Geekworm G469

Geekworm G469 GPIO Terminal Block Breakout Board User Manual

For Raspberry Pi 5/4B/3B+/3B/Zero 2W

1. Introduction

The Geekworm G469 mini terminal expansion board provides convenient access to the General Purpose Input/Output (GPIO) pins of your Raspberry Pi. This board simplifies wiring for DIY circuits and projects by converting the standard 40-pin GPIO header into screw terminals. It is designed for hobbyists and developers seeking streamlined connections and simplified circuit assembly.

2. Product Features

- **Easy GPIO Access:** The G469 breakout board provides quick and direct access to Raspberry Pi GPIO pins.
- **Broad Compatibility:** Compatible with Raspberry Pi 5, Raspberry Pi 4B, Raspberry Pi 3B+, Raspberry Pi 3B, Raspberry Pi 2B, Raspberry Pi Zero 2W, and other models with a 40-pin GPIO header.
- **Clear Labeling:** Includes pin labels and stickers for easy identification and accurate wiring.
- **Industrial Quality Terminals:** Features reliable, high-quality screw terminals to ensure stable and secure connections.
- **Compact Design:** The board's compact form factor ensures it does not occupy excessive space, making it suitable for various project enclosures.

3. Package Contents

The package includes the following items:

- 1 x Geekworm G469 GPIO Terminal Block Breakout Board

Please inspect the contents upon receipt to ensure all items are present and undamaged.

Image: The Geekworm G469 GPIO Terminal Block Breakout Board, as included in the package.

4. Setup Instructions

Follow these steps to connect the G469 breakout board to your Raspberry Pi:

1. **Prepare your Raspberry Pi:** Ensure your Raspberry Pi is powered off and disconnected from any power source before installation.
2. **Align the Breakout Board:** Carefully align the 40-pin female header of the G469 breakout board with the GPIO pins on your Raspberry Pi. Ensure the orientation is correct to prevent damage. The board should sit directly on top of the Raspberry Pi's GPIO header.
3. **Secure the Connection:** Gently press the breakout board onto the Raspberry Pi's GPIO pins until it is firmly seated. Avoid excessive force.
4. **Optional: Using with a Cooler:** If you are using an official active cooler or other accessories that also connect to the GPIO, you may need an additional female pin header (not included) to stack the G469 board above the cooler. Refer to the diagram below for illustration.

