

E-manager Pro Installation Guide

V1.2

E-manager Pro Installation Guide

1. Package list

Please check appearance and completeness for auxiliaries. Contact your distributor if missing or damages.

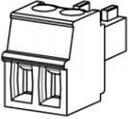
List	Name	Quantity
	E-Manager Pro	1
	Antenna	2
	2Pin PCB terminal	1
	6Pin PCB terminal	2

Table 1-1 Package list

2. Indication

This chapter will introduce the product appearance and interface

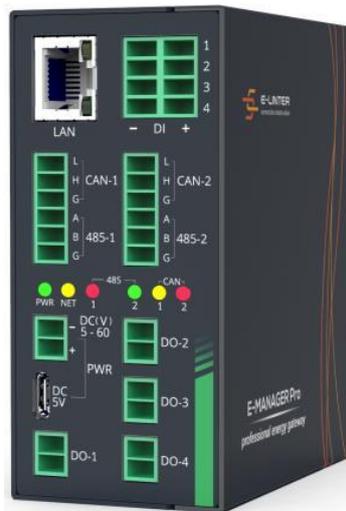


Figure 2-1 Product appearance indicator

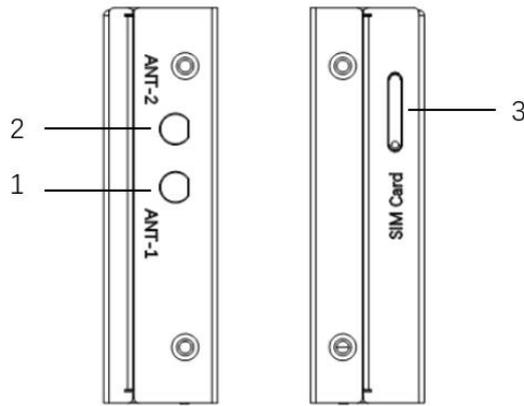


Figure 2-2 Side view

No.	Name	Description
1	ANT-1	Wi-Fi antenna
2	ANT-2	4G antenna
3	SIM Card	SIM Card slot

Table 2-1 Side interface introduction

Front panel interface view

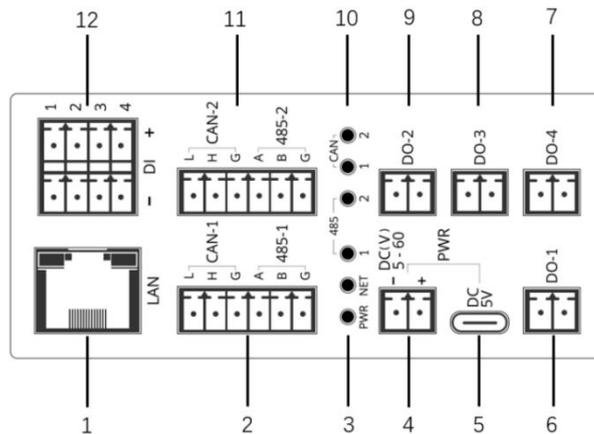


Figure 2-3 Front interface view

No.	Name	Description
1	LAN	RJ45 Ethernet
2&11	CAN & 485	CAN & RS-485
3&10	LED	PWR: Power indication NET: Cloud Comm 485-1&485-2: RS-485 Comm CAN-1&CAN-2: CAN Comm
4	DC 5-60V	DC 5-60V power terminal
5	DC 5V	DC 5V power
6&7&8&9	DO	Four channels DO output
12	DI	Four channels DI input

Table 2-2 Description of interfaces

3. Accessories(Optional)

If the E-Manager Pro needs to be installed outdoors or other places that are not waterproof, a waterproof box needs to be installed.

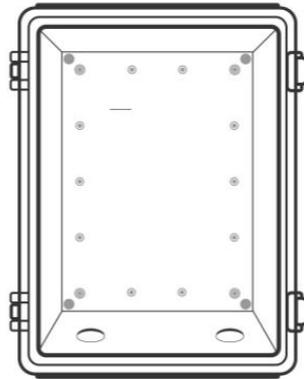


Figure 3-1 Waterproof case



Please pay attention to waterproof and sunscreen for the installation position of E-Manager Pro. Please do not install it in a place that can be exposed to rain or directly exposed to the sun.

