ED-HMI3010-156C

User Manual

by EDA Technology Co., Ltd

built: 2026-08-18

1 Hardware Manual

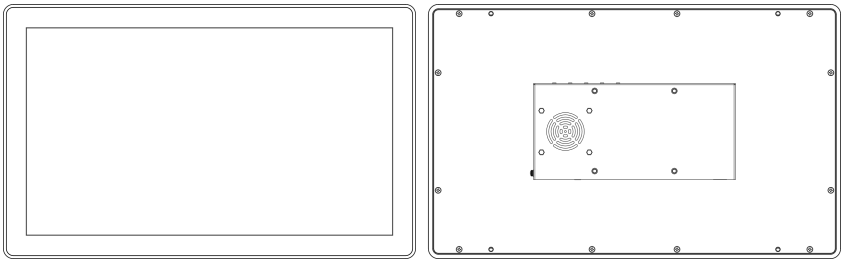
This chapter introduces the product overview, packing list, appearance, buttons, indicators, and interfaces.

1.1 Overview

The ED-HMI3010-156C is a 15.6-inch industrial HMI based on Raspberry Pi 5, featuring a screen resolution of 1920x1080 with high brightness up to 450 cd/m² and equipped with a multi-point capacitive touchscreen. Depending on the application scenarios and user needs, computer systems with different configurations can be selected:

- 2GB DDR + 32GB SD card
- 4GB DDR + 32GB SD card
- 8GB DDR + 64GB SD card
- 16GB DDR + 64GB SD card

The ED-HMI3010-156C provides 2 USB 2.0 ports, 2 USB 3.0 ports, 1 Gigabit Ethernet port, 1 DC Jack power interface, and 1 3.5mm audio interface. It supports network connectivity via Wi-Fi and Ethernet. Backlight brightness and volume can be adjusted through buttons and software. It is primarily used in industrial control applications.



1.2 Packing List

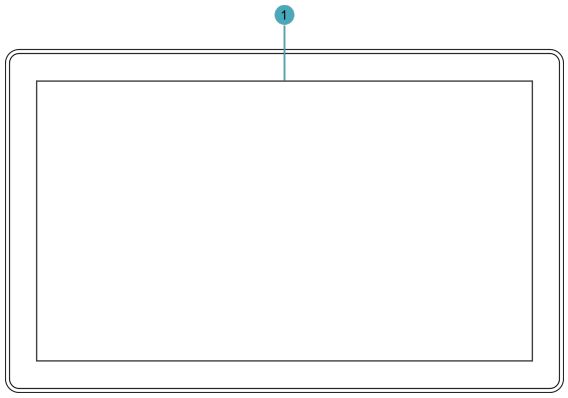
- 1 x ED-HMI3010-156C Unit
- 1 x Mounting Kit (including 4 x buckles, 4xM4*10 screws and 4xM4*16 screws)

1.3 Appearance

This section introduces the functions and definitions of the interfaces on each panel.

1.3.1 Front Panel

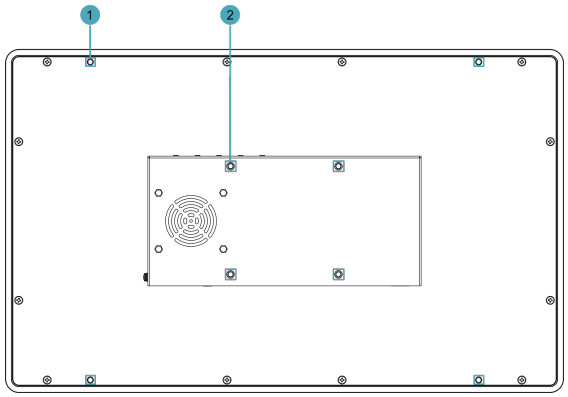
Introducing the types and definitions of the interfaces on the front panel.



NO.	Description
1	1 x LCD screen, 15.6-inch touch screen with a resolution of 1920x1080, multi-touch capacitive touch screen.

1.3.2 Rear Panel

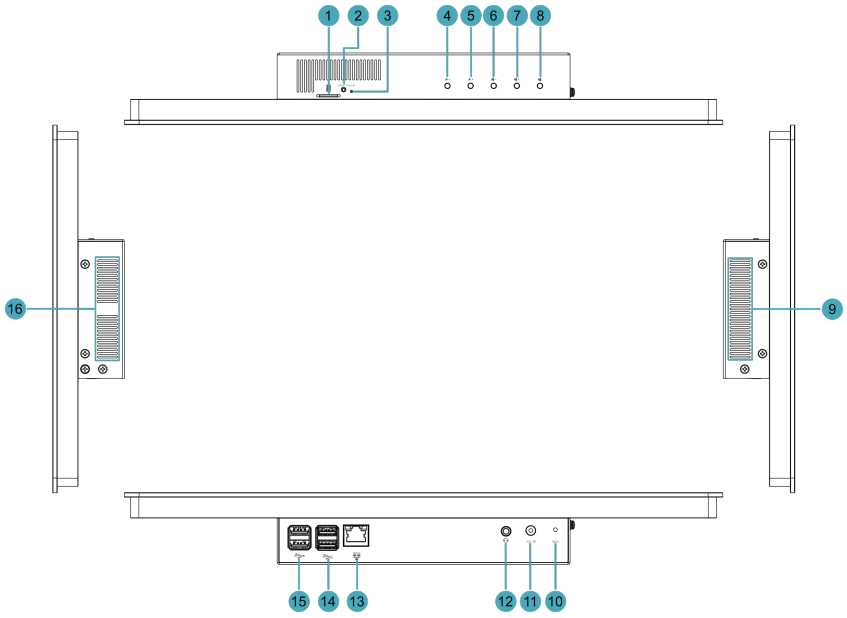
Introducing the types and definitions of the interfaces on the rear panel.



