Hikrobot Co., Ltd.

VT2000 Series Touch Screen PC

User Manual

HIKROBOT

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Symbol	Description
Danger	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.
Caution	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
Note	Provides additional information to emphasize or supplement important points of the main text.

Available Model

This manual is applicable to the VT2000 Series Touch Screen PC.

Contact Information

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Contents

Chapter 1 Safety Instruction

The safety instructions are intended to ensure that the user can use the device correctly to avoid danger or property loss. Read and follow these safety instructions before installing, operating and maintaining the device.

1.1 Safety Claim

- To ensure personal and device safety, when installing, operating, and maintaining the device, follow the signs on the device and all safety instructions described in the manual.
- The note, caution and danger items in the manual do not represent all the safety instructions that should be observed, but only serve as a supplement to all the safety instructions.
- The device should be used in an environment that meets the design specifications, otherwise it may cause malfunctions, and malfunctions or component damage caused by non-compliance with relevant regulations are not within the scope of the device's quality assurance.
- Our company will not bear any legal responsibility for personal safety accidents and property losses caused by abnormal operation of the device.

1.2 Safety Instruction

⚠Caution

- Do not install the device if it is found that the device and accessories are damaged, rusted, water ingress, model mismatch, missing parts, etc., when unpacking.
- Avoid storage and transportation in places such as water splashing and rain, direct sunlight, strong electric fields, strong magnetic fields, and strong vibrations.
- Avoid dropping, smashing or vigorously vibrating the device and its components.
- It is forbidden to install the indoor device in an environment where it may be exposed to water or other liquids. If the device is damp, it may cause fire and electric shock hazard.
- Place the device in a place out of direct sunlight and ventilation, away from heat sources such as heaters and radiators.
- In the use of the device, you must be in strict compliance with the electrical safety regulations of the nation and region.
- Do not connect multiple devices to the same power adapter. Exceeding the adapter load may cause a fire due to excessive heat generation.
- Do not cover the device's plug or outlet for disconnecting power supply.
- It is strictly forbidden to wire, maintain, and disassemble the device is powered on. Otherwise, there is a danger of electric shock.
- Make sure that the device is installed in good condition, the wiring is firm, and the power supply meets the requirements before powering on the device.

- For a device with a power switch, please use the switch to power on and off. It is strictly forbidden to plug and unplug the power cord.
- If the device emits smoke, odor or noise, please turn off the power and unplug the power cord immediately, and contact the dealer or service center in time.
- It is strictly forbidden to touch any terminal of the device when operating it. Otherwise there is a danger of electric shock.
- It is strictly forbidden for non-professional technicians to detect signals during device operation, otherwise it may cause personal injury or device damage.
- It is strictly forbidden to maintain the device that is powered on, otherwise, there is a danger of electric shock.
- If the device does not work properly, please contact your dealer or the nearest service center. Never attempt to disassemble the device yourself. We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.
- Please dispose of the device in strict accordance with the relevant national or regional regulations and standards to avoid environmental pollution and property damage.

Note

- Check whether the device's package is in good condition, whether there is damage, intrusion, moisture, deformation, etc. before unpacking.
- Check the surface of the device and accessories for damage, rust, bumps, etc. when unpacking.
- Check whether the quantity and information of the device and accessories are complete after unpacking.
- Store and transport the device according to the storage and transport conditions of the device, and the storage temperature and humidity should meet the requirements.
- It is strictly prohibited to transport the device in combination with items that may affect or damage the device.
- Quality requirements for installation and maintenance personnel:
  - Qualification certificate or working experience in weak current system installation and maintenance, and relevant working experience and qualifications. Besides, the personnel must possess the following knowledge and operation skills.
  - The basic knowledge and operation skills of low voltage wiring and low voltage electronic circuit connection.
  - The ability to comprehend the contents of this manual.
- Please read the manual and safety instructions carefully before installing the device.
- Do not contact the device with strong acids, alkalis, oils, greases or organic solutions such as thinners.
- Please install the device strictly according to the installation method in this manual.

1.3 Electromagnetic Interference Prevention

- Make sure that the shielding layer of cables is intact and 360° connected to the metal connector when using shielded cables.
- Do not route the device together with other equipment (especially servo motors, high-power devices, etc.), and control the distance between cables to more than 10 cm. Make

sure to shield the cables if unavoidable.

- The control cable of the device and the power cable of the industrial light source must be wired separately to avoid bundled wiring.
- The power cable, data cable, signal cable, etc. of the device must be wired separately. Make sure to ground them if the wiring groove is used to separate the wiring and the wiring groove is metal.
- During the wiring process, evaluate the wiring space reasonably, and do not pull the cables hard, so as not to damage the electrical performance of the cables.
- If the device is powered on and off frequently, it is necessary to strengthen the voltage isolation, and consider adding a DC/DC isolation power supply module between the device and the adapter.
- Use the power adapter to supply power to the device separately. If centralized power supply is necessary, make sure to use a DC filter to filter the power supply of the device separately before use.
- The unused cables of the device must be insulated.
- To avoid the accumulation of static electricity, ensure that other equipment (such as machines, internal components, etc.) and metal brackets on site are properly grounded.
- During the installation and use of the device, high voltage leakage must be avoided.
- Use a figure-eight bundle method if the device cable is too long.
- When connecting the device and metal accessories, they must be connected firmly to maintain good conductivity.
- Use a shielded network cable to connect to the device. If you use a self-made network cable, make sure that the shielding shell at the aviation head is well connected to the aluminum foil or metal braid of the shielding cable.

Chapter 2 Overview

2.1 Introduction

MV-VT2000 series touch screen PC adopts Intel® Celeron® CPU J series and multi-point capacitive touch screen, which is accurate and sensitive in operation. It has multiple interfaces, such as, GigE, IO/COM interface, USB, serial ports, and others. It is used in simple multi-camera vision applications, providing more flexible options for vision devices.

2.2 Key Feature

- Adopts Intel® Celeron® CPU J series to offer strong performance.
- Supports multi-channel IO and easy to use.
- Adopts GigE interfaces for stable data transmission.
- Built-in USB interface for on-site maintenance is optional.
- Full metal cover, solid and durable.
- Supports workbench placement, embedded and wall mounting, and VESA standards.

Note

- The specific functions may differ by device models.
- Refer to the device's datasheet for specific parameters.

Chapter 3 Appearance

Note

- For specific appearance and dimension, please refer to the device's datasheet for details.
- The appearance is subject to change, and the actual device you purchased shall prevail.

