PI4 AAF Case UserManual

1. General Description:

Innomaker PI4 AAF Case is designed for DAC/DAC PRO/AMP/AMP PRO/RS485&CAN and most of Raspberry Pi add-on hat with Raspberry Pi 4(Only). It's a passive aluminum alloy Case with 3510 Ultra-Quiet Cooling Fan.

2. Features

1.Passive Aluminum Alloy Case with 3510 Ultra-Quiet Cooling Fan, big heatsink and ventilation design.keeps your Raspberry Pi 4 at a comfortable operating temperature even under heavy load.

2.Large built-in space and flexible opening designed， Support most of Add-On HAT in the market with Raspberry Pi 4(only)

3.FAN can be adjusted automatically according to the CPU temperature on Raspbian. Other systems may require to do your own programming or use the fixed speed.

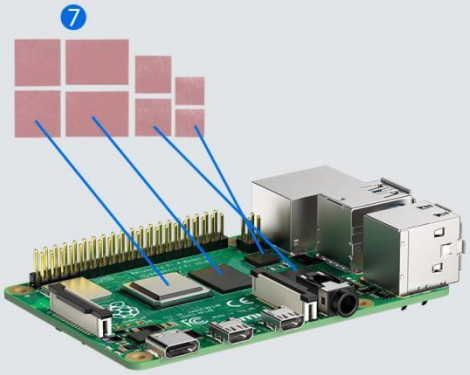
4.Support innomaker DAC/DAC PRO/AMP/AMP PRO/RS485&CAN HAT.

5. Usermanual and support refer to our github comes with goods.

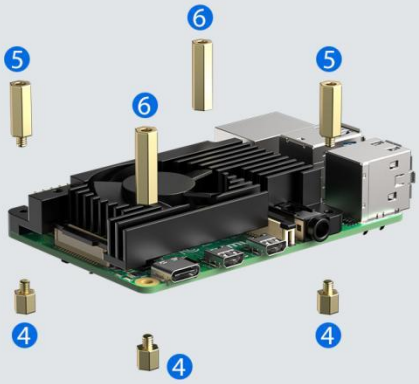
3. Installation Guide

There are 8 groups accessories in the parcel. We named them as group No.1, 2,3,4,5,6,7,8 here. Please follow below picture to install.

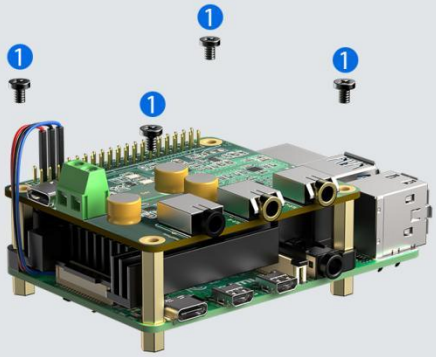
1. Install the thermal pads to raspberry pi 4



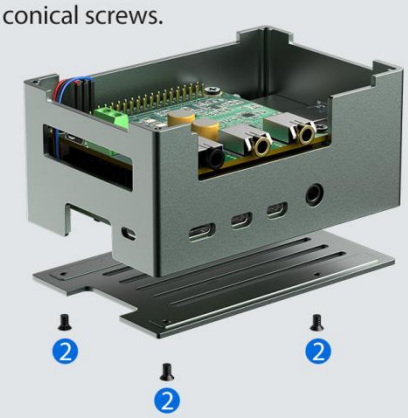
2. Install the heatsink to raspberry pi 4 with copper column screws.



