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› Argon ONE M.2 Aluminum Case for Raspberry Pi 4 User Manual

Argon Forty A20-002 AR-MDT

Argon ONE M.2 Aluminum Case for Raspberry Pi 4 User Manual

Model: A20-002 AR-MDT | Brand: Argon Forty

1. PRODUCT OVERVIEW

The Argon ONE M.2 Aluminum Case is designed to enhance your Raspberry Pi 4 experience by providing robust protection, efficient cooling, and expanded storage capabilities. It features an integrated M.2 SATA Expansion Board, a power button for safe shutdown, and access to all essential ports.



Figure 1: Argon ONE M.2 Aluminum Case for Raspberry Pi 4.

This image displays the sleek aluminum design of the Argon ONE M.2 case, highlighting its compact form factor and integrated cooling vents.

2. WHAT'S IN THE BOX

Verify that all components are present before proceeding with assembly:

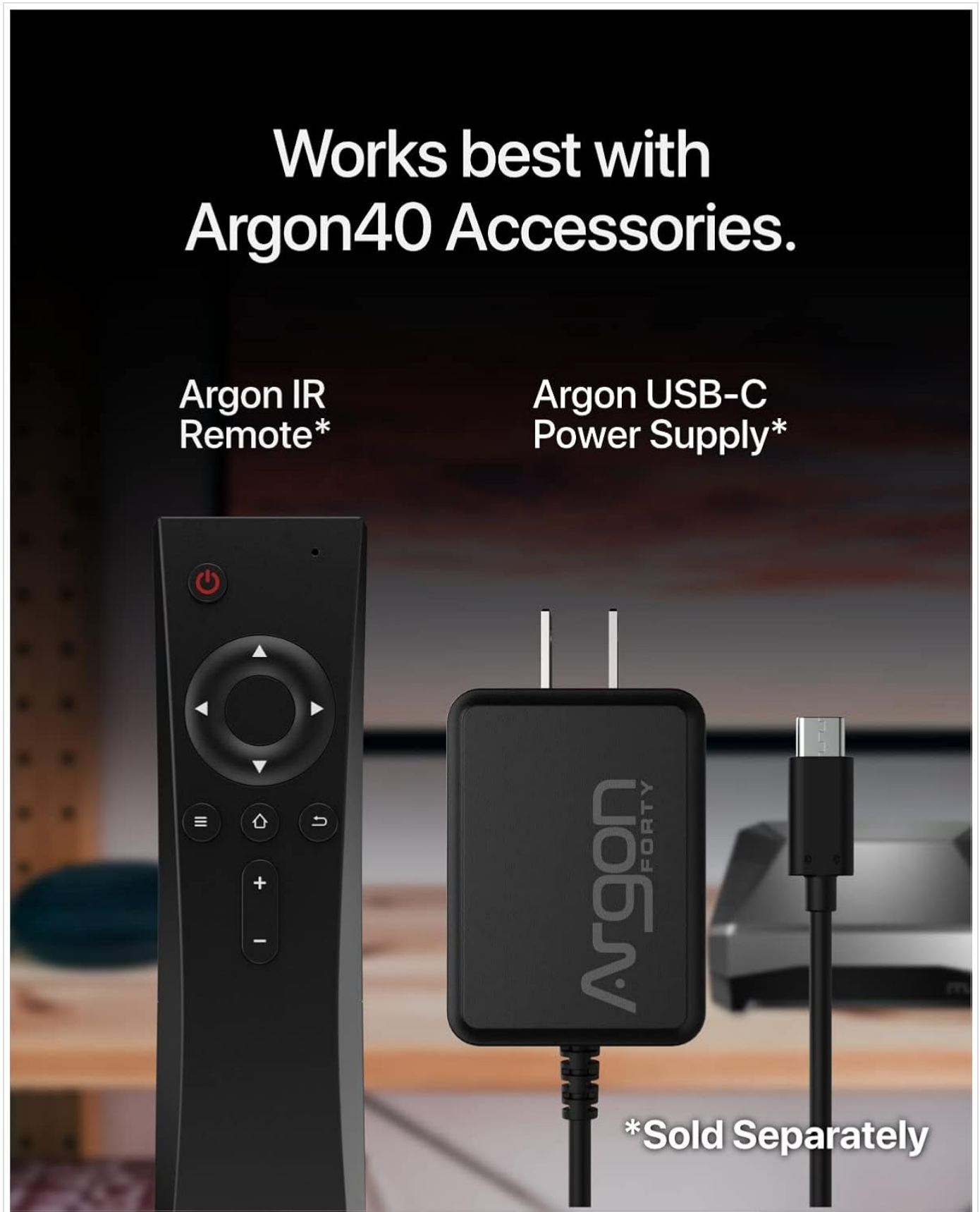


Figure 2: Contents of the Argon ONE M.2 Case packaging.

This image shows the various components included with the Argon ONE M.2 case, such as the main case body, M.2 SATA Expansion Board, HDMI Daughter Board, USB Bridge, screws, thermal pads, and rubber footings.

- Argon ONE M.2 Case (Top and Bottom)
- M.2 SATA Expansion Board
- HDMI Daughter Board

- USB Bridge
- Screws (various sizes for assembly)
- Silicon Thermal Pads
- Rubber Footings

3. SETUP AND INSTALLATION

Follow these steps to assemble your Argon ONE M.2 case with your Raspberry Pi 4:

1. **Prepare the Raspberry Pi 4:** Ensure your Raspberry Pi 4 is powered off and any microSD card is removed.
