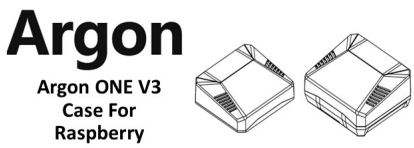
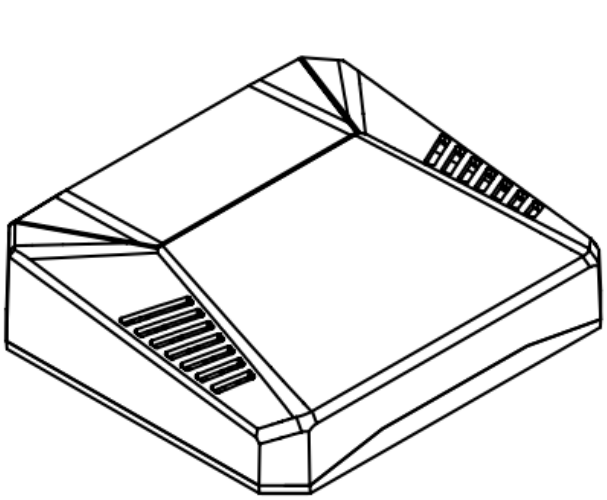


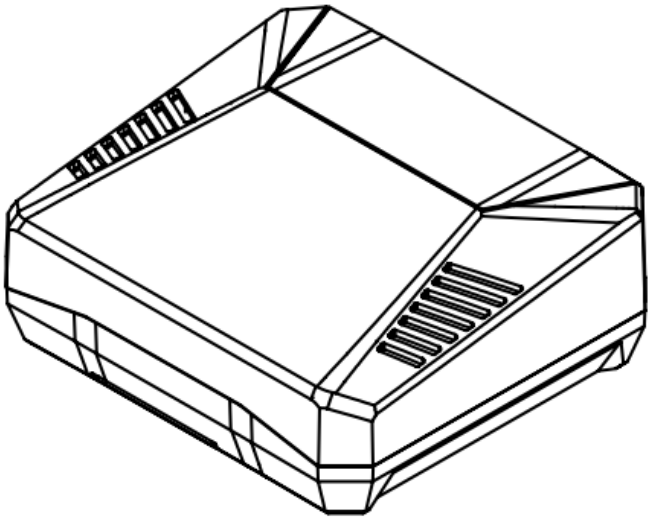
Argon ONE V3 Case For Raspberry User Guide

Contents

Argon

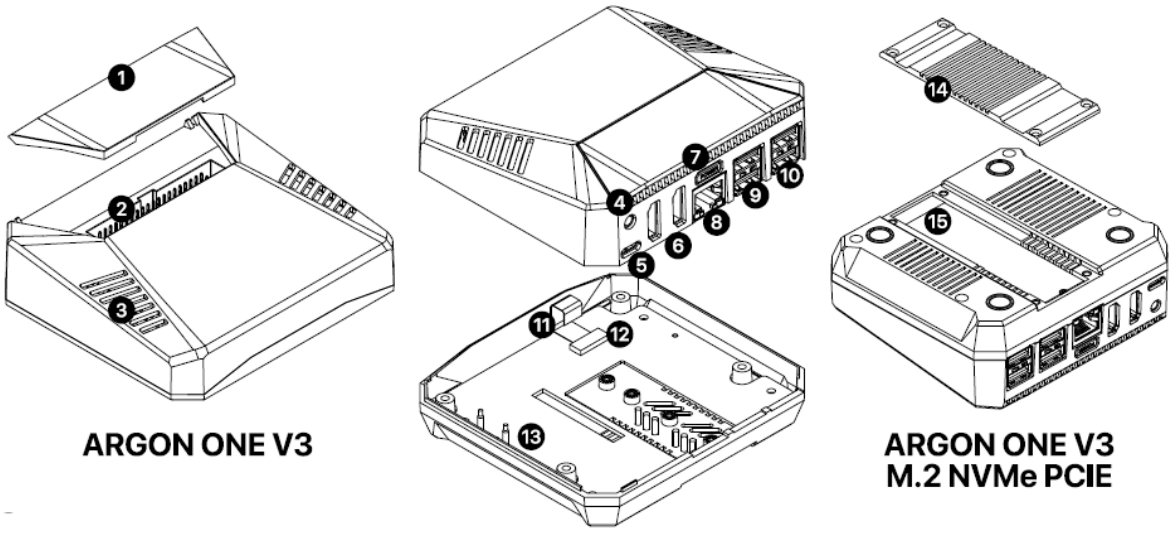
Argon ONE V3 Case For Raspberry





ARGON ONE V3 / M.2 NVMe PCIE PARTS

1.