3. Install InnoMaker audio hat to raspberry pi 4 with flat-head cross screws.



4. Put the item into aluminum alloy shell and install bottom with conical screws.



5. Install acrylic top cover with hexagon socket screws.

6. Install buffer strips to the bottom.

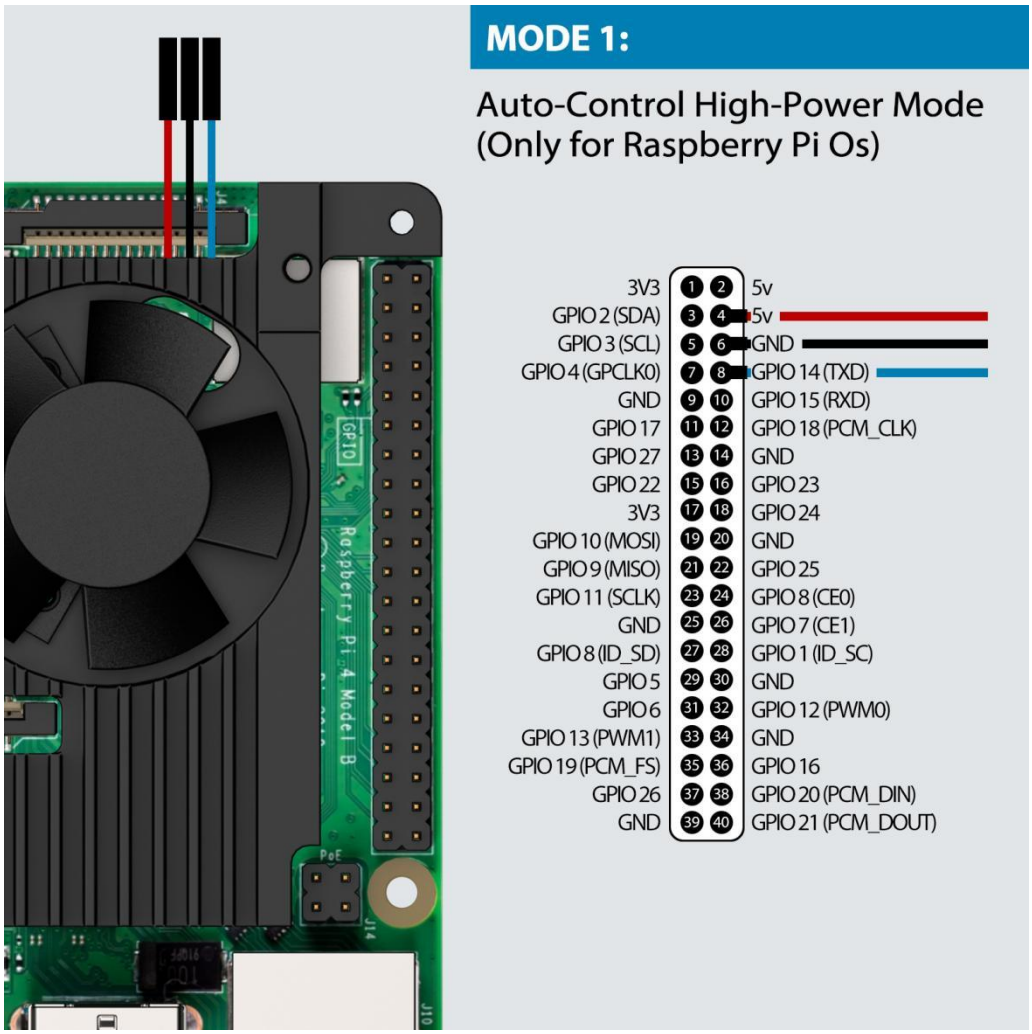
4. FAN Using Guide

There are three leads from fan. Red is power pin (5V high power or 3.3V quiet power); Black is GND pin, can be connected to any GND pin of 40 pins header; Blue is the fan speed control pin, fan speed can be adjust via PWM signal input. If you do not want to control FAN speed, you can connect it to the power pins.

Connect the three leads from the fan to the Raspberry Pi's GPIO pins, as shown in the diagram below. Take care to connect each lead to the correct pin.

