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› GeekPi PWM Case for Raspberry Pi 4 Model B - Instruction Manual

GeekPi 4 Case

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Model: 4 Case

INTRODUCTION

This manual provides detailed instructions for the assembly, operation, and maintenance of the GeekPi PWM Case for Raspberry Pi 4 Model B. This case is designed to provide effective cooling for your Raspberry Pi 4, featuring a 40x40x10mm PWM fan and aluminum heatsinks. Its durable ABS construction and three-stage design ensure easy installation and access to essential ports.

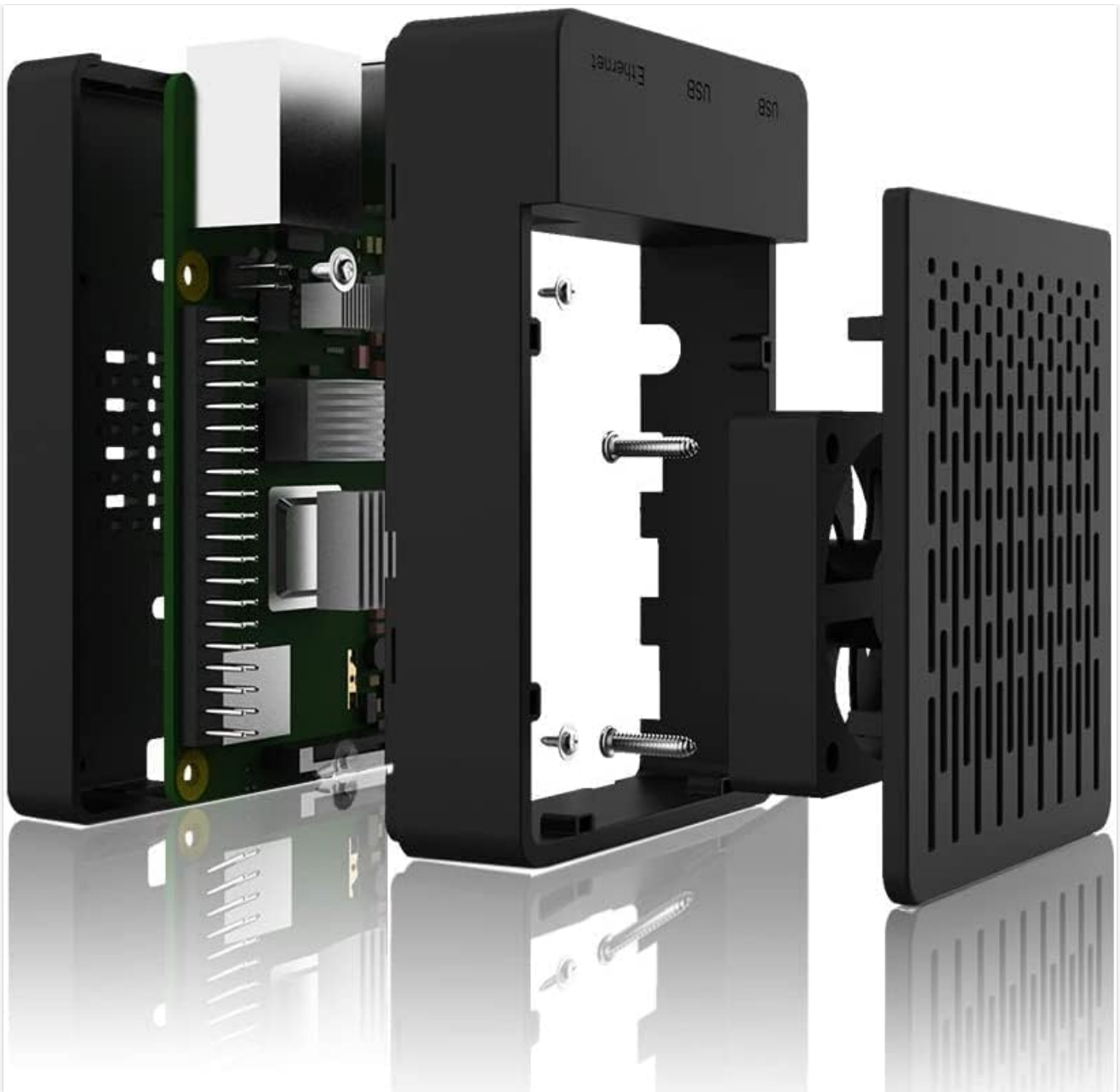


Figure 0: The assembled GeekPi PWM Case for Raspberry Pi 4 Model B.

