waveshare 10.1inch HDMI LCD (B)

Waveshare 10.1-inch Capacitive Touch Screen LCD User Manual

Model: 10.1inch HDMI LCD (B)

Content   **Specifications**   **Setup**   **Introduction**   **Package Operating**   **Maintenance**   **Troubleshooting**   **Appearance & Dimensions**   **Certification**   **Support**

1. INTRODUCTION

This manual provides detailed instructions for the setup, operation, and maintenance of the Waveshare 10.1-inch Capacitive Touch Screen LCD. This display features a 1280x800 resolution IPS panel, 10-point capacitive touch control, and a toughened glass cover. It is designed for compatibility with various Raspberry Pi models and Windows PCs, offering a versatile display solution for embedded projects and desktop computing.

2. PACKAGE CONTENT

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

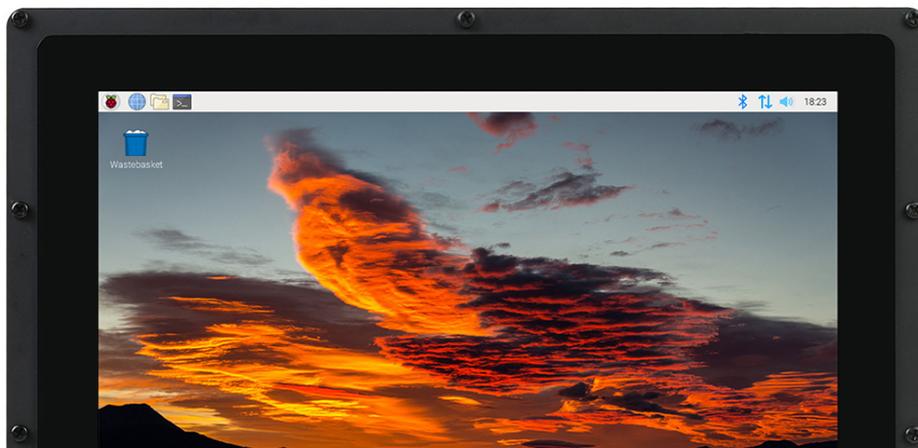Figure 2.1: Package contents including the 10.1-inch LCD, power adapter, USB cable, HDMI cables, HDMI adapter, and mounting

- 10.1-inch HDMI LCD (B) with case
- Power Adapter (5V)
- USB-A to Micro-USB Cable (for touch and power)
- HDMI Cable
- HDMI to Micro-HDMI Adapter (for Raspberry Pi Zero series)
- Mounting Screws and Spacers
- Back Stand (for 45-degree tilt)

3. SPECIFICATIONS

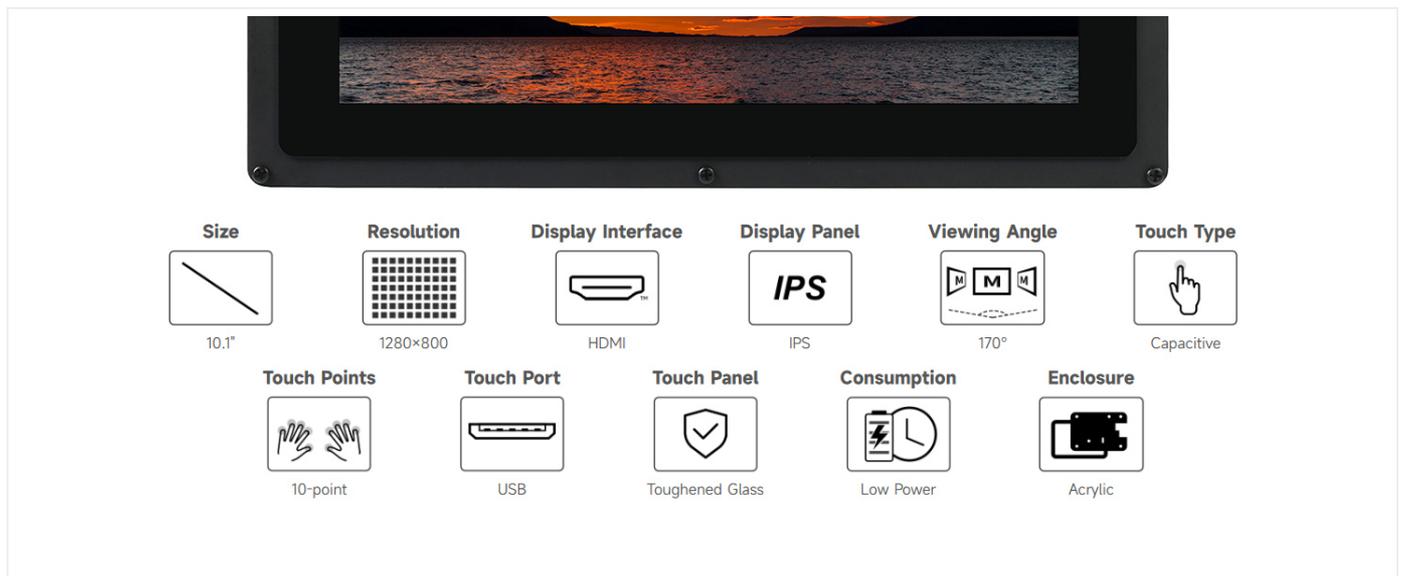Key technical specifications of the Waveshare 10.1-inch Capacitive Touch Screen LCD.