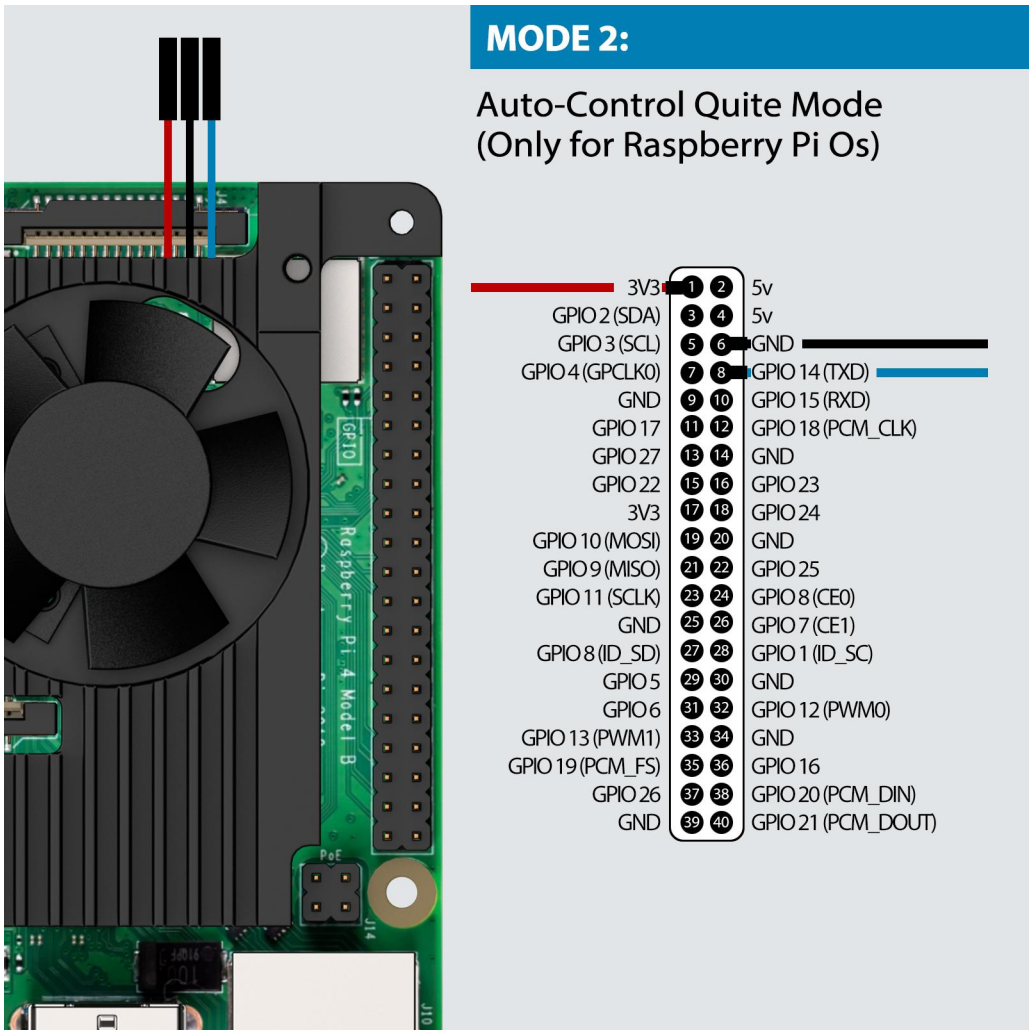
4.1 Mode1:Auot-Control High-Power Mode

Connect the three leads from the fan to the Raspberry Pi's GPIO pins, as shown in the diagram below. Take care to connect each lead to the correct pin.



