



# **ED-HMI3010-070C**

## **User Manual**

by EDA Technology Co., Ltd

built: 2025-11-24

# 1 Hardware Manual

This chapter introduces the product overview, packing list, appearance, indicator and interface.

## 1.1 Overview

ED-HMI3010-070C is a 10.1-inch industrial HMI based on Raspberry Pi 5. According to different application scenarios and user needs, different specifications of RAM and SD card computer systems can be selected.

- RAM can choose 2GB, 4GB 8GB and 16GB
- SD card can choose 32GB and 64GB

ED-HMI3010-070C provides HDMI, USB 2.0, USB 3.0 and Ethernet interfaces, supporting access to the network through Wi-Fi and Ethernet.

ED-HMI3010-070C integrates 10.1-inch LCD touch screen and is mainly used in industrial control and IOT.



## 1.2 Packing List

- 1x ED-HMI3010-070C Unit
- 1 x Mounting Kit (including 4 x buckles, 4xM4\*10 screws and 4xM4\*16 screws)

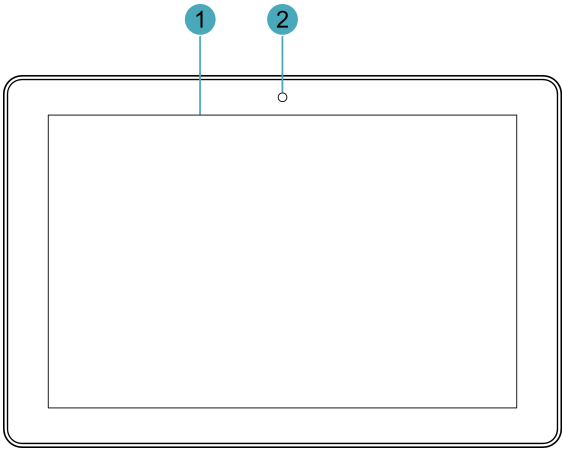
## 1.3 Appearance

Introducing the functions and definitions of interfaces on each panel.

### 1.3.1 Front Panel

This section introduces functions and definitions of front panel.

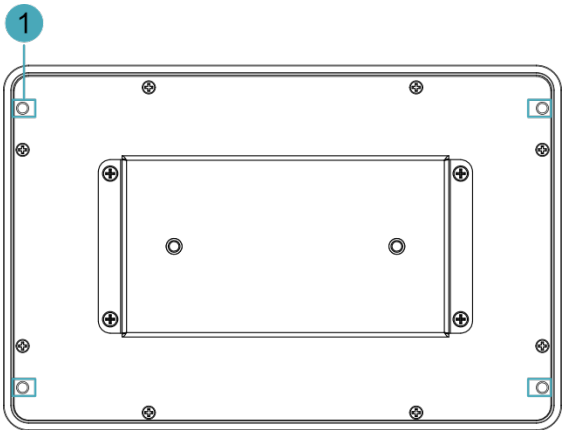




NO.	Function Definition
1	1 x LCD display, 7-inch LCD touch screen, which supports up to 1024x600 resolution and multi-point capacitive touchscreen.
2	1 x camera (optional), 8 Megapixel front camera.

### 1.3.2 Rear Panel

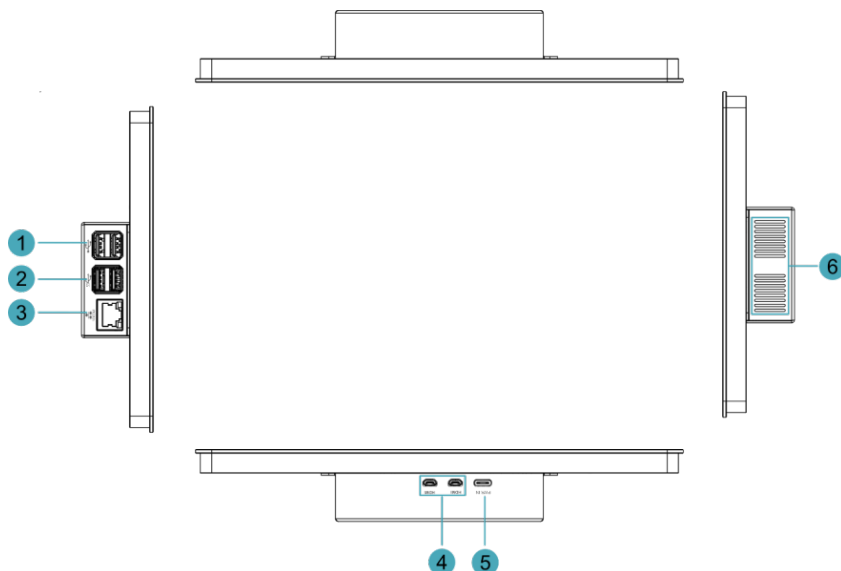
This section introduces interfaces and definitions of rear panel.



NO.	Function Definition
1	4 x installation holes of buckle, which are used to fix the buckles to the device for installation.

### 1.3.3 Side Panel

This section introduces interfaces and definitions of side panel.



NO.	Function Definition
1	2 x USB 2.0 ports, Type-A connector, each channel supports up to 480Mbps.
2	2 x USB 3.0 ports, Type-A connector, each channel supports up to 5Gbps.
3	1 x Ethernet port (10/100/1000M adaptive), RJ45 connector with led indicator. It can be used to access the network.
4	2 x HDMI ports, micro-HDMI connector, which can connect a display and supports 4K 60Hz.
5	1 x DC input, USB Type-C connector, which supports 5V 5A power input.
6	Heat dissipation holes, which help improve cooling performance.

## 1.4 Indicator

This section introduces various statuses and meanings of indicators contained in ED-HMI3010-070C.

Indicator	Status	Description
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.

## 1.5 Interface

Introducing the definition and function of each interface in the product.

### 1.5.1 Power Supply

The ED-HMI3010-070C includes one power input, and the silkscreen is “PWR IN”. The connector is USB Type-C, which supports 5V 5A power input.

#### TIP

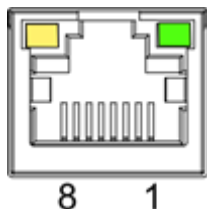
In order for Raspberry Pi 5 to achieve better performance, it is recommended to use a 5V 5A power adapter.

### 1.5.2 1000M Ethernet

ED-HMI3010-070C includes one adaptive 10/100/1000M Ethernet port, RJ45 connector with



indicator, and the silkscreen is “1000M”, which is used to access the network. The pins corresponding to the terminals are defined as follows :



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


#### NOTE

In order to let Raspberry Pi 5 have better cooling performance, we use a thermal conductive silicone to connect the bottom of Raspberry Pi 5 to the metal case of LCD screen. However, this will cause that the distance between Ethernet port and LCD screen is small, and it is difficult to pull out the network cable by hand after it is inserted into Ethernet port. When you need to pull out the network cable, we recommend using an auxiliary tool (tweezers or screwdriver) to press the buckle on network cable terminal, and then pull out the cable by hand.


### 1.5.3 HDMI

ED-HMI3010-070C includes 2 HDMI ports, and the silkscreen is “HDMI”.The connector is micro-HDMI, which can connect to HDMI displays and supports up to 4Kp60.

