Hangzhou Hikrobot Technology Co., Ltd.

SC2000E Series Vision Sensor

Quick Start Guide

HIKROBOT

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This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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The symbols that may be found in this document are defined as follows.

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 SC2000E series vision sensor.

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.
- This is a Class A device. In the living environment, this device may cause radio interference. In this case, the user may be required to take practical measures against the interference.
- In the use of the device, you must be in strict compliance with the electrical safety regulations of the nation and region.
- Use the power adapter provided by the official manufacturer. The power adapter must meet the Limited Power Source (LPS) requirements. For specific requirements, please refer to the device's technical specifications.
- It is strictly forbidden to wire, maintain, and disassemble the device is powered on.

Otherwise, there is a danger of electric shock.

- Before powering on the device, please confirm that the device is installed in good condition, the wiring is firm, and the power supply meets the requirements.
- 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 is powered on, otherwise there is a danger of electric shock.
- Avoid aiming the image sensor at strong light (such as laser beams), otherwise the image sensor will be damaged.
- It is forbidden to touch the image sensor directly. If it is necessary to clean, please moisten the soft clean cloth with 75% or less alcohol and gently wipe off the dust.
- Keep clean of the device's image acquisition window. It is recommended to use cleaning water to wipe off the dust. When the device is not in use, please add a dust cover to protect the image acquisition window.
- 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.
- Please read the manual and safety instructions carefully before installing 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.
- Do not expose the device directly to flashlights, high-frequency switch lighting devices, or to sunlight, which may affect the performance.

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.
- When installing the device, if you cannot ensure that the device itself and all equipment connected to the device are well grounded, you should isolate the device with an insulating bracket.
- 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

With built-in positioning and measurement algorithms, SC2000E vision sensor can detect object's existence, count patterns and spot, etc. It can be monitored and operated via the SCMVS client. It can output results via RS-232 and Ethernet, and cooperate with other processes via IO. The vision sensor supports multiple result output methods and customized result text output.

2.2 Key Feature

- Adopts embedded hardware platform for high-speed image processing.
- Adopts built-in positioning and measurement algorithms to detect object's existence, count patterns and spots, etc.
- Multiple IO interfaces for input and output signals.
- Multiple indicators for displaying device status.
- Adopts light source to ensure uniform brightness in the illuminated area.
- Supports multiple communication protocols, including RS-232, TCP, UDP, FTP, Profinet, Modbus, Ethernet/IP, etc.

Note

- The device's functions may differ by models.
- Refer to the ***SCMVS Software User Manual*** for details.

Chapter 3 Appearance

Note

Appearance here is for reference only. Refer to the device's specification for detailed dimension information.

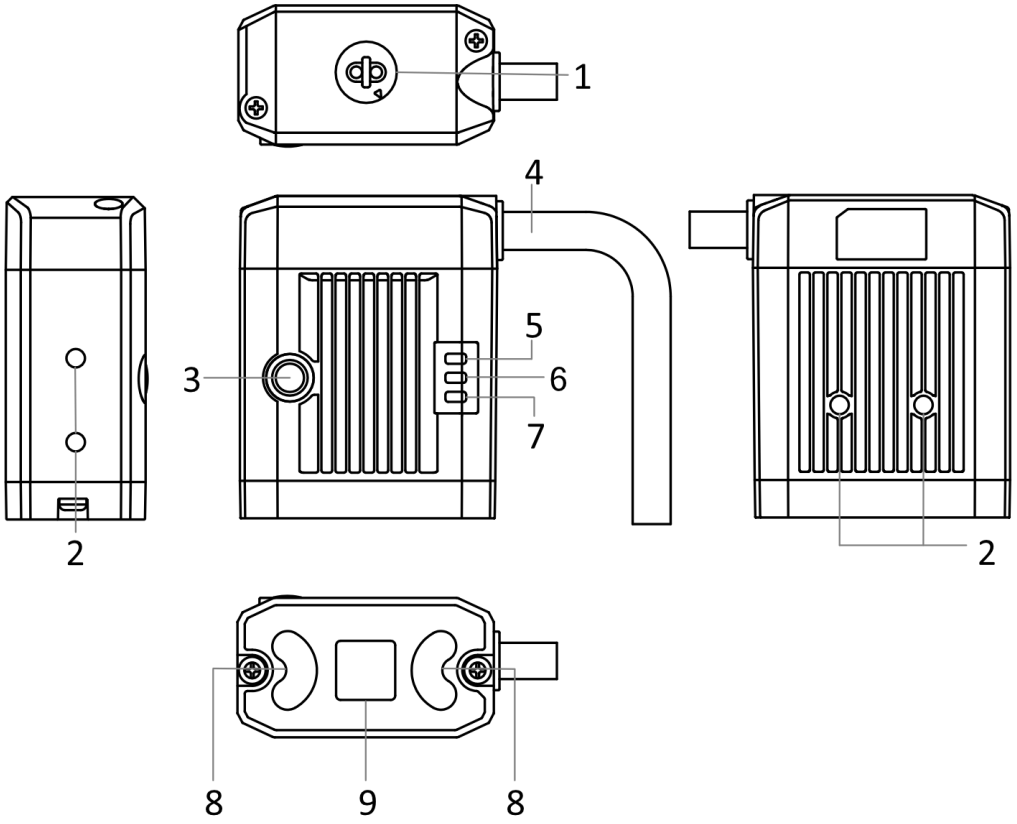

Figure 3-1 Appearance

Table 3-1 Component Description

No.	Name	Description
1	Focus Knob	It is used to adjust focal length manually.
2	Screw Hole	It is used to fix the device to the installation position. You should use M3 screw.
3	Trigger Button	When the device is in trigger mode, press the button and the device triggers once.
4	SR Cable	SR cable connector provides power, digital I/O, Ethernet, and serial port.

No.	Name	Description
5	LNK Indicator	It is a network status indicator. The indicator is flashing green when the network transmission is normal. Otherwise, it is unlit.
6	STS Indicator	It is a status indicator and indicates the device's status. The indicator is solid green when the device operates normally. When the device starts or exception occurs, the indicator is red.
7	PWR Indicator	It is a power indicator and indicates the device's power supply status. The indicator is red during the device's power-on process. After the device is powered on, the indicator is green.
8	Light Source	It is the LED light source with 6 white LED lights, used to provide light when the device acquires images.
9	Sensor	It is used to acquire images.

