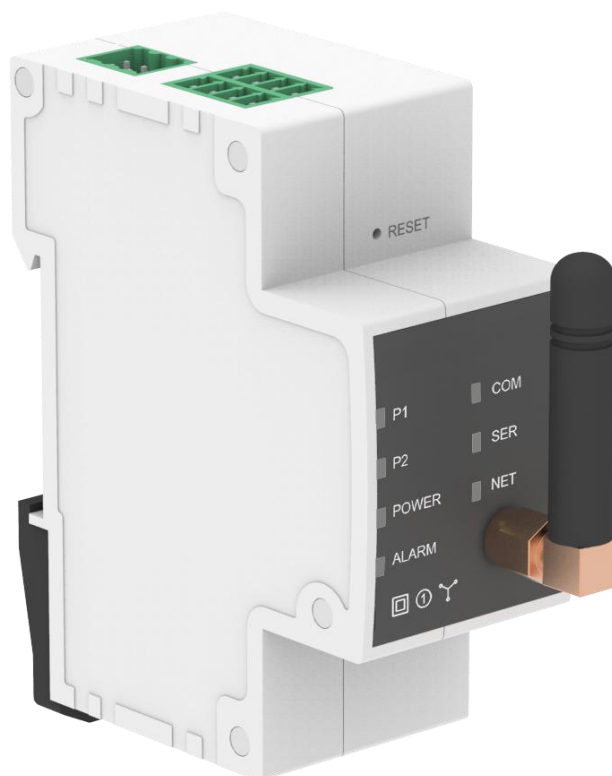


## Three phase meter's specification and user manual

Type: DTSD422-D3-WiFi



## I. Introduction

The six circuit multi-function ammeter is designed with advanced single-chip microcomputer processing system. It has the advantages of simple installation, high reliability and high precision. It can measure the power consumption of two circuits and three phases. The open type transformer can measure the data of current, voltage, active power, reactive power, power factor, forward and backward total electric energy, time-sharing electric energy and split phase electric energy in real-time without changing the original wiring; the built-in WiFi communication module does not need to be configured, plug and play, and the wiring is completed in 15 minutes, and the monitoring on power generation and consumption could be visualized via Solarman cloud WEB/APP after power on.

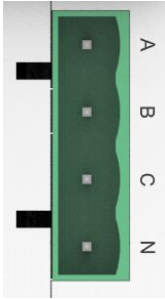
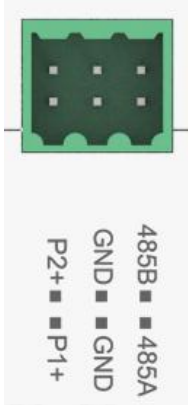
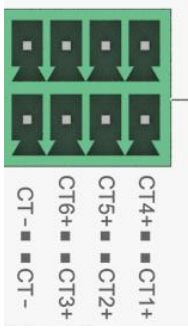

## II. Characteristics

1. Bio-direction measuring and monitoring on generation and consumption
2. Two paths of three phase application could be monitored
3. 36mm wide; 35mm standard din-rail for installation
4. Open type CT design, no need to change the wire
5. Built-in wifi module for remote communication

## III. Basic parameters

Type	Parameter	
Hardware level	Remote communication	WiFi (2.4G HZ)
	Serial communication	RS485
	Rated voltage	3x230/400V
	Rated current	6x5 (100) A
	Lengths of CT	2m
	Rated frequency	50/60Hz
	Accuracy	Active:Class 1.0, Reactive: Claess-2.0
	Wire connection	3 phase 4 wire
	Start-up current	$\leq 0.004I_b$
	Power consumption	$\leq 3.5W$
	Working temperature	-25°C ~ +60°C
	Working humidity	$\leq 95\%$ (non-condensing)

