

TUYA WIFI SWITCH ELECTRICITY METER USER MANUAL

Overview

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 State 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 AC active energy with the rated frequency of 50/60Hz, it meets the technical requirements in the Class 1 and Class 2 static AC active energy meter of international standard IEC62053-21

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 $80\text{ms} \pm 20\text{ms}$; 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	Accuracy	Rated Voltage	Rated Current	Constant
DTS866-W	1.0	3x230/400V	10(80)A	800imp/kWh

2. Basic error

Load Current	Power Factor	Error Limit (%)
$0.05I_b \leq I \leq 0.1I_b$	1.0	± 1.5
$0.1I_b \leq I \leq I_{max}$	1.0	± 1.0
$0.1I_b \leq I \leq 0.2I_b$	0.5L 0.8C	± 1.5
$0.2I_b \leq I \leq I_{max}$	0.5L 0.8C	± 1.0

3. Starting current

With the condition of the reference voltage and reference frequency. $\cos\Phi=1.0$, after load current rising to $0.004I_b$, 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: $0.9U_n - 1.15U_n$

6. Temperature and humidity range

7. Rated Frequency: 50/60Hz

8. Power Consumption: $\leq 1W$, 6VA

9. Working Temperature: $-25^\circ\text{C} \sim +55^\circ\text{C}$

10. Annual Average Humidity: $\leq 75\%$

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

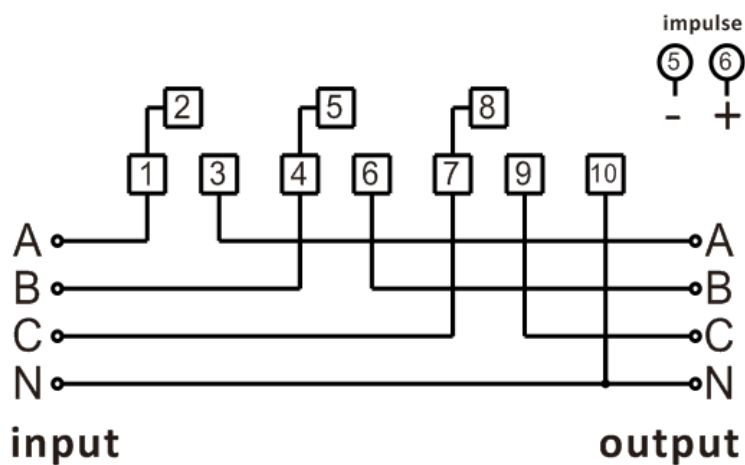
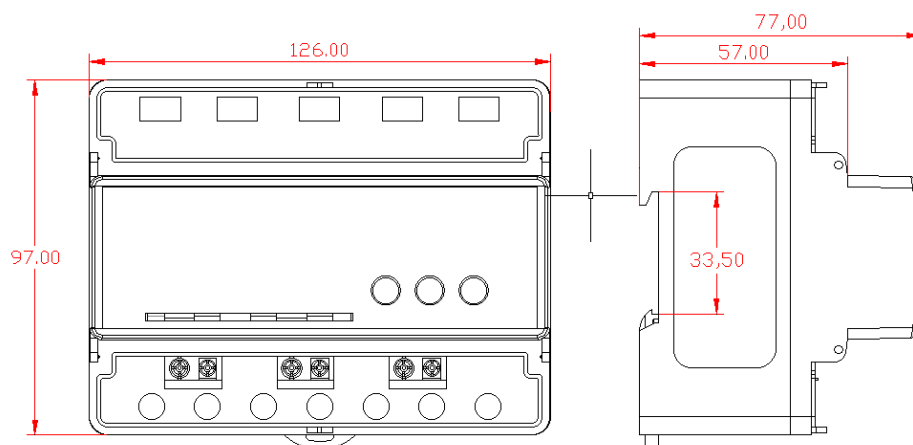
Long press the up button for 5 seconds: Wi-Fi module start connecting mode, Wi-Fi indicator flashes.

5. Time switch

Please refer the APP operation instruction for the detail operation.

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

Dimension & Wiring diagram



Networks Settings

Open the Bluetooth function of the mobile phone, power the product, and flash the indicator light slowly into the distribution network. On the home page of the APP, you will find nearby device for click "+" in the upper right corner), and find that the device to be added. Select the corresponding WIFI, enter the name and password, and click Next until the distribution network completes. (Only support 2.4G wireless network, does not support 5G wireless network, WIFI name and password should not include Chinese characters, otherwise add failure).

Troubleshooting

- Please Check whether the installation wiring is correct
- Please Check whether the meter receives WIFI signal normally
- Please Check if the input voltage is normal

Reminder: Only when you need to sell electricity.

Then you can use the "expense" setting: if you don't have the need, do not open the "Prepayment Switch" button and "insufficient balance Warning" button

Total Electricity

Daily power Consumption can view total 7 days detail data statistics.

If you need to see more dates, you can check the monthly power statistics (monthly power data can only view the total daily power consumption, not the daily time-sharing power statistics)

*For the newly-installed and low-power device, such as LED lights and energy-saving lamps, due to its low power consumption, the APP will display 0.00 first for a short time, and then display power statistics moments later. This is a common case. If the smart meter is connected to a high-power device, like 100w and 200w, the APP will display the power statistics very soon.

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 1.8meter, 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 $-30^{\circ}\text{C} \sim +70^{\circ}\text{C}$, 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.

TUYA APP MANUAL

1. Download from app store and register
2. Find device, make sure the device is power on and hold the button till the LED is flashing, cellphone match (you need open the bluetooth and wifi service)
3. App will automatically add the device into the list, for this step it will take 1 mins
4. App has function of power on and off, if device has relay inside, the left corner button
5. App can also make the meter as prepaid meter, only the Administrator cellphone can recharge the meter, after the money is used up the device will autocratically power off, until more money is recharged, it can used in rent house
6. The voltage current and power will show directly on the first page
7. More function you will find in the app, above is main function of the device