Magnetic Removable

2. Top Cover
3. 40 Pin GPIO Access
4. Exhaust vents
5. 3.5mm Audio Port (Works only with Argon
6. USB-C Power In
7. 2xTypeAHDMI
8. Power Button
9. Gigabit Ethernet 02xUSB3.0
10. 2xUSB2.0
11. ID Pele Film Strip
12. PC le Socket
13. Power Pogo Pins
14. THRML M.2H eatsink 49
15. M.2 NVMe Drive Socket

ARGON ONE V3 FEATURES

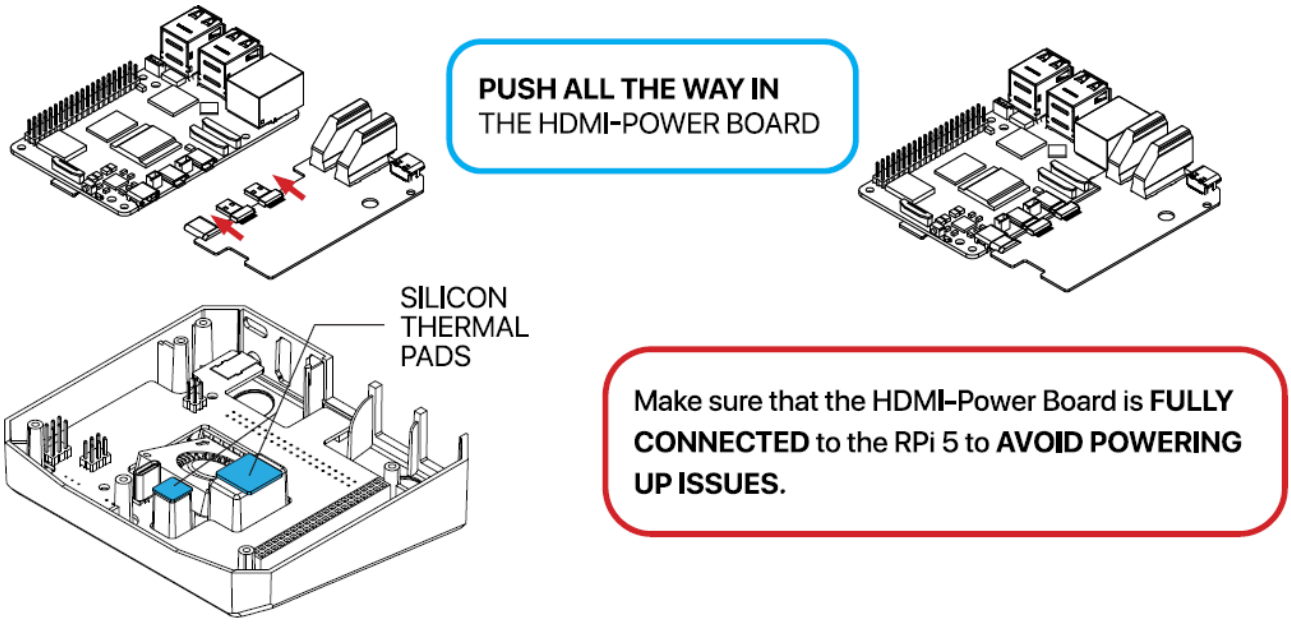
Durable and Functional Case Material for Passive Cooling	Whole top of the case is injected aluminum alloy and injected ABS plastic bottom
More efficient Active Cooling	Blower type 30mm PWM Programmable fan. Full fan power control vis-a-vis CPU Temp response via Argon Script
Internal MicroController for Power Button and FAN Control Functions	Powered by Raspberry Pi **RP2040 Chip**. New Hacker Friendly feature.
Built-in IR Receiver	(GPIO 23) Works with Argon Remote once Argon Script is installed, but is fully user Programmable for other remotes in LIRC
Multi function Power Button and Power Management	Safe shutdown with power cut, Reboot, Always ON Mode
2 Regular HDMI	Converted the micro HDMI of the RPi 5 to Regular HDMI
GPIO Access	Full GPIO Access with Magnetic cover

ARGON ONE V3 ADD ON MODULES

Add ON: Argon ONE M.2 NVMe PCIe Expansion Board	Fully compatible with the Argon ONE M.2 NVMe PCIe Expansion Board for the M.2 NVMe Storage via the PCIe of the RPi 5
Add ON: Argon BLSTR DAC	Full high definition 24-bit 192kHz Texas Instruments PCM5122 digital audio codec (DAC) via the 3.5mm jack
Add ON: Argon PWR Uninterrupted Power Supply Module	Argon PWR UPS | 5.1V 5A PD UPS with internal RTC