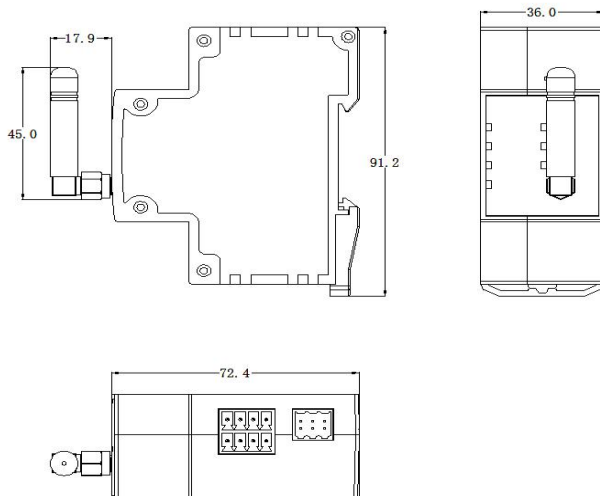
## IV. Definitions of ports

Area		Real picture	Description		Type	Notes
1	A		L-line: A		AC	
	B		L-line: B		AC	
	C		L-line: C		AC	
	N		N-line		AC	
2	485b		RS485 B	485B-	I/O	
	485a		RS485 A	485A+	I/O	
	GND		GND	GND	Power	Power supply: GND
	GND		GND	GND	Power	Power supply: GND
	P2+		Active pulse 2	Strong current interface	Baud rate: 2400 Check bit: even Stop bit: 1 Date bit: 8	
	P1+		Active pulse 1	Strong current interface		
3	CT1+		CT 1+		1 <sup>st</sup> path of 3 phase, refer to P1	
	CT2+		CT 2+			
	CT3+		CT 3+			
	CT-		GND		2 <sup>nd</sup> path of 3 phase, refer to P2	
	CT4+		CT 4+			
	CT5+		CT 5+			
	CT6+		CT 6+			
	CT-		GND			
4	RESET		Reset button			Restart/reset

## V. Instructions of LED lights

No	Icon	Definition	Instruction
1	POWER	Power supply light (Green)	Flashing: normal Off: with no power supply
2	ALARM	Alarm light (Red)	Flashing: abnormal Off: no alarm
3	P1	1 <sup>st</sup> pulse light (refer to CT1、CT2、CT3)(Red)	Flashing: energy consumption
4	P2	2 <sup>nd</sup> pulse light (refer to CT4、CT5、CT6)(Red)	Flashing: energy consumption
5	COM	Com status light between wifi module and meter (Green)	1.On : connection between wifi module and meter is normal 2.On 400ms / off 1600ms: moldule is initialized 3. On 400ms / off 400ms: data is sent between module and meter 4. Off:Communication between module and meter failed
6	SER	Comm. status light between wifi module and server (Green)	1.On:succeed in connecting 2.On 400ms / off 400ms: connection with router is successful 3.Off: failed
7	NET	Working status(Green)	1.On64ms/off 2000ms: normal 2.On/off: abnormal

## VI. Structure



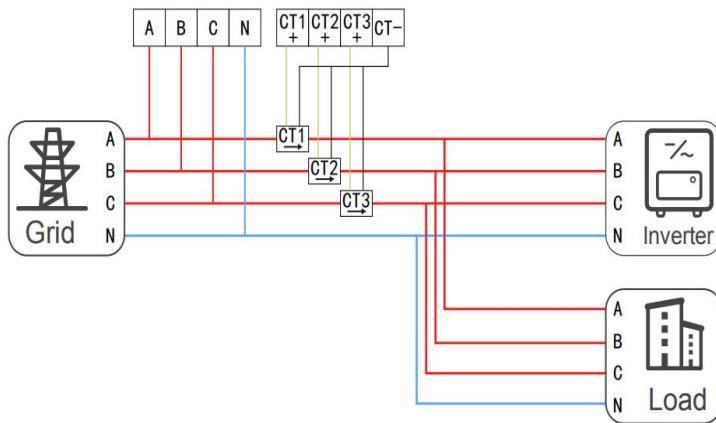
## VII. Measuring functions

Voltage, frequency, split phase current (ct1-ct6), power factor, total power of phase separation forward and reverse (ct1-ct6), total power of forward and reverse direction of phase separation (ct1-ct6), total positive and negative total power, total positive and negative reactive power, total positive and negative reactive power of the first three-phase (ct1-ct3), total forward and reverse total power, total positive and negative reactive power of the second three-phase (ct4-ct6) Power, total electric energy of positive and negative reactive power.