NO.	Description
1	4 x installation holes of snap, which are used to fix the snaps to the device for Embedded installation.
2	4 x VESA mounting holes, reserved for VESA bracket installation.

1.3.3 Side Panel

Introducing the types and definitions of the interfaces on the side panel.



NO.	Description
1	1 x Micro SD card slot, pre-installed with a Micro SD card by default, used for system booting.
2	1 x ON/OFF switch button, used for powering on and off the device.
3	1 x PWR/ACT indicator, a dual-color (red/green) LED for monitoring power status and data access activity.
4	1 x "Brightness –" button, press the button to decrease the backlight brightness of the LCD screen.
5	1 x "Brightness +" button, press the button to increase the backlight brightness of the LCD screen.
6	1 x "Volume -" button, press the button to decrease the output volume.
7	1 x "Volume +" button, press the button to increase the output volume.
8	1 x "Mute" button, press the button to mute the output audio.
9	Heat dissipation holes, which help improve cooling performance.
10	1 x red power indicator, using to view the device's power-on and power-off status.
11	1 x DC input, DC Jack connector (5.5x2.5mm), which supports 12V DC input.
12	1 x 3.5mm stereo audio output jack, supports headphone connectivity.
13	1 x Ethernet interface (10/100/1000M auto-negotiation), RJ45 connector, for Ethernet connectivity.
14	2 x USB 3.0 ports, Type-A connectors, each supporting data transfer rates up to 5Gbps.
15	2 x USB 2.0 ports, Type-A connectors, each supporting data transfer rates up to 480Mbps.
16	Heat dissipation holes, which help improve cooling performance.

1.4 Button

The ED-HMI3010-156C device features 5 black buttons and 1 recessed button, comprising:

- 2 x Brightness adjustment buttons
- 3 x Volume adjustment buttons
- 1 x Power ON/OFF switch button

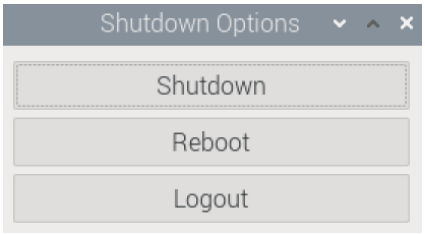
Silkscreen labels printed on the housing denote these functions as: ☀+, ☀−, 🔊+, 🔊−, 🔇 and "ON/OFF".

Brightness and Volume Adjustment Buttons

Button	Description
☀+	Press the button to increase the backlight brightness of the LCD screen.
☀−	Press the button to decrease the backlight brightness of the LCD screen.
🔊+	Press the button to increase the output volume.
🔊−	Press the button to decrease the output volume.
🔇	Press the button to mute the output audio.

ON/OFF Switch Button

If you run Raspberry Pi Desktop, you can initiate a clean shutdown by briefly pressing the power button. A menu will appear asking whether you want to shutdown, reboot, or logout:



> TIP:
>
> If you run Raspberry Pi Desktop, you can press the power button twice in quick succession to shut down.

1.5 Indicator

Describe the various states and meanings of the indicators included in the ED-HMI3010-156C device.

Indicator	Status	Description
PWR	On	The device has been powered on.

Indicator	Status	Description
	Blink	Power supply of the device is abnormal, please stop the power supply immediately.
	Off	The device is not powered on.
PWR/ACT	On	The device has been powered on.
	Blink	The system started successfully and is reading and writing data.
	Off	The device is not powered on.
Yellow indicator of Ethernet port	On	The Ethernet connection is in the normal state.
	Blink	The Ethernet connection is abnormal.
	Off	The Ethernet connection is not set up.
Green indicator of Ethernet port	On	The Ethernet connection is in the normal state.
	Blink	Data is being transmitted over the Ethernet port.
	Off	The Ethernet connection is not set up.

1.6 Interface

Introducing the definitions and functions of each interface in the ED-HMI3010-156C.

1.6.1 Power Interface

ED-HMI3010-156C device includes 1 power input port with a DC Jack connector (5.5x2.5mm), labeled "DC 12V" on the housing. It supports 12V DC input.

> TIP
>
> A 12V 4A power adapter is recommended.

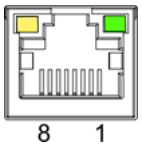
> WARNING
>
> - When using the device, do not hot-plug or unplug the DC Jack connector during operation. To power off or restart the device, always control it by plugging or unplugging the AC power supply at the adapter end.
> - Recommended power-up sequence:
>   1. Plug the DC connector of the power adapter into the device's DC Jack receptacle.
>   2. Plug the 100–240V AC connector into an AC power outlet.
> - Recommended power-down sequence (reverse of power-up):
>   1. Unplug the 100–240V AC connector from the AC power outlet.
>   2. Unplug the DC connector from the device's DC Jack receptacle.