ASSEMBLY INSTRUCTIONS

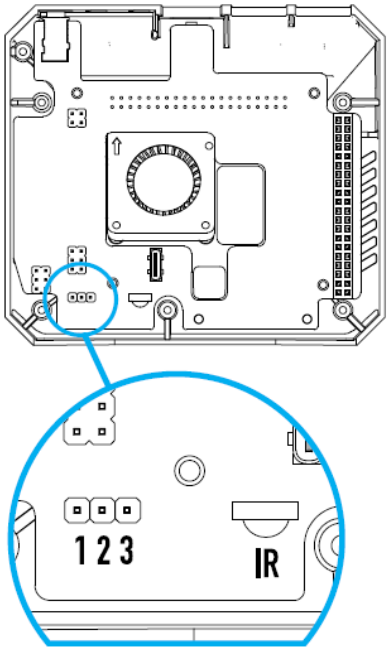
1. Connect the Raspberry Pi® 5 to HDMI-Power Board. Place the Silicon Thennal Pads on the Argon ONE V3 case heatsinks (CPU and PMIC).
   Raspberry Pi 5 with HDMI-POWER BOARD will NOT POWER UP If NOT CONNECTED with the TOP CASE



2. Select the Argon ONE V3 Power Button Management Mode:
   ARGON ONE V3 / M.2 NVMe PCIe CASE JUMPER PIN SETTING

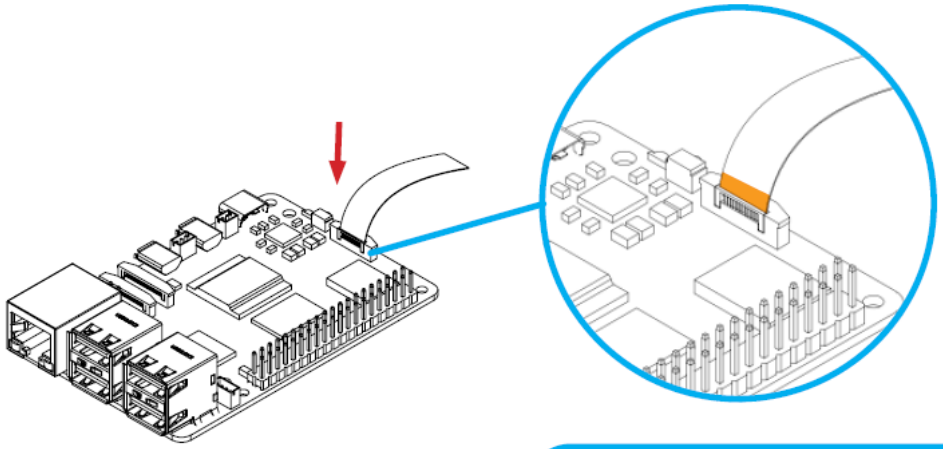
JUMPER PIN SETTING	MODE	BEHAVIOUR
Pin 1-2	Default Setting (Mode 1)	You need to PRESS button to Power ON from shutdown or power outage.
Pin 2-3	Always ON (Mode 2)	Power current will flow directly to Raspberry Pi. NO need to PRESS button to power ON from power outage

DEFAULT SETTINGS
Pin 1-2 or No Pin



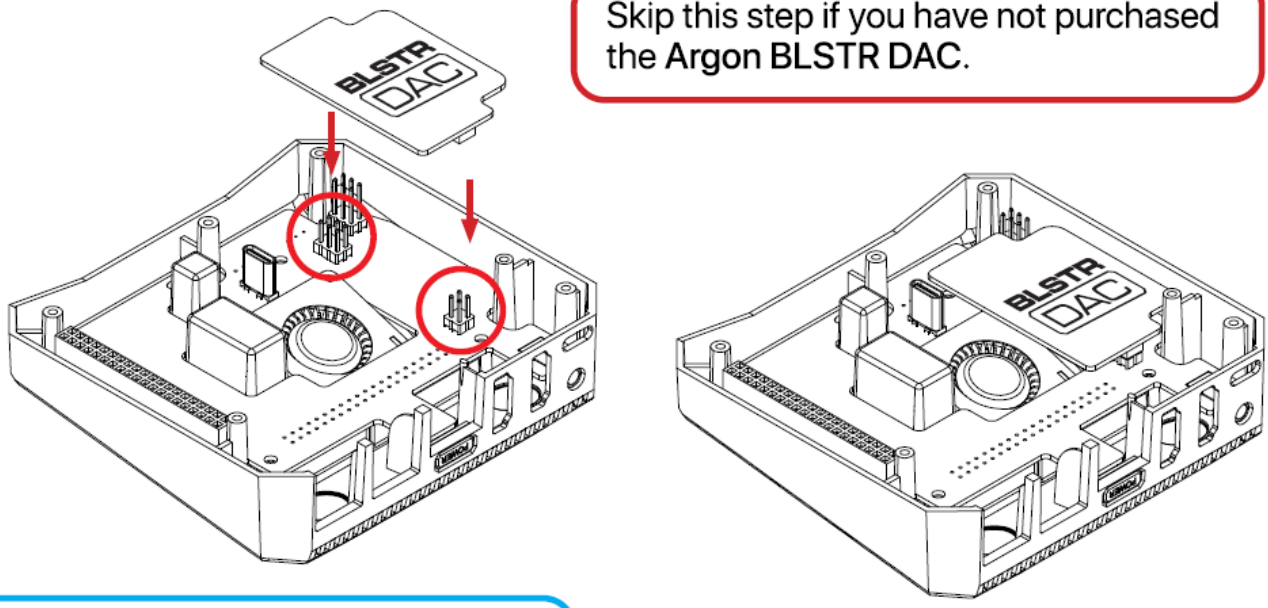
3. Connect the PCIe Pipe Flat Flex Cable to the Raspberry Pi® 5 PCIE port.

