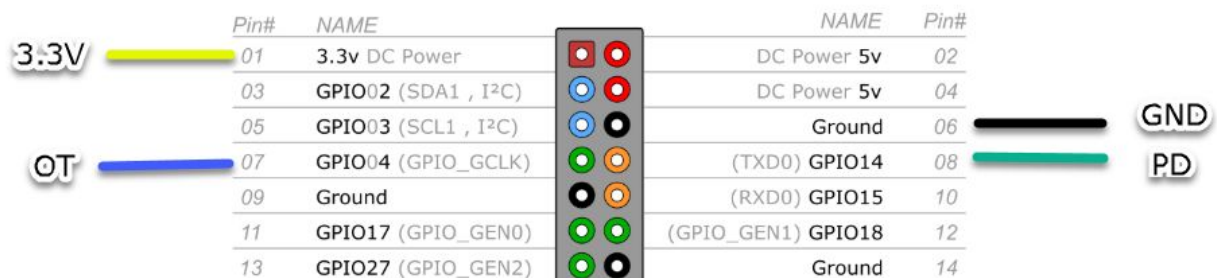# Hackable Pi Switch Installation Guide

Overview of 4-pin Header

PD - Power Detect
- ● Connect to GPIO15 TxD (pin 8) of the Raspberry Pi
- ● Used to detect if the Raspberry Pi is in Halt State

GND - Ground
- ● Connect to any ground pin of the Raspberry Pi

OT - Off Trigger
- ● Connect to GPIO7 (pin 7) of the Raspberry Pi

3.3V In - 3.3V Input from Raspberry Pi
- ● Needed for OT to trigger Raspberry Pi to turn off. We need to take 3.3V from Raspberry Pi because Raspberry PI's GPIOs are all 3.3V while the Attiny is 5V.
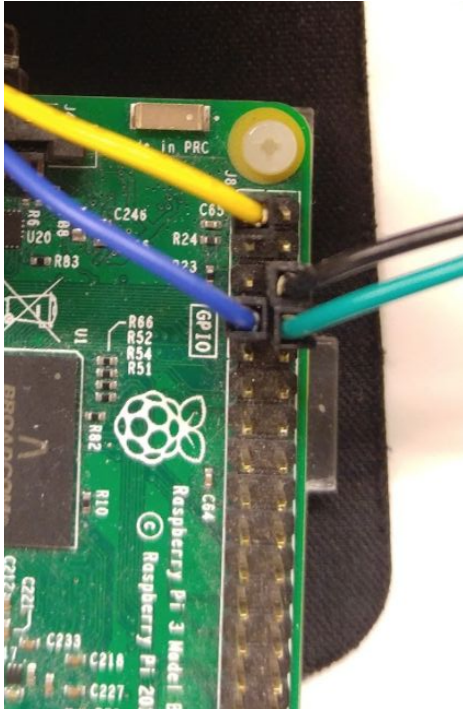
Optional output

VCC - Extra 5V output
GND - Ground
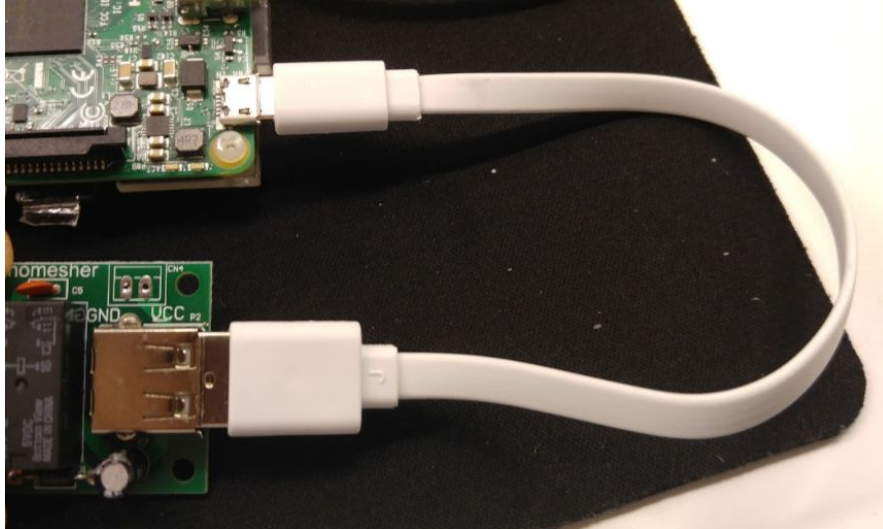
Hardware Installation

1. Connect the include wires accordingly to the colour of the wires

2. Connect the other end to the Pi Switch

3. Connect the microUSB cable from the Pi Switch to the Raspberry Pi accordingly

4. Connect your power adaptor to your Pi Switch

Software Installation

The only software needed on the Raspberry Pi is a small python script which listens to GPIO04 and triggers linux shutdown when button or infrared remote off button is pressed

1. <u>For Raspberry Pi 3 only</u> - Enable GPIO 15 as TxD

Edit the file below

```
sudo nano /boot/config.txt
```

Add this line to the bottom of the file

```
enable_uart=1
```

2. Install Python Module RPi.GPIO (If you haven't already done so)

```
sudo apt-get install python-dev python-rpi.gpio
```

3. Download the Shutdown detection script from
   https://github.com/nanomesher/Nanomesher_PiSwitch_Shutdown

Either download zip or git clone

```
git clone https://github.com/nanomesher/Nanomesher_PiSwitch_Shutdown.git
```

```
pi@raspberrypi:~ $ git clone https://github.com/nanomesher/Nanomesher_PiSwitch_S
hutdown.git
Cloning into 'Nanomesher_PiSwitch_Shutdown'...
remote: Counting objects: 25, done.
remote: Compressing objects: 100% (24/24), done.
remote: Total 25 (delta 6), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (25/25), done.
Checking connectivity... done.
pi@raspberrypi:~ $
```

4. Make the RunShutdownDetect shell script executable

```
cd Nanomesher_PiSwitch_Shutdown

chmod +x RunShutdownDetect
```

5. Make RunShutdownDetect auto start after boot

```
sudo nano /etc/rc.local
```

Add this line to above "exit 0"

```
sudo /home/pi/Nanomesher_PiSwitch_Shutdown/RunShutdownDetect
```