### 1.5.4 USB 2.0

ED-HMI3010-070C includes 2 USB 2.0 ports, and the silkscreen is “”. The connector is USB Type-A, which can connect to standard USB 2.0 peripherals and supports up to 480Mbps.

### 1.5.5 USB 3.0

ED-HMI3010-070C includes 2 USB 3.0 ports, and the silkscreen is “”. The connector is USB Type-A, which can connect to standard USB 3.0 peripherals and supports up to 5Gbps.

## 2 Installing Device

This chapter describes the specific operations for installing the device.

### 2.1 Installing Raspberry Pi 5 (optional)

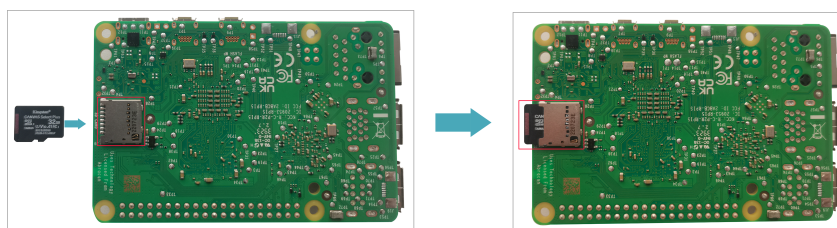
If the product model purchased by the customer does not include Raspberry Pi 5, Raspberry Pi 5 needs to be installed first.

Preparation :

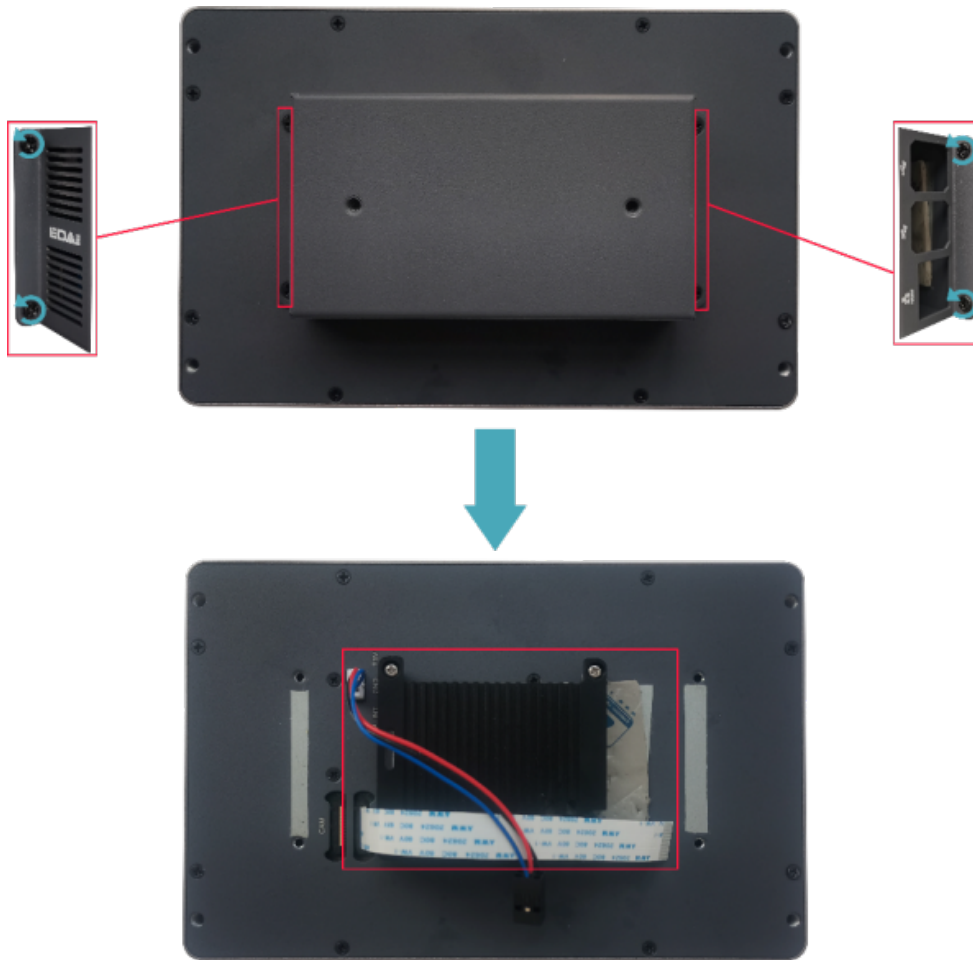
- ED-HMI3010-070C and Micro SD card have been obtained from the packaging box.
- Raspberry Pi 5 is ready.
- A cross screwdriver has been prepared.

Steps :

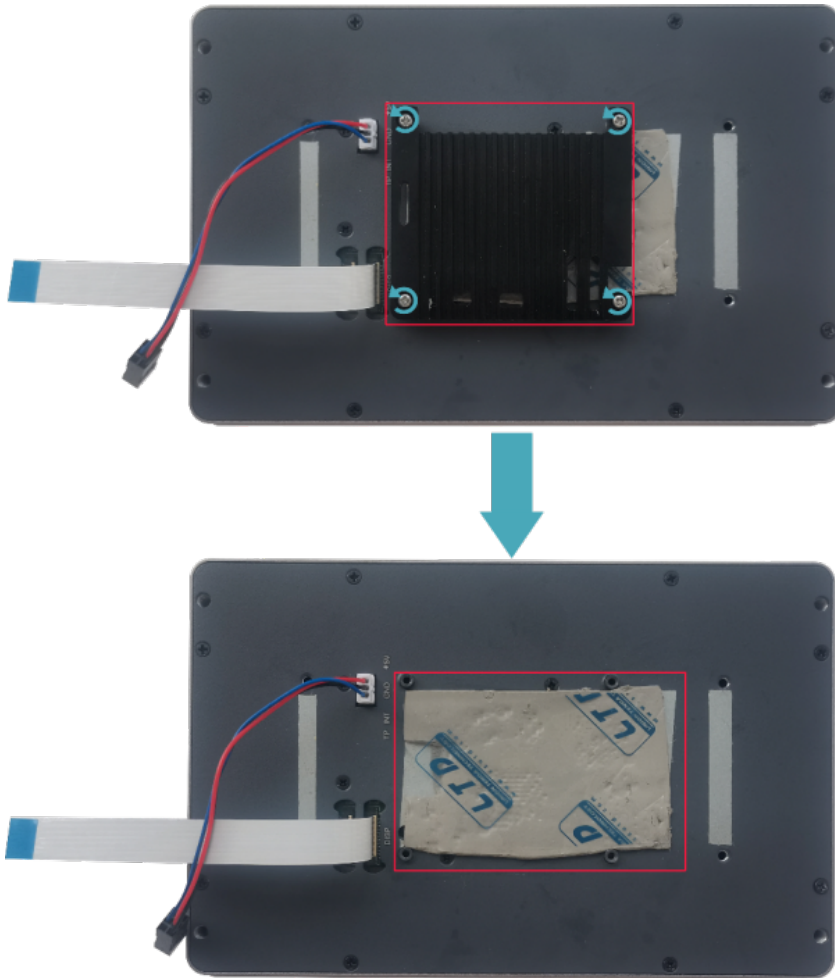
1. Insert the Micro SD card into Micro SD card slot of Raspberry Pi 5.



