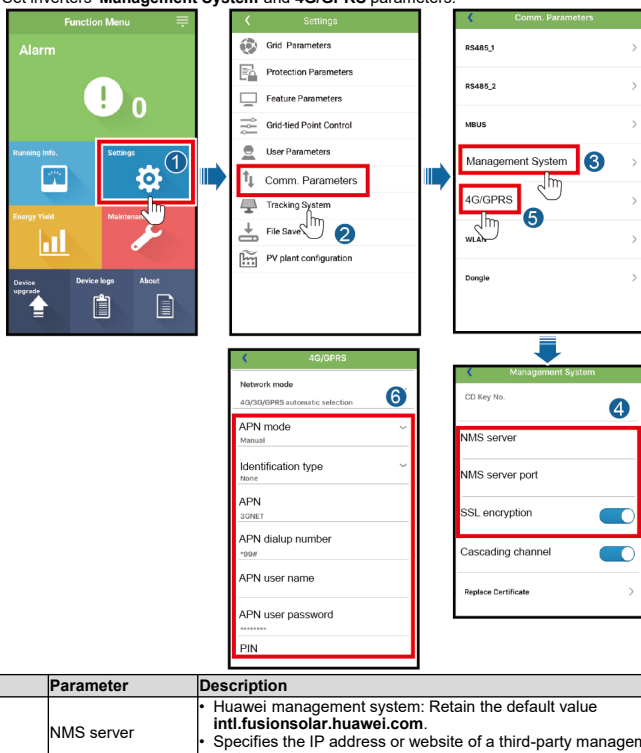
1. Log in to the SUN2000 app as **Advanced User**, set basic parameters for the master inverter on the **Quick settings** screen, and synchronize some parameters of the master inverter to the slave inverters on the **PV plant configuration** screen.

NOTE

- When the WLAN connection is used, the initial name of the *WLAN hotspot* is *Adapter-WLAN module SN*, and the initial password is **Changeme**.
- Use the initial password upon first power-on and change it immediately after login. To ensure account security, change the password periodically and keep the new password in mind. Not changing the initial password may cause password disclosure. A password left unchanged for a long period of time may be stolen or cracked. If a password is lost, devices cannot be accessed. In these cases, the user is liable for any loss caused to the PV plant.
- If you log in to the SUN2000 app after the device connects to the app for the first time or factory defaults are restored, the **Quick settings** screen is displayed. If the **Quick settings** screen is not displayed, you can set basic inverter parameters under Grid **Parameters**, **User Parameters**, and **Comm. Parameters** on the **Settings** screen.
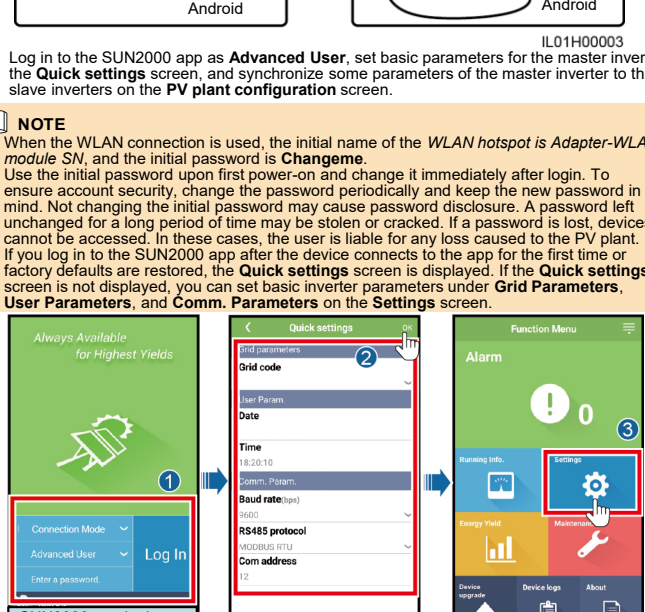
2. Set inverters' **Management System** and 4G/GPRS parameters.