1.6.2 Audio Interface

ED-HMI3010-156C device includes 1 audio interface (3.5mm 4-pole headphone jack), labeled "🎧" on the housing, supporting stereo audio output.

1.6.3 1000M Ethernet Interface

ED-HMI3010-156C device includes one adaptive 10/100/1000M Ethernet port, and the silkscreen is "1000M". The connector is RJ45, which is used to access to network. It is recommended to use the network cable of Cat6 and above. The pins definitions are as follows:



Pin ID	Pin Name
1	TX1+
2	TX1-
3	TX2+
4	TX2-
5	TX3+
6	TX3-
7	TX4+
8	TX4-

1.6.4 USB 2.0 Interface

The ED-HMI3010-156C device features 2 × USB 2.0 ports with standard Type-A connectors. These ports are silkscreen-labeled "" and support connection to standard USB 2.0 peripherals with a maximum data transfer rate of 480Mbps.

1.6.5 USB 3.0 Interface

The ED-HMI3010-156C device features 2 × USB 3.0 ports with standard Type-A connectors. These ports are silkscreen-labeled "SS" and support connection to standard USB 3.0 peripherals with a maximum data transfer rate of 5Gbps.

2 Installing/removing Components (optional)

This chapter introduces how to install/remove components.

2.1 Pull Out Micro SD Card

If you need to remove the SD card while using the product, you can refer to the following instructions.

> WARNING
>
> Please turn off the power before inserting or removing the Micro SD card.

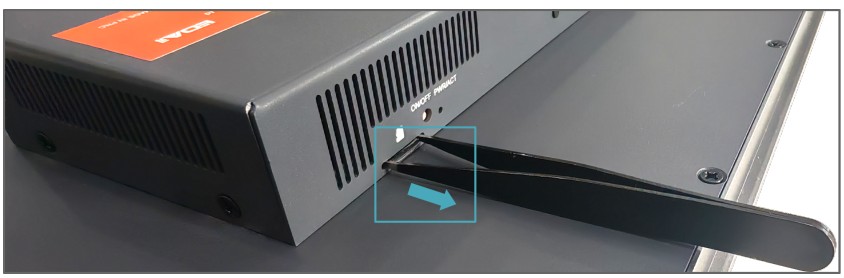
Preparation:

- A pair of tweezers is ready.
- The device has been disconnected from power.

Steps:

1. Identify the location of the Micro SD card as indicated in the figure below.

2. Using tweezers, grip the SD card and pull it outward along the arrow direction.



2.2 Insert Micro SD Card

If you need to insert the SD card while using the product, you can refer to the following instructions.

> WARNING
>
> Please turn off the power before inserting or removing the Micro SD card.

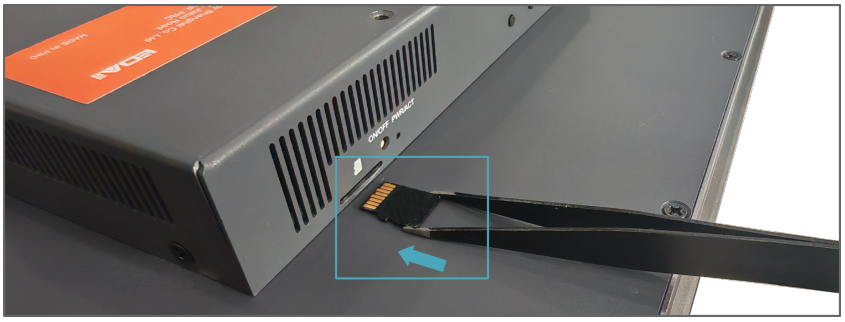
Preparation:

- Micro SD card is ready.
- A pair of tweezers is ready.
- The device has been disconnected from power.

Steps:

1. Identify the location of the Micro SD card slot as indicated in the figure below.

2. Position the SD card with contact pads facing upward, grip it with tweezers, and insert into the corresponding slot along the arrow direction until securely locked in place.



3 Installing the device

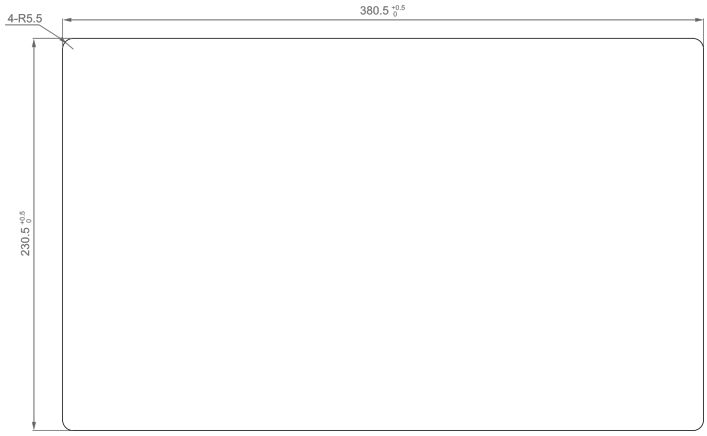
ED-HMI3010-156C device supports front embedded installation. The standard packaging includes the embedded installation Mounting kit (ED-ACCHMI-Front).