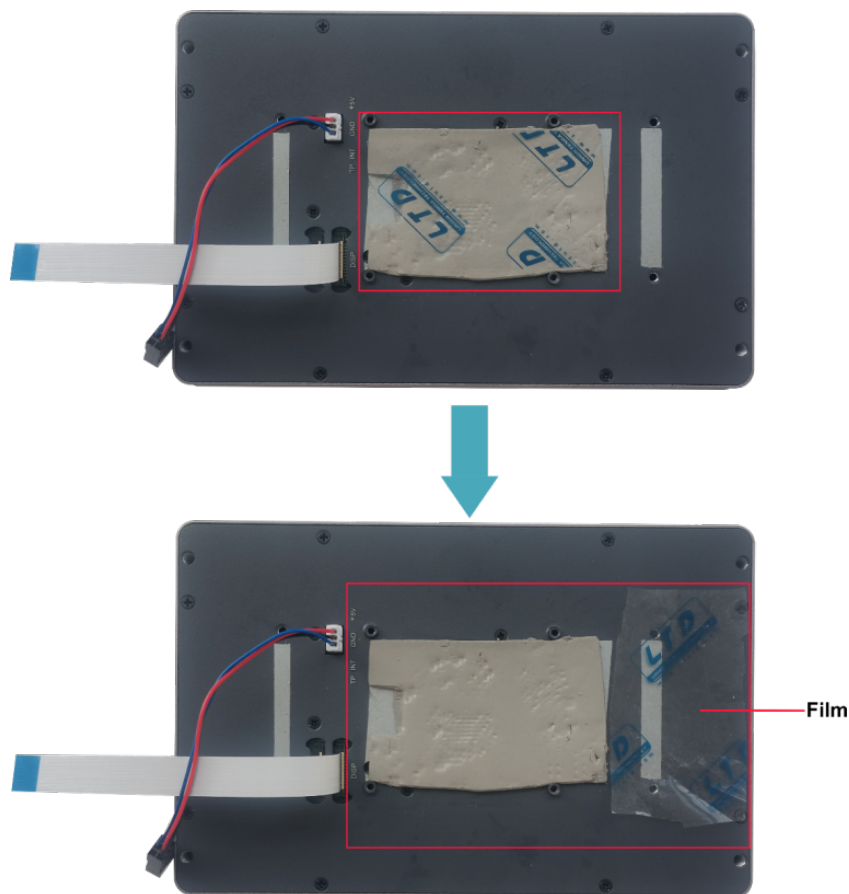
2. Use a screwdriver to loosen 4 M3 screws on ED-HMI3010-070C case counterclockwise, and remove the case.



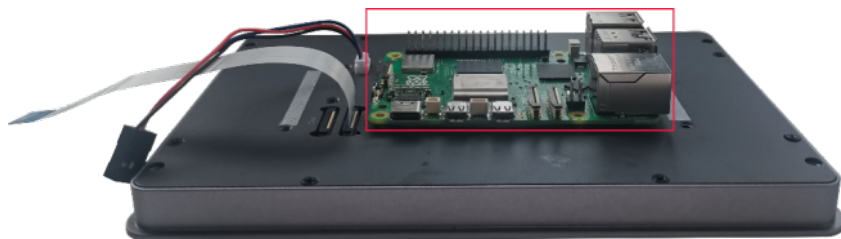
3. Use a screwdriver to loosen 4 M2.5 screws on heat sink counterclockwise, and remove the passive cooler.



4. Remove the film of thermal conductive silicone.

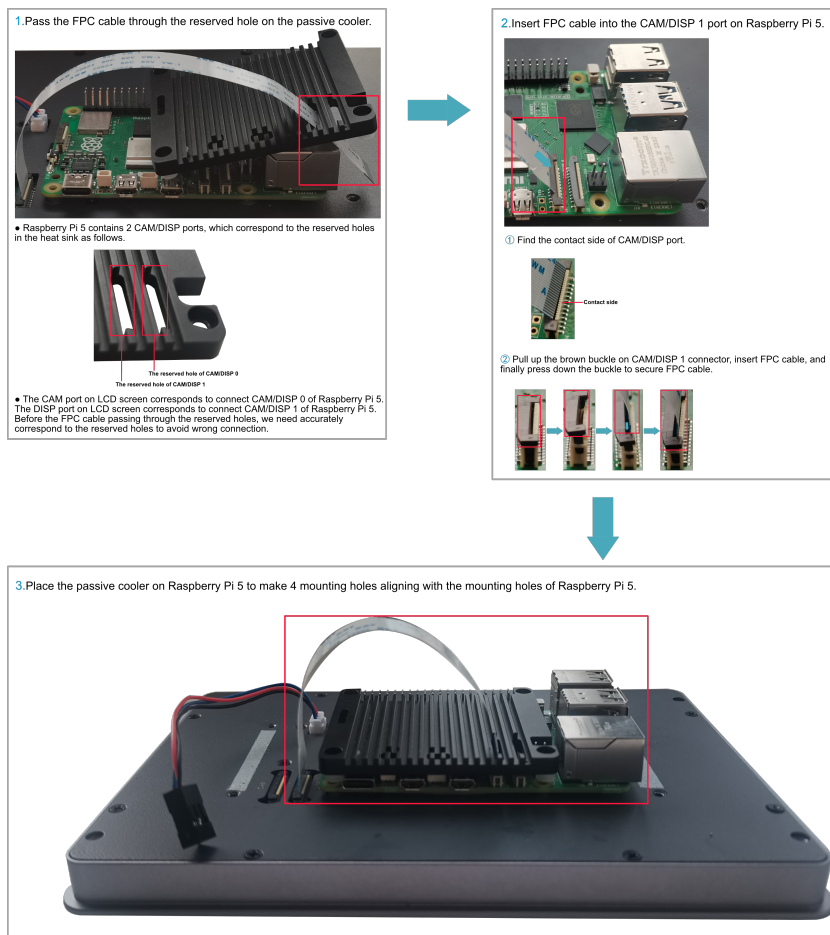


5. Place the Raspberry Pi 5 on the back of the LCD screen so that the mounting holes of the Raspberry Pi 5 can align with the four stud holes on the back of the LCD screen.



6. Pass the FPC cable through the reserved hole on the passive cooler, insert it into the CAM/ DISP1 port on the Raspberry Pi 5, and then place the passive cooler on the Raspberry Pi 5 (make sure the four mounting holes of the passive cooler are aligned with 4 mounting holes of Raspberry Pi 5).





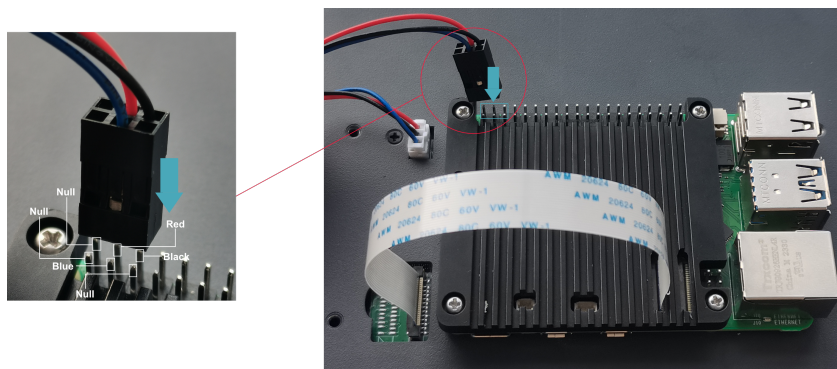
## TIP

Here we only take installing Raspberry Pi 5 on an LCD screen without CAM interface as an example.