2. **Install HDMI Daughter Board:** Carefully connect the HDMI Daughter Board to the Raspberry Pi 4's HDMI ports. Push it all the way in for a secure connection.



Figure 3: Close-up of the dual full-sized HDMI ports on the Argon ONE M.2 case.

This image highlights the two full-sized HDMI ports, which are part of the HDMI Daughter Board, ensuring easy connectivity for display outputs.

3. **Apply Thermal Pads:** Place the provided silicon thermal pads onto the designated areas on the Raspberry Pi 4's main chips (CPU and USB controller). These pads facilitate heat transfer to the aluminum case for passive cooling.
4. **Mount Raspberry Pi in Top Case:** Carefully align the Raspberry Pi 4 with the top part of the Argon ONE case, ensuring the GPIO pins connect properly to the case's internal board. Secure it with the shorter flat head screws.
5. **Install M.2 SATA SSD:** Insert your M.2 SATA SSD (B-Key or B+M Key compatible) into the M.2 SATA Expansion Board located in the bottom part of the case. Secure the SSD with the provided screw.

Note: This board is NOT compatible with M.2 NVMe Storage Drives.

6. **Assemble Bottom Cover:** Attach the bottom plastic cover, which houses the M.2 SATA Expansion Board, to the main aluminum case using the longer round head screws.
7. **Connect USB 3.0 Bridge:** Insert the USB 3.0 Bridge into the designated USB 3.0 port at the back of the Argon ONE M.2 case. This connects the M.2 SSD to the Raspberry Pi 4.

