## FusionSolar App Quick Guide

Issue: 02 Date: 2022-01-25 HUAWEI

Copyright  $\ensuremath{\mathbb{C}}$  Huawei Technologies Co., Ltd. 2022. All rights reserved.

#### FusionSolar App Quick Settings Operation Procedure



#### FAQ

Physical Layout Design of FusionSolar APP (Connected to the SmartPVMS)

Physical Layout Design of FusionSolar APP (The SmartPVMS is not connected)

Physical layout design of PV modules on the SmartPVMS

This document applies to the following scenarios:

- Inverter with built-in WLAN for local commissioning
- Inverter with a Smart USB-WLAN Adapter for local commissioning
- In RS485 cascading networking.
- Inverter with a SmartLogger for local commissioning

- The figures are for reference only.
- The initial password for connecting the inverter WLAN is Changeme.
- The initial password for connecting to the Smart USB-WLAN adapter is Changeme.
- The initial password for the **installer** account is **00000a**. If the system prompts you to change password, set a new password and then log in to the system.
- Some device do not support the initial password. You need to set the initial password upon the first connection. Set the password before log in to the system.
- 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.

# 1. Downloading and Installing the FusionSolar App

Method 1: Download and install the app from the app store.

- Huawei phone users: Search for *FusionSolar* in Huawei AppGallery.
- iPhone users: Search for *FusionSolar* in the App Store.
- Other mobile phone users: Select method 2 or 3.



Method 2: Visit <u>https://solar.huawei.com</u> using a browser on your mobile phone to

#### download and install the app.



Se HUAWEI	$\triangleleft \times$
SOLUTIONS	~
PRODUCTS	~
SERVICES	~
WHAT'S NEW	
COMMUNITY	
HOW TO BUY	
CONTACT	
COMPANY	

Method 3: Scan the QR code to download and install the app.



Users who select method 2 or 3 can select the download method based on the mobile phone type.

- Huawei mobile phone users: Download from Huawei AppGallery.
- Non-Huawei phone users: Download on a browser.
- iPhone users: Download from the App Store.



#### Note:

When you select **Download via the Browser**, if a security warning message is displayed indicating that the app is from an external source, tap **ALLOW**.



#### 3. Log in and Start Setup Wizard

• Local Commissioning Using the Built-in WLAN of the Inverter





#### Set network parameters and domain name.



4G communication

Enabled Monitor the PV plant through the management system.

Set the **Domain name** to intl.fusionsolar.huawei.com and Port number to 27250.

By default, APN mode is set to Automatic. When this mode cannot be used to access the Internet, set the parameter to Manual. In this case, set the parameters related to the SIM card based on the information obtained from the carrier.



Set network parameters and domain name.

#### Quick settings FE communication Device magt 0 0 Enabled Monitor the The access to the management system must be authorized by PV plant through the management system. Monitor the PV plant through the management system Set the Domain name -0- to Setting management system parameters intl.fusionsolar.huawe Domain name i.com and Port number to **27250**. Port 27250 ()encryption If **Ethernet** is disabled. automatic 📀 upprade Setting parameters for the inverter to connect to the the network cable is not connected. DHCP Reconnect the network cable. Ethernet Previous



	Add a plant.		Create an owner account.
< Create Site	< Add plant	< Add plant	Plants Statistics C New user
Add plant	Set basic info Connect device	Set basic info Connect device	Setup wizard     Add user     Company     Company
Connect to existing the text of te	*Country/Region Country/Region >	Device SN Device	Q. Enter a plant name. Role 💿
	*Company >	Added devices	plan001 Normal *Plant > C
	*Plant name	Device SN 4figosc1234567890 TIIT	Username
	*Total string capacity(kWp)	Device type SmartLogger Device model V100R002C00B030	*Password
	*Grid-connected 09/29/2020 >	Connected devices >	Photo Sta
	*Plant address Enter or locate 🛇		Phone
	Plant time zone		*Email
	Owner Owner name		
	Contact method Phone/Email		
Later	Owner's authorization obtained  If the contenty you entered involves third party personal information, obtain authorization in advance.  Next:	Previous Submit	Owner's authorization obtained     If the content you entered involves third-party personal     information, obtain authorization in advance.     Cancel OK Imm
			Home OBM Devices Me