Figure 3.1: Overview of the 10.1-inch HDMI Touch Display's features.

Feature	Description
Screen Size	10.1 Inches
Resolution	1280 x 800 pixels
Display Panel	IPS
Viewing Angle	170°
Touch Type	Capacitive, 10-point
Touch Panel	Toughened Glass (up to 6H hardness)
Display Interface	HDMI
Touch Port	USB
Power Input	5V (via USB)
Enclosure Material	Acrylic

Feature	Description
Product Dimensions	7.09 x 3.94 x 3.54 inches (approximate, with case)
Item Weight	0.352 ounces (approximate)

4. SETUP

4.1 General Connection

To set up the display, you will need to connect both the video signal (HDMI) and the touch/power signal (USB). Ensure your host device (Raspberry Pi or PC) is powered off before making connections.

1. Connect the HDMI cable from your host device to the HDMI port on the LCD.
2. Connect the USB cable from your host device (or a 5V power adapter) to the Micro-USB port labeled "5V Power Input" on the LCD. This cable provides both power to the display and enables touch functionality.
3. Power on your host device. The display should automatically detect the signal.

4.2 Connection Examples with Raspberry Pi

The display is compatible with various Raspberry Pi models. Specific adapters may be required depending on your Raspberry Pi model.
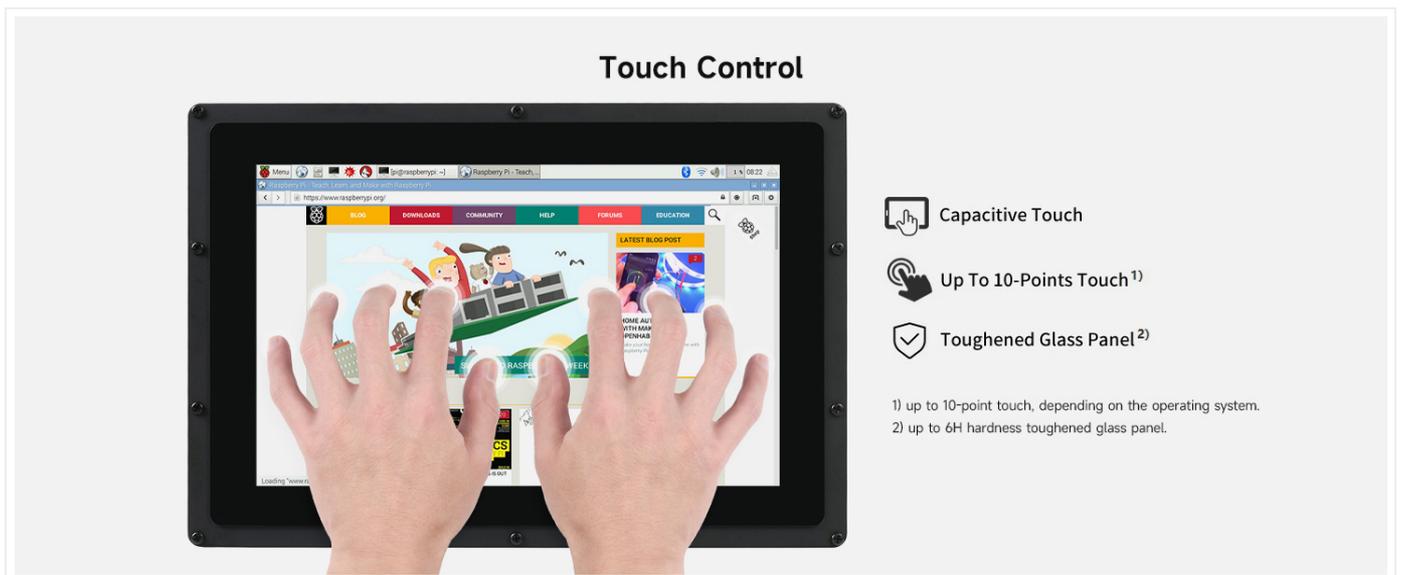