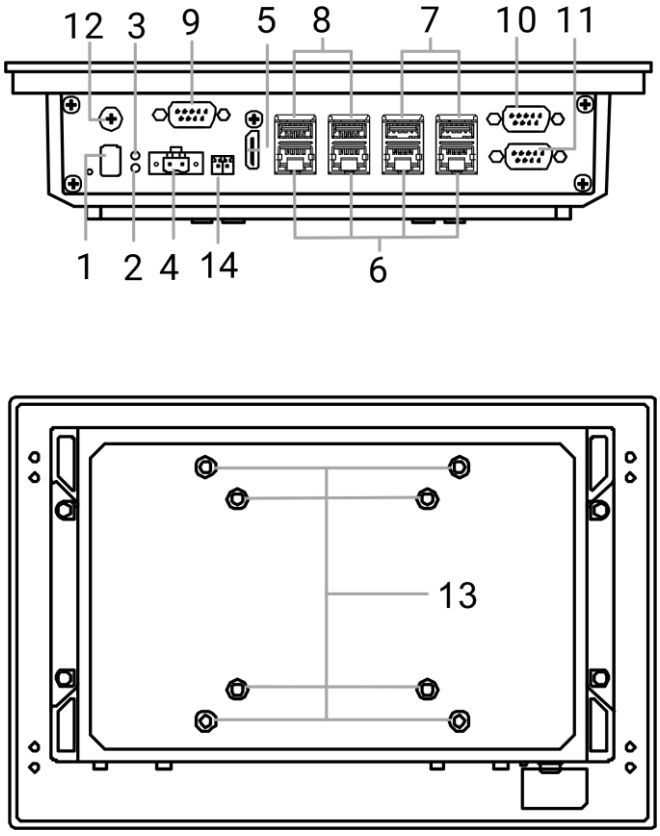


Figure 3-1 Appearance

Table 3-1 Component Description

No.	Name	Description
1	Power Switch	It is used to power on/off the device. Press it shortly to power on the device, and long press it for 4 sec to power off.
2	HDD Indicator	It indicates HDD status. The indicator is flashing red when the HDD reads and writes data.
3	Power Indicator	It indicates device's power status. The indicator is solid green when the device is switched on.
4	Power Interface	It provides power supply.

No.	Name	Description
5	HDMI Interface	It is used to transmit video signal.
6	GigE Interface	It is used to transmit network signal.
7	USB 3.0 Interface	It is used to connect USB devices.
8	USB 2.0 Interface	
9	I/O Interface	It provides input and output function.
10	IO/COM Interface	It is used for serial communication by default, and it can be switched to I/O function.
11	COM Interface	It is used for serial communication.
12	GND Screw	It is used to connect ground wire.
13	Screw Hole	It is used to fix the device, and you should use M4 screw.
14	Remote Switch Interface	It is used to connect remote switch cable for powering on/off the device remotely. Correct 1 sec to power on the device, and correct 4 sec to power it off.

Chapter 4 Installation and Access to Device

4.1 Installation Preparation

You need to prepare following accessories before installation.

Table 4-1 Accessories

No.	Name	Quantity	Description
1	Touch Screen PC	1	It is the touch screen PC mentioned in this manual.
2	Power Adapter	1	It refers to the suitable power adapter that is included in the package.
3	IO Cable	2	It refers to the I/O cable for connecting I/O interface that is included in the package.
4	Screws and Buckle Accessories	Several	They are used to fix the device, and are included in the package.
5	SATA Cable	1	It is used to connect the mainboard and 2.5-inch HDD for power supply and data transmission. **Note** Only the device without HDD has SATA cable in the package. The device with HDD has SATA cable inside the device.

4.2 Install and Fix Device

Note

Install and fix the device before using it. The images below are for reference only.

The device supports three types of installation, including workbench placement, embedded and wall mounting.

Before You Start

- Make sure that the device in the package is in good condition and all the assembly parts are included.
- Make sure that all the related equipment is powered off during the installation.

4.2.1 Workbench Placement

Put the device on a workbench for using, as shown below.

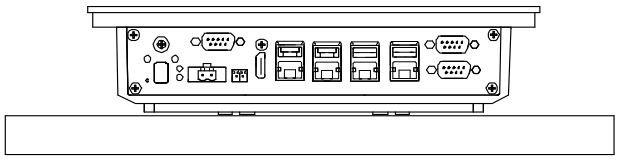


Figure 4-1 Workbench Placement

4.2.2 Embedded Mounting

Use the buckle accessories to embed the device into the panel and fix it, as shown below.

Steps

1. Use M3 screws to fix the embedded installation metal plate on the rear of the device, as shown below.

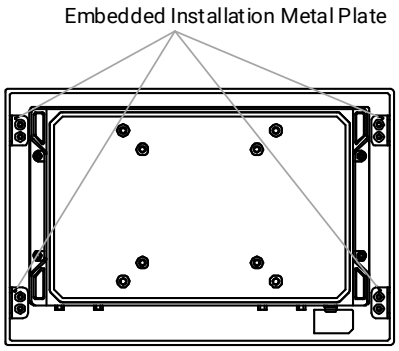


Figure 4-2 Fix Embedded Installation Metal Plate

2. Embed the device into the embedding panel.
3. Buckle the buckles into the holes of the embedded installation metal plate, two on each side, and it is recommended to use the left and right at the same time.
4. Tighten the buckle screws to make the screw nut against the embedding panel to achieve embedded mounting.

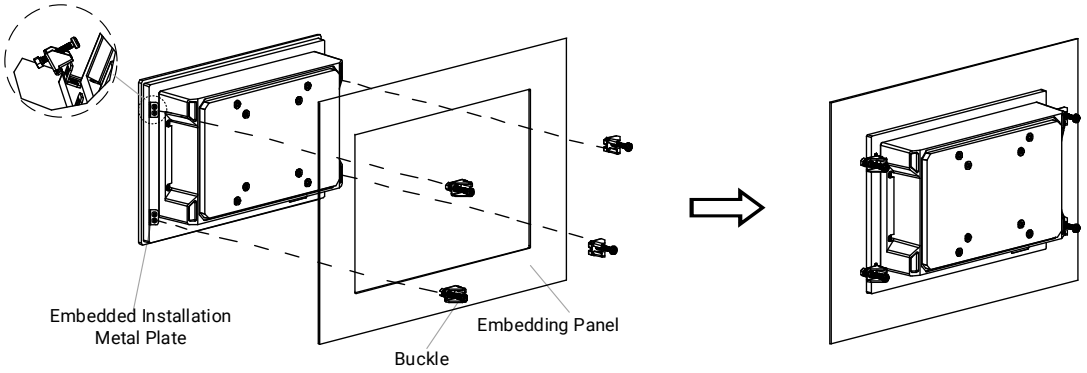


Figure 4-3 Embed Device

4.2.3 Wall Mounting

Use M4 screws to fix the device to a rear panel or bracket for installation, and meet VESA (Video Electronics Standards Association) standard.