4. Installation

4.1. Fixed E-manager Pro

E-Manager Pro supports rail installation. The specific steps are shown in the figure below, hang the E-Manager Pro on the rail hook.

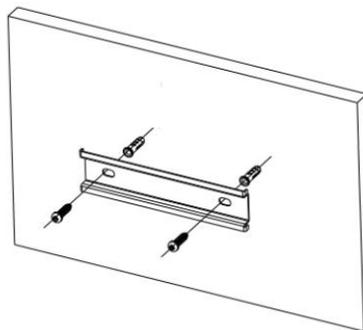


Figure 4-1 Rail installation

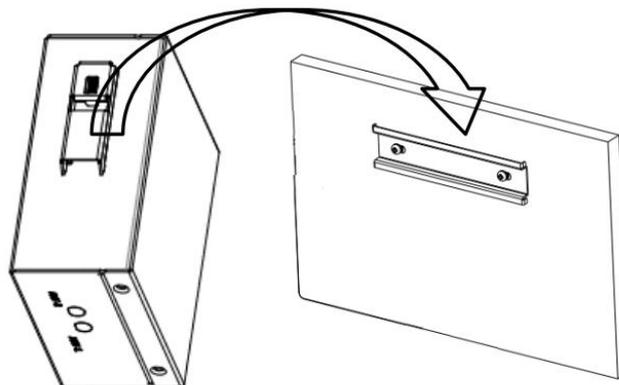


Figure 4-2 E-manager Pro installation

4.2 Antenna installation

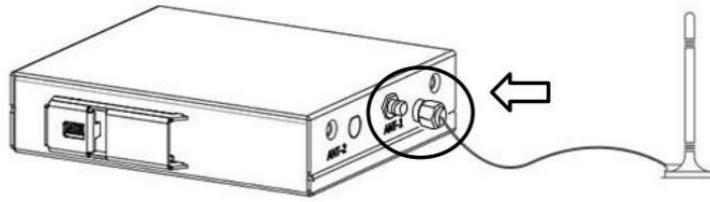


Figure 4-3 Antenna installation

4.3 Power connection

The E-Manager Pro has USB Type-C and PCB terminal power, just choose one or the other.



When wiring the DC 5-60V terminal, do not connect the positive and negative poles in reverse, otherwise it will damage the product.

4.4 Communication connection

The E-Manager Pro can support Wi-Fi, 4G, Ethernet communication at the same time. The specific configuration method is described in the following chapter.



When connecting to the network, E-Manager Pro should be in the power-on state.

4.5 Wi-Fi connection

The Wi-Fi communication diagram of E-Manager Pro is shown in the following figure. When the user needs to use Wi-Fi communication, the user needs to download an APP(WiseSolar Plus), and configure the E-Manager Pro to connect to the user's router and cloud server.

In addition, please install the suction cup antenna on the antenna interface of the E-Manager Pro before using.

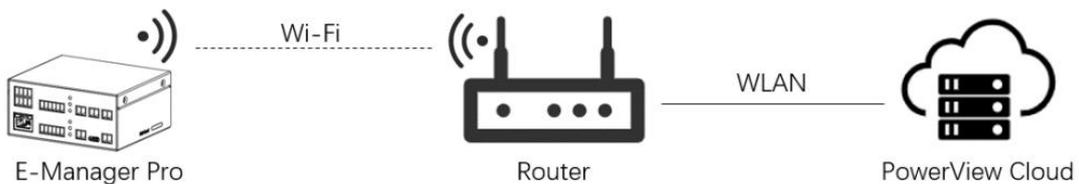


Figure 4-4 Wi-Fi connection diagram



Please place the antenna in a position with better signal to ensure stable and reliable communication.

To enter the web server page, you need to connect to a Wi-Fi hotspot, the hotspot name is "EAPxxxxx" and the password is "12345678", where "xxxxx" is the last five digits of the E-Manager Pro's serial number, such as Figure 4-5, and enter the "10.10.10.1" address in the browser to open the web server page, as shown in Figure 4-6.

