



Version 01

User Manual

iESS-M1

*Smart Energy,
Sustainable Solutions*

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1 About this manual

This manual is an integral part of iESS-M1 smart meter. It mainly introduces the assembly, installation, electrical connection, debugging of the products. The products, services or features purchased are subject to the commercial contracts and terms of manufacturer. All or part of the products, services or features described in this document may not be within the scope of purchase. This document serves only as a guide to use, and all statements information and recommendations in this document do not constitute any express or implied guarantee.

1.1 How To Use This Manual

Before installing and using meters, please read this manual carefully, understand the safety information and be familiar with the functions and characteristics of inverters.

The manual content of subsequent versions of the inverter may be subject to change. The latest manual can be found at manufacturer.

1.2 Target Groups

This manual is applicable to the electrical installers with professional qualifications and end-users, who should have the following skills:

- ① Training for installation and commissioning of electrical system, as well as dealing with hazards.
- ② Knowledge of the manual and other related documents.
- ③ Knowledge of the local regulations and directives.

2 Safety Instructions

2.1 Safety Notes

- ① Before installation, please read this manual carefully and follow the instructions in this manual strictly.
- ② Installers need to undergo professional training or obtain electrical related professional qualification certificates.
- ③ Apart from performing work at the wiring terminal (as instructed in this manual), touching or changing components without authorization may cause injury to people, damage to inverters and annulment of the warranty.
- ④ All electrical installations must conform to local electrical safety standards.
- ⑤ If the meter needs maintenance, please contact the local designated personnel for system installation and maintenance.

2.2 Statement

Under any of the following circumstances, it has the right not to bear the quality assurance:

- ① Damages caused by improper transportation.
- ② Damages caused by incorrect storage, installation or use.
- ③ Damages caused by installation and use of equipment by non-professionals or untrained personnel.
- ④ Damages caused by failure to comply with the instructions and safety warnings in this document.
- ⑤ Damages of running in an environment that does not meet the requirements stated in this document.
- ⑥ Damages caused by operation beyond the parameters specified in applicable technical specifications.
- ⑦ Damages caused by unauthorized disassembly, alteration of products modification of software codes.
- ⑧ Damages caused by abnormal natural environment (force majeure, such as lightning, earthquake, fire, storm, etc.).
- ⑨ Any damages caused by the process of installation and operation which don't follow the local standards and regulations.
- ⑩ Products beyond the warranty period.

3 Product Description

3.1 System Introduction

iESS-M1 are smart meters and support different voltage levels and power grid. The iESS-M1 can collect the data in real time, including grid voltage, current, power and energy yield. By cooperating with monitoring system, iESS-M1 can realize real-time monitoring of load consumption.