Item	Parameter	Description
Parameters for connecting to the management system	NMS server	• Huawei management system: Retain the default value **intl.fusionsolar.huawei.com**. • Specifies the IP address or website of a third-party management system.
	NMS server port	• Huawei management system: Retain the default value **27250**. • Specifies the port number of connecting inverters to a third-party management system.
	SSL encryption	• Set this parameter to □ (default value) when the device is connected to Huawei management system. • Set this parameter to □ or □ when the device is connected to a third-party management system. If this parameter is set to □, the data exchange between inverters and the management system is not encrypted, which poses security risks.
SIM card parameters (4G/GPRS)	APN mode Identification type APN APN dialup number APN user name APN user password PIN	• Set the parameters related to the SIM card. The parameters are obtained from the SIM card carrier. When **APN** mode is set to **Automatic** by default, **APN**, **APN dialup number**, **APN user name**, and **APN user password** are not displayed. When **APN** mode is set to **Manual**, APN related parameters are displayed. You can set the parameters.

NOTICE

When connecting inverters to a third-party management system, you need to ensure that the third-party management system supports the standard Modbus TCP protocol and configure the access point table based on the definitions of Huawei inverter interfaces. You need to set **NMS server** and **NMS server port** for inverters as required by a third-party management system and replace the client certificate. A third-party management system must comply with the definitions of Huawei inverter interfaces. You need to obtain inverter interface definitions from Huawei technical support. This document describes how to connect inverters to a Huawei management system.
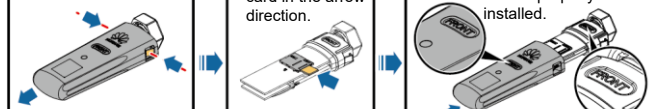
2.3 Installing the Dongle

NOTICE

• Before installing the Dongle, you need to remove the Bluetooth module or USB data cable.
• Each inverter has only one USB port. When maintaining an inverter locally, you need to remove the Dongle. In this case, the communication between the inverter and the network management system is interrupted. After the local maintenance is complete and the Dongle is installed, the communication is automatically restored.
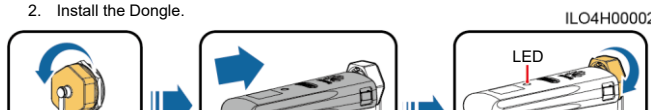
1. Install a SIM card.

NOTE

• You need to prepare a standard SIM card (size: 25 mm x 15 mm; capacity: ≥ 64 KB). When connecting to Huawei Hosting Cloud, prepare a SIM card based on the traffic requirements in the following table.
• Before installing a SIM card, you need to remove the Dongle from an inverter.

Monthly Traffic Requirement of SIM Cards		Traffic Support
Inverters	10 MB + 4 MB x Number of inverters	• Device performance data can be refreshed every 5 minutes. • The Dongle logs, inverter logs, and IV diagnosis data can be exported monthly. The Dongle and inverters can be upgraded monthly.
With power meters	3 MB x Number of power meters	
With the weather station	3 MB x Number of weather stations	

Install the SIM card in the arrow direction.
Ensure that the Dongle shell is properly installed.

2. Install the Dongle.

Inverter USB port

LED
0.8–1.1 N·m

IL04H00002

IL04H00001

LED		Remarks	Description
Color	**Status**		
N/A	Off	Normal	The Dongle is not secured or is not powered on.
Yellow (blinking green and red simultaneously)	Steady on	Normal	The Dongle is secured and powered on.
Green	Blinking in a 2-second cycle (on for 0.1s and then off for 1.9s)	Normal	Dialing (duration < 1 min)
		Abnormal	If the duration is longer than 1 min, the 4G/GPRS parameter settings are incorrect. Reset the parameters.
	Blinking at long intervals (on for 0.1s and then off for 0.1s)	Normal	The dial-up connection is set up successfully (duration < 30s).
		Abnormal	If the duration is longer than 30s, the settings of the management system parameters are incorrect. Reset the parameters.
	Steady on	Normal	Successfully connected to the management system.
	Blinking at short intervals (on for 0.2s and then off for 0.2s)	Normal	The inverter is communicating with the management system through the Dongle.
Red	Steady on	Abnormal	Dongle is faulty. Replace Dongle.
	Blinking at short intervals (on for 0.2s and then off for 0.2s)		The Dongle has no SIM card or the SIM card is in poor contact. Check whether the SIM card has been installed or is in good contact. If not, install the SIM card or remove and insert the SIM card.
	Blinking at long intervals (on for 1s and then off for 1s)		The Dongle fails to connect to the management system because it has no signals, weak signal, or no traffic. If the Dongle is reliably connected, check the SIM card signal through the APP. If no signal is received or the signal strength is weak, contact the carrier. Check whether the tariff and traffic of the SIM card are normal. If not, recharge the SIM card or buy traffic.
Blinking red and green alternatively	Blinking at long intervals (on for 1s and then off for 1s)		No communication with the inverter • Remove and insert the Dongle. • Check whether inverters match the Dongle. • Connect the Dongle to other inverters. Check whether the Dongle or the USB port of the inverter is faulty.

