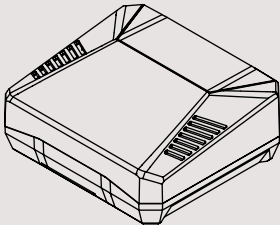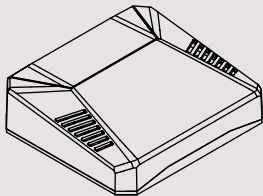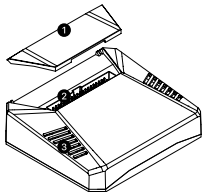# Argon ONE V3 / M.2 NVMe PCIE
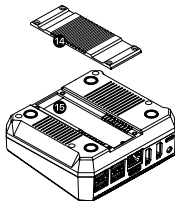
Instructions Manual

ARGON ONE V3 / M.2 NVMe PCIE PARTS

ARGON ONE V3
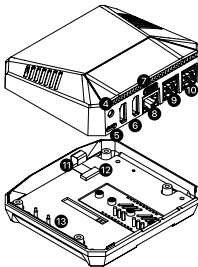
ARGON ONE V3 M.2 NVMe PCIE

1. Magnetic Removable Top Cover
2. 40 Pin GPIO Access
3. Exhaust vents
4. 3.5mm Audio Port
   (Optional with **Argon BLSTR DAC**)

5. USB-C Power In
6. 2 x Type A HDMI
7. Power Button
8. Gigabit Ethernet

9. 2 x USB 3.0
10. 2 x USB 2.0
11. PCIE Film Strip
12. PCIE Socket

13. Power Pogo Pins
14. **THRML** M.2 Heatsink
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 PCIE-NVME 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 ONE 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

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ASSEMBLY INSTRUCTIONS

1. Connect the Raspberry Pi® 5 to HDMI-Power Board. Place the
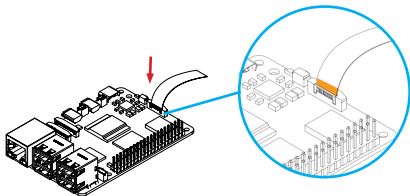   Silicon Thermal Pads on the Argon ONE V3 case heatsinks (CPU and PMIC).
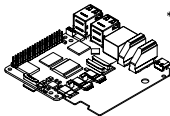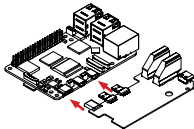
*push all the way
in the HDMI
DAUGHTERBOARD

SILICON
THERMAL PADS
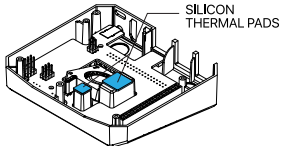
Reminder: Peel off plastic on both sides of the thermal pads

2. 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.

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3. Connect the **Argon ONE BLSTR DAC** Board to the pins of the Argon ONE V3 Fan Board. **Argon ONE BLSTR DAC** is needed to activate the 3.5mm Audio Jack to work.

Skip this step if you have not purchased the **Argon ONE BLSTR DAC.**
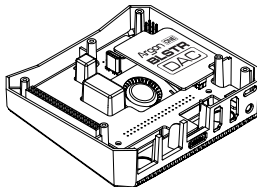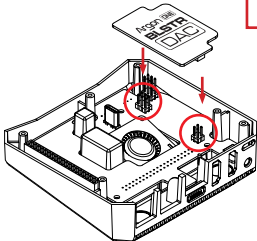
Set Audio to PulseAudio in **raspi-config**

Add setting to **config.txt**

dtoverlay=hifiberry-dac

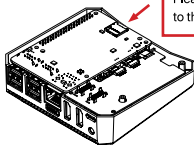4. Carefully connect Raspberry Pi® 5 HDMI–Power assembly to the female GPIO port of the Argon ONE V3 case.

FOR ARGON ONE V3 CASE ONLY:

Please make sure that the microSD Card is **NOT inserted** to the Raspberry Pi during assembly.
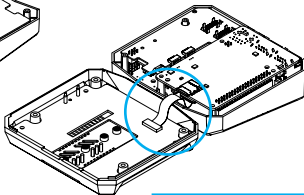
FOR ARGON ONE V3 M.2 NVMe

Please connect the PCIe Pipe Flat Flex Cable to the Expansion Board

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5. Use **flat head screws** to fasten Raspberry Pi® 5 and HDMI-Power Board assembly to top case.