Chapter 4 Installation

4.1 Installation Preparation

You need to prepare the following accessories before installation.

Table 4-1 Accessories

No.	Name	Image	Quantity	Description
1	17-Pin Cable		1	It refers to the supplied 17-pin cable that is included in the package.
2	Power Adapter or Switch Power Supply		1	You should select an appropriate power adapter or switch power supply according to the device power supply and consumption. You need to purchase separately.
3	IO Box	 8-Pin IO Box V1.0  8-Pin IO Box V2.0	1	It refers to the IO box that is used for connecting the device's power supply and I/O interfaces to the external device. It is included in the package.

Note

- The type of the IO box may differ by the device model. Please refer to the actual one.

Table 4-2 IO Box

IO Box	Usage	Description
8-Pin IO Box V1.0	The IO box can be used for switching pull-up and pull-down resistors for each IO channel.	One of the IO boxes is included in the package. Please refer to the actual one.
8-Pin IO Box V2.0	The IO box can be used for upgrading the non opto-isolated	

IO Box	Usage	Description
	IO to opto-isolated IO.	

- You can scan the QR codes below to get the ***Operating Guide of 8-Pin IO Box***.

Table 4-3 Operating Guide of 8-Pin IO Box

IO Box	Operating Guide
8-Pin IO Box V1.0	
8-Pin IO Box V2.0	

4.2 Install Device

4.2.1 17-Pin Interface and 17-Pin M12 Cable

The device has a 17-pin M12 interface for providing power, digital I/O, Ethernet, and serial port.

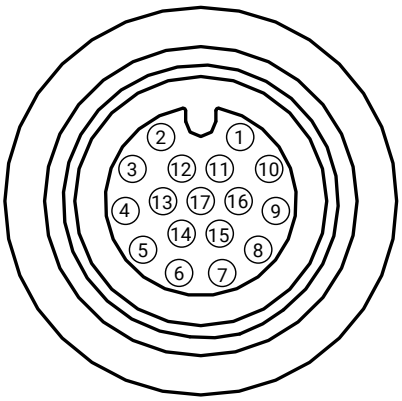

Figure 4-1 17-Pin Interface

The supplied cable is a 17-pin M12 cable to 8-pin connector, RJ45, and DB9. The cable has converted the pins of device interface for power supply, digital I/O, RS-232 and data communication into the 8-pin connector, RJ45 network interface, and DB9 serial port.

Caution

The 3 open cables of the 8-pin connector cannot be wired with the device, including purple/white open cable, pink open cable, and purple open cable.

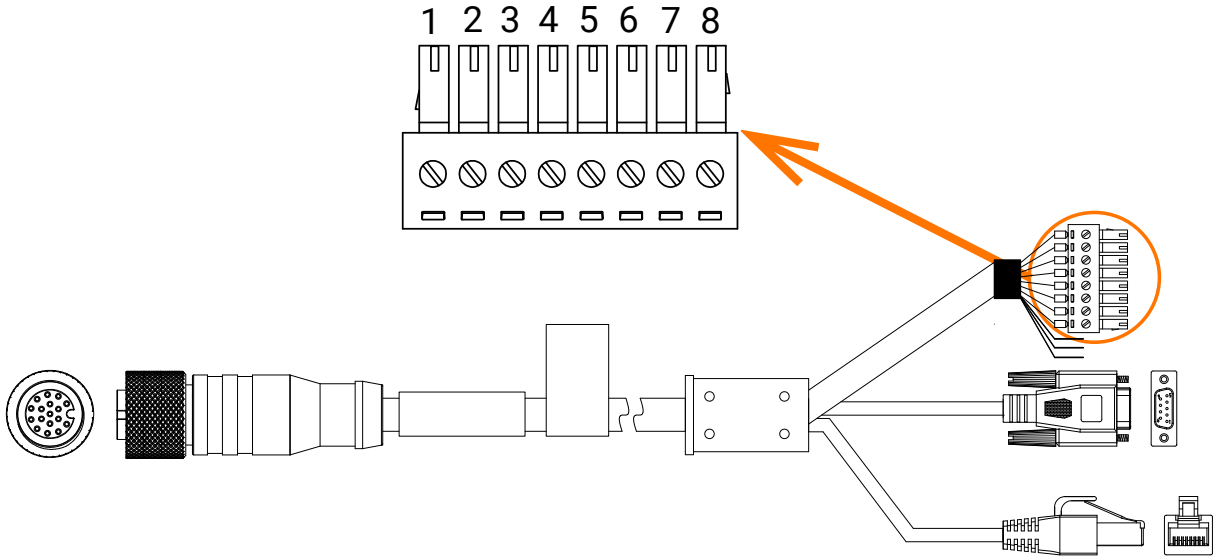

Figure 4-2 17-Pin M12 Cable

Table 4-4 Pin Definitions

No.	Signal	Description	Supplied Cable	I/O Signal Source
1	POWER_IN	Direct current power supply positive	Pin 8 of 8-pin connector (Red)	--
2	OUT_COM	Output signal ground	Pin 6 of 8-pin connector (Brown)	--
3	--	--	Purple/white open cable	--
4	RS232_TX	RS-232 serial port output	DB9 serial port	--
5	RS232_RX	RS-232 serial port input	DB9 serial port	--
6	TX+	Fast Ethernet signal TX+	RJ45 connector	--
7	RX-	Fast Ethernet signal RX-	RJ45 connector	--
8	GPIO2	Non-isolated input	Pin 4 of 8-pin connector (Blue/White)	Line 2

No.	Signal	Description	Supplied Cable	I/O Signal Source
9	IN_COM	Input signal ground	Pin 3 of 8-pin connector (Blue)	--
10	GPIO3	Non-isolated output	Pin 5 of 8-pin connector (Brown/White)	Line 3
11	GND	Direct current power supply negative	Pin 7 of 8-pin connector (Black)	--
12	--	--	Pink open cable	--
13	--	--	Purple open cable	--
14	TX-	Fast Ethernet signal TX-	RJ45 connector	--
15	RX+	Fast Ethernet signal RX+	RJ45 connector	--
16	GPIO0	Bi-directional non-isolated I/O, and it is the trigger by default.	Pin 1 of 8-pin connector (Gray)	Line 0
17	GPIO1	Bi-directional non-isolated I/O, and it is used to switch projects by default.	Pin 2 of 8-pin connector (White)	Line 1

4.2.2 Device Wiring

You can use the supplied 17-pin M12 cable to wire the device.