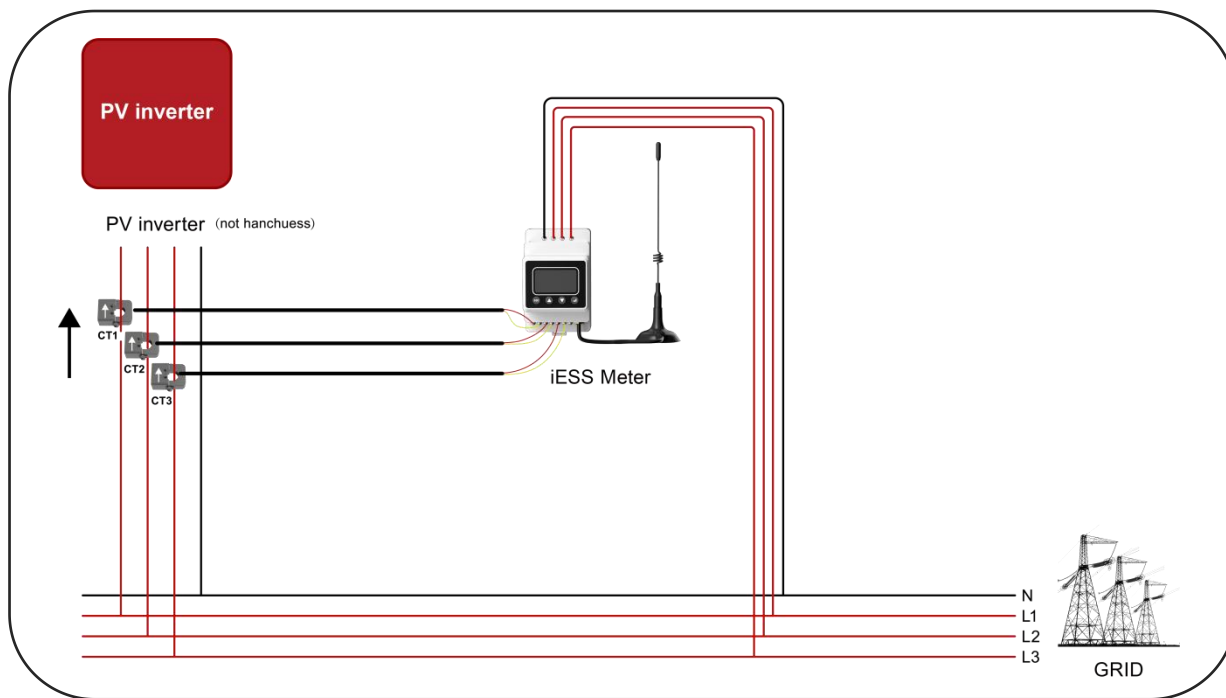



Figure 1 iESS-M1 connected with inverter

 **NOTE** More application scenarios of iESS-M1 are still under development, please contact us for details.

3.2 Product Appearance

Smart meter appearance:

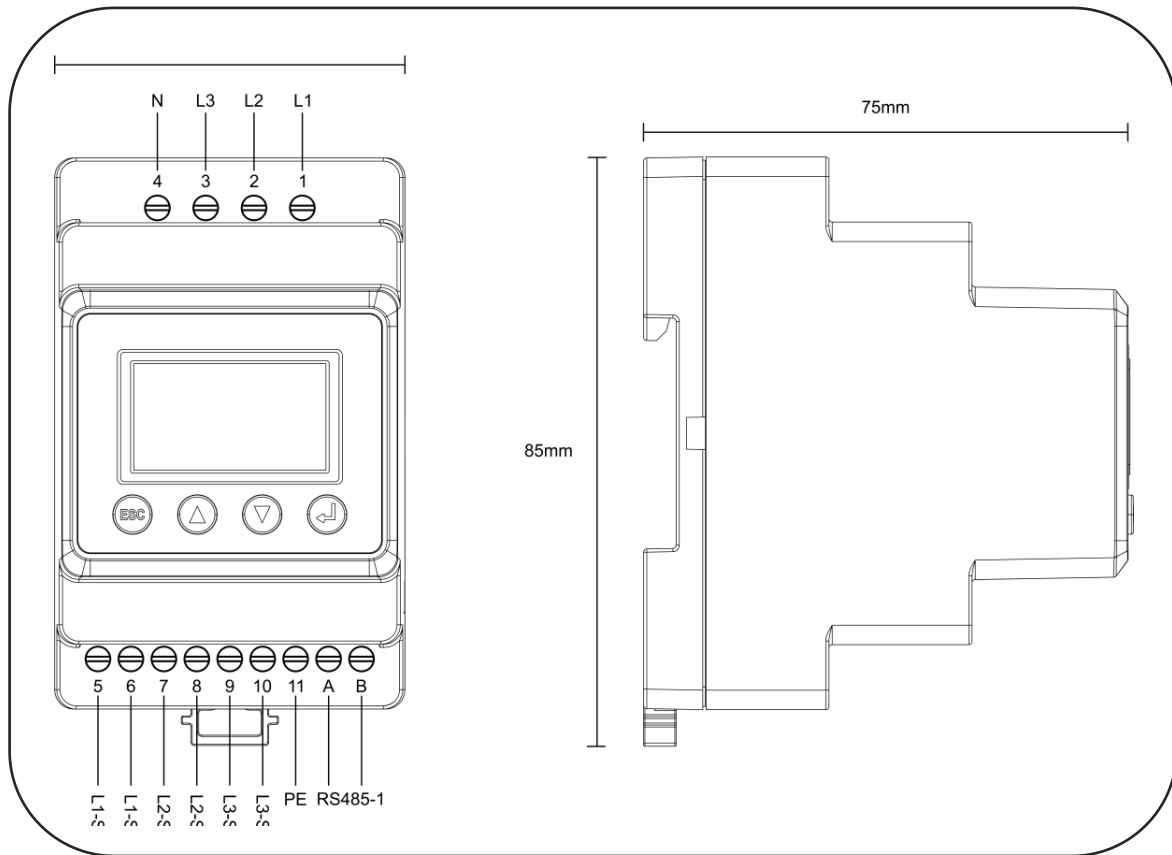


Figure 2 Smart meter appearance

CT appearance:

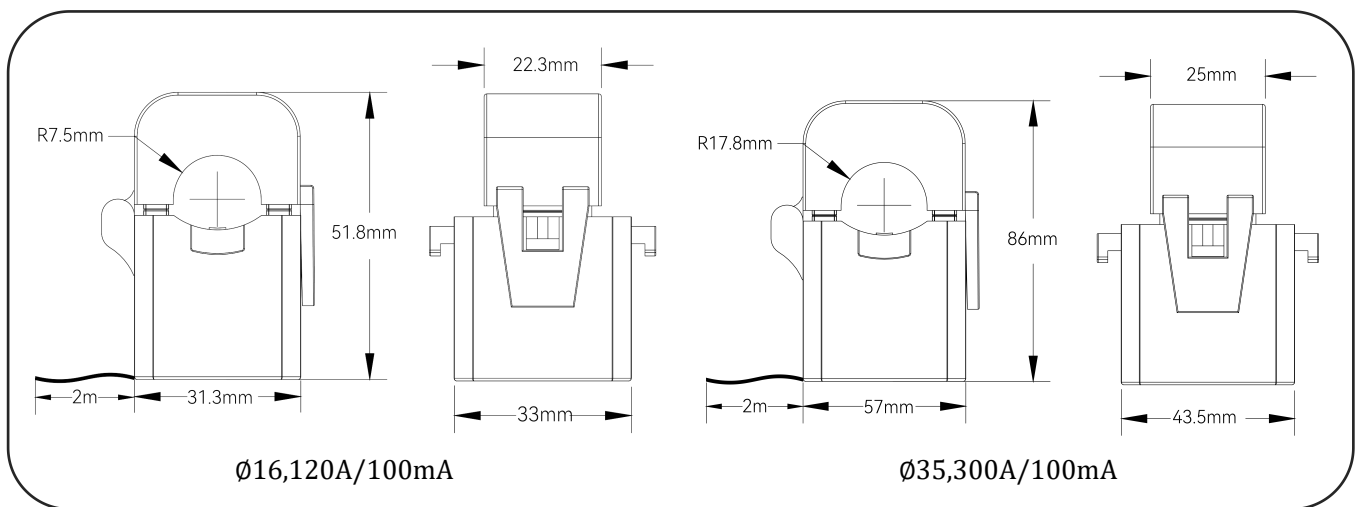


Figure 3 CT appearance

Wiring terminals as shown in the table below.

No.	Definition	Function
1	L1	L1/L2/L3/N connect to grid to detect power grid voltage.
2	L2	
3	L3	
4	N	
5	L1-S1	To detect the CT current and direction.
6	L1-S2	
7	L2-S1	
8	L2-S2	
9	L3-S1	
10	L3-S2	
11	PE	Ground Connection
ANT		WiFi antenna port.
LAN		LAN communication port.
Type-C		Specified Debug Interface. Do not use it by non-professionals.



NOTICE

This meter can only be matched with the CT shipped with the meter, and manufacturer will not be responsible for malfunctions if not use the CT shipped with the meter.



NOTE

The iESS-M1 will be delivered with matched CT(s) supplied are calibrated and tested to be used with the device in this package. These CT(s) cannot be interchanged within the same device and cannot be used for other devices from other packaging.



NOTE

The iESS-M1 is not delivered with CT. Customers are required to purchase qualified standard CT with secondary side output of 5A, CT accuracy of 0.5, and maximum CT conversion ratio of 5000:5.

3.3 Packing List

Item	Name	Quantity	Note
1	SK	1pcs	/
2	CT	1-3pcs	Only iESS-M1 Version
3	WiFi ANT	1pcs	Only iESS-M1
4	Cord and terminal	12pcs	/

3.4 Storage

- ① Do not dispose of the original packing case. It is recommended to store the device in the original packing case when the device is decommissioned.
- ② The storage temperature and humidity should be in the range of -30°C~+ 60°C, and less than 90%, respectively.

4 Installation

iESS-M1 series is IP20 and can be installed indoors only.

4.1 Smart Meter

- ① Pull to release the retaining clip.
- ② Mount the meter on the track and push the Retaining clip up (a click sound indicates it is installed well).