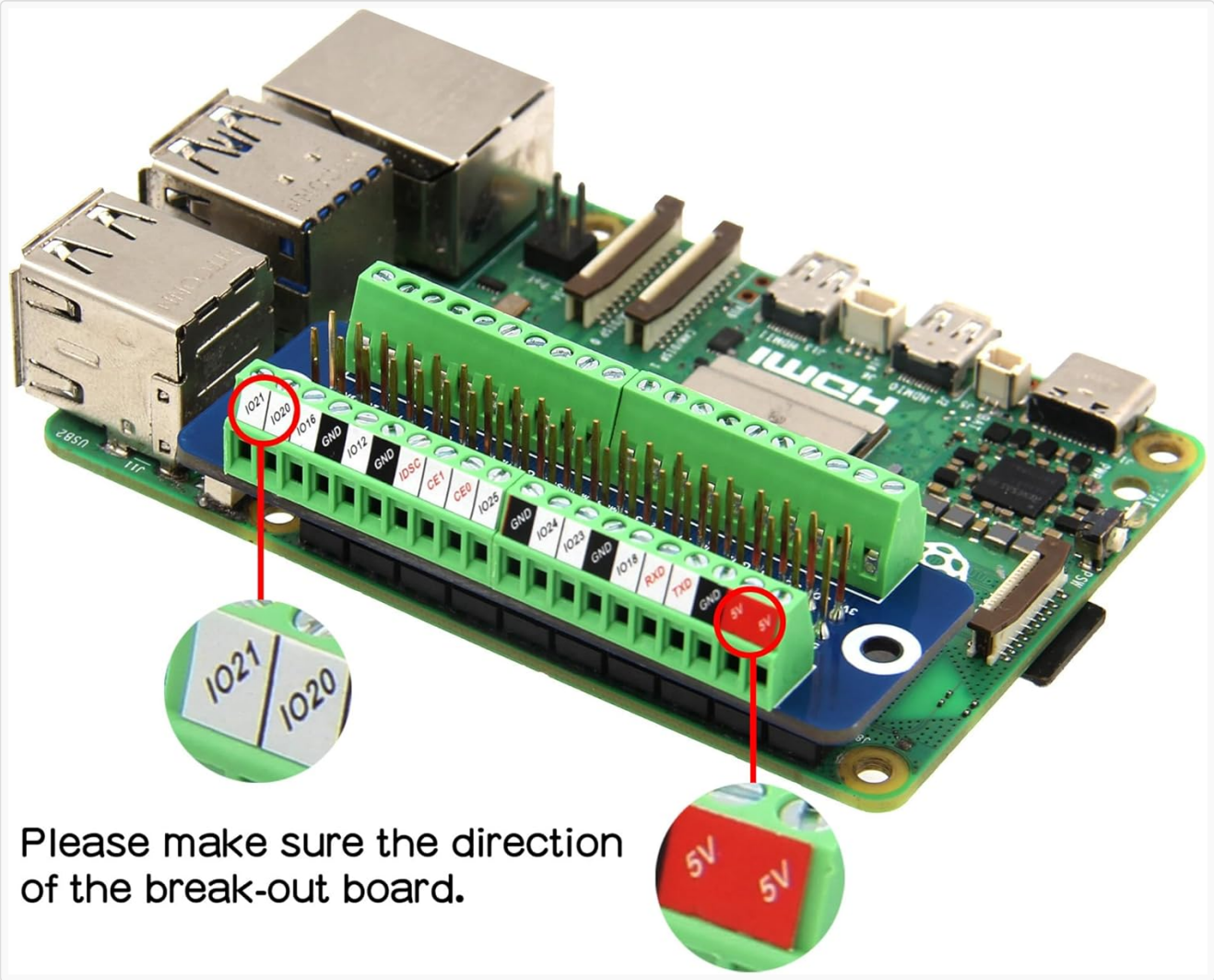

Image: The G469 breakout board correctly installed on a Raspberry Pi, showing the screw terminals facing outwards.