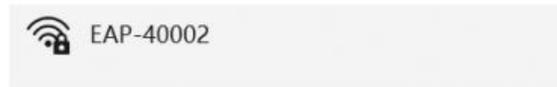


Figure 4-5 Wi-Fi hotspot

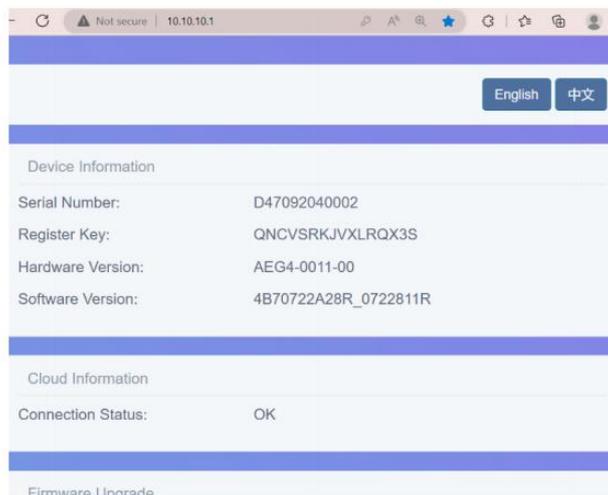


Figure 4-6 Web serve page

 **NOTE**

WiseSolar+APP can communicate with inverter through WIFI/4G stick to realize the local and remote maintenance. User can perform the information query, alarm query, event query, parameter setting, etc. of inverter through WiseSolar+ APP.

Download and install WiseSolar+APP:

- Method 1: search WiseSolar+ and download the WiseSolar+ APP through the following application market, and install the WiseSolar+ APP.
 1. Application market (Android Chinese user) ;
 2. APP store (iOS) .
- Method 2: scan the QR code below to download and install the WiseSolar+ APP according to prompting.



4.6 4G connection

E-Manager Pro has 4G communication function. When there is no Wi-Fi and Ethernet signal coverage on site, 4G function can be used for network communication. The specific method is to purchase a Nano Sim card that supports 4G communication and insert it into the SIM card slot on the right., also need install the suction cup antenna in a suitable location.



Figure 4-7 4G connection diagram

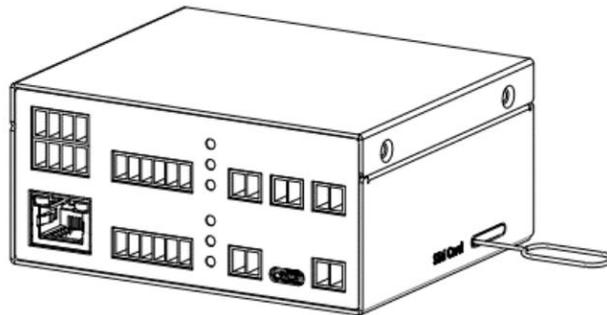


Figure 4-8 Pull out the SIM card slot

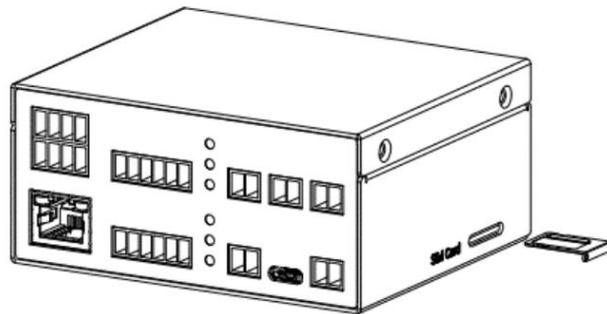


Figure 4-9 Insert the SIM card and slot

4.7 Local Scada communication

E-Manager Pro and Scada communicate through the router, support Modbus RTU over TCP transparent protocol. Communication needs to set the address and port of E-Manager Pro on Scada. After setting, E-Manager Pro will forward the received original message to the corresponding RS-485serial port, and forward the device response message to Scada. This allows the gateway and Scada to establish communication. E-Manager Pro also supports Modbus RTU broadcast message transmission,improving the response speed of the local control system.

The Scada communication port for E-Manager Pro is: 6666. The IP address can be viewed by referring to below figure , log in to the internal web page, and use Wi-Fi IP or Ethernet IP.

