



**ED-HMI3010-070C**

**7-inch Industrial Panel PC Based  
on Raspberry Pi 5**

**User Manual**

**EDA Technology Co., LTD**

**January 2024**

# Contact Us

Thank you very much for purchasing and using our products, and we will serve you wholeheartedly.

As one of the global design partners of Raspberry Pi, we are committed to providing hardware solutions for IOT, industrial control, automation, green energy and artificial intelligence based on Raspberry Pi technology platform.

You can contact us in the following ways:

EDA Technology Co.,LTD

Address: Building 29, No.1661 Jialuo Road, Jiading District, Shanghai

Mail: [sales@edatec.cn](mailto:sales@edatec.cn)

Phone: +86-18217351262

Website: <https://www.edatec.cn>

## **Technical Support:**

Mail: [support@edatec.cn](mailto:support@edatec.cn)

Phone: +86-18627838895

Wechat: zzw\_1998-

# Copyright Statement

ED-HMI3010-070C and its related intellectual property rights are owned by EDA Technology Co.,LTD.

EDA Technology Co.,LTD owns the copyright of this document and reserves all rights. Without the written permission of EDA Technology Co.,LTD, no part of this document may be modified, distributed or copied in any way or form.

# **Disclaimer**

EDA Technology Co.,LTD does not guarantee that the information in this manual is up to date, correct, complete or of high quality. EDA Technology Co.,LTD also does not guarantee the further use of this information. If the material or non-material related losses are caused by using or not using the information in this manual, or by using incorrect or incomplete information, as long as it is not proved that it is the intention or negligence of EDA Technology Co.,LTD, the liability claim for EDA Technology Co.,LTD can be exempted. EDA Technology Co.,LTD expressly reserves the right to modify or supplement the contents or part of this manual without special notice.

# Foreword

## Related Manuals

All kinds of product documents contained in the product are shown in the following table, and users can choose to view the corresponding documents according to their needs.

Documents	Instruction
ED-HMI3010-070C Datasheet	This document introduces the product features, software and hardware specifications, dimensions and ordering code of ED-HMI3010-070C to help users understand the overall system parameters of the products.
ED-HMI3010-070C User Manual	This document introduces the appearance, installation, startup and configuration of ED-HMI3010-070C to help users use the product better.
ED-HMI3010-070C Application Guide	This document introduces the OS download, SD flashing and open/close device case of ED-HMI3010-070C to help users use the product better.

Users can visit the following website for more information:

<https://www.edatec.cn>




## Reader Scope

This manual is applicable to the following readers:

- ◆ Mechanical Engineer
- ◆ Electrical Engineer
- ◆ Software Engineer
- ◆ System Engineer

# Related Agreement

## Symbolic Convention

Symbolic	Instruction
	Prompt symbols, indicating important features or operations.
	Notice symbols, which may cause personal injury, system damage, or signal interruption/loss.
	Warning symbols, which may cause great harm to people.

# Safety Instructions

- ◆ This product should be used in an environment that meets the requirements of design specifications, otherwise it may cause failure, and functional abnormality or component damage caused by non-compliance with relevant regulations are not within the product quality assurance scope.
- ◆ Our company will not bear any legal responsibility for personal safety accidents and property losses caused by illegal operation of products.
- ◆ Please do not modify the equipment without permission, which may cause equipment failure.
- ◆ When installing equipment, it is necessary to fix the equipment to prevent it from falling.
- ◆ If the equipment is equipped with an antenna, please keep a distance of at least 20cm from the equipment during use.
- ◆ Do not use liquid cleaning equipment, and keep away from liquids and flammable materials.
- ◆ This product is only supported for indoor use.

## Content

Foreword .....	i
Related Manuals .....	i
Reader Scope .....	i
Related Agreement .....	ii
Symbolic Convention .....	ii
Safety Instructions.....	iii
1 Product Description.....	1-1
1.1 Overview.....	1-2
1.2 Packing List .....	1-3
1.3 Appearance .....	1-4
1.3.1 Front Panel .....	1-4
1.3.2 Rear Panel.....	1-4
1.3.3 Side Panel .....	1-5
1.4 Indicator.....	1-7
1.5 Interface.....	1-8
1.5.1 Power Supply.....	1-8
1.5.2 1000M Ethernet.....	1-8
1.5.3 HDMI .....	1-8
1.5.4 USB 2.0 .....	1-9
1.5.5 USB 3.0 .....	1-9
2 Installing Device .....	2-1
2.1 Installing Raspberry Pi 5 (optional) .....	2-2
2.2 Embedded Installation .....	2-8
3 Booting The Device.....	3-1
3.1 Connecting Cables.....	3-2
3.2 Booting The System For The First Time.....	3-3
4 Remote Login.....	4-1
4.1 Finding Device IP.....	4-2
4.1.1 Query IP by Using ifconfig Command .....	4-2
4.1.2 Login Router to Query IP .....	4-2
4.2 Connecting To The Device Desktop Through VNC .....	4-4



# 1 Product Description

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

- ✓ Overview
- ✓ Packing List
- ✓ Appearance
- ✓ Indicator
- ✓ Interface

## 1.1 Overview

ED-HMI3010-070C is a 7-inch industrial Panel PC 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 4GB and 8GB
- ◆ 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 7-inch LCD touch screen and is mainly used in industrial control and IOT.



## 1.2 Packing List

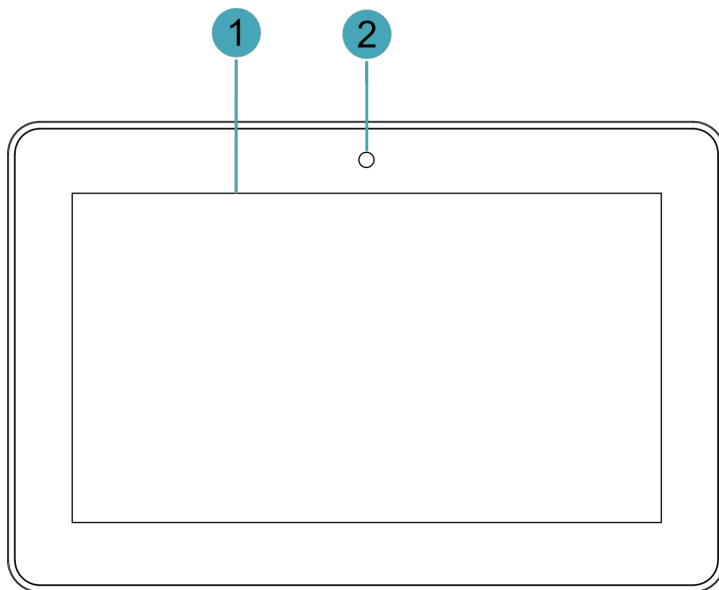
- ◆ 1x ED-HMI3010-070C Unit
- ◆ 4 x buckles (including 4xM4\*8 screws and 4xM4\*16 screws)

## 1.3 Appearance

Introducing the functions and definitions of interfaces on each panel.