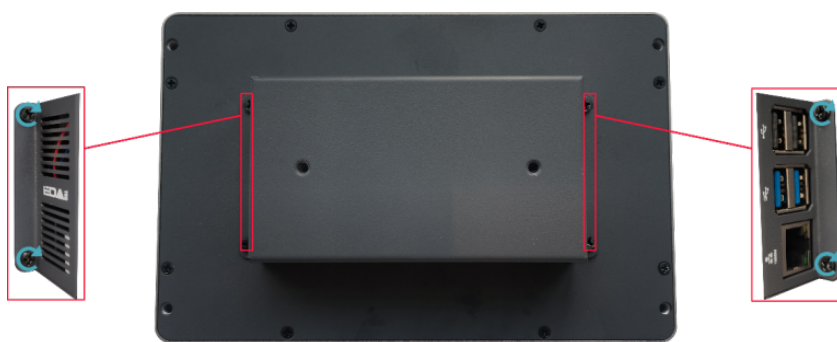
7. Insert the mounting screws of the Raspberry Pi 5 into the mounting holes of the passive cooler and tighten clockwise to fix the passive cooler and Raspberry Pi 5 on the back of the LCD screen.



8. Plug the power cord into the corresponding 40-Pin on the Raspberry Pi 5.



9. Cover the case, insert 4 M3 screws, and tighten clockwise to fix the case to the back of the LCD screen.



## 2.2 Embedded Installation

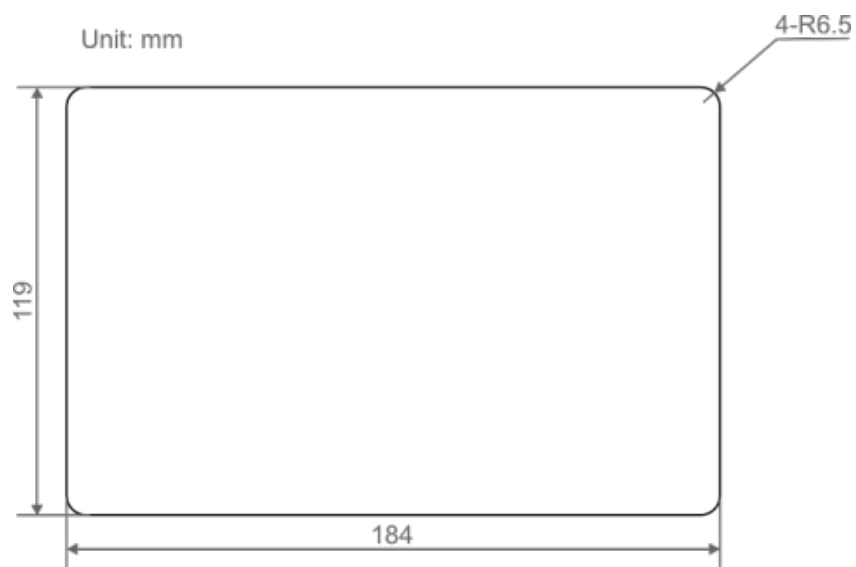
ED-HMI3010-070C device supports embedded front installation, which is equipped with a Mounting Kit (including 4 x buckles, 4xM4\*10 screws and 4xM4\*16 screws).

Preparation :

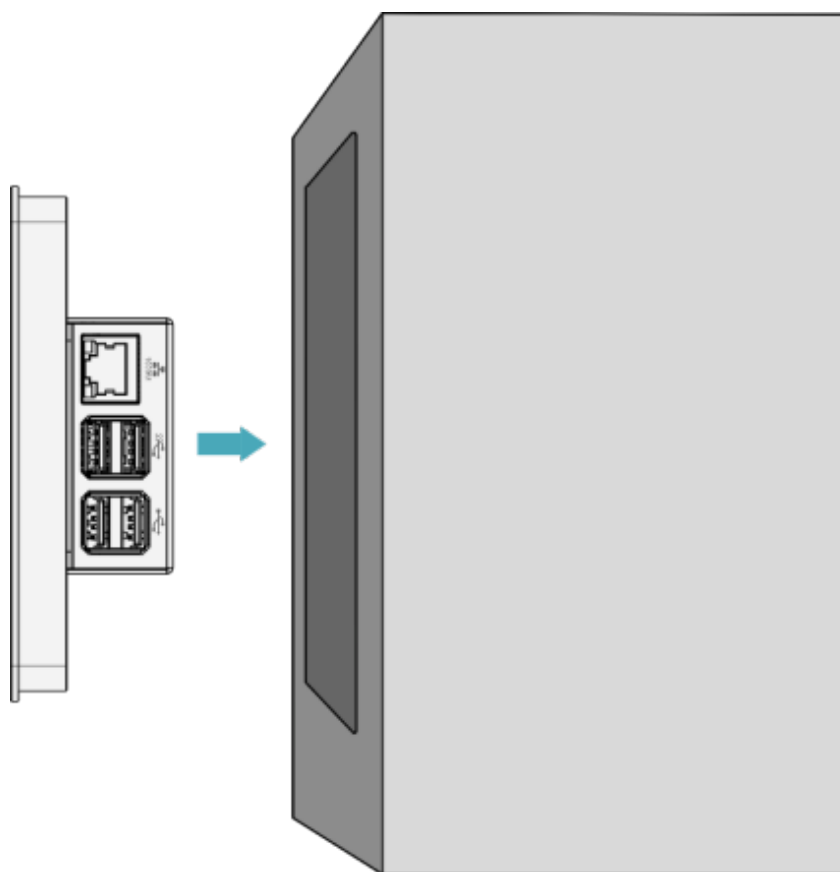
- A Mounting Kit (including 4 x buckles, 4xM4\*10 screws and 4xM4\*16 screws) have been obtained from the packaging box.
- A cross screwdriver has been prepared.

Steps :

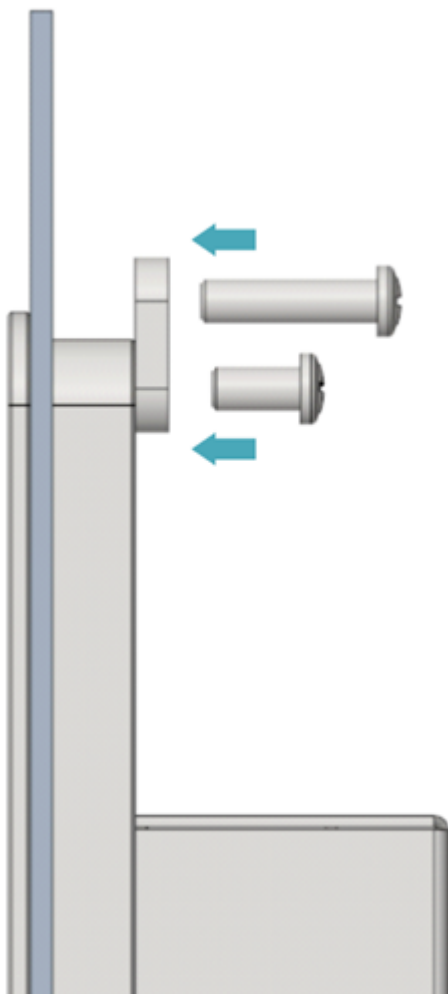
1. Ensure the opening size of the cabinet according to the size of ED-HMI3010-070C, as shown in the figure below.