6. Select the **Argon ONE V3** Power Button Management Mode:

ARGON ONE V3 / M.2 NVMe PCIE CASE
JUMPER PIN SETTING
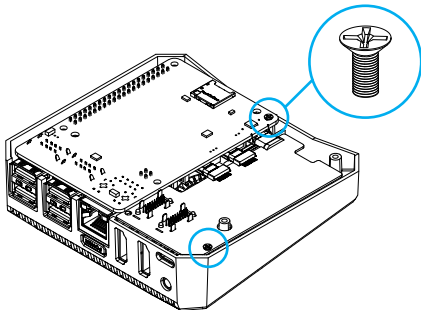
JUMPER PIN SETTING	MODE	BEHAVIOUR
Pin 1-2	Default Setting (Mode 1)	You need to PRESS button to Power ON from shutdown or power outage.
Pin 2-3	Always ON (Mode 2)	Power current will flow directly to Raspberry Pi. NO need to PRESS button to power ON from power outage

DEFAULT SETTINGS

Pin 1-2 or No Pin

1 2 3

IR

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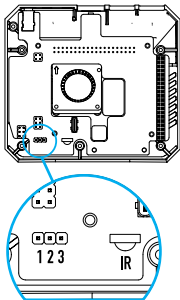
7. Secure the bottom cover of the **Argon ONE V3** using the **round head screws.**
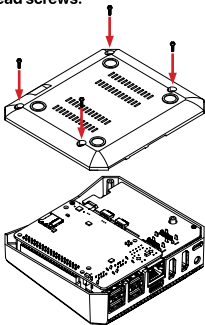
ARGON ONE V3
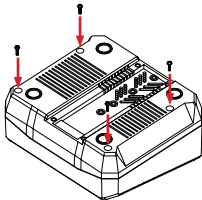
ARGON ONE V3 M.2 NVMe PCIE

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 B** and **M.2 Key B+M** NVMe Storage Drive.

THRML M.2 Heatsink

Silicon Thermal Pad

M.2 NVMe Drive Socket
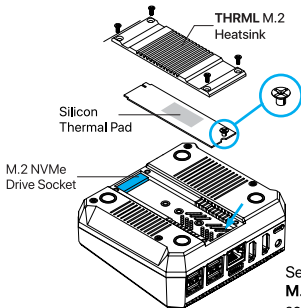
*This Board is **NOT compatible** with **M.2 SATA** Storage Drives.

Secure your **M.2 Drive** to the **Argon ONE V3 M.2 Expansion Board**. You may move the screw point on the Board to the appropriate size of your Storage Drive.

ARGON ONE V3 POWER BUTTON & FAN CONTROL SCRIPT

STEP 1: Configure the EEPROM Setting to optimize power and boot from NVMe 1. Connect to the Internet and execute in the Terminal.

```
curl https://download.argon40.com/argon-eeprom.sh | bash
```

2. Reboot.

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
```

2. 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 "Terminal" by typing:

```
argonone-uninstall
```

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

For more detailed instructions follow the link below:
https://argon40.com/blogs/argon-resources

EXPLAINING THE AUTOMATED SETTINGS
IN THE ARGON ONE 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 Cases** to be able to communicate with the **Raspberry Pi 5** and perform the various functions like 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_1=gen3
Argon ONE BLSTR DAC		dtoverlay=hifiberry-dac

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ARGON ONE V3 POWER BUTTON & FAN SPEED

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" by typing and following the specified format:

```
argonone-config
```

BUILT-IN INFRARED RECEIVER

The latest version has a programmable Infrared Receiver installed
that can turn 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 App:

```
argonone-ir
```

Then follow the instructions indicated.

RECOMMENDED POWER SUPPLY

Argon PWR GaN USB-C PD 27W or
Official Raspberry Pi® 27W USB-C Power Supply

For more information please visit:

https://argon40.com/blogs/argon-resources

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