### 1.3.1 Front Panel

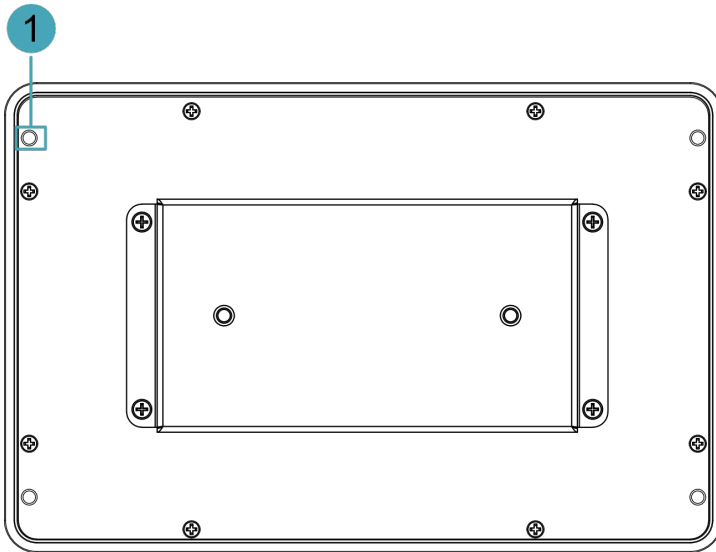
This section introduces functions and definitions of front panel.



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

### 1.3.2 Rear Panel

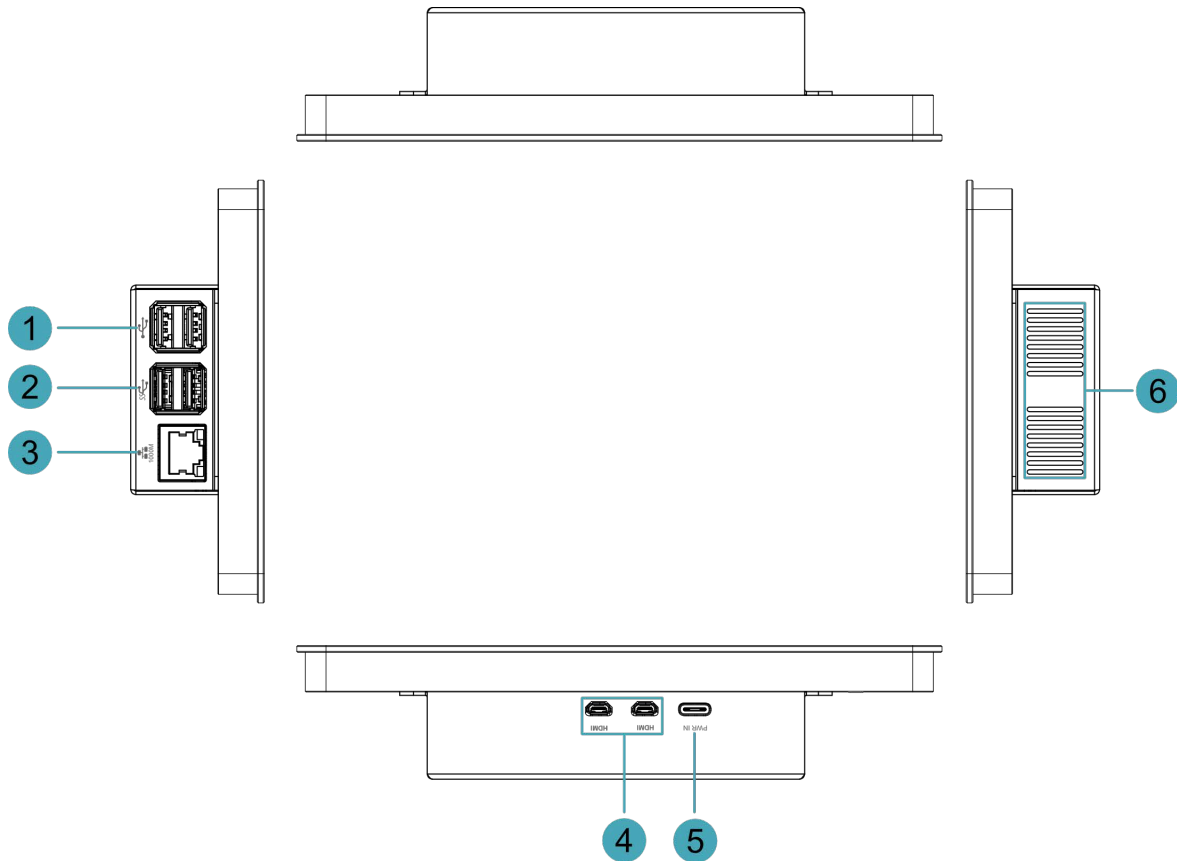
This section introduces interfaces and definitions of rear panel.



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 10/100/1000M adaptive ethernet port, 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, 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 corresponding to the terminal are defined as follows:

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



**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 introduces how to install the device.

- ✓ Installing Raspberry Pi 5 (optional)
- ✓ Embedded Installation

## 2.1 Installing Raspberry Pi 5 (optional)

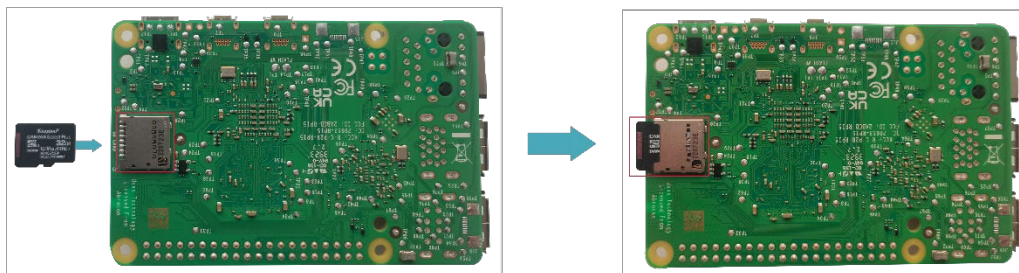
If the product model purchased by the customer does not include Raspberry Pi 5, Raspberry Pi 5 needs to be installed first.