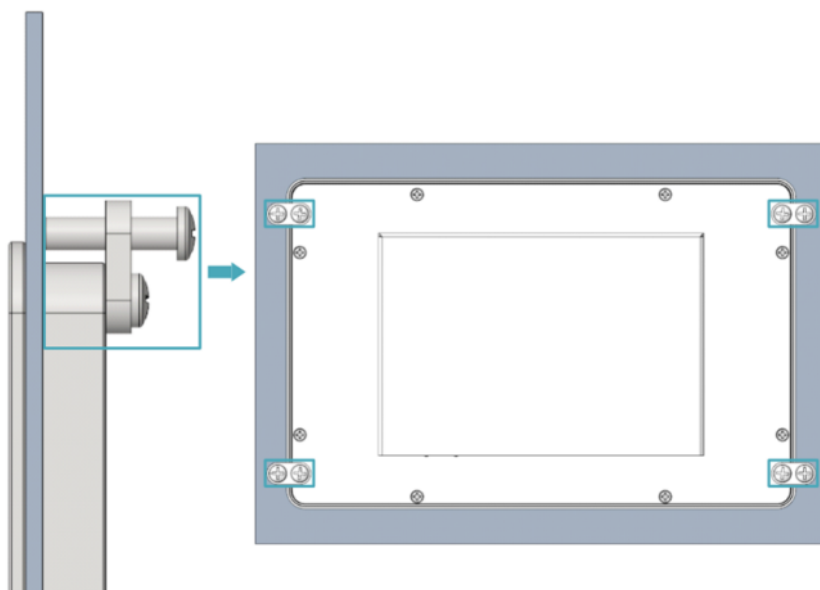
2. Drill a hole on the cabinet according to the hole size of step1.
3. Embed the ED-HMI3010-070C into the cabinet from the outside.



4. Align the screw hole (unthreaded hole) of the buckle with the buckle installation hole on the device.



5. Use 4 M4\*10 screws to pass through the buckle and tighten it clockwise to fix the buckle to the device; then use 4 M4\*16 screws to pass through the screw hole (threaded hole) of the buckle and tighten clockwise to the end through the buckles.



## 3 Booting The Device

This chapter introduces how to connect cables and boot the device.

### 3.1 Connecting Cables

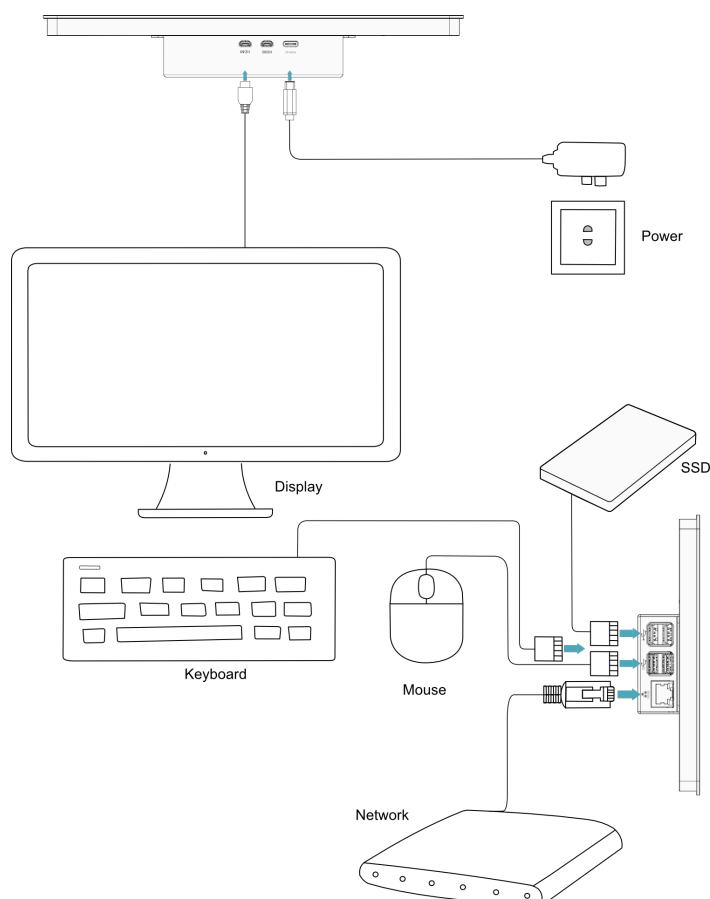
This section describes how to connect cables.

Preparation :

- Accessories such as display, mouse, keyboard and power adapter that can be used normally have been ready.
- A network that can be used normally.
- Get the HDMI cable and network cable that can be used normally.

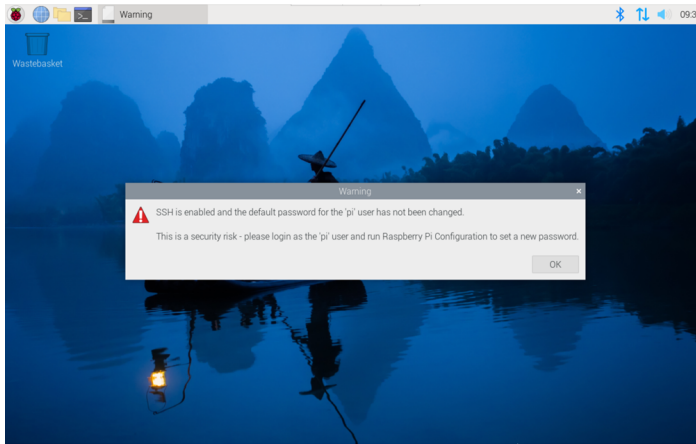
Schematic diagram of connecting cables:

Please refer to [1.5 Interface](#) for the pin definition of each interface and the specific method of wiring.



### 4.2 Booting The System For The First Time

ED-HMI3010-070C has no power switch. After the power supply is connected, the system will start. The product is installed with the Desktop version system when it leaves the factory. After the device is started, it will directly enter the desktop.



## TIP

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

For more information about Raspberry Pi 5 configuration operations, please refer to the documentation on the [Raspberry Pi official website \(https://www.raspberrypi.com/documentation/computers/raspberry-pi-5.html\)](https://www.raspberrypi.com/documentation/computers/raspberry-pi-5.html) .

## 4 Remote Login

This chapter introduces how to log in the device remotely.

