

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.
- For details about Huawei inverters working with the Dongle, see the corresponding inverter manuals. This document describes how to use the Dongle in a typical application scenario.
- The Smart Dongle can be used for the RS485 device cascading (inverter cascading or inverter cascading with other devices). The number of devices that can be cascaded varies with the type of the Dongle. In actual communication scenarios, the number of inverters supported depends on the inverter features. For details, see the corresponding inverter manuals.

Dongle Model	SDongleA-03-CN	SDongleA-03-EU	SDongleA-03-AU	SDongleA-03-JP	SDongleA-03-KR
Maximum Number of Connected Devices	2 or 10 (for the Dongle with two types of specifications)	10	10	10	10
Remarks	Information about a device to which the Dongle is connected can be viewed from the external package label.				

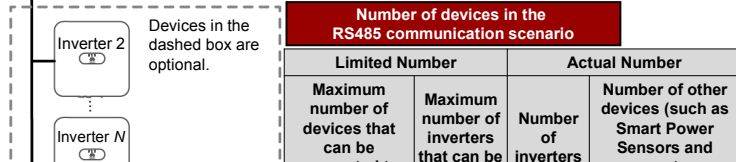
Application Scenarios of Distributed Smart Inverters

1 Communication Scenario

Currently, the Dongle can work with the following inverters: SUN2000-3KTL-M0, SUN2000-4KTL-M0, SUN2000-5KTL-M0, SUN2000-6KTL-M0, SUN2000-8KTL-M0, SUN2000-10KTL-M0, SUN2000-12KTL-M0, SUN2000-2KTL-L0, SUN2000-3KTL-L0, SUN2000-4KTL-L0, and SUN2000-5KTL-L0. The models may be subject to change. Please refer to the inverter manuals.

NOTE

Inverters with different appearances are used in the same communication scenario. The inverters in this document are used as an example.



Number of devices in the RS485 communication scenario

Limited Number		Actual Number	
Maximum number of devices that can be connected to the Dongle	Maximum number of inverters that can be cascaded	Number of inverters	Number of other devices (such as Smart Power Sensors and energy storage devices)
10	5	$N \leq 5$	$\leq 10-N$
2	2	$N \leq 2$	$\leq 2-N$

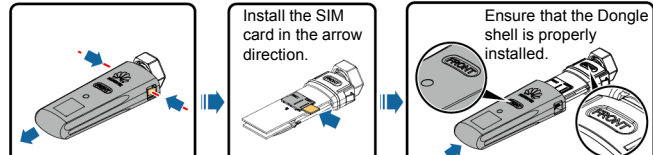
2 Installation and Commissioning

1. Install a SIM card.

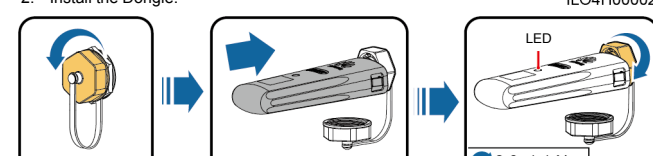
NOTE

- You need to prepare a standard SIM card (size: 25 mm x 15 mm; capacity: ≥ 64 KB).
- 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	<ul style="list-style-type: none"> • 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 Sensors	3 MB x Number of Smart Power Sensors	



2. Install the Dongle.



LED	Color	Status	Remarks	Description
N/A	Yellow (blinking green and red simultaneously)	Off	Normal	The Dongle is not secured or is not powered on.
		Steady on		The Dongle is secured and powered on.
Green	Blinking at long intervals (on for 0.5s and then off for 0.5s)		Normal	Dialing (duration < 1 min)
			Abnormal	If the 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 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)			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)		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 <ul style="list-style-type: none"> • 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 (2.2.0 or later) and perform **Quick settings** and **Add Plant**. For details, see *FusionSolar App Quick Guide*. If the operation has been performed, ignore it.
 - Method 1: Search for **FusionSolar** in Google Play or App Store and install the app.
 - Method 2: Scan the QR code to download and install the app.