• Local Commissioning Using a Smart USB-WLAN Adapter



	P Setup wizard	lant Statis	tilcs	< Scan	Identity authentication		SUN2000-XXXXX Grid connected • Communication status Good WLAN signal	Quick settings  Device magt Compatibility	ated
PusionSolar R Username or email	No Optimiz	ame. er p 🕸 3.68 kW	* Y Normal	Can't find the QR code?	4%6		Active power 0.100 kw Monthly energy yield Monthly energy yield Active power day 0.23 kwn Total	Basic parameters Communication Interventing Grid code XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	ne grid code is set to N/A y default (automatic
Forgot password	Full Optimiz	er p @ 3.81 kV	Normal	Scan the QR code of the WLAN module (USB- Adapter2000-C).			Alarm Ouick settings	Grid frequency XXHz Se th Phone time 29-Jan-2021 16:57:22 is	t the grid code based on le area where the PV plant located.
				<b>O</b>	SN: XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	]	At the first login, the	Phone time zone UTC +08:00 Sync phone time	
			(8)	Manually enter Barcode	The initial password is 00000a.		Quick settings screen is displayed by default.	If Sync phone time is e the time and time zone inverter are synchroniz those of the mobile pho	ed with
No account?	Home Mainte	nance Devic	e Me	Device commissioning	Cancel Log in		Settings Power adjustment	Next	



#### Set network parameters and domain name.

- · · ·	Device magt Comp	leted
	0	)
asic parameters	networking	
The access to the	management system must be authoria	ted by
the owner.		
Monitor the PV management sy	plant through the stem.	$\bigcirc$
	Containe Containe	_
Setting manage	ment system parameters	
Domain name		>
Port	27250	
TLS		
encryption		
automatic	2	
Unorade Dongle parame	ter settings	
bongio paratito	la bottingo	
APN mode	Automatic	>
Network		
mode	4G/3G/2G automatic selection	1 2
	0	
	Novt	

4G communication

Enabled Monitor the PV plant through the management system.

Set the Domain name to intl.fusionsolar.huawei.com and Port number to 27250.

By default, **APN mode** is set to **Automatic**. When this mode cannot be used to access the Internet, set the parameter to **Manual**. In this case, set the parameters related to the SIM card based on the information obtained from the carrier.

------



Previous





Connect to the management system.

After the commissioning is complete, remove the USB-WLAN module, install the 4G module. Check the indicator status. After the indicator is steady green or blinks at short intervals (on for 0.2s and then off for 0.2s) add a PV plant.



Add a plant.										Cre	eate an	owner	account.		
Create Site		< Add pl	lant		<	Add plant			1.12	Plant	Statistics			<	New user
Add plant		Set basic info *Country/Region *Company *Plant name	Country/Region >		Set basic info Device SN Added devices	Connec	t device		a (a)	Setup wizard Enter a plant name No Optimizer © 1 2.205 kWp	© 3.68 kWh	Normal		*Company *Role ⑦ *Plant	> > > 8
		*Total string capacity(kWp) *Grid-connected	09/29/2020 >		Device SN Device type Device model Connected devices >	XXXXXXXXXXXXX Smart Dongle VxxxRxxxCxxSPCXXX	Ŵ			Full Optimizer © 10 2.205 kWp	@ 3.81 kWh	Normal		*Password Photo	»بر می
		*Plant address Plant time zone Owner	Enter or locate 🧿 Owner name											Phone *Email	
		Contact method Owner's authorization obta If the content you entered involves th obtain authorization in advance.	Phone/Email									(8)		Owner's auth If the content you information, obtain	norization obtained entered involves third-party personal authorization in advance.
Later		Nex			Previous	Subn		_	Home	Maintenance	Device	С <sub>Ме</sub>		Cancel	ok 🌆