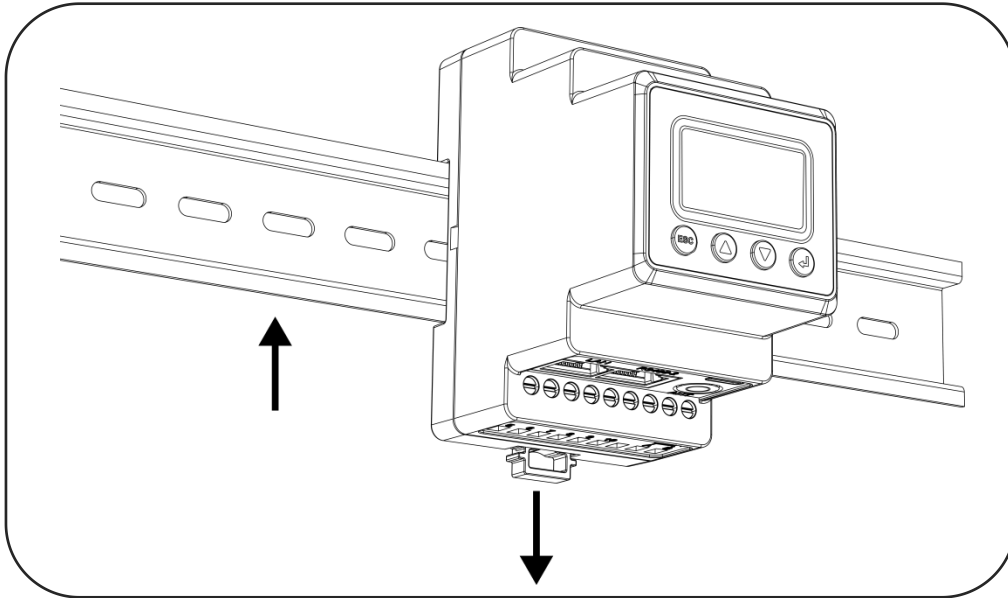


Figure 4 Smart Meter

4.2 Current Transformer

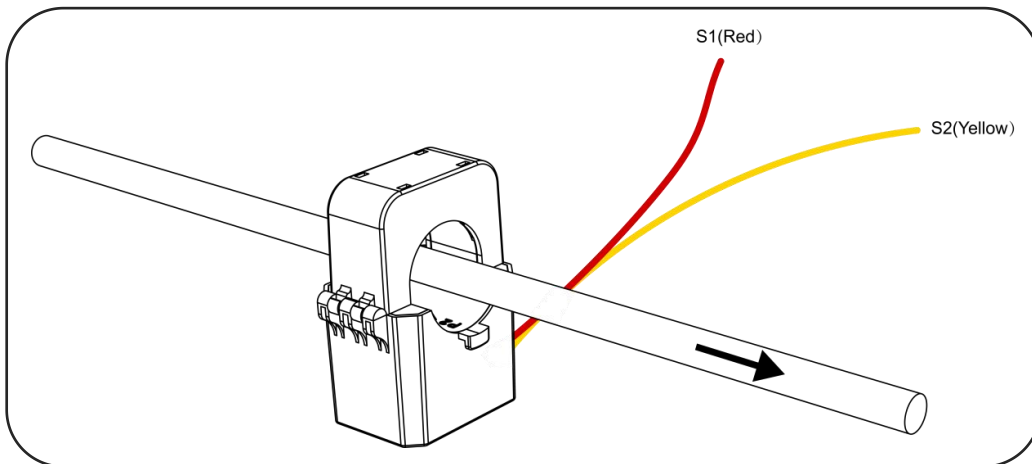


Figure 5 CT



NOTE

The installation direction of the CT varies according to the application scenario. Please follow the directions of the CT as shown in 3.1 System Introduction. Incorrect connection or direction will cause incorrect data.