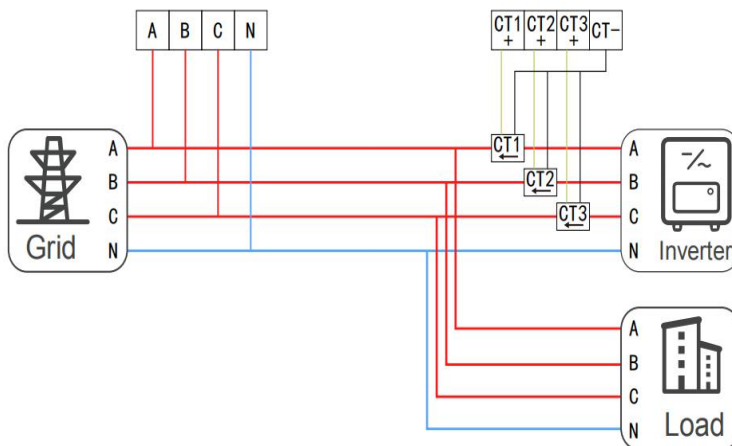
## VIII. Wiring diagram

### 8.1 One path of 3 phase

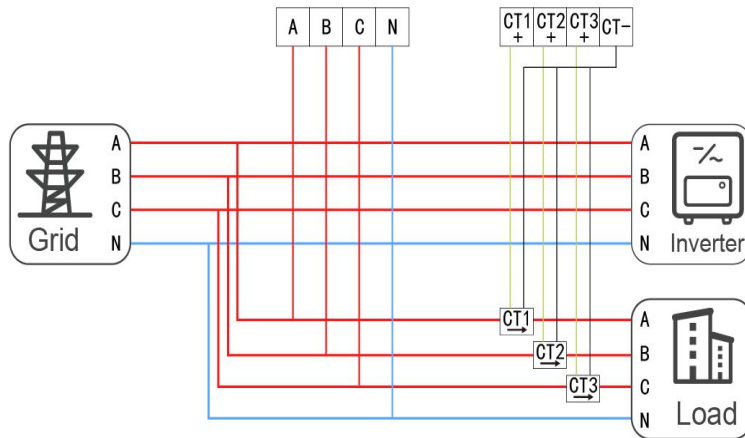
#### 8.1.1 Installation point: GRID side