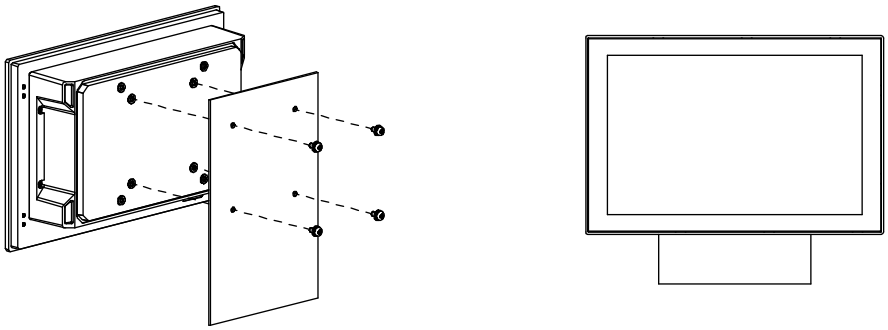


Figure 4-4 Wall Mounting

4.3 Heat Dissipation

Regarding the device's heat dissipation, environment requirements for placing the device are as follows:

- With the condition of wind speed 0.7 m/s, the working temperature of the device without HDD is 0 °C to 50 °C (32 °F to 122 °F), and that of the device with HDD is 0 °C to 45 °C (32 °F to 113 °F). The recommended wind direction is shown below.

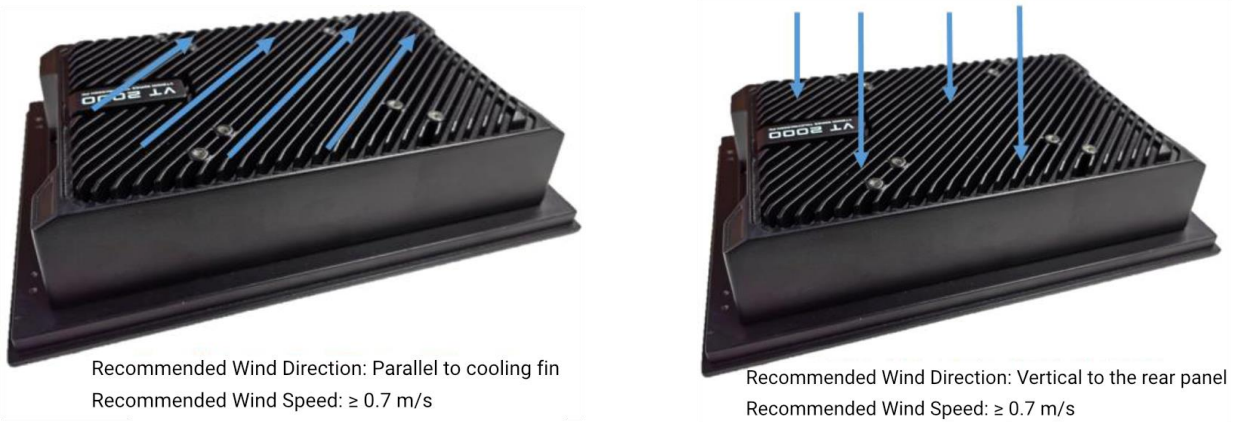


Figure 4-5 Wind Direction

- With the condition of no wind, the specific working temperature depends on whether the device is placed in a closed cabinet or not.
  - If the device is not placed in a closed cabinet, the working temperature of the device with HDD is 0 °C to 40 °C (32 °F to 104 °F).
  - If the device is placed in a closed cabinet, the working temperature of the device with HDD is 0 °C to 30 °C (32 °F to 86 °F).

Note

If the device is placed in a closed cabinet and there are other heat sources or heating devices, it is recommended to place the device 30 cm far away from other devices.

4.4 Access to Device

You can operate the device on the monitor by connecting it via HDMI interface. Or, you can remotely access the device via the industrial PC that is in the same network segment with the device.

Note

- The default user name of the device is **Administrator**, and the password is **Operation666**
- For security, it is highly recommended to change the default password for the first-time use.

Chapter 5 Interface Description

This section mainly introduces the device's power interface, memory slot, serial port, IO/COM Interface, I/O interface, etc.

5.1 Power Interface

The device's power interface is used to connect the power adapter. On the left side, it is a 24 V connector, and you can connect it to power supply positive. On the right side, it is a 0 V connector, and you can connect it to power supply negative.

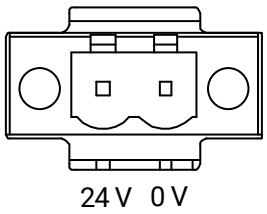


Figure 5-1 Power Interface

5.2 Memory Slot

The device has one memory slot, and it is inserted with an 8 GB memory RAM by default.

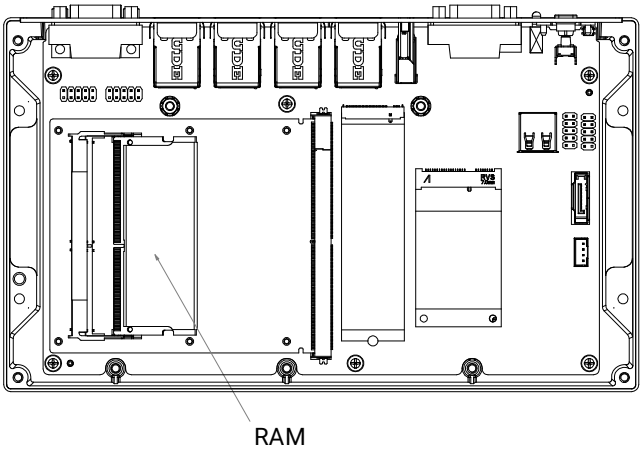


Figure 5-2 Memory Slot

Note

If the RAM cannot meet your demands, you can contact technical support for supports. It is not recommended to add RAM by yourself.

5.3 Serial Port

The device has standard D-sub 9-pin communication interface. The serial port is RS-232 by default, and you can configure it to RS-485 or RS-422 via Demo settings.