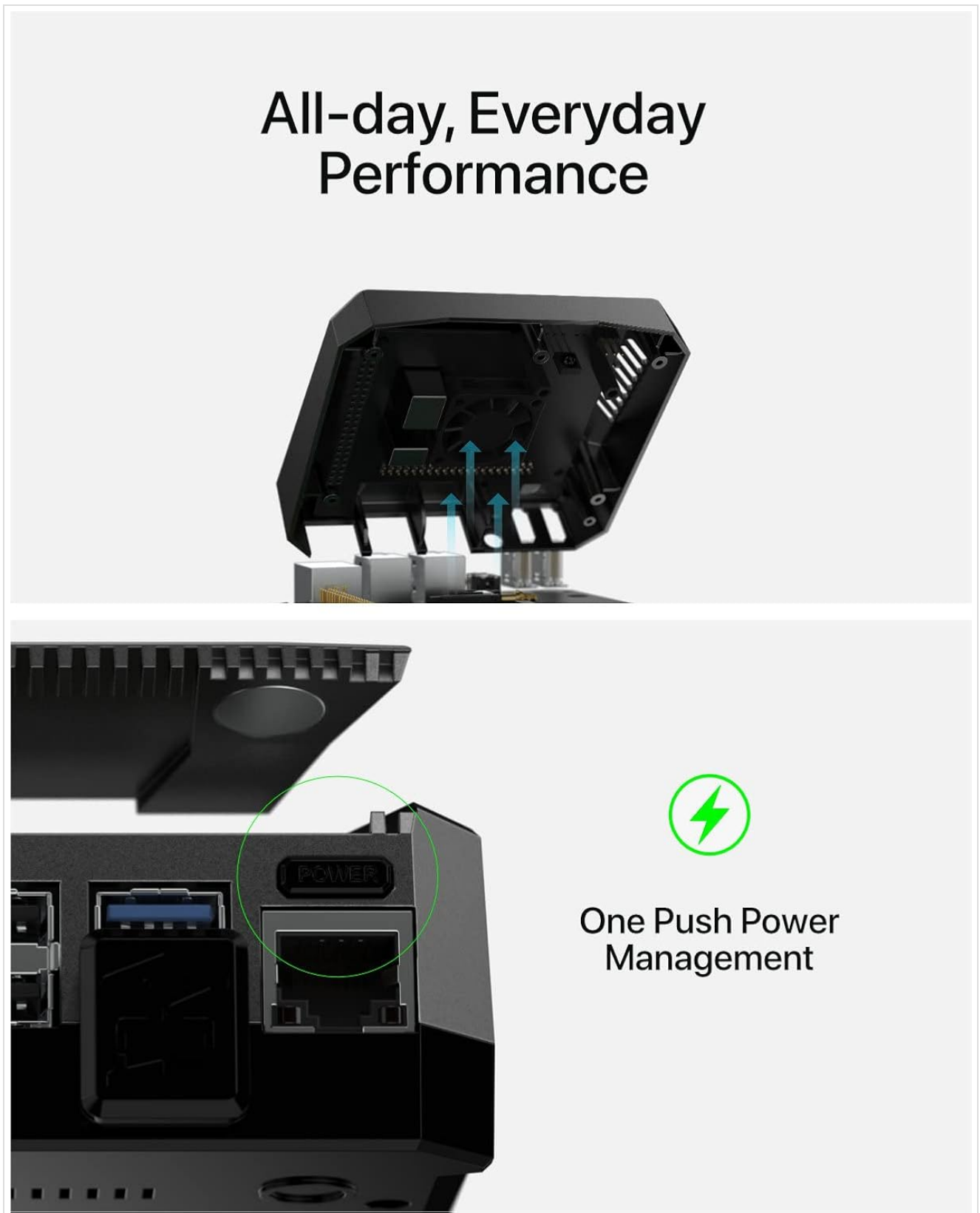


Figure 4: Rear view of the Argon ONE M.2 case showing accessible ports and the USB bridge connection.

This image illustrates the organized port layout, including USB 2.0, USB 3.0, Ethernet, and the power button, along with the USB bridge for M.2 SSD connectivity.

8. **Attach Rubber Footings:** Stick the rubber footings to the bottom of the case for stability and to prevent scratching surfaces.

9. Software Installation (Fan & Power Button Control):

To enable the full functionality of the fan and power button, you need to install the Argon ONE script. Connect your Raspberry Pi 4 to the internet and open a terminal. Execute the following command:

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

Follow the on-screen prompts to complete the installation. Reboot your Raspberry Pi after installation for changes to take effect.

Setup Video Guide

For a visual walkthrough of the assembly process, please refer to the official setup video:

Your browser does not support the video tag.

Video 1: Official Argon ONE M.2 Case for Raspberry Pi 4 Setup Guide. This video demonstrates the step-by-step assembly and software configuration for the Argon ONE M.2 case.

4. OPERATING INSTRUCTIONS

Power Management

The Argon ONE M.2 case features a multi-function power button for safe power management:

- **Short Press (when OFF):** Turns the Raspberry Pi ON.
- **Long Press (>= 3 seconds when ON):** Initiates a soft shutdown and power cut.
- **Double Tap (when ON):** Reboots the Raspberry Pi.
- **Long Press (>= 5 seconds when ON):** Forces a shutdown (use only if soft shutdown fails).