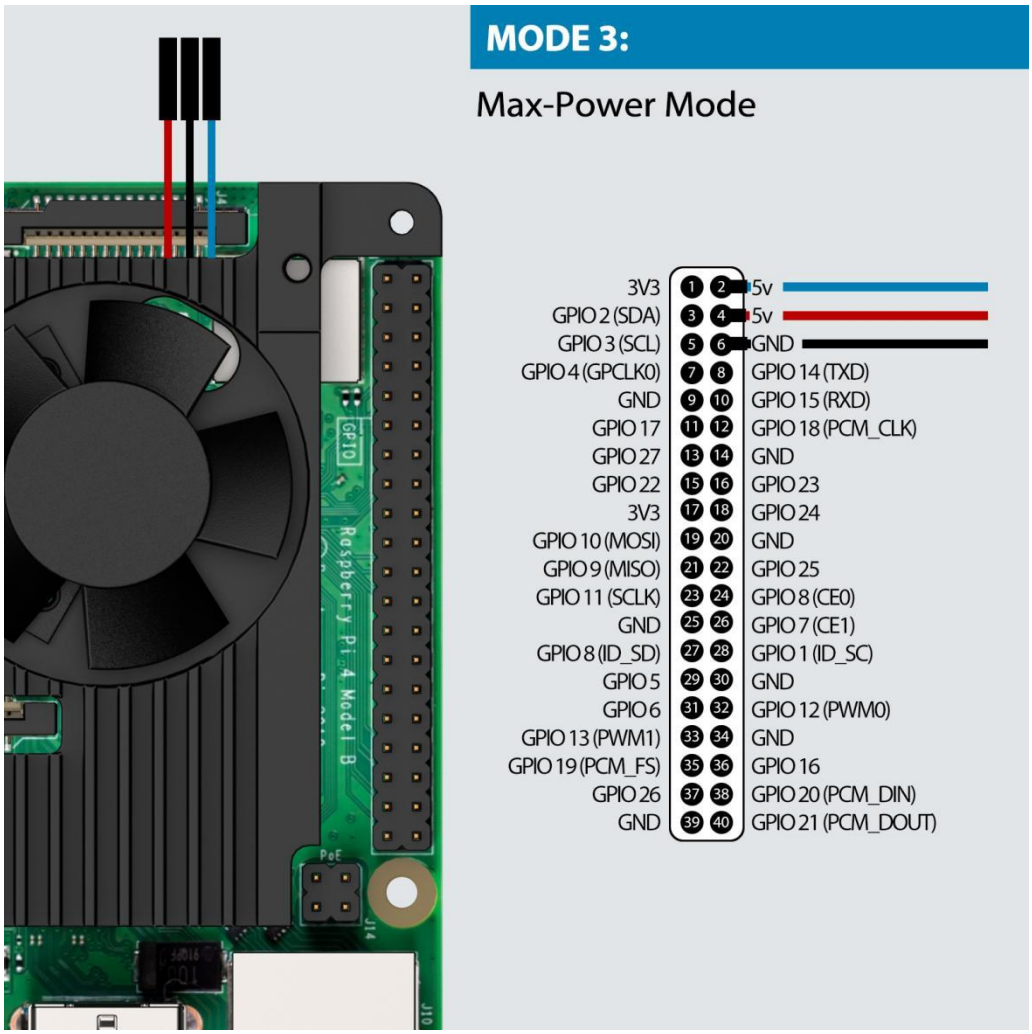
4.2 Mode2:Auot-Control Quite Mode

Connect the three leads from the fan to the Raspberry Pi's GPIO pins, as shown in the diagram below. Take care to connect each lead to the correct pin.



