ORICO TCM2

ORICO TCM2 M.2 NVMe SSD Enclosure User Manual

Model: TCM2

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of your ORICO TCM2 M.2 NVMe SSD Enclosure. Please read this manual thoroughly before using the product to ensure proper functionality and to prevent damage.

2. Product Overview

The ORICO TCM2 is a high-performance external enclosure designed for M.2 NVMe solid-state drives. It features a transparent design, USB 3.2 Gen 2 (10 Gbps) connectivity, and supports various M.2 NVMe SSD form factors. This enclosure allows you to convert an internal NVMe SSD into a portable external storage device, offering fast data transfer speeds and efficient heat dissipation.

Figure 2.1: The ORICO TCM2 M.2 NVMe SSD Enclosure, showcasing its transparent casing and included USB-C to USB-C and USB-C to USB-A cables.

Key Features:

- **High-Speed Data Transfer:** Supports USB 3.2 Gen 2 with up to 10 Gbps transfer speeds.
- **Wide Compatibility:** Compatible with M-Key NVMe SSDs in 2280, 2260, 2242, and 2230 form factors.
- **Tool-Free Installation:** Sliding closure design for easy SSD installation.
- **Efficient Heat Dissipation:** Features an aluminum alloy plate, thermal pad, and double-sided copper strip for optimal thermal management.
- **Intelligent Sleep Function:** Automatically enters sleep mode after 10 minutes of inactivity to extend SSD lifespan.
- **Plug and Play:** No drivers required for most operating systems.

Figure 2.2: Illustration of the high-speed data transfer capabilities, demonstrating approximately 1GB file transfer in seconds at 10 Gbps.

3. Package Contents

Please verify that all items listed below are included in your package. If any items are missing or damaged, please contact customer support.