Fan Control

The built-in PWM 30mm fan is software-controllable. By default, the fan speed adjusts based on CPU temperature:

CPU Temperature	Fan Power
55°C	10%
60°C	55%
65°C	100%

You can customize fan behavior using the Argon ONE configuration tool (accessible via the desktop icon or by typing argonone-config in the terminal).

What's in the Box



M.2 SATA Expansion Board



HDMI Daughter Board



USB Bridge



Screws



Quick Start Guide



Thermal Pads



Rubber Footing



Figure 5: Internal view of the Argon ONE M.2 case highlighting the fan and heatsink for thermal management.

This image illustrates the active cooling system with the PWM fan and passive cooling via the aluminum case acting as a heatsink, ensuring optimal temperature for the Raspberry Pi 4.

The integrated IR receiver allows for remote control of your Raspberry Pi 4 (Argon IR Remote sold separately). After installing the Argon ONE script, you can configure the remote's buttons via the terminal by typing `argonone-ir`.

5. MAINTENANCE

- **Cleaning:** Periodically clean the case and fan vents to ensure optimal airflow and prevent dust buildup. Use a soft, dry cloth. For the fan, a can of compressed air can be used carefully.
- **Thermal Pads:** Ensure thermal pads remain securely attached to the Raspberry Pi's chips for effective heat transfer. If reassembling, new thermal pads may be beneficial.
- **Fan Longevity:** While designed for durability, some users have reported fan noise after extended use. If the fan becomes excessively noisy or stops functioning, it may require replacement.

6. TROUBLESHOOTING

- **Fan Not Spinning or Noisy:**
 - Verify the Argon ONE script is correctly installed and configured. Run `argonone-config` in the terminal to check settings.
 - Ensure the fan's power cable is securely connected to the GPIO pins.
 - Check for any obstructions preventing the fan blades from spinning freely.
 - If the fan is making unusual noises, it might be worn out and require replacement.
- **Raspberry Pi Not Booting from M.2 SSD:**
 - Confirm your M.2 SSD is SATA (B-Key or B+M Key) and not NVMe, as NVMe drives are not compatible.
 - Ensure the USB 3.0 Bridge is correctly inserted and making full contact.
 - Verify that your Raspberry Pi 4's bootloader is updated to support USB boot. Refer to official Raspberry Pi documentation for bootloader updates.
 - Ensure the operating system is properly flashed onto the M.2 SSD.
- **Overheating Issues:**
 - Confirm thermal pads are correctly placed and making good contact with the Raspberry Pi's chips and the case.
 - Ensure the fan is functioning as expected (see "Fan Not Spinning or Noisy" above).
 - Check for adequate ventilation around the case.
- **Power Button Not Working:**
 - Ensure the Argon ONE script is installed and running.
 - Check the jumper pin setting on the internal board (P1-2 for default, P2-3 for always on).

7. SPECIFICATIONS

Feature	Detail
Brand	Argon Forty
Model Number	A20-002 AR-MDT
Compatibility	Raspberry Pi 4

Feature	Detail
M.2 SSD Compatibility	M.2 SATA SSD B-Key or B+M Key (Not NVMe)
USB Connectivity	2x USB 2.0 Ports, 2x USB 3.0 Ports
Video Output	2x Full-sized HDMI Ports
Cooling System	Passive (aluminum case heatsink) & Active (PWM 30mm fan)
Power Management	Built-in Safe Shutdown Power Button
IR Receiver	Integrated (for Argon IR Remote, sold separately)
Operating System Support	Raspberry Pi OS, Ubuntu, Kodi/LibreElec, RetroPie
Item Weight	5.3 ounces
Product Dimensions (LxWxH)	4.33 x 3.74 x 1.85 inches

8. WARRANTY AND SUPPORT

For detailed warranty information and product support, please visit the official Argon Forty website or contact their customer service. Keep your proof of purchase for warranty claims.
Official Website: www.argon40.com

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question