### 4.1 Finding Device IP

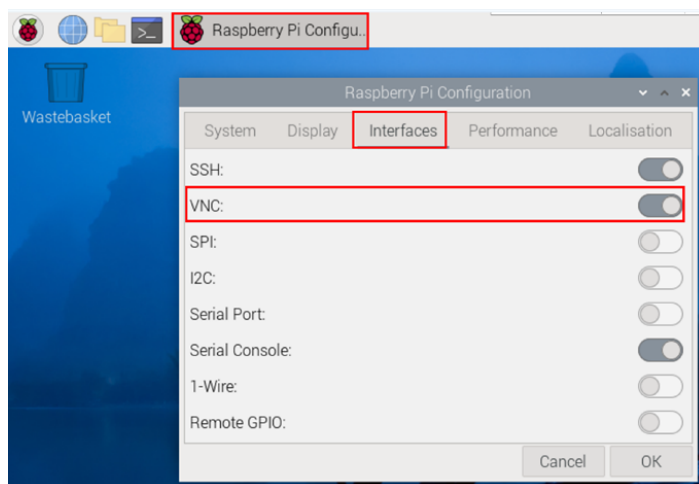
Finding Device IP

### 4.2 Connecting To The Device Desktop Through VNC

After the device starts normally, you can choose to remotely connect to the device through VNC to configure or debug it.

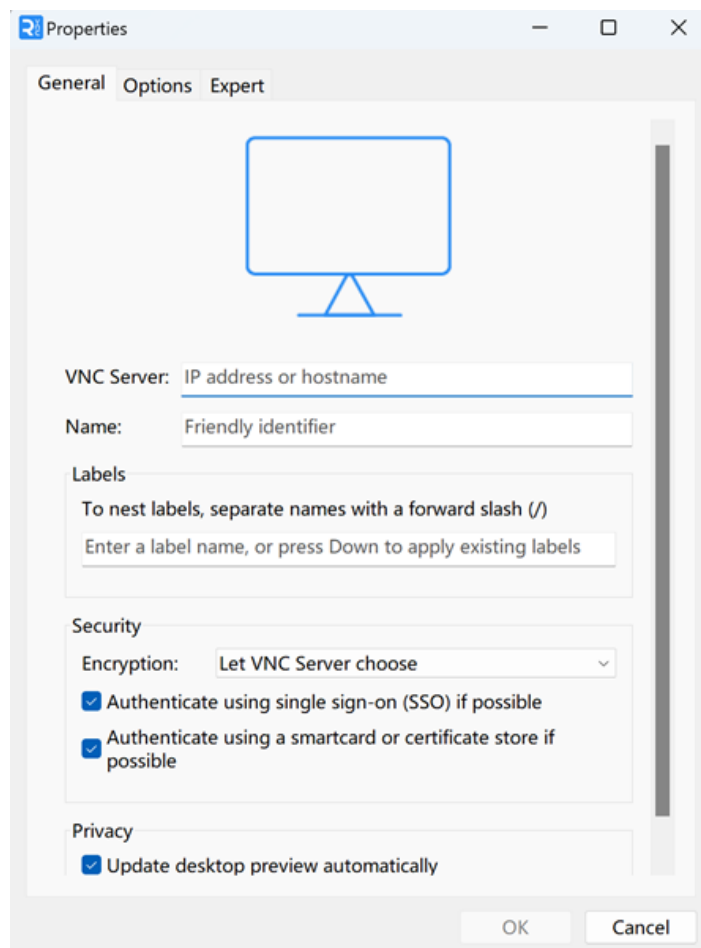
Preparation:

- The RealVNC Viewer tool has been installed on PC.
- ED-HMI3010-070C has been connected to the network through the router.
- IP address of ED-HMI3010-070C has been get.
- The VNC function in the ED-HMI3010-070C system has been turned on, as shown in the following figure.



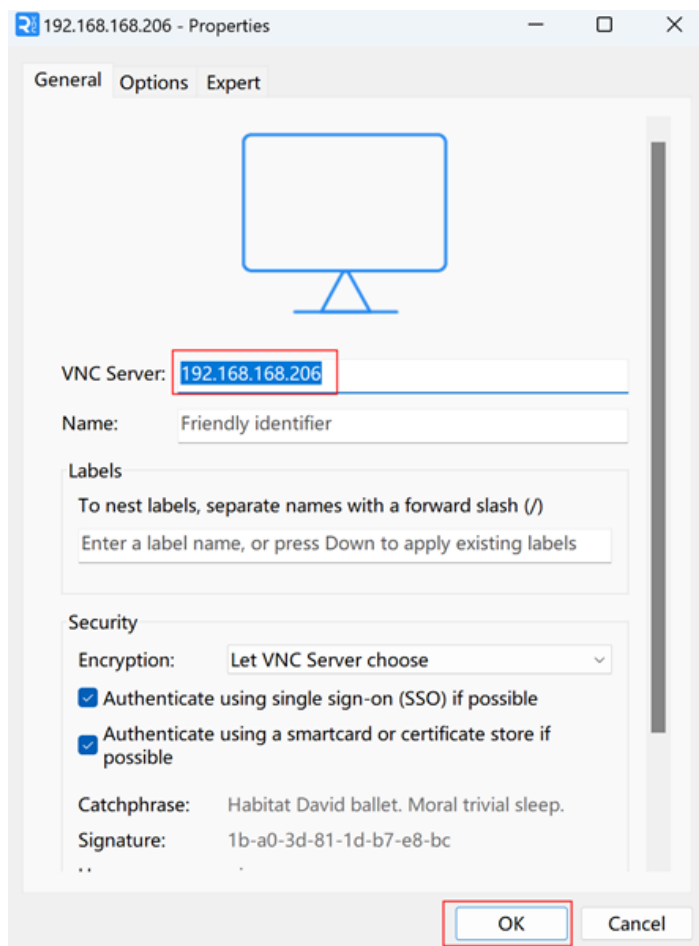
Steps :

1. Open RealVNC Viewer and select "New connection..." in the File in the menu bar to open the window for creating a connection, as shown in the following figure.



2. After entering the IP address of ED-HMI3010-070C, click "OK".

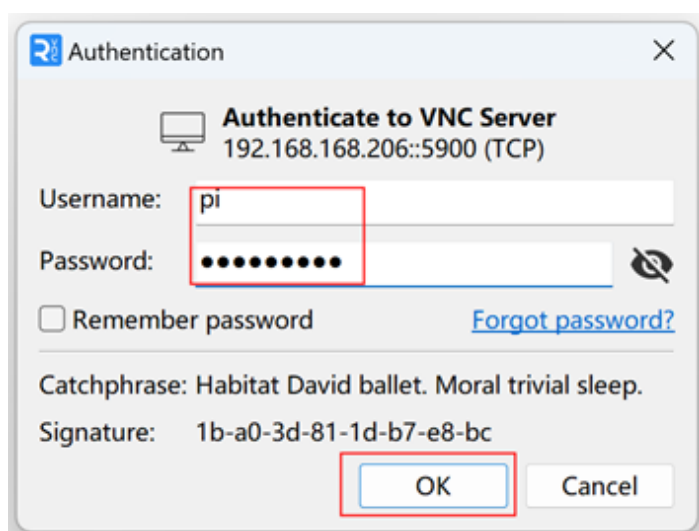




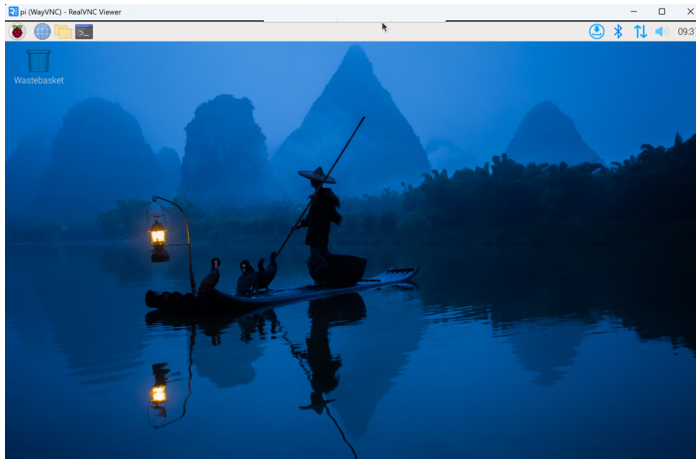
3. Enter the username and password in the Authentication prompt box that pops up.

