

Monitor Adapter with Two way R-Pi Transceiver board



Introduction:

The ENER314-RT add-on board can be used to Control devices and monitor devices requiring 433 MHz ISM band control directly from a Raspberry Pi equipped with the radio transceiver PCB which incorporates a radio receiver and a transmitter. The MIHO004 Monitor Adapter is part of the MiHome home automation range. The Monitor Adapter allows you to monitor the power being used by an attached appliance. The Monitor Adapter is capable of measuring and displaying the following parameters:

- Time
- Power
- Reactive Power
- Voltage
- Frequency

Instructions: Preparation

Connect the Energenie RT board to the raspberry pi as shown in figure 1. Connect the raspberry pi to a USB port using a micro USB to USB cable. Connect a HDMI cable from the raspberry pi to the monitor. The cable can be connected to a computer, laptop or adapter which is switched on. Once the raspberry pi has booted to the desktop ensure that the RT board software (pyenergenie-master.zip which can be downloaded from <https://github.com/Energenie/pyenergenie>) has been saved unto the raspberry pi.



Figure 1

Instructions: Software

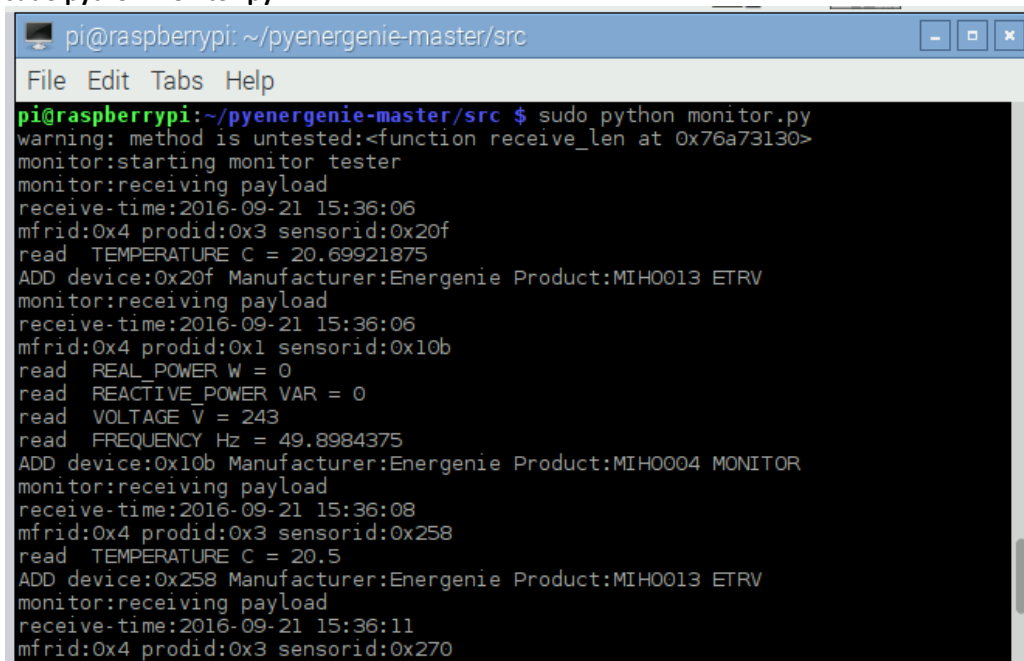
You will find the following python scripts when you unzip pyenergenie-master.zip:

- Legacy.py (This script is compatible with the following products)
 - ENER002
 - ENER010
 - MIHO002
 - MIHO007
 - MIHO008
 - MIHO014
- Monitor.py (This script is compatible with the following products)
 - MIHO004
 - MIHO005
 - MIHO013
- Switch.py (This script is compatible with the following products)
 - MIHO005

Instructions: Reading Data & Switching the Adapter Plus

You will be able to monitor data and switch the adapter plus. Switch.py script will switch the adapter plus. Monitor.py will display and record data to a csv file.

1. Use the Download As Zip link to the right of this page: <https://github.com/Energenie/pyenergenie>
2. unzip the software
unzip pyenergenie-master.zip
cd pyenergenie-master
cd src
3. Run the monitor test program with your MiHome adaptors. run the monitor test program with your MiHome adaptors
sudo python monitor.py



```
pi@raspberrypi: ~/pyenergenie-master/src
File Edit Tabs Help
pi@raspberrypi:~/pyenergenie-master/src $ sudo python monitor.py
warning: method is untested:<function receive_len at 0x76a73130>
monitor:starting monitor tester
monitor:receiving payload
receive-time:2016-09-21 15:36:06
mfrid:0x4 prodid:0x3 sensorid:0x20f
read TEMPERATURE C = 20.69921875
ADD device:0x20f Manufacturer:Energenie Product:MIH0013 ETRV
monitor:receiving payload
receive-time:2016-09-21 15:36:06
mfrid:0x4 prodid:0x1 sensorid:0x10b
read REAL_POWER W = 0
read REACTIVE_POWER VAR = 0
read VOLTAGE V = 243
read FREQUENCY Hz = 49.8984375
ADD device:0x10b Manufacturer:Energenie Product:MIH0004 MONITOR
monitor:receiving payload
receive-time:2016-09-21 15:36:08
mfrid:0x4 prodid:0x3 sensorid:0x258
read TEMPERATURE C = 20.5
ADD device:0x258 Manufacturer:Energenie Product:MIH0013 ETRV
monitor:receiving payload
receive-time:2016-09-21 15:36:11
mfrid:0x4 prodid:0x3 sensorid:0x270
```

NB. To change the switching rate (which is set to 10 seconds by default) you will need to change the TX_RATE variable found in switch.py