Preparation:

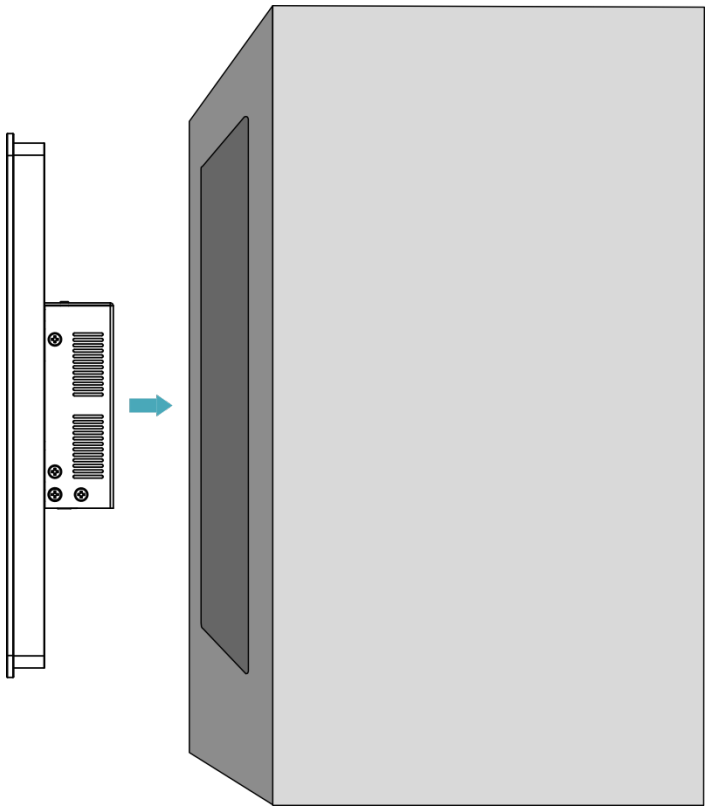
- The ED-ACCHMI-Front Mounting kit has been acquired (includes 4 × M4*10 screws, 4 × M4*16 screws, and 4 snaps).
- A cross screwdriver has been prepared.

Steps:

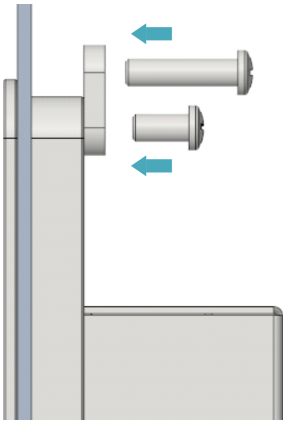
1. Determine the cutout dimensions on the cabinet based on the ED-HMI3010-156C's size, as shown in the figure below.
   Unit: mm



2. Drill holes on the cabinet according to the aperture size defined in Step 1.
3. Embed the ED-HMI3010-156C into the cabinet from the exterior side.

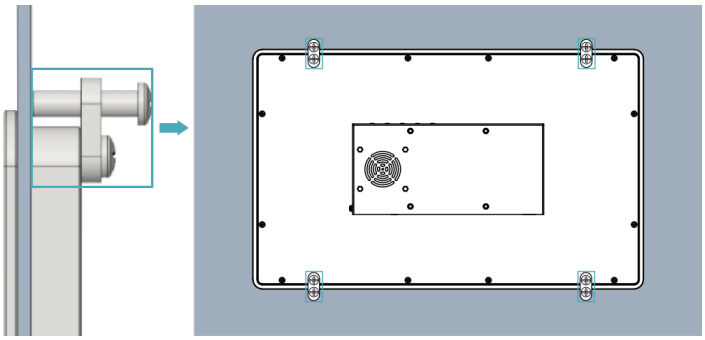


4. Align the screw holes (non-threaded) of the snaps with the snap mounting holes on the device side.



5. Secure the snaps to the device.

- Use 4 × M4*10 screws to fasten the snaps to the device by threading them through the non-threaded holes and tightening them clockwise.
- Then, use 4 × M4*16 screws to secure the snaps to the cabinet: Insert them through the threaded holes of the snaps, press against the interior side of the cabinet, and thread them clockwise until fully tightened.



4 Booting The Device

This chapter details the specific procedures for connecting cables and powering on the device.