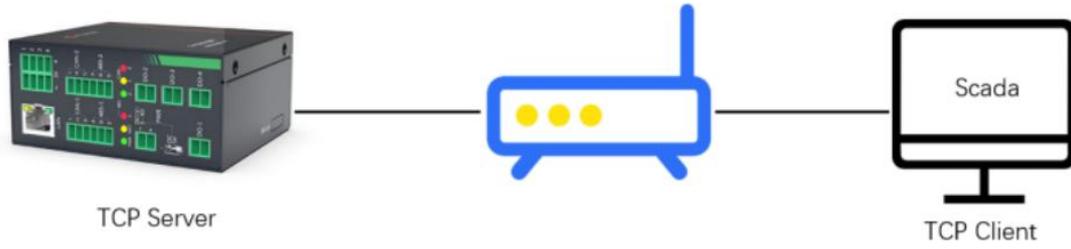


Figure 4-10 Scada communication

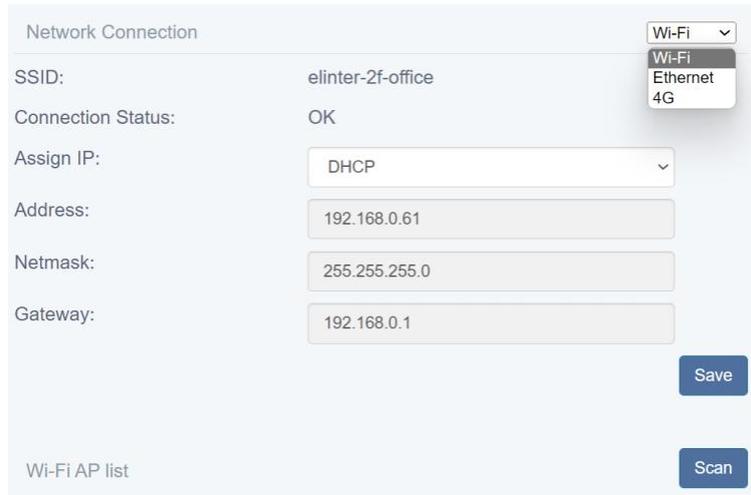


Figure 4-11 Network Connection

4.8 Waterproof case installation(Optional)

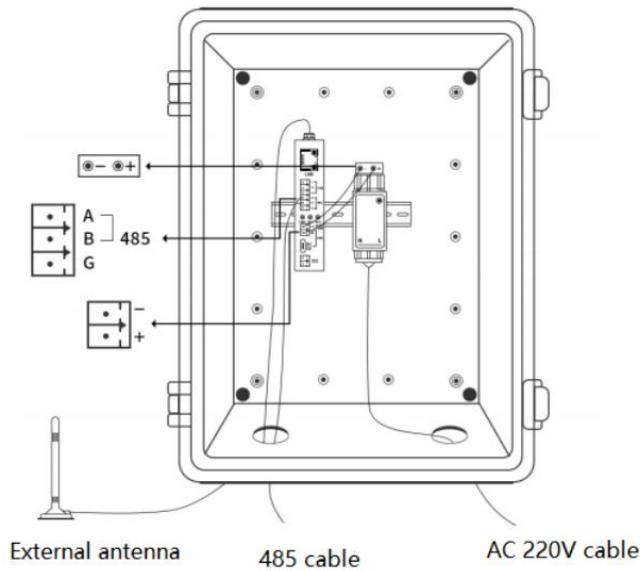


Figure 4-12 Waterproof connecting diagram

5. Electrical connection

If you have multi-inverter in a PV station, before the electrical connection with the inverter, you need to set the communication address for each inverter.

Hardware dial address of inverter address is using binary method. The communication address of each inverter should be different.

SPI X2 Series: 1 is the address dial code, from **left to right**, 10000 means the address is 1. 2/3 are the connection terminals of RS485.



Figure 5-1 Example dip switch on communication board(X2 Series)

SPI 50K-60K series: 1 is the address dial code, from **left to right**, 10000 means the address is 1. 2/3 are the connection terminals of RS485.