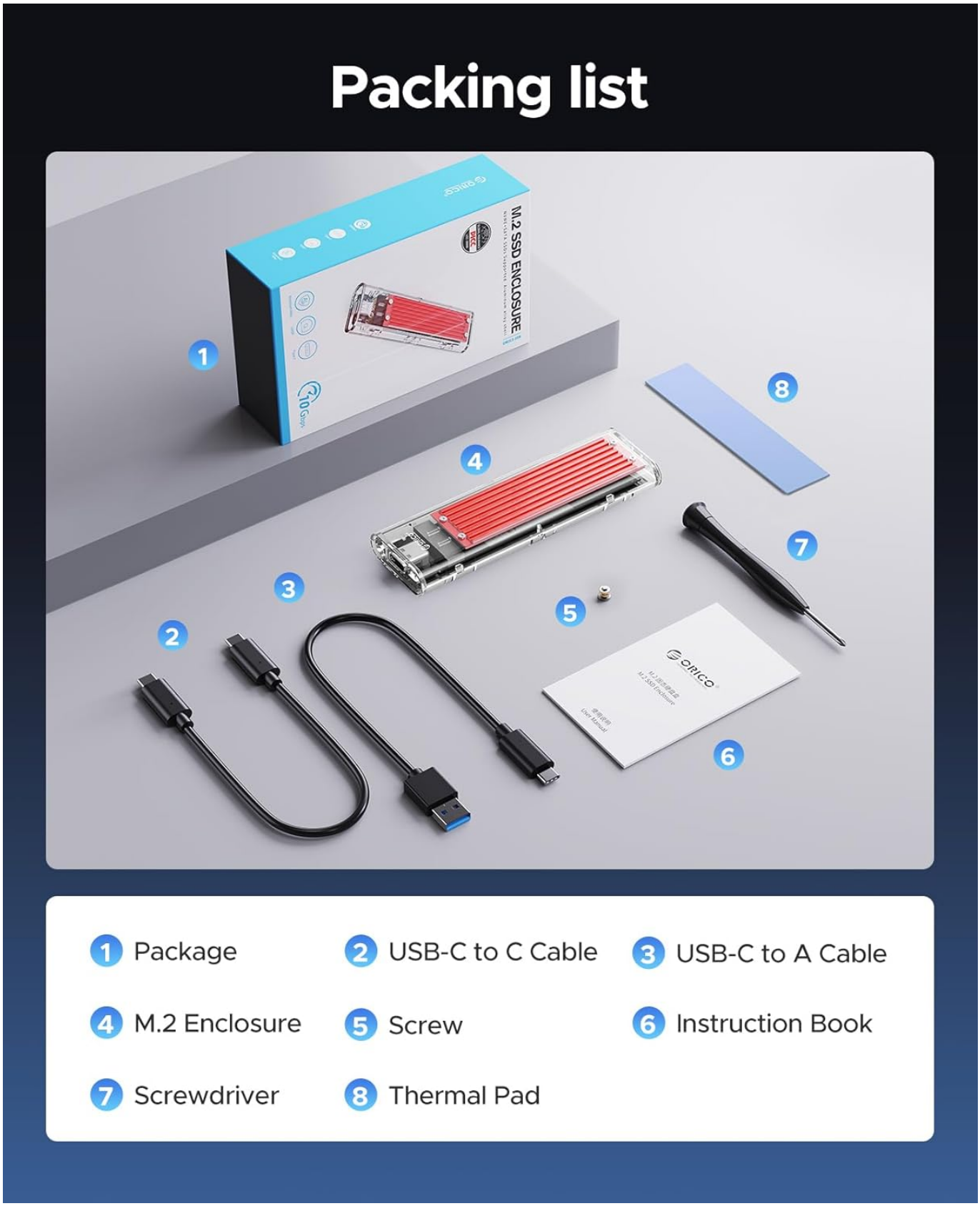

Figure 3.1: Visual representation of the items included in the ORICO TCM2 M.2 SSD Enclosure package.

1. ORICO M.2 SSD Enclosure (1)
2. USB-C to C Cable (1)
3. USB-C to A Cable (1)
4. Mounting Screw (1)
5. Instruction Manual (1)
6. Screwdriver (1)

7. Thermal Pad (1)

4. Compatibility

The ORICO TCM2 M.2 NVMe SSD Enclosure is designed for specific types of M.2 SSDs and is compatible with a wide range of devices and operating systems.

4.1 Supported SSD Types:

- **Key Type:** M-Key NVMe / PCIe SSDs. M&B Key NVMe / PCIe SSDs are also supported.
- **Form Factors:** 2280, 2260, 2242, 2230.
- ***Note:*** SATA SSDs and NVMe SSDs with pre-installed heatsinks are**not** supported.

Figure 4.1: Supported M.2 SSD key types and form factors for the enclosure.

4.2 Device and Operating System Compatibility:

The enclosure offers broad compatibility with various devices and operating systems, supporting plug-and-play functionality.

- **Devices:** Compatible with iMac, PC, Laptops, iPads, iPhones, Cameras, XPS, Surface Go 2, and other devices with USB-C or USB-A ports.
- **Operating Systems:** Supports Windows, iOS, Android, Linux, and Mac OS.

Figure 4.2: The enclosure's compatibility with a diverse range of devices and operating systems.

5. Setup and Installation

Follow these steps to install your M.2 NVMe SSD into the ORICO TCM2 enclosure.