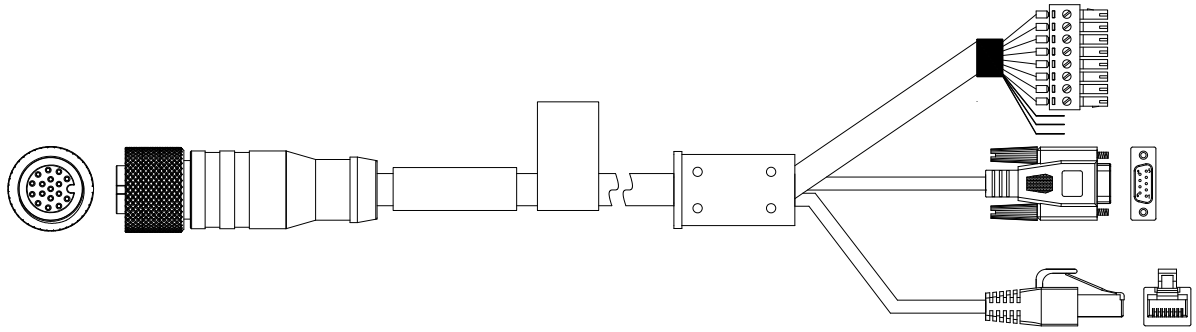

Figure 4-3 17-Pin M12 Cable

- **17-Pin M12 Interface**: Connect the 17-pin M12 female interface to the 17-pin M12 male interface.
- **8-Pin Connector**:
  - If the 8-pin IO box is not used, you can connect to the power adapter or switch power supply via the 8-pin connector (pin 7 and pin 8). For the I/O function, connect to the external device via other pins of the 8-pin connector. Refer to section ***I/O Electrical Features and Wiring***.
  - (Recommended) If the 8-pin IO box is used, you can connect the 8-pin connector to the

8-pin IO box, and connect the 8-pin IO box to other device. For power supply, connect VCC and GND of IO box to the power adapter or switch power supply. For the I/O function, connect to the external device via other pins of the 8-pin IO box. Refer to the Operating Guide of 8-Pin IO Box.

- **RJ45 Network Interface**: Connect the RJ45 network interface to the switch or PC for data communication.
- **(Optional) DB9 Serial Port**: Refer to section ***RS-232 Serial Port*** for serial port communication.

Note

- If the device is powered by a power adapter or industrial switch power supply, make sure that the device is powered separately and does not share the power supply with other devices.
- You can use an industrial power supply to provide DC power supply for the device. When using it, please observe the following precautions:
  - Before carrying out any installation or maintenance work, make sure that the power supply is disconnected from the AC power and that there is no risk of accidental reconnection due to human negligence or wiring issues.
  - Do not install the power supply in a humid environment, near liquid, in high-temperature conditions, in direct sunlight, or near flame sources.
  - The industrial power supply has exposed high-voltage terminals. Please install it in an enclosed case or cabinet to prevent accidental contact by personnel.
  - Maintain sufficient insulation distance between the internal components of the power supply and the screws.
  - Ensure that the cooling fan and holes for heat dissipation are unobstructed. If adjacent equipment generates heat, keep it at least 10 cm to 15 cm away from the power supply.
  - Make sure the power supply is properly grounded before use.
  - When using the power supply, do not exceed the upper limit of its output current and output power. Refer to the power supply's nameplate for specific parameters.
  - Non-standard installations or using the power supply in high-temperature environments will increase the temperature of the internal components, potentially reducing output power.
  - The power supply contains high-voltage circuits that pose a risk. If any abnormalities occur, disconnect the power first and have it inspected by a technician with professional electrical qualifications. Do not attempt to open the casing yourself.
  - Avoid touching the power supply terminals within 5 minutes after the power has been cut off to prevent the risk of electric shock.

4.2.3 Device Installation

Before You Start

- Make sure that the device in the package is in good condition and all assembly parts are included.

- Make sure that all related devices are powered off during the installation.

You can use L-type bracket to install the device. Side mounting or back mounting is supported.

Note

The L-type bracket should be purchased separately.