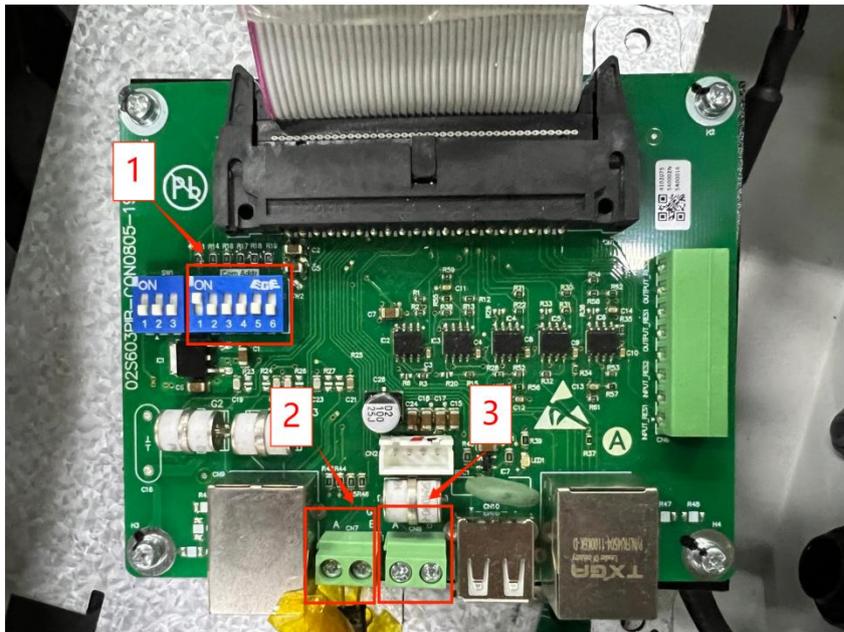


Figure 5-2 Example dip switch on communication board(SPI 50-60K Series)

SPI 100K and above power series: 1 is the address dial code, from right to left, 000001 means the address is 1. 2/3 are the connection terminals of RS485.

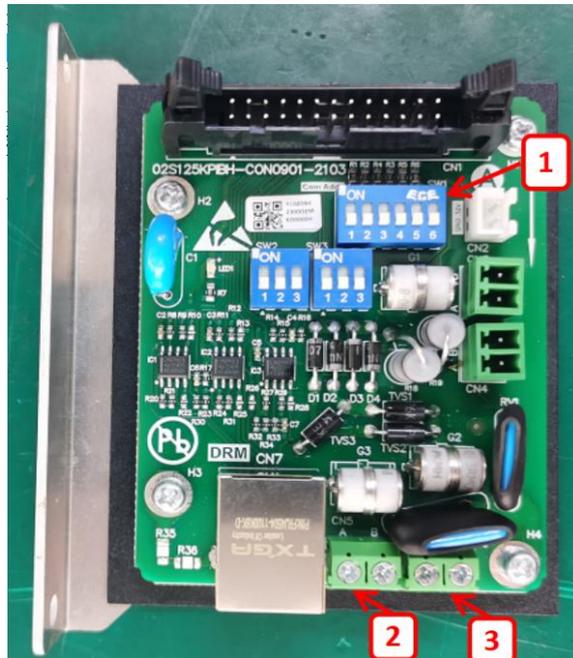


Figure 5-3 Example dip switch on communication board(SPI 100K and above power series)
(For different model of Kehua inverter it may differ)

A. E-manager Pro that only for monitoring and control

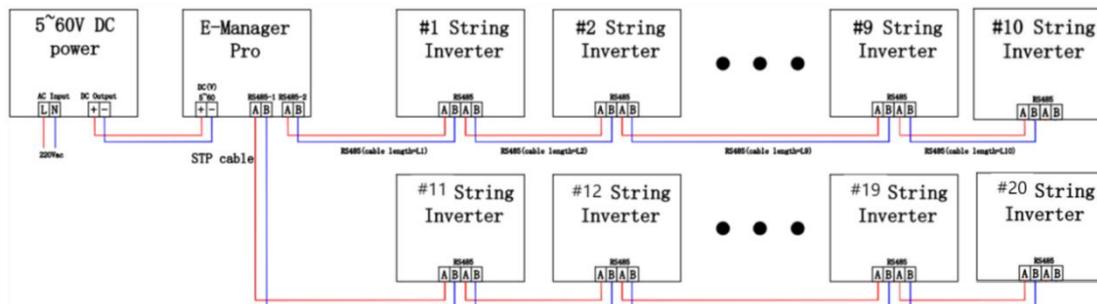


Figure 5-4 E-Manager Pro connecting diagram

Note: E-Manager Pro has two RS485 port, for each RS485 port can max support 10 devices access, so max can support 20 devices access

After the electrical connection, use the computer, Search the AP hotspot of E-manager Pro. The hotspot information is EAP-XXXXX (the last five digits of the E-Manager Pro SN). The password is 12345678. Then enter 10.10.10.1 in the browser to log in to the configuration page.