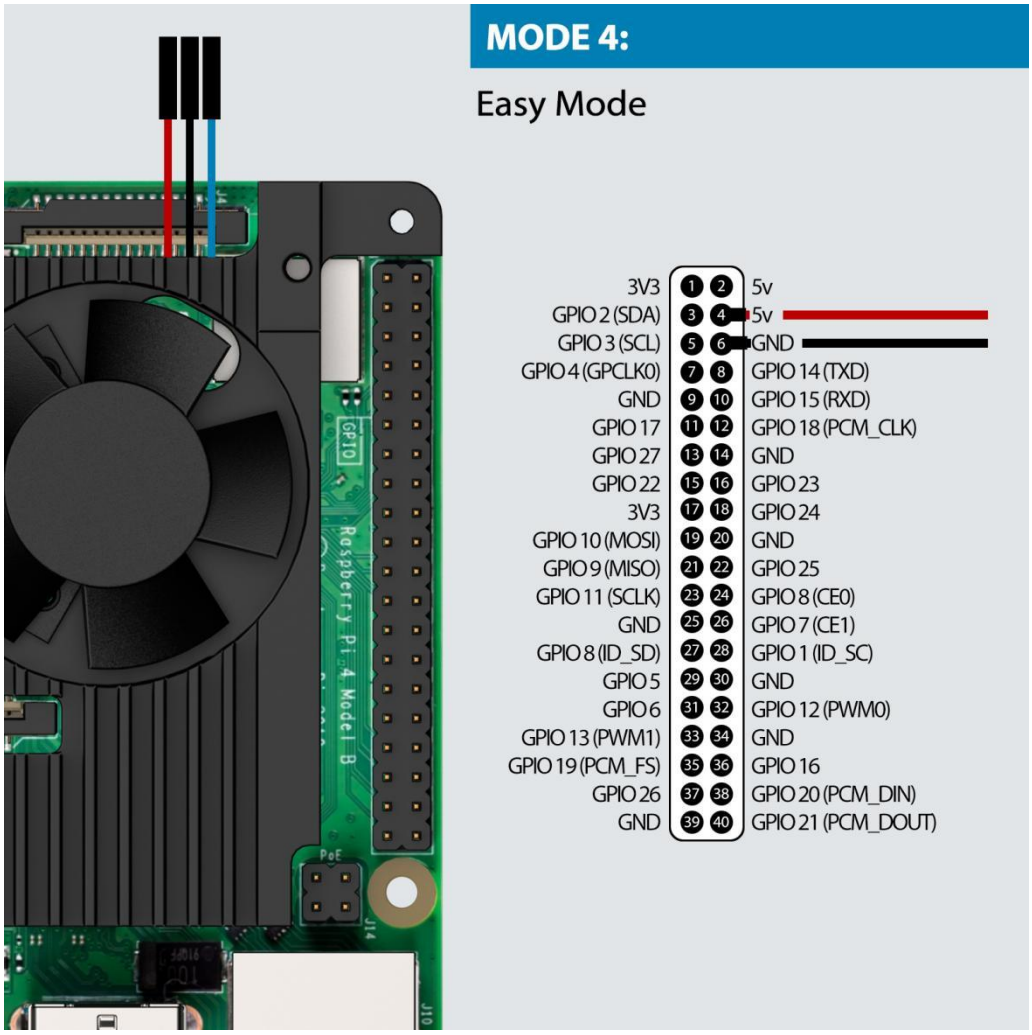
4.3 Mode3:Max-Power Mode

Connect the three leads from the fan to the Raspberry Pi's GPIO pins, as shown in the diagram below. Take care to connect each lead to the correct pin.



4.4 Mode4:Easy Mode

Connect the three leads from the fan to the Raspberry Pi's GPIO pins, as shown in the diagram below. Take care to connect each lead to the correct pin.



4.5 Fan Auto-Control On Raspbian

(1) Open the Raspberry Pi configuration tool

(2) Click on the Raspberry Pi icon in the top left corner and select Preferences then Raspberry Pi Configuration.