### Preparation:

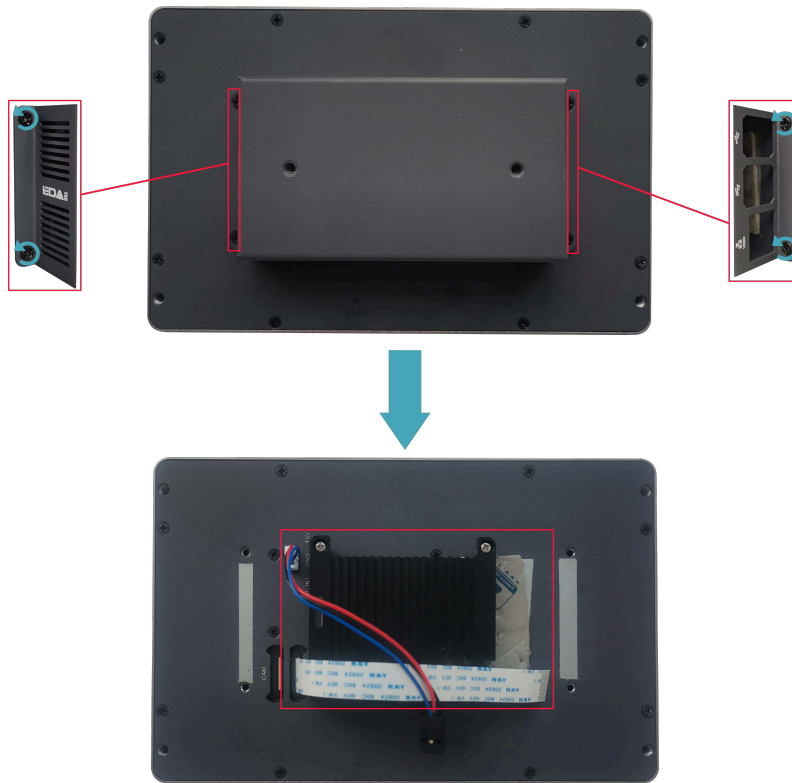
- ◆ ED-HMI3010-070C and SD card have been obtained from the packaging box.
- ◆ Raspberry Pi 5 is ready.
- ◆ A cross screwdriver has been prepared.

### Steps:

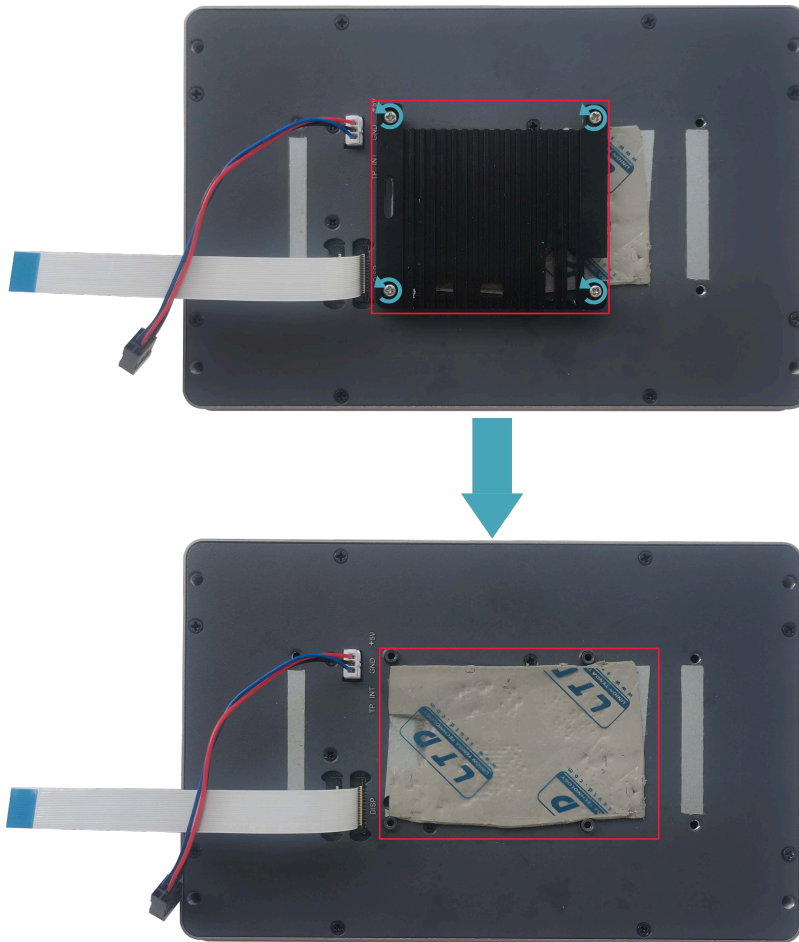
1. Insert the SD card into SD card slot of Raspberry Pi 5.