5 Operating Instruction

5.1 Screen Introduction

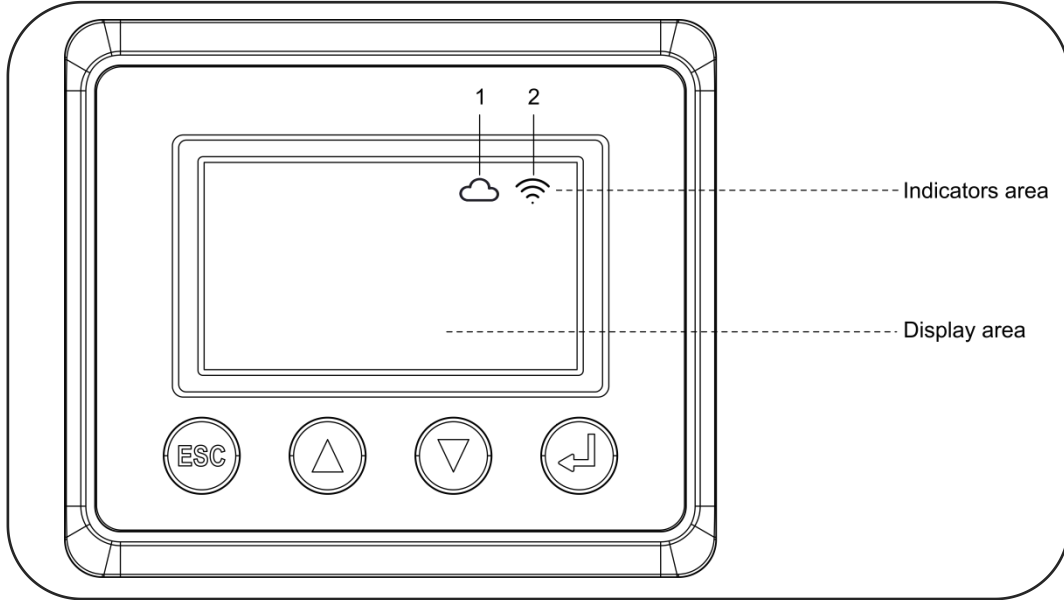


Figure 6 Meter screen

Item	Indicator		Status	Description
1		Network status	Slow flashing	Connecting to the Cloud.
			Always On	Connected to the cloud.
			Off	No network.
2		LAN	Slow flashing	Connecting to the router via LAN.
			Always On	Connected to the router via LAN.
			Off	No network cable plugged in.
		WiFi	Slow flashing	Connecting to router via WiFi.
			Always On	Connected to router via WiFi.
			Off	No network or using LAN port.

Tips: When the cable is plugged in, WiFi is automatically turned off.