Figure 4.1: Connection diagrams for different host devices.

- **Raspberry Pi 4B:** Connect the HDMI cable from the Pi's Micro-HDMI port to the display's HDMI port. Connect a USB cable from the Pi's USB port to the display's 5V Power Input/Touch port. Ensure the Pi is powered by a 5V/3A power supply.
- **Raspberry Pi 3B+:** Connect the HDMI cable from the Pi's HDMI port to the display's HDMI port. Connect a USB cable from the Pi's USB port to the display's 5V Power Input/Touch port. Ensure the Pi is powered by a 5V/3A power supply.
- **Raspberry Pi Zero W:** You will need an additional Mini-HDMI to HDMI adapter and a USB-OTG cable. Connect the Mini-HDMI adapter to the Pi Zero W, then use an HDMI cable to connect to the display. Connect the USB-OTG cable to the Pi Zero W, then use a USB cable to connect to the display's 5V Power Input/Touch port. Ensure the Pi Zero W is powered by a 5V/2.5A power supply.

4.3 Connection Example with Mini PC

For use with a Mini PC or other standard computers:

- Connect the HDMI cable from your Mini PC's HDMI output to the display's HDMI port.

- Connect a USB cable from your Mini PC's USB port to the display's 5V Power Input/Touch port. This provides power to the display and enables touch functionality.

5. OPERATING INSTRUCTIONS

5.1 Touch Control

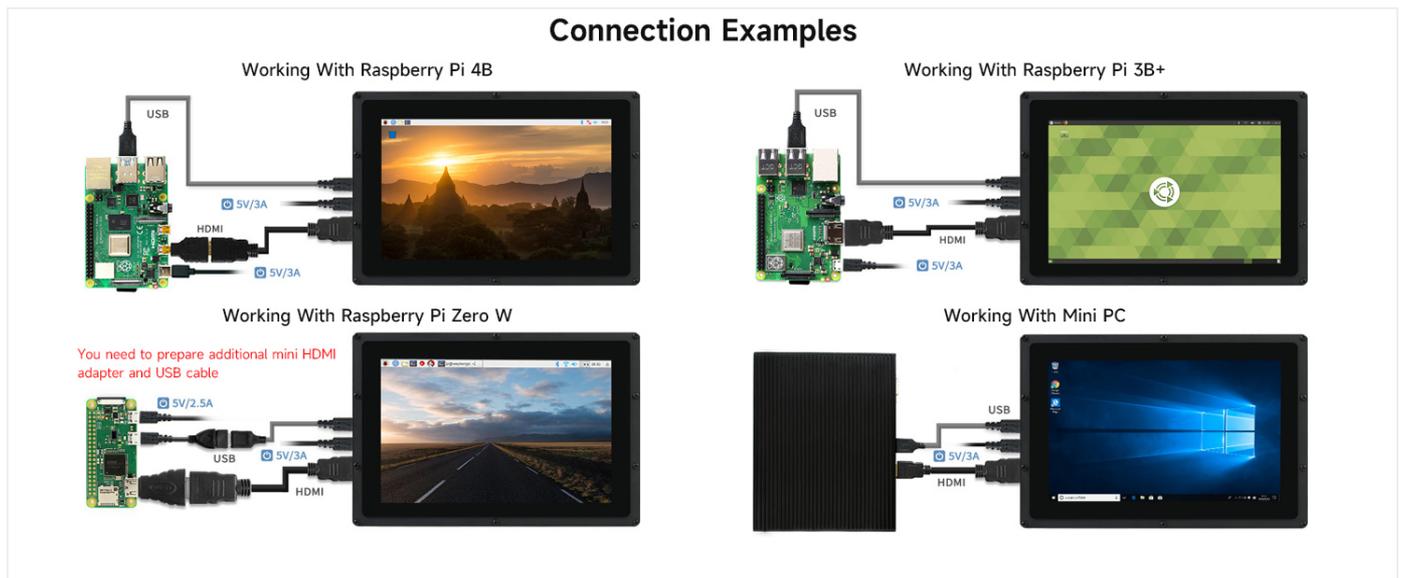The display features a 10-point capacitive touch screen with a toughened glass panel for durability.