#### 8.1.2 Installation point: Generation side

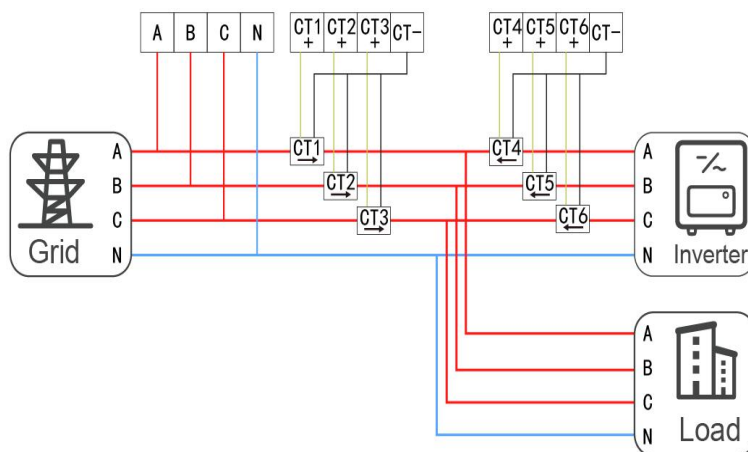


### 8.1.3 Installation point: Consumption side

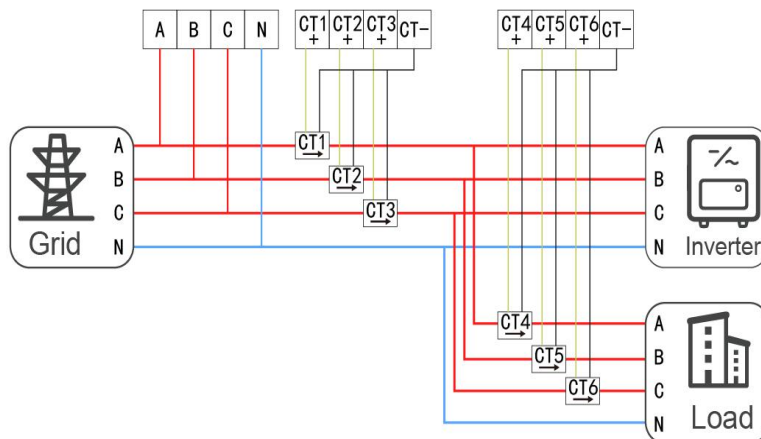


## 8.2 Two paths of 3 phase

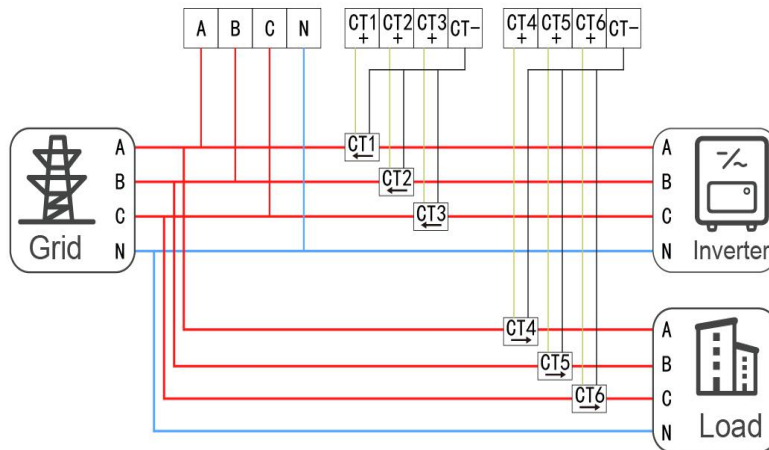
### 8.2.1 Installation point: GRID side + Generation side



### 8.2.2 Installation point: GRID side + Consumption side

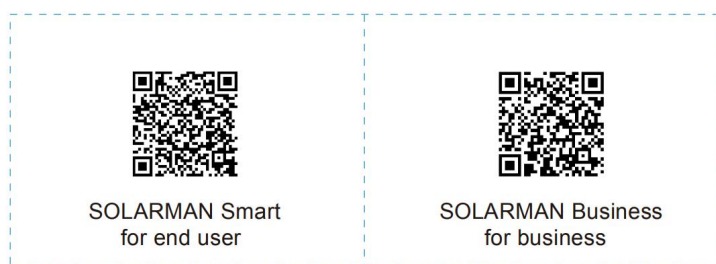


### 8.2.3 Installation point: Generation side + Consumption side



## USER MANUAL for SOLARMAN APP

### 1. Download app



iPhone: Search “SOLARMAN Smart” / “SOLARMAN BUSINESS” in Apple Store.

Android: Search “SOLARMAN Smart” / “SOLARMAN BUSINESS” in Google Play.