PACKAGE CONTENTS

Verify that all components are present before beginning assembly:

- 1 x GeekPi ABS Case for Raspberry Pi 4 Model B (Black)
- 1 x Super Quiet PWM 4010 Fan (40x40x10mm)
- 4 x Aluminum Heatsinks
- 1 x Screwdriver
- Mounting Screws

SETUP AND ASSEMBLY

Follow these steps to assemble your GeekPi PWM Case with your Raspberry Pi 4 Model B:



Figure 1: Exploded view of the GeeekPi PWM Case components, showing the Raspberry Pi 4, the multi-layered case, the cooling fan, and mounting hardware.

1. **Prepare Raspberry Pi 4:** Ensure your Raspberry Pi 4 Model B is ready for installation. Familiarize yourself with its port layout.

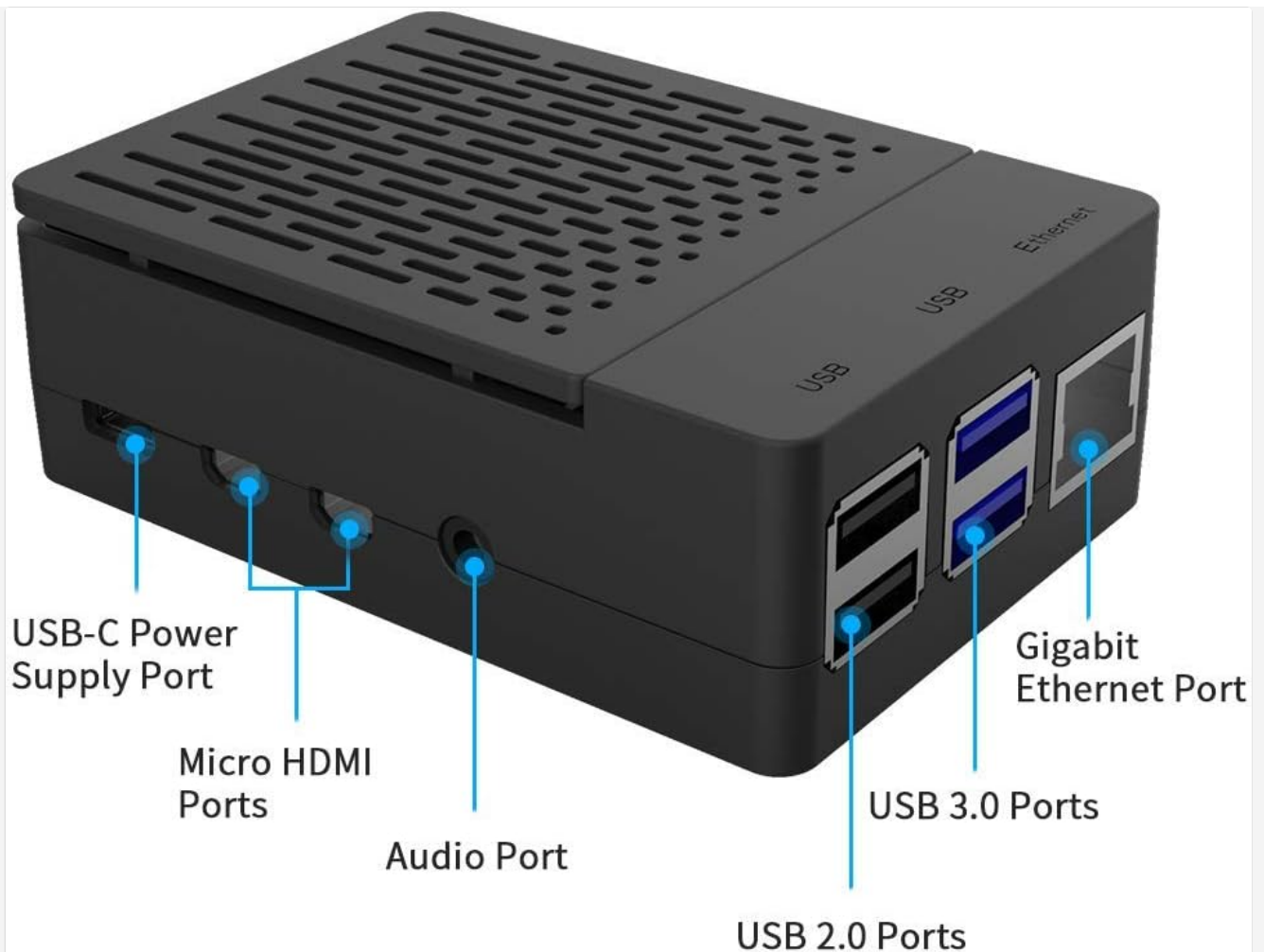


Figure 2: Raspberry Pi 4 Model B port layout. Familiarize yourself with the various ports before installation.

2. **Install Heatsinks:** Carefully apply the four aluminum heatsinks to the designated chips on your Raspberry Pi 4. Refer to Figure 3 for correct placement.

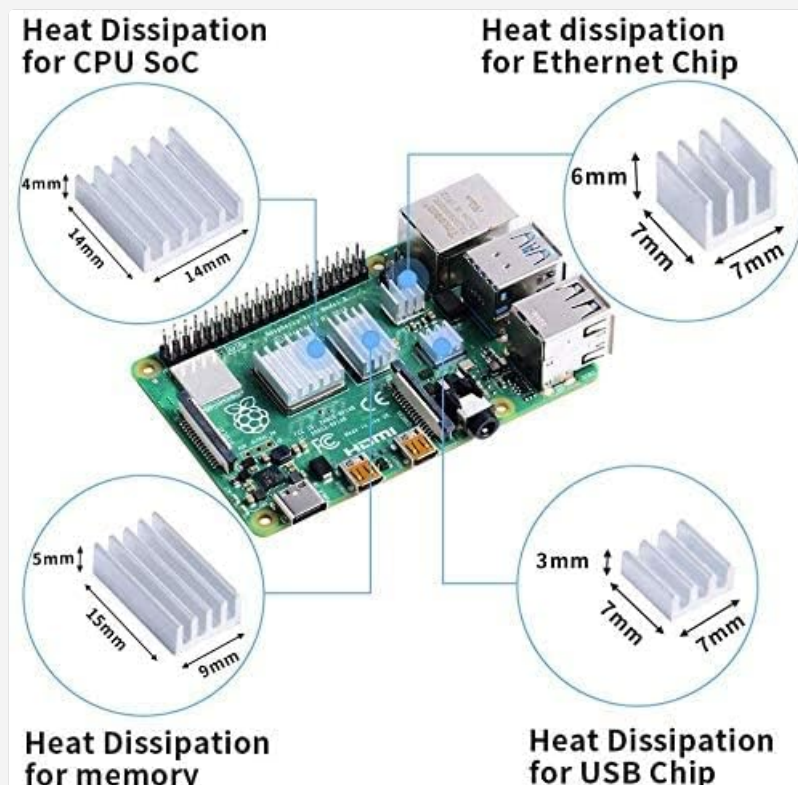


Figure 3: Heatsink placement on the Raspberry Pi 4. Apply the provided aluminum heatsinks to the CPU SoC, Ethernet chip, memory, and USB chip for optimal heat dissipation.

3. **Place Raspberry Pi in Case:** Position the Raspberry Pi 4 onto the bottom section of the case, ensuring all ports align correctly.



Figure 4: Step-by-step assembly process. This image illustrates the sequence of placing the Raspberry Pi into the case and attaching the fan and top cover.

4. **Connect Fan:** Connect the PWM fan to the appropriate GPIO pins on your Raspberry Pi. The fan wires are typically Red (5V or 3.3V), Black (GND), and Blue (PWM signal/TXD). Refer to the "Operating" section for fan wiring options.
5. **Attach Top Cover:** Secure the top cover, which includes the fan, to the middle and bottom sections of the case using the provided screws. The three-stage design allows for easy access to GPIO pins by removing only the top cover.

Easy to get in touch with the GPIO, Display, Camera Slot by removing the top cover!