Figure 5.1: Demonstrating multi-touch capability.

- **Capacitive Touch:** Provides precise and responsive touch input.
- **10-point Touch:** Supports up to 10 simultaneous touch points, depending on the operating system.
- **Toughened Glass:** The touch panel is made of toughened glass with a hardness of up to 6H, offering enhanced scratch resistance.

5.2 System Compatibility

The display offers broad compatibility with various operating systems:
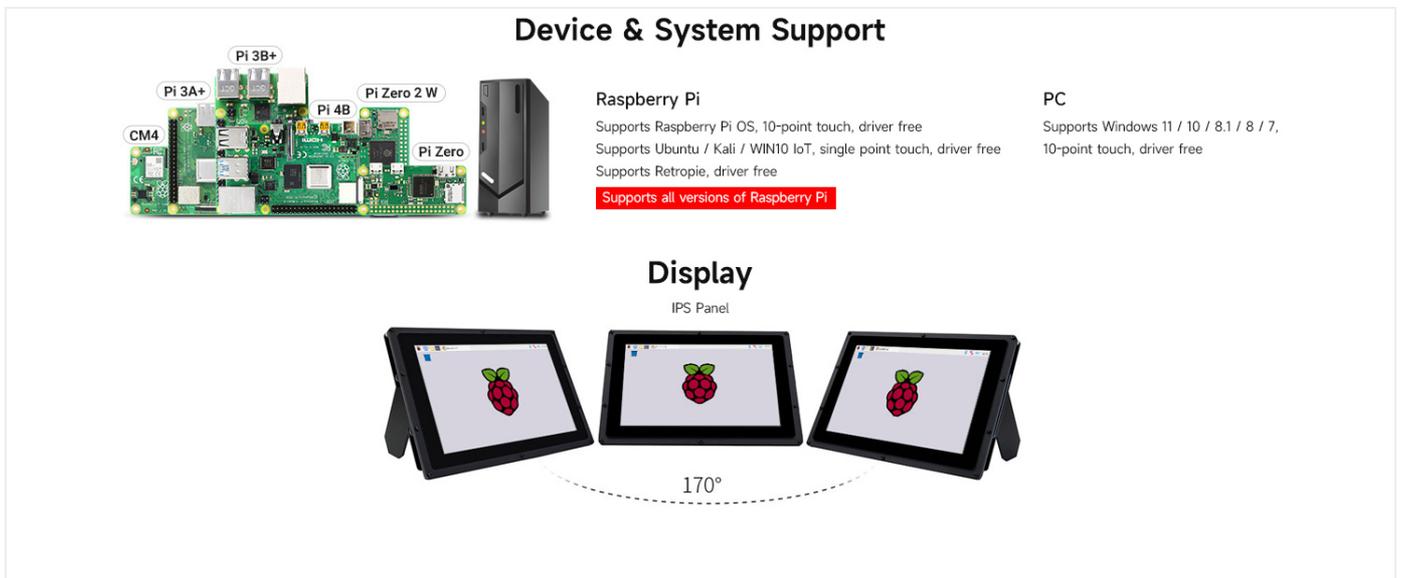
Figure 5.2: Device and system compatibility overview.