Note

RS-232 is not fully functional serial port. Currently, only pin No. 2/3/5 is available.

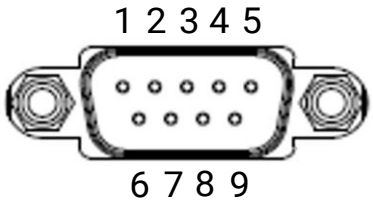


Figure 5-3 Serial Port

Table 5-1 RS-232 Pin Definitions

Pin No.	Description	Pin No.	Description
1	DCD	6	DSR
2	SIN	7	RTS
3	SOUT	8	CTS
4	DTR	9	RI
5	GND	--	--

Table 5-2 RS-485 Pin Definitions

Pin No.	Description
1	D-
2	D+
5	GND

Table 5-3 RS-422 Pin Definitions

Pin No.	Description
1	TX (B)
2	TX (A)
3	RX (A)
4	RX (B)
5	GND

5.4 I/O Interface

The device provides an I/O interface with 3-input and 4-output by default. You need to use supplied I/O cable to connect the device to external devices. The I/O cable is shown below.

Figure 5-4 I/O Cable

Note

The pin with white mark on the green terminal is Pin 1 by default.

5.4.1 Pin Definition

The I/O interface has 9 pins in total and they corresponds to the 10 pins of the green terminal on the I/O cable, as shown below.

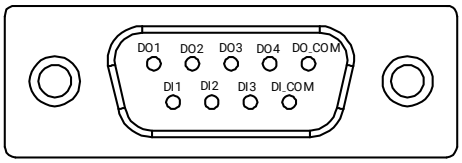


Figure 5-5 Device's I/O Interface

Table 5-4 Pin Definitions of Device's IO Interface

Type	Signal Name	Description	I/O Cable Pin No.
Opto-isolated Output	DO 1	Opto-isolated output 1	Pin 1
	DO 2	Opto-isolated output 2	Pin 2
	DO 3	Opto-isolated output 3	Pin 3
	DO 4	Opto-isolated output 4	Pin 4
	DO_COM	Output common port (without polarity)	Pin 5
Opto-isolated Input	DI 1	Opto-isolated input 1	Pin 6
	DI 2	Opto-isolated input 2	Pin 7
	DI 3	Opto-isolated input 3	Pin 8
	DI_COM	Input common port (without polarity)	Pin 9

Type	Signal Name	Description	I/O Cable Pin No.
Others	/	/	Pin 10

5.4.2 Opto-Isolated Input Wiring

The device can receive input signal sent by external devices via the I/O interface.

Note

- Opto-isolated input wiring may differ by external device type.
- Here we take the device's DI1 signal as an example to introduce the wiring.
- The voltage of VCC should not be greater than 24 V. Otherwise, the output signal exception may occur.
- The images below are for reference only.

PNP Device as Input Signal

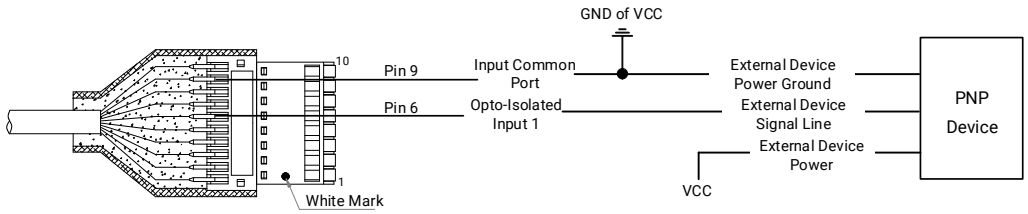


Figure 5-6 Input Signal Connecting PNP Device

NPN Device as Input Signal

The wiring is as following if the VCC of NPN device is 12 V or 24 V and without external resistance.

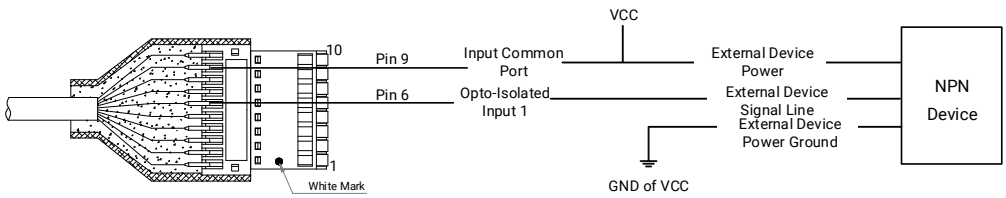


Figure 5-7 Input Signal Connecting NPN Device without External Resistance

The wiring is as following if the VCC of NPN device is 12 V or 24 V and with pull-up resistance.

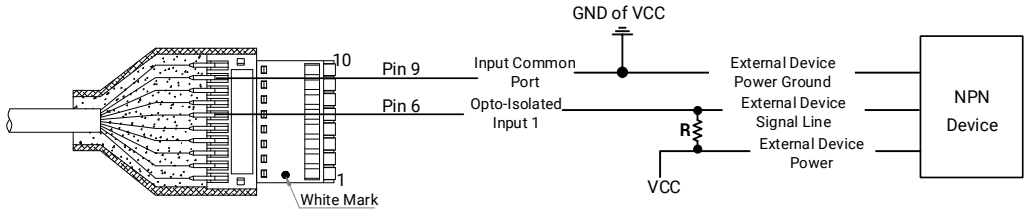


Figure 5-8 Input Signal Connecting NPN Device with Pull-Up Resistance

The resistance value (R) in figure above is different when the VCC of the device changes. Refer to the table below for details.

Table 5-5 Relation between VCC and Resistance

VCC	R
12 VDC	1 KΩ
24 VDC	4.7 KΩ

5.4.3 Opto-Isolated Output Wiring

The device can send output signal to external devices via the I/O interface.

Note

- Opto-isolated output wiring may differ by external device type.
- Here we take the device's DO1 signal as an example to introduce the wiring.
- The voltage of VCC should not be greater than 24 V. Otherwise, the output signal exception may occur.
- The images below are for reference only.

PNP Device as External Device

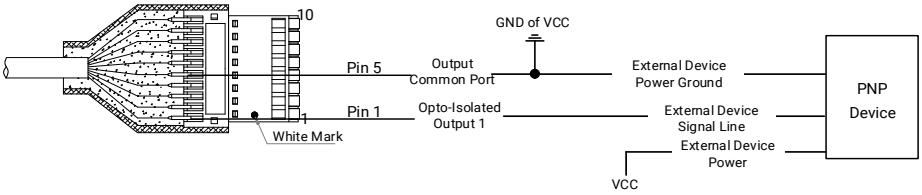


Figure 5-9 Output Signal Connecting PNP Device

NPN Device as External Device

The wiring is as following if the VCC of NPN device is 12 V or 24 V and without pull-up

resistance.