#### TIP

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



4. Select "OK" to log in and connect to the remote desktop.



## 5 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, SD card flashing and installation of Firmware packages.

### 5.1 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)	<a href="https://downloads.raspberrypi.com/raspios_arm64/images/raspios_arm64-2024-07-04/2024-07-04-raspios-bookworm-arm64.img.xz">https://downloads.raspberrypi.com/raspios_arm64/images/raspios_arm64-2024-07-04/2024-07-04-raspios-bookworm-arm64.img.xz</a> ( <a href="https://downloads.raspberrypi.com/raspios_arm64/images/raspios_arm64-2024-07-04/2024-07-04-raspios-bookworm-arm64.img.xz">https://downloads.raspberrypi.com/raspios_arm64/images/raspios_arm64-2024-07-04/2024-07-04-raspios-bookworm-arm64.img.xz</a> )
Raspberry Pi OS(Lite) 64-bit-bookworm (Debian 12)	<a href="https://downloads.raspberrypi.com/raspios_lite_arm64/images/raspios_lite_arm64-2024-07-04/2024-07-04-raspios-bookworm-arm64-lite.img.xz">https://downloads.raspberrypi.com/raspios_lite_arm64/images/raspios_lite_arm64-2024-07-04/2024-07-04-raspios-bookworm-arm64-lite.img.xz</a> ( <a href="https://downloads.raspberrypi.com/raspios_lite_arm64/images/raspios_lite_arm64-2024-07-04/2024-07-04-raspios-bookworm-arm64-lite.img.xz">https://downloads.raspberrypi.com/raspios_lite_arm64/images/raspios_lite_arm64-2024-07-04/2024-07-04-raspios-bookworm-arm64-lite.img.xz</a> )

#### 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.

### 5.2 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) ([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:

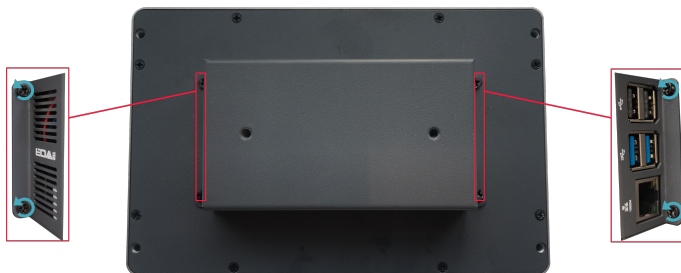
- The downloading and installation of the official tools to the computer have been completed.

- A tweezer has been prepared.
- The OS file has been obtained.

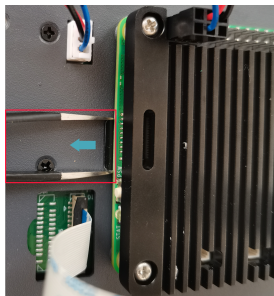
## Steps:

The steps are described using Windows system as an example.

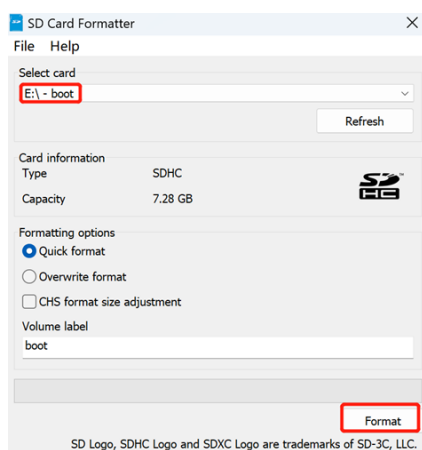
1. Open the device case, then pull out SD card.
  - a. Remove the metal case of the ED-HMI3010-070C by unscrewing the 4 M3 screws on the metal case counterclockwise with a screwdriver.



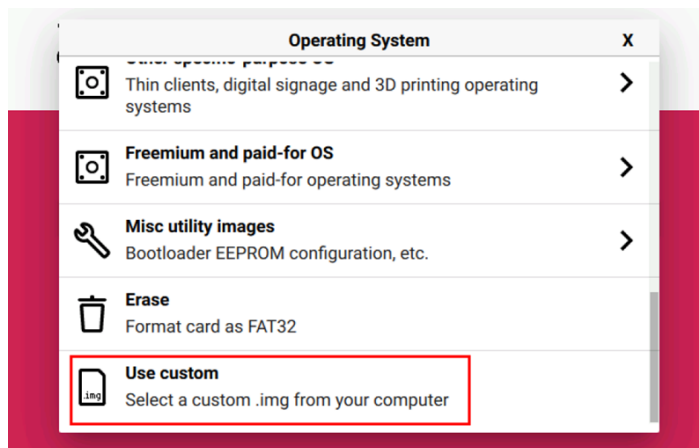
- b. Locate the SD card location and remove the SD card with tweezers.



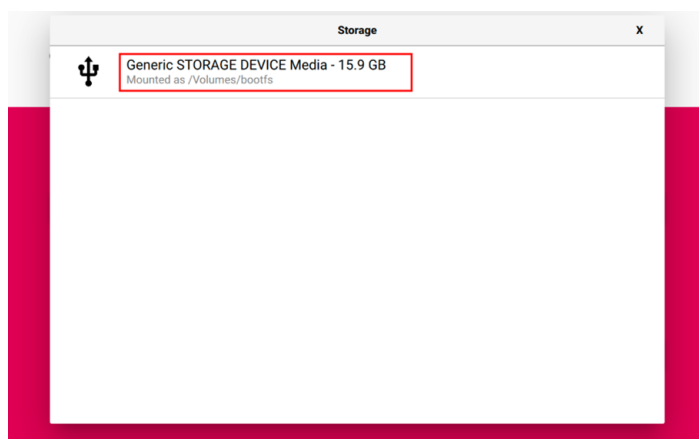
2. Insert the SD card into the card reader, and then insert the card reader into the USB port of your computer.
3. Open SD Card Formatter, select the formatted drive letter, and click "Format" at the lower right to format.