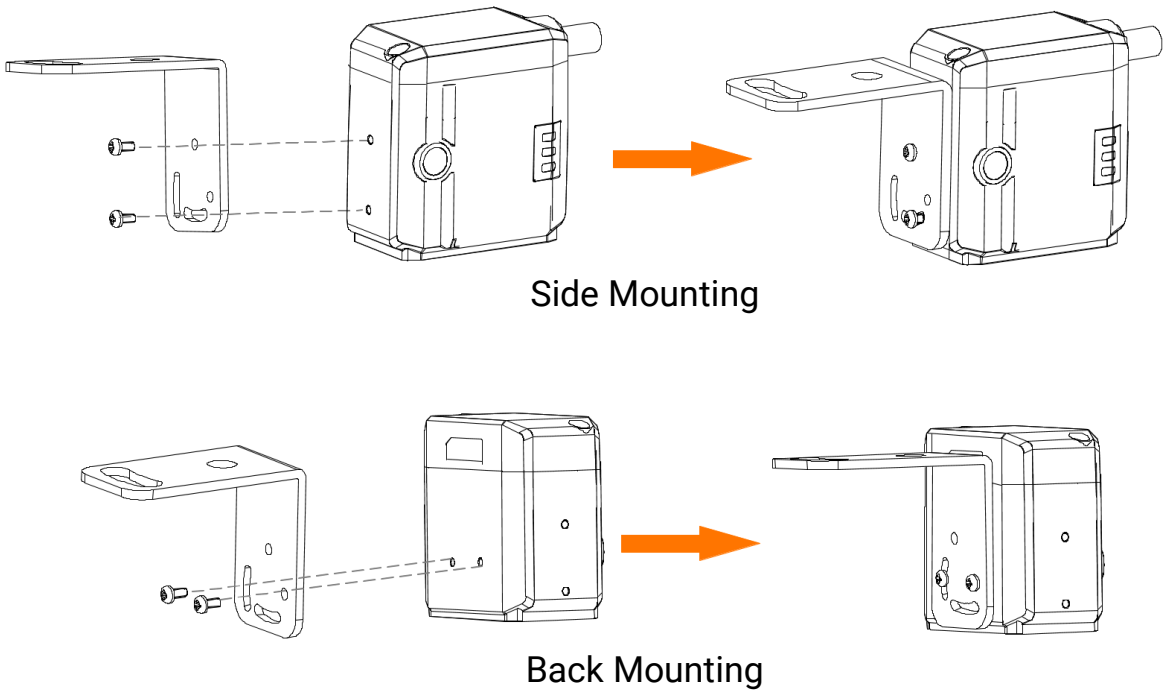

Figure 4-4 Installation Method

Steps

1. Use two M3 screws to fix the L-type bracket or other structural part to the mounting hole on the side or back of the device.
2. Fix the device to the mechanical assembly via the L-type bracket or other structural part.

Chapter 5 I/O Electrical Features and Wiring

The device has four I/O interfaces and one RS-232 serial port. The four I/O interfaces include one input signal (Line 2), one output signal (Line 3), and two bi-directional I/Os (Line 0/1) that can be configured as input or output.

Note

- By default, the I/O type of Line 0 is trigger, the I/O type of Line 1/2 are used to switch project.
- For the input signal or bi-directional I/O signal, only one I/O signal can be set as **Trigger**, and other I/O signals should be set as **Output** or **SchemeSwitch**. Refer to the section ***IO Allocation*** in the ***SCMVS Software User Manual*** for details.

5.1 Input Signal

The device has one input signal (Line 2) and two bi-directional I/Os (Line 0/1) that can be configured as input signal, and their internal circuit is shown below.

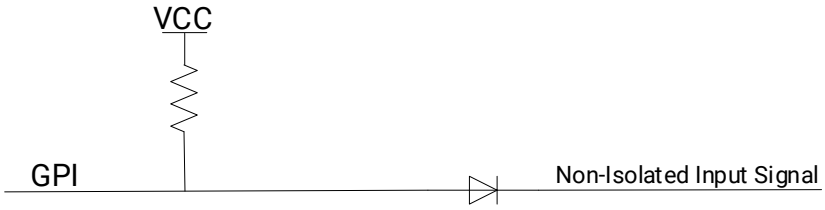

Figure 5-1 Internal Circuit of Input Signal

Note

The max. input current is 1 mA.

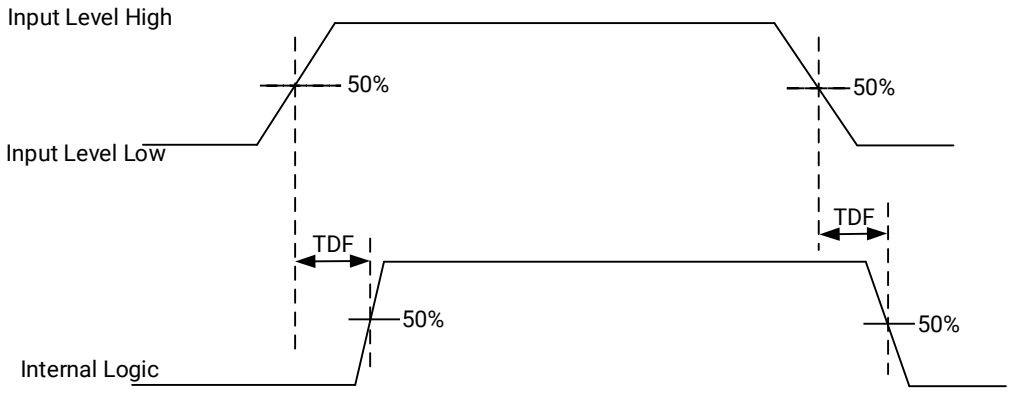

Figure 5-2 Input Logic Level

Table 5-1 Input Electrical Feature

Parameter Name	Parameter Symbol	Value
Input Logic Level Low	VL	1 VDC
Input Logic Level High	VH	2 VDC
Input Falling Delay	TDF	200 ns
Input Rising Delay	TDR	1 μs

5.2 Output Signal

The device has one output signal (Line 3) and two bi-directional I/Os (Line 0/1) that can be configured as output signal, and their internal circuit is shown below.

Figure 5-3 Internal Circuit of Output Signal

Note

The max. output current is 25 mA.

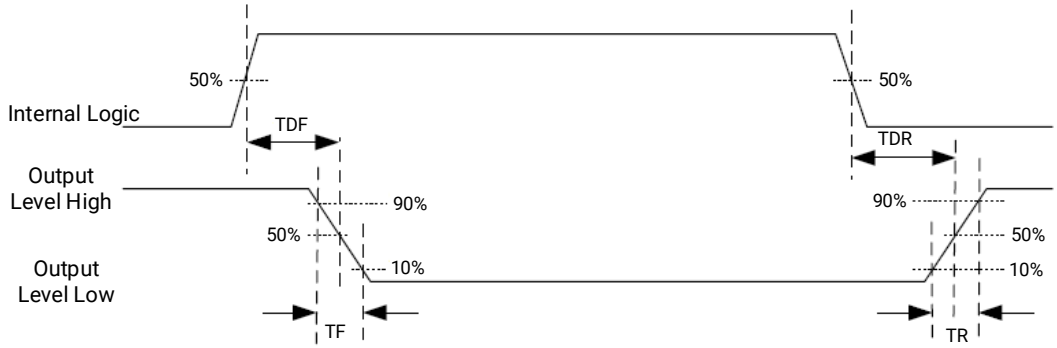

Figure 5-4 Output Logic Level

When the external voltage is 12 VDC and pull-up resistor is 1 KΩ, the output electric feature is shown below.