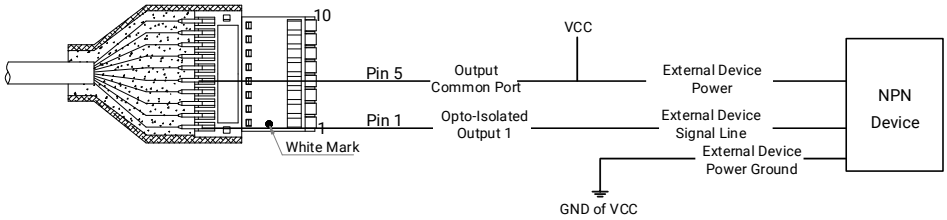


Figure 5-10 Output Signal Connecting NPN Device without Pull-Up Resistance

The wiring is as following if the VCC of NPN device is 12 V or 24 V and with pull-up resistance.

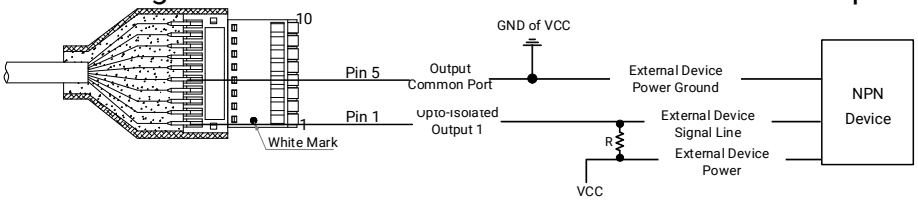


Figure 5-11 Output Signal Connecting NPN Device with Pull-Up Resistance

The resistance value (R) in figure above is different when the VCC of the device changes. Refer to the table below for details.

Table 5-6 Relation between VCC and Resistance

VCC	R
12 VDC	1 KΩ
24 VDC	4.7 KΩ

5.5 IO/COM Interface

The device has an IO/COM interface that is used for serial communication by default, and it can be switched to I/O function.

Note

The serial communication function of the IO/COM interface is same with the serial port mentioned in ***Serial Port***.

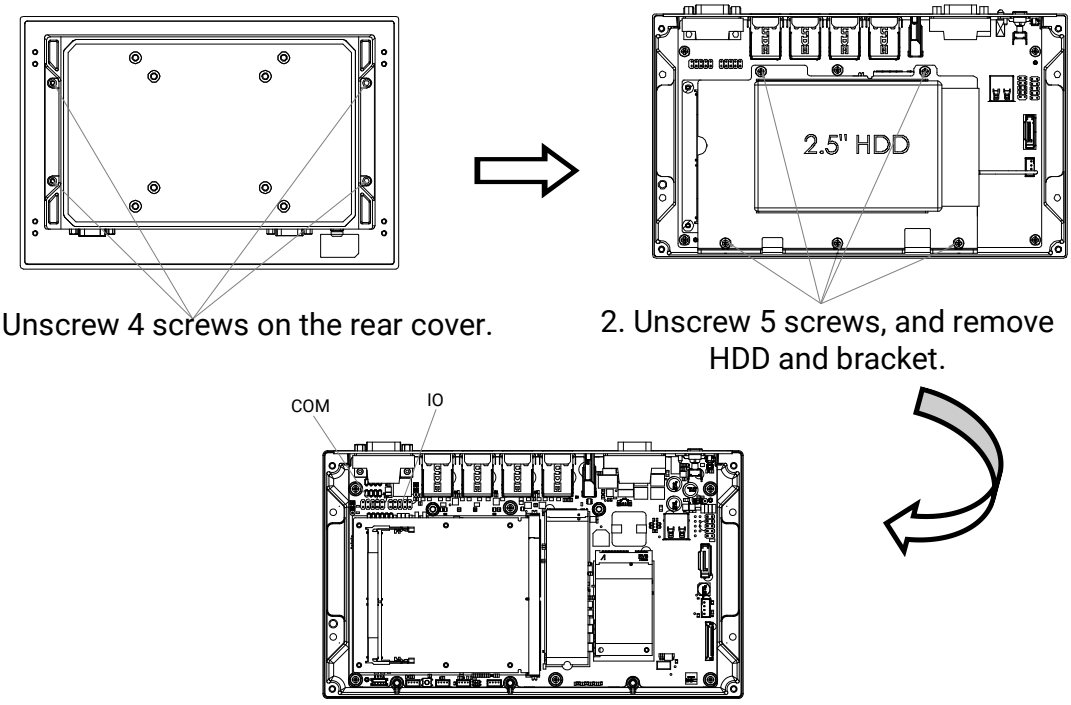
5.5.1 IO/COM Function Switch

Follow steps below to switch IO/COM function if necessary.

Steps

1. Unscrew 4 screws on the rear cover.

2. Unscrew 5 screws, and remove HDD and bracket.
3. Connect cable to the corresponding pin.



1. Unscrew 4 screws on the rear cover.

2. Unscrew 5 screws, and remove HDD and bracket.

3. Connect cable to the corresponding pin.

Figure 5-12 IO/COM Function Switch

Caution

Dot not switch IO/COM function when the device is powered on. Power off the device and cut the power supply first.

5.5.2 I/O Function

If the function of IO/COM interface is switched to I/O, the device provides I/O interface with 4-input and 3-output. You need to use supplied I/O cable to connect the device to external devices.

Pin Definition

The I/O interface has 9 pins in total and they corresponds to the 10 pins of the green terminal

on the IO cable, as shown below.