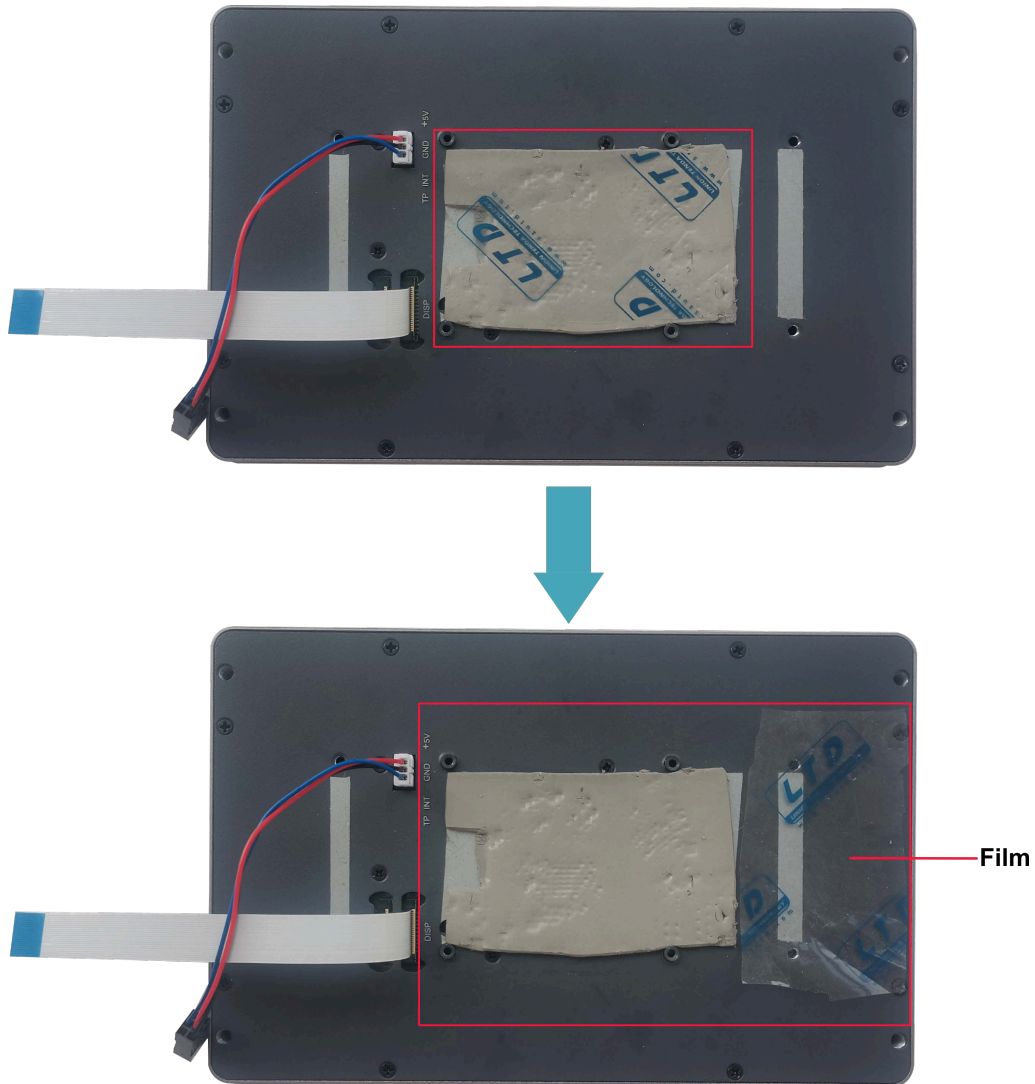
2. Use a screwdriver to loosen 4 M3 screws on ED-HMI3010-070C case counterclockwise, and remove the case.



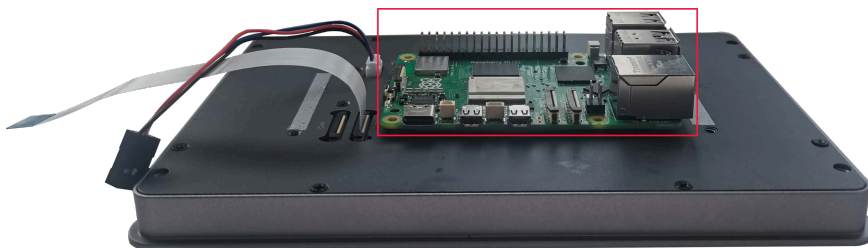
3. Use a screwdriver to loosen 4 M2.5 screws on heat sink counterclockwise, and remove the heat sink.



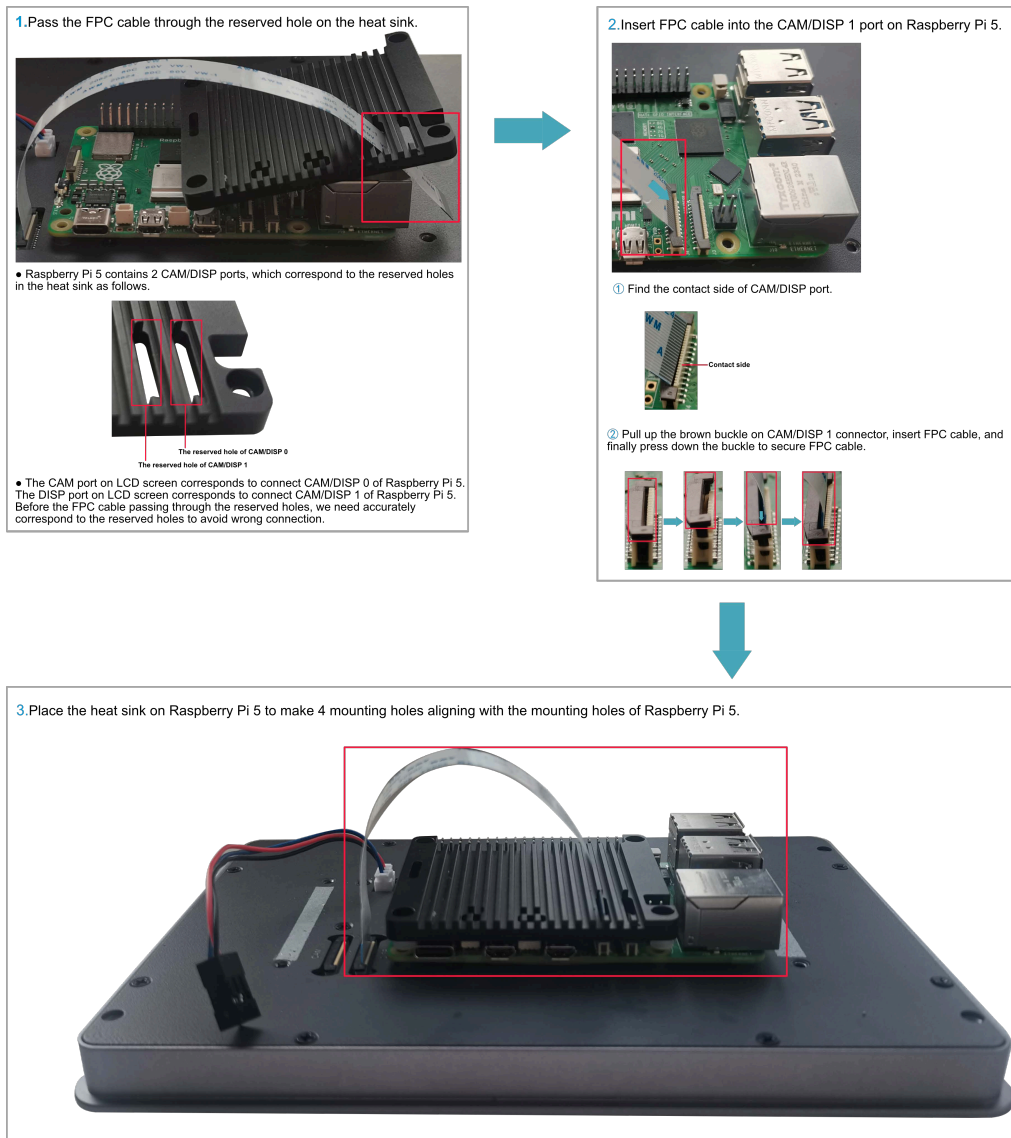
4. Remove the film of thermal conductive silicone.