5.2 Key Instructions



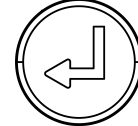
key



key



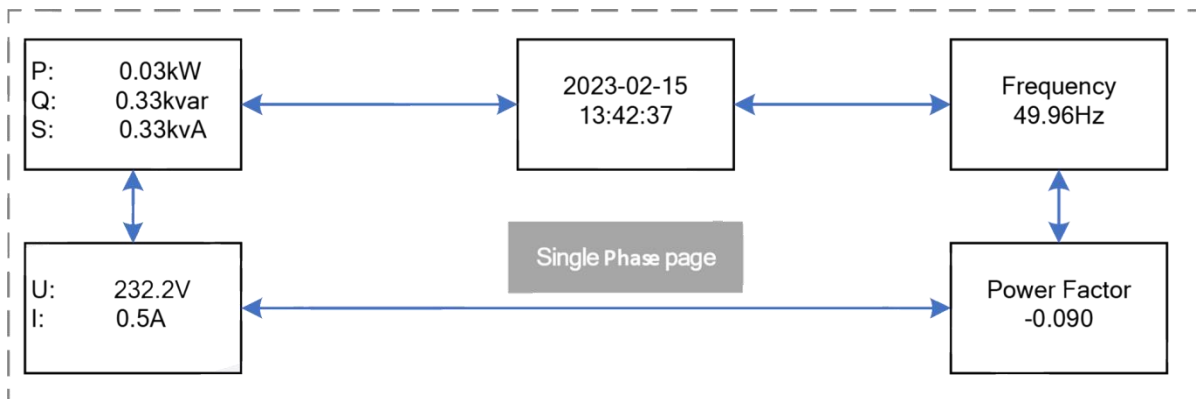
key

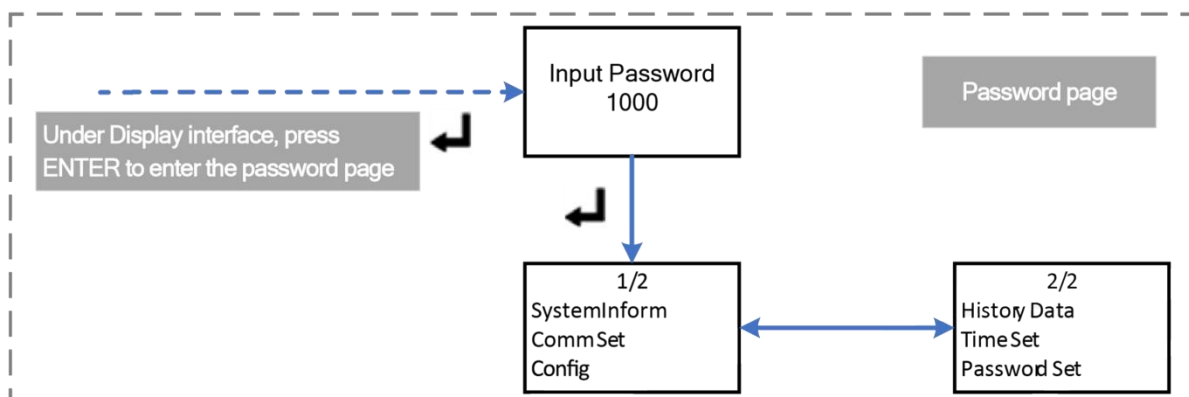
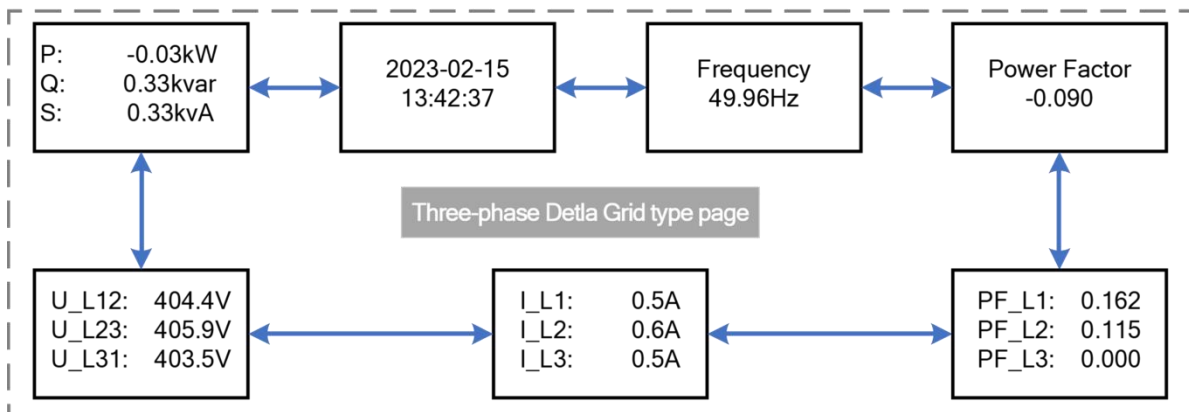
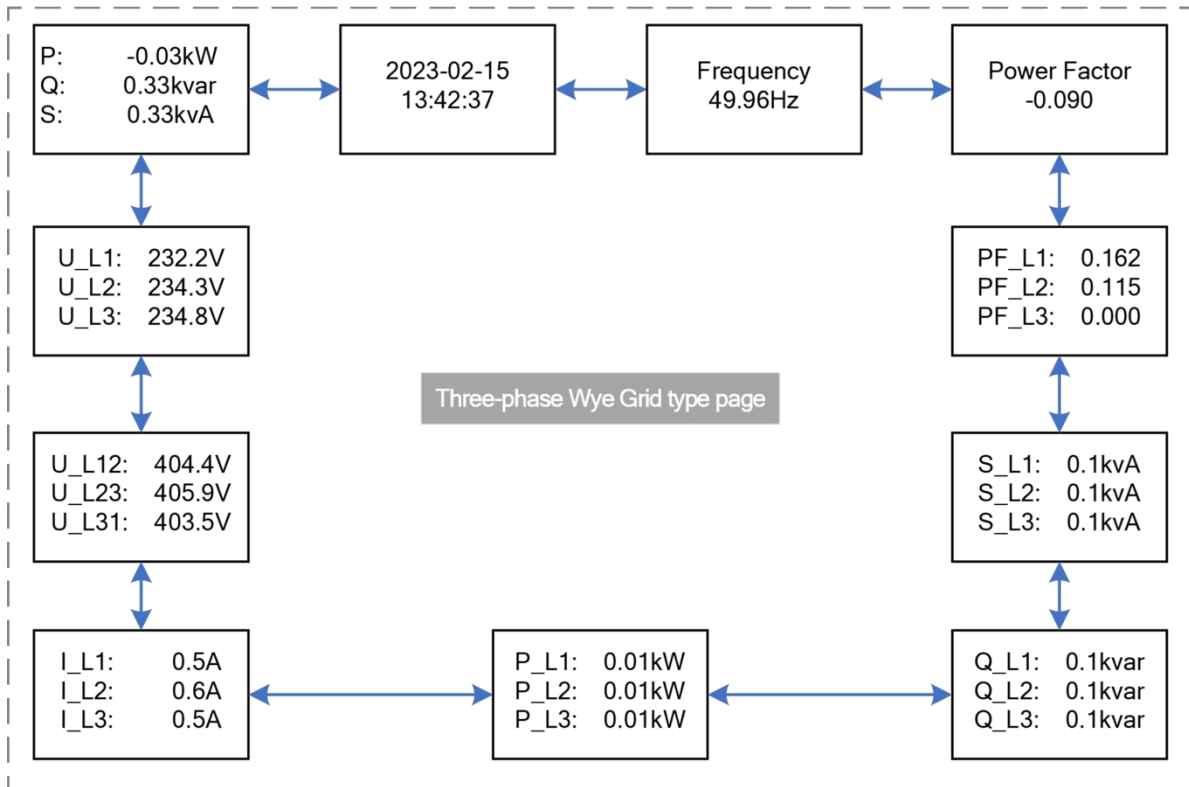