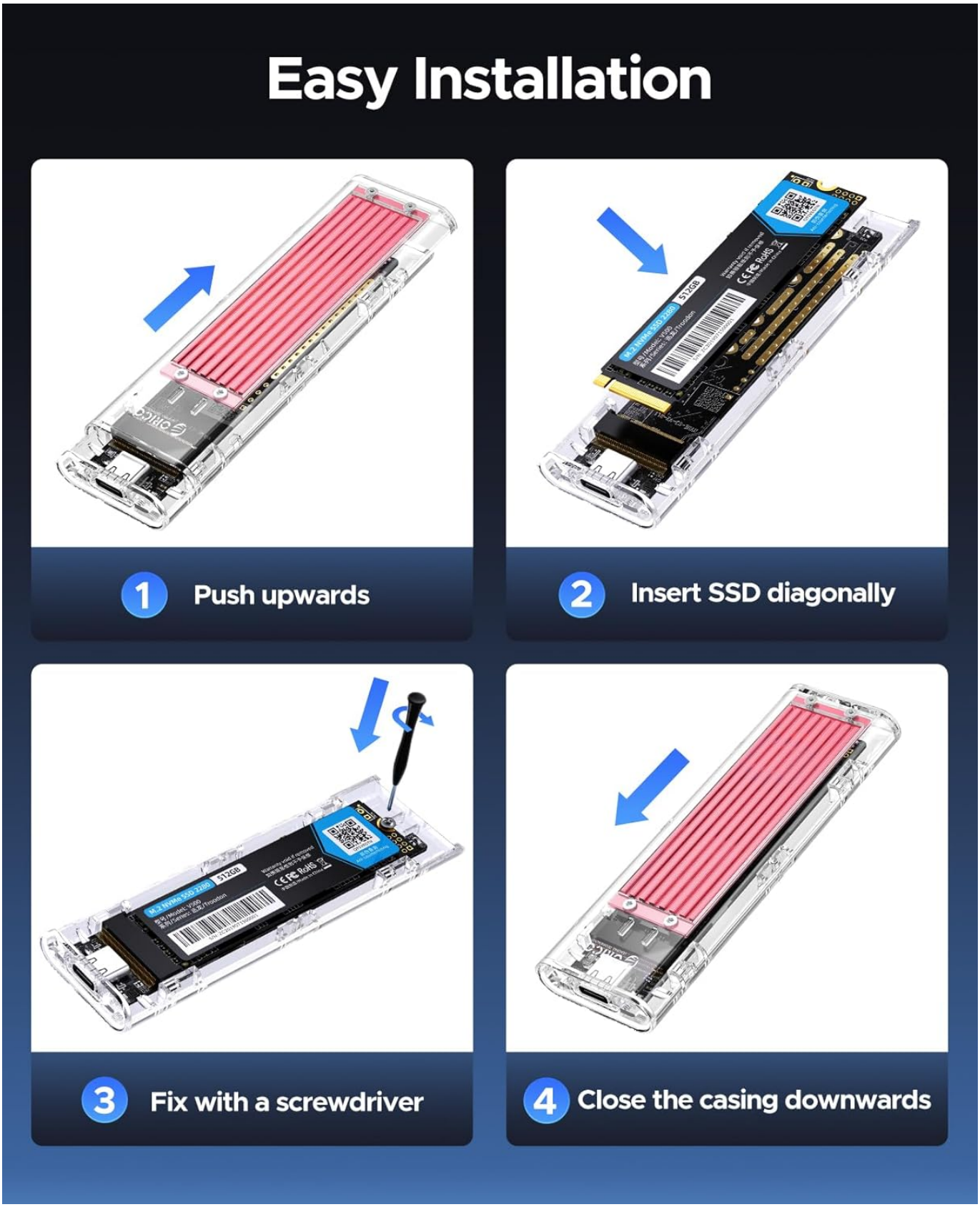

Figure 5.1: Step-by-step visual guide for installing an M.2 NVMe SSD into the enclosure.

1. **Open the Enclosure:** Gently push the top cover of the enclosure upwards to slide it open and expose the internal PCB.
2. **Apply Thermal Pad:** Peel off the protective films from both sides of the thermal pad and carefully place it onto the M.2 NVMe SSD, ensuring it covers the main chip area.
3. **Insert SSD:** Align the M-Key notch of your NVMe SSD with the slot on the PCB and insert the SSD diagonally into the connector.

4. **Secure SSD:** Gently push the SSD down until it is flat. Use the provided screw and screwdriver to secure the end of the SSD into the designated mounting hole.
5. **Close the Enclosure:** Slide the top cover back downwards until it clicks into place, ensuring it is fully closed.

6. Operating Instructions

Once the SSD is installed, connect the enclosure to your device using the appropriate USB cable.