Table 5-2 Output Electrical Feature

Parameter Name	Parameter Symbol	Value
Output Logic Level Low	VL	550 mV
Output Logic Level High	VH	12 VDC (external pull-up resistor)

Parameter Name	Parameter Symbol	Value
Output Falling Delay	TDF	330 ns
Output Rising Delay	TDR	4.4 μs
Output Falling Time	TF	116 ns
Output Rising Time	TR	3.8 μs

Relation between different external voltages and output logic level low is shown below.

Table 5-3 Parameters of Output Logic Level Low

External Voltage	VL
3.3 VDC	180 mV
5 VDC	260 mV
12 VDC	500 mV
24 VDC	900 mV

5.3 I/O Wiring

The device can receive input signals from external devices and output signals to external devices. This section introduces how to wire the device's I/O.

Note

- This section only introduces how to wire the device to other external device. If you use the IO box, refer to the ***Operating Guide of 8-Pin IO Box***.
- The input and output signals mentioned in this section are the bi-directional I/O signal whose I/O type is configured as trigger and output correspondingly.
- The voltage of VCC should be equal to or less than that of PWR. Otherwise, the device's output signal may have exception.
- The device figures below are for reference only, and the actual one you got should prevail.

Input/output signal wiring may differ by the type of the external device.

PNP Device

- When the bi-directional I/O is set as the non-isolated input signal for connecting to the PNP device, you should use a 1 KΩ pull-down resistor.

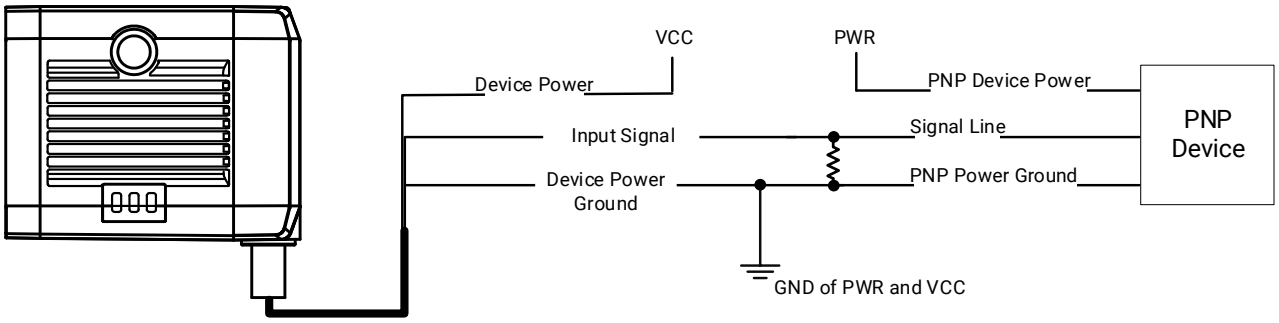

Figure 5-5 Input Signal Connecting to PNP Device

- When the bi-directional I/O is set as the non-isolated output signal for connecting to the PNP device, the wiring diagram is shown below.

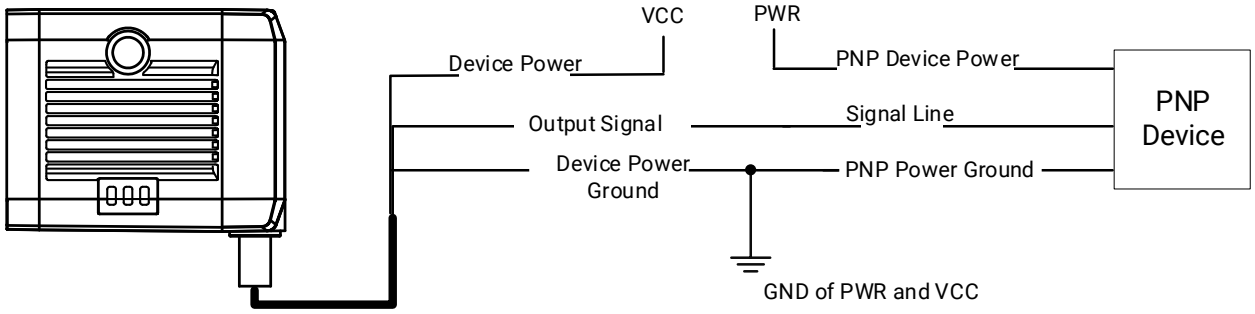

Figure 5-6 Output Signal Connecting to PNP Device

NPN Device

- When the bi-directional I/O is set as the non-isolated input/output signal for connecting to the NPN device, you should use a 1 KΩ pull-down resistor.

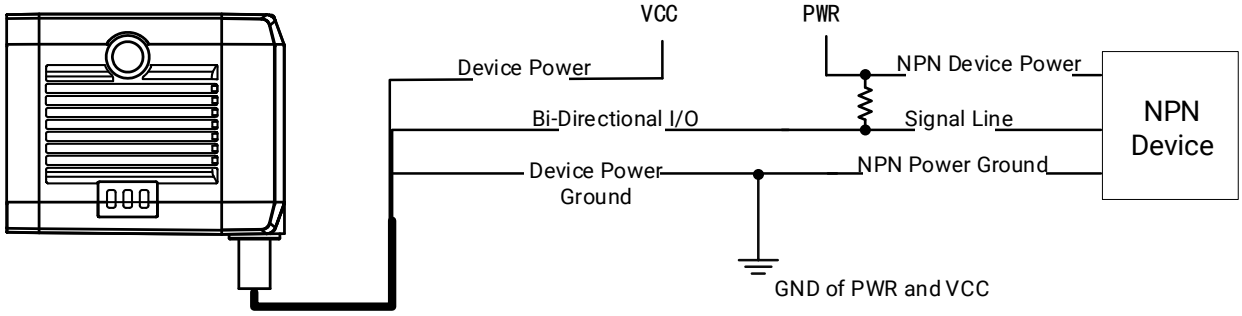

Figure 5-7 Input/Output Signal Connecting to NPN Device

Switch

- When the bi-directional I/O is set as the non-isolated input signal for connecting to the switch, the wiring diagram is shown below.