key

Key	Function
	Under the setting page, press this key to return to the upper menu.
	Under Display interface, press this key to move the cursor to the upper part; Under Setting interface, press this key to toggle level menus or increase the value.
	Under Display interface, press this key to move the cursor to the down part; Under Setting interface, press this key to toggle level menus or decrease the value.
	Under Display interface, press this key to enter the password page for parameters setting; Under Setting interface, press this key to confirm the selection of the items and modification of parameters.

5.3 Display Interface



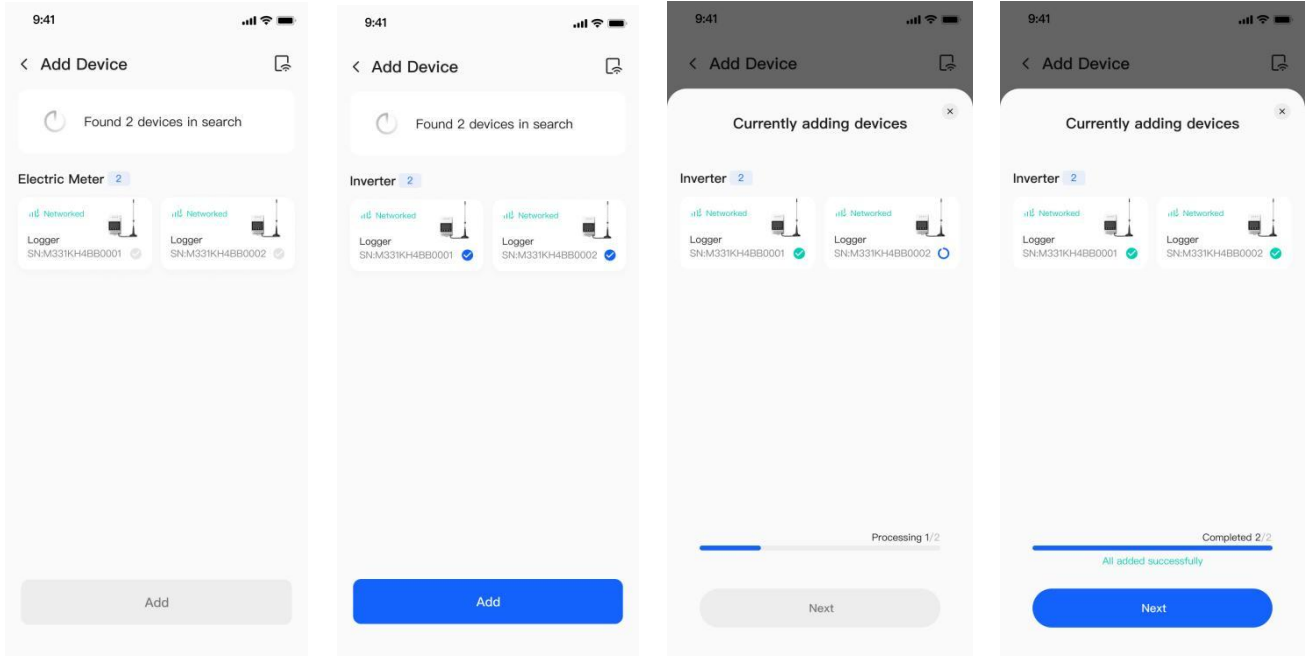


5.4 iESS-M1 WiFi Configuration

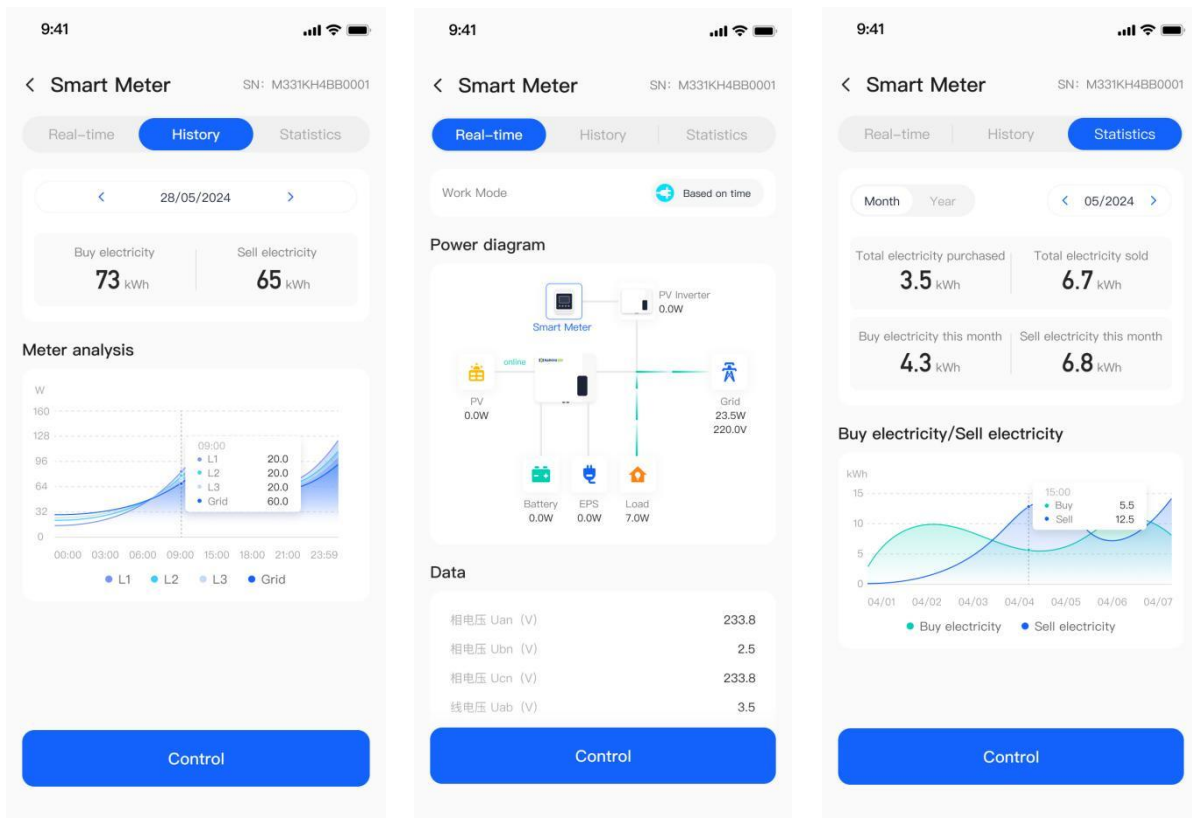
Please download the HNAHCU ESS app by scanning the QR code or from the APP Store.

Step 1: Select the home WiFi network you want to connect to (not 5G WiFi) and enter your WiFi password.

Step 2: Turn on your phone's Bluetooth, then select the devices you want to bind. Tap "Add" to add the devices to your station.



Step 3: After the devices are connected to the network and bound successfully, you will see the page shown in Figure.



6 Appendix

6.1 Technical Parameters

Model	iESS-M1
Single and power input	
Voltage	230/400V, 3~
Frequency	50~60Hz
Current	120A/100mA 300A/100mA
Current overload	Continue: 1.2 times; instantaneous: 2 times/10
Voltage input impedance	>1MΩ
Accuracy	
Current/Voltage	0.5%
Frequency	±0.01Hz
Active Power	Class 0.5S
Reactive Power	Class 0.5S
Energy	Class 0.5S
General data	
Over voltage category	Ⅲ
Dielectric strength	Resistance from signal, power supply and output terminal to shell > 100MΩ
Withstand voltage	Input and power supply >1.5kV
Communication	WiFi/LAN/BLE
Display	OLED
Terminal capacity	0.5~4mm ²
Size (L*W*H)	85*54*75mm
Weight	150g
Protection class	IP20 (for indoor use)
Installation method	35mm DIN Rail
Operating temperature	-30~+60°C
Operating humidity	<95%, No Condensation
Operating altitude	<3000m

6.2 Contact Information

Should you have any question about this product, please contact us. We need the following information to provide you the best assistance:

- Model of the device
- Serial number of the device
- Date of the device
- Fault code/name
- Brief description of the problem



Android APP



iOS APP

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