LED		Remarks	Description
Color	Status	1	
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	Normal	Dialing (duration < 1 min)
	then off for 1.95)	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	Normal	The dial-up connection is set up successfully (duration < 30s).
	off for 1s)	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 (red for 1s and green for 1s)	-	<ul> <li>No communication with the inverter</li> <li>Remove and insert the Dongle.</li> <li>Check whether inverters match the Dongle.</li> <li>Connect the Dongle to other inverters. Check whether the Dongle or the USB port of the inverter is faulty.</li> </ul>
	Blinking at short intervals (red for 0.2s and green for 0.2s)	Normal	The Dongle is being upgraded locally.

Local Commissioni	ng Using the SmartLog	gger of the Inverter	Identity authentication	< SmartLog	ıger3000	<	Quick settings	
	🐺 Setup wizard 🤰 Add user	< Scan 🐼		Communication status Good SIM card signal	Connection succeeded	Basic	parameters Energy storage Compi	Dieted
FusionSolar	Q Enter a p	Can't find the QR code?	193	60.000 kW Rated power	25.485 kW Active power	Time :	zone (UTC+08:00) Beijin	ng 🗸
R Username or email	plan001 Normal			231.82 kWh Yield today	64.15 MWh Total yield	Time	2021-11-18 14:52	2:56 >
6 Password		Scan the QR				Sync p	ohone time (	
Forgot password?		code of the		C.	S			
,	,	SmartLogger.	SN	Alarm	Quick Settings	/ If	Sync phone time is abled, the time and	
			Installer v			ti	ne zone of the	
		Ū	Enter your password.		83	in' SV	verter are nchronized with	
4		(Manually enter	Log in to the app as	Device monitoring	Maintenance	th	ose of the mobile	
	0	Barcode	an intaller. The initial					
No account?		Device		<b>(</b> )	tŧf			
	Home O&M Devices Me	commissioning	Cancel Log in	Settings	Power adjustment		Next Im	
Quick settings	C Quick settings	C Quick settings					$\bigcirc$	
Device magt Communication networking	Device magt Communication networking	Device magt Communication networking	Quick settings Device magt Communication networking	Device magt Communicatio	n networking			
Basic parameters Energy storage Completed control	Basic parameters Energy storage Completed control	Basic parameters Energy storage Completed control	Basic parameters Energy storage Completed control	Basic parameters Energy storage control	Completed			
Device list Search for device 🕀 🕼	Grid code Select a grid code 🗸	Working mode settings 2 Maximum		Working mode setting	js			
SUN2000         1pcs ^           Inverter(COM2:1)         Online >	Inverter 1pcs ^		No control Maximum self-consumption	Maximum self-consumption: maximizes yields for residential loads. When the PV are greater than the loads, batteries are	the PV energy energy yields e charged to			
SN:8T2110073553 Other Devices 16ncs ~	Inverter(COM2-1) Grid code		Fully fed to grid	store energy. When the PV energy yields the loads (such as nights when the PV not generate power), the batteries dische power to the loads. This mode is use	are less than modules do arge to supply d when the			
Ensure that the devices	The grid code is set to	Note: In a non-Battery		system is configured with PV mo TOU: allows the grid to charge batter electricity price periods and discharge	dules, ries in low batteries to			
are consistent with the	N/A by default	scenario, the step of	obtain the detailed	supply power to the loads during high el- periods, saving electricity fee. The char function must be enabled.	ge from grid			
actual connected d	not supported). Set the	is not involved.	working mode	for gird connection. When the PV ener the daytime are greater than the maxin capability of the inverter, the batteries	rgy yields in num output are charged	<b>*</b>		
	grid code based on the area where the PV			to store energy, when the energy yield than the maximum output capability of batteries discharge to maximize the ou of the inverter to the grid. This mode is considering when the ET is bisher than t	the inverter, utput energy applicable to be electricity			
	plant is located.			price.	ne electricity			
	Check whether the inverter grid code matches the local grid code. If so, go to the next step.	Previous Next	Previous	Previous	ext.			
Previous Next	Previous			N				
—	_		11					

O O O	o communication r	networking
Basic parameters	Energy storage control	Completed
Network settings		
Monitor the PV pla the management s	nt through ystem.	
Management syste	→ 🕍 →→	•
Management syste	Here Marketers	Jawei.com >

Enabled Monitor the PV plant through the management system. Set the Domain name to intl.fusionsolar.huawe i.com and Port number to **27250**.