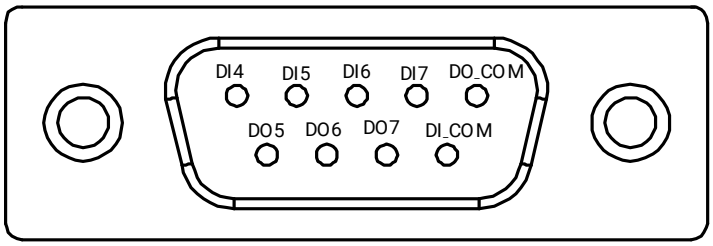


Figure 5-13 Device's IO/COM Interface

Table 5-7 Pin Definitions of Device's IO/COM Interface

Type	Signal Name	Description	IO Cable Pin No.
Opto-Isolated Input	DI4	Opto-isolated input 4	Pin 1
	DI5	Opto-isolated input 5	Pin 2
	DI6	Opto-isolated input 6	Pin 3
	DI7	Opto-isolated input 7	Pin 4
	DI_COM	Input common port (without polarity)	Pin 9
Opto-Isolated Output	DO5	Opto-isolated output 5	Pin 6
	DO6	Opto-isolated output 6	Pin 7
	DO7	Opto-isolated output 7	Pin 8
	DO_COM	Output common port (without polarity)	Pin 5
Others	/	/	Pin 10

Opto-Isolated Input Wiring

After IO/COM interface is switched to I/O function, the device can receive input signal sent by external devices via its IO/COM interface.

Note

- Opto-isolated input wiring may differ by external device type.
- Here we take the device's DI4 signal as an example to introduce the wiring.
- The voltage of VCC should not be greater than 24 V. Otherwise, the output signal exception may occur.
- The images below are for reference only.

PNP Device as Input Signal

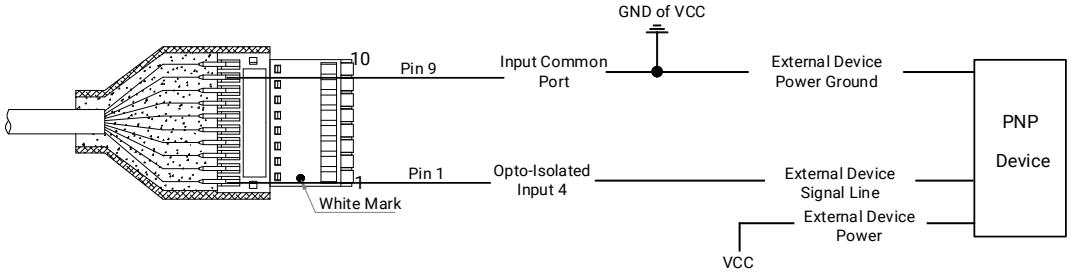


Figure 5-14 Input Signal Connecting PNP Device

NPN Device as Input Signal

The wiring is as following if the VCC of NPN device is 12 V or 24 V and without pull-up resistance.

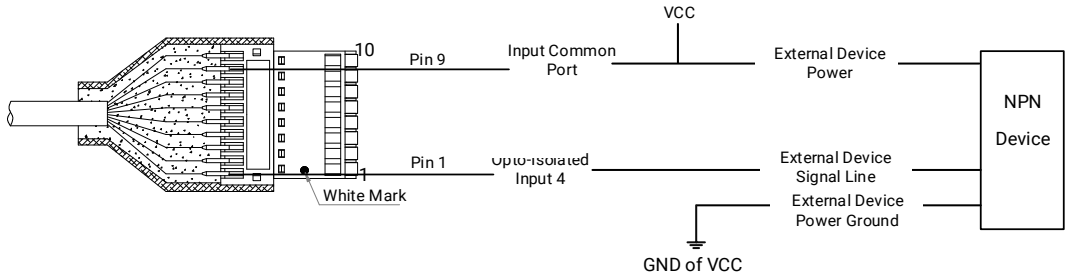


Figure 5-15 Input Signal Connecting NPN Device without Pull-Up Resistance

The wiring is as following if the VCC of NPN device is 12 V or 24 V and with pull-up resistance.

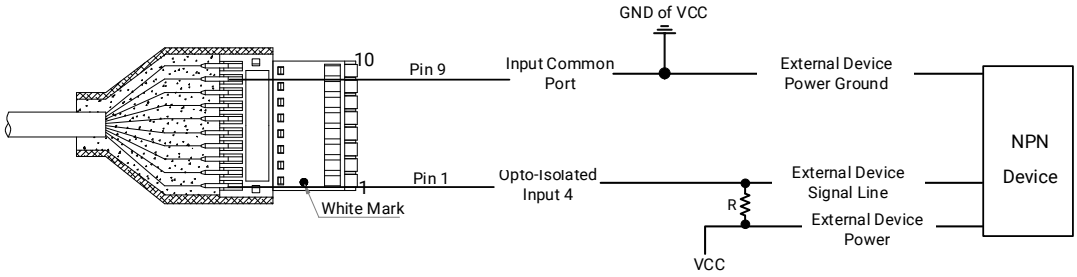


Figure 5-16 Input Signal Connecting NPN Device with Pull-Up Resistance

The resistance value (R) in figure above is different when the VCC of the device changes. Refer to the table below for details.

Table 5-8 Relation between VCC and Resistance

VCC	R
12 VDC	1 KΩ
24 VDC	4.7 KΩ

Opto-Isolated Output Wiring

After IO/COM interface is switched to I/O function, the device can send output signal to external devices via its IO/COM interface.

Note

- Opto-isolated output wiring may differ by external device type.
- Here we take the device's DO7 signal as an example to introduce the wiring.
- The voltage of VCC should not be greater than 24 V. Otherwise, the output signal exception may occur.
- The images below are for reference only.

PNP Device as External Device

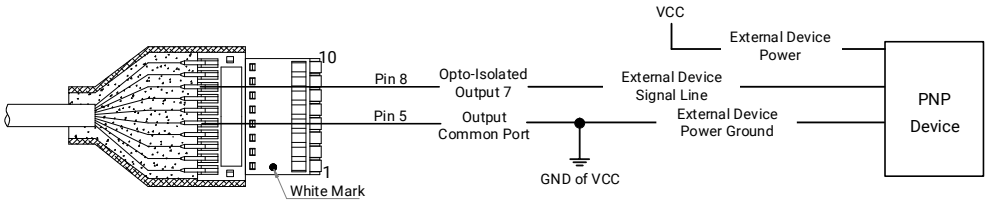


Figure 5-17 Output Signal Connecting PNP Device

NPN Device as External Device

The wiring is as following if the VCC of NPN device is 12 V or 24 V and without pull-up resistance.