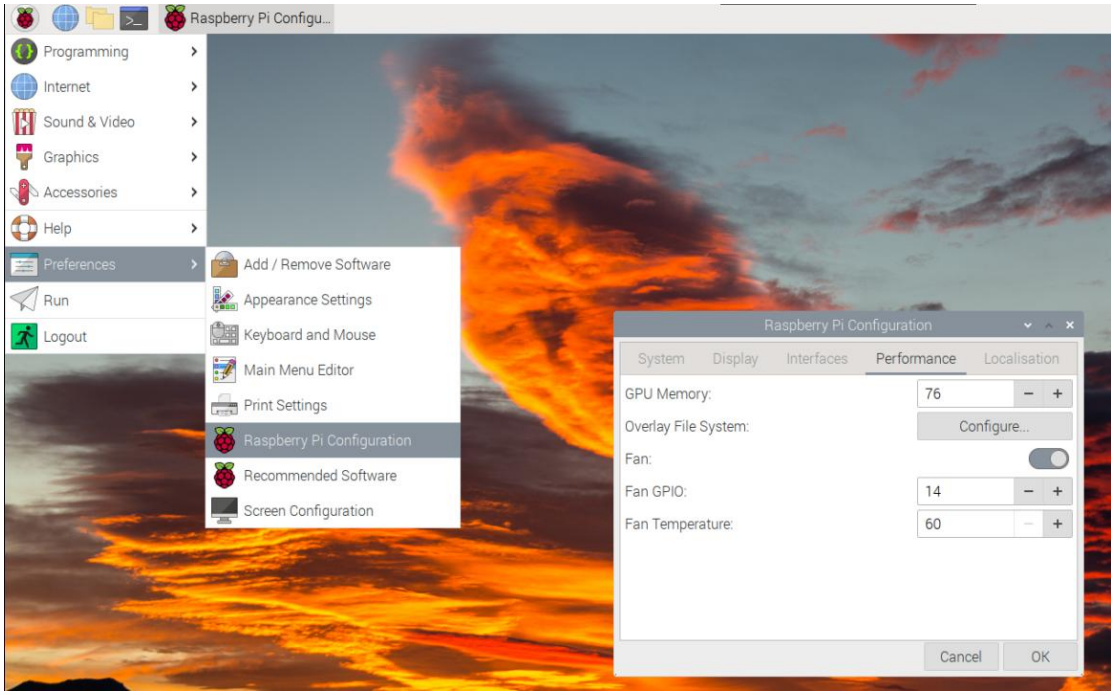
(3) Select the Performance tab.

(4) Next to Fan, click Enabled FAN.

(5) If you have connected your fan as Mode1 and Mode2 , the default of 14 for Fan GPIO does not need to be changed.

(6) Select the Fan Temperature at which you want your fan to turn on. The default is 80℃, suggestive value 60℃. which will stop the Raspberry Pi throttling on difficult tasks without having the fan on all the time.

