Customer premises equipment solutions to solve internet monitoring connectivity issues

Thank you for being a KumuKit customer. We are proud to be Hawaii's most popular solar energy solution. This document is intended to assist in increasing the reliability of the energy monitor internet connection to customer premises equipment (CPE).

Your solar monitoring equipment is typically located near your electric utility meter and may be far enough away from your internet connection that causes connectivity issues.

Customer premises equipment (CPE) is internet or other service provider equipment that is located on the customer's premises (physical location) rather than on the provider's premises or in between. Cable TV set-top boxes, modems, routers, wifi extenders are examples. Historically, this term referred to equipment placed at the customer's end of the telephone line and usually owned by the telephone company. Today, almost any end-user equipment can be called customer premise equipment and it can be owned by the customer or by the provider.

NOTE: Customer premise equipment necessary for a strong and secure connection to the provided energy monitoring equipment is the responsibility of the homeowner. At times, this can be a point of confusion and tension. This confusion typically revolves around the discussion of where one parties responsibility ends and the other begins. We fully understand this and are here to help. Although It is typical practice in our industry to draw a clear line and put all of the responsibility of the network connection on the customer, we want to be different and work together on a solution for a long term relationship with our customers. Be advised that additional charges may apply based on your particular case.

The energy monitoring equipment that came with your system has a limited manufacturer replacement warranty of 5 years.

Hawaii Energy Connection, LLC does not cover any warranty replacements on 3rd party CPE equipment, including the solutions on the following page. Support is also limited on these solutions. Our intention in providing these recommended solutions is to assist you in overcoming customer premises equipment challenges that my affect the energy monitoring equipment performance.

There are 3 basic ways to improve or solve internet conductivity issues.

1) A **hard wired ethernet connection** between your network router and the solar monitor. This option will always be preferred for the most stable and trouble free connection, but may be logistically difficult and require additional labor charges.

2) Improving your Wi-Fi coverage signal using a **Universal Wi-Fi Range Extender**.

A WiFi Range extender, or repeater, effectively contains two wireless routers, similar to the wireless router you already have in your home. One of these wireless routers picks up the existing WiFi network. It then transfers the signal to the other wireless router, which transmits the boosted signal.

3) Transmit data over the power lines in your home using **PLC bridge adapters**.

Using power line communication (PLC) adapters is an alternative to running in-wall ethernet cables, or relying on possibly unstable WiFi because it can send your energy monitor data over your household's existing electrical wiring just like it would over ethernet cables. They are very easy to set up and you never have to worry about WiFi network names or password that changes in the future. There may be other devices on the home electrical circuit that send out signals that block PLC communication though. Some of these types of devices include power strips, dimmable lamps, etc.

Transmits data between your router and the energy monitor over the power lines in your home.