- **With Raspberry Pi:** Supports Raspberry Pi OS, Ubuntu, Kali, and Retropie. Touch functionality is generally driver-free. For Ubuntu / Kali / WIN10 IoT, it supports single-point touch.

- **As a Computer Monitor:** Supports Windows 11/10/8.1/8/7. Touch functionality is typically 10-point and driver-free.

6. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your display.

- **Cleaning:** Use a soft, lint-free cloth slightly dampened with water or a screen-cleaning solution. Avoid harsh chemicals, abrasive cleaners, or alcohol-based solutions, as these can damage the screen surface or acrylic case.

- **Handling:** Avoid applying excessive pressure to the screen. Do not drop the display or expose it to strong impacts.

- **Environment:** Operate and store the display in a clean, dry environment, away from direct sunlight, extreme temperatures, and high humidity.

- **Power:** Always use the provided 5V power adapter or a compatible power source to prevent damage.

7. TROUBLESHOOTING

If you encounter issues, refer to the following common troubleshooting steps:

- **No Display/Black Screen:**

  - Ensure both the HDMI cable and the USB power cable are securely connected.
  - Verify that your host device (Raspberry Pi/PC) is powered on and outputting a video signal.
  - Try a different HDMI cable or port on your host device.
  - For Raspberry Pi, ensure the operating system is configured to output to HDMI.

- **Touch Functionality Not Working:**

  - Ensure the USB cable connecting the display to your host device is properly connected. This cable carries the touch data.
  - For Windows, check "Tablet PC Settings" in the Control Panel to ensure touch input is assigned to the correct display, especially if using multiple monitors.
  - Restart your host device.

- Verify that your operating system supports touch input for the display.

- **Screen Flickering or Unstable Display:**

  - Ensure the display is receiving adequate power. Use the provided power adapter or a reliable 5V power source.
  - Check HDMI cable for damage or loose connections.
  - Reduce interference by keeping the display away from strong electromagnetic sources.

- **White Screen or Fading to Black:**

  - This can sometimes occur due to power fluctuations. Power off the display and host device completely, wait a few minutes, then power them back on.

8. APPEARANCE AND DIMENSIONS

Detailed view of the display's physical characteristics and port locations.
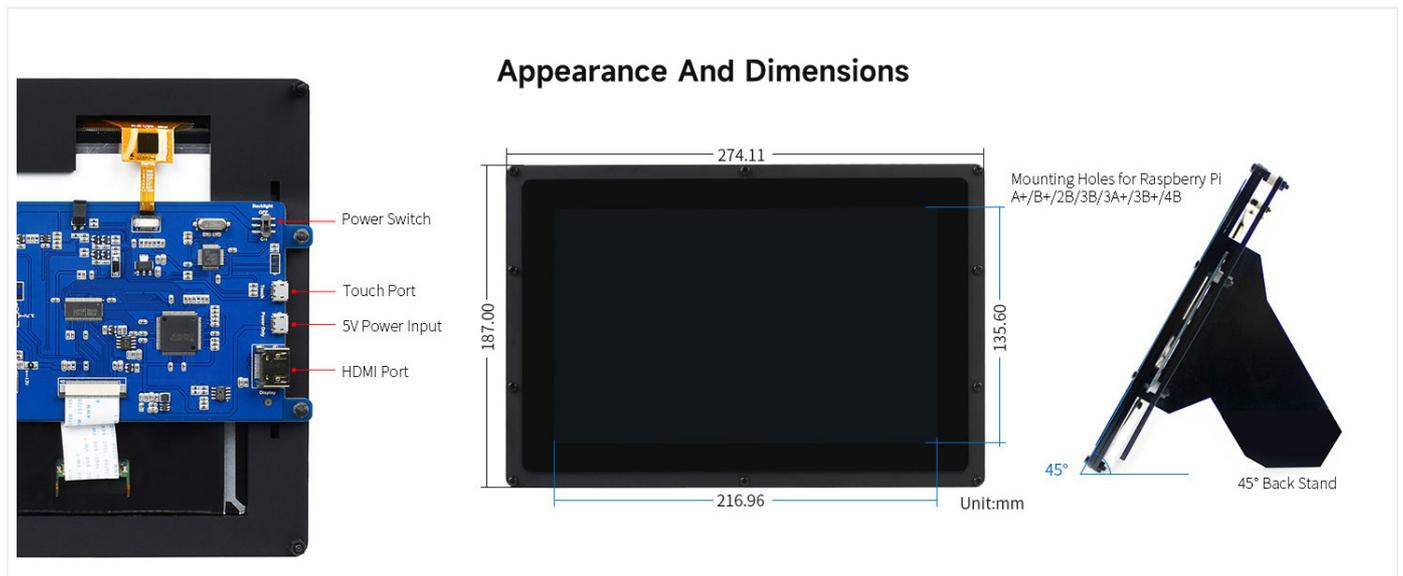