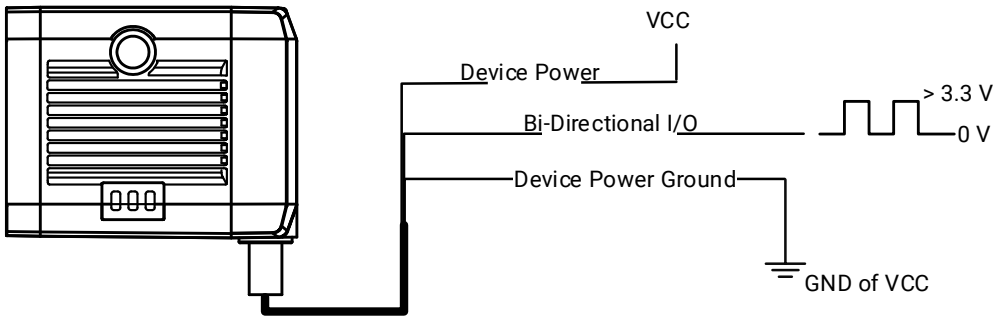

Figure 5-8 Input Signal Connecting to Switch

5.4 RS-232 Serial Port

The device supports outputting data via RS-232 serial port, and you can set serial port communication via the client software. Refer to the ***SCMVS Software User Manual*** for details.

The supplied 17-pin cable has a 9-pin serial port connector. Refer to the figure and table below for pin definitions.

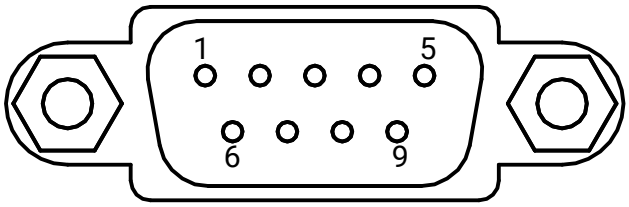

Figure 5-9 Serial Port Connector

Table 5-4 Pin Definitions

Pin No.	Name	Description
2	TX	Transmits data
3	RX	Receives data
5	GND	Signal ground

Chapter 6 Device Connection

Device connection to the client software is required for device's configuration and remote operations. This section introduces how to install the client software, set PC and device network, connect the device to the client software, etc.

6.1 Set PC Network

To ensure stable image transmission and normal communication between the PC and the device via client software, you need to set the PC network before using the client software.

Steps

Note

For different Windows versions, the specific setting path and interface may differ. Please refer to the actual condition.

1. Go to PC network settings page: **Start** → **Control Panel** → **Network and Internet** → **Network and Sharing Center** → **Change adapter settings**.
2. Select NIC and set the IP obtainment mode.

- Select **Obtain an IP address automatically** to get an IP address of the PC automatically.
- Or select **Use the following IP address** to set an IP address for the PC manually.

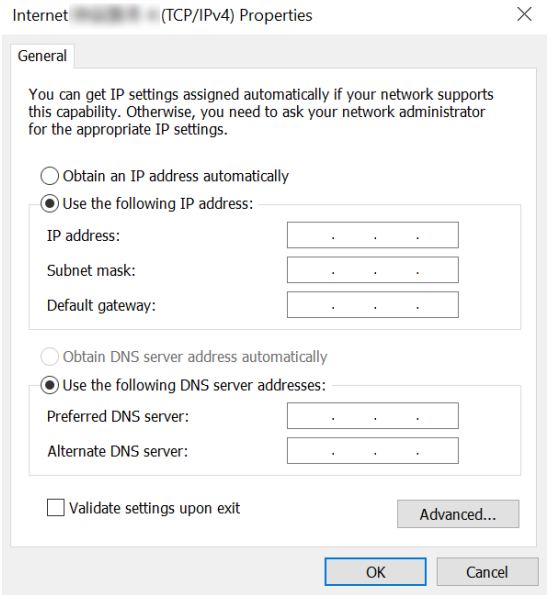

Figure 6-1 Set PC Network

Note

It is recommended to use the static IP address to reduce time for searching the device.

3. Set NIC property.
   1) Go to NIC settings page: **Control Panel** → **Hardware and Sound** → **Device Manager** → **Network Adapter**.
   2) Select corresponding network interface card, and click **Advanced**.
   3) Set **Speed and Duplex** as **Auto-Negotiation** or **100 Mbps**.

6.2 Install Client Software

SCMVS is a client software for device configuration and remote operations.

Note

- Check the Windows version. The client software is compatible with 32/64-bit Windows 7/10 and 64-bit Windows 11.
- You can get the client software installation package from ***https://en.hikrobotics.com/***.
- The graphic user interface may differ by different versions of client software you use.

Steps

1. Double click the installation package to install the client software.
2. Select the language.
3. Read and check **Terms of the License Agreement**.
4. Click **Start Setup**.