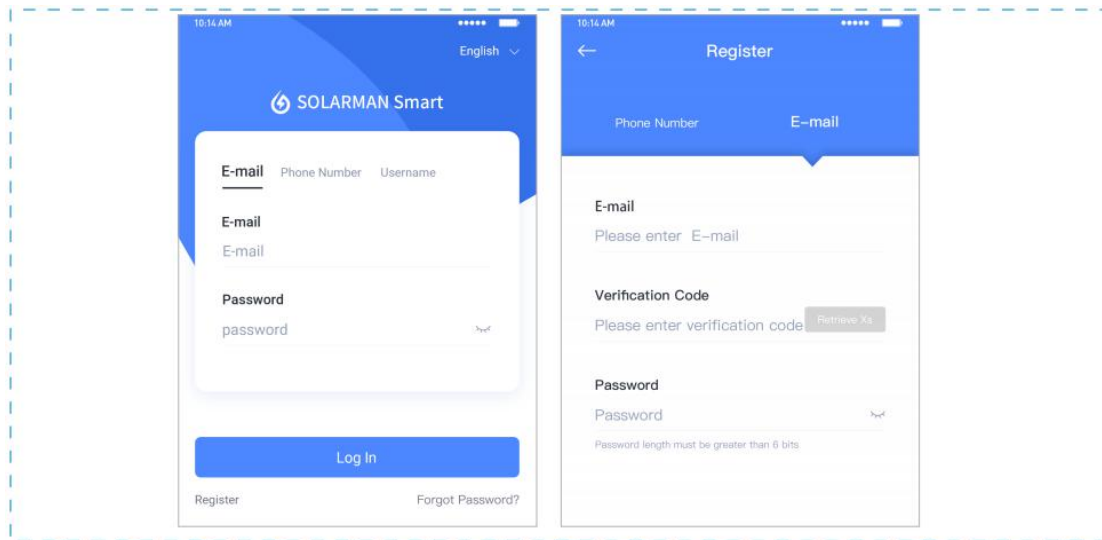
You can also login via WEB as below:

[pro.solarmanpv.com](http://pro.solarmanpv.com)

[home.solarmanpv.com](http://home.solarmanpv.com)