Figure 8.1: Front, side, and rear views with dimensions and port labels.

- **Dimensions:** The display measures approximately 274.11mm x 187.00mm (outer frame) with a display area of 216.96mm x 135.60mm.
- **Back Stand:** Includes a removable back stand that allows for a 45-degree viewing angle.
- **Mounting Holes:** Features mounting holes compatible with various Raspberry Pi models (A+/B+/2B/3B/3A+/3B+/4B).
- **Ports (Rear View):**

  - **Power Switch:** To turn the display on/off.
  - **Touch Port:** Micro-USB port for touch data.
  - **5V Power Input:** Micro-USB port for power supply. (Note: Often combined with Touch Port via a single USB cable to the host).
  - **HDMI Port:** For video input.

9. PRODUCT CERTIFICATION

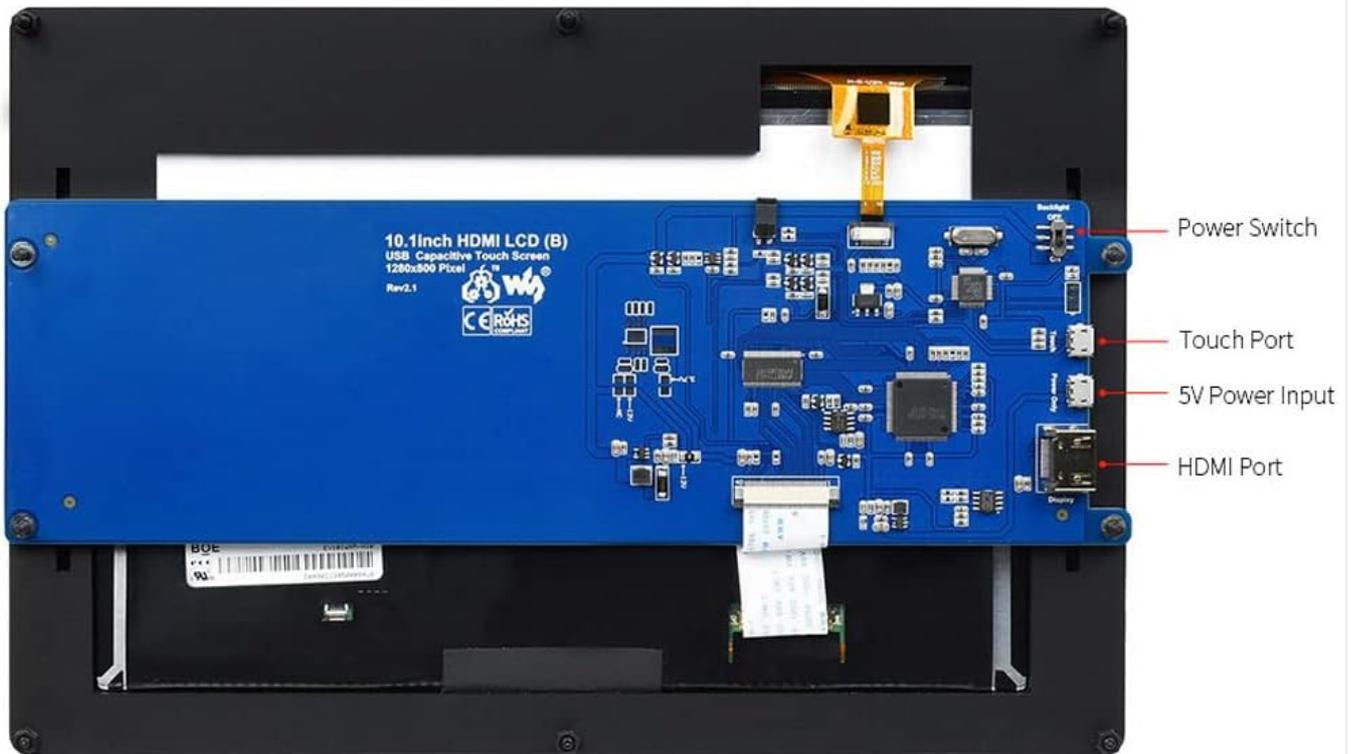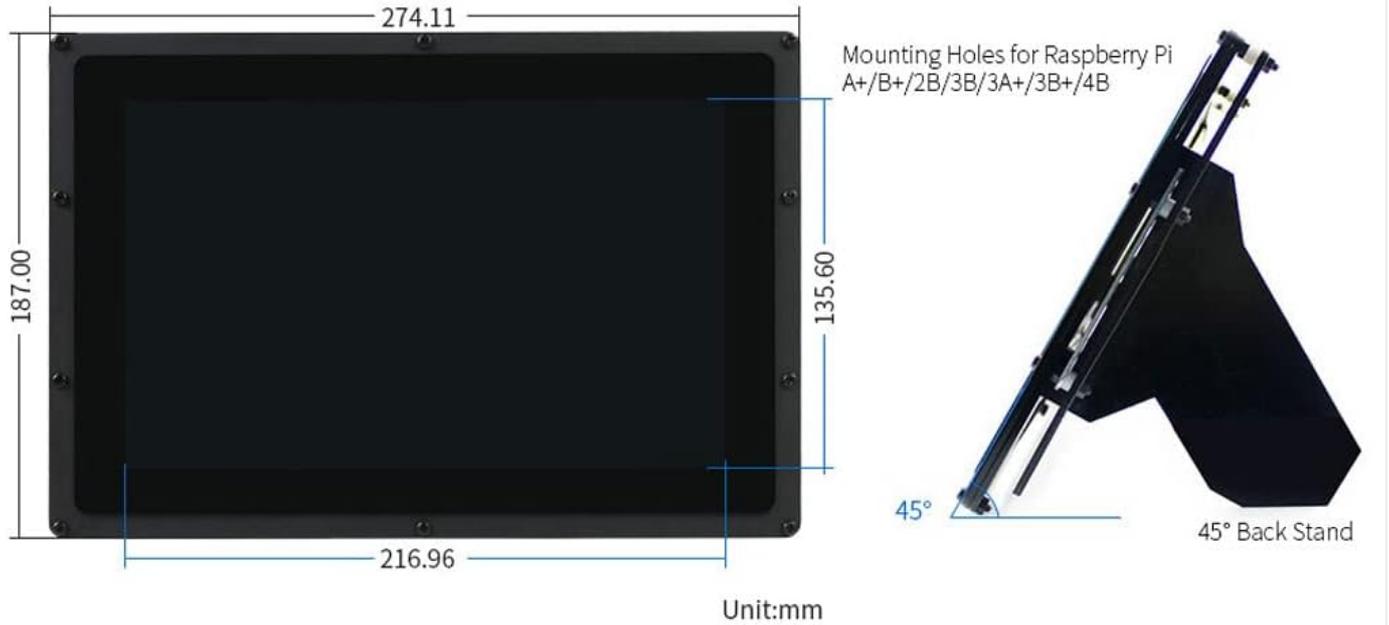The Waveshare 10.1-inch HDMI LCD (B) is an HDMI Certified Adapter, ensuring compliance with HDMI standards.

Figure 9.1: HDMI Certified Adapter certificate.

For verification, visit the official HDMI website: https://hdmi.org/qr/alic/FVP01SGM0CI

10. WARRANTY AND SUPPORT

For technical support, product inquiries, or warranty information, please refer to the official Waveshare website or contact their customer service directly. An online user manual is also available for further details and updates.

Manufacturer: Waveshare

For the most up-to-date information and resources, please visit the Waveshare Store on Amazon or their official website.