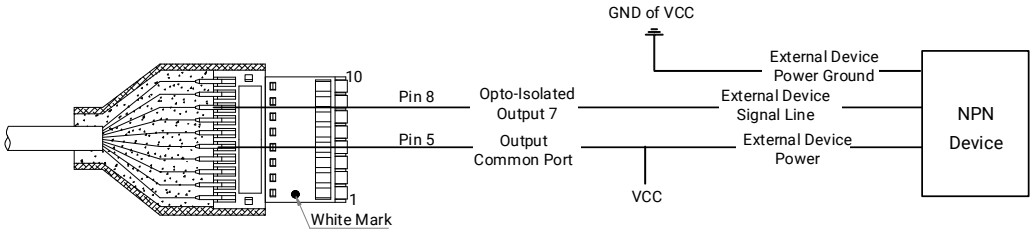


Figure 5-18 Output Signal Connecting NPN Device without External Resistance

The wiring is as following if the VCC of NPN device is 12 V or 24 V and with pull-up resistance.

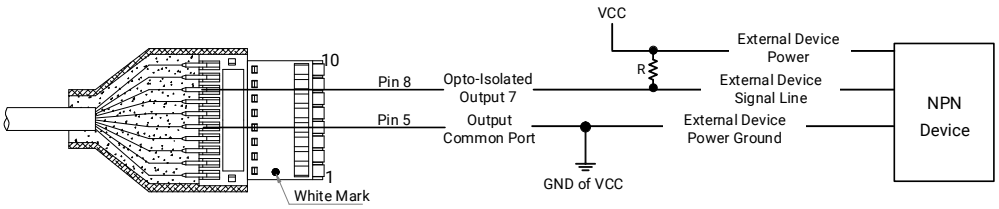


Figure 5-19 Output Signal Connecting NPN Device with Pull-Up Resistance

The resistance value (R) in figure above is different when the VCC of the device changes.

Refer to the table below for details.

Table 5-8 Relation between VCC and Resistance

VCC	R
12 VDC	1 KΩ
24 VDC	4.7 KΩ

Chapter 6 Demonstration Tool

You can use the controller software as demonstration tool to set parameters of the device.

Note

The GUI of the controller software may differ by its version or device's firmware.

6.1 Serial Port Connection Settings

6.1.1 Set Connection

The serial port connection settings allow you to connect the device to the controller software. You can set the corresponding serial port No., baud rate, data bit, stop bit, and parity bit, and click **Connect**.

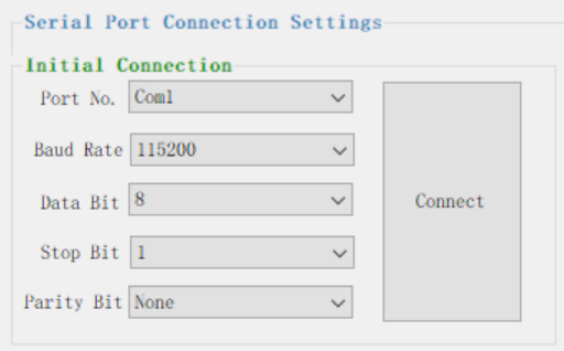


Figure 6-1 Set Connection

Note

After successful connection, other modules of the controller software will be available.

6.1.2 View Message Window

The message window displays logs of the demonstration tool in real time. You can click **Clear** or **Save** to clear or save messages in TXT format.

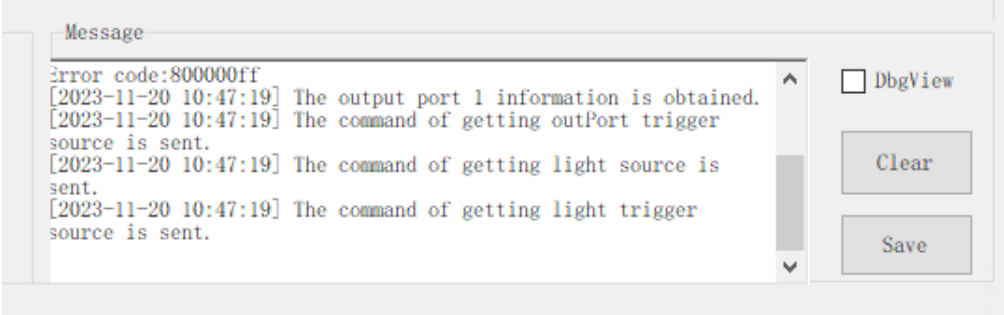


Figure 6-2 Message Window

6.2 RS-232/485/422 Settings

The demonstration tool supports selecting different device types and serial port types. Go to **RS232/485/422 Settings** > **Hard Type**, select corresponding device type according to actual demands, select COM and click **Apply**.

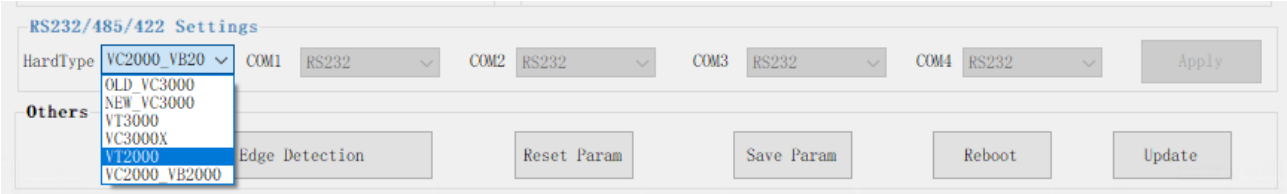


Figure 6-3 Device Type

6.3 I/O Settings

The I/O settings allow you to set the input and output parameters of the device. You can detect the electrical level of the input signal, select the output port and the output mode, and enable output, etc.

Note

You should select the corresponding device (**VT2000**) in **Hard Type** before setting the I/O.

Input Settings

Select **Port**, set **Trigger Signal**, and **Upload Signal** according to actual demands. Enter **Trigger Delay** and **Debouncer Time** to delay the trigger signal received time, and to filter out unwanted short input signals respectively. Click **Apply** after settings.

- **Port**: It selects the input port to be set.
- **Trigger Signal**: It includes **Rising Edge** or **Falling Edge**.
- **Upload Signal**: It sets whether to enable edge signal.
- **Trigger Delay**: It sets the delay time of trigger signal, unit: milliseconds.
- **Debouncer Time**: It sets the debouncer time for the input signal to avoid false triggering

caused by glitches in external signals, with the unit in milliseconds. When triggering on the rising edge or falling edge, the device will only be triggered if a rising or falling edge signal is present and the corresponding high or low level duration exceeds the debouncer time.