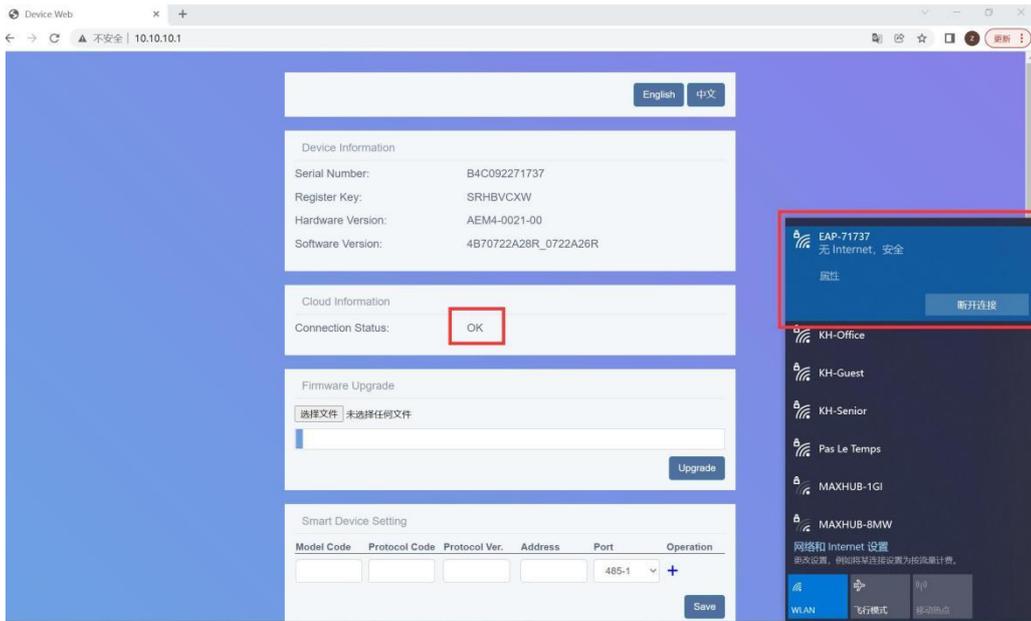


Figure 5-5 E-Manager Pro web setting

Select the configured network mode, select the network, and click save.