Skip this step if you have not purchased the **Argon ONE V3 M.2 NVMe PCIe Case or Expansion Board**



COPPER SIDE of the strip should be facing the **white side of the PCIE connector** of the Raspberry Pi® 5.

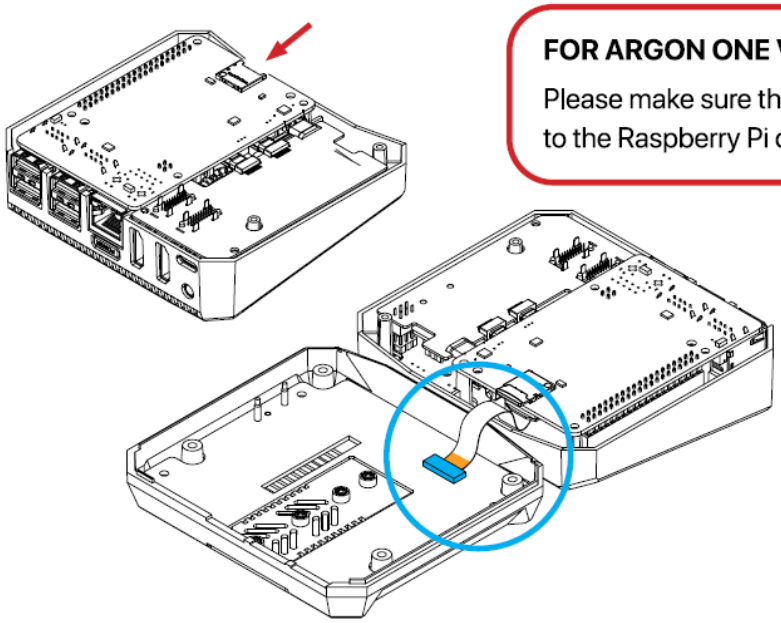
4. Connect the Argon BLSTR DAC Board to the pins of the Argon ONE V3 RP2040-Fan Board.
   Argon BLSTR DAC is needed to activate the 3.5mm Audio Port.



Skip this step if you have not purchased the **Argon BLSTR DAC.**

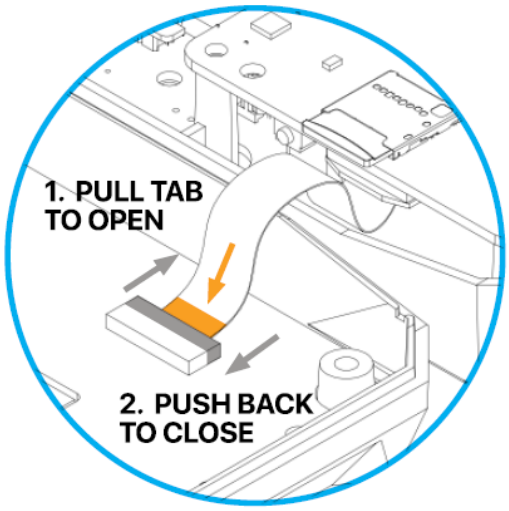
Refer to **Configuring Argon BLSTR DAC** page 16.

5. Carefully connect Raspberry Pi9 5 HDMI-Power assembly to the female GPIO and 6-pln Power port of the Argon ONE V3 case.