4.1 Connecting Cables

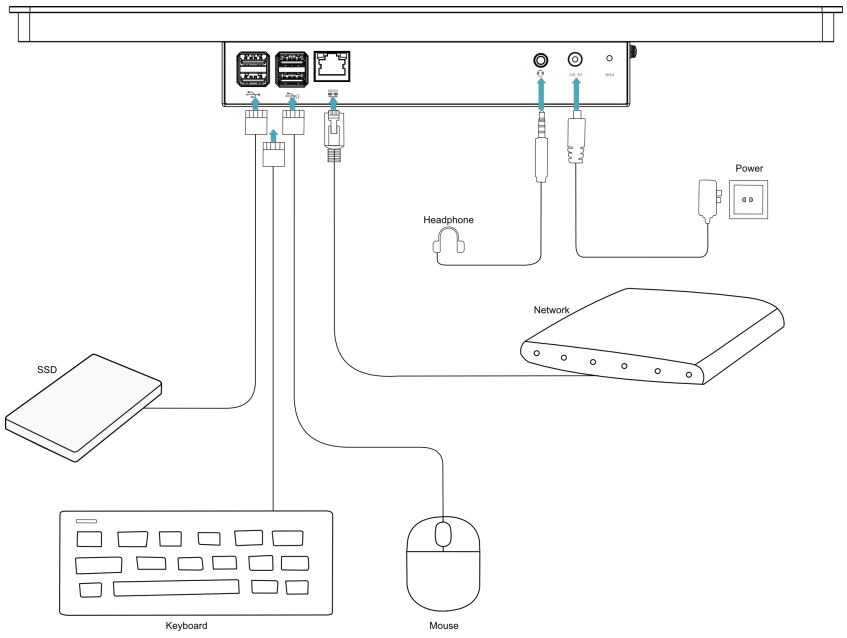
This section describes the procedures for connecting cables to the device.

Preparation:

- Available functional accessories: keyboard, mouse and power adapter.
- Available functional network connection.
- A verified functional Ethernet cable has been obtained.

Schematic diagram of connecting cables:

Please refer to 1.6 Interface for the pin definition of each interface and the specific method of wiring.



4.2 Booting The System For The First Time

After ED-HMI3010-156C is connected to the power supply, the system will start.

> WARNING
>
> - When using the device, do not hot-plug or unplug the DC Jack connector during operation. To power off or restart the device, always control it by plugging or unplugging the AC power supply at the adapter end.
> - Recommended power-up sequence:
>   1. Plug the DC connector of the power adapter into the device's DC Jack receptacle.
>   2. Plug the 100–240V AC connector into an AC power outlet.

- Recommended power-down sequence (reverse of power-up):
  1. Unplug the 100–240V AC connector from the AC power outlet.
  2. Unplug the DC connector from the device's DC Jack receptacle.

- The red PWR indicator is on, indicating that the device has been powered normally.
- The PWR/ACT indicator is blinking, indicating that the system is started normally, and then the logo will appear in the screen.

TIP

Default username is `pi` , Default password is `raspberry` .

4.2.1 Raspberry Pi OS (Desktop)

If the device is factory-installed with the Desktop edition operating system, it will directly load the desktop environment upon completing the boot process, as shown in the figure below.

4.2.2 Raspberry Pi OS (Lite)

If the device is factory-installed with the Lite edition operating system, it will automatically log in using the default username `pi` upon completing the boot process, with the default password being `raspberry` . The figure below indicates successful system initialization.

5 Configuring System

This chapter introduces how to configure system.

5.1 Finding Device IP

Finding Device IP

5.2 Remote Login

Remote Login

5.3 Configuring Storage Devices

Configuring Storage Devices

5.4 Configuring Ethernet IP

Configuring Ethernet IP

5.5 Configuring Wi-Fi

Configuring Wi-Fi

5.6 Configuring Bluetooth

Configuring Bluetooth

5.7 Adjusting brightness and Volume

The ED-HMI3010-156C supports brightness and volume adjustment via physical buttons and software.

5.7.1 Adjust brightness and volume via buttons

Once the ED-HMI3010-156C is operational, the screen's backlight brightness and volume can be adjusted via five dedicated buttons located on the side panel.

Button	Description
☀+	Press the button to increase the backlight brightness of the LCD screen.
☀−	Press the button to decrease the backlight brightness of the LCD screen.

Button	Description
	Press the button to increase the output volume.
	Press the button to decrease the output volume.
	Press the button to mute the output audio.

5.7.2 Adjust Brightness and Volume via Software

Once the ED-HMI3010-156C is connected to a PC host and displays properly, screen backlight and output volume can be adjusted via software. The operation methods vary for Desktop and Lite OS versions.

5.7.2.1 Raspberry Pi OS (Desktop)

Introducing how to adjust backlight brightness via the UI in Raspberry Pi OS (Desktop).

Preparation:

- ED-HMI3010-156C is properly connected to the Raspberry Pi host with normal display output.
- The Raspberry Pi host has stable network connectivity.

Steps:

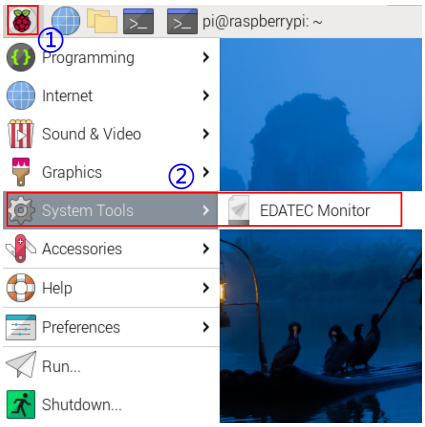
1. Add EDATEC apt repository by executing the following commands sequentially in the terminal.

```sh
curl -sS https://apt.edatec.cn/pubkey.gpg | sudo apt-key add -
echo "deb https://apt.edatec.cn/raspbian stable main" | sudo tee /etc/apt/sources.list.d/edate
sudo apt update
```