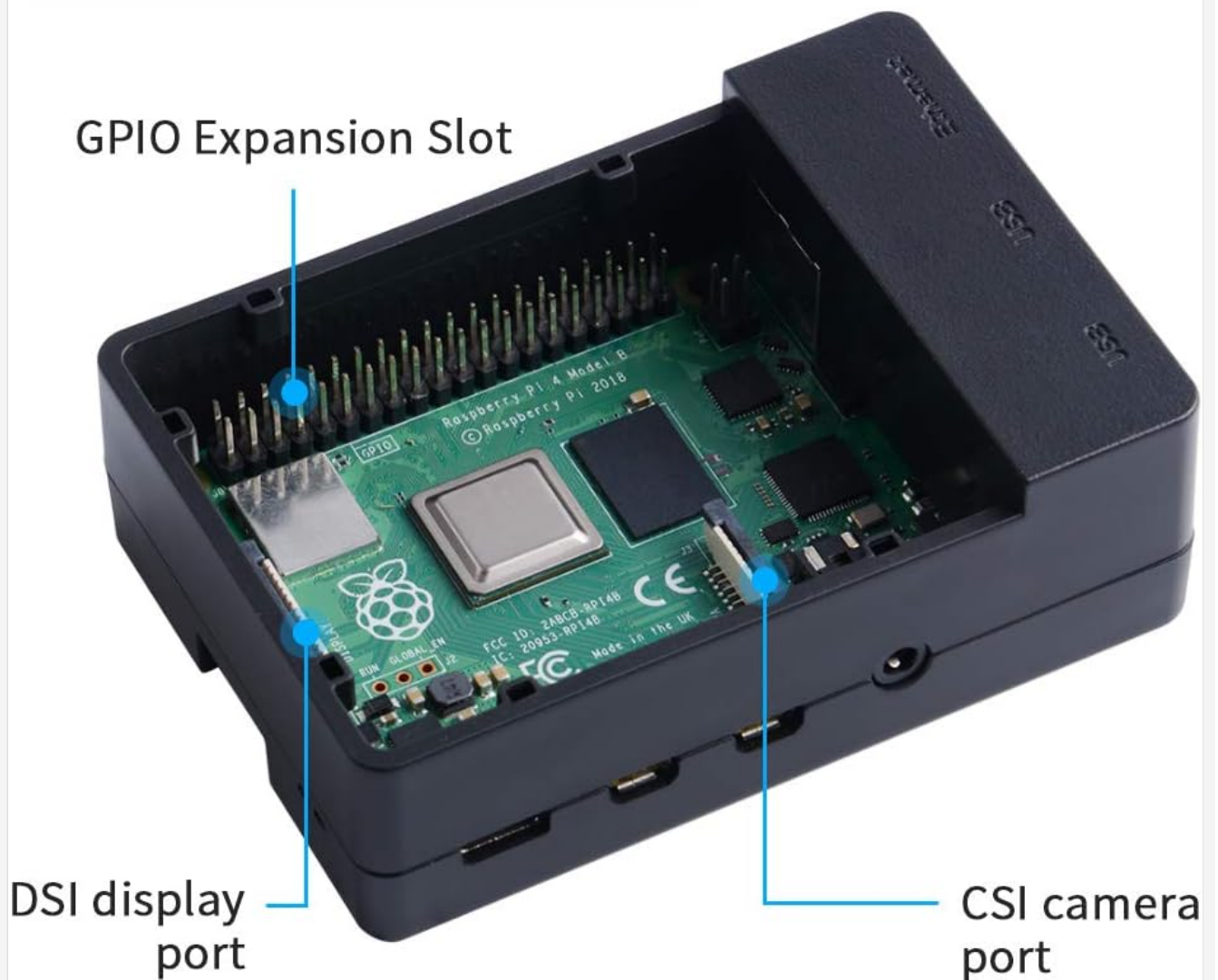


Figure 5: Access to GPIO, DSI, and CSI ports. The removable top cover provides convenient access to the GPIO Expansion Slot, DSI display port, and CSI camera port.

6. **Finalize Assembly:** Ensure all screws are tightened and the case is securely closed. Attach the rubber feet to the bottom of the case if desired.



Figure 6: Bottom features of the case. This image shows the rubber feet for stability, the clear indicator light display, and ample space for the SD card.

