

WIFI Smart Switch Electricity Meter



CE RoHS

USER' S MANUAL

Overview

Single-phase intelligent monitoring equipment is a high-tech product, manufactured by specific integrated circuit, latest microelectronics technology and SMT process design. The control chips of this meter use professional metering Soc, supporting current dynamic range of 5000:1, with active power measurement error less than 0.1%, this meter can provide industrial-grade precision measurement for modules. This meter has higher integration level and superior anti-electromagnetic interference performance. It also designed according to the features of China Power Grid, which has the characteristics such as ultra-wide operating voltage range, high reliability, long working life, high precision and low power. This product can be used to measure single-phase AC active energy with the rated frequency of 50/60Hz, it meets the technical requirements in the lever1 and lever 2 static AC active energy meter of national standard GB/T17215-1998.

Main Features

1. Using LCD liquid crystal display to show electricity information, under normal use conditions, the service life of LCD liquid crystal display is over 10 years.

2. With power pulse output for meter calibration, and passive photoelectric isolated OC gate output port, the pulse width is 80ms±20ms; The waveform is a square wave (Optional)
3. Using super bright, long life LED working indicator. The pulse indicator (red) flashes when there is a pulse.
4. With UART interface communication method, it can be expanded to other communication methods.

Technical Parameters

1. Model specifications

Model	Precision	Reference Voltage (V)	Calibrator Current (A)	Meter Constant (imp/kWh)
1.0	110V-230V	5 (A0)	1200	

2. Basic error

Load Current	Power Factor	Error Limit (%)
0.05Ib≤I≤0.1Ib	1.0	±1.5
0.1Ib≤I≤Imax		
0.1Ib≤I≤0.2Ib	0.9L, 0.9C	±1.5
0.2Ib≤I≤Imax		

3. Start up

With the condition of the reference voltage and reference frequency, cosΦ=1.0, after load current rising to 0.004Ib, meter will start up and record continuously.

4. Creeping

When no current exists in the current line of power meter, and add 115% of reference voltage on voltage line, the test output of power meter should not generate more than one pulse.

5. Electrical Parameters

Working Voltage: 0.9Un~1.1Un

Extreme Working Voltage: 0.7Un~1.3Un

6. Temperature and humidity range

Working Temperature: -45℃~+70℃

Storage and Transportation Temperature: -45℃~+70℃

Annual Average Humidity: ≤75%

7. Rated Frequency: 50/60Hz

8. Power Consumption: ≤1W, 6VA

9. Weight: approx. 0.8Kg

10. Size: 100mm*36mm*66mm (For reference)

Main Functions

1. Measurement Function

Measure total active power and store its data. With positive and negative active energy measurement function, accumulating negative active energy as positive energy.

2. Display Function

Cumulative total power, voltage, current and active power. Power display with two decimal places, with unit of kWh. Voltage display with one decimal places, with unit of V and represent as "U". Current display with two decimal places, with unit of A and represent as "I". Power display with two decimal places, with unit of kW and represent as "P".

3. LED indicator introduction

Pulse indicator: pulse indicator (red) flashes when there is a pulse.

On-off switch indicator:

- 1) LED off when switching on
- 2) LED on when switching off

Wi-Fi indicator:

- 1) LED flashes when haven't connected Wi-Fi yet
- 2) LED turns off after connected

4. Button introduction

Long press the up button for 5 seconds: Wi-Fi module start connecting mode, Wi-Fi indicator flashes.

5. Time switch

Please refer the APP operation instruction for the detail operation.

6. APP power collection method: refresh total power once every 0.1 kWh or 5 minutes.

Installation and Use

1. Please install power meter indoor with dry and good ventilation environment, the base plate used to install power meter should fixed on the solid and fire-resistant wall which is stable, recommended install height is about 1.8 meter, or install in dedicated distribution box.

2. It is necessary to connect the wire according to wiring diagram on the end box, we recommend you to connect with copper joint to avoid the power meter being burned for the poor contact of the copper joint in the end box.

3. Lightning protection measures are necessary when power meter is used at place where thunderstorm is frequent to avoid the meter from being burned when struck by lightning.

Storage and Transportation

1. Store the power meter with the original packaging, storing environment temperature should be within -25℃~+70℃, relative humidity should be lower than 85% and the air should not contain gas which may cause erosion.

2. This product is electronic device, please avoid heavy objects impact and bumping when transporting and carrying it.
3. When the outer case of the power meter has obvious cracks caused by severe shock or drop from high position during the transportation, carrying and installation, please do not connect wires to this power meter.

Quality Assurance

Within 1 year after the manufacture date of the power meter, when user discovers the power meter cannot meet the national standard with the condition that user use meter according to the user's manual and the outing case is complete, our company will repair or replace the meter free of charge.



APP Operation Instruction

Install and log in APP

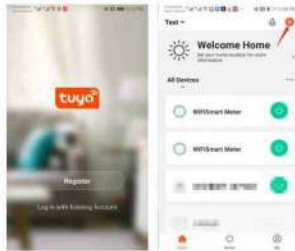


- Scan the QR code underneath with mobile QR code scanning tool, or search "tuya smart" at mobile application market to download and install APP.
- Connect home Wi-Fi on your mobile phone and start "tuya smart" APP.
- Follow the instruction in the APP to register/log in APP account and add new device.
- After finishing adding new device, you can use APP to control your device conveniently.

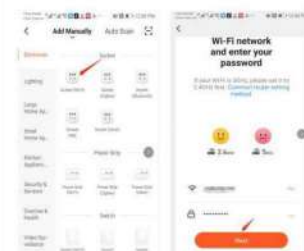
*APP is based on actual released version

Network Settings

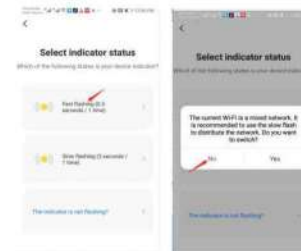
- Start "tuya smart" APP and log in. At the first page, select family at the top left corner and then click "+" on the top right corner to enter the device addition setting page.



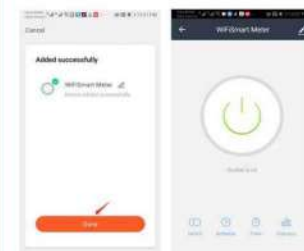
- Click "all device" and find out the "socket" item to select. Turn the power on of the power meter and long press switch for 5 seconds till the network indicator flashes rapidly, click "confirming the indicator is flashing rapidly" button.



- Input the password of connected Wi-Fi. Only supports 2.4G wireless network, 5G wireless network is not supported. Existence of Chinese Characters in Wi-Fi name and password in currently not supported, it may cause the APP fails to add new device.
- Click "Confirm" and wait for connection.



- When finish connection and add device successfully, you can set the installation room of the device.
- Switch button and central power button can control the power on/off of the device.



- Time switch button can control the device to power on or off at specified time.
- Delay button can control the device to power on or off after the specified time.
- Using power button can check accumulated electricity amount and the power, voltage, current of connected electrical appliance.