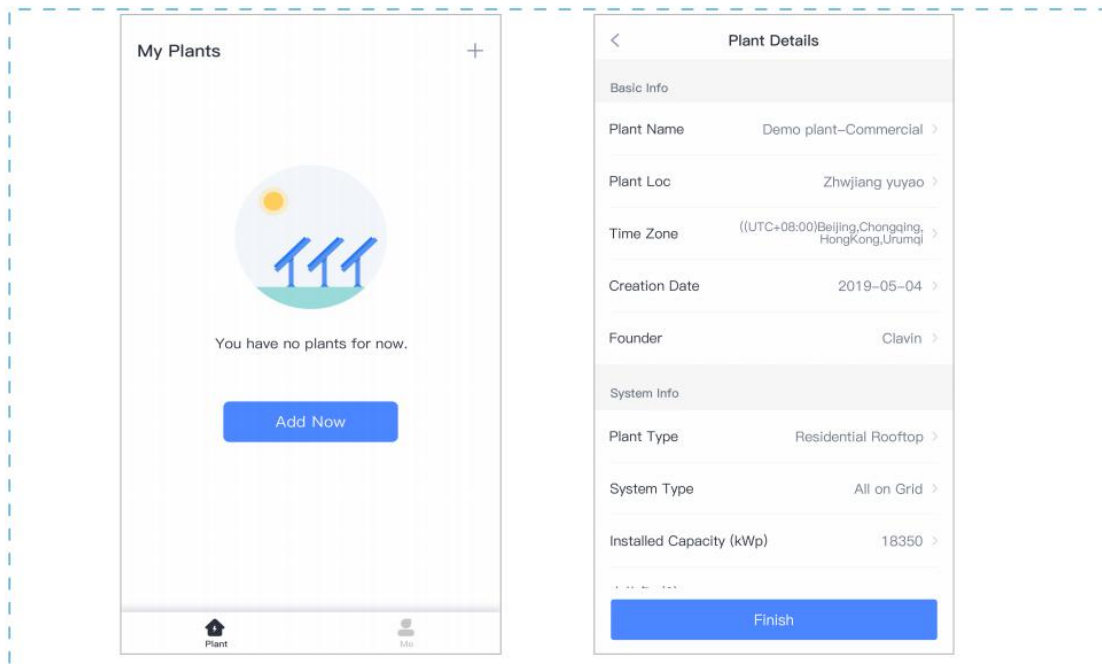
### 2. Registration on SOLARMAN SMART

Go to SOLARMAN SMART and register. Click “Register” and create your account here.



### 3. Create a Plant

Click "Add Now" to create your plant. Please fill in plant basic info and other info here.

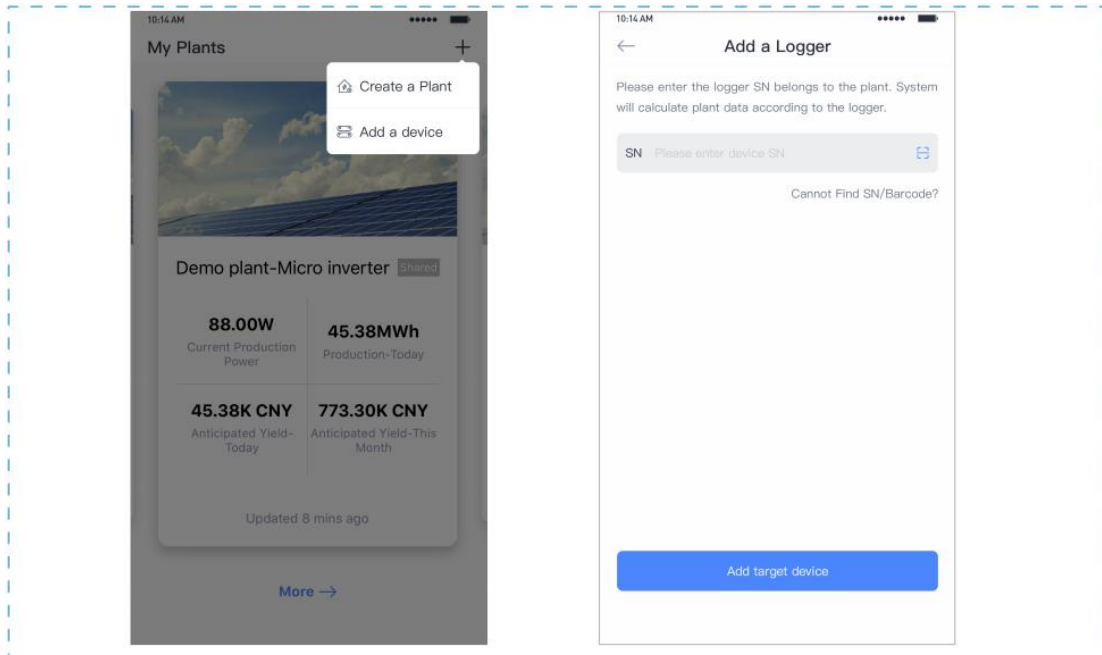


### 4. Add a Device

Method 1: Enter logger SN manually.

Method 2: Click the icon in the right and scan to enter logger SN You can find logger SN in the external packaging or on the logger body.