FOR ARGON ONE V3 CASE ONLY:

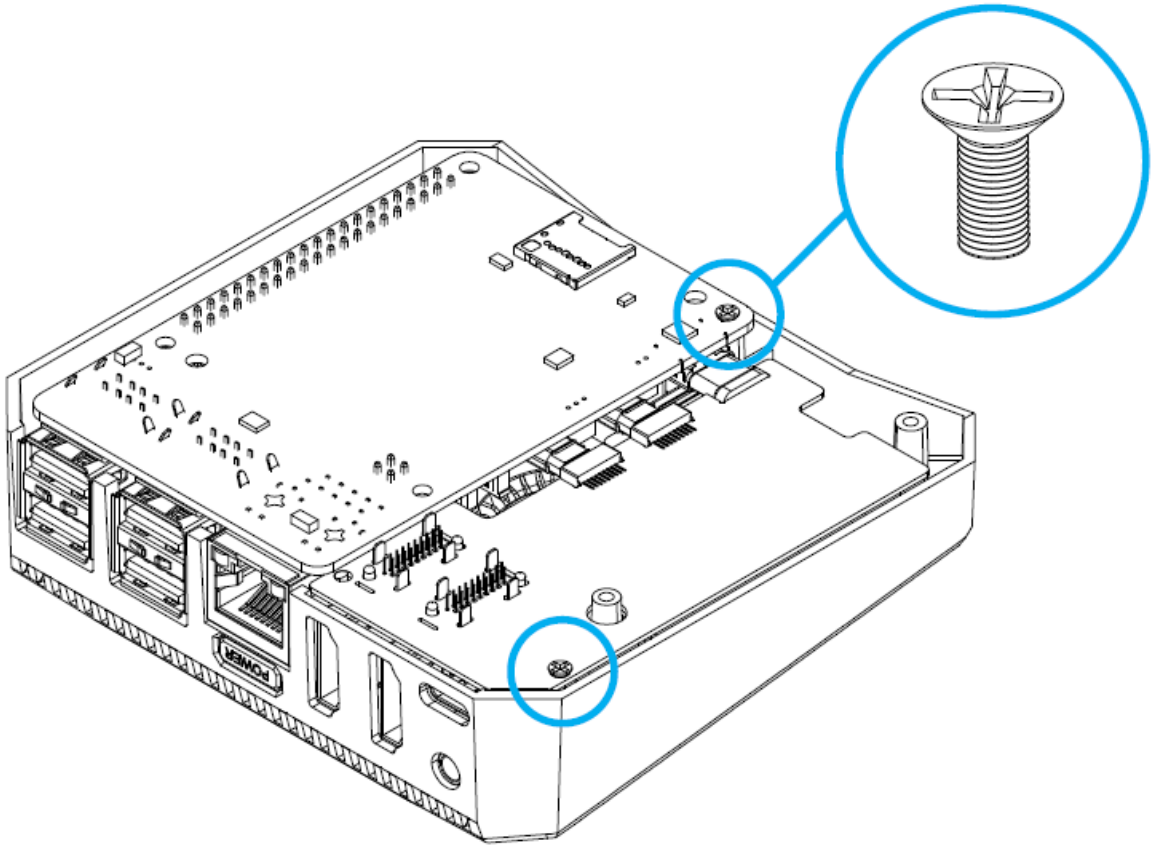
Please make sure that the microSD Card is **NOT INSERTED** to the Raspberry Pi during assembly.