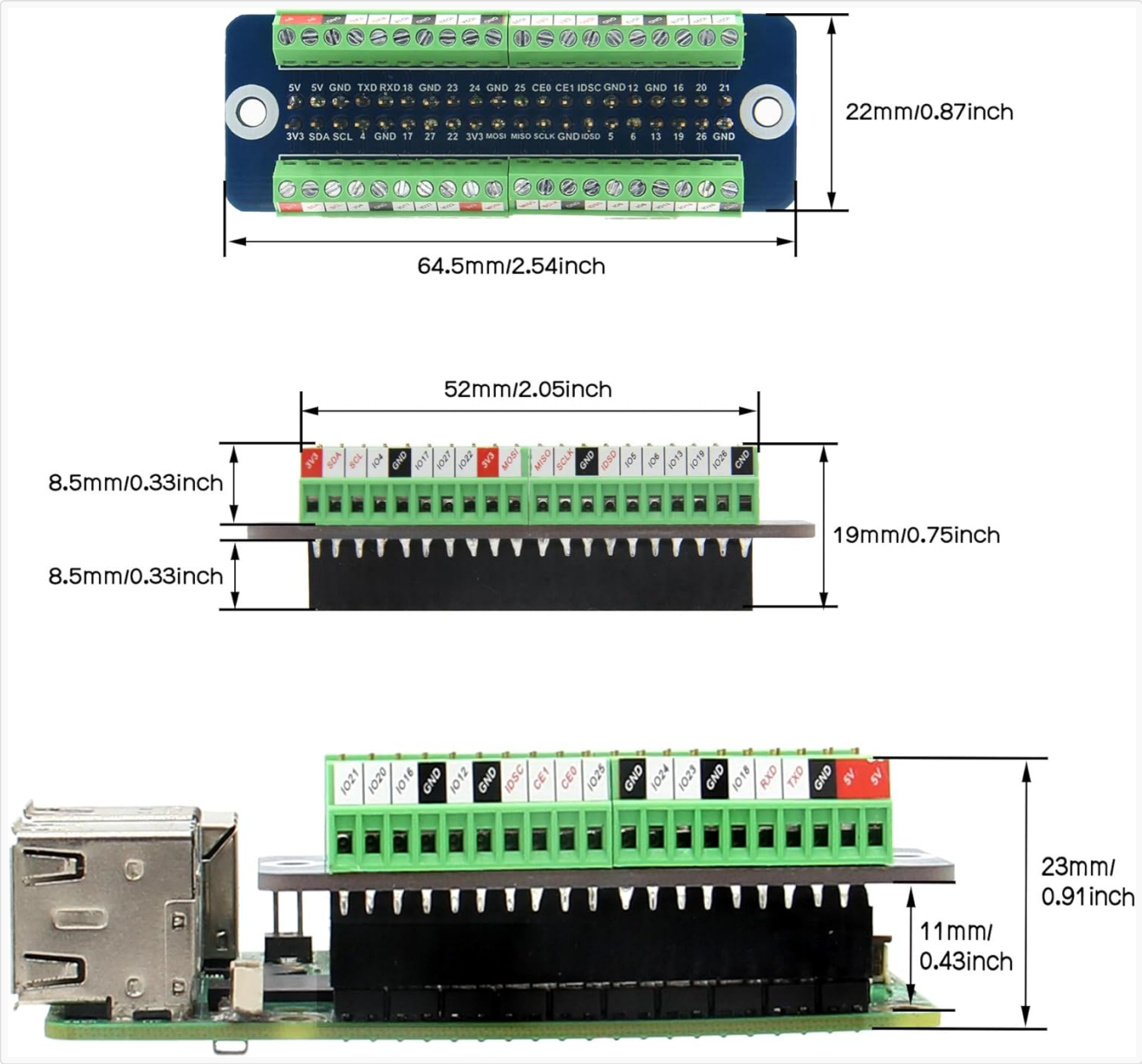

Image: A close-up view of the G469 board highlighting the pin labels and a reminder to ensure correct board direction during installation.

Image: A visual comparison demonstrating how the G469 board connects to a Raspberry Pi 5, both directly and when an additional female pin header is required for use with an official active cooler.

5. Operating Instructions

Once the G469 breakout board is securely connected to your Raspberry Pi, you can begin wiring your external components using the screw terminals.

1. **Identify GPIO Pins:** Refer to the pinout diagram (Section 6) and the labels on the G469 board to identify the specific GPIO pins you need for your project.
2. **Prepare Wires:** Strip a small amount of insulation from the ends of your connecting wires.
3. **Connect Wires:** Use a very small screwdriver to loosen the screw terminal for the desired pin. Insert the stripped end of your wire into the terminal opening and tighten the screw to secure the connection. Ensure the wire is firmly held and there are no loose strands that could cause short circuits.
4. **Power On:** After all connections are made and verified, you can safely power on your Raspberry Pi and proceed with your project's software configuration and operation.

The clear labeling on the board, including pin definition stickers, assists in accurate wiring and reduces the chance of errors.

6. Pinout Diagram

The following diagram illustrates the pin assignments for the Geekworm G469 GPIO Terminal Block Breakout Board, mirroring the standard Raspberry Pi 40-pin GPIO header.