1. **Connect to Device:** Use the provided USB-C to USB-C cable for devices with a USB-C port (e.g., laptops, phones, tablets) or the USB-C to USB-A cable for devices with a USB-A port (e.g., desktop PCs).
2. **Power On:** The enclosure is bus-powered and will turn on automatically when connected to a powered USB port. A built-in LED indicator will show the operating status.
3. **Accessing the SSD:** Your operating system should detect the new storage device. If it's a new SSD, you may need to initialize and format it through Disk Management (Windows) or Disk Utility (macOS) before it can be used.
4. **Data Transfer:** Drag and drop files to and from the SSD as you would with any other external drive.

6.1 Intelligent Sleep Function:

The enclosure features an intelligent sleep function. If there is no data activity for approximately 10 minutes, the enclosure will automatically enter sleep mode to conserve power and extend the lifespan of the SSD. It will resume normal operation when accessed again.

7. Heat Dissipation

The ORICO TCM2 enclosure incorporates a triple heat dissipation design to maintain optimal operating temperatures for your NVMe SSD, ensuring stable performance and longevity.

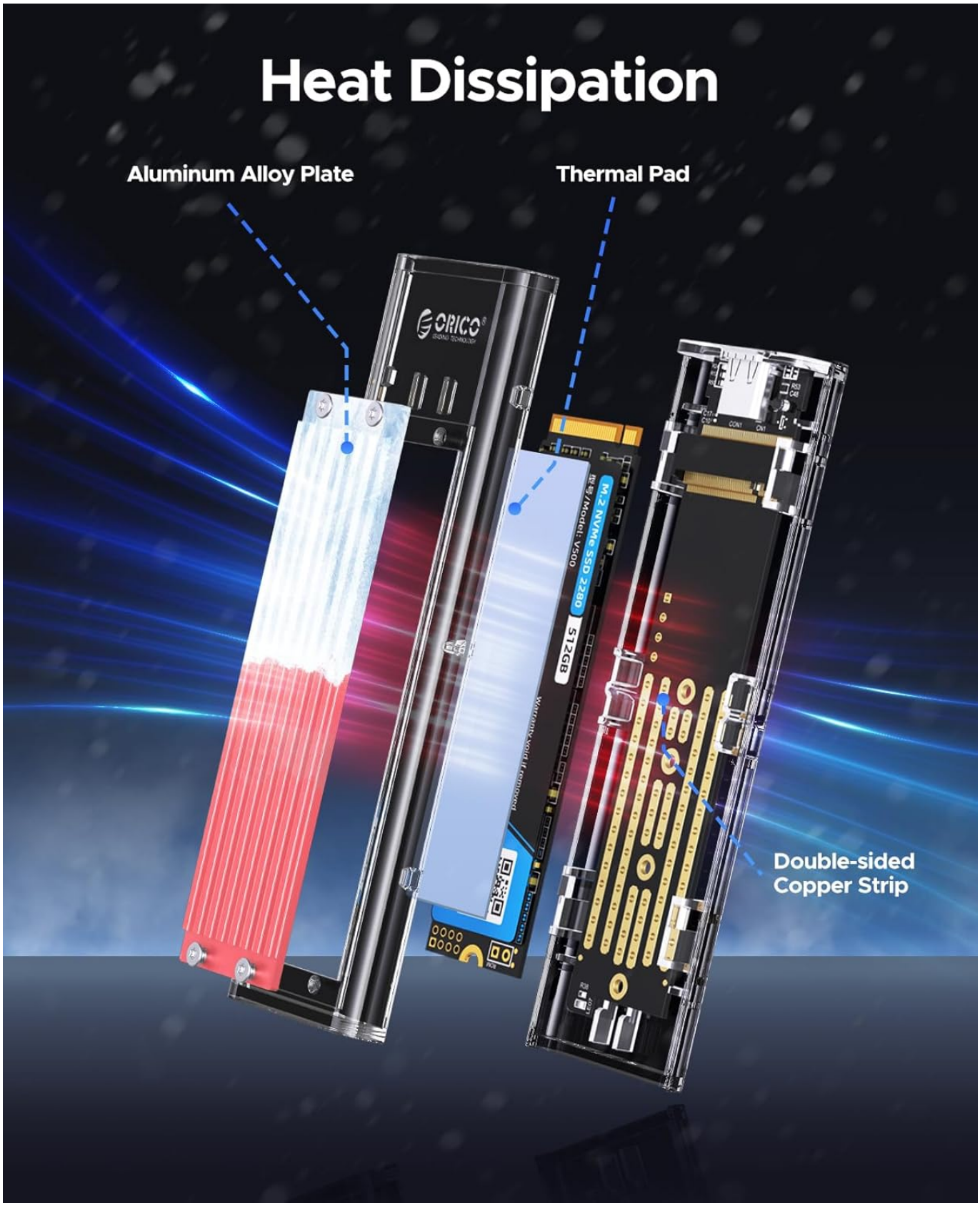

Figure 7.1: Components of the triple heat dissipation system.

- **Aluminum Alloy Plate:** The enclosure's aluminum alloy plate acts as a large heat sink, drawing heat away from the SSD.
- **Thermal Pad:** The included silicone thermal pad ensures efficient heat transfer from the SSD's surface to the aluminum alloy plate.
- **Double-sided Copper Strip:** Internal copper strips further aid in heat conduction and dissipation.

8. Specifications

Feature	Detail
Model	TCM2
Interface	USB 3.2 Gen 2 Type-C
Data Transfer Rate	Up to 10 Gbps
Compatible SSD	M-Key NVMe / PCIe SSD (2230, 2242, 2260, 2280)
Max Capacity	Up to 2TB
Operating System	Windows, macOS, Linux, Android, iOS
Dimensions	4.25 x 1.34 x 0.47 inches (108 x 34 x 12 mm)
Material	Transparent PC + Aluminum Alloy
Features	UASP, TRIM, 10-minute Intelligent Sleep

9. Troubleshooting

- **SSD Not Detected:**