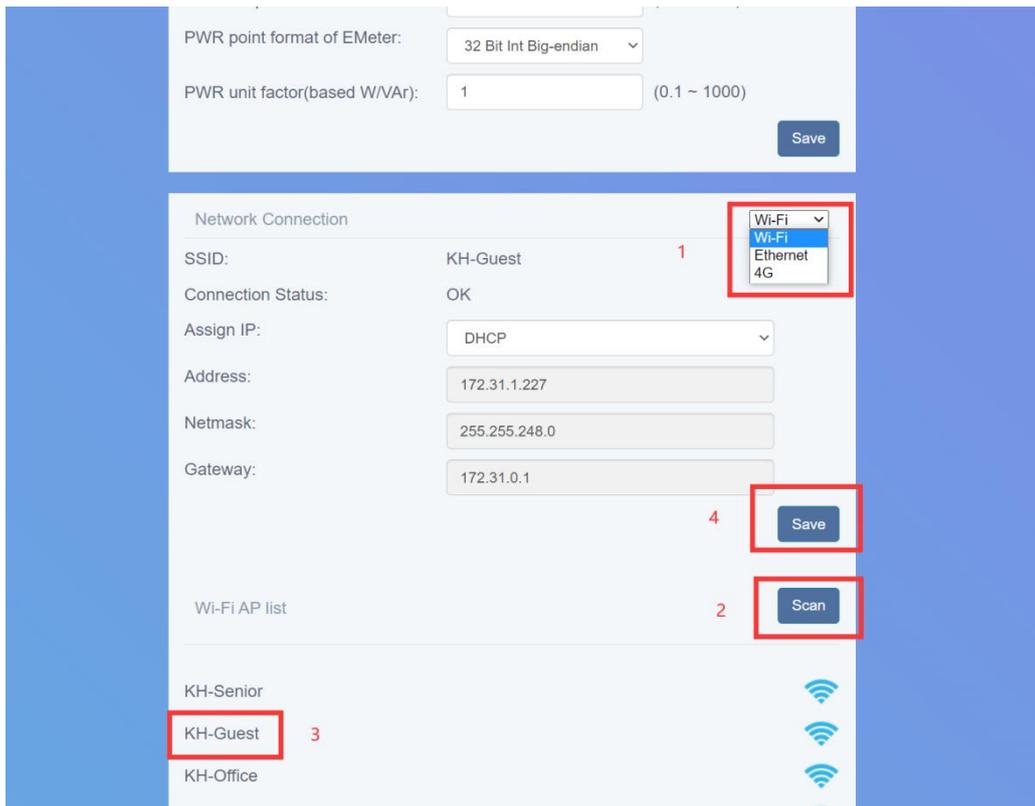


Figure 5-6 E-Manager Pro web setting

B. E-manager Pro used for zero-export function

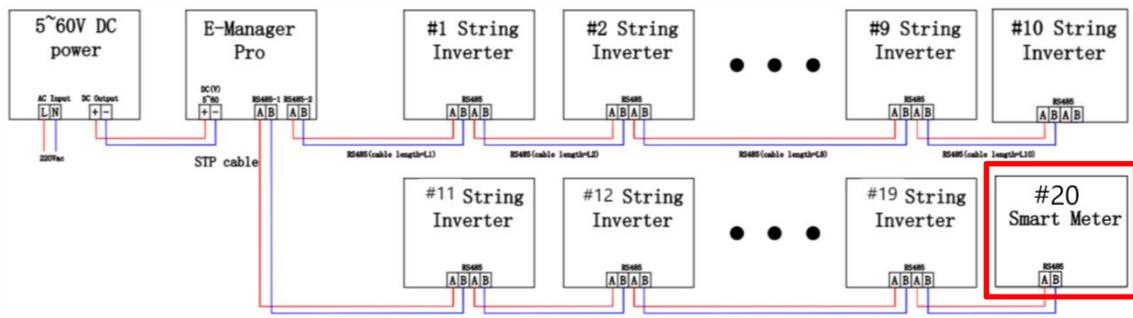


Figure 5-7 E-Manager Pro connecting diagram with smart meter

Search the AP hotspot of Emanager. The hotspot information is EAP-XXXXX (the last five digits of the E-Manager SN). The password is 12345678. Then enter 10.10.10.1 in the browser to log in to the configuration page.

Smart Device Setting

Model Code	Protocol Code	Protocol Ver.	Address	Port	Operation
9002	1	V1.01	1	485-2	- ~

Meter default address is 1, the port according to the actual connection

Zero-export Setting

Enable:

Installed capacity: 250.000 (1-5000KWp)

Active PWR output of grid: 0 (-100 ~ 100)%

Reactive PWR output of grid: 0 (-60 ~ 60)%

EMeter Setting

EMeter Model Code: 9002 (0 ~ 60000)

Active point Addr of EMeter: 5404 (0 ~ 60000)

Reactive point Addr of EMeter: 5412 (0 ~ 60000)

PWR point format of EMeter: 32 Bit Float Big-endian

PWR unit factor(based W/VAr): 1000.0 (0.1 ~ 1000)

Default

According to the situation
"0" is 0 input to grid

Figure 5-8 E-Manager Pro web setting for smart meter

(1) Set the parameters of the meter in the Smart Device Setting. As shown in the figure5-8, the red area is default, and the address and port of the blue area are input according to the actual situation.

(2) The zero-export function need to be turned on, the total power of the installation can be filled in, and the total power of the control output can be selected.

The smart meter can support CHINT DTSU666 series. **All device addresses must be different.**