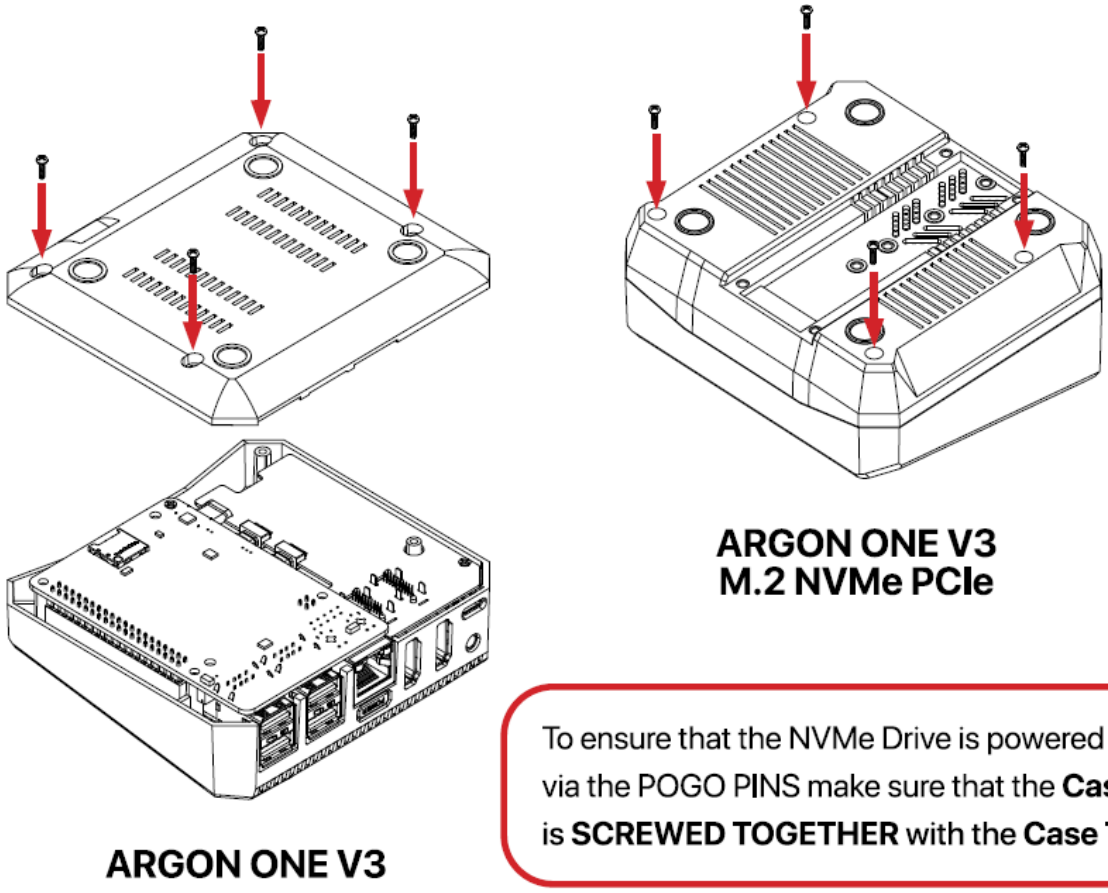
FOR ARGON ONE V3 M.2 NVMe PCIe

Please connect the PCIe Pipe Flat Flex cable with **COPPER SIDE FACING UP** as shown in the image.

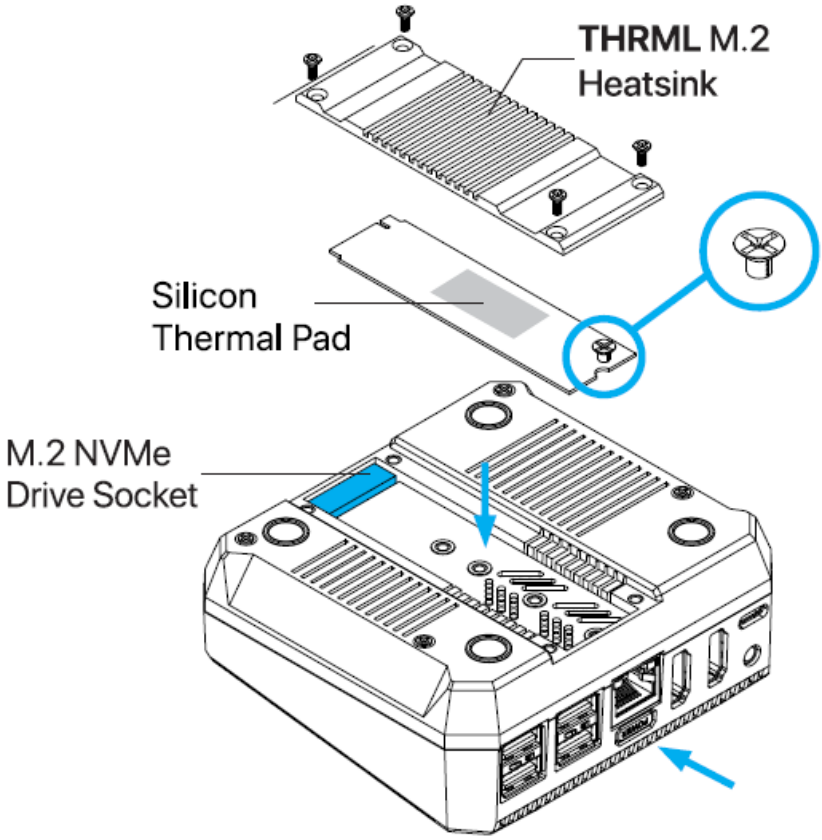
6. Secure flat head screws to fasten Raspberry Pi™ 5 andHDMI-Power Board assembly to top case.



7. Fasten the bottom cover of the Argon ONE V3 / M.2 NVMe PCIe using the round head screws.



8. Connect your M.2 NVMe Drive to the Argon ONE V3 M.2 NVMe PCIe Expansion Board. This Board will accept M.2 Key M and M.2 Key B+M NVMe Storage Drive.