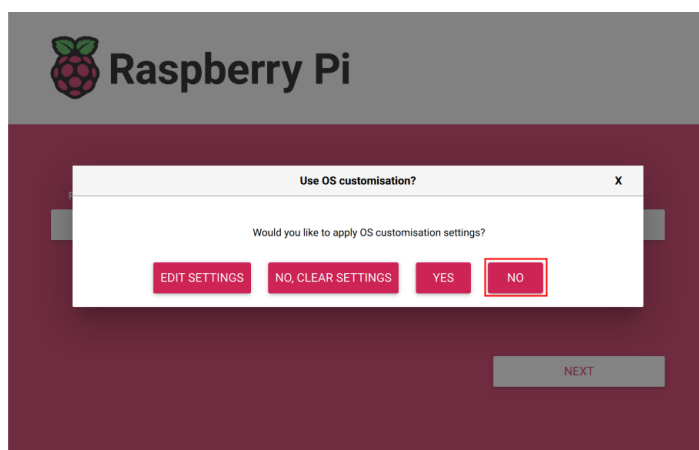
4. In the pop-up prompt box, select "Yes".
5. When the formatting is completed, click "OK" in the prompt box.
6. Close SD Card Formatter.
7. Open Raspberry Pi Imager, select "CHOOSE OS" and select "Use Custom " in the pop-up pane.



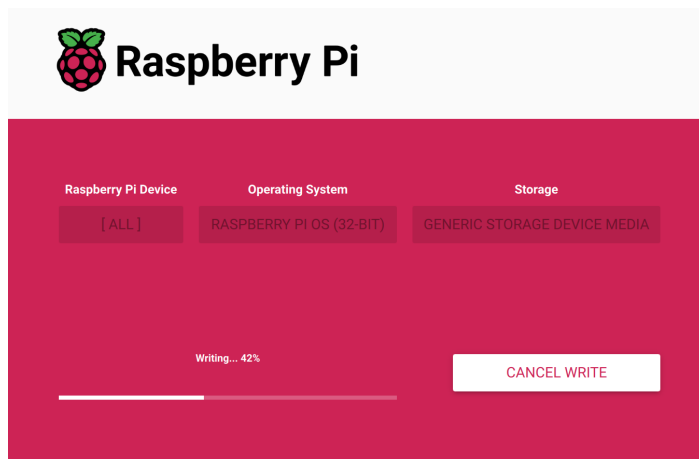
8. According to the prompt, select the OS file under the user-defined path and return to the main page.
9. Click "CHOOSE STORAGE", select the default device in the "Storage" interface, and return to the main page.



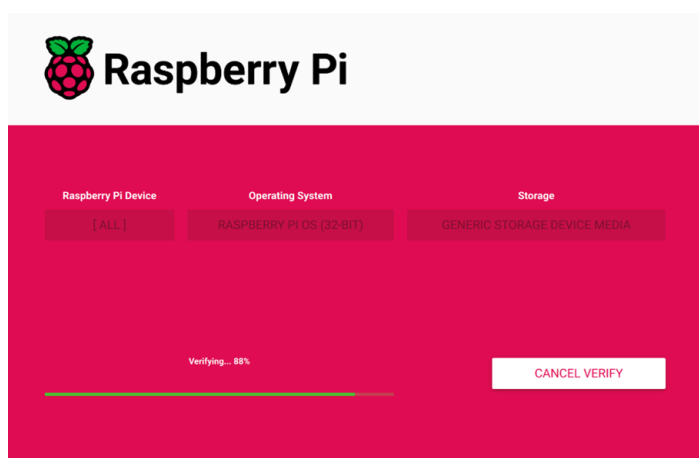
10. Click "NEXT", select "NO " in the pop-up "Use OS customization?" pane.



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



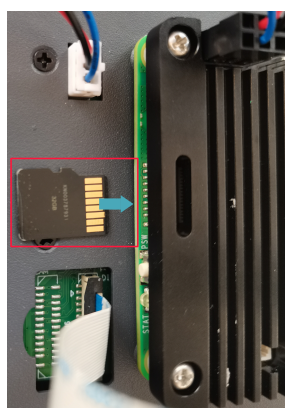
12. After the OS writing is completed, the file will be verified.



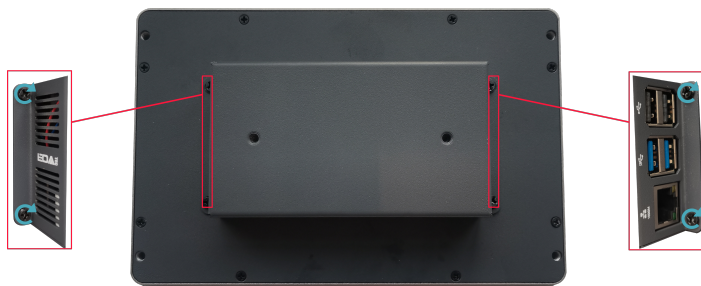
13. After the verification is completed, click “CONTINUE” in the pop-up “Write Successful” box.

14. Close the Raspberry Pi Imager, remove the SD card.

15. Insert the SD card into the SD card slot of the Raspberry Pi 5 and close the device case.  
a. Insert the SD card into the SD card slot of the Raspberry Pi 5.



b. Tighten the 4 M3 screws on the metal case of the ED-HMI3010-070C clockwise with a screwdriver and close the device case.



## 5.3 Installing Firmware Package

After installing the standard Raspberry Pi OS on the ED-HMI3010-070C. 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:

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

```
curl -s https://apt.edatec.cn/bsp/ed-install.sh | sudo bash -s hmi3010_070c
```

sh

```
pi@raspberrypi:~$ curl -s https://apt.edatec.cn/bsp/ed-install.sh | sudo bash -s hmi3010_070c
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed
100 410    100 410    0    0 2677    0 --:--:-- --:--:-- --:--:-- 2751
--2024-10-21 08:48:19-- https://apt.edatec.cn/bsp/splash.png
Resolving apt.edatec.cn (apt.edatec.cn)... 47.242.199.148
Connecting to apt.edatec.cn (apt.edatec.cn)|47.242.199.148|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 36009 (35K) [image/png]
Saving to: '/tmp/eda-common/eda/splash.png'

/tmp/eda-common/eda/splash.png 100%[=====] 35.17K --.-KB/s in 0.02s
2024-10-21 08:48:19 (1.43 MB/s) - '/tmp/eda-common/eda/splash.png' saved [36009/36009]

--2024-10-21 08:48:19-- https://apt.edatec.cn/pubkey.gpg
Resolving apt.edatec.cn (apt.edatec.cn)... 47.242.199.148
Connecting to apt.edatec.cn (apt.edatec.cn)|47.242.199.148|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 1635 (1.6K) [application/octet-stream]
Saving to: '/tmp/eda-common/eda/edatec.gpg'

/tmp/eda-common/eda/edatec.gpg 100%[=====] 1.60K --.-KB/s in 0s
```

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

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

sh

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

```
pi@raspberrypi:~$ dpkg -l | grep ed-
ii  ed-hmi3010-070c-firmware      1.20240731.3      arm64      Firmware of EDATEC Software Package
ii  ed-linux-image-6.6.31-2712    1:6.6.31          arm64      Linux 6.6 for Raspberry Pi 2712, Raspberry Pi
ii  libparted-fs-resize0:arm64    3.5-3             arm64      disk partition manipulator - shared FS resizing li
brary
ii  libshine3:arm64               3.1.1-2           arm64      Fixed-point MP3 encoding library - runtime files
ii  shared-mime-info              2.2-1             arm64      FreeDesktop.org shared MIME database and spec
ii  usr-is-merged                 37~deb12u1        all        Transitional package to assert a merged-/usr syste
m
```

## 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.