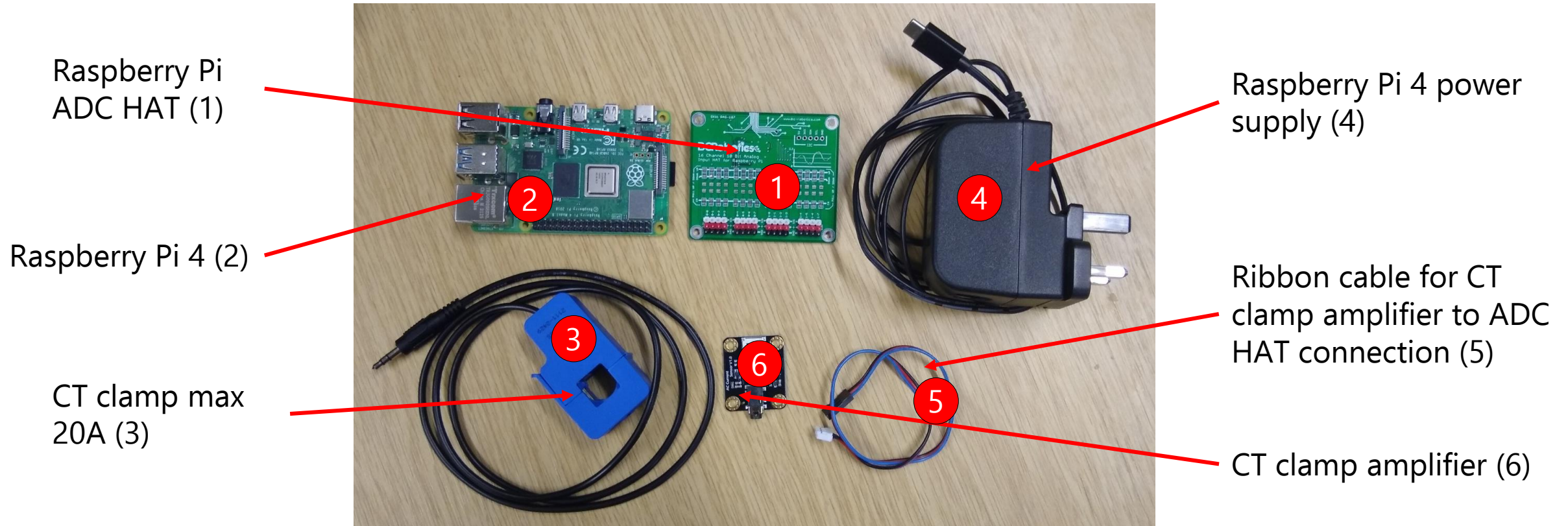


Power Monitoring up to 20A

How to deploy

SMDH

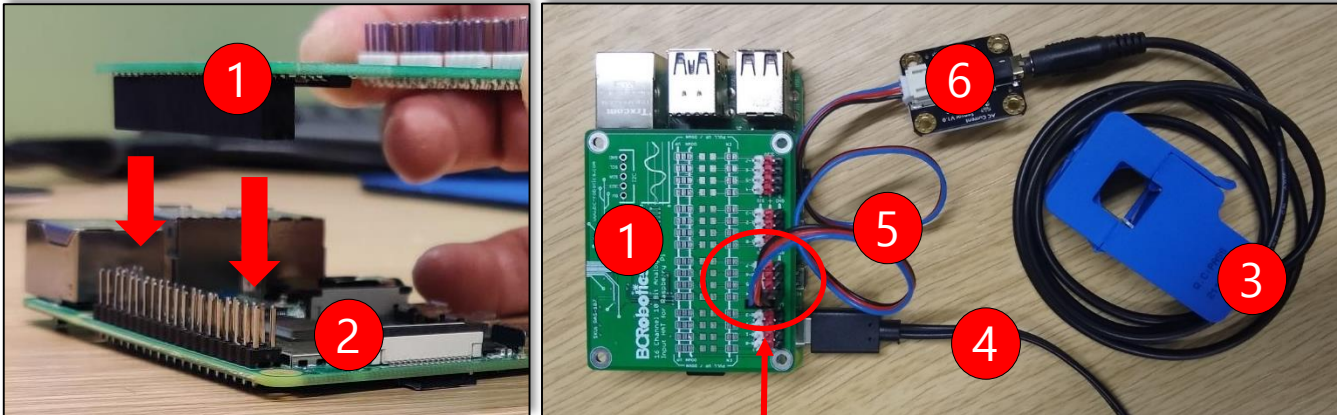
List of Equipment



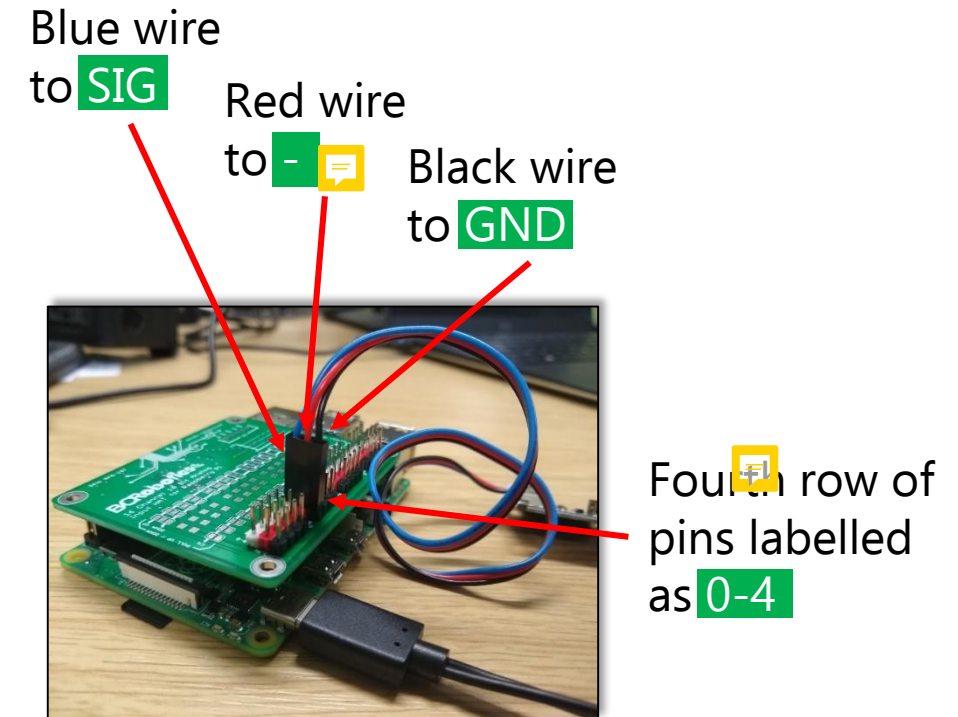
In addition, you need a USB keyboard, a USB mouse and a monitor with connection to micro-HDMI

Equipment Set Up

- Mount ADC HAT (1) on Raspberry Pi 4 (2)
- Connect CT clamp (3) to amplifier (6)