  - Ensure the SSD is correctly installed and secured in the enclosure.
  - Verify that the USB cable is securely connected to both the enclosure and your device.
  - Try a different USB port or cable.
  - For new SSDs, ensure it is initialized and formatted in your operating system's Disk Management (Windows) or Disk Utility (macOS).
  - Confirm the SSD is an M-Key NVMe/PCIe type and not a SATA SSD.
- **Slow Transfer Speeds:**
  - Ensure your device's USB port supports USB 3.2 Gen 2 (10 Gbps) for optimal performance. Connecting to a USB 2.0 port will result in slower speeds.
  - Use the provided USB 3.2 Gen 2 compatible cables.
  - Check if your operating system supports UASP (USB Attached SCSI Protocol) and TRIM.
- **Enclosure Gets Hot:**
  - NVMe SSDs can generate significant heat during heavy use. The enclosure's design includes heat dissipation features to manage this.
  - Ensure the thermal pad is correctly applied to the SSD.
  - Avoid placing the enclosure in enclosed spaces during prolonged heavy use.
- **Frequent Disconnections:**
  - Ensure the USB connection is stable and not loose.
  - Some devices, especially older ones, might not provide sufficient power. Try connecting to a powered USB hub if issues persist.

10. Maintenance

- Keep the enclosure clean and free from dust. Use a soft, dry cloth for cleaning.
- Avoid exposing the enclosure to extreme temperatures, humidity, or direct sunlight.
- Do not attempt to disassemble the enclosure beyond the intended SSD installation process.
- Always safely eject the drive from your operating system before disconnecting it to prevent data corruption.

11. Warranty and Support

ORICO products come with a standard manufacturer's warranty. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official ORICO website. If you encounter any issues or have questions regarding your ORICO TCM2 M.2 NVMe SSD Enclosure, please contact ORICO customer support for assistance.

ORICO Customer Support:

- Website: www.orico.com.cn (Please check for regional support contact information)
- Email: Refer to your product packaging or website for support email.