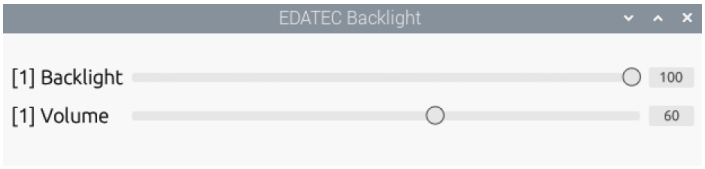
2. Install the software toolkit.

```sh
sudo apt install -y ed-ddcci-mib-tool
```

3. Click the icon in the top-left desktop corner. Then select to "System Tools" → "EDATEC Monitor".



4. Adjust brightness and volume using the slider in the "EDATEC Backlight" panel.



> TIP
>
> Support executing the `sudo ed-ddc-ui` command in the terminal window to open the "EDATEC Backlight" panel.

5.7.2.2 Raspberry Pi OS (Lite)

Adjusting brightness and volume via CLI on Raspberry Pi OS (Lite).

Preparation:

- ED-HMI3010-156C is properly connected to the Raspberry Pi host with normal display output.
- The Raspberry Pi host has stable network connectivity.

Steps:

1. Add EDATEC apt repository by executing the following commands sequentially in the terminal.

```sh
curl -sS https://apt.edatec.cn/pubkey.gpg | sudo apt-key add -
echo "deb https://apt.edatec.cn/raspbian stable main" | sudo tee /etc/apt/sources.list.d/edate
sudo apt update
```

2. Install the software toolkit.

```sh
sudo apt install -y ed-ddcci-mib-tool
```

3. Execute the following commands to query the current brightness level and volume level settings separately.

   • Query current brightness level:

```sh
sudo ed-ddc-server brightness read
```

   • Query current volume level:

```sh
sudo ed-ddc-server volume read
```

4. Execute the following commands to set brightness level and volume level as required.

   • Set brightness level:

```sh
sudo ed-ddc-server brightness write -v X
```

Where `X` represents the brightness level with a range of 0~100.

   • Set volume level:

```sh
sudo ed-ddc-server volume write -v Y
```

Where `Y` represents the volume level with a range of 0~100.

6 Installing OS (optional)

The device is shipped with an operating system by default. If the OS is corrupted during use or the user needs to replace the OS, it is necessary to re-download the appropriate system image and install it. Our company supports to install the OS by installing the standard Raspberry Pi OS first, and then install the firmware package.

The following section describes the specific operations of image download, flashing to SD card and installation of firmware packages.

6.1 Downloading OS File

You can download the corresponding official Raspberry Pi OS file according to your actual needs, the download path is listed below:

OS	Download Path
Raspberry Pi OS(Desktop) 64-bit-bookworm (Debian 12)	https://downloads.raspberrypi.com/raspios_arm64/images/raspios_arm64-2024-11-19/2024-11-19-raspios-bookworm-arm64.img.xz (https://downloads.raspberrypi.com/raspios_arm64/images/raspios_arm64-2024-11-19/2024-11-19-raspios-bookworm-arm64.img.xz)
Raspberry Pi OS(Lite) 64-bit-bookworm (Debian 12)	https://downloads.raspberrypi.com/raspios_lite_arm64/images/raspios_lite_arm64-2024-11-19/2024-11-19-raspios-bookworm-arm64-lite.img.xz (https://downloads.raspberrypi.com/raspios_lite_arm64/images/raspios_lite_arm64-2024-11-19/2024-11-19-raspios-bookworm-arm64-lite.img.xz)

> TIP
>
> Our engineers are currently adapting and developing firmware packages for Raspberry Pi OS-trixie (Debian 13), so it is temporarily not supported. We recommend using the Raspberry Pi OS 64-bit-bookworm (Debian 12) version of the operating system.

6.2 Flashing to SD Card

It is recommended to use the Raspberry Pi official tools. The download paths are as follows:

- Raspberry Pi Imager: https://downloads.raspberrypi.org/imager/imager_latest.exe (https://downloads.raspberrypi.org/imager/imager_latest.exe)
- SD Card Formatter: https://www.sdcardformatter.com/download/ (https://www.sdcardformatter.com/download/)

Preparation:

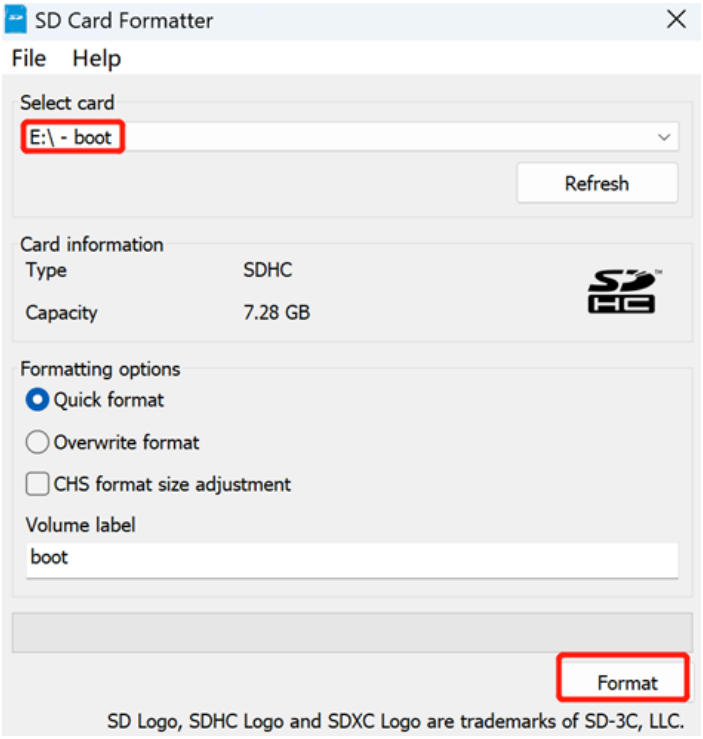
- The downloading and installation of the official tools to the computer have been completed.