	< Quick s	settings	< Quick se	ttings			
ed	Device magt Co Basic parameters Energy Cor	torage Completed	Device magt Con Basic parameters Energy str Control	orage Completed			
	Network settings Monitor the PV plant throug the management system.	h 💽	When the SmartLogger connects to the SmartPVMS over a				
7	When the Sr connects to SmartPVMS	nartLogger the over the	wired netwo Wired netwo parameters.	rk, set <b>ork</b>			
12	Mobile network	work, set work and ode.	Wired network parameters Automatically obtain IP address	^			
	Mobile network parameters		*IP address *Subnet mask	255.255.255.0			
	Network mode	4G/3G/2G automatic v	*Gateway	xx.xx.xx.xx			
	APN mode	Automatic 🗸	Primary DNS server	XX.XX.XX.XX			
	managemen	t system later.	Secondary DNS server	0.0.0.0			
	Previous	Next	Previous	Next			

<	Quick settings		< Quick sett	ings
Devi	ce magt Communication	n networking	Device magt Comr	nunication networking
Basic paramete	ers Energy storage control	Completed	Basic parameters Energy stor control	age Complete
Network settin	gs		Successfully connect management system	ted to the
Monitor the PV the manageme	plant through nt system.			
	<u> </u>	-	SUN2000	Ince
Signal strength		Strong(5dBm)	Inverter(COM2-1) SN:BT2110073553	Online
			Other Devices	16pcs
	_			
Previous	No	with the second s	Denvious	Finish O

		Add	a plant.		
< Create Site		< Add	l plant	<	Add plant
Add plant		1 Set basic info	2 Connect device	Set basic	2 info Connect device
Connect to existing to the second sec	_	*Country/Region *Company	Country/Region >	Device SN	Select Device
		*Plant name		SN Device type	0 SmartLogger
		*Total string capacity(kW)	p)	Device mode Connected devi	Smart Logger
	,	*Plant address	Enter or locate 🛇		
		Plant time zone			
		Owner	Owner name :		
		Contact method	Phone/Email		
		Owner's authorization o If the content you entered involve obtain authorization in advance.	btained is third-party personal information,		
Later		N		Previous	



## 4. Checking the Device Status

------





-----

------

Plant details )

14.07 km

249.34 MWh

1.010

Grid

Ð

08

Total yield

## FAQ. Physical Layout Design (With Optimizers)

1. The physical layout must be configured for optimizers. When an optimizer is faulty, it can be quickly located and replaced based on the physical layout.

2. The optimizer disconnection detection is available only after the physical layout is complete. Perform optimizer disconnection detection and view the result on the **Optimizer layout** screen.



Step 1 After determining the installation position of an optimizer, remove the SN label from the optimizer and attach it to the physical layout template.



#### Step 2 Take a photo of the template with the QR code attached.



Note: Ensure that the four positioning points on the template are within the frame.