C. E-Manager Pro used for monitoring & zero-export & weather station access

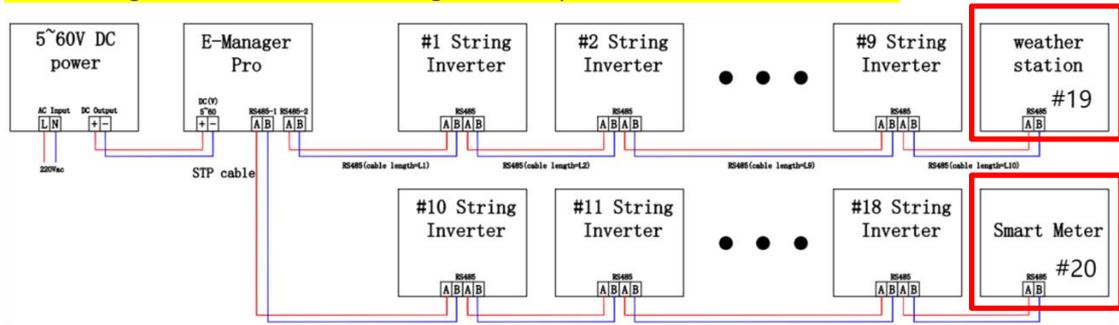
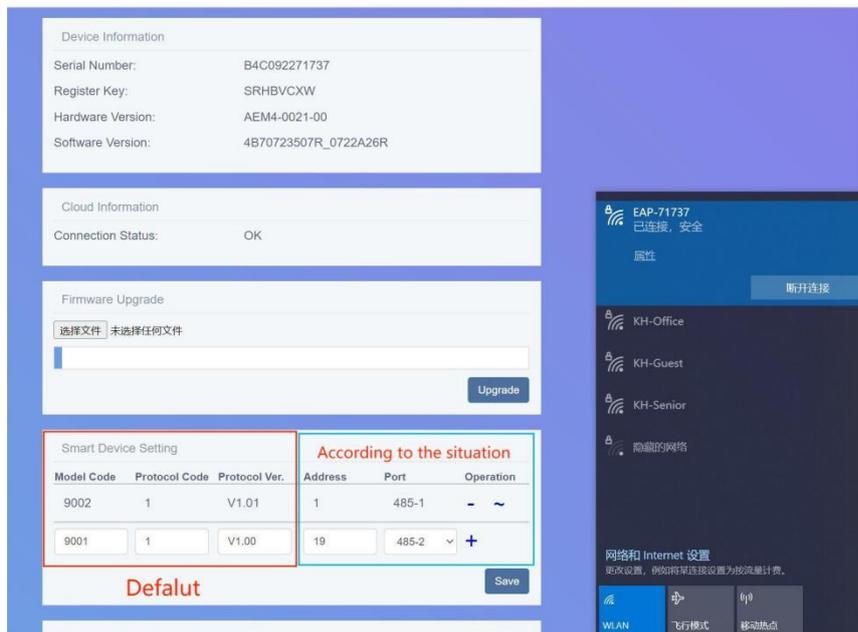


Figure 5-9 E-Manager Pro web setting with smart meter and weather station

Search the AP hotspot of Emanager. The hotspot information is EAP-XXXXX (the last five digits of the E-Manager SN). The password is 12345678. Then enter 10.10.10.1 in the browser to log in to the configuration page.



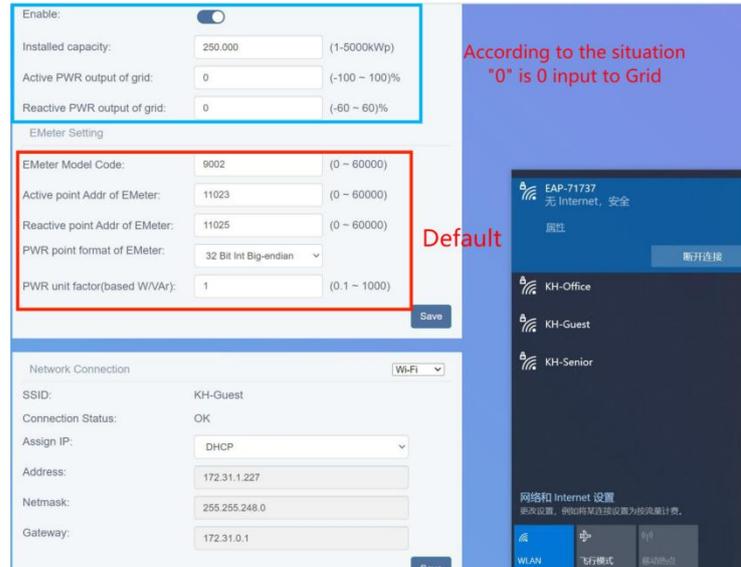


Figure 5-10 E-Manager Pro web setting with smart meter and weather station

- (1) Set the parameters of the smart meter and the weather station in the Smart Device Setting. As shown in the figure 5-10, the red area is consistent, and the address and port of the blue area are input according to the actual situation.
- (2) The zero-export function need be turned on, the total power of the installation need be filled in, and the total power of the control output need be selected.
- (3) Weather station compatible list:

<https://www.sevensensor.com/kehua-weather-station>

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