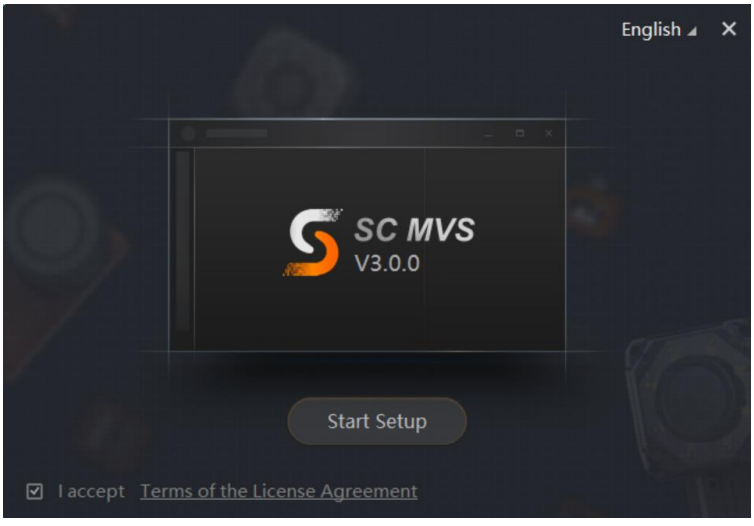

Figure 6-2 Installation Window

5. Select installation directory and click **Next**.

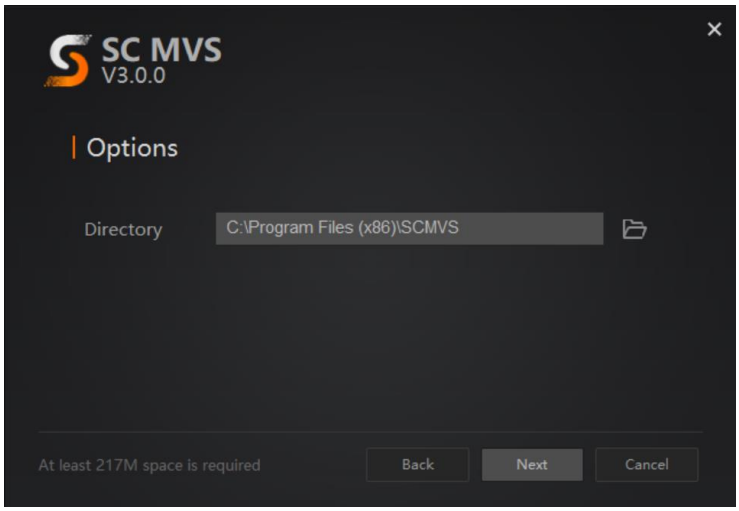

Figure 6-3 Click Next

6. Finish the installation according to the interface prompts.

6.3 Set Device Network

You can set and operate the device in the client software only when the device is in the same network segment with the PC where the client software is installed.

Steps

1. Double click the client software to run it.
2. Click in the device list to find the device, or click to add the device remotely.
3. Right click the device to be connected.
4. Click **Edit IP Address**.
5. Set the IP address of the device in the same network segment with the PC.

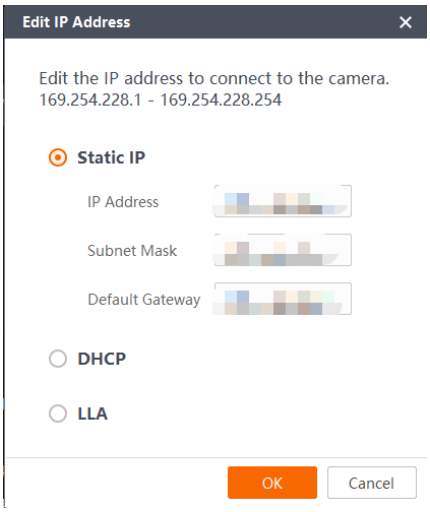

Figure 6-4 Edit IP Address

6. Click **OK**.

6.4 Login

Note

- Make sure that your device IP address is in the same network segment with the PC where you installed the client software before connecting the device to it.
- The default login password is Abc1234, and it is highly recommended to change the password for the first time use.
- Follow the guidance to find the password if you forget it.
- Refer to the ***SCMVS Software User Manual*** for details.

Steps

1. Click the device in the device list.
2. Enter password.
3. Click  to log in.

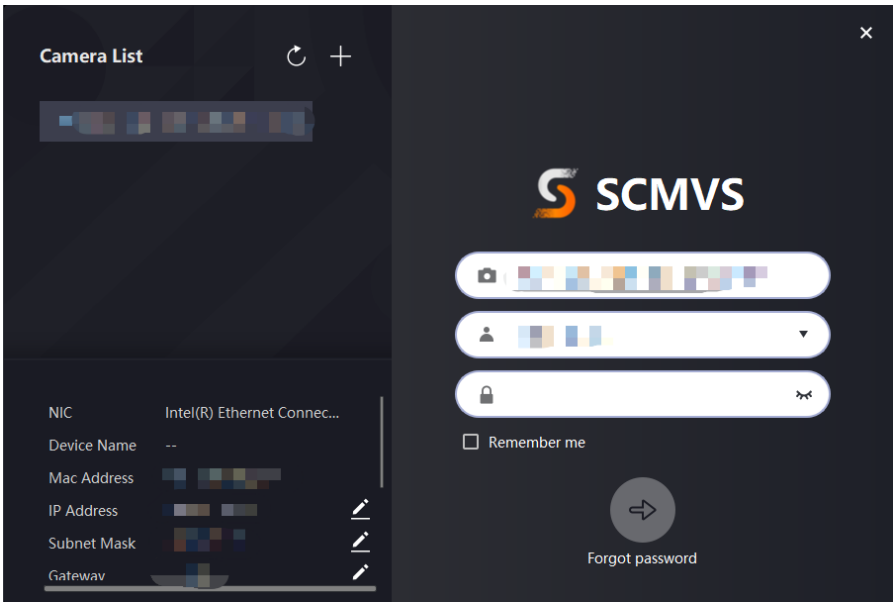

Figure 6-5 Login Window

4. (Optional) Check **Remember me** to remember the password if necessary.

Note

If you forget password, click **Forgot Password** in the login interface to view the device's serial No., and mail it to the technical support personnel or call them to get the corresponding resetting file. After that, import the resetting file and reset the password as the default one.

Chapter 7 Client Operation Flow

7.1 Main Window Introduction

After logging into the client software, you can see the main window as shown below.