This Board is NOT compatible with M.2 SATA Storage Drives.

You may move the screw point on the Board to the appropriate size of your Storage Drive.

PRESS the POWER Button lo TURN ON after assembly and connecting the Power Supply

INSTALL ARGON ONE V3 POWER BUTTON AND FAN CONTROL SCRIPT

1. STEP 1: Configure the EE PROM Setting to optimize power and boot from NVMe.
    1. Connect to the Internet, make sure Raspberry Pi TI me is updated and execute in the Terminal.

```
curl https://download.argon40.com/argon1.sh | bash
```

    2. Reboot.
2. STEP 2: Install the Argon Control Script and Config.txt Settings 1. Connect to the Internet and execute in the Terminal.

```
curl https://download.argon40.com/argon1.sh | bash
```

Reboot.
UNINSTALL
To uninstall the Argon ONE V3 script you may do so by clicking the Argon ONE V3 Desktop Icon. You may also remove the script via Tenninal Shell by typing:

Always reboot after changing any configuration or uninstallation for the revised settings to take effect.

argonone-ir

AUTOMATED SETTINGS IN ARGON ONE V3 SCRIPT

The ARGON ONE Script automates the installation of all the libraries, programs and EEPROM and Config settings necessary for the RP2040 in the Argon ONE V3 Case to be able to communicate with the Raspbenry PI 5 and perform the various functions like Active Cooling and Power Management.
Below are the SETTINGS that were automated by the Argon ONE Script.

	EEPROM Config	config.txt
Argon ONE Power Button	PSU_MAX_CURRENT=5000	usb_max_current_enable=1
Argon ONE V3 M.2 NVME PCIE	BOOT ORDER=0xf416 PCIE_PROBE=1	dtparam=nvme dtparam=pciex1_gen=3
Argon BLSTR DAC		dtoverlay=hifiberry-dacplus,slave

DEFAULT ARGON ONE V3 POWER BUTTON AND FAN SETTINGS

Upon installation of the Argon ONE V3 script by default, the settings of the Argon ONE V3 Power button and cooling system are as follows:

ARGON ONE V3 STATE	ACTION	FUNCTION
OFF	Short Press	Turn ON
ON	Long Press (>= 3 s)	Soft Shutdown and Power Cut
ON	Short press (<3 s)	Nothing
ON	Double tap	Reboot
ON	Long Press (>= 5 s)	Forced Shutdown

CPU TEMP	FAN POWER
55 C	30%
60 C	55%
65 C	100%

However, you may change or configure the FAN to your desired settings by clicking the Argon ONE V3 Desktop icon.

Or via Teminal Shell by typing and following the specified format:

argon-config

CONFIGURE ARGON BLSTR DAC FOR RASPBERRY PI OS

1. Make sure you have installed the Argon Configuration Script into your by running in the Terminal Shell:

```
curl https://download.argon40.com/argon1.sh | bash
```

2. To enter the Argon Configuration Tool type argon-config in the Terminal Shell. Enter number 3 to install Argon BLSTR DAC Configuration.

```
-------------------------
Argon Configuration Tool
Version 2402004
-------------------------

Choose Option:
  1. Configure Fan
  2. Configure IR
  3. Configure BLSTR DAC (v3 only)
  4. Configure Units
  5. Uninstall

  0. Exit
Enter Number (0-5):3
```

3. Once installed you will be able to see this.

```
Enter Number (0-5):3
-------------------------------------
 Argon BLSTER DAC Configuration Tool
-------------------------------------

Select option:
  1. Diable BLSTER DAC
  2. Cancel
Enter Number (1-2):2
```

4. 11 you want to configure manually the ARGON BLSTR DAC just add the setting in the config file located at /boot/flnnware/config.txt

```
dtoverlay=hifiberry-dacplus,slave
```

5. Then Reboot.

For more infonnation please visit: https://largon40.com/blogs/argon-resources

SET UP BUILT-IN INFRARED RECEIVER
The latest version has a programmable Infrared Receiver installed that can tum ON and OFF the device using the proprietary Argon 40 IR Remote.