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 heat sink, insert it into the CAM/DISP1 port on the Raspberry Pi 5, and then place the heat sink on the Raspberry Pi 5 (make sure the four mounting holes of the heat sink are aligned with 4 mounting holes of the Raspberry Pi 5).

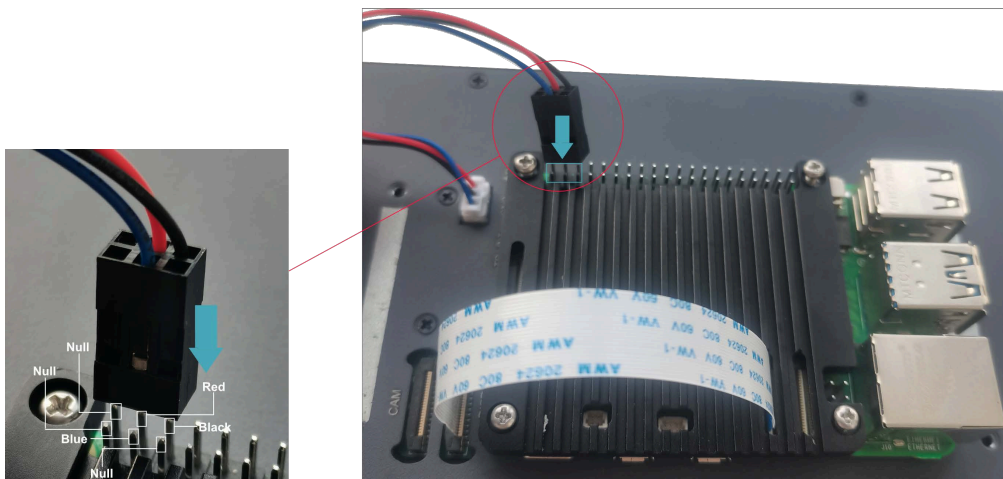


Here we only take installing Raspberry Pi 5 on an LCD screen with CAM interface as an example.

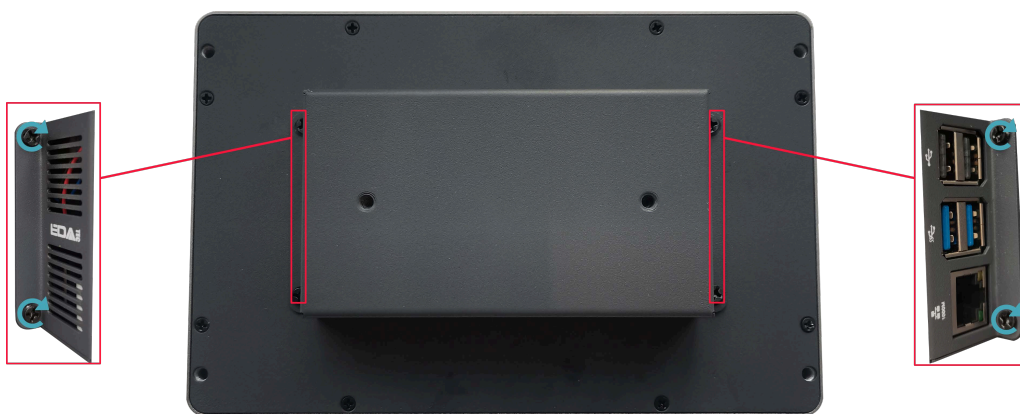
7. Insert the mounting screws of the Raspberry Pi 5 into the mounting holes of the heat sink and tighten clockwise to fix the heat sink and Raspberry Pi 5 on the back of the LCD screen.



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

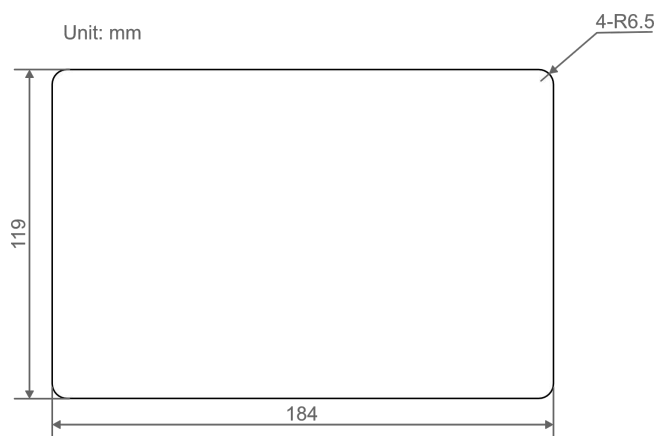
ED-HMI3010-070C supports embedded front installation, which is equipped with 4 buckles (including 4xM4\*8 screws and 4xM4\*16 screws).

### Preparation:

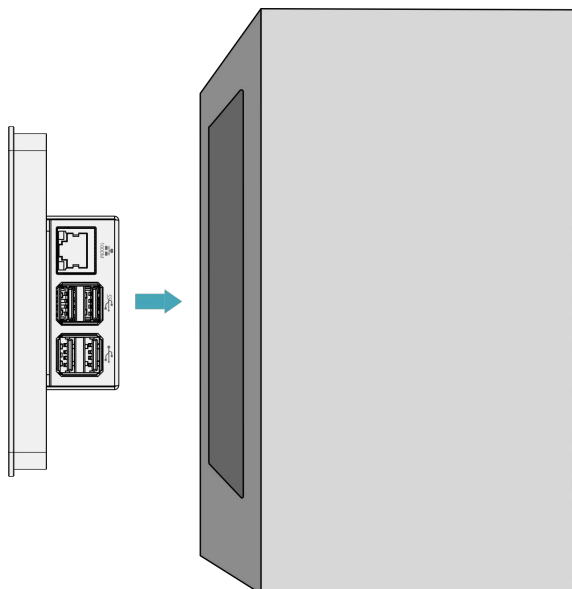
- ◆ The buckles (including 4xM4\*8 screws and 4xM4\*16 screws) have been obtained from the packaging box.
- ◆ A cross screwdriver has been prepared.

### Steps:

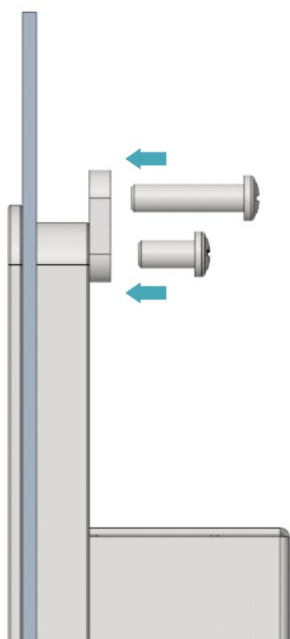
1. You need ensure the opening size of the cabinet according to the size of ED-HMI3010-070C, as shown in the figure below.



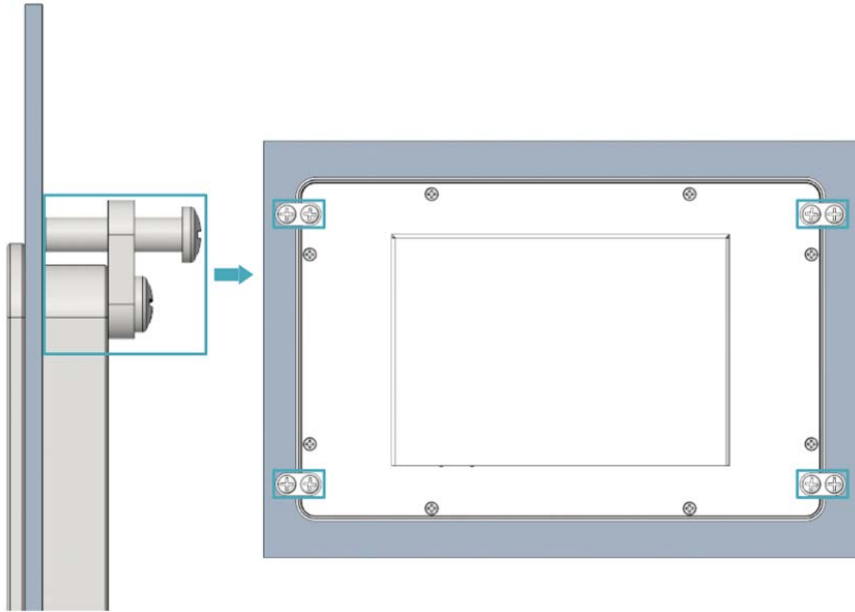
2. Drill a hole on the cabinet according to the hole size of step1.
3. Insert the ED-HMI3010-070C into the cabinet from the outside.



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



5. Use 4 M4x8 screws to pass through the buckle and tighten it clockwise to fix the buckle to the device; then use 4 M4x16 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.

- ✓ Connecting Cables
- ✓ Booting The System For The First Time

## 3.1 Connecting Cables

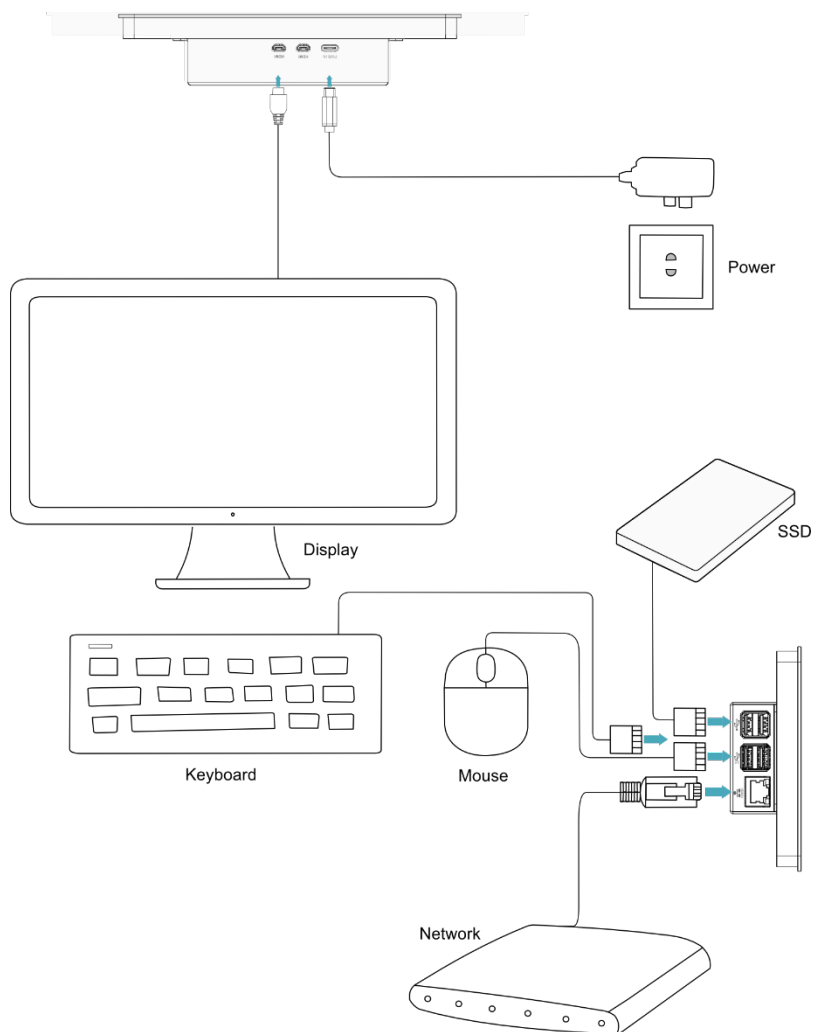
This section describes how to connect cables.

### 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:

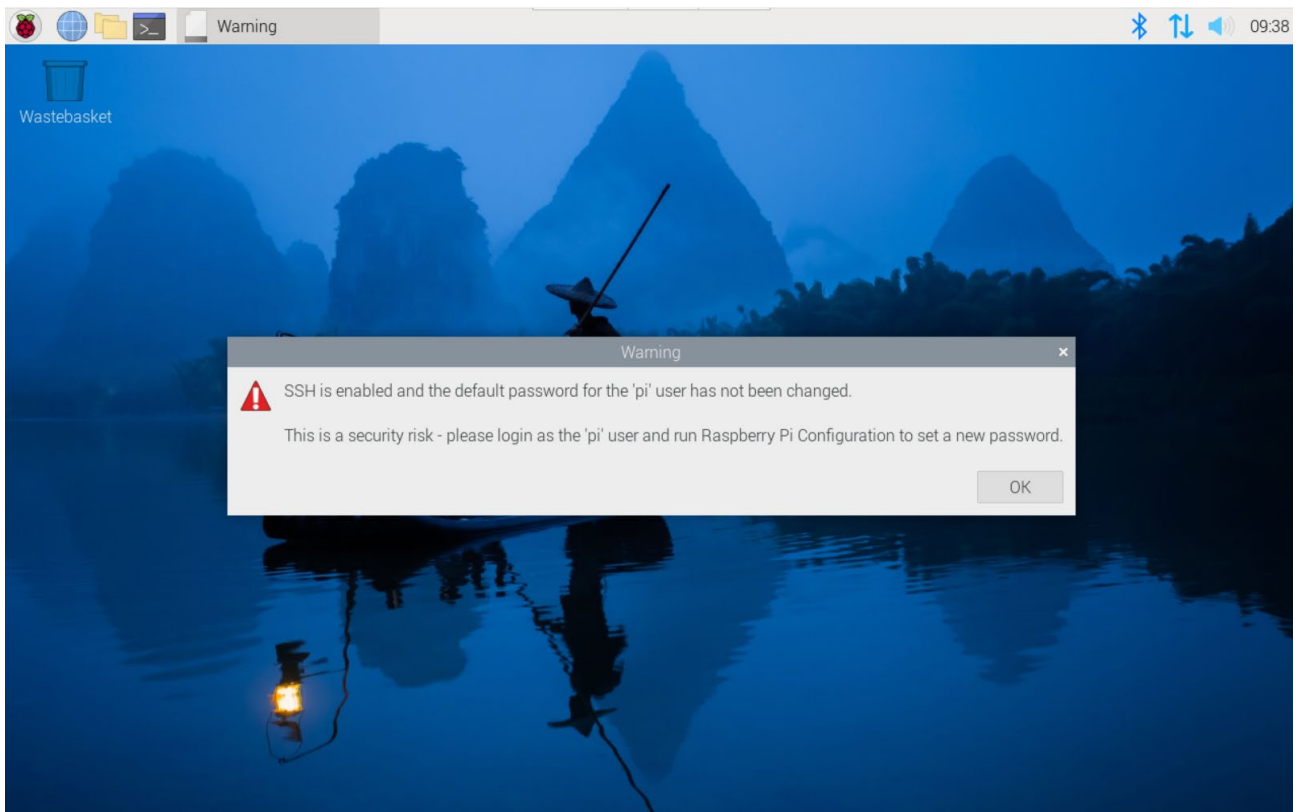
Please refer to [1.5 Interface](#) for the pin definition of each interface and the specific method of wiring.



## 3.2 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.



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

For more information about Raspberry Pi 5 configuration operations, please refer to the documentation on the Raspberry Pi official website. The documentation path is:

<https://www.raspberrypi.com/documentation/computers/raspberry-pi-5.html>.

## 4 Remote Login

This chapter introduces how to log in the device remotely.

- ✓ Finding Device IP
- ✓ Connecting To The Device Desktop Through VNC

## 4.1 Finding Device IP

In some application scenarios, it is necessary to remotely log in or manage devices, so it is necessary to obtain the device IP.

### 4.1.1 Query IP by Using ifconfig Command

After the device is started normally and the display is connected, you can use the ifconfig command to view the current device IP.

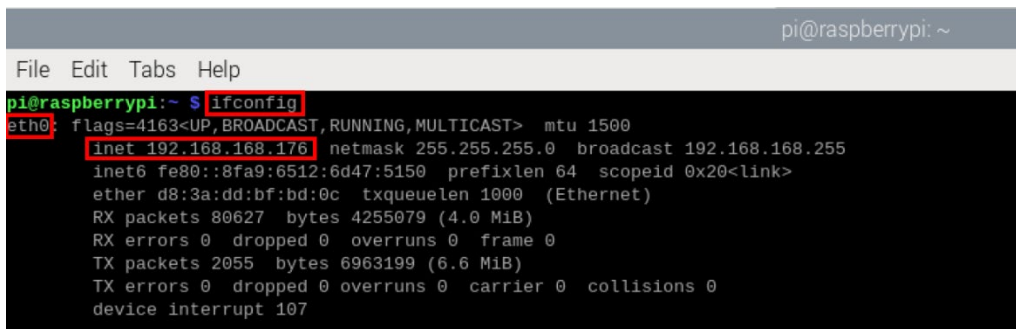
#### Preparation:

ED-HMI3010-070C has been connected to the network through the router.

#### Steps:

Run the following command in the command pane to view the detailed information of each port of the device, where the inet value in the eth interface is the device IP, as shown in the following figure.

#### ifconfig



```

pi@raspberrypi: ~
File Edit Tabs Help
pi@raspberrypi:~ $ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.168.176 netmask 255.255.255.0 broadcast 192.168.255
    inet6 fe80::8fa9:6512:6d47:5150 prefixlen 64 scopeid 0x20<link>
    ether d8:3a:dd:bf:bd:0c txqueuelen 1000 (Ethernet)
    RX packets 80627 bytes 4255079 (4.0 MiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 2055 bytes 6963199 (6.6 MiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
    device interrupt 107
  
```

### 4.1.2 Login Router to Query IP

When the device starts normally but the display is not connected, you can log in to the router to check the current device IP.

#### Preparation:

- ◆ ED-HMI3010-070C has been connected to the network through the router.
- ◆ The IP and network password of the router in the network have been obtained, and the IP



address is 192.168.X.X.

**Steps:**

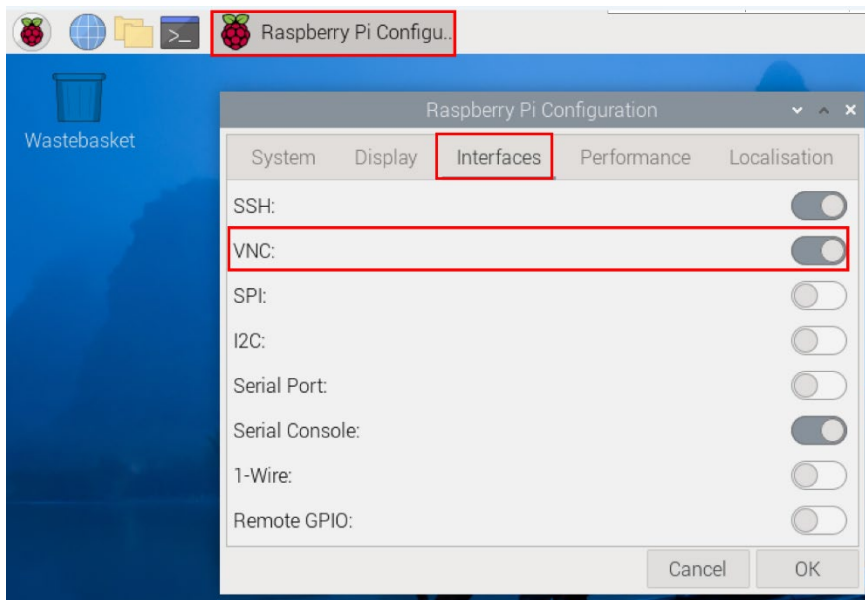
1. Open a browser, Enter the router IP of the network where ED-HMI3010-070C is located in the address bar: 192.168.x.x, and press Enter to enter the router login interface.
2. According to the interface prompts, enter the network password and enter the router management interface.
3. Find the IP address of ED-HMI3010-070C in the terminal device of the management interface.

## 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.

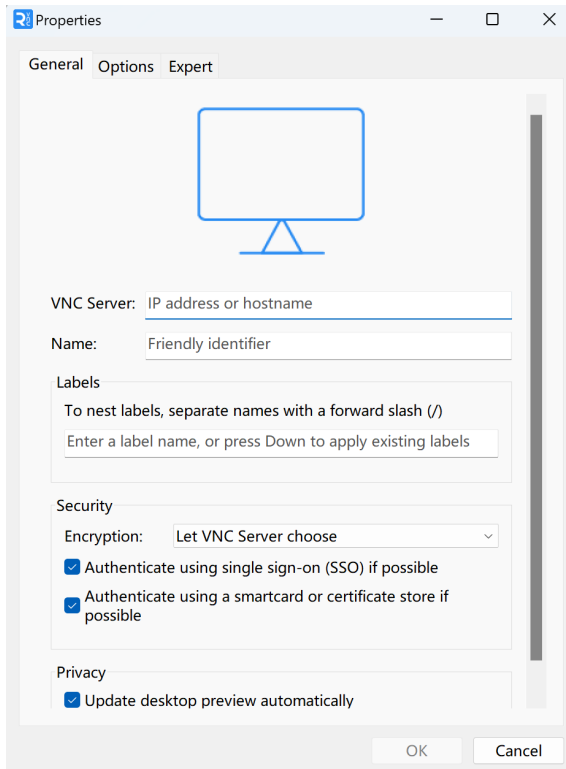
### Preparation:

- ◆ 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.

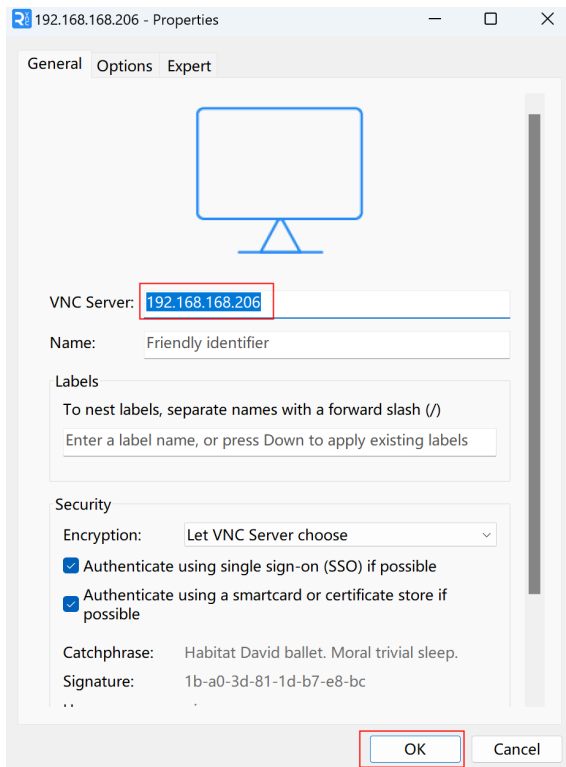


### Steps:

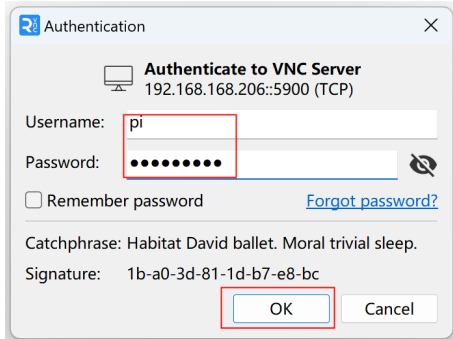
1. Open RealVNC Viewer and select "New connection..." in the File in the menu bar to open the window for creating a connection, as shown in the following figure.



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.

