

Scan code to watch the installation video



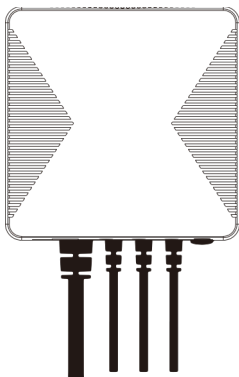
Three Phase



Split Phase



Single Phase



PC321-W/3W

Single/3-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 Power Clamp 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 on your own.
- Do not expose the unit or its accessories to flammable liquids, gases or other explosives.

Technical Specifications

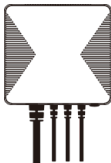
Connectivity

Wi-Fi	• 802.11 b/g/n @2.4GHz
RF Characteristics	• Operating frequency: 2.4GHz • External magnetic antenna

Physical Specifications

Operating Voltage (RMS for each phase)	• L-N : 90~277 Vac 50/60Hz • L-L : 156~480 Vac 50/60Hz
Supported Systems	• Single-Phase • Split-Phase • Three-Phase (included 3-Phase, 3-Wire)
Power Consumption	• <2W
Voltmeters Accuracy	• $\pm 1\%$
Ammeters Accuracy	• 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) • 500A CT: $\pm 1\%$ (6-500A) , $\pm 2\%$ (2-6A) , $\pm 5\%$ (0-2A) • 750A CT: $\pm 1\%$ (6-750A) , $\pm 2\%$ (2-6A) , $\pm 5\%$ (0-2A)
Reporting Cycle	• 10s (default, can be set in integration)
Operating Environment	• Temperature: -20 °C~ +55 °C • Humidity: $\leq 90\%$ non-condensing
Mount Type	• Wall mounting (default) • DIN rail mounting (optional)
Dimension	• 86(W) x 37(D) x 86(H) mm

1 Welcome



PC321-W/3W helps you monitor the amount of electricity Consumed and Produced in your three-phase power system by connecting the clamps on to the power cables. It is also compatible with split-phase and single-phase. The real-time data can be reported directly to your cloud server without going through a third-party public cloud.

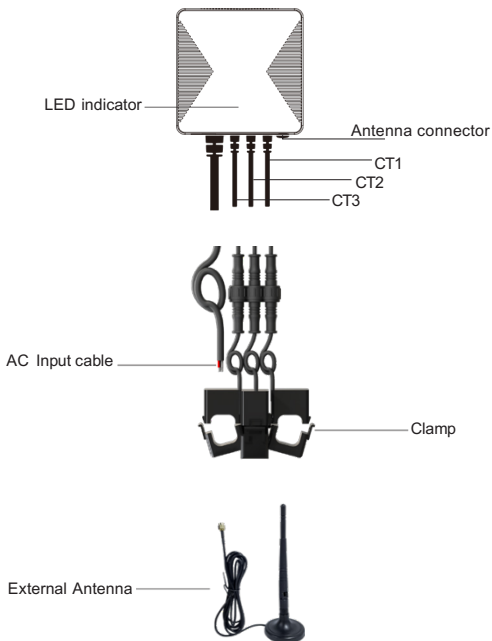
Main Features:

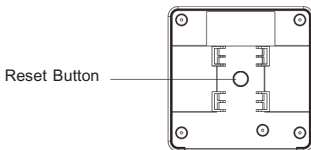
- Supports Wi-Fi 2.4GHz wireless communication, MQTT API provided.
- External magnetic antenna can avoid shielding of wireless signals by metal distribution boxes
- Three-Phase(included 3P3W), Split-Phase and Single-Phase electricity system compatible
- Remotely monitor whole home Energy with three current transformers
- Real-time Voltage, Current, PowerFactor, Frequency, ActivePower, measurement
- Bidirectional measurement: Energy Usage / Solar Production

2

Get to know your device

CT: Current Transformer





Reset Button

- **Reset.** Press and hold the reset button for 5 seconds until the LED indicator flashes red 3 times quickly to restore the power clamp to default factory settings (energy data will not be cleared). And it will start pairing for 3 minutes.

If you want to clear the energy data, please perform a reset operation according to the API documentation.

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 to 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 the router

3 Installaion

Important safety information!

- The power clamp must be installed and serviced only by a qualified electrical personnel.
- Do not touch the terminals of the device during testing.
- Turn off all the power supply for this equipment before installing.
- Make sure that the power supply is off before connecting or disconnecting it to an auxiliary device.
- Always use a properly rated voltage sensing device to confirm power is off.
- Replace all devices, doors and covers before applying power to the equipment.

Failure to follow these instructions will result in death or serious injury.

Get started:

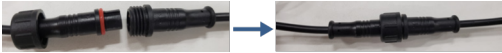
Please make sure the main power in your facility is off before installing!

Follow the steps below:

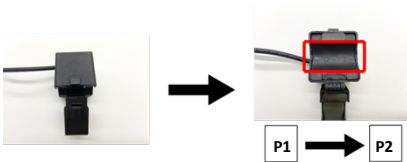
1. Place the External Antenna outside the electrical panel to ensure that the device's signal is not blocked by the metal (The base of the antenna has a magnetic and can be adsorbed on iron materials). After that, screw the External Antenna assembly cable to the Antenna connector.



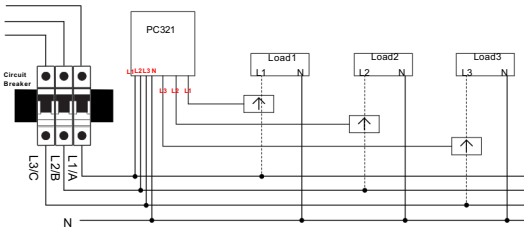
2. Attach both ends of the Current Transformer Cables first like the picture shown below. Then spinning the waterproof latch clockwise until both ends have been tightened and secured.



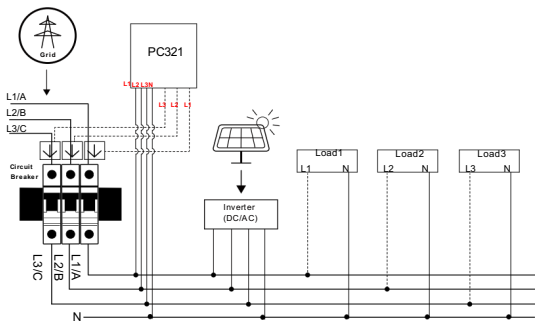
3. Open the clamp to see the arrow (P1→P2) or (K→L) or you can find it on the sticker on the outside of the clamp. This is the direction of CT. The CT support bi-directional sensing.



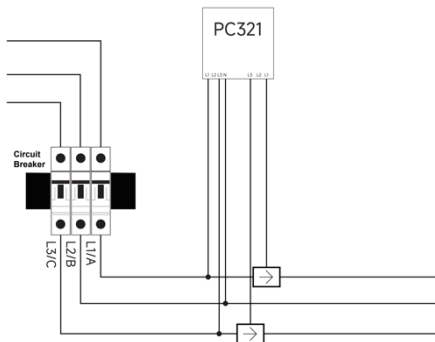
To measure energy consumption, the arrow on the CT should follow the direction of the current flows. In this case, the power will be positive, and the energy consumption will be accumulated.



3 Phase electricity wiring diagram

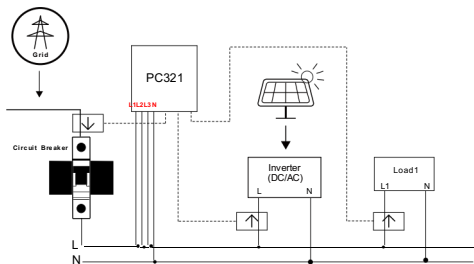


3 Phase with PV system wiring diagram



3-Phase 3-Wire system wiring diagram

To measure energy production, the arrow on the CT should opposite to the direction of the current flows. In this case, the power will be negative, and the energy generation will be accumulated.



Single Phase with PV system wiring diagram

4. Connect AC Input cable to a socket near the Electrical Box to power on the Power Clamp according to the corresponding wiring diagram. And apply the CT on the electric cable and ensure the direction of CT is correct.

Note: The circuit measured by each CT is the same phase as the power supply of that CT. For example, the circuit measured by the CT of L1 is in the same phase as the power supply of L1. Just like the wiring diagram. You cannot clamp the the CT of L1 on the L2 phase, and the power supply of L1 is still connected to the L1 phase.

4 Mounting

The Power Clamp has a mounting bracket for mounting purposes.

1. Use the mounting bracket as template to mark the two holes on the wall for installing screws.
2. Screw the mounting bracket onto the wall according to marked location. Install wall plugs if necessary.
3. Locate the hooks of the mounting bracket and line up the hooks with the mounting holes on the Power Clamp. Fit the hooks into the mounting holes as the picture below. Installation is now completed.