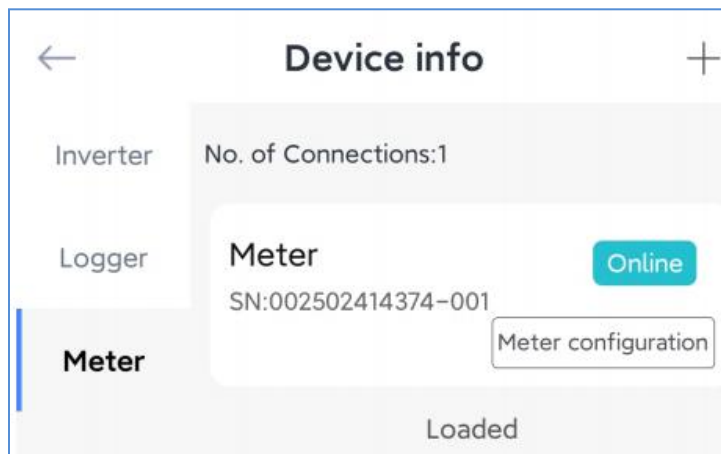
## 5. Meter Configuration

The aim of meter configuration is to send meter data to platform and calculate meter data.

### 5.1 Add a meter to plant via logger

SOLARMAN platform does not support adding a meter directly. Users can add a logger first and logger will send meter data to platform.

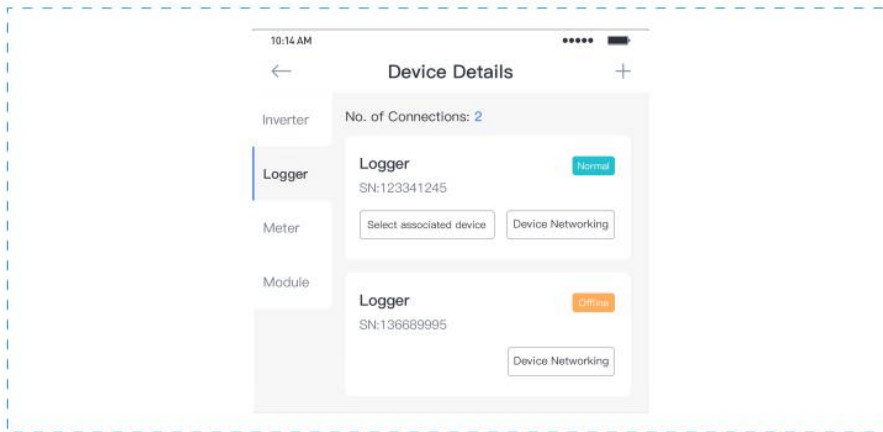
Connect the devices first. After logger is powered on and data is transmitting, target meter will be listed on device list.



## 6. Network Configuration


After the logger is added, please configure the network to ensure normal operation.

Go to "Plant Details"- "Device List", find the target SN and click "Networking".

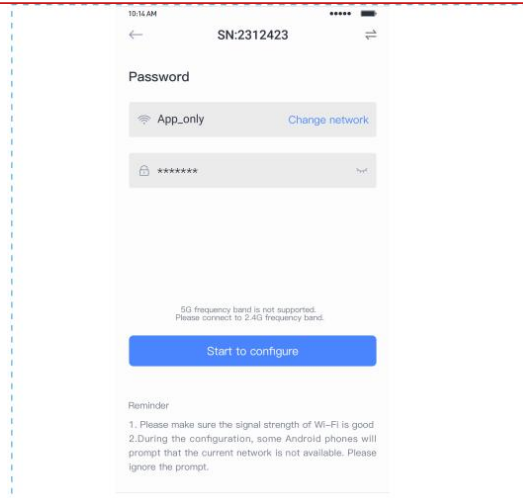


### Step 1: Confirm Wi-Fi Info

Please make sure your phone has connected to the right WiFi network. And click "Start".

 Notice: 5G WiFi is not supported .