# FAQ 1. Physical Layout Design on the FusionSolar App (Connected to the SmartPVMS)

Plants     Statistics <ul> <li>Setup wizard</li> <li>Add user</li> </ul> <ul> <li>Fritere a plant name</li> <li>Plants</li> </ul>	Image: plan001     ···       Image: plan001     ···       Image: plan001     ···       Image: plan001     Image: plan001       Image: plan01     Image: plan01       Image: plan01     Image: plan01	Physical layout Tap Physical layout.	Physical layout      Cogical layout     Cogical layout     Tap to upload the physical layout     template.     Cogical layout     Cogical layout	Upload image   Hold and drag to adjust the sequence   Upload image   Tap to addd a physical layout template.	Vpload image Hold and drog to adjust the sequence Take a photo of the template with the QR code attached, or select the photo from your phone album.
Tap a plant that is equipped with optimizers.         Image: Constraint of the second	Load Grid	Counters Designed Counters Designed Design	Image: Construction       Image: Constr	<ol> <li>Place the template on a flat surface, keep your phone parallel to the template, and take a photo in handscape mode.</li> <li>The template is and take a photo in handscape mode.</li> <li>The template of the template of the template of the commers are in the commers are in the template of the template of the template reflection or abadw. Otherwise, the recognition accurry will be reduced.</li> <li>For underdefield QR codes, you can manually bind the SNs.</li> </ol>	1. Piloci the template on a flat surface, keep your phone parallel to the template, and take a photo is indicate mode. Take photo Select from album Cancel
/ Ualand image			al lavort alan001		



III.

<	Upload image	<	Upload image		< Physical layout		< plan0	.01	
Hold and drag to adjust the sequence		Hold ar	nd drag to adjust the sequence				Physical layout	Logical layout	
0	Abnormal optimizer 0 Abnormal optimizer 0 Abnormal optimizer 0 0 0 0 0 0 0 0 0 0 0 0 0		+ + + +					Unit:kWh	
Abnom 1. Dup		At ar La to	After all templates are uploaded, tap Layout Generation to generate the	Tap <b>Confirm</b> to save the physical layout.	•			Note: For some unidentified QR codes, log in to the FusionSolar WebUI to manually bind them. For details, see section	
Cancel Confirm In reduced A For undertified QR codes, you can manufacture PNs.	the frame. 3. Ensure the 4. Ensure the reflection or be reduced. 5. For unider	The provided and the second se					× **	"FAQ 3" of this document.	
	Layout Generation		Layout Generation		Cancel	]	Overview Statistics	Plant Layout Devices	

16

#### FAQ 2. Physical Layout Design of SUN2000 APP (The SmartPVMS is not connected)



#### FAQ 2. Physical Layout Design of SUN2000 APP (The SmartPVMS is not connected)









## FAQ 3. Physical Layout Design of PV Modules on the FusionSolar WebUI



## FAQ 3. Physical Layout Design of PV Modules on the FusionSolar WebUI

Method 2: Manual o	creation				
Step 1. On the Ho the Single Power	mepage, click a PV plant to enter Plant page.	Step 2. Click Layout.		Step 3. Upload the physical layout.	
Plant name : Pl Grid connection	lant name Region: date: Start date End da	Overview   Layout   Reports   Energy Yields	Devices	Physical Layout	
Status 💠 🛛 P In	Plant Name 🌲	576.63 kWh Total yield	0.00 kWh Vield today	Click to Create	
• 🛃	407-GJC-TEST	Consumption today	Self-consumpt	You have not created a physical layout. Click + to create now.	

Step 4. Drag the PV module to the physical layout area, increase the number of widgets, and adjust the angle based on the site requirements.					
← Layout Configuration		← Layout Configuration			
Configuration	を 🔍 🖓 🌆 📇 書 書 つ つ Angle: 💦 Snap Align 🗋 つ 📕 Inver	Configuration	🗶 😔 🖓 🗊 💷 📇 📇 🗂 🔿 Angle: 🔡 Snap Align 🗌 🕤 💾 Invert		
Select Device	Module	Select Device	Inverter		
Device List	Quantity Rows 3 Columns 3 Tilt 20	Device List	Quantity 1		
<ul> <li>PV1</li> <li>BT2049046719(BT2</li> <li>2102312LFHBTK49(</li> <li>2102312LFHBTK49(</li> </ul>	Cancel Save	<ul> <li>PV1</li> <li>BT2049046719(BT2</li> <li>2102312LFHBTK49(</li> <li>2102312LFHBTK49(</li> </ul>	Horizontal Vertical Cancel Save		

### FAQ 3. Physical Layout Design of PV Modules on the FusionSolar WebUI

