

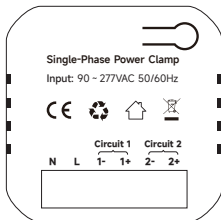
Smart Life App



Scan code to watch the installation video



Single Phase



PC311-W-TY/N

Single-Phase Power Clamp

Quick Start Guide

Safety Handling

WARNING: Failure to follow these safety notices could result in fire, electric shock, other injuries, or damage to the relay and other property. Read all the safety notices below before using the power clamp.

- Avoid high humidity or extreme temperatures.
- Avoid long exposure to direct sunlight or strong ultraviolet light.
- Do not drop or expose the unit to intense vibration.
- Do not disassemble or try to repair the unit yourself.
- Do not expose the unit or its accessories to flammable liquids, gases or other explosives.

Technical Specifications

Connectivity

Wi-Fi	• 802.11 b/g/n @2.4GHz
BLE	• For Pairing
RF Characteristics	• Operating frequency: 2.4GHz • Internal antenna

Physical Specifications

Un	• 230V AC, 50/60 Hz
Voltage Range	• 90-277 V
Supported Systems	• Single-Phase
Power Consumption	• <2W
Voltmeters Accuracy	• $\pm 1\%$
Ammeters Accuracy	• 20A CT: $\pm 1\%$ (1-20A) , $\pm 2\%$ (0-1A) • 80A CT: $\pm 1\%$ (1-80A) , $\pm 2\%$ (0-1A) • 120A CT: $\pm 1\%$ (2-120A) , $\pm 2\%$ (0-2A) • 200A CT: $\pm 1\%$ (2-200A) , $\pm 2\%$ (0-2A) • 300A CT: $\pm 1\%$ (6-300A) , $\pm 2\%$ (2-6A) , $\pm 5\%$ (0-2A)

**Clamp Inner
Dimension**

- 20A (optional): Ø5mm
 - 80A (default): Ø10mm
 - 120A(optional): Ø16mm
 - 200A(optional): Ø20mm
 - 300A(optional): Ø24mm
-

Reporting Cycle

- Every 15 seconds
-

Operating Environment

- Temperature: -20 °C~+55 °C
 - Humidity: ≤ 90% non-condensing
-

Mount Type

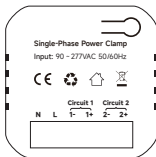
- Sticker
 - DIN rail Bracket
-

Dimension

- 52(W) x 23(D) x 46(H)mm
-



1 Welcome



PC311-W-TY/N helps you monitor the amount of electricity Consumed and Produced in your single-phase power system by connecting the clamp on to the power cable.

Features:

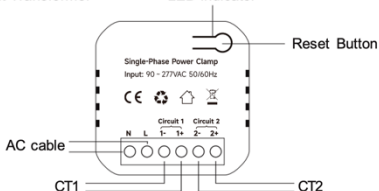
- TUYA compliant, supporting automation scenarios and HA platform integration
- Single-Phase electricity system suitable
- Remotely monitor a single-phase circuit/load, with 2 current transformers
- Wi-Fi communication, fast configuration, suitable for environments with inconvenient wiring
- Real-time Voltage, Current, PowerFactor, ActivePower, Frequency, measurement
- Bidirectional measurement: Energy Usage / Solar Production
- Historical data can be displayed and exported in the App

2

Get to know your device

CT: Current Transformer

LED indicator



The terminal corresponds to the color of the connected wire

N: Connect to Black wire of AC cable

L: Connect to Red wire of AC cable

1-: Connect to Black wire of CT1

1+: Connect to White wire of CT1

2-: Connect to Black wire of CT2

2+: Connect to White wire of CT2



Mounting bracket



Reset Button

- **Reset.** Press and hold the reset button for 5 seconds until the LED indicator flashes Red 3 times quickly to clear the Wi-Fi information (energy data will not be cleared). After that, the LED indicator will blink Green and wait for pairing.

Note: If you want to clear the energy data, please delete the device and wipe data on the app then add it again.

LED Indicator

The LED status gives the following information of the power clamp:

LED Status	What it means
Green LED blinking	Wait for pairing
Green LED solid on	Device has connected with cloud.
Red LED solid on	Device is connected to the router, but failed to connect to the cloud.
Red LED blinking	Wi-Fi has been configured, but failed to connect to router.

3 Wiring

Please make sure the main main breaker is off before installing!

1. Open the clamp to see the arrow (P1→P2) or (K→L) or you can find it on the sticker on the outside of the clamp. This is the direction of CT. The CT support bi-directional sensing. If the direction of the CT is opposite to the direction of the current, the power will be negative.

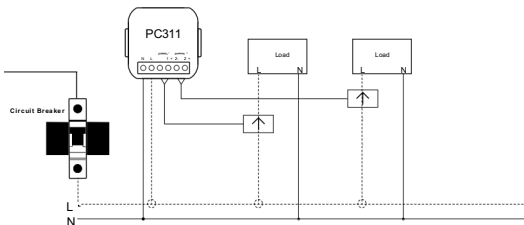


2. Connect AC Input cable to a socket near the Electrical Box to power on the Power Clamp according to the wiring diagram. And apply the CT on the electric cable and ensure the direction of CT is correct when installing in different scenarios:

Note: When installing, please ensure that the circuit measured by CT is in the same phase as the circuit powered by PC311-W-TY/N.

- **To measure energy consumption**

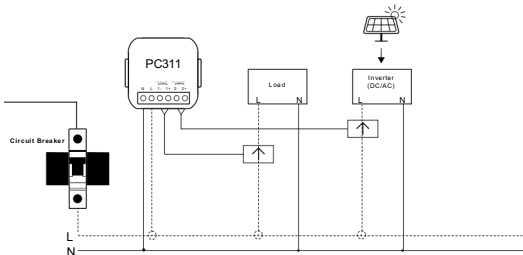
The arrow on the clamp should face to the correct direction of the electricity current flows like CT1 in the wiring diagram. In this case, the power will be positive, and the energy consumption will be accumulated.



Wiring diagram

- To measure energy generation

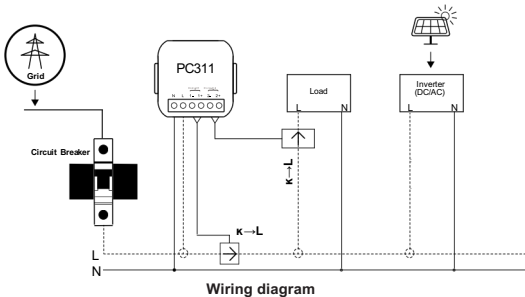
The arrow on the clamp should face to inverter like CT2 in the wiring diagram. In this case, the direction of the current is opposite to that of the CT. The power will be negative, and the energy generation will be accumulated.



Wiring diagram

• To measure 'From Grid' or 'To Grid'

To monitor how much energy is pulling from and sending back from the grid, install the CT on the leads coming from your mains like the CT1 below.



For CT1:

If the measured current direction is $K \rightarrow L$, the energy consumption is accumulated as 'From Grid' energy.

If the measured current direction is $L \rightarrow K$, the energy generation is accumulated as 'To Grid' energy.

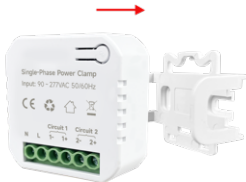
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Mounting

The Power Clamp has a mounting bracket for mounting purposes. You can choose the following two mounting methods:

- Use the mounting bracket as template to mark the two holes on the wall for installing screws. Screw the mounting bracket onto the wall according to marked location. Install wall plugs if necessary.
- Sliding the mounting bracket through one end of the Din-Rail if you want to fix on the Din-Rail.

After the bracket is installed, snap the Power Clamp onto the bracket.



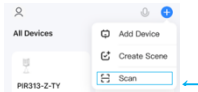
5 Configure Network

Download App

Please download the application: **Smart Life** from App Store or App Market. Also you can scan below QR code to download and install.



1. Open **Smart Life** app and click the 'Scan' button in the upper right corner of the App Home page.



2. Scan the following QR code to configure the network.