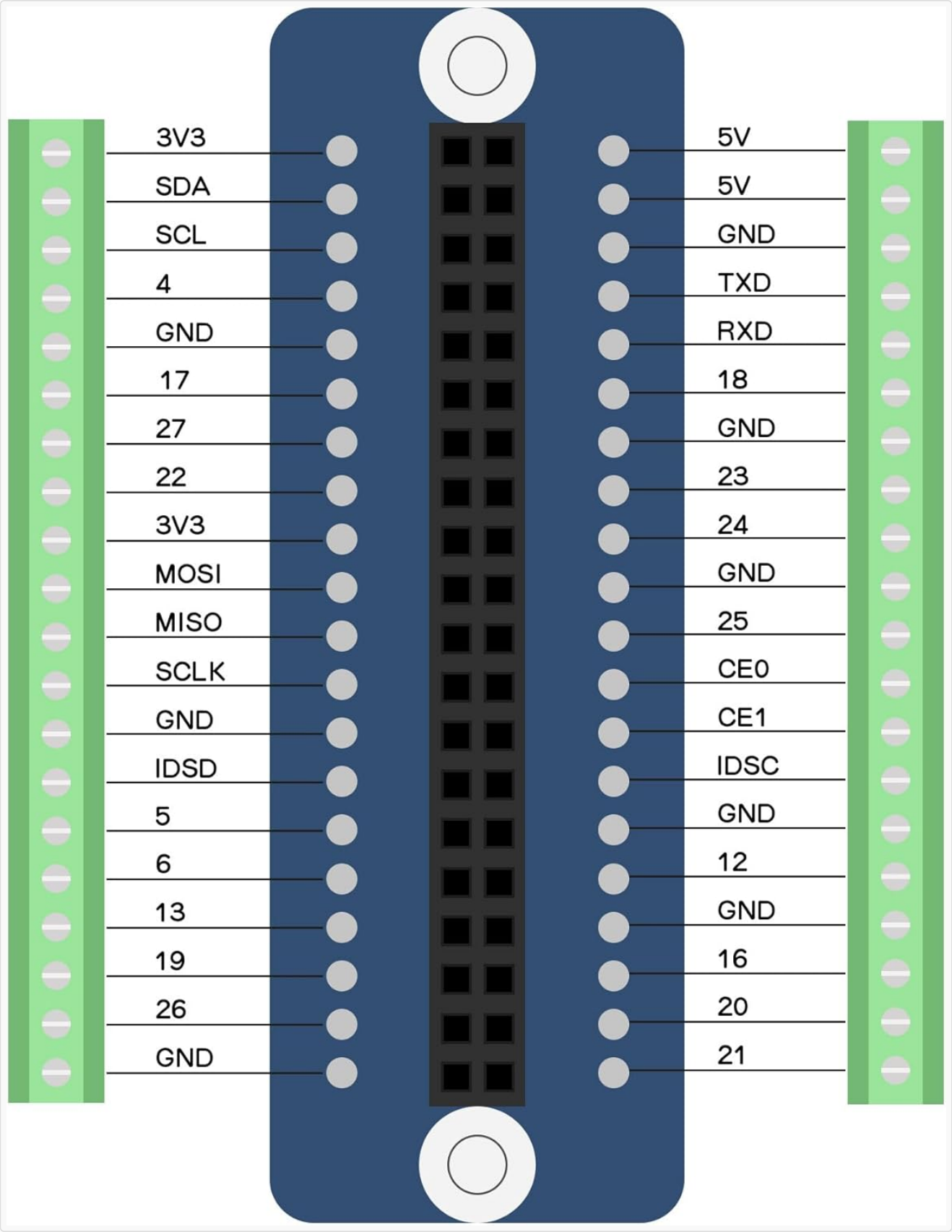

Image: Detailed pinout diagram of the Geekworm G469 GPIO Terminal Block Breakout Board, showing the function of each of the 40 pins.

7. Dimensions

The physical dimensions of the G469 breakout board are provided below for reference in project planning and enclosure design.