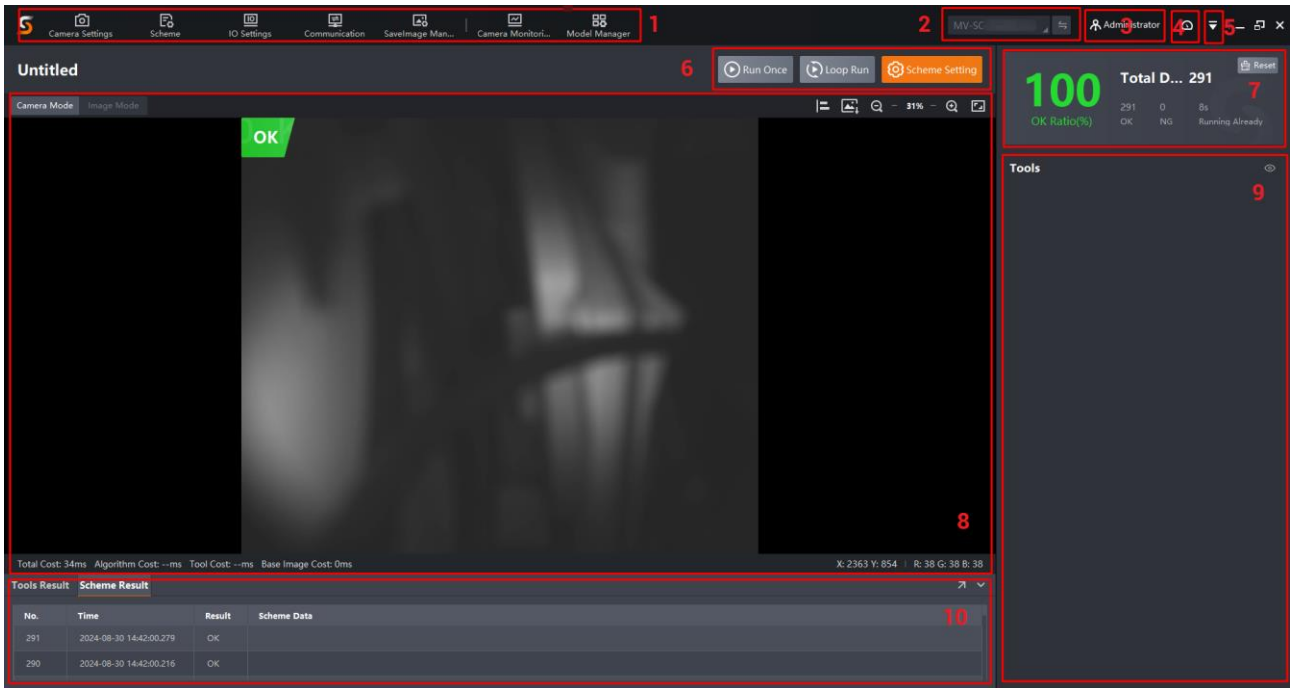

Figure 7-1 Main Window

Note

- The specific interfaces of the client software may differ by its versions.
- The client software loads and runs previous projects after logging in. If there is no project, the client software will create and run a new project.

Table 7-1 Main Window Description

No.	Name	Description
1	Menu Bar	The menu bar includes camera settings, project, IO settings, communication, image saving management, camera monitoring, and model management.
2	Camera List	You can view the current camera model, or switch to other cameras. Up to 9 cameras can be connected.
3	User Role	You can view, switch, and mange roles. The roles include

No.	Name	Description
		administrator, technical support, maintenance personnel, and operator. Different roles have different permissions. The role management is only available for the administrator.
4	Resource Information	You can view the usage of flash, intelligent memory, and CPU. ● Flash usage: It refers to the percentage of total memory being used by the system. ● Intelligent memory usage: It refers to the percentage of total memory being used by the algorithm. ● CPU usage: It refers to the percentage of time that the processor spends executing tasks.
5	Other Areas	You can switch languages, set system parameters, view the user manual, log, and client version information here.
6	Project Management	You can run (once/loop), stop, or edit projects here.
7	Project Status Display Area	This area displays operation status of current projects in real time.
8	Live View Window	This area displays images and results under camera mode and image mode in real time. Under image mode, you can import images into the device.
9	Tool Display Area	This area displays operation results of vision tools loaded in projects in real time. You can edit the specific vision tool.
10	Result Area	This area displays operation results of projects or tools.

7.2 Operation Flow

Note

- Refer to the ***SCMVS Software User Manual*** for detailed parameter settings and operations.
- Click on the upper right corner of the client software, and click **User Manual** to open.

You can follow the overall operation flow below to create or edit projects via the client

software.

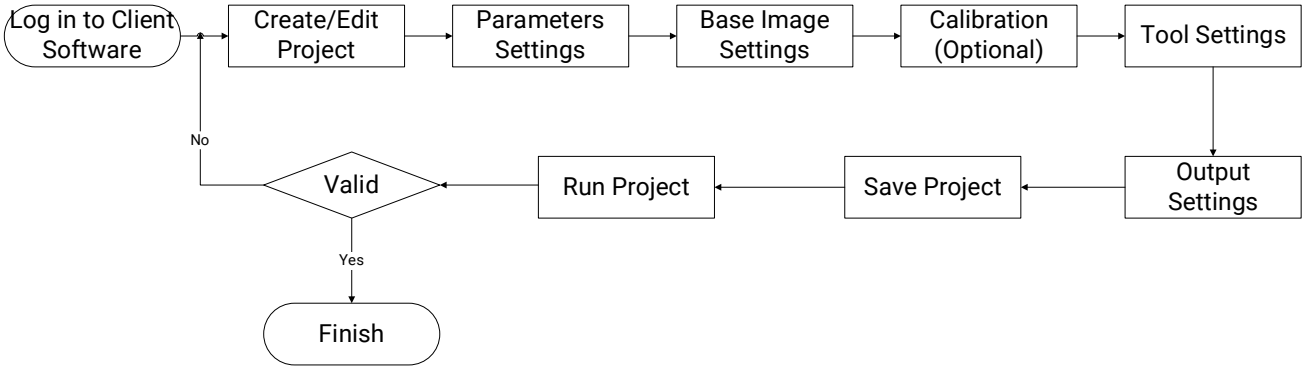

Figure 7-2 Operation Flow

Chapter 8 FAQ (Frequently Asked Question)

8.1 Why the client software cannot list devices?

Reason

Device is not started up normally, or network connection exception occurs.

Solution

- Check device power wiring (observe PWR indicator).
- Check network connection (observe LNK indicator). Ensure the device and the PC are in the same network segment.

8.2 Why the image is not smooth in live view?

Reason

The network transmission speed is not up to 100 Mbps.

Solution

Check if the network transmission speed is up to 100 Mbps.

8.3 Why the image is very dark?

Reason

The brightness of light source is not enough, or exposure and gain values are too small.

Solution

- Increase the brightness of light source, or use brighter lamps.
- Increase exposure and gain values according to actual demands.

8.4 Why there is no image in live view?

Reason

Although trigger mode is enabled, there is no trigger signal.

Solution

Send trigger signal to device or disable trigger mode.

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