(7) Reboot

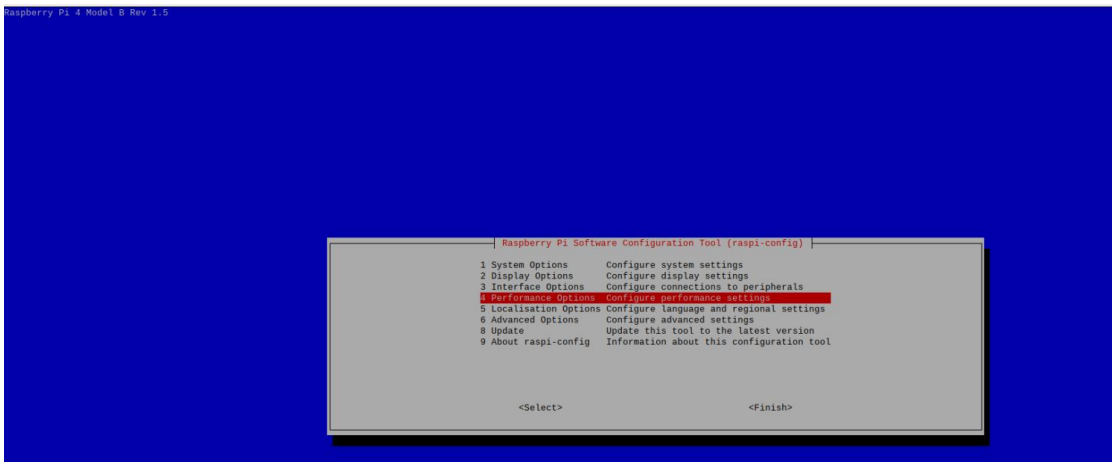


4.6 Fan Auto-Control On Raspbian Lite

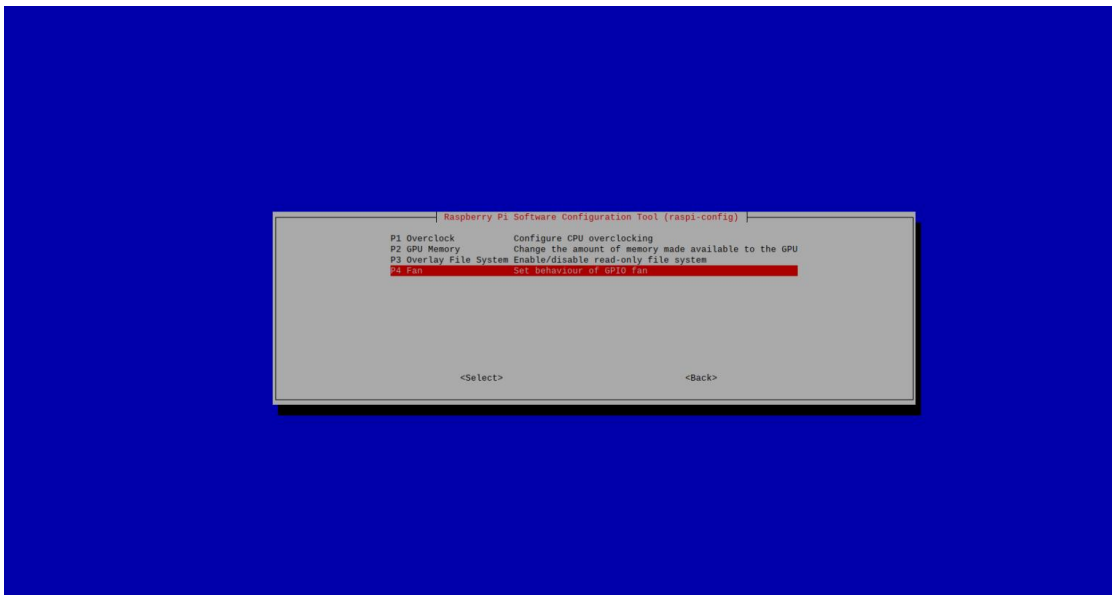
(1) Type below command to open the Raspberry Pi configuration tool.

```
sudo raspi-config
```