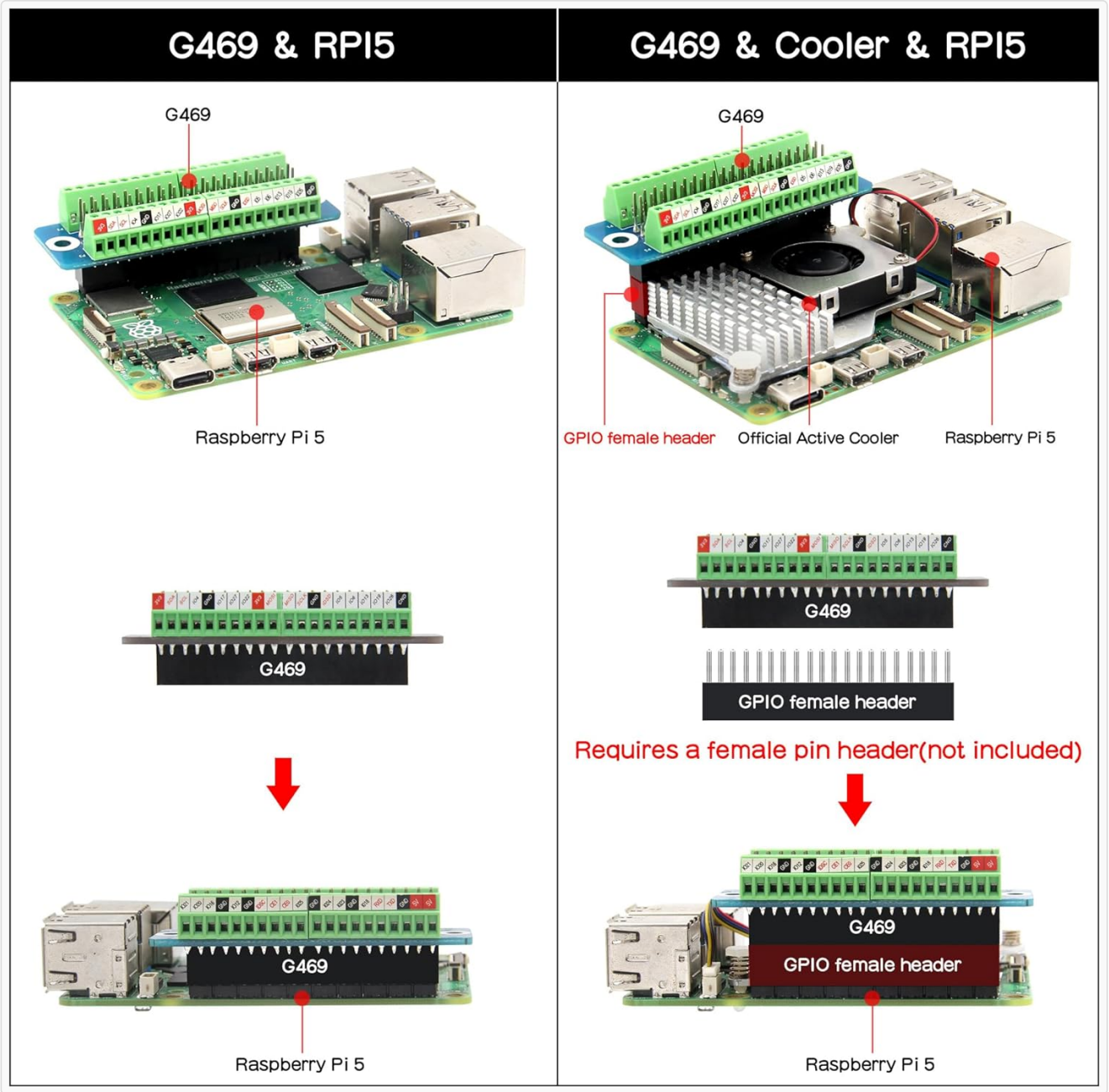

Image: Technical drawing showing the length, width, and height measurements of the G469 breakout board and its components when mounted.

- **Product Dimensions:** 6.45 x 2.21 x 2.31 cm (2.54 x 0.87 x 0.91 inches)
- **Item Dimensions (W x H):** 6.5W x 1.9H Centimetres (approx. 2.56W x 0.75H inches for the main board part)

8. Troubleshooting

If you encounter issues while using the G469 breakout board, consider the following troubleshooting steps:

- **No Connection:** Ensure the G469 board is fully seated on the Raspberry Pi's GPIO header. Verify that all screw terminal connections are tight and that wires are properly stripped and inserted.
- **Incorrect Pin Functionality:** Double-check your wiring against the pinout diagram (Section 6) and the labels on the board. Incorrect pin assignments are a common cause of unexpected behavior.
- **Short Circuits:** Inspect all connections for any loose wire strands that might be touching adjacent terminals or components.
- **Power Issues:** Confirm that your Raspberry Pi is receiving adequate power and that the power supply is stable.

- **Software Configuration:** Ensure your Raspberry Pi's operating system and any relevant software are correctly configured for the GPIO pins you are using.

9. Specifications

Specification	Detail
Model Number	G469
Brand	Geekworm
Connector Type	Screw
Number of Contacts	40
Number of Poles	40
Number of Positions	40
Mounting Type	PCB Mount
Product Dimensions	6.45 x 2.21 x 2.31 cm
Item Weight	22 Grams
Included Components	1 x G469 GPIO Terminal Block Breakout Board

10. Additional Resources

The following videos provide further visual guidance and demonstrations related to GPIO breakout boards for Raspberry Pi. While some videos may feature similar products, they offer valuable insights into general usage and connection methods.

Video: Breakout Board Overview

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Description: This video provides an overview of a breakout board, demonstrating its physical characteristics and how it can be used with a Raspberry Pi. (Source: naughtystarts)

Video: GPIO Terminal Block Breakout Board Module

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Description: A demonstration of an ultra-small RPi GPIO Status LED & Terminal Block Breakout Board Module, showcasing its features and potential applications. (Source: Electronics-Salon.)

Video: Raspberry Pi GPIO Screw Terminal Block Breakout Board

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Description: An in-depth look at a Raspberry Pi GPIO Screw Terminal Block Breakout Board, covering its installation and usage. (Source: GeeekPi)

Video: KEYESTUDIO GPIO Breakout Kit for Raspberry Pi

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Description: This video demonstrates a GPIO Breakout Kit for Raspberry Pi, illustrating how to connect and utilize various components. (Source: us-keyes)

11. Warranty and Support

For warranty information, technical support, or further inquiries regarding your Geekworm G469 GPIO Terminal Block Breakout Board, please refer to the official Geekworm website or contact the seller directly through your purchase platform. Keep your proof of purchase for any warranty claims.