2.4 Deploying Plants in a Remote Management System Using the FusionSolar App

NOTE

• Log in to Google Play and search for **FusionSolar** or scan the QR code to download and install the app. The app version is 2.3.5 or later.
• The following describes how to set the FusionSolar app (2.3.5) on the Android UI.

HUAWEI
FusionSolar

Google Play
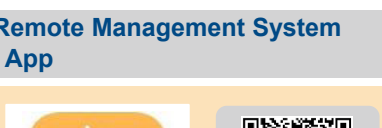
1. Register a management system account. If a management system account exists, skip this step.

NOTE

This section describes how to create a site on the FusionSolar. If the inverter is connected to a third-party management system, create a site on the corresponding management system.

6 Verify the mailbox and activate the account.

2. Enter the account and password to log in to the FusionSolar app, and create a plant.

3. On the **Plant** tab page, select the corresponding plant to view the device status.

Performance Parameters

Basic Parameters

Installation Mode	Plug-and-play (applicable to inverters only)
Indicator	LED
Dimensions (W x H x D)	130 mm x 48 mm x 33 mm
Net Weight	90 g
Ingress Protection Rating	IP65
Typical Power Consumption	3.5 W
SIM Card Type	Standard SIM cards (25 mm x 15 mm)
Operating Temperature	–30°C to +65°C
Relative Humidity	5% RH to 95% RH
Storage Temperature	–40°C to +70°C

Standard and Frequency Band

SDongleA-03-CN	LTE FDD: B1, B3, B8 LTE TDD: B39, B40, B41 (38) DC-HSPA+/HSPA+/HSPA/UMTS: B1, B5, B8, B9 TD-SCDMA: B34, B39 GSM/GPRS/EDGE: 900 MHz, 1800 MHz
SDongleA-03-EU	LTE FDD: B1, B2, B3, B4, B5, B7, B8, B20 WCDMA/HSDPA/HSUPA/HSPA+: B1, B2, B5, B8 GSM/GPRS/EDGE: 850 MHz, 900 MHz, 1800 MHz, 1900 MHz
SDongleA-03-AU	LTE FDD: B1, B3, B4, B5, B7, B8, B28 LTE TDD: B40 WCDMA: B1, B2, B5, B8 GSM: 850 MHz, 900 MHz, 1800 MHz, 1900 MHz
SDongleA-03-JP	LTE FDD: B1, B3, B8, B18, B19, B26 LTE TDD: B41 WCDMA: B1, B6, B8, B19
SDongleA-03-KR	LTE FDD: B1, B3, B5, B7 WCDMA: B1

Certification

SDongleA-03-CN	SRRC
SDongleA-03-EU	CE
SDongleA-03-AU	Taiwan, China: NCC Australia: RCM
SDongleA-03-JP	TELEC, JATE
SDongleA-03-KR	KC

FAQ

How Do I Set Export Limitation Parameters?

Set export limitation parameters for the master inverter.
• SUN2000-(2KTL–2KTL) as the master inverter: Log in to the FusionSolar app as **installer**, and choose **Device maintenance > Energy control > Grid-tied point control > Active power** to set related parameters.
• A commercial smart inverter as the master inverter: Log in to the SUN2000 app as **Advanced User**, and choose **Settings > Grid-tied Point Control > Active power control mode** to set related parameters.

What Should I Do If Slave Inverters Cannot Be Connected in the Cascading Scenario Where a Commercial Smart Inverter Functions as the Master Inverter?

• Ensure that the RS485 communications cable is securely connected to the slave inverters.
• Log in to the SUN2000 app as **Advanced User**, choose **Settings > Comm. Parameters > RS485**, and ensure that the RS485 parameter of the slave inverters is set correctly.
• Log in to the SUN2000 app as **Advanced User**, choose **Settings > Comm. Parameters > Management System**, and ensure that **Cascading channel** of the slave inverters is set to □.