(2) Select 4 Performance Options

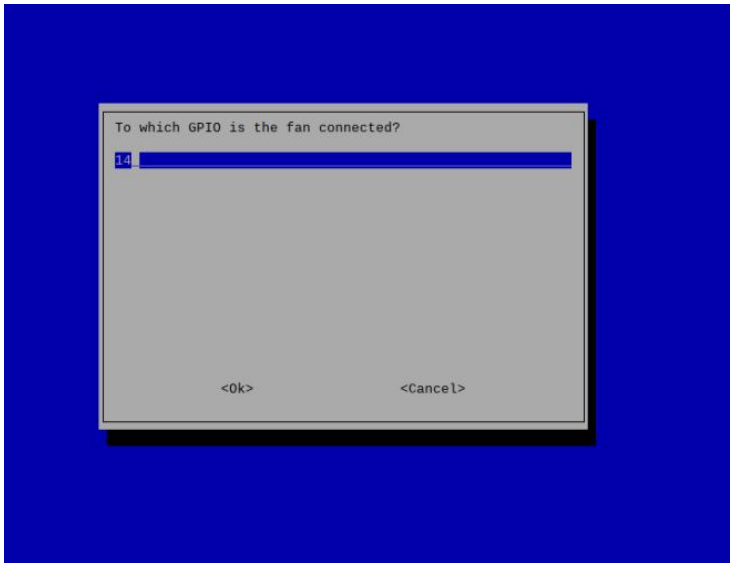


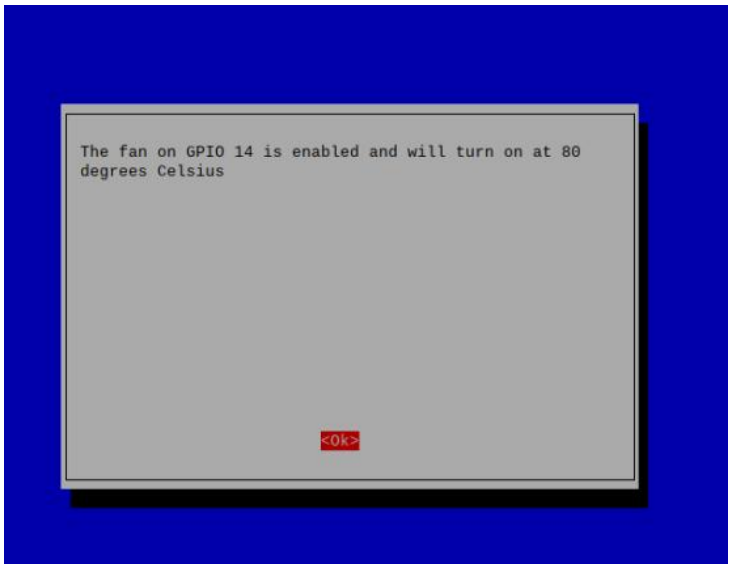
(3) Select Fan



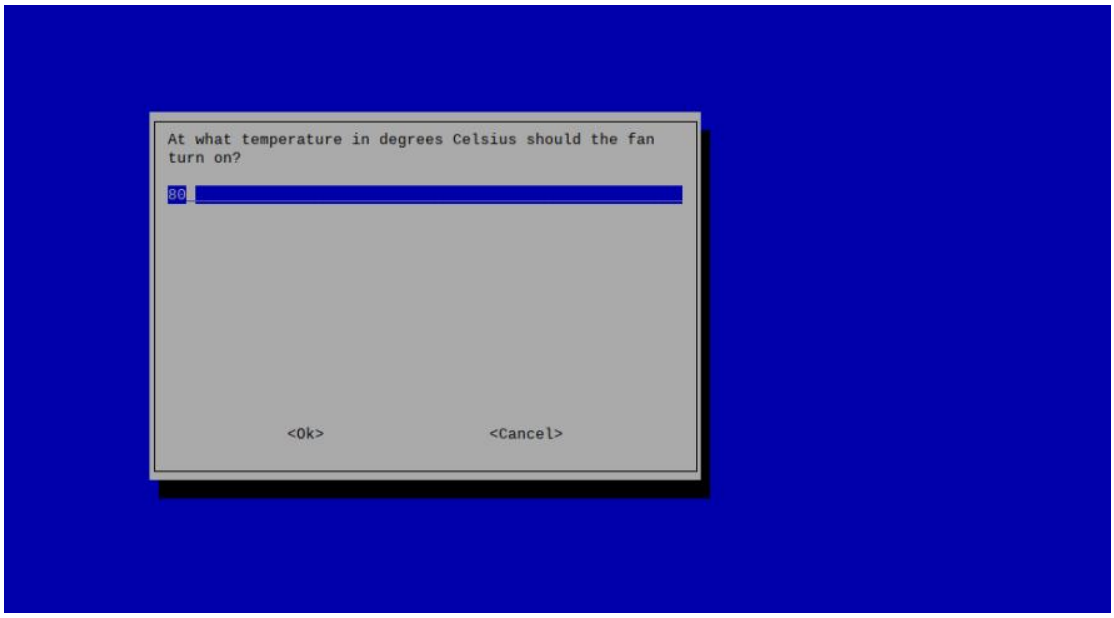
(4) Press ‘Yes’.

(5) Use the default 14 GPIO.





(6) Select the Fan Temperature at which you want your fan to turn on. The default is 80℃, suggestive value 60℃. Which will stop the Raspberry Pi throttling on difficult tasks without having the fan on all the time.



(7) Reboot

```
sudo reboot
```

4.6 Fan Control by Python

We provide the python demo codes to control the fan speed according to the temperature of Raspberry Pi4.

Download the codes from below link
https://github.com/INNO-MAKER/PI4-ALUMINUM-CASE