- The OS file has been obtained.
- An SD card reader has been prepared.

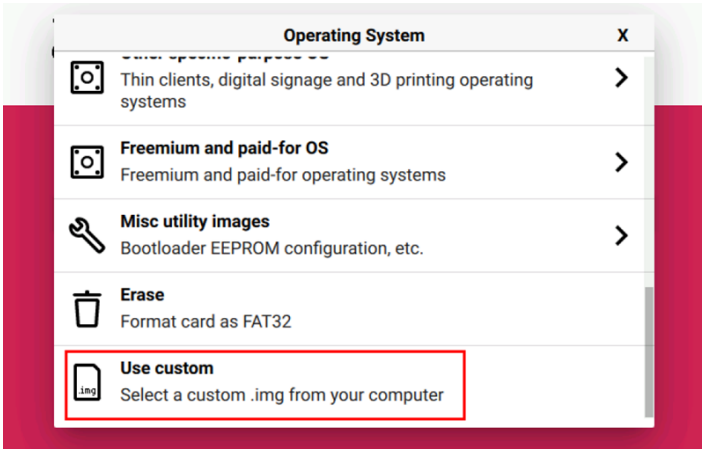
Steps:

The steps are described using Windows system as an example.

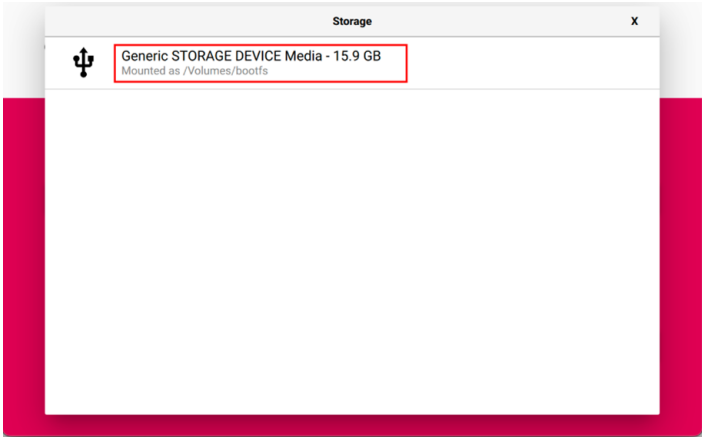
1. Disconnect power from the device and remove the Micro SD card. Refer to 2.1 Pull Out Micro SD Card for detailed steps.
2. Insert the Micro SD card into the card reader, and then connect the card reader to the USB port on your computer.
3. Open `SD Card Formatter`, select the formatted drive letter, and click "Format" at the lower right to format.



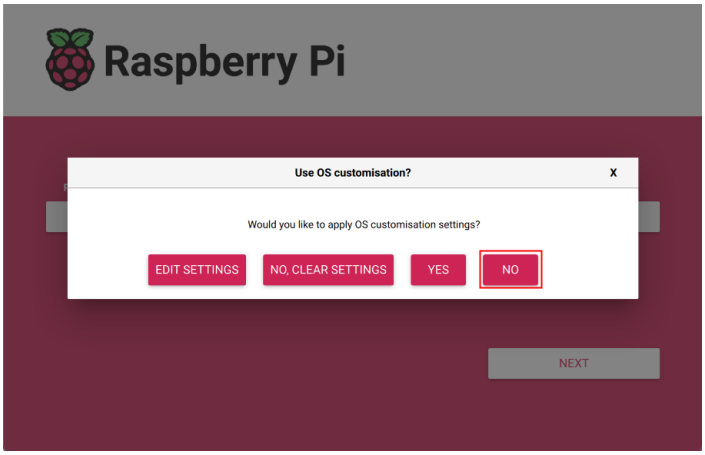
4. In the pop-up prompt box, select "Yes".
5. When the formatting is completed, click "OK" in the prompt box.
6. Close `SD Card Formatter`.
7. Open `Raspberry Pi Imager`, select "CHOOSE OS" and select "Use Custom " in the pop-up pane.