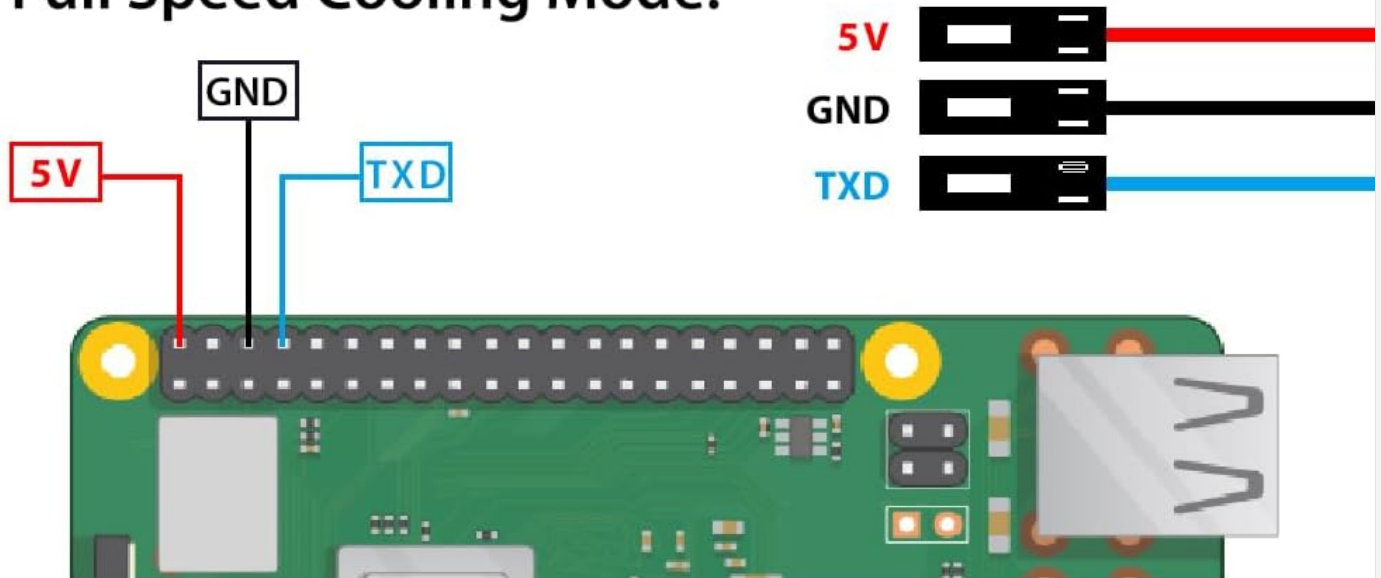
For visual guidance, you may refer to the official assembly videos:

- [Assembly Video 1](#)
- [Assembly Video 2](#)

OPERATING THE FAN

The PWM fan offers two operating modes based on its connection to the Raspberry Pi's GPIO pins:

Full Speed Cooling Mode:



Quiet Cooling Mode:

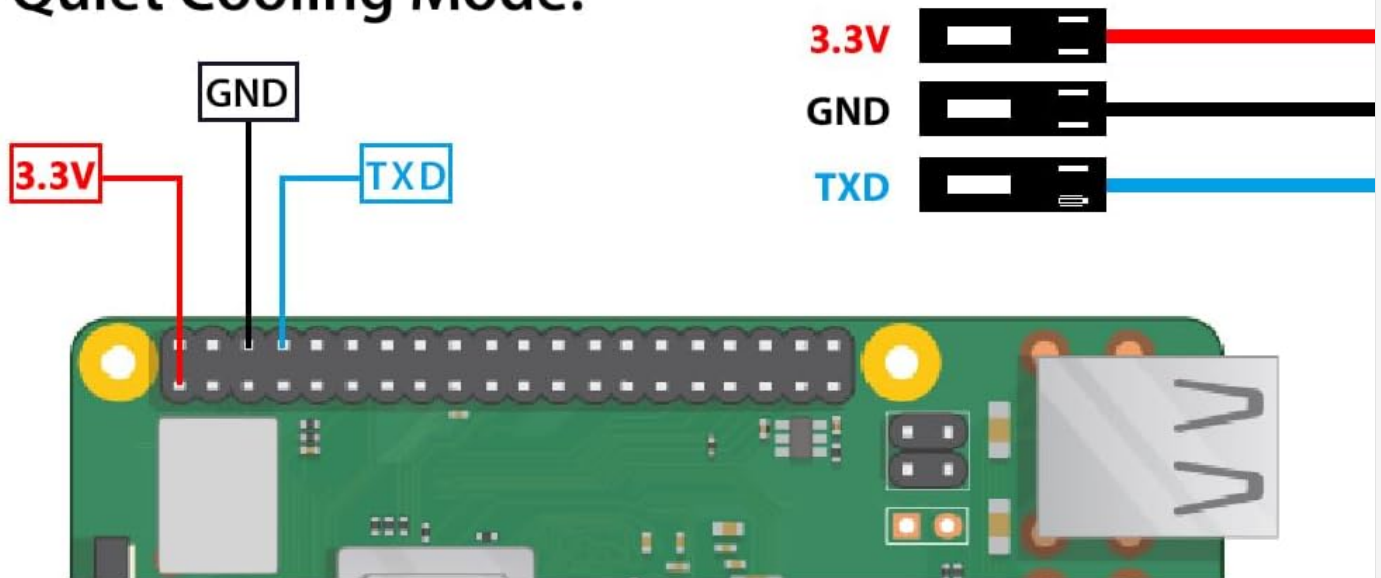


Figure 7: Fan wiring options for full speed and quiet cooling modes. Connect the fan's red wire to either the 5V or 3.3V pin, black to GND, and blue to TXD for PWM control.

- **Full Speed Cooling Mode:** For maximum cooling performance, connect the fan's red wire to the **5V** pin, black wire to **GND**, and blue wire to **TXD** (GPIO 14). This configuration provides continuous high-speed airflow.
- **Quiet Cooling Mode:** For reduced noise levels, connect the fan's red wire to the **3.3V** pin, black wire to **GND**, and blue wire to **TXD** (GPIO 14). This mode provides effective cooling with quieter operation, suitable for less intensive tasks.

Ensure proper software configuration for PWM control if utilizing the TXD pin for variable speed. Consult Raspberry Pi documentation for specific software setup.

MAINTENANCE

- **Cleaning:** Periodically inspect the fan and case vents for dust accumulation. Use a soft brush or compressed air to gently clean the fan blades and vents to maintain optimal airflow and cooling efficiency.
- **Inspection:** Ensure all screws remain tight and the case components are securely fitted. Check fan wires for any

signs of wear or damage.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Fan is noisy	Fan connected to 5V pin (Full Speed Mode) or improper mounting.	Switch to Quiet Cooling Mode by connecting the fan's red wire to the 3.3V pin (see "Operating" section). Ensure the fan is securely mounted and not vibrating against the case.
Raspberry Pi is overheating	Fan not running, incorrect heatsink placement, or dust accumulation.	Verify fan connection and operation. Ensure heatsinks are correctly applied and making good contact. Clean any dust from the fan and vents. Consider using Full Speed Cooling Mode if temperatures remain high.
Case does not close properly	Raspberry Pi or components not seated correctly.	Re-check the placement of the Raspberry Pi and ensure no cables or components are obstructing the case closure.

SPECIFICATIONS

Feature	Detail
Brand	GeeekPi
Model Name	4 Case
Material	Acrylonitrile Butadiene Styrene (ABS)
Color	Black
Compatible Motherboard	Mini ITX (Specifically Raspberry Pi 4 Model B)
Cooling Method	Air (PWM Fan)
Fan Size	40 Millimeters (40x40x10mm)
Product Features	PWM Cooling Fan and Heatsinks
Compatible Devices	Raspberry Pi 4
Number of Fans	1
UPC	703501204600
Part Number	ZP-0075

WARRANTY INFORMATION

Specific warranty details are not provided in the product information. Please refer to the retailer's return policy or contact GeeekPi customer support for warranty inquiries.

SUPPORT

For further assistance or technical support, please visit the official GeeekPi website or contact their customer service department. You can also refer to the product page on Amazon for additional resources and frequently asked questions. GeeekPi Store on Amazon: [Visit GeeekPi Store](#)

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