- Connect amplifier (6) to ADC HAT (1) using the ribbon cable (5)
- Connect power supply (4) to Raspberry Pi (2)



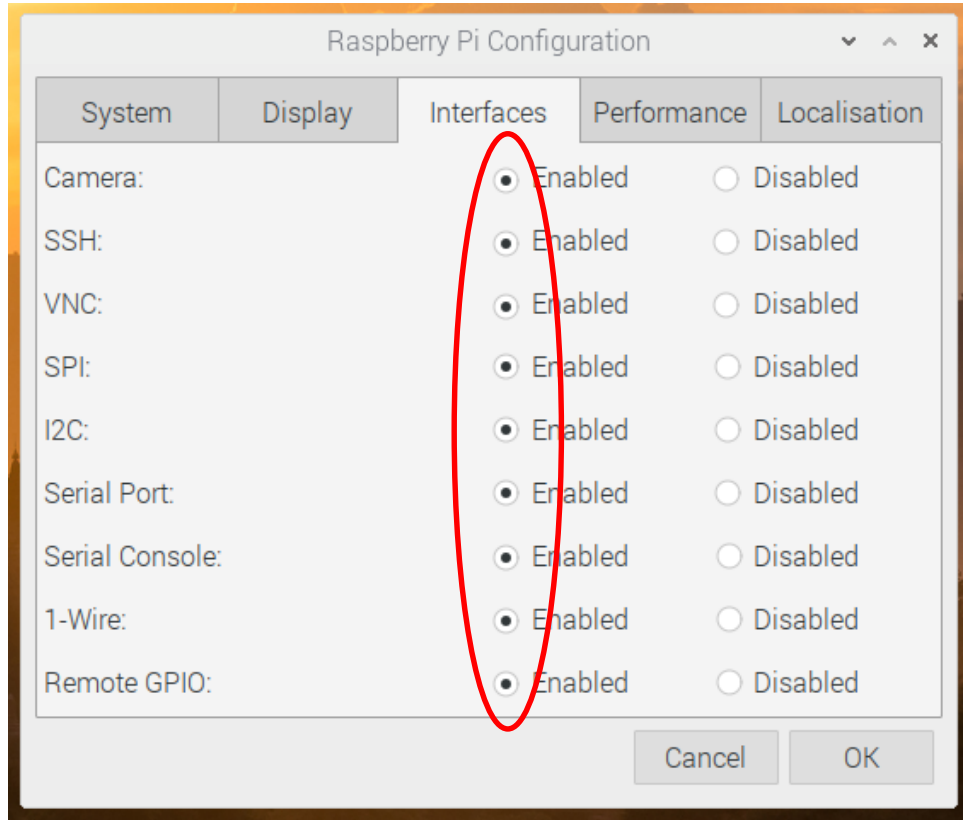
See right picture for detail




Amplifier to ADC HAT detail

Connect the keyboard, mouse and monitor to the Raspberry Pi

Raspberry Pi Preparation



Power up the Raspberry Pi and click on system menu , then:

1. Click on **Preferences**
2. Click on **Raspberry Pi Configuration**
3. Click on **Interfaces** tab
4. Enable all (see picture as a guide)
5. Restart the Raspberry Pi

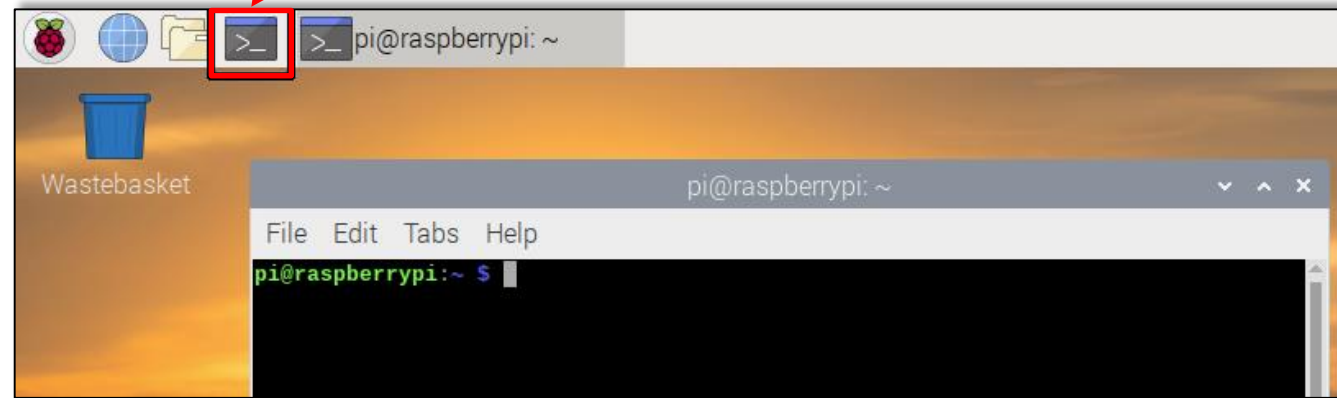


Software Installation

Open a **Terminal**, then type:

```
1) cd energy
2) chmod a+x install.sh
3) ./install.sh
4) sudo reboot
5) sudo docker build -t read_data:v1 .
6) sudo docker-compose up -d
```

Click here to open a Terminal



In the same **Terminal** type:

```
docker container ls
```

check column CREATED and STATUS are all started and up (see figure below as a guide)

```
pi@raspberrypi: ~/energy
pi@raspberrypi:~/energy $ docker container ls
CONTAINER ID   IMAGE                COMMAND                  CREATED        STATUS        PORTS                               NAMES
4f9308f22ca8   read_data:v1         "python3 ./read_data..." 27 hours ago   Up 24 hours   0.0.0.0:3000->3000/tcp           read_data
4fdfe3dab6bd   grafana/grafana      "/run.sh"                27 hours ago   Up 24 hours   0.0.0.0:3000->3000/tcp           grafana
2943c5fe5b03   hypriot/rpi-influxdb "/usr/bin/entry.sh /..." 27 hours ago   Up 24 hours   0.0.0.0:8089->8086/tcp           influxdb
bd55080a1540   pascaldevink/rpi-mosquitto "/bin/sh -c '/usr/sb..." 27 hours ago   Up 24 hours   0.0.0.0:1883->1883/tcp, 9001/tcp  mosquitto
pi@raspberrypi:~/energy $
```


Database Set Up

1. Open a web browser
2. Type **localhost:3000** in the address bar of the web browser
3. Once in Grafana:
 - a. Click on **Configuration** located at bottom left of the web browser
 - b. Click on **Add data source**
 - c. Click on **InfluxDB**
 - d. In **HTTP > URL** type **http://172.18.0.2:8086**
 - e. In **InfluxDB Details > Database** type **emon**
4. Click on **Save and test**



URL	ⓘ	http://172.18.0.2:8086
Database		emon

Dashboard Set Up

1. Open a web browser
2. Type **localhost:3000** in the address bar of the web browser
3. Once in Grafana:
 - a. Click on **Dashboards**
 - b. Click on **New** and choose **Import** option
 - c. Click on **Upload JSON file**
 - d. Locate and choose `install/dashboard.js`
 - e. Click on **Import**
4. A dashboard similar to the one at the right should appear in the web browser



Contacts

Please email contact@digitalshoestring.net for any questions