FusionSolar App Quick Guide	FusionSolar APP

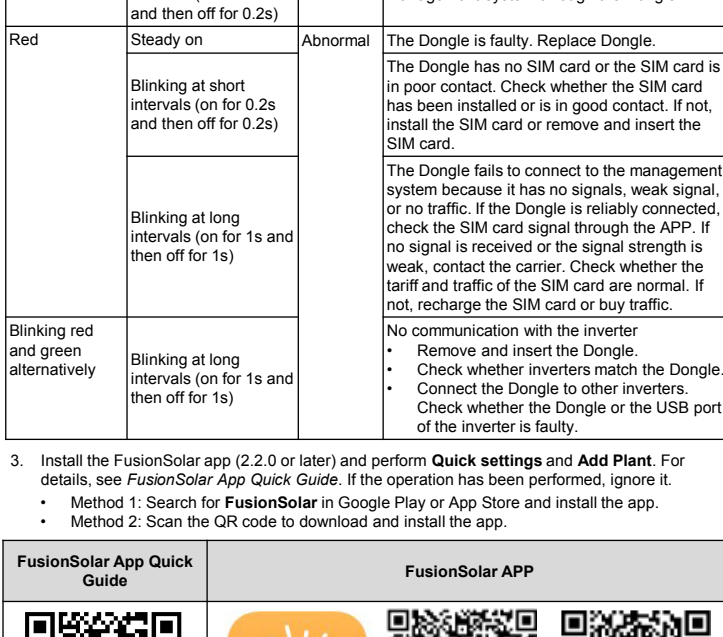
If you need to set or modify 4G parameters, run FusionSolar, tap to set the parameters using **Local commissioning tool**.

NOTICE

Before setting parameters, ensure that the AC or DC side of an inverter has been powered on.

NOTE

The following describes how to set the FusionSolar app (2.2.0) on the iOS UI. The setting method is the same as that used on the Android OS UI, but the UI display is slightly different. The site UI shall prevail.

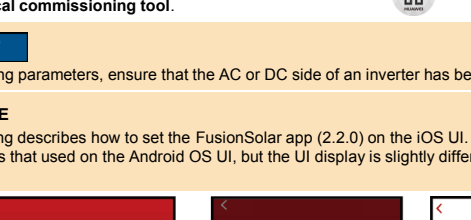


Icon	SIM Card		Management System			
Description	The SIM card is not installed.	Failed to read the card. The signal is poor, or the subscriber is in arrears.	Enter the PIN	The PIN is entered incorrectly for multiple times. The SIM card is locked. Enter the PUK.	The connection failed.	The connection is successful.
Icon					N/A	N/A
Description	Not connected (signal strength) The 2G, 3G, or 4G display varies with the site conditions. The preceding icons use 4G as an example.				N/A	N/A
Icon					N/A	N/A
Description	Connected (signal strength) The 2G, 3G, or 4G display varies with the site conditions. The preceding icons use 4G as an example.				N/A	N/A

Item	Parameter	Description
4G	APN mode	<ul style="list-style-type: none"> • 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 access point, APN access 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.
	APN access point	
	APN access number	
	APN user name	
	APN user password	
	PIN	

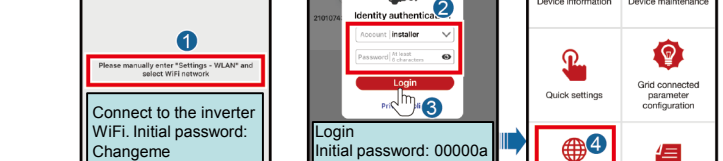
NOTE

- You can also set parameters on the 4G pages using the FusionHome app. The setting method is the same as that used on the FusionSolar app.
- To obtain the FusionHome App, scan the QR code or search for **FusionHome** in App Store or Google play to download and install the app. The app version is 2.1.11.316 or later.