Avoid the use of special characters in WiFi networks ( , ; = “ ” ’ )

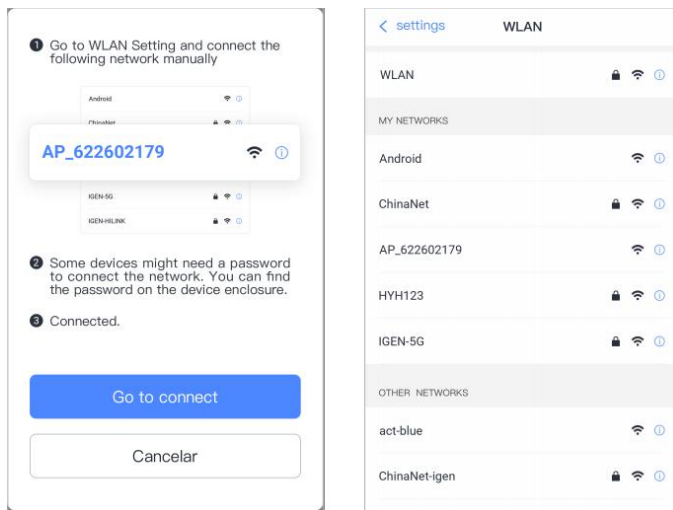


### Step 2: Connect to AP network

Click "Go to connect" and find the right "AP\_XXXXX" network (XXXXX refers to logger SN).

If the password is required, you can find the password on the logger body.

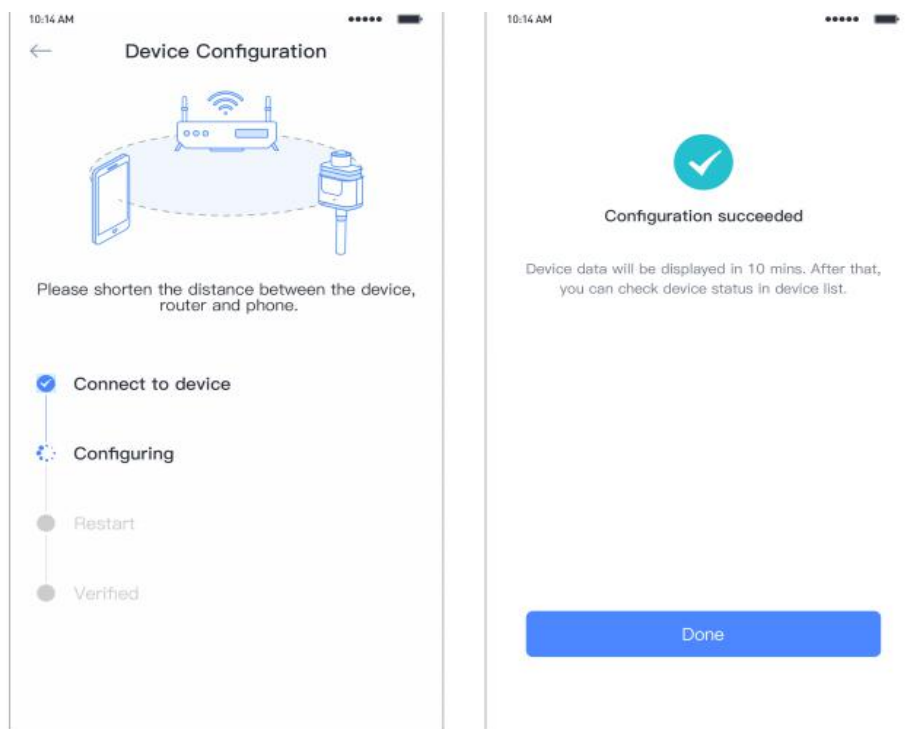
Go back to SOLARMAN Smart APP, after connecting to AP network.



### Step 3: Auto Configuration

Please wait for a while to complete the configuration. Then system will switch to the following page.

Click "Done" to check plant data. (Usually, the data will be updated in 10 mins)



If configuration failure occurs, please check the following reason and try it again.

- (1) Make sure WLAN is ON.
- (2) Make sure WiFi is normal.
- (3) Make sure wireless router does not implement the white-black list.
- (4) Remove the special characters in Wi-Fi network.
- (5) Shorten the distance between the phone and device.
- (6) Try to connect to other Wi-Fi.