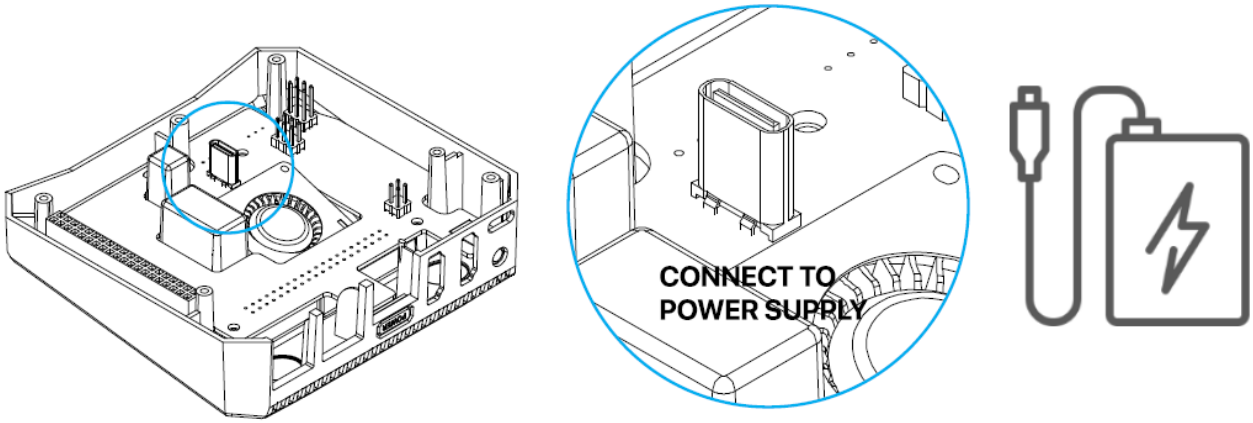
To configure the Infrared Receiver ON/OFF signal of Argon ONE V3 type in the Terminal Shell:
argonone-ir
Then follow the instructions as indicated.

RECOMMENDED IR REMOTE & POWER SUPPLY

Argon JR Remote https://ljargon40.com/products/argon-remote
Argon PWR GaN 27W Power Delivery https://ljargon40.com/products/argon-pwr-gan-usb-Pd·POWer-supply-27-watts

ARGON ONE V3 BASIC HARDWARE TEST

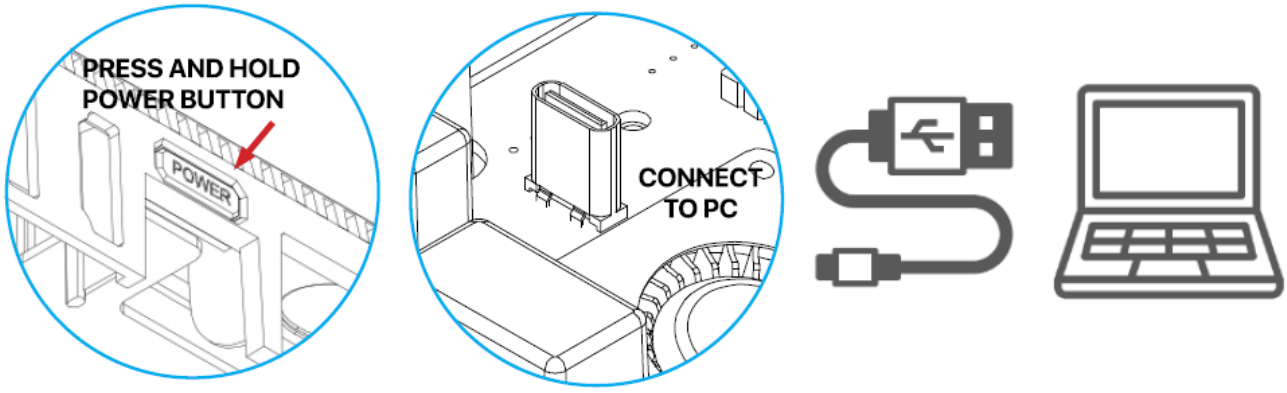
1. Connect the Internal USB-C socket on the RP2040-Fan Board to a 5V Power Supply.
2. Press the Power ON Button.



3. This would initiate the internal FAN to RUN for 5 SECONDS and then STOP.
4. This would indicate that the RP2040 is able to communicate properly with the Power Button and the internal FAN and that the board is fully functional.

UPDATE ARGON ONE V3 FIRMWARE

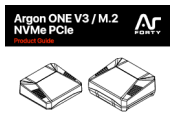
1. Download in your PC or Raspberry Pi Computer the latest Argon ONE V3 Firmware from the link below: https://download.argon40.com/firmware/ArgonOne.uf2
2. PRESS and HOLD the Argon ONE V3 POWER BUTTON while you connect Internal USB•C with Data cable to your PC or Raspberry Pl computer.
3. This puts the RP2040 into USB mass storage device mode.



4. Then you can DRAG and DROP your LATEST compiled .uf2 flnnware file to the USB mass storage device.
5. Eject device when completed.

www.argon40.com

Documents / Resources

	**Argon ONE V3 Case For Raspberry** [pdf] User Guide V3, PI 5, ONE V3 Case For Raspberry, ONE V3, Case For Raspberry, Raspberry

References

- **User Manual**