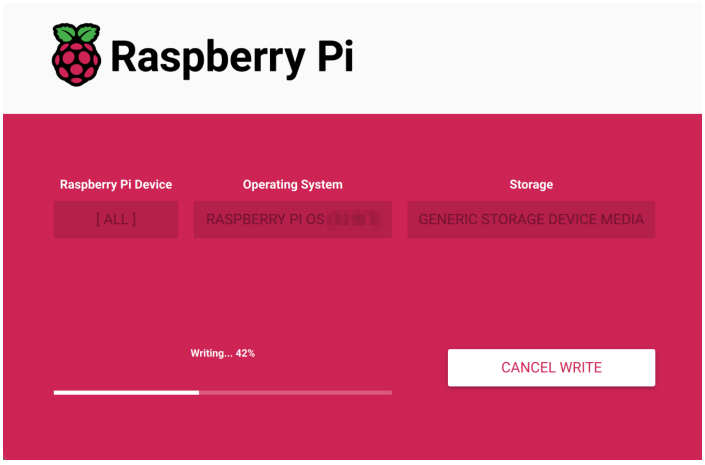
8. According to the prompt, select the OS file under the user-defined path and return to the main page.
9. Click "CHOOSE STORAGE", select the default device in the "Storage" interface, and return to the main page.



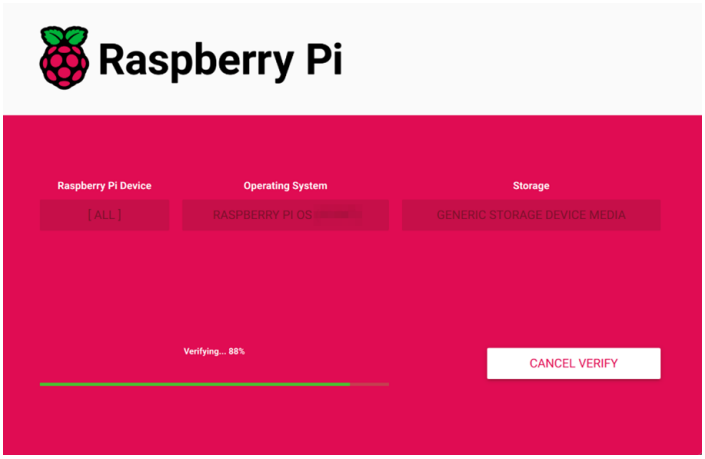
10. Click “NEXT”, select "NO " in the pop-up “Use OS customization?” pane.



11. Select “YES” in the pop-up “Warning” pane to start writing the image.



12. After the OS writing is completed, the file will be verified.



13. After the verification is completed, click “CONTINUE” in the pop-up “Write Successful” box.
14. Close the `Raspberry Pi Imager`, remove the card reader and SD card.
15. Insert the Micro SD card into the Micro SD card slot of the device. For specific steps, please refer to 2.2 Insert Micro SD Card.
16. Restore power to the device and initiate a normal system startup.

6.3 Installing Firmware Package

After you have finished flashing to SD card on ED-HMI3010-156C, you need to configure the system by adding edatec apt source and installing firmware package to make the system work. The following is an example of Debian 12 (bookworm) desktop version.

> TIP
>
> Our engineers are currently adapting and developing firmware packages for Raspberry Pi OS-trixie (Debian 13), so it is temporarily not supported. We recommend using the Raspberry Pi OS 64-bit-bookworm (Debian 12) version of the operating system.

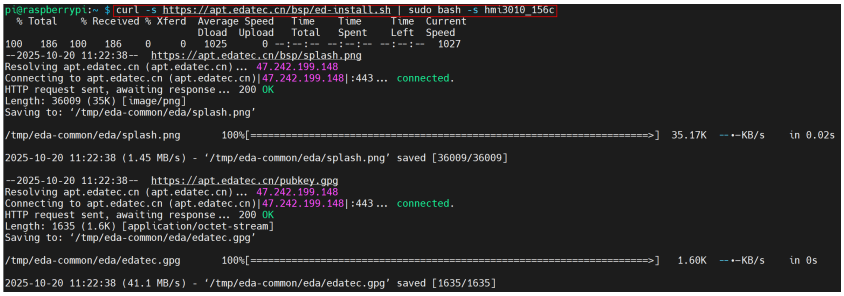
Preparation:

- The flashing to SD card of the Raspberry Pi standard OS (bookworm) has been completed.
- The device has booted normally and the relevant boot configuration has been completed.

Steps:

1. After the device starts normally, execute the following commands in the command pane to add the edatec apt source and installing firmware package.

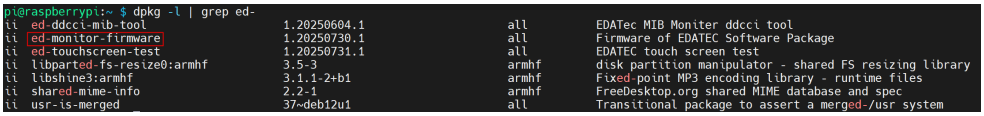
```sh
curl -s https://apt.edatec.cn/bsp/ed-install.sh | sudo bash -s hmi3010_156c
```



2. After the installation is complete, the system automatically reboots.
3. Execute the following command to check whether the firmware package is installed successfully.

```sh
dpkg -l | grep ed-
```

The result in the picture below indicates that the firmware package has been installed successfully.



> TIP
>
> If you have installed the wrong firmware package, you can execute `sudo apt-get --purge remove package` to delete it, where “package” is the package name.