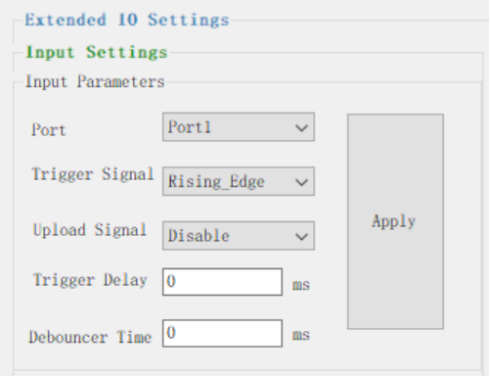


Figure 6-4 Input Settings

Input Detection

Click **Detect** in **Input Signal Detection** to get the electrical level of the input port. Red color stands for the high electrical level, and green color stands for the low electrical level.

Figure 6-5 Input Detection

Output Settings

In **Output Settings**, you can set these parameters: **Polarity**, **Trigger Input**, **Port**, **Mode**, **Electrical Level**, **Duration**, **Pulse Period**, and **Pulse Width**. Click **Save** after settings.

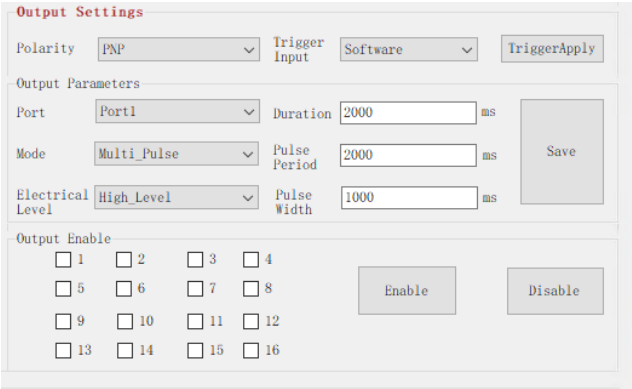


Figure 6-6 Output Settings

- **Polarity**: It sets the output signals to **PNP** or **NPN**.
- **Trigger Input**: It selects the input signal source to control output port. Click **Trigger Apply** to save the set input source to the device.
  - If you select an input port, Port 1 corresponds to **Port1**.
  - If you select **Software**, you need to control the output signal via clicking **Enable** and **Disable** in **Output Enable**.
- **Port**: It selects the output port to be set.
- **Mode**: It includes **Single_Pulse** or **Multi_Pulse**.
- **Electrical Level**: It includes **Low_Level** or **High_Level**.
- **Duration**: It sets the duration of output level, unit: millisecond.
- **Pulse Period**: When the output mode is set to **Multi_Pulse**, you can set the time cycle of each pulse, unit: millisecond. The duration cannot be less than the pulse period.
- **Pulse Width**: When the output mode is set to **Multi_Pulse**, you can set the width of each pulse, unit: millisecond.

Note

Pulse Period and **Pulse Width** are only available when you select **Multipulse** as **Mode**.

After above-mentioned settings, if you want to let the port output signals, you should check the specific port No., and click **Enable**. Otherwise, click **Disable** instead.

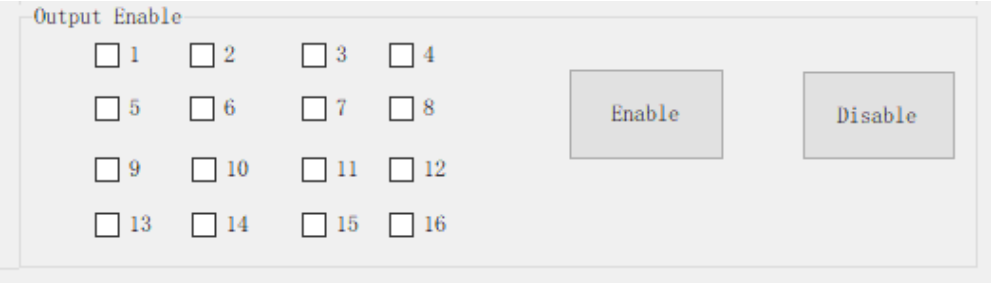


Figure 6-7 Enable Output

6.4 Other Function Settings

- **Enable Edge Detection**: You can click it to view the input edge signals and its quantity via Message window in real time.

Note

The **Enable Edge Detection** becomes **Disable Edge Detection** after you click it once, and you can click **Disable Edge Detection** to disable edge detection function.

- **Reset Param**: You can click it to reset all parameters you configured in the demonstration tool.
- **Save Param**: You can click it to save currently configured parameters.
- **Reboot**: You can click it to reboot the device.
- **Update**: You can click it to update the device's firmware.

Figure 6-8 Other Function Settings

Chapter 7 System Reinstallation

The default system of the device is Windows 10. If the system exception occurs, or you need to use other systems, you can reinstall system by connecting the vision controller to USB flash disk, USB optical disk driver, mobile hard disk, etc. After connection, you need to set in BIOS as follows.

Method 1

- Power on or reboot the device, and press **F2** to enter Front Page setting window.
- Enter **Boot Menu**, find USB device you use, and press **ENTER** to start system reinstallation.

Method 2

- Power on or reboot the device, and press **F2** to enter Front Page window.
- Go to **Boot Manager** submenu, select **Change Boot Order**, and press **ENTER** to enter the setting list.
- Click -/+ to set the USB device used as the 1st boot device.
- Press F10 to save settings and start system reinstallation.

Note

After system reinstallation, you need to set 1st boot device in **Boot Priority Order** as HDD (Hard Disk Drive).

Chapter 8 FAQ (Frequently Asked Question)

8.1 Why the monitor screen is black?

Table 8-1 Question 1

Issue	Solution
The monitor screen is black.	● Reconnect the HDMI. ● Reboot the device. ● Long hold **F8** to enter the security mode after powering on, delete or uninstall the software or driver that is installed before, and then reboot the device. ● Reinstall the operating system again. The default system of the device is 64-bit Windows Embedded Standard 10. You can contact our technical support to get the system file.

8.2 Why the system is blue screen or crashes, or frequent reboots?

Table 8-2 Question 2

Issue	Solution
The system is blue screen or crashes, or frequent reboots.	● Reboot the device. ● Long hold **F8** to enter the security mode after powering on, delete or uninstall the software or driver that is installed before, and then reboot the device. ● Reinstall the operating system again. The default system of the device is 64-bit Windows Embedded Standard 10. You can contact our technical support to get the system file.

8.3 Why there is no signal feedback of IO input and electrical level change?

Table 8-3 Question 3

Issue	Solution
There is no signal feedback of IO input and electrical level change.	● Check if the signal source has any edge signal trigger; check if the parameters are correctly configured (for example, filter parameter, mode configuration delay); Check if the wirings are correct. ● If the electrical output level does not change, check if the wirings are correct. ● Check if the parameter settings are completely enabled.

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