Application Scenario of Commercial Smart Inverters

1 Communication Scenario



Number of devices in the RS485 communication scenario

Limited Number		Actual Number	
Maximum number of devices that can be connected to the Dongle	Number of inverters	Number of inverters	Number of other meters (such as other meters and energy storage devices)
10	5	$N \leq 10$	$\leq 10-N$
2	2	$N \leq 2$	$\leq 2-N$

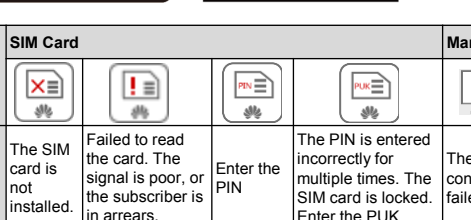
2 Installation and Commissioning



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

NOTICE

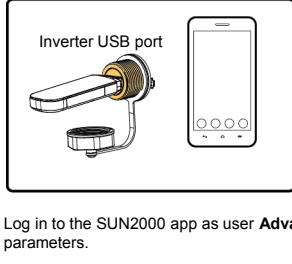
1. To obtain the SUN2000 App, scan the QR code or search for **SUN2000** in App Store or Google play to download and install the app. The app version is 2.2.00.036 (iOS) or later, or 2.2.00.035 (Android) or later.



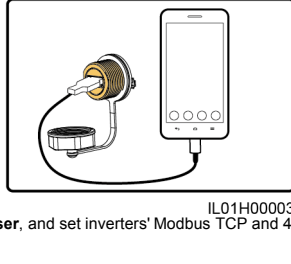
2. Ensure that the AC or DC side of an inverter has been powered on.
3. Connect the Bluetooth model or USB data cable to the inverter USB port to ensure that inverters can communicate with the SUN2000 app.

The following describes how to set the SUN2000 app (2.2.00.035) on the Android UI. The setting method is the same as that used on the iOS UI, but the UI display is slightly different. The site UI shall prevail.

Bluetooth Connection

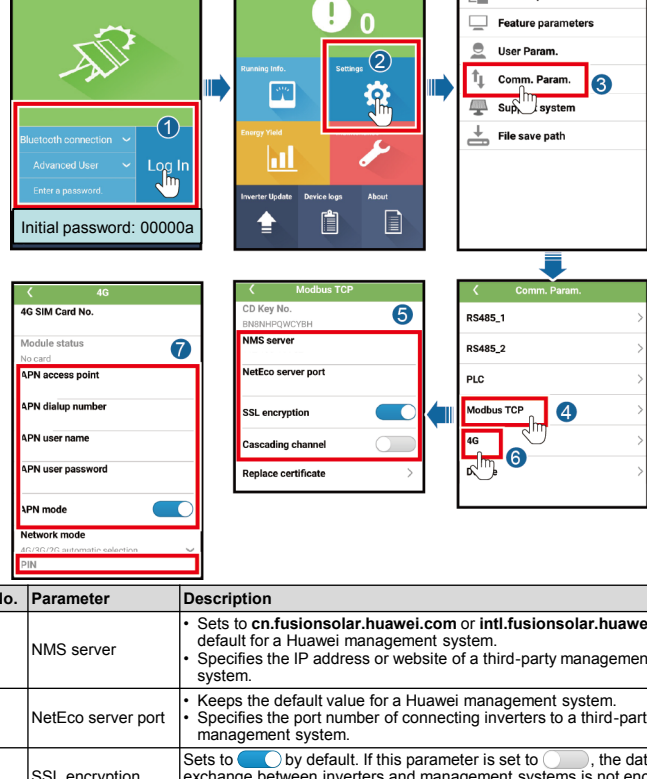


USB Connection



IL01H00003

Log in to the SUN2000 app as user **Advanced User**, and set inverters' Modbus TCP and 4G parameters.



No.	Parameter	Description
1	NMS server	<ul style="list-style-type: none"> Sets to cn.fusionsolar.huawei.com or intl.fusionsolar.huawei.com by default for a Huawei management system. Specifies the IP address or website of a third-party management system.
2	NetEco server port	<ul style="list-style-type: none"> Keeps the default value for a Huawei management system. Specifies the port number of connecting inverters to a third-party management system.
3	SSL encryption	Sets to <input checked="" type="checkbox"/> by default. If this parameter is set to <input type="checkbox"/> , the data exchange between inverters and management systems is not encrypted, which poses security risks.
4	Cascading channel	Inverters that do not have Dongle installed are set to <input type="checkbox"/> .
5	APN mode	<ul style="list-style-type: none"> Set the parameters related to the SIM card. The parameters are obtained from the SIM card carrier. If APN mode is set to <input checked="" type="checkbox"/>, you can set parameters for APN access point, APN dialup number, APN user name, and APN user password. If APN mode is set to <input type="checkbox"/>, you do not need to set parameters for the APN.
6	APN access point	
7	APN dialup number	
8	APN user name	
9	APN user password	
10	PIN	

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 **NetEco 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.

2.2 Installing the Dongle

NOTICE

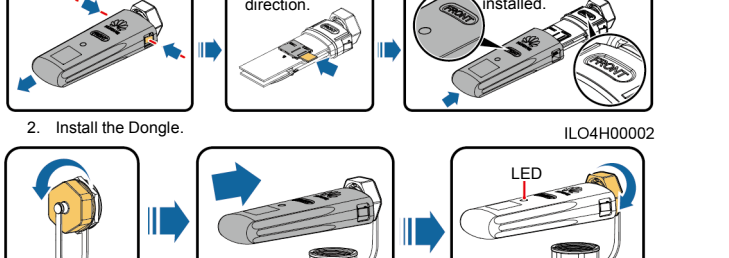
- Before installing the Dongle, you need to remove the Bluetooth module or USB data cable.
- Each inverter has only one USB port. When maintaining an inverter locally, you need to remove the Dongle. In this case, the communication between the inverter and the network management system is interrupted.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

1. Install a SIM card.

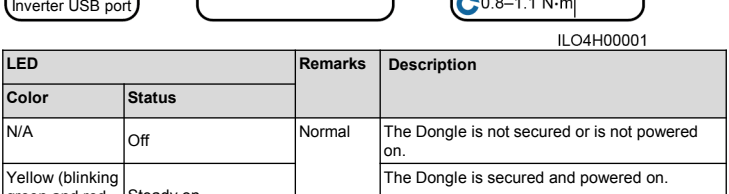
NOTE

- You need to prepare a standard SIM card (size: 25 mm x 15 mm; capacity: ≥ 64 KB).
- 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	<ul style="list-style-type: none"> 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 station	



2. Install the Dongle.



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 at long intervals (on for 0.5s and then off for 0.5s)	Normal	Dialing (duration < 1 min)
		Abnormal	If the duration is longer than 1 min, the 4G 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 Modbus TCP parameters.
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 <ul style="list-style-type: none"> 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.

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

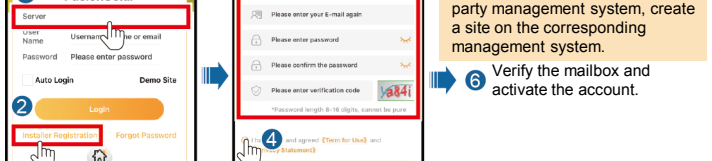
NOTICE

- Log in to Google Play or App Store and search for **FusionSolar** or scan the QR code to download and install the app. The app version is 2.2.0 or later.



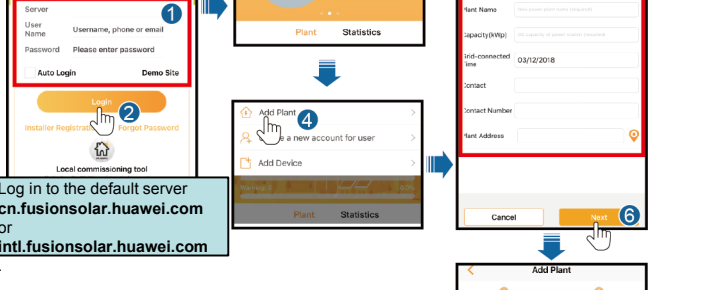
- The following describes how to set the FusionSolar app (2.2.0) on the iOS UI. The setting method is the same as that used on the Android OS UI, but the UI display is slightly different. The site UI shall prevail.

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.

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 (15 mm x 25 mm)
Operating Temperature	-30°C to +65°C
Relative Humidity	5% RH to 95% RH
Storage Temperature	-40°C to +70°C

Default Server

SDongleA-03-CN	cn.fusionsolar.huawei.com
SDongleA-03-EU	intl.fusionsolar.huawei.com
SDongleA-03-AU	
SDongleA-03-JP	
SDongleA-03-KR	

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, B2, 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	N/A
SDongleA-03-EU	CE
SDongleA-03-AU	Taiwan, China: NCC Australia: RCM
SDongleA-03-JP	TELEC, JATE
SDongleA-03-KR	KC