Pulse for ESPHome

Installation Guide

Configure with Improv

MADE FOR ESPHome

WORKS WITH Home Assistant

About the Pulse for ESPHome

The Pulse for ESPHome detects the pulses from your electricity meter and makes this data available via Wifi for energy monitoring in real time.

Monitoring the household electricity meter will allow you to know how much power you are consuming as you use your appliances.

Features:

* Simple to install
* No Internet, subscriptions or other services required
* Immediate access via a Web Browser
* Works with Home Asssitant for long term data storage and energy management

More details, documentation and code on Github
https://github.com/PaulSchulz/pulse-for-esphome

Installation

You will need:

- An Electricity Meter with a pulse LED
- Double sided tape
- USB-C Power Supply or Battery
- Household Wifi Network (2.4GHz)
- Web browser to view data

* Locate your household electricity meter and find the Pulse LED.
* Check the pulse rate for your electricity meter. (This is typically 1000 pulses per kWh, the default setting.)
* With double sided tape, secure the sensor (photo diode) directly over the meters pulse LED.
* Plug the sensor into the controller, and plug in USB-C for power.
* Once powered, use Improv to configure the Wifi network details (next page).

Configure Wifi with Improv

Visit: http://improv-wifi.com

The Improv web page will allow you to set the wifi details for your wifi network, via Bluetooth (BLE) or a USB Cable (Serial)

Details required:
- Wifi Network Name
- Wifi Password

Configure with Bluetooth

Using a **mobile phone** with Bluetooth
- Go to the Improv-Wifi website
- Select: Improv via BLE
- Select the device to pair with
- Set the Wifi details

Configure with USB Serial

Using a **laptop or computer** connected with a USB-C cable
- Go to the Improv-Wifi website
- Select: Improv via Serial
- Select the serial port to use (eg. USB JTAB/serial debug unit)
- Set the Wifi details

The Improv tool will confirm that a Wifi connection has been successfully set.

Resetting the Device

It may be necessary to do a factory reset to activate the Improv process.

While powered up, press and hold the user button for 4 seconds. The controller LED will flash to indicatethat the device has has been reset.

To setup, continue with the Improv process.

Seeing your Data

Data from the Pulse for ESPHome can be seen from the device using the built in web server. Visit the web page:

http://pulse-for-esphome-XXXXXX.local

where XXXXXX is the individual identifier for the device (MAC address). This should be displayed with the original packaging, but is also displayed in the logs when connected via USB.

This page will display the data being monitored by the device.

If you have Home Assistant, this device will be automatically detected as an ESPHome device.

Warnings

Always use a licenced electrician when accessing or modifying household electrical wiring.

Do